

An aerial architectural rendering of the East Liberty Station area. The image shows a dense urban environment with various building footprints, streets, and parking lots. A prominent feature is a large, curved, red-colored structure, possibly a transit station or a public building, situated in the center-right of the image. The surrounding area is filled with other buildings of different heights and colors, including some taller, more modern structures. The overall scene depicts a revitalized urban district.

EAST LIBERTY STATION: REALIZING THE POTENTIAL

Transit Revitalization Investment District
Planning Study



pittsburgh
city planning

Luke Ravenstahl
Mayor
Noor Ismail, AICP
Director

Acknowledgement

Luke Ravenstahl - Mayor, City of Pittsburgh
Joy Abbott – DCP Assistant Director
Ricky Burgess - Pittsburgh City Council
Bill Peduto - Pittsburgh City Council
Patrick Dowd - Pittsburgh City Council
Joseph Preston, Jr. - State Representative
Ronald Joseph – Pittsburgh Public
School District
Rob Stephany - Director of Pittsburgh Urban
Redevelopment Authority

City of Pittsburgh
Pennsylvania Department of Community &
Economic Development
East Liberty Development Incorporated
Mosites Company

Steering Committee

Patrick Roberts – DCP Project Manager
Noor Ismail, AICP - Director of City Planning
Shelly Martz – DCP Neighborhood Planner
Susheela Nemani-Stanger – URA
Rebecca Davidson Wagner – URA
Rebecca Schenck – URA
Maurice Strul – ACED
Lynn Heckman – ACED
Ryan Chismark – ACED
David Wohlwill – PAAC
Denny Puko – PA DCED
Dave Totten – SPC
Chris Sandvig – PCRG
Nathan Wildfire – ELDI
Nathan Cunningham – ELDI
Skip Schwab – ELDI
Mark Minnerly – Mosites Company

Project Team

GSP Consulting
with Studio for Spatial Practice
Fitzgerald & Halliday
Civil & Environmental Consultants
Urban Redevelopment Authority

Table of Contents

EXECUTIVE SUMMARY	4	TRID RECOMMENDATIONS	60
		Applying the TOD Principles to East Liberty	61
PROCESS	11	Recommended Infrastructure Improvements	63
		East Liberty Station Improvements	66
TOD PRINCIPALS & BEST PRACTICES	13	Shady & Penn Intersection Reconfiguration	76
Understanding TOD	14	Shady & Penn Bicycle Lanes & Road Diet	80
Seven TOD Principles	16	Implementing Previously Identified Infrastructure Improvements	81
TOD Case Studies	19		
		TOD Site Improvement Needs	83
ANALYSIS	25	Station Area Development Vision	84
Demographic Profile	26	The Proposed TRID Boundary	89
Classifying East Liberty Station	28	Financing TOD	95
East Liberty Station & TOD	34	TRID Background	96
Transportation Analysis	40	eITRID Value Capture Strategy	97
Land Use Analysis	43	eITRID Management Entity	103
Zoning Analysis	46		
East Liberty Planning Context	47		
Real Estate Market Overview and Current Business Climate	53	APPENDIX	
Market Conditions	56		

EXECUTIVE SUMMARY

4

The City of Pittsburgh neighborhood of East Liberty was the third largest commercial district in the state of Pennsylvania in the 1950's with more than 500 local businesses and a population of 14,000. As the automobile became the dominant mode of transportation, congestion increased. Residential and commercial shifts to the 'car-friendly' suburbs in the following decades resulted in disastrous social and economic downturn that destroyed the urban fabric.

Urban renewal schemes were devised to stop the flight. Penn Avenue was reconstructed as car friendly loop around the neighborhood with vast surface parking lots for a "mall" atmosphere in an effort to compete with suburban retail experience. When building this "circle", many small businesses were closed and torn down. Development oriented to the use of the automobile came at the expense of mass transit and pedestrian activity.

Three large housing complexes were constructed to make up for the destruction of the homes that were removed when creating Penn Circle. Though well intentioned, both contributed heavily to the decline of the once vibrant community. For decades, East Liberty was characterized by thousands of mostly vacant high rise housing units flanking a decaying business district. The areas lost more than one million square feet of commercial space and half its population by 1980. Blight spread and crime rates soared.



East Liberty Station and the surrounding district today

East Liberty is now experiencing a long-delayed rebirth as a commercial hub that will be centered around direct access to the Port Authority of Allegheny County (PAAC) Bus Rapid Transit (BRT) Corridor (known as the Martin Luther King, Jr. East Busway). To be successful in the 21st century and capitalize on redevelopment opportunities, the area requires a more robust pedestrian, bike and mass transit infrastructure. This strategy for reviving historical urban commercial districts through multimodal improvements can be a model not only for Pittsburgh, but for communities throughout Pennsylvania.

East Liberty is uniquely positioned to leverage the PAAC transit network, especially the East Busway. Through a partnership with the PAAC, Southwestern Pennsylvania Commission (SPC), Allegheny County, Pittsburgh Public School District, Urban Redevelopment Authority (URA), East Liberty Development Inc. (ELDI), various community development organizations and the private development community, the City of Pittsburgh is collaboratively building a sustainable strategy to continue revitalization of this transition neighborhood. Coordination of transportation and land use through the

promotion of transit oriented development represents a key component of the City's strategy.

The East Liberty Transit Revitalization Investment District (eTRID) planning study examines the transportation, infrastructure and development scenarios in the vicinity of the PAAC East Busway station in East Liberty. Building on existing development and infrastructure planning, eTRID refines existing proposals to maximize walkability, transit service, smart mobility and transit oriented development (TOD) potential following "Livable Communities' principles. eTRID examines the feasibility of creating a value capture boundary within the study area to facilitate these opportunities. This new revitalization strategy will continue implementation of large-scale redevelopment projects while also fostering organic smaller-scale growth.

The major goals of the eTRID are to:

- Combine the existing market analysis, infrastructure needs, and station/site development concepts to tell the complete story.
- Refine the integration of station and site development with the surrounding neighborhoods to reconnect East Liberty and Shadyside through the application of Livable Communities Principles.
- **Work with the communities and taxing bodies to determine if the establishment of a TRID is acceptable**



The proposed station design and integrated Eastside III Development

and what area it should include based on the study results and potential development scenarios.

- Identify the most pressing infrastructure needs to support the Eastern Gateway Project within the East Liberty business district.

In the late 1990s, East Liberty saw its first spurt of commercial revitalization with the construction of a new Home Depot retail store on the site of a failed Sears. Whole Foods Market soon followed on an abandoned stretch of Center Avenue during the first phase of the Eastside project by the

Mosites Company. Several building within the central business district were rehabilitated with a mix of offices above ground floor commercial space. Further, the restaurant and entertainment district along South Highland Avenue in Shadyside started to expand across into the East Liberty core. Additional retail and entertainment space was added through the completion of the \$32.5 million 2nd phases of Eastside by Mosites adjacent to the Whole Foods. Mosites continued their efforts with development of a Target Department



Major TOD development opportunities in relation to the redesigned station

store on Penn Avenue which recently opened in the summer of 2011. Redevelopment of the former Nabisco bakery on Penn Avenue into the mixed-use Bakery Square continued this momentum. New higher quality mixed-income rental and affordable housing projects commenced alongside the commercial revitalization led by the efforts of ELDI, the URS and The Community Builders. In a little over a decade, 1,400 public housing units within three high rise structures – Liberty Park, East Mall Tower and Penn

Circle Apartments – have been replaced with 450 new mixed-income units. While many affordable housing units were created by 2010, much of this new development only included small amounts of market rate/affordable market rate rentals. Especially limited are new single family detached units. Within each core residential area of each neighborhood, over 30% of the housing stock was built before 1940. The focus on rental housing in East Liberty has somewhat detracted from the development of for-sale units where

The market demand had only recently picked up.

In an attempt to continue the momentum of significant renewal efforts within the study area, the latest planning strategy focuses on TOD as the preferred alternative to reverse decades of auto dependent development. TOD is a method for organizing relatively compact, high density mixed-use development around transit as a means of encouraging transit use and creating more efficient and sustainable land use patterns. More than simply a project next to a train station, it represents the creation of a walkable, active and beautiful place centered-around transit access at a human scale. The approach aims to create healthy, connected neighborhoods with integration between the station and the surrounding community.

TOD provided a synergy between economic, land use, transportation, environmental, housing and social equity goals. By facilitating public transit use, this development type can reduce dependence on fossil fuels, lower residents' transportation costs, ease congestion, improve safety, promote walking/health and

and improve environmental quality. It can also be a catalyst for neighborhood revitalization through new investments as residents are better connected to jobs, commercial activity and services.

East Liberty's renaissance through TOD will be centered around direct access to the PAAC MLK East Busway. The local station lies at the heart of the eI TRID study area. Both the station itself and the sites immediately adjacent to it are prime candidates for TOD. Combined with other potential sites within a short walk of the station, tremendous redevelopment opportunities exist in the neighborhood. The eI TRID study area is defined by the half-mile radius around the station platforms and further refined to the 5 & 10 minute walking distance as an even more accurate measure of TOD potential. All of the East Liberty business district sites within this station pedestrian shed, with much of it within a five minute walk from the platform. The ten minute walking-shed extends well into Shadyside and to the edges of East Liberty into Larimer. Connections to Downtown Pittsburgh are provided by the busway with additional strong transit service to Oakland, the city's university and medical hub.

The urban fabric and existing infrastructure within the study area present major hindrances limiting this TOD potential however. For decades, the area around the Busway station had been dominated by large expanses of surface parking and infrastructure not designed for pedestrian comfort. Buried

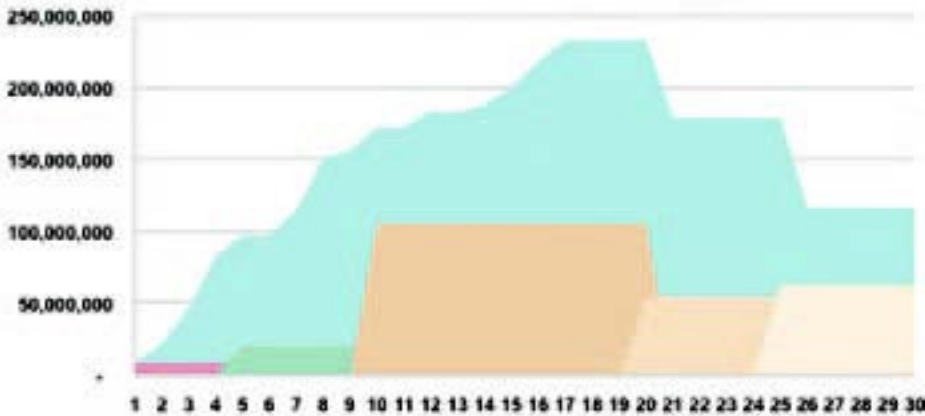
Proposed TRID Boundary & Phasing

- Years 1 - 5
- Years 5 - 10
- Years 10 +



Estimated Assessed Value

- Incremental Growth
- Boundary 1 Base
- Boundary 2 Base
- Boundary 3 Base
- Boundary 3 Base (w/ boundary 1 removed)
- Boundary 3 Base (w/ boundary 2 removed)



in the middle of the middle of the block between Highland Avenue and Shady Avenue, the station suffers from a lack of connectivity as it is situated a grade lower than the East Liberty business district. The station's only public street frontage is along a section of Ellsworth Avenue that had historically not been a primary entrance point. No active uses actually face the station entry and access from East Liberty is only possible by crossing pedestrian bridges buried in the back of the adjacent block. Large blocks and a lack of north-south connections also limit the pedestrian efficiency of the station making for a smaller 5 & 10 minute walking shed.

Other Existing Conditions with the Study Area:

- Demographic and Market Value differences between Shadyside and East Liberty/Larimer
- Approximately \$4 million of annual property tax revenue forgone by the local taxing bodied due to exempt properties (most controlled by the City, government authorities and parking/utilities)
- Over 10% of the total land area is currently classified as vacant
- Small development parcels and a high percentage of underutilized land with low improvement values

The principles of TOD are expected to drive real estate market activity across all segments. According to Emerging Trends in Real Estate 2011 Published by the Urban Land

Institute, Class A office buildings in primary 24-hour markets remain highly coveted by tenants. Developers will shift focus more on infill locations near vibrant downtown cores and urban districts. The demand for 'green' space will only continue to grow as well. Expansion of the Oakland institutions' toward East Liberty has been prompted by a shortage of Class A office space in the region's primary institutional district.

Twenty-something echo boomers want to experience more vibrant urban areas, and their aging baby boomer parents look for greater convenience in downscaled lifestyles. Driving costs and lost time make outer suburbs less economical, while the big-house and office park wave dissipates in a rough economic climate. To echo the popular theory of the 'creative class,' those places where educated, energetic, creative young people want to be, complete with 24-hour attributes, will continue to succeed. New commercial and residential development is expected to continue over the next decade assuming infrastructure improvements, such as restoring the street grid, allow for transportation mode shifts and increased density with a mix of uses.

Within the study area, the current 5 year development pipeline includes significant projects that will redevelop sites for a mix of new uses including residential, office, retail, hotels and

a proposed movie theater. Much of this activity will focus on the core of East Liberty's commercial corridor and the area commonly referred to as the Eastern Gateway. Although another significant mixed-use development opportunity exists at the former Reizenstein Middle School across Penn Avenue from Bakery Square. Many structures within the commercial core are currently underutilized and poised for redevelopment. This includes the Broad Street Corridor which features the highest number of currently vacant and available properties within the study area.

In the future, revitalization efforts can focus on the traditional residential portions of the neighborhoods of East Liberty and Larimer. At the northwest corner of Penn Circle, conceptual plans call for redevelopment of surface parking lots and abandoned structures for new residential use including a mix of for sale single family detached houses and townhomes. Later TOD redevelopment potential exists for various surface parking lots and several large suburban style commercial plazas. Opportunity exists to reconfigure these sites into more multimodal development at a pedestrian scale connected to the station.

TOTAL POTENTIAL DEVELOPMENT PROGRAM - \$285 million
 – 486,630 SF Office

- 163,995 SF Mixed-Use Commercial
- 45,000 SF Stand Alone Commercial
- 192 Hotel Rooms
- 5 Screen Movie Theater
- 345 Multi-Family Rental Units
- 88 Single Family Detached Units
- 204 Single Family Attached Units
- 94 Multi-Family For Sale Units

Infrastructure dominated by automobile use cannot support future planned high density urban development. Mode sharing, especially increased utilization of transit, is necessary to facilitate these opportunities. The East Liberty 2010 Community Plan focused on TOD as the preferred redevelopment strategy as these challenges are addressed. Rebuilding the station and the vacant bus transfer area and creating TOD as a result of better connections, is one of the major goals for the defined Eastern Gateway in the plan. Continued investment in infrastructure is key to fostering TOD potential around the station and continuing ongoing revitalization of the study area.

Urban, mixed-use TOD projects are overburdened with additional costs when compared to competing real estate investments. These projects entail significantly

more expense than other suburban or even infill real estate products. Higher costs result in TOD facing a difficulty in competing for investment dollars versus other products. This inherent gap often requires some type of subsidy/incentive to ensure projects attract private financing and equity sources. TRID can provide the public financial assistance necessary to facilitate TOD projects within the study area.

The creation of a TRID itself does not represent a direct source of upfront funding for TOD, transit improvements or other public infrastructure. Pursuant to the TRID Act, a coterminous value capture area shall be simultaneously created at the time a specific TRID boundary is determined. Establishment of this value capture boundary allows the local taxing bodies and transit agency to share incremental tax revenues generated without in the boundary to implement projects identified in the planning study. Essentially, the value capture area mirrors a 20 year TOD specific Tax Increment Financing (TIF) District with revenues dedicated to fund specific improvements and maintenance within the defined area.

Recommendations

Transportation and Infrastructure Improvements

Recommended public infrastructure and transit improvements focus on application of the TOD principle within

principles within the eTRID study area. The Busway and East Liberty station are existing transit assets that must be enhanced as the focus of the strategy to facilitate TOD. Areas outside of the immediate station vicinity should also incorporate these guidelines to further efforts to recreate a truly urban setting. Recommendations focus both on district-wide improvements and those necessary for specific potential TOD sites. Investments outlined in this report are necessary to foster revitalization led by key TOD opportunities.

Much of the potential development identified within the study area is dependent on key district-wide infrastructure that will allow for increased density. Improvement to the station and immediate areas are a top priority as primary contributors to the recognized goal of increased transit utilization. Significant improvements to major streets around the station will provide for alternative modes of transportation while still accommodating automobile use. Other recommended district-wide improvements include a coordinated district-wide parking strategy, public space and those that enhance other key parts of the road network. Detailed proposals are provided for a redesigned station, street reconfiguration options for the Penn and Shady intersection and recommendations for bicycle improvements on segments of these

segments of these roadways.

Infrastructure investments will be prioritized by their ability to facilitate further redevelopment and benefit multiple users in the study area. The strategy would remain flexible to accommodate various future scenarios, but maintain the ability to provide assistance to large scale redevelopment projects as well as district-wide improvements. Further planning, engineering and design related to infrastructure improvements are expected beyond the recommendations outlined by eTRID.

eTRID Value Capture Strategy Implementation

The TRID value capture mechanism allows for the diversion of incremental tax revenues within the identified TRID Boundary as new development occurs. Establishment of value capture areas within this boundary allows for utilization of these revenues to finance public transportation capital improvements, site development, other public infrastructure and maintenance in accordance with the Act. When examining the potential TRID Boundary, priority was given to

the identified 5 and 10 minute walking sheds that are recognized as standard distance of TOD activity. These areas were then compared to the current development pipeline and identified TOD potential within the study area to develop specific value capture area boundary recommendations.

It is recommended the specific value capture areas within the TRID boundary be phased to allow for diversion of the maximum amount of revenue to finance identified improvements and maintenance. Defined value capture area within the TRID Boundary should be expanded over time to accommodate development potential over the next decade plus. This method allows for the flexibility necessary in light of such uncertainty surrounding future development schedules. eTRID's recommended comprehensive value capture strategy addresses the collection of revenues and proposed infrastructure investments within the TRID Boundary.

The recommended strategy combines elements of the project specific and district-wide approaches to provide a means

for key investments that will facilitate TOD within the study area. To the extent possible, the strategy provides for upfront funding for larger projects to overcome challenges inherent in these urban, mixed-use developments. Other redevelopment projects will contribute to the newly created eTRID value capture fund (VC Fund) which will be utilized primarily to fund district-wide improvements. A guiding principal of the strategy will be to incentivize, not subsidize, TOD and infrastructure development within the study area. Investments will be prioritized by their ability to facilitate further redevelopment. As with the boundaries of the value capture area, the TRID Management Entity would be responsible for determining project financing structures and VC Fund investment priorities across the district.

Much of the potential development within the study area is dependent on key district-wide infrastructure that will allow for increased density. Phase value capture area expansion would respond to local market conditions and provide the greatest degree of flexibility in terms of implementing the development, transit and infrastructure recommendations in this planning study. Proposed value capture area expansions are based upon maximizing the potential value

capture to fund these improvements. The recommended eTRID value capture strategy will guide investment in project specific infrastructure, district-wide improvements and maintenance.

Ultimately, successful TOD requires good markets, good station areas and excellent coordination between numerous parties all dedicated to its success. With all of these ingredients, the study area is uniquely positioned to capitalize on TOD opportunities. However as discussed, the current infrastructure and urban fabric remains a hindrance to dense, mixed-use development in the vicinity of East Liberty station. Uncertainty as to how these improvements will be financed deters the development community from advancing projects despite improving market conditions.

A financial strategy to address the site specific and district-wide impediments to TOD is critical to unlocking the redevelopment potential in the eTRID study area. It is anticipated over \$280 million of mixed-use and residential development will occur within the TRID Boundary over the 30 year timeframe. This includes known projects within the pipeline as well as sites that have been identified as potential redevelopment

opportunities. At full build out, this new development is expected to create over \$230 million of total assessed value.

Approximately \$125 million of incremental assessed value would be created by the development program at the peak of the TRID value capture area. The newly created value represents a 20% increase over the base assessed value today. Within the half-mile study area, new incremental value created in the TRID Boundary would represent an approximately 33% increase in total assessed value after all value capture areas expired. Annual incremental real property tax revenue of \$3.8 million would be generated by this increase in assessed value during the peak. Approximate \$65 million of incremental revenues would be generated by new projects within the TRID Boundary over 30 years by phasing implementation of the value capture areas. A portion of these new revenues would be diverted to fund specific project infrastructure or district wide improvements as outlined in the recommended eTRID comprehensive value capture strategy.

Obviously the capture of TRID revenues within the proposed value capture areas represents taxes foregone by the local taxing bodies. Every dollar of this public investment will leverage at least

six dollars of private investment. However, significant economic impacts are expected within the study area following implementation of the eTRID. Estimated benefits include private investment, job creation, retention of existing jobs and other non-real property or income tax revenues/fees associated with area wide revitalization following transportation and infrastructure improvements. 11

PROCESS

The eTRID planning study was undertaken by a multi-disciplinary team led by GSP Consulting Corp (GSP), a Pittsburgh-based consulting firm that specializes in economic development strategies, development finance and government relations. GSP coordinated a comprehensive TRID financing strategy based upon viable market alternatives and community assessment. The firm also managed the efforts of the consultant team and schedule. Studio for Spatial Practice, a local architecture, urban design and planning firm, provided conceptual designs for planned or potential TOD in conjunction with infrastructure improvements. They also worked to facilitate public input into the planning process, including the production of outreach and training materials. Fitzgerald & Halliday, Inc assessed transit, transportation and parking systems and identified improvements. Review of utility infrastructure was conducted by Civil and Environmental Consultants, Inc.

eITRID commenced in February 2011 as the consultant team initiated review of numerous past planning studies covering the study area. Early work also focused on benchmarking of national TOD efforts drawing on the Center for Transit Oriented Development (CTOD), a recognized research leader and TOD advocate group. A major component of this portion of the study was examination of the CTOD station typologies which provide guidance on TOD opportunities in relation to station location, function and performance. The consultant team analyzed existing conditions within the study area including demographics, land use, zoning, major recent redevelopment initiatives, local real estate market and physical characteristics of the built environment.

A major goal throughout the planning process was incorporation of the vision of all local stakeholders, including all aspects of the community's asset base. These participants in the planning process formed the eITRID Steering Committee where elements of the study methodology, analysis and strategy were reviewed. Over the course of eITRID, three separate committee meetings were held in addition to other sessions with individual parties active in community development, transit and real estate in the study area. In August 2011, the consultant team held a TRID Community Planning Session in conjunction with DCP and ELDI.



East Liberty TOD workshop

The event sought to ensure that the local residential and business community were educated about the TRID process and involved in reviewing preliminary options for the preferred TOD scenarios. During this meeting, the team convened a planning workshop to gather public input on what kinds of public improvements should be considered to improve mobility in East Liberty and to encourage TOD around the busway stop. Working in small groups participants and the consultant team discuss a series of questions about the future of the station and movement in general in the study area.

As the planning process continued, public comments from the session and feedback from the Steering Committee meetings were incorporated into the proposed TOD scenarios and recommended infrastructure improvements. The recommended TRID boundary and value capture area phases were developed in consideration of development potential and necessary infrastructure. Building upon physical site characteristics, market analysis and community needs assessment, the comprehensive TRID value capture strategy was devised to provide the blueprint for revitalizing the study area through TOD. The final draft report was presented to DCP and the Steering Committee for comment in December 2011 and subsequently updated.

1.

TRANSIT ORIENTED DEVELOPMENT PRINCIPLES & BEST PRACTICES

TOD is a method for organizing relatively compact, high density mixed-use development around transit as means of encouraging transit use and creating more efficient and sustainable land use patterns. It typically consists of moderate and high-density housing, along with a mix of complementary public uses, jobs, retail and services within a half-mile walk from a major transit stop. There has been tremendous demand for housing near transit over the past decade with an anticipated 9 million additional households within half-mile of a transit station by 2030.¹

More than simply a project next to a transit station, TOD is the creation of a walkable, active and beautiful place centered around transit access at human scale. The approach aims to create healthy, connected neighborhoods with integration between the station and the surrounding community. In many respects, TOD offers a return to early pre-1950 development patterns such as urban streetcar suburbs. Public transportation would be once again integrated into the physical and social fabric of the surrounding neighborhood.

1. PolicyLink, Equitable Development Toolkit

Understanding TOD

Over the last two decades the concept of Transit Oriented Development has advanced from an approach to reforming suburban development advocated in books like Peter Calthorpe's *Next American Metropolis* to a much more nuanced way of understanding how land use and transportation can be organized in relation to one another to create a more sustainable, functional and equitable urban region.

A leader in TOD research is the Center for Transit Oriented Development a national nonprofit "dedicated to providing best practices, research and tools to support market-based transit-oriented development." CTOD has advanced the concept of TOD, providing design and development principles for transit oriented development.

Over the last fifteen years there have also been a number of conscious attempts at transit oriented development in both suburban and urban contexts.

Finally transit operators and planners have begun to embrace TOD as strategy to build support to expand transit systems, increase ridership, and better integrate existing transit facilities into their contexts.

This study draws on all of these sources in considering TOD for East Liberty, looking to CTOD for principles and best practices, recent examples of TOD guidelines from Atlanta and three station area case studies.



Principles and Best Practices: TOD 101 - CTOD



Transit Oriented Development Guidelines - Marta



Recent TOD: Del Mar Station - Downtown Pasadena

TOD provides a synergy between economic, land use, transportation, environmental, housing and social equity goals. By facilitating public transit use, this development type can reduce dependence on fossil fuels, lower resident's transportation costs, ease congestion, improve safety, promote walking/health and improve environmental quality. It can also be a catalyst for neighborhood revitalization through new investment as residents are better connected to jobs, commercial activity and services.

Local Benefits:

- Revitalization - especially vacant or underutilized parcels
- Access to goods, services and employment
- Reduced transportation costs - 2nd largest household expense in the United States (30%+ of a household's budget)
- Additional housing options
- Public safety for pedestrians

Regional Benefits:

- Reduced burden on infrastructure
- Reduced air pollution and carbon emissions
- Reduced traffic congestion
- Smart growth sprawl reduction
- Improved access to employment centers

TOD Typologies

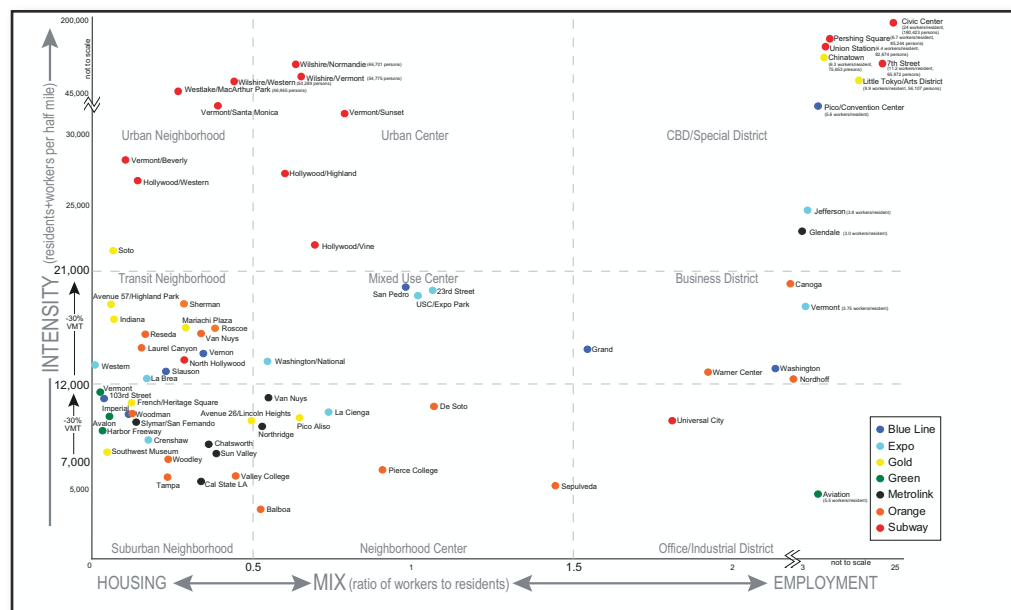
In recent years CTOD has developed the concept of station typologies which classify transit stations and development opportunities according to their location, function and more recently performance, in the larger urban region. Classification strategies tend to rely on measure of residential and employment density, housing to employment ratios and sometimes vehicle miles traveled (VMT.)

Classification strategies designed to guide development have tended to focus on measures of **land use intensity** (residents and worker in the half mile station area) **versus land use mix** (ratio of workers to residents.) This approach is illustrated in CTOD's study of Los Angeles shown at left. This typically is paired with TOD guidelines for each station type. In this study we have used this methodology to classify East Liberty in relation to the other stops on the East Busway as means of identifying development targets.

In their more recent *Performance-Based Transit-Oriented Development Typology Guidebook* a more research oriented measure is put forward to benchmark and compare existing station areas and how various metrics compare. The typology is based on VMT versus a slightly different measure of land use mix calculated as total workers / workers + residents. This method allowed CTOD to compare the performance of hundreds of existing station areas across the country to develop normative metrics for a variety of measures.

TOD station typology matrix for Los Angeles

CTOD - Creating Successful Transit-Oriented Districts in Los Angeles, 2010



15

Normative Metrics for TOD Station Types

CTOD - Performance-Based Transit-Oriented Development Typology Guidebook, 2010

Table 4. Normative Metrics

Place Types	Residential Places					Balanced Places					Employment Places				
	Low VMT	Low-Mod VMT	Mod VMT	High-Mod VMT	High VMT	Low VMT	Low-Mod VMT	Mod VMT	High-Mod VMT	High VMT	Low VMT	Low-Mod VMT	Mod VMT	High-Mod VMT	High VMT
Total Intensity (residents + workers)	54,216	24,718	12,580	7,708	3,429	64,155	21,763	11,600	6,867	3,242	109,306	34,914	13,009	5,969	2,325
Residents	44,293	20,106	10,229	6,292	2,716	29,875	10,732	5,884	3,695	1,764	12,581	5,103	2,065	1,154	321
Workers	9,923	4,612	2,351	1,416	713	34,280	11,031	5,716	3,172	1,478	96,725	29,811	10,944	4,815	2,004
Workers/Residents	18.3%	19.5%	19.6%	20.3%	19.6%	51.6%	49.7%	48.2%	46.0%	46.2%	86.5%	83.9%	84.2%	83.0%	87.1%
Households	16,214	7,684	3,906	2,253	974	15,466	4,646	2,429	1,467	670	6,828	2,524	861	467	120
Household Size	2.71	2.61	2.62	2.71	2.68	1.95	2.21	2.41	2.43	2.60	1.58	1.67	2.22	2.28	2.64
Gross Density (units/acre)	50.0	21.6	10.3	5.7	2.2	48.7	16.4	7.6	4.0	1.9	28.5	10.3	4.6	2.2	0.9
Residential Density (units/acre)	53.2	23.6	12.1	6.7	3.4	55.6	20.9	10.5	5.8	3.5	51.4	20.6	10.8	6.0	2.9
Block Size (acres)	4.2	4.1	5.7	7.7	18.8	3.7	5.8	8.5	9.9	23.7	3.7	6.4	14.2	69.9	86.7
Monthly T Cost	\$422	\$563	\$688	\$781	\$906	\$394	\$597	\$721	\$794	\$900	\$463	\$613	\$713	\$793	\$920
Yearly T Cost	\$5,064	\$6,756	\$8,256	\$9,372	\$10,872	\$4,728	\$7,164	\$8,652	\$9,528	\$10,800	\$5,556	\$7,356	\$8,556	\$9,516	\$11,040
Average Median Income (1999)	\$31,713	\$35,643	\$41,344	\$53,492	\$62,069	\$43,997	\$37,364	\$43,395	\$51,138	\$65,544	\$41,875	\$34,183	\$43,935	\$40,985	\$57,562
Travel Time to Work (minutes)	35.6	31.4	27.4	25.5	24.7	23.5	22.1	21.4	21.6	22.9	18.0	17.1	18.7	19.0	21.5
Employment Proximity	233,890	127,448	65,640	42,260	20,788	451,725	152,310	73,393	41,335	27,131	396,277	159,118	99,648	58,747	32,167
Transit Access Index	31	19	13	10	3	56	28	11	9	4	85	45	19	10	4
Autos/Household	0.45	0.82	1.18	1.47	1.71	0.52	0.87	1.22	1.41	1.68	0.48	0.74	1.11	1.18	1.61
Home Journey to Work Transit	58%	39%	23%	15%	8%	43%	25%	14%	10%	8%	25%	16%	13%	9%	5%
Home Journey to Work Walk/Bike/Transit	68%	47%	27%	18%	10%	64%	40%	23%	15%	11%	58%	37%	24%	18%	9%
Workplace Journey to Work Transit	33%	20%	11%	7%	2%	38%	17%	8%	5%	3%	38%	16%	9%	5%	3%
Workplace Journey to Work Walk/Bike/Transit	47%	30%	18%	12%	6%	48%	23%	12%	8%	5%	43%	19%	11%	7%	5%

Performance-Based Transit-Oriented Development Typology Guidebook

Seven Guiding TOD Principles

The following is a list of seven key principles for TOD. In general we are drawing on and paraphrasing TOD principles generated by the Center For Transit Oriented Development, but also drawing on other sources and recommendations for TOD best practices.

1. Maximize location efficiency

TOD is based on the conscious placement of homes, jobs, civic uses, shopping, entertainment, parks and other amenities close to transit stations to promote walking, biking and transit use. This means that uses should be balanced relative to the station type and that land use around the station should be compact and dense relative to the surrounding community in order to create opportunities for as many people as possible to live, work, and shop within walking distance of the station.



2. Build a mix of housing choices and complimentary uses

TOD should expand housing choices and opportunities encouraging and allowing more people to ride transit. New housing should accommodate a variety of household types at a range of price points including long term strategies for including and maintaining affordable housing options. Complementary public uses, jobs, retail and services should be located in close proximity.



3. Create walkable places for people.

TOD should create beautiful pedestrian friendly places that integrate transit and mixed-use development into their surrounding context. New buildings, transit design, and infrastructure improvements should be organized in ways that reinforce one another in the creation of a place where people's daily needs can be met using transit and on foot and where people want to be. High quality public spaces, safe and active streetscapes, small navigable blocks, public art, high quality architecture and development, and the innovative use of landscape elements are all key elements of a successful public realm.



4. Maximize station connectivity and visibility.

The station should be a key node in the public realm and pedestrian network, with maximum accessibility and visibility from the major street network and surrounding neighborhood. Station entries should connect to active pedestrian spaces which encourage gathering. Pedestrian connections to feeder transit routes should be visible and well-integrated into the public space network.



5. Design streets for all users.

Streets should be designed to safely accommodate all users including, pedestrians, bicycles, cars and buses. In close proximity to transit, priority should be given to accommodating non-automotive modes when conflicts arise.



6. Manage parking effectively.

Parking supply and location should reinforce TOD goals while balancing market demands. Parking should be shared to the degree possible, and park-and-ride provision should be appropriate to the station typology, generally decreasing as land use intensity increases. A parking strategy should also include bicycle parking, car pooling priority, and ideally bicycle and car sharing services.



7. Capture the value of transit

TOD should capitalize on the value of transit. Value capture strategies can include fiscal policies, including property and sales taxes, real-estate lease and sales revenues, farebox revenues, and fees on everything from parking to business licenses. Value capture strategies can also include non-fiscal strategies, including inclusionary zoning, where the value of transit access can induce a market-rate development to include affordable units, or “in kind” public improvements such as parks or plazas that are conditions of development. In the case of a Transit Reinvestment District, value capture can be a means to fund necessary infrastructure improvements, encourage higher quality development, and ensure community benefits such as affordable housing, small business opportunities and job creation.



TOD in the context of Livable Communities



TOD is complementary to the Livable Communities Principles defined by the Federal interagency Partnership between HUD, DOT and EPA for Sustainable Communities established in 2009. The Livable Communities Principles are consistent with principles and best practices for transit oriented development, emphasizing the creation of both housing and employment centers that are efficiently located and accessible by transit. The principles also specifically call out walkable transit oriented development in existing communities as sustainable and desirable development pattern for future growth.

The core principles are:

1. Provide more transportation choices.

Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

2. Promote equitable, affordable housing.

Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

3. Enhance economic competitiveness.

Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

4. Support existing communities.

Target federal funding toward existing communities - through such strategies as transit-oriented, mixed-use development and land recycling - to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

5. Coordinate policies and leverage investment.

Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

6. Value communities and neighborhoods.

Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods - rural, urban or suburban.

In developing TOD and TRID recommendations for East Liberty the Living Communities Principles served as a guide for developing infrastructure and development recommendations.

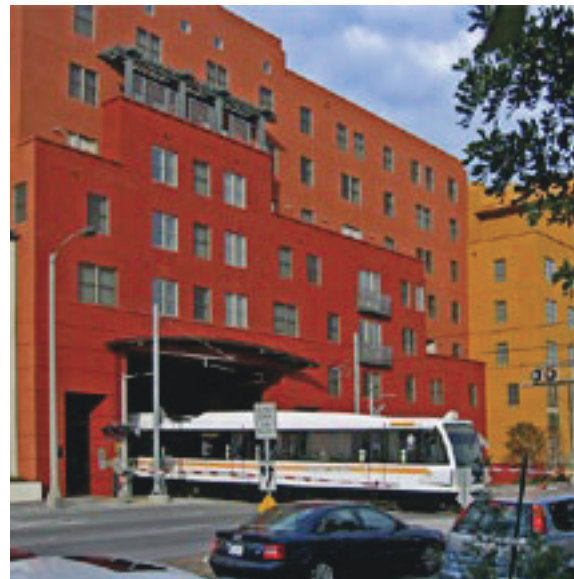
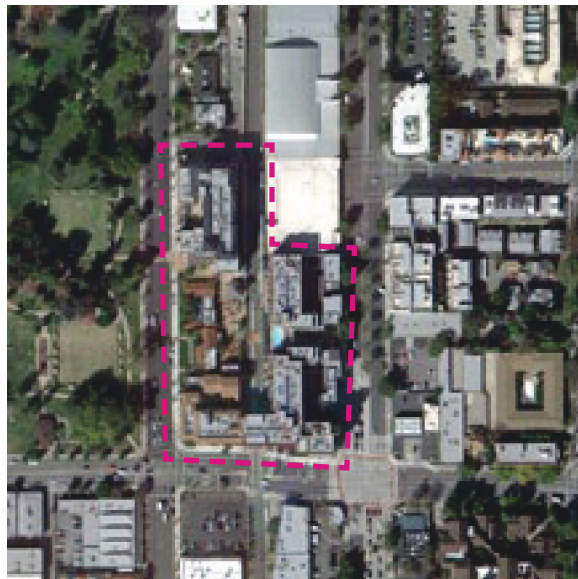
Station Case Study:

Del Mar Station - Pasadena, California

Del Mar Station is an example of excellent integration of new mixed use development with an LRT station reconstruction project. The project includes 347 apartments and 20,000 Sf of retail around an at grade light rail station situated in the middle of the block. Mid-rise apartment buildings organized around the edges of the block form a series of public plazas which lead to the station platforms. A key attribute of the project is the quality of the pedestrian spaces that lead to and include the station. Buildings are oriented to both the street and the mid-block pedestrian realm. Public art and high quality landscape treatments are used to connect the station to the larger public realm.

below right: Google Aerial of Del Mar Station

below: Images of Del Mar Station - Rosenfeld, Daniel Urban Partners with design by Moule & Polyzoides Architects and Urbanists



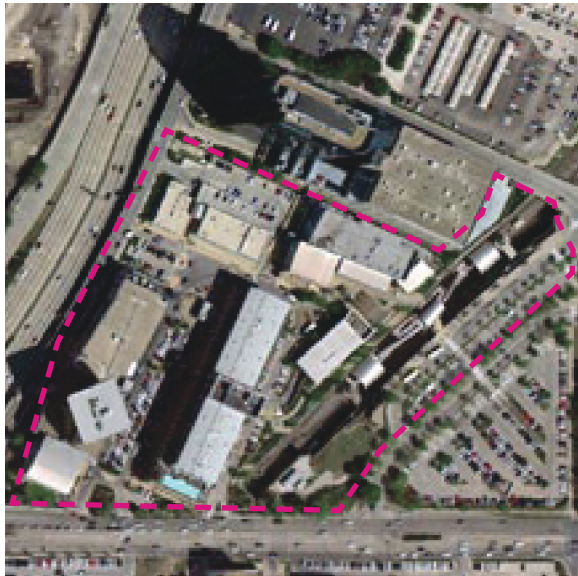
Station Case Study: Mocking Bird Station

Dallas, Texas

Mockingbird Station is an example of a successful use of TOD to create a new pedestrian oriented node of development around a transit station in an otherwise automobile oriented environment. The development includes 211 apartments, 137,000 sf of office space and 178,000 sf of retail space. The project was successful in bringing new users to the Dallas transit system and in introducing higher density development adjacent to transit to the Dallas region. The station is also a good example of using a combination of station architecture and landscape improvements to connect a grade separated station to its surrounding urban context.

*below right: Google Aerial of
Mockingbird Station*

*below: Images of Mockingbird Station
- Hughes Development, with design by
RTKL Selzer & Envirodesign*



Station Case Study:

Hiawatha and Lake Street Station Minneapolis, Minnesota

Hi-Lake Station is a relatively new station on the Hiawatha line in Minneapolis. This station was introduced into an automobile dominated environment with a mix of existing retail, institutional and residential uses. Although station area planning for TOD was in place and development and investment have occurred around the station, a lack of coordinated implementation and investment in the surrounding streetscape and pedestrian realm has limited the success of this particular TOD.

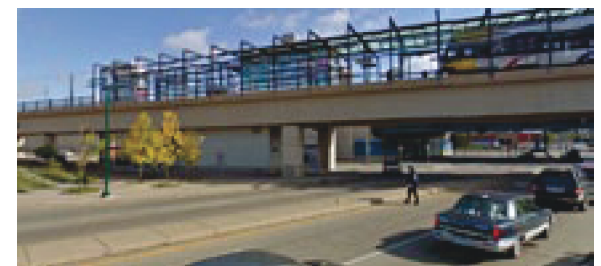
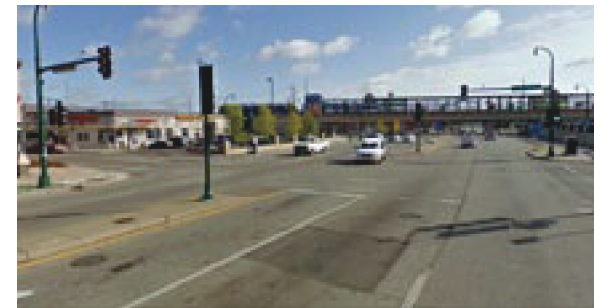
Hi-Lake underscores the need for coordination between station design, pedestrian and bicycle infrastructure investment and appropriate mixed use development.



2001 Hi-Lake TOD plan by Calthorpe Associates and the IBI Group

Below left & right: Google Aerial and Streetview of Hi-Lake today showing the new station

Below center: Planned and built condominium developments adjacent to Hi-lake station



Guidelines Case Study:

Marta Transit Oriented Development Guidelines - Atlanta

22

In recent years the Center for Transit Oriented Development has developed the concept of TOD typologies which classify transit stations and development opportunities according to their location and function in the larger urban region. A particularly useful and sophisticated example of TOD guidelines organized by station typology is the recent set of guidelines created for Atlanta by the regional transit operator Marta. The guidelines establish best practice targets for station area development uses, density and organization. Also included are standards for station area infrastructure including, organization, pedestrian and bicycle facility provision, complete streets strategies and parking provision and management. The document also contains a model zoning overlay district for TOD with density and parking modifications.

The following pages are key excerpts from the Marta Guidelines:



Town Center

Town center stations are set in nodes of dense, active, mixed-use development. These station areas have a wide array of land uses from housing and civic amenities to retail and office spaces. Development is of a comparatively lower scale than the urban core, with mid-rise construction more common than high-rise buildings. Institutional or signature commercial buildings physically address adjacent major thoroughfares and intersections. The site often has an internal 'main street' that organizes activity. The interior streets tend to be more pedestrian oriented with street-facing mixed use and residential buildings. Land use intensity and building height transition downward near adjoining residential areas. Town centers often incorporate a formal open space, such as a green or park framed by buildings and active uses. Overall, the site is compact and has a very refined network of pedestrian links, streets, and short blocks to promote circulation among multiple uses and connections to surrounding areas. Some limited surface parking is available, but most parking occurs in decks wrapped by ground-level uses to reduce visual impact on the built environment.



STANDARDS FOR DENSITY AND USE

This section provides a set of specific standards by which the density and mixed-use principles of TOD can be applied to transit stations in Metro Atlanta. These standards are drawn from best practices in other transit metropolitan areas, as well as from all plans and TOD-friendly zoning provisions in our own region. Land-use regulation and zoning of course, are a municipal and county prerogative. As a TOD stakeholder and advocate, MARTA will encourage the adoption of standards like these throughout the region. These are also the standards that MARTA intends to apply to joint development projects on its own property. In cases where current zoning would prevent these or similar standards from being applied to MARTA property, we will work in partnership with local zoning authorities to seek changes.

The density and use standards outlined here would be applied within a "TOD district" reflecting each station's zone of influence—the pedestrian, visual and economic catchment areas within TOD is broadly encouraged. While the appropriate boundaries will vary from place to place, a typical TOD district might extend up to one-half mile from a transit station, or in regional bus rapid transit stations and one-quarter mile from a neighborhood bus or streetcar stop.

In the center of a TOD district, a "core area" may be delineated, defined either by a radius or by the designation of specific parcels. The core area is the "TOD half-square" in the street, network, and buildings closest to the station, where it is appropriate to apply TOD standards more aggressively. A TOD core area will generally extend a quarter mile or less from the station or stop.

Density

A basic premise of these TOD Guidelines is that while the appropriate level of density for a given station will vary with its location, community setting and function, development should be relatively dense and compact for the immediate station area, compared to its surroundings.

Density can be measured in a number of ways:

- **Block area ratio (BAR)** is the ratio of the total built space on a site to its total area, and is a widely used measure of density. For example, if a site with a total area of 10,000 square feet has a 10,000 square-foot building on it, its BAR is 1.0. BAR is an especially useful measure of density in transit-oriented development areas, where different uses are mixed.
- For residential development, TOD planners often measure density in terms of building units per acre. For example, a suburban subdivision with single-family homes on quarter-acre lots would provide four units per acre, while apartment towers in urban neighborhoods can easily contain 75 units per acre or more, even when mixed with other uses.

- For many people, the most recognizable measure of density and scale is height. Height and density are not a perfect match—a taller building with more open space at ground level and a shorter building with less open space could have identical floors, and buildings may feel more or less tall depending on how they relate to the street.

Recommendations for the various station types are outlined in the table below. For most of references, all these density measures are presented—BAR, building units per acre, and height, although the zoning process most jurisdictions use BAR as the governing metric. These densities are stated in mid-ranges, but are more precise stations of the same

Station Type	Floor Area Ratio (BAR)	Residential Units (per Acre)	Height (in Feet)
Urban Core	8.0-10.0	75+	8-10
Town Center or Center Town Center	1.0-1.5	25-75	4-11
Neighborhood	1.5-2.0	15-50	3-8
Arterial Corridor	1.0-2.0	15-50	3-10

general type. Different community settings will call for different scales of development. Suggested densities are not provided for special regional developments, which are unique spaces where more density standards apply, or for collections, which have goals and roles as their principal use.

To achieve an effective TOD density for a particular TOD district, MARTA supports a combination of land-use densities and building footprints.

The location should reflect a scale of development generally appropriate for its community context but clearly denser than the surrounding areas. The location should not be uniform throughout the TOD district. Instead, it should step down with the highest density in the "half-square" immediately surrounding the station and lower density along the outer edge of the TOD district, as it blends into the surrounding neighborhood. This can be achieved by applying less dense footprints, as illustrated in Figure 1 on the right.

Copyright © 2009 John Wiley & Sons, Ltd.

Copyright © 2009 John Wiley & Sons, Ltd.

이 글은 2017년 8월 16일 서울에서 열린 제1회 한국문화재단 창립자 회담에 참석하여 발표한 글이다.

[illegible]



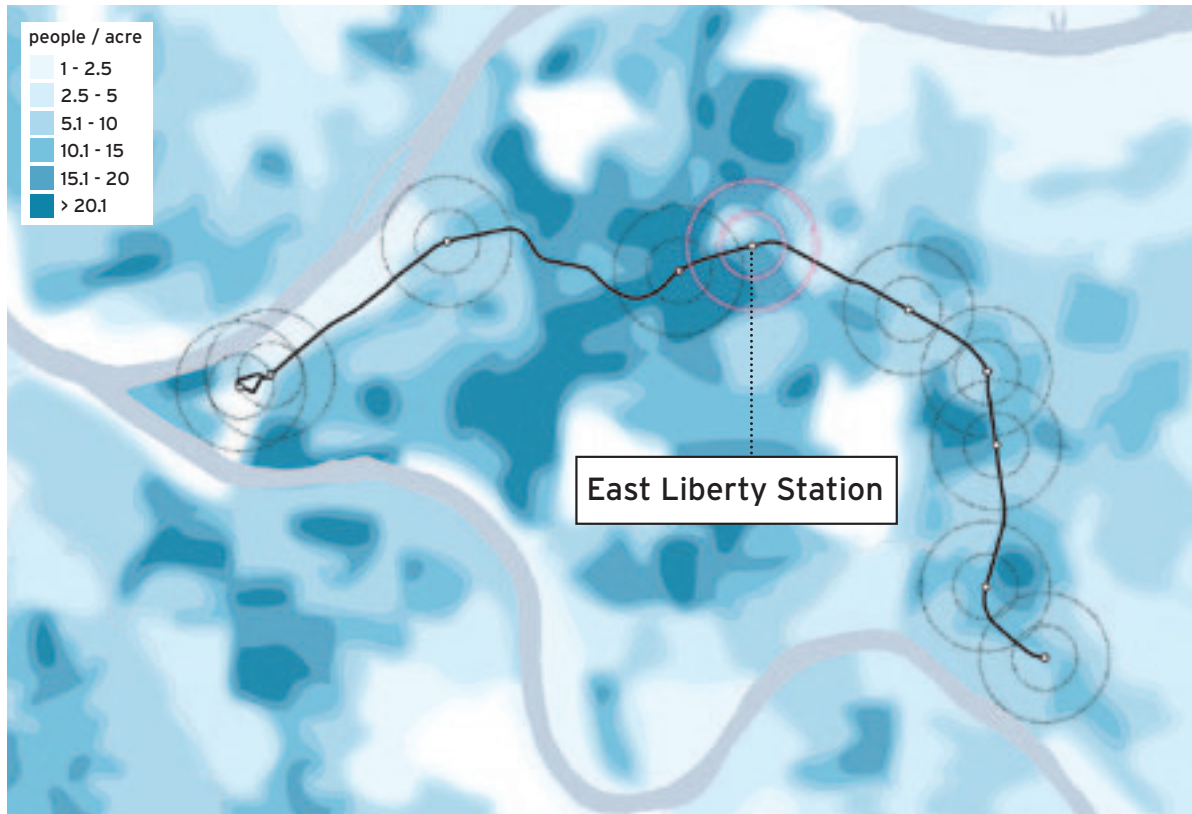
2.

ANALYSIS : EAST LIBERTY STATION

East Liberty has historically been one of the most important mixed use neighborhoods in the City of Pittsburgh. It also has a long history as a transit destination and transfer point. The neighborhood was also the site of one of Pittsburgh's more ambitious and ultimately unsuccessful urban renew schemes. Today the neighborhood is experiencing a renaissance reemerging as a retail and entertainment destination for the city's East End after a twenty year hiatus.

East Liberty Station sits to one side of the commercial district, adjacent also to high density residential sections of Shadyside and the business district along Highland Avenue. Both the station itself and the sites immediately adjacent to it are prime candidates for transit oriented development, offering an opportunity to support the ongoing revitalization of the neighborhood.

Population Density along the East Busway: 2010 Census



Demographic Profile

Approximately 6% of the City population resides within the study area. Household density per acre is much higher at nearly 21 units per acre compared to less than 5 for the City as a whole. The study area is also characterized by a larger percentage of non-white residents than the City average. While over 50% of people have attained less than a college degree, this statistic is better than the City-wide higher education figures.

Over 8,700 employed individuals currently reside within a half mile of the current East Liberty Station. According to the URA Main Streets market profile for the Penn Circle Commercial District (roughly corresponding to the study area), approximately 750 people are employed within this area. The top neighborhood job categories include:

- Education, health and social services
- Professional, scientific, administration and waste management
- Retail trade
- Arts, entertainment, recreation, accommodation and food services

However, local unemployment is well above the regional and national averages at nearly 16%. Within this local population over a quarter of people live below the established poverty line. Median household income is 12% lower than the level for the entire City of Pittsburgh.

Demographic Profile	Study Area	City of Pittsburgh
Population	17,754	305,704
% Non-White	51%	34%
Households	8,286	138,739
Employment	8,725	148,197
% Unemployed	15.89%	FACT
% < College Degree	53.70%	66.8% (25 yrs +)
Median Household Income	\$31,544	\$35,732
% People Below Poverty Line	26.51%	21.70%

It is important to once again note the historical differences between the communities that comprise the study area. Statistics for affluent Shadyside differ greatly when compared to areas to the north and east of the Busway/rail line. The neighborhoods of East Liberty and Larimer include 4 census tracts where:

- 80% of the population has attained less than a college degree
- unemployment rate is 23%
- median household income is \$24,000
- nearly 35% of people are below the poverty line

Each of these areas is classified as Severely Distressed by the Community Development Financial Institutions (CDFI) Fund, a division of the US Department of the Treasury. These figures are comparably less favorable than the entire study area which contains portions of Shadyside.

The Market Value Analysis (MVA) is a statistical tool that uses market data to classify geographic areas and produce a map of the varying market types within the City. Market types are designated according to clustering similar characteristics, including housing units, residential, sales prices, vacancy, percent commercial, new unit permits, code violations, foreclosures and section 8 rentals. With the goal of tailoring investment strategies to the conditions of each market area, the MVA is a tool to improve each unique neighborhood.

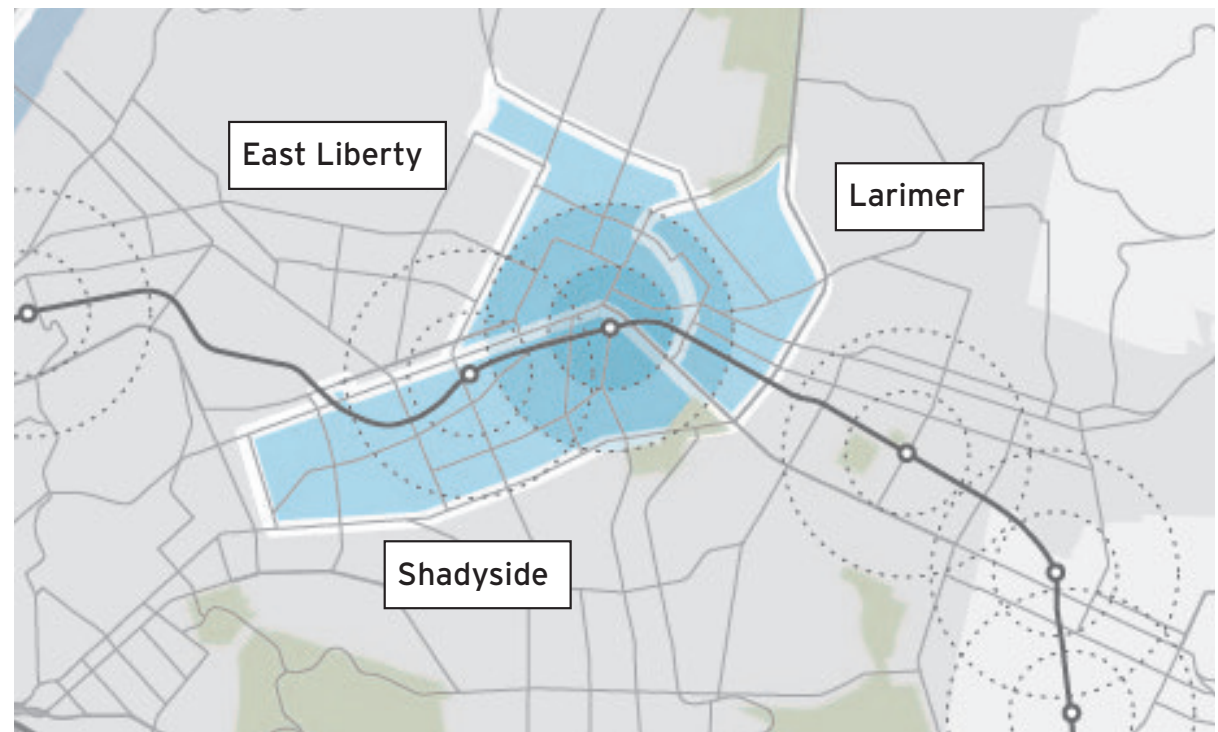
Once again, the differences between areas of the study area to the south versus those to the north are highlighted by the MVA. Areas of Shadyside rank among the highest market values in the City with portions closer to the upper midrange. Conversely, East Liberty and Larimer rank at the bottom among the poorest markets in the City. Within these two neighborhoods, the average residential sale price is nearly \$200,000 less than stronger markets with much higher incidences of foreclosure and Section 8 rental units

Additionally, they rank comparatively low in the neighborhood statistics including:²

- Code violations
- Vacant residential units
- Condemned properties
- % of taxable properties with liens (including over 2 years)
- Greater population loss after 1950

The need for intervention to prevent further market failure is evident throughout much of the study area. Though, these weaker markets are bounded to the north by another strong market in Highland Park as well.

2. PGHSNAP Neighborhood Profile



Classifying East Liberty Station

In the larger context of the East Busway East Liberty can be classified as a Mixed Use Center, meaning it is a fairly dense mixed-use urban place with a balance of housing and jobs present within a half-mile of the station. The majority of stations on the busway have a mixed use character, but apart from Negely Station and the Downtown terminus East Liberty has the highest land use intensity and is the most significant employment center on the Busway. Along the main stretch of the Busway only Negely Station is surrounded by higher density development, with a larger residential population situated in the half-mile transit shed.

The station typology classification is useful because it offers a best practice development target base line to measure proposed TOD against as the station area is developed in the future. As is reflected in the development targets, mixed-use centers tend to cover a wide range of densities, from 25 units/acre all the way up to 75 units/acre with residential development typologies ranging from town houses to mid-rise apartment and condo buildings. The development guidelines also recommend a broad mix of uses from housing and office to retail, and institutional uses.



The Station in relation to East liberty's core



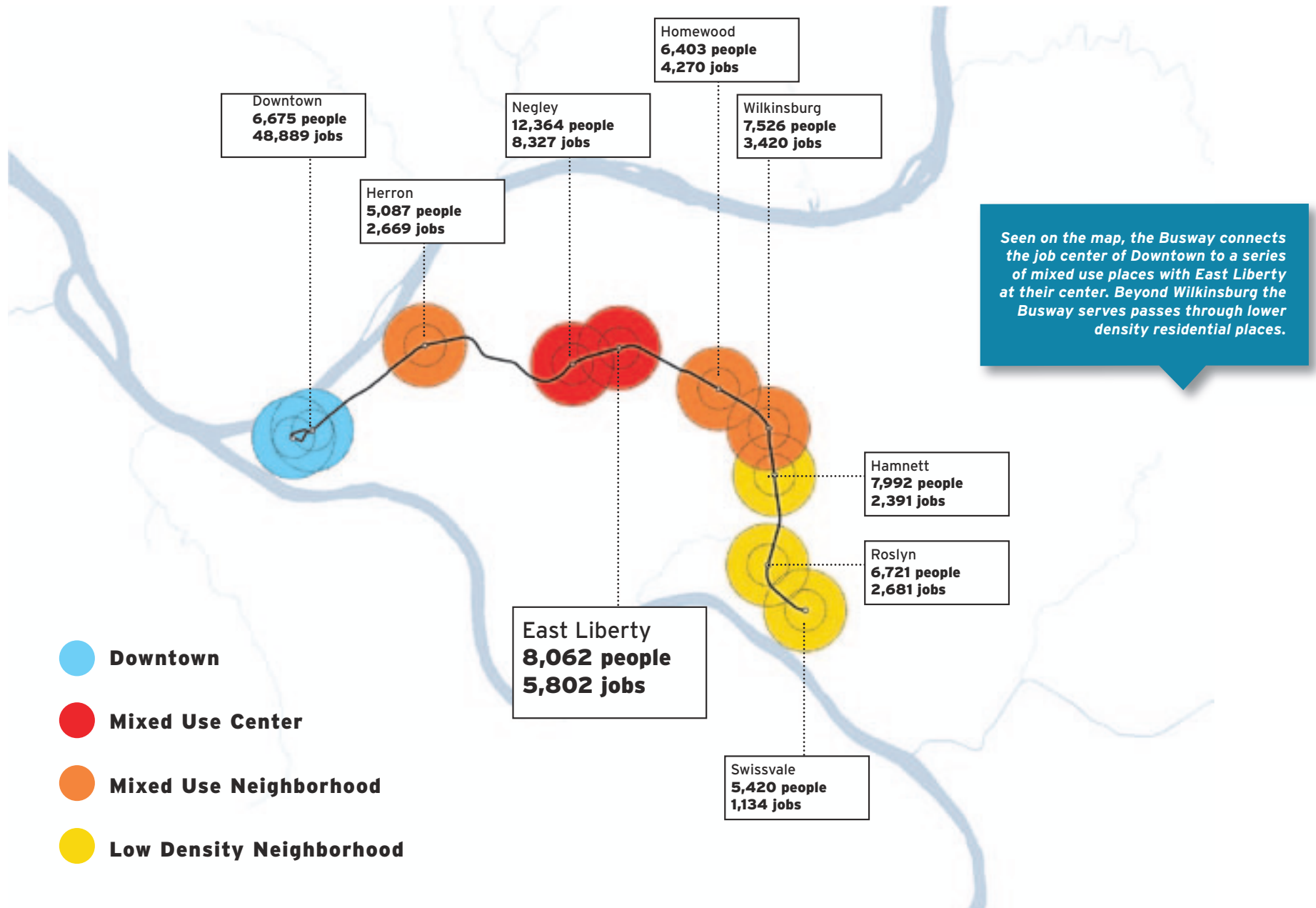
East Liberty Station - a grade separated bus rapid transit facility

EAST BUSWAY TRANSIT ORIENTED DEVELOPMENT TYPOLOGY

East Busway Stops Compared:



Methodology & Data: Center for Transit Oriented Development / U.S. Census Bureau
 Population: Census 2000 aggregated from Census 2000 blocks / Jobs: CTOD Database2008 LED Work Area Characteristics
 total aggregated from Census 2008 Blocks. Note: East Liberty Station only reflects 2010 census population counts



A survey of best practice guidelines for transit-oriented development recommend the following targets for new development in a Mixed-Use Center like East Liberty. These targets are compiled from a variety of sources including CTOD's station typology studies for Denver and Los Angeles, Marta's TOD guidelines for Atlanta and *The New Transit Town - Best Practices in Transit-Oriented Development* by Hank Dittmar and Gloria Ohland.

Following these guidelines for future development would suggest increasing residential development and exploring higher densities that currently exist around the station especially for new residential development.

DEVELOPMENT GUIDELINES FOR A MIXED USE CENTER

Targets for 1/4 mile radius area:

Land Uses	Residential, Retail, Office, Civic & Entertainment
Residential Density	25 - 75 Units / Acre Gross
FAR	3.0 - 10.0 (1.0 Min)
Housing Types	Midrise & Lowrise Multi-family, Town-houses
Retail	Over 50,000 sf
Scale & Mix	4 - 15 Stories Vertical mixed-use desirable
Transit Function	Transit origin and destination Park-and-ride, if any, is secondary Rail or BRT interface with multiple local bus lines



EAST LIBERTY STATION WALKING-SHED

5 & 10 minute walks from the station platform, corrected for actual street patterns

All of the East Liberty business district sits within the station pedestrian shed, with much of it within a five minute walk from the platform. The ten minute walking-shed extends well into Shadyside and to the edges of East liberty into Larimer. New development at Bakery Square sits just within the boundary on the eastern edge.

The walking shed is made less efficient because of the scale and geometry of some of the blocks around the station, especially to the east. In this area the lack of connections across the busway and rail line also limits the geography of the pedestrian-shed.

East Liberty Station & TOD

East Liberty station already has many of the qualities that TOD principles would recommend. Being situated in a historic urban neighborhood, the station area is already a relatively dense mixed use urban area with strong pedestrian activity and multi-modal connections.

However, the environment around the station varies radically from one direction to another from tightly knit single family houses immediately to the south and west to automobile oriented commercial uses to the east and some directions reflect the goals of transit oriented development better than others.

Since the creation of the Busway the area around the station has been dominated by large expanses of surface parking and infrastructure not designed for pedestrian comfort. The station also suffers from being buried in the middle of the block between Highland and Shady a grade lower than that of the East Liberty business district. The station's only public street frontage is along a section of Ellsworth Avenue that has historically not been a front door. Thus no active uses actually face the station entry and access from East Liberty is only possible by crossing pedestrian bridges buried in the back of the block. Large blocks and a lack of north-south connections also limits the pedestrian efficiency of the station making for a smaller 5 & 10 minute walking shed.



East Liberty & the TOD principles

As previously stated East Liberty Station already has many of the qualities desirable for TOD, but it also has factors that limit its current functionality as a TOD and are barriers to future transit-oriented development.

1. Maximize location efficiency

The area around the station is already very mixed use, providing a range of housing choices and employment opportunities. Its location in the middle of the east end plateau, means that numerous neighborhoods flow into direct connections making it a natural center for the eastern end of the city. Density varies around the station and in some directions particularly to the east, there are opportunities to increase the residential densities which are well below the desirable level for a Mixed-Use Urban Center station in some parts of the station area.

2. Build a mix of housing choices and complimentary uses

As previously stated the land use around the station is already quite diverse, however there are opportunities to increase housing density and choice in the station area. Although higher density housing in the form of low-income high-rise tower was recently removed from East Liberty, looking to mid-rise residential buildings on some sites to the east of the station may be an appropriate future TOD strategy.

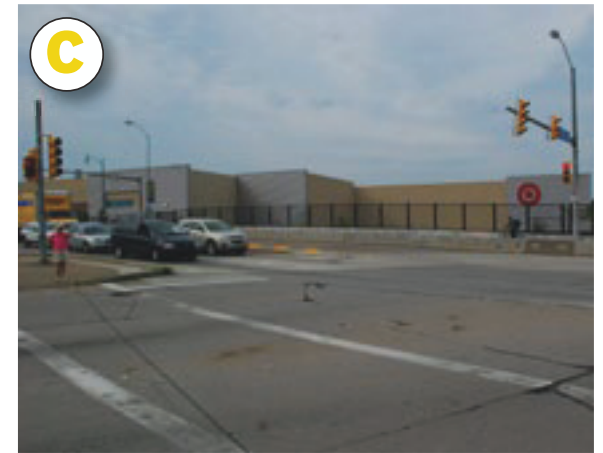
3. Create walkable places for people.

Walkability around the station varies radically from one edge of the station to another. In part this is due to the recent reconstruction efforts along Penn Circle which brought the standard of the pedestrian environment to up to a very

high standard through new streetscape improvements. The diversity of conditions is visible in the diagram on the next page and in the images below. The station itself could also be improved in the future with improved landscape, lighting and seating elements.



New Penn Avenue Streetscape



Penn & Shady Intersection

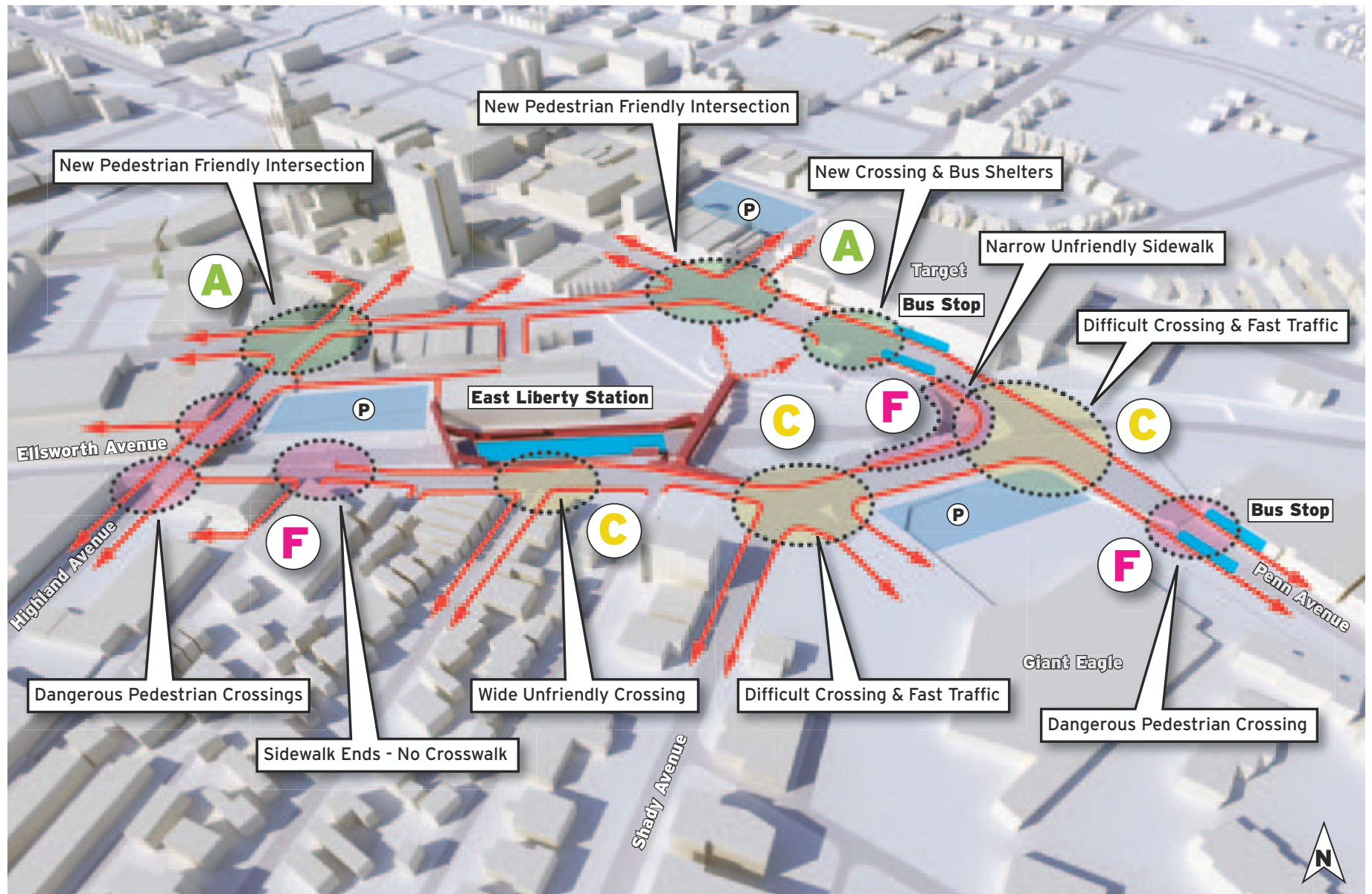


The Ellsworth Station entrance



Ellsworth sidewalk ends after the station

WALKABILITY ISSUES AROUND THE STATION



4. Maximize station connectivity and visibility.

The most public frontages around the station are currently dominated by a bus access ramp connecting the station to a now unused street level bus plaza. The entire Penn Avenue and Shady Avenue edge is defined by the busway ramp which is separated by a gap from the bridge supporting Penn Avenue itself. This public front door to the station is shown at right. The sidewalk is channeled between a concrete barrier and a chain-link fence which limits the visibility of the actual station platforms along its most public frontage along both Penn and Shady

When the station was built the main access route from this edge was through a bus layover and transfer plaza at Penn and Penn Circle South. This plaza was connected to the station via a pedestrian bridge. This street level plaza is no longer in use and in the current planning will become a development site which will put even more pressure on the Penn and Shady edge of the station as it's main public address in the future.

In large part this condition is a result of the curved busway ramp which sits between this area and the station platforms. The ramp is no longer in use as part of Port Authority's operations and is currently only functioning as an emergency vehicle access route. Providing an alternative emergency access route would allow the ramp to be repurposed as a key component of the pedestrian entry sequence for the station.



The Penn Avenue edge of the station area



One of the most public frontages of the station at Penn and Shady

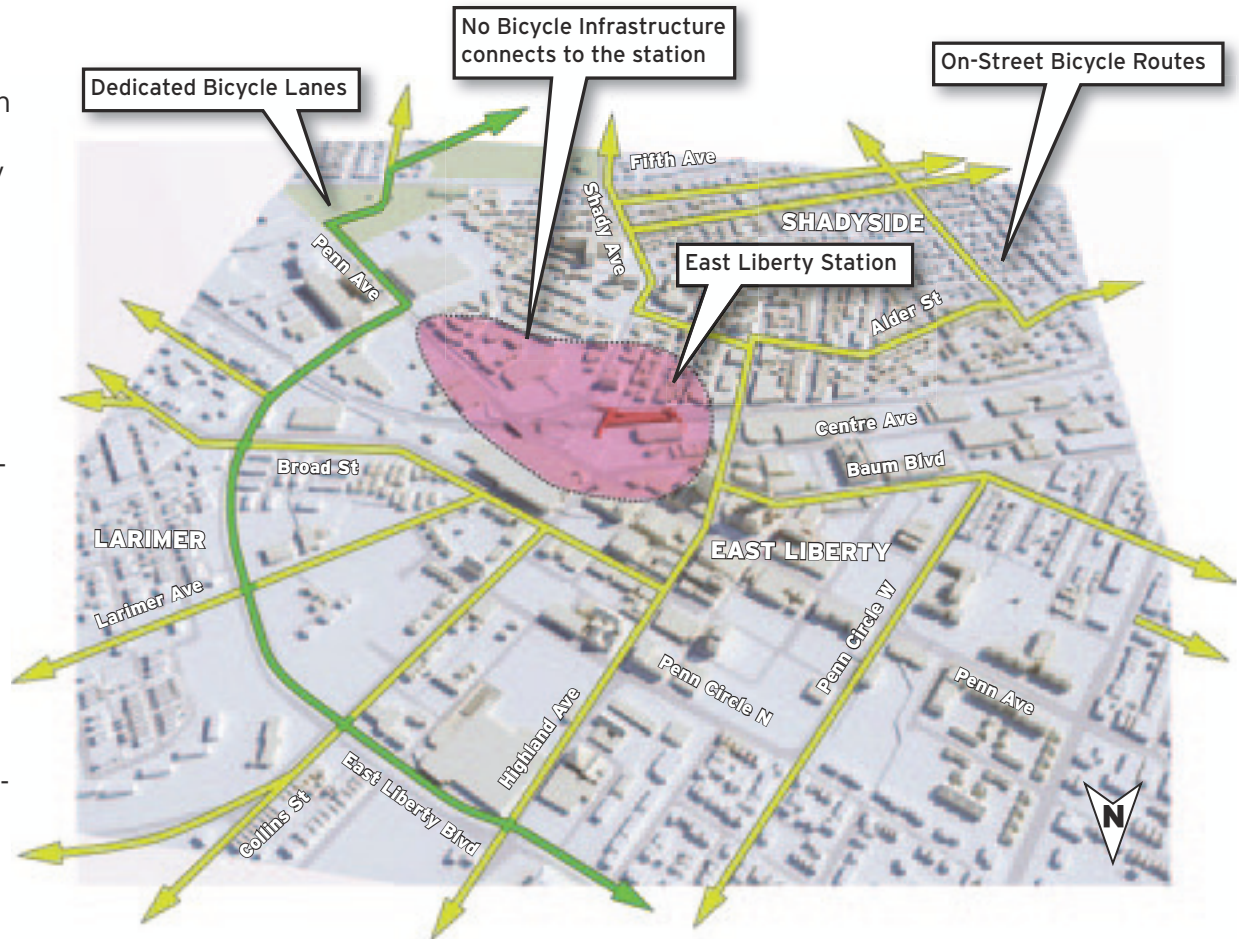
5. Design streets for all users.

As previously demonstrated the area around the station, particularly to the south and east is designed primarily with automobiles in mind. Pedestrians have difficulty navigating key intersections in this zone including locations with major on-street bus stops along Penn Avenue.

The bicycle infrastructure connections to the stop also suffer from the automobile oriented streets, again particularly along Penn avenue to the east. In recent years the City of Pittsburgh has made great progress in improving bicycle facilities throughout the city including the dedicated bicycle lanes found along East Liberty Boulevard, Beechwood Boulevard and in Mellon Park. There has also been significant progress in adding shared lane markings and signage to key on-street routes. However these existing routes only serve the station area well from the south western side, approaching from Shadyside through smaller side streets.

Key missing links in the bicycle infrastructure exist on the section of Penn avenue between Shady and East Liberty Boulevard and on Shady Avenue between Penn and Alder Street. The area shown in pink at right is in need of a complete street redesign to allow more modes of transportation to access the most public edge of the station and to support future TOD.

The station also lacks effective bicycle parking with only a single older bicycle rack that does not meet the current city standard for bicycle parking.



Auto-oriented intersection at Penn and Shady



Existing bicycle parking at the station

6. Manage parking effectively.

The parking in the station area and the greater East Liberty business district is a poorly managed mix of public and private surface lots, limited structure parking associated with newer developments and on-street spaces, some of which are regulated by residential permit areas.

Currently there is no dedicated parking for the station, although a section of the Shady Hill Plaza is signed to allow for station parking in what appears to be an effort to manage a tendency for unintended use of an over-sized parking field next to the station. Typically for a mixed use station park and ride provision is not a major goal, and parking is instead treated as a shared resource to support development with limited if any dedicated transit parking provided.

Better parking management in the district around the station is however essential and much needed. Future parking management and provision should be oriented towards managing existing resources more effectively in a coordinated manner with better wayfinding and more consistent, demand driven pricing. As parking supply is increased to support redevelopment efforts parking should be developed and managed as a shared resource to the degree possible.



7. Capture the value of transit

Significant investment and redevelopment has already occurred around the station area over the last decade. Despite these successes, further investment is constricted by limited and obsolete public infrastructure, especially connections to the transit system. A mechanism is needed to capture the value of transit to reinvest in the station itself, and the infrastructure around it in order to facilitate future transit-oriented development. To date the primary mechanism for this has been through large-scale project based TIFFs. This study will explore the feasibility and implications of creating a Transit Revitalization Invest-

ment District as a means of capturing the value of transit district wide and reinvesting in a range of infrastructure needs in the station area, as well as supporting key TOD projects.

The existing station



Looking west



Looking East

Transportation Analysis

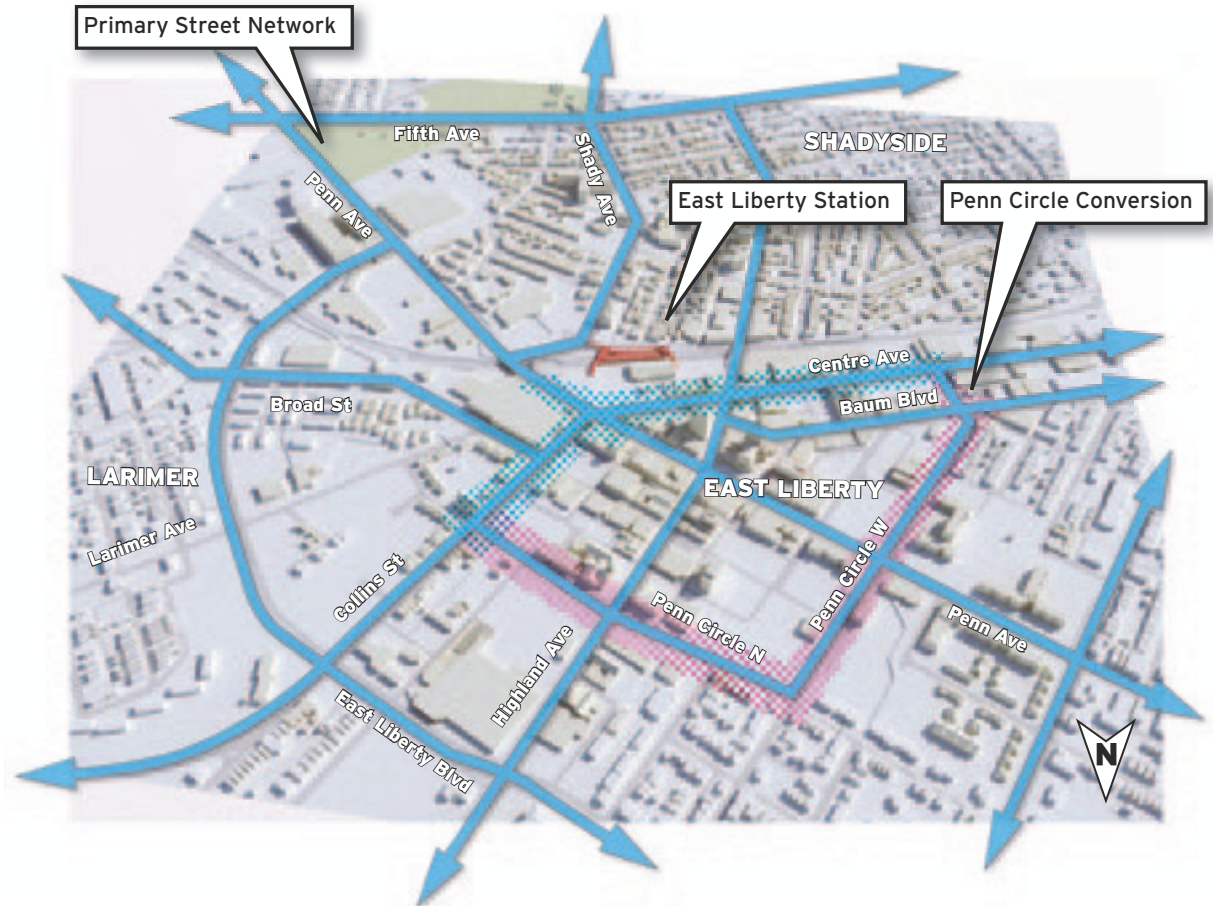
Issues affecting pedestrian and bicycle mobility in the area immediately around the station have already been discussed as factors that limit the effectiveness of the station as driver for TOD.

Despite these limitations of the station area, East Liberty is generally very well served by a range of transportation. Within the study area, resident workers travel on average 20 minutes to work. Approximately 73% of housing units have at least one automobile available. Workers utilize transit, carpooling, cycle and pedestrian networks to access their place of employment. Only 46% of commuters travel within a single occupancy vehicle.

Numerous bus routes serve East Liberty. Popular bus routes include the 64A, 71A, and 81B. The 64A runs through Squirrel Hill to the Homestead Waterfront shopping area. The 71A runs through Oakland to the Central Business District (Downtown), while the 81B runs from Wilkinsburg to Downtown through Homewood and the Hill District. The East Liberty station on the Martin Luther King Jr. East Busway system is located at the eastern end of the Penn Avenue business district, and provides quick and easy access to Downtown and other parts of the East End.

Road Capacity

Along Penn Avenue just east of Shady Avenue, traffic is expected to peak at about 1,100 vehicles per hour going westbound in the morning. Eastbound peaks in the



The intersection of Penn and Shady Avenues

afternoon with about 1,250 vehicles per hour. The volumes are likely less than predicted due to some changes to the development program, including projects like the Indigo Hotel which have not yet been realized. Even assuming the high estimate, a single traffic lane in each direction should be sufficient to handle the demand. Instead, Penn Avenue east of Shady Avenue consists of two lanes per direction and the approaches to Shady Avenue are even wider, including a dedicated high-speed right turn lane from Penn Avenue to Shady Avenue.

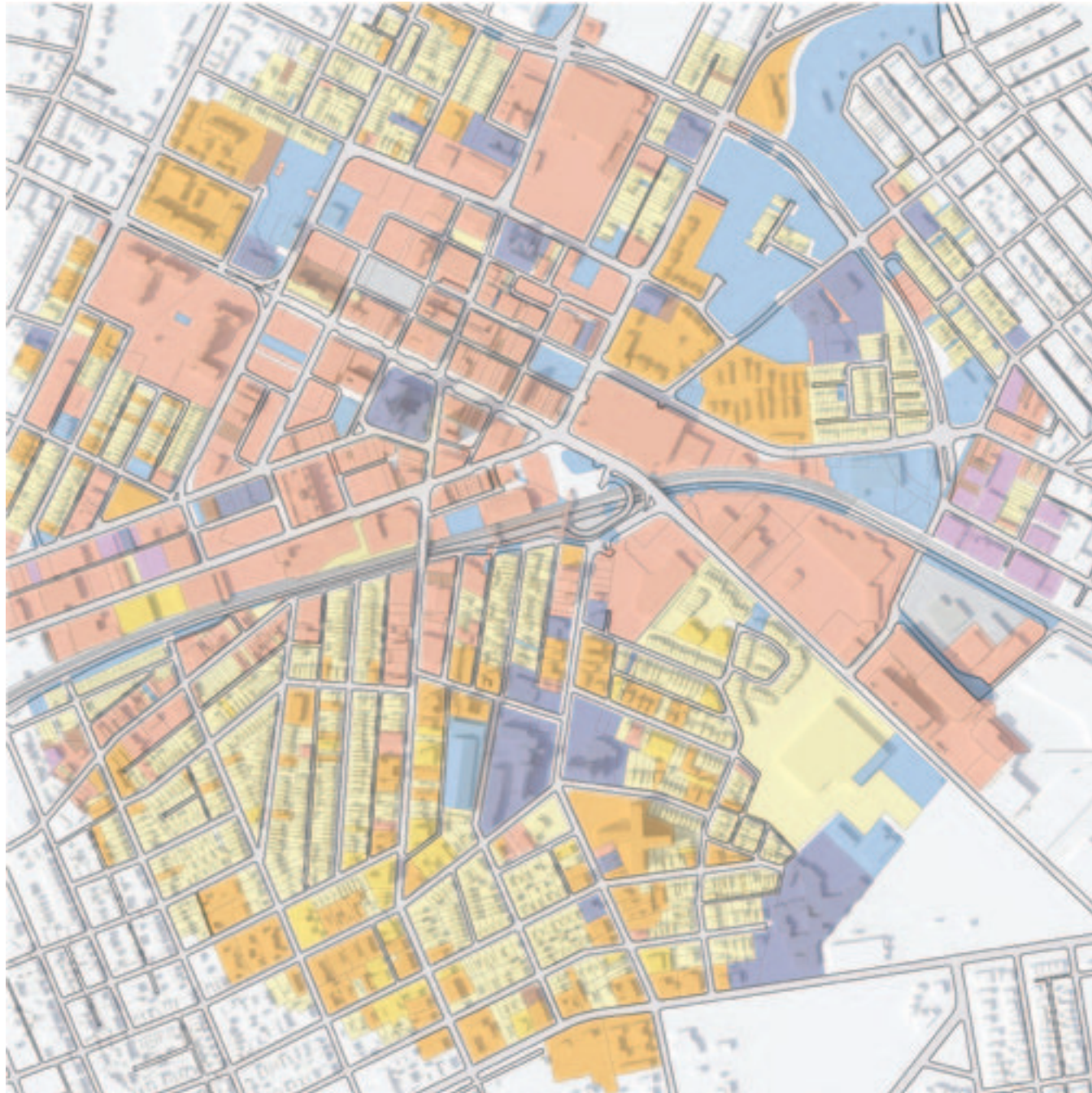
Clearly, the need for multi-lane arterials in East Liberty is dependent on the storage space for vehicles waiting at traffic lights. Conventional traffic engineering practice focuses primarily on the improvement to vehicular mobility; however, East Liberty is a true multi-modal node in the transportation network, consisting of a high-density pedestrian environment, numerous bicyclists, and serves the highest ridership busway station outside of Downtown.

If East Liberty is committed to Transit Oriented Development, and creating an environment that encourages cooperation over competition, then it should embrace the notion of capacity constraint. This is explained in the following paragraphs.

Continuous optimization of traffic signals and lane configurations at intersections is a never-ending challenge for communities fortunate enough to be growing. The limiting factor in urban arterial road design

is the intersection and not the number of lanes between intersections. Flowing freely, a single travel lane can carry 1900 vehicles per hour, but when interrupted by a traffic signal, the capacity of a lane typically falls to 600-800 vehicles per hour; thus it is the capacity of a road's major intersections that dictates the number of vehicles that can easily be accommodated.

For these reasons, we recommend that Penn Avenue from Collins Street to East Liberty Boulevard be reimagined as a multimodal corridor that places a greater emphasis on transportation system capacity over car capacity. Constraining car-carrying capacity will better utilize the overall road network, encourage greater transit use, improve safety for all users, prioritize pedestrians and bicyclists, and provide an attractive environment for future land development opportunities.



EAST LIBERTY LAND USE

Key

Commercial & Industrial

- Commercial
- Vacant Commercial
- Industrial

Residential

- Residential
- Residential Condominium
- Residential Large-scale Rental Apartment

- Institutional
- Government
- Utilities

Source: City of Pittsburgh & Allegheny County
GIS | Studio fSP

Land Use Analysis

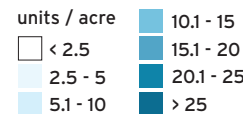
Today East Liberty already has many of the attributes of the idealized *Mixed Use Center* TOD. The neighborhood contains a broad mix of uses including a variety of residential types and price points, complemented by main street retail, churches, office, industrial and government/school facilities. However despite this diversity, most of the activity occurs within segregated areas. Unlike an idealized *Mixed Use Center* TOD East Liberty Station has only lower density residential use immediately adjacent to the primary transit station and they are only found close to the station to the immediate south. Moving in other directions the adjacent land use is dominated by automobile oriented commercial uses, surface parking and office and retail uses.

The residential density of the half-mile radius around the station varies widely from block to block with an average of only 4.5 across the entire study area. While some block have no housing, others have densities upwards of 25 units an acre. The current residential density pattern is less than ideal, with entire areas around the station devoid of housing particularly to the north and east of the station. These areas tend to be dominated by single use retail or office areas as well as large expanses of supporting surface parking. Looking to the future of TOD in East Liberty, a more mixed use pattern of development should be encouraged as should higher density residential uses particularly in the quarter-mile radius around the station.



Gross Residential density

Source: U.S. Census Bureau
Housing Units 2010 Census
Blocks



Considered in terms of property value, the half mile radius around the East Liberty Busway station comprises 390 acres currently assessed at approximately \$513 million. Within this study area, 33% of the acreage, currently assessed at \$139 million, is tax exempt. This represents approximately \$4 million of annual property tax revenue forgone by the local taxing bodies. The City, government authorities, and parking/utilities control 60% of this exempt land area (40% of exempt assessed value) with the majority of the rest utilized for religious purposes. Current annual property tax revenues of approximate \$11 million are generated by taxable properties within the study area.

Current Annual Property Tax Revenue:	
City of Pittsburgh	\$3,998,717.97
Pgh School District	\$5,153,903.16
Allegheny County	\$1,736,480.30
Total	\$10,889,101.44*

43

Parcel Sizes	Taxable	Exempt
< 1 acre	2,139	284
1-2 acres	21	14
2-3 acres	3	2
3+ acres	12	7

Source: Allegheny County Office of Property Assessments

*Does not include exempt property including parcels designated KOZ or within active TIF Districts

The study area contains nearly 2,500 tax parcels with approximately 90% currently generating property tax revenue. Less than 3% of these parcels are larger than 1 acre. Of these sizable parcels, only 15 have been estimated as suitable for development given their current status or use. Property assemblage will be necessary for large scale redevelopment initiatives.

A rather high percentage of parcels are currently underutilized. Approximately 15% of parcels within the study area have an improvement to land value ratio of less than .95. Much of this area is currently poorly utilized surface parking, or larger parcels with inefficient development patterns. Over 10% of the total land area is currently classified as vacant.

	Study Area	City of Pittsburgh
Total Housing units	11,167	156,165
Single family detached	1,678	73,751
% Single family detached	15.03%	47.23%
% Owner occupied	27.15%	47.6%
% Rental	72.85%	52.4%
Vacant units	1,721	19,948
% Units vacant	15.41%	12.77%

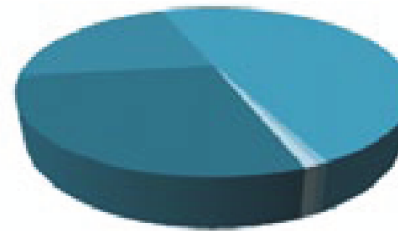
Source: US Census American Community Survey 2005-09;
City of Pittsburgh

Approximately 75% of the land area is currently utilized for owner occupied or rental residential use. A much higher percentage of rental units exist within the study area as compared to City-wide averages due to a concentration of subsidized housing. Of the 11,000 total housing units within a half mile of the transit station, over 15% are currently vacant.

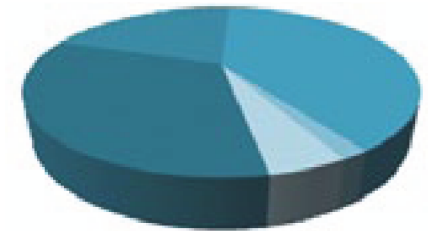
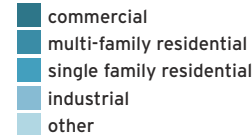
Single family residential use accounts for approximately half of the total taxable assessed value and 40% of acreage within the study area. Many of those units are located within the heart of Shadyside to the south of the Busway. Portions of the primary residential area of East Liberty are captured within the northern boundary of the study area. Other pockets of single family residences can be found west of Penn Circle to the north of Baum Boulevard towards Friendship and to the northeast in Larimer.

Approximately 20% of the taxable land area and assessed value comes from commercial multi-family properties. As mentioned, the concentration of rental units within the study is much higher than the ratio throughout the City. Multi-family units appear along much the same geographic areas as single family residences. Though once again, differences exist between the product types in Shadyside versus East Liberty and Larimer. A few larger complexes exist within Shadyside especially along the 5th Avenue, Shady and South Highland corridors. Many of the multi-family units however are within large former owner occupied residences that have been renovated. Both are traditionally offered at market rents.

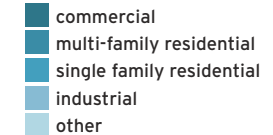
Within the historically low income neighborhoods to the north, several large subsidized housing towers have been recently demolished. These were replaced with modern apartment and townhouse complexes that still cater to low income



Taxable Land: Assessed Value



Taxable Land: Acres



residents. Most of the multi-family development occurs in larger 25+ unit structures or larger redevelopment sites as opposed to smaller renovated residences in Shadyside.

Commercial retail, office and mixed-use parcels comprise the majority of the rest of the land use within the study area. The primary commercial corridor runs between Baum and Center Avenues to the West into the Penn Avenue corridor including the central business district within the former Penn Mall loop. To the south of the Busway, ancillary commercial areas can be found along Ellsworth and South Highland Avenues. A small cluster of industrial buildings is situated behind the Busway in Larimer to the east of East Liberty Boulevard.

EAST LIBERTY ZONING

Key

Mixed Use Districts

- UNC - urban neighborhood commercial
- LNC - local neighborhood commercial
- HC - highway commercial
- UI - urban Industrial
- AP- residential/commercial planned unit development
- CP - commercial planned unit development

Residential Districts

- RM-H - residential multi-family, high density
- RM-M - residential multi-family, moderate density
- R3-M - residential three-unit, moderate density
- R2-H - residential two-unit, high density
- R2-L - residential two-unit, low density
- R1A-H - residential single-unit attached, high density
- RP - residential Planned unit development

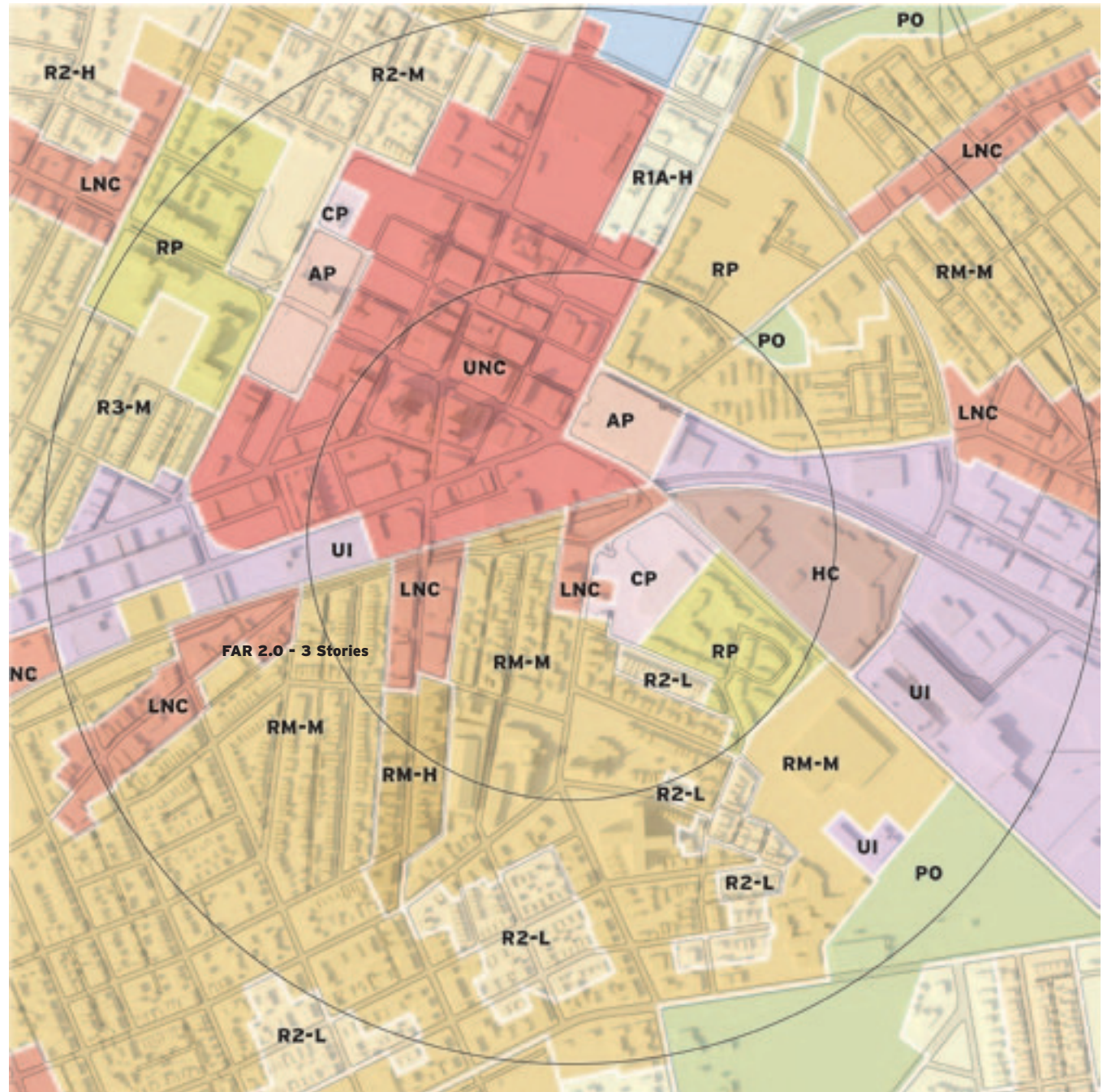
- PO - parks and open space

Allowable Height & Density for key classifications:

LNC	FAR 2.0 - 3 Stories
UNC	FAR 3.0 - 3 Stories FAR 4.0 - 4 Stories (1500' from station)
HC	FAR 2.0 - 5 Stories FAR 3.0 - 5 Stories (1500' from station)
UI	FAR 3.0 - 4 Stories FAR 4.0 - 4 Stories (1500' from station)
RM-M	4 Stories
RM-H	9 Stories

Planned Unit district height and intensity is generally regulated by that of the adjacent districts.

Source: City of Pittsburgh GIS & Zoning Code | Studio fsp



Zoning Analysis

The zoning around East Liberty station reflects the diversity of uses already discussed and explains some of the lower density land uses found around the station.

- 46 In general the zoning is compatible with the intent of TOD, although some areas would ultimately benefit from a different and/or higher intensity zoning classification.

Much of the land immediately adjacent to the station is already zoned for some form of mixed use under the Urban and Local Neighborhood Commercial, Planned Commercial and Planned Commercial/Residential categories. These zoning categories allow for a mix of uses including retail, office and a range of residential types. Of classifications in the Pittsburgh zoning code, LNC and UNC are

designed to encourage the type of mixed use pedestrian oriented development consistent with TOD principles.

Adjacent to the station there are also areas of Urban Industrial and Highway commercial which also allow for a mix of uses including retail, office, limited industrial uses and some types of multifamily housing. These categories are less ideal for encouraging TOD, particularly the Highway Commercial category, which allows automobile oriented development standards and disallows almost all residential uses.

The remainder of the areas around the station are zoned exclusively for residential at a variety of densities with the immediately adjacent areas zoned for multi-family. In general the residentially

zoned areas are built out with existing residential uses ranging from detached single family houses to apartment buildings of up to 9 stories tall often at lower densities than are permitted by right.

In the residential area to the immediate south of the station in Shadyside there are areas of higher intensity residential zoning including RM-M and RM-H. While much of this area is built out with smaller one and two unit buildings, the current zoning would allow for higher density residential development around the station in the future.



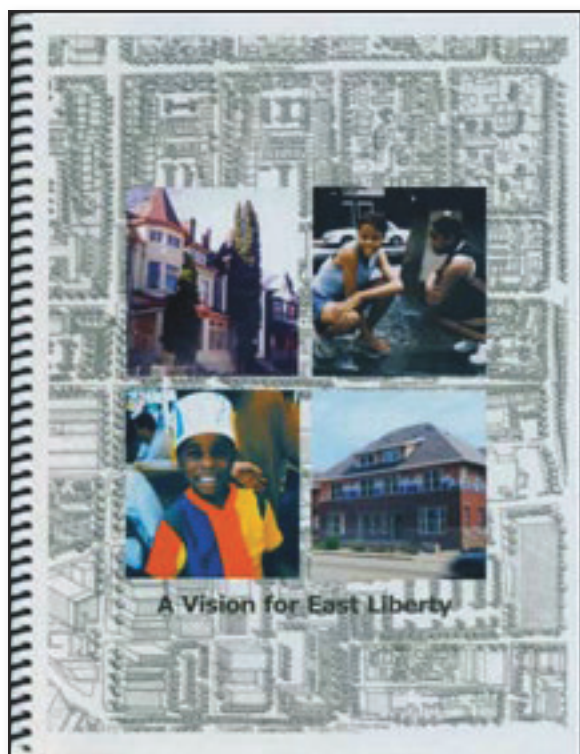
Mixed-use buildings in the Highland Ave LNC district



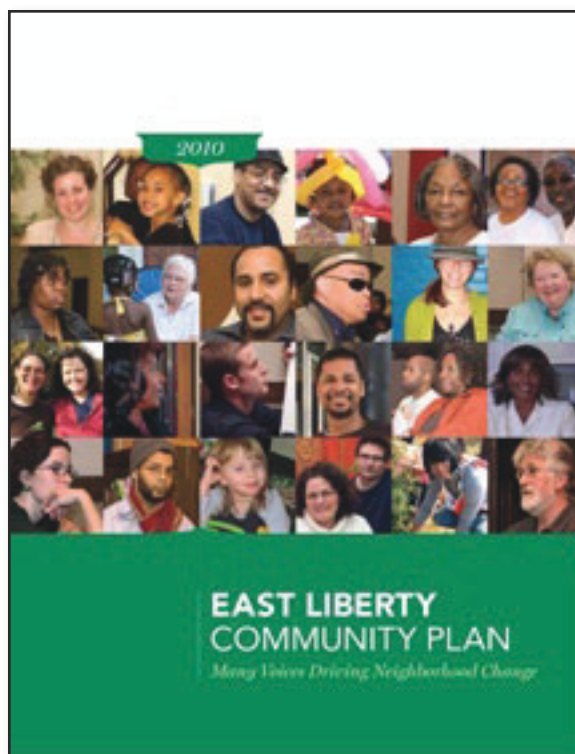
Single Family Houses in the RM-M district



Apartments in the RM-M district



Above: 1999 Community Vision, Above right: 2010 East Liberty Community Plan



East Liberty Planning Context

East Liberty Development Incorporated (ELDI) has commissioned and led numerous community planning studies for the neighborhood over the last two decades. This work has included a community vision plan in 1998 and a plan update in 2010. In addition to the comprehensive vision plans, numerous sector and project specific studies have been completed as well as a vision for green infrastructure and design guidelines for the neighborhood core. There have also been major studies of the Penn Avenue corridor and its relationship to multiple east end neighborhoods.

Major Studies

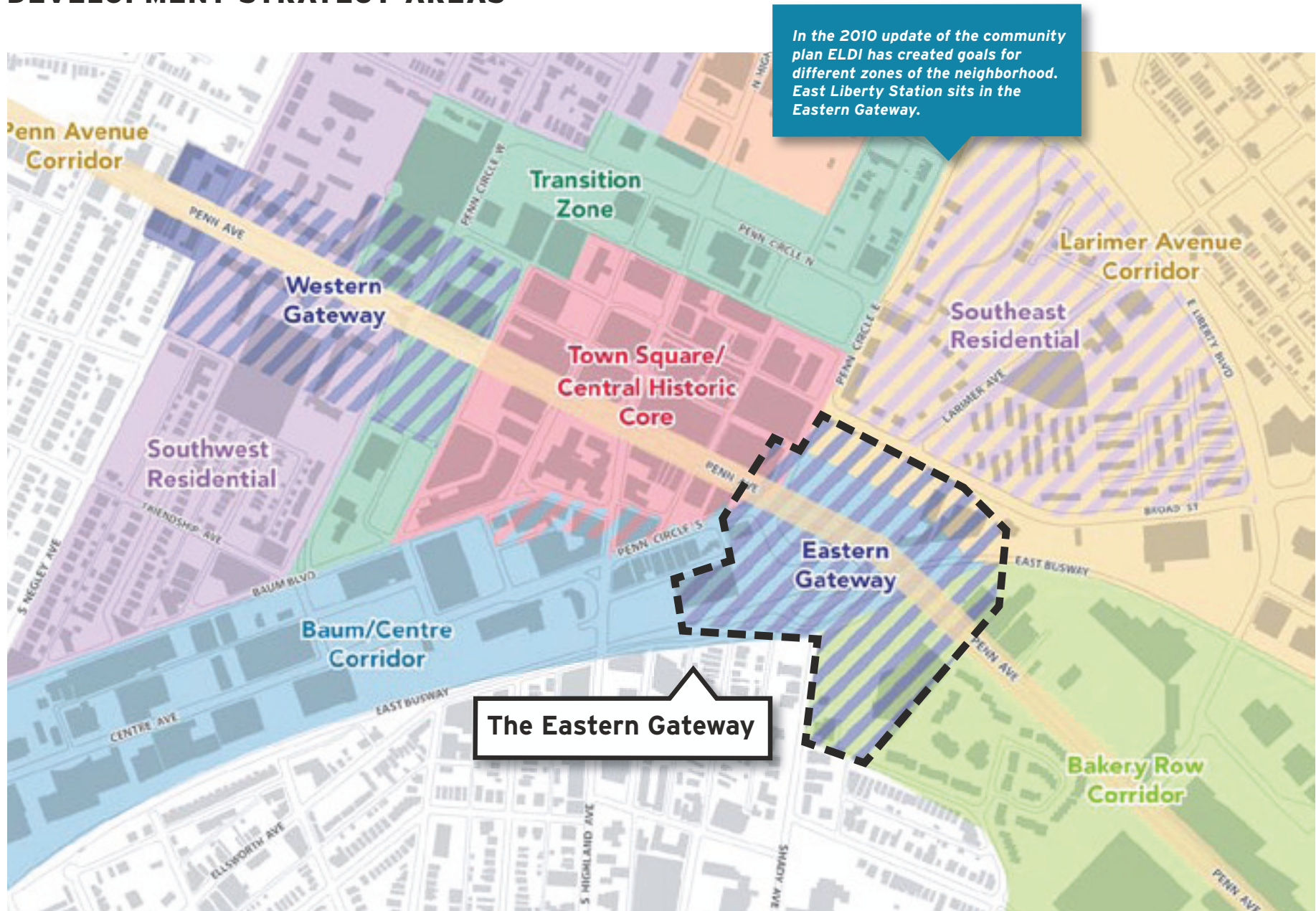
- A Vision for East Liberty - 1999
- Penn Circle Conversion Study - 2001
- Streetworks Plan - 2003
- Development Guidelines for the Center of East Liberty - 2004
- East Liberty Town Square - 2005
- Penn Avenue Corridor Plan - 2006
- Bakery Row Vision Plan - 2008
- East Liberty Green Vision - 2008
- Penn Avenue Corridor: Urban Catalogue & Streetscape Program - 2009
- Parking Study - 2009
- East Liberty Community Plan - 2010
- Larimer Vision Plan - 2010

Transit & TOD

- Eastern Corridor Transit Study - 2003
- A Toolbox for Transit Oriented Communities - 2006
- Eastside TOD TRID/TIF Analysis - 2008
- Connect 09 Transit Development Plan - 2009
- East Liberty Station Development Strategy - 2011

EAST LIBERTY 2010 COMMUNITY PLAN: DEVELOPMENT STRATEGY AREAS

48



2010 Planning Goals

In the 2010 community plan the neighborhood was divided into a series of geographic areas and distinct goals were articulated for each area. The station and the TOD parcels immediately adjacent to it are situated in the Eastern Gateway. Six major goals are put forth for the Eastern Gateway, two of which have already been achieved.

Rebuilding the station and the bus loop and creating transit oriented development is one of the major goals for the Eastern Gateway. The other goals of bringing active uses up to the street edge along Penn and Shady and introducing bicycle infrastructure should inform the redesign of the station as well as future transit oriented development around it.

The 2010 plan is informed by multiple previous planning studies for the area around the station and was followed by a study on the redevelopment of the station and how it could be integrated into the Eastside III & IV development. Key urban design plans from previous studies are shown on the following pages.

EAST LIBERTY 2010 COMMUNITY PLAN: EASTERN GATEWAY GOALS

- **Develop a plan for the Shady Avenue & Penn Avenue intersection to foster development along the street edge and reposition the existing parking.**
- **Work with existing and new property owners to encourage community-friendly, active façades with consistent setbacks along Penn Avenue.**
- **Redevelop the East Liberty busway station and bus loop area to create transit-oriented development with anchor retail and parking.**
- ✓ • **Rebuild infrastructure where Penn Avenue meets Penn Circle East to restore it to a four point intersection and create good traffic and pedestrian flow.**
- **Make accommodations for cycling and include bicycle parking with new infrastructure projects.**
- ✓ • **Develop “landmark” anchor retail on the former Penn Circle high-rise site with an entrance on Penn Avenue.**

Source: ELDI 2010 East Liberty Community Master Plan



Development Guidelines for the Center of East Liberty - 2004

The 2004 plan by Rothschild Doyno Architects shows the introduction of new mixed use transit-oriented development along Centre Avenue and at Shady and Penn. New buildings are shown at Penn and Centre that redefine and normalize the intersection. The station area itself is reorganized into an upper level transit plaza with a single major new pedestrian bridge connecting through the block from Ellsworth to Centre.



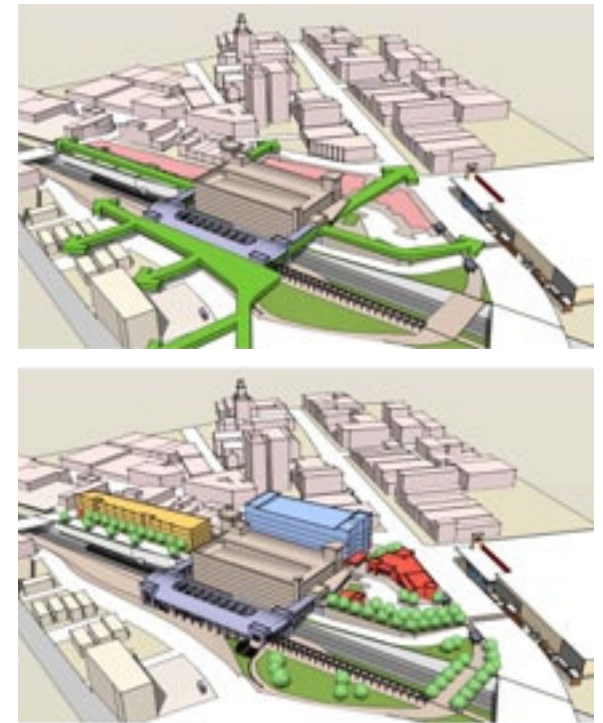
Streetworks Plan - 2007

The 2007 Streetworks plan updates the vision for development adjacent to the station reflecting the development of Eastside II and the new Target store. The plan shows new mixed use buildings with retail, housing and office uses, and a parking garage in the blocks to the north of the station. A major pedestrian connection with ground floor retail leads to the existing eastern pedestrian bridge of the station. A bus layover area is provided below the parking deck for on-street bus routes.



Bakery Row Vision Plan - 2008

The 2008 plan by Pfaffmann Associates and Studio for Spatial Practice explores intensifying development on the Shady Hill Plaza site next to the station. New mixed use buildings define the street edge of Penn and Shady and include retail and housing directly adjacent to the station. The plan also proposes a pedestrian plaza at Penn and Shady. Future development is also envisioned for the Penn Avenue corridor including scenarios for redeveloping Reizenstein school.



51

East Liberty Station Development Strategy - 2011

The 2011 plan by Urban Design Associates proposes reconstructing the busway station and integrating it into the development of Eastside III & IV through a pair of pedestrian bridges and a multimodal parking facility. The station remains in its current location, but is reconstructed as a partially enclosed transit hall. The Eastside development includes a mix of residential, office and retail uses with a major pedestrian connection to Penn and Centre intersection which is fronted by retail spaces. The design accommodates a bus layover space on the lower level of the garage, which has since been deemed unnecessary for operations.





Source: ELDI 2010 East Liberty Community Master Plan

◀ Major Development 1999-2010

1. Whole Foods Market
2. Spinning Plate Lofts
3. Tana Ethiopian Cuisine
4. Navarro Design
5. Carnegie Library
6. Werner Building
7. East Side
8. 100 Sheridan Square and Penn Avenue Shops
9. Liberty Building
10. Penn Highland Building (Star Optical)
11. Kelly-Strayhorn Theater
12. Laughlin Building
13. 5801 Penn Avenue
14. Penn Manor
15. New Pennley Place
16. First Niagara Bank
17. Fairfield Apartments
18. Retail Development
19. Station Street Hot Dog and Sandwich Shop
20. Trader Joe's
21. Village of Eastside
22. Staples
23. Bakery Square
24. Kingsley Association Community Center
25. Home Depot
26. Scattered Residential Developments
27. Sojourner House MOMS
28. Friendship Academy

Infrastructure Changes

- a. One-Way to Two-Way Conversion
- b. Bicycle Lanes

Real Estate Market Overview and Current Business Climate

Commercial: The neighborhood saw its first spurt of commercial revitalization in the late 1990s with the construction of a new Home Depot retail store on the site of a failed Sears. Soon, Whole Foods Market followed on an abandoned stretch of Center Avenue during the first phase of the Eastside project by the Mosites Company. Several buildings within the central business district were rehabilitated with a mix of offices above ground floor commercial space. Additionally, the restaurant and entertainment district along South Highland Avenue in Shadyside started to expand across into the East Liberty core.

Additional retail and entertainment space was added through the completion of the \$32.5 million 2nd phase of Eastside by the Mosites adjacent to Whole Foods. Constructed on an assemblage of five parcels along the Busway to the South Highland Avenue bridge, this phase includes an 85,000 square foot, three-story multi-building development with a deck parking structure. Completed in 2007, the project features tenants including Walgreen's, TREK Bicycle shop, Wine & Spirits store, FedEx Office, Starbucks, a PNC Branch Bank, independent retailers and several restaurants. Mosites continued their efforts with development of a Target Department store on Penn Avenue which recently opened in the summer of 2011.

53





Bakery Square - Photo: Pittsburgh Urban Redevelopment Authority

Around the same time as Eastside opened, the former East Liberty Station development along Penn Avenue rebranded itself as the Village at Eastside. Revitalization of the 130,000 square foot suburban style plaza commenced with the addition of the Pittsburgh area's first Trader Joe's discount gourmet grocery store in 2006. The complex added national retailers Staples, Tuesday Morning and Petland soon thereafter along with a host of smaller commercial services and regional retail.

Redevelopment of the former Nabisco bakery on Penn Avenue continued this momentum. Constructed in 1918, Nabisco vacated the facility in the late 1990s. The Regional Industrial Development Corporation (RIDC) took control and leased space to the Atlantic Baking Company

for several years. It was eventually taken over by the Bake-Line Group who declared bankruptcy in 2004. RIDC commenced remediation in 2007 and the property was purchased by Walnut Capital shortly thereafter with plans for redevelopment.

Known as Bakery Square, the \$150 million LEED Platinum project combined rehabilitation of the bakery complex with new construction. The urban lifestyle center combines over 200,000 square feet of class A office space with 160,000 square feet of first floor commercial space, a fitness center and 110 room Marriot SpringHill Suites. A 900 plus space parking structure was also provided with an additional 99 surface spaces. In 2010, Google commenced occupancy with their first office in the Pittsburgh region.

Various programs of the University of Pittsburgh followed along with UPMC's Technology Development Center. Major commercial tenants include Urban Active Fitness, Anthropologie, Jimmy Johns and several boutique retailers.

Residential: New higher quality mixed-income rental and affordable housing projects commenced alongside the commercial revitalization led by the efforts of ELDI, the URA and The Community Builders. In a little over a decade, 1,400 public housing units within three high rise structures - Liberty Park, East Mall Tower and Penn Circle Apartments - have been replaced with 450 new mixed-income units.

New Pennley Place, a \$23 million, mixed-income 174-unit apartment complex on Penn Avenue and Broad Street marked the first major housing investment in the troubled neighborhood in more than a generation. The project redeveloped a severely distressed, HUD-insured residential "superblock" created as part of the sweeping urban renewal. Phase I of New Pennley Place opened in late 1999 with 102 new and renovated apartment units in a mid-rise building, townhomes and duplex style residences. The next two phases followed in 2001 and 2002 with additional townhomes and duplexes, as well as a 38 unit low-rise apartment building for low income seniors. In total, New Pennley created 146 units reserved for low and moderate-income households along with market rate options.

Complementing New Pennley Place, Penn Manor Apartments was the first housing to replace the former East Mall Apartments demolished in 2005. Penn Manor features 55 attractive one and two bedroom apartments, with fully equipped kitchens, wall-to-wall carpeting, and energy-efficient heating and cooling systems. Additional amenities include on-premises laundry, storage spaces, and community room. With units leased at both income-based and market-rate rents, Penn Manor creates an economically diverse new address and complements the adjacent development providing a cornerstone of quality new mixed-income rental housing in East Liberty. The project provided space for 23 former East Mall residents while the other 32 units went from construction completion to fully leased status within 60 days.

The next wave of redevelopment focused on the former Liberty Park high-rise apartment site at Broad Street and Collins Avenue. The initial phase of the \$20 million Fairfield mixed-income complex consisted of 124 garden, townhouse and low units. Over 80 units were reserved for low income individuals including 48 former residents of Liberty Park Apartments, East Mall Apartments and Penn Circle Tower were placed into new apartments. The development includes a management office, community room, fitness room, and three tot lots. The apartments include individually controlled heating and air conditioning, carpeting, fully equipped kitchens, washers and dryers and digital accessibility among



New Pennley Place Apartments - Photo: The Community Builders

other features. An additional \$15.7 million phase, Liberty Park II, broke ground in 2011 and will add another 71 units.

Commencing in 2007, Negley Neighbors brought an additional 49 new low income rental units to East Liberty. Let by ELDI, the \$8.3 million scattered site housing initiative features a combination of new construction and property renovations on Jackson Street, Mellon Street and North Negley Avenue. The project offers units with central air conditioning, digital access, dishwashers, disposals and mini-blinds. Onsite community buildings house a management office, computer learning lab and community room. Individual case management, supportive services and activities are available to help families achieve stability and prepare to become homeowners. This additional

housing ensures that long-term affordable housing remains available as East Liberty and the southwest quadrant of Highland Park is revitalized.

More recently, redevelopment of the East Mall continued with the mixed-use, mixed income East Liberty Place North. The \$12.3 million project provided 54 apartments above 11,000 square feet of retail space. Amenities in each apartment home include central heating and air conditioning, plush carpeting and tile floors, an all electric kitchen, washer/dryer and some paid utilities. The building achieved LEED Gold certification and is the region's first LEED for HOMES multifamily certified project. Constructed in scale with the Penn Avenue streetscape, the building provides an anchor to the western gateway of the central business district.

Market Conditions

Commercial: Early successes of Home Depot and Whole Foods, followed by Eastside II, proved the market potential of East Liberty. They also contributed to the aforementioned expansion of the South Highland entertainment district in conjunction with renovation of the former Regent Theater (now the called the Kelly Strayhorn). The main street former pedestrian mall now features several popular venues including Shadow Lounge, Spoon, BRGR Kitchen, Abay, Tana and the Waffle Shop with several other eateries along Penn Circle South as well. This entertainment district provides evening vitality for both residents and visitors alike while providing a key component of the popular live/work/play dynamic.

Redevelopment efforts helped attract shoppers from the nearby affluent neighborhoods of Shadyside, Friendship and Highland Park. These three adjoining communities feature some of the highest incomes - over 100,000 people with household incomes in excess of \$81,000 a year - in the City. Continued retail development within the study area, especially addition of the Target in 2011, has expanded the trade area even further as more consumers are commuting to the area from outside the immediate region. Attraction from national retail tenants continues.

The central business district is relatively stable with only sporadic vacancy based

upon visual inspection, internet searches and interviews. Over 100 businesses reside within the core. Tenants include independent small retail businesses, neighborhood services and bar/restaurants. Though many cater primarily to the low income segment of the local population, especially services such as rent-to-own and payday check cashing. Many of the buildings in the core are older structures with floor plans that do not accommodate the demands of modern retailers. The structures are predominantly single story, though some multi-story exist as well. These can potentially accommodate office or residential use above ground floor commercial. Most buildings have historically suffered from a lack of investment beyond minor renovations.

Other commercial districts impact the market within the study area. Besides South Highland Avenue, the Shadyside retail and restaurant corridors of Ellsworth Avenue and Walnut Street lie to the southwest of the transit station. Walnut Street is home to several national retailers intermixed with smaller independent boutiques and restaurants. Additional entertainment venues exist along Ellsworth Avenue with more of a focus on locally owned retail and services.

To the northwest, the Penn Avenue Arts Initiative (PAAI) focuses on community development through the arts. Led by Friendship Development Associates and the Bloomfield-Garfield Corporation, the PAAI seeks to increase the amount of artists living and working along the corridor to the west of Negley Avenue. This highly



Target in relation to the core of East Liberty - Photo: Pittsburgh Urban Redevelopment Authority

successful strategy has converted over 150,000 square feet of vacant space for use as live/work space since the late 1990s.

The core of East Liberty lies at the heart of several successful commercial districts. Situated at the intersection of the various galleries along Penn Avenue and the entertainment district that has extended itself across the South Highland Avenue bridge, the central business district's strategic location provides an opportunity to capitalize on 24-hour activity. In addition, the influence of successful retail along the two other Shadyside corridors, Eastside and Bakery Square will continue to drive demand in the study area.

Currently, the hotel supply is limited to the 110 rooms within Bakery Square. Nearby institutions drive much of the demand for hotel spaces given the lack of rooms throughout the greater East End of the City. Additional hotel development can also be supported by any potential new larger corporate office tenants within the study area.

Office: The study area is conveniently located in close proximity to an abundance of educational institutions and other medical facilities. More than 350,000 people reside within 5 miles of the study area and three of the region's top employers are located nearby - UPMC Hospitals, the University of Pittsburgh and Carnegie Mellon University. Together they account for 270,000 employees and 41,500 students within a 5 mile radius. Within



Target in relation to the core of East Liberty - Photo: Pittsburgh Urban Redevelopment Authority

the central business district, the largest local employer, Novum Pharmaceuticals, operates a center providing clinical research, data management, statistical and reporting services to the pharmaceutical and related industries

According to Emerging Trends in Real Estate 2011 published by the Urban Land Institute, Class A office buildings in primary 24-hour markets remain highly coveted by tenants. Developers will shift focus more on infill locations near vibrant downtown cores and urban districts. The demand for 'green' space will only continue to grow. Sustainable building concepts will become standard in next-generation projects and that many existing buildings will need to increase efficiencies and retrofit new systems in order to compete effectively.

The institutions' expansion toward East Liberty has been prompted by a shortage of Class A office space in Oakland, the region's primary institutional district. Oakland had a zero vacancy rate for the fourth quarter of 2009, when the City's overall commercial real estate market was ranked as the healthiest in the nation by Moody's Investor Services. It is anticipated spill over from the Oakland office market can continue to drive the market for Class A office within the study area given the proximity and public transit connection. Bakery Square represents the only significant new Class A office development within the study area in the past decade plus.

Specifically, medical office continues to lead niche office type categories. UPMC Shadyside and the Hillman Cancer Center

along Center Avenue dominate the corridor and will continue to drive activity. As baby boomers continue to age, physician visits will soar. Those locations in proximity to senior housing or with high levels of public transit access will become most desirable.

Additional office market demand is driven by technology oriented start-ups and entrepreneurial small businesses. As these segments often seek locations surrounded by a mix of uses and accessible via multiple transportation modes, the study area provides an ideal location. Historic renovations, such as the Liberty Bank Building, account for a significant share of recent submarket leasing activity outside of Downtown Pittsburgh. Small firms are attracted to both the lower rental rates of this Class B and C space, but also the live/work/play urban dynamic.

History shows that following a downturn projects 'early out of the ground' have the best success. Usually, they are completed into a wave of pent-up tenant demand. This does assume that companies move away from efficiency mode into growth stages. Attracting larger office tenants, such as Google at Bakery Square, could contribute to the market for smaller and lower rent spaces as well

Residential: The study area multi-family residential inventory features several classes including 20+ unit structures, renovated buildings and upper floors in small mixed-use buildings. As discussed, Shadyside offers mostly market rate units,

often catering to students, while East Liberty historically features low-income rental properties (with a small mix of market rate). Many Shadyside rentals are within large formal single family homes that have been renovated for commercial residential use.

Because subsidized housing had been concentrated in the neighborhood for decades, creating low income housing was a primary goal for East Liberty. Redevelopment of the former high-rise housing structures resulted in the development of 450 new rental housing units. Many of these projects had rather long waiting lists for available units upon opening. While many affordable housing units were created by 2010, much of this new development only included small amounts of market rate/affordable market rate rentals.



*New Single Family Houses: East Liberty Prototype Houses
Photo: Pittsburgh Magazine*

With continued turmoil in the for sale market nationwide, overall demand for multifamily rental units will remain strong. The market for low income rental residential is expected to remain consistent as well given local demographics. Likewise, demand for market rate units like those offered in Shadyside will be continually fueled by the neighborhood's perception and location to cultural/commercial amenities. Additional demand results from high quality affordable market rate units catering to young professionals and students. Given the proximity to the PAAL, potential also exists for live/work space within converted structures.

Significant opportunities exist in for retirement units especially given the aging regional population. Additional nursing home and elder care facilities will be needed over the next 20 years as leading-edge boomers hit the 85-year-old threshold. Pedestrian-friendly, 24-hour neighborhoods provides for independence for ambulatory seniors to access the services they need.

Within the study area, few new market rate or affordable market rate for sale units have been constructed either in Shadyside or East Liberty. Especially limited are new single family detached units. Within each core residential areas of each neighborhood, over 30% of the housing stock was built before 1940.³ Few opportunities for large scale new

3. TRF Policy Map, for years 2005-09.

construction exist in primarily built up and stable Shadyside. The focus on rental housing in East Liberty has somewhat detracted from the development of for sale units where the market demand has only recently picked up.

Sales prices of new in-fill homes in East Liberty have grown: a 2,000-square foot house that sold for \$100,000 before 2002 now commands \$170,000 or greater. Average sales price of a single-family home in that East Liberty climbed from \$75,000 in 2008 to \$146,000 in 2010. This included a recorded sale of \$315,000 by ELDI.

Affordability of the Pittsburgh region as compared to major metropolitan areas extends into the for sale market of the study area as well. The market remains steady without either rapid growth or

major cases of foreclosure. Over the last 9 months, 34 for sale transactions have been reported with another 34 units currently listed as available. In light of peripheral costs such as transportation, urban infill redevelopment remains strong. Attached homes and condos within mixed-use buildings are expected to become even more favored.

The principles TOD are expected to drive real estate market activity across all segments. Twenty-something echo boomers want to experience more vibrant urban areas, and their aging baby boomer parents look for greater convenience in downscaled lifestyles. Driving costs and lost time make outer suburbs less economical, while the big-house and office park wave dissipates in a rough economic climate. To echo the popular theory of

the 'creative class,' those places where educated, energetic, creative young people want to be, complete with 24-hour attributes, will continue to succeed. New commercial and residential development is expected to continue over the next decade assuming infrastructure improvements, such as restoring the street grid, allow for transportation mode shifts and increased density with a mix of uses.

Median Sale Price (2008):⁴

- East Liberty - \$46,334
- Friendship - \$172,000
- Larimer - \$10,000
- Shadyside - \$285,000

4. PGHSNAP Neighborhood Profiles

Current Market Summary	Units	Lease Range / Sale Price
For Sale Single Family Residential	34 Listings Current 34 Recently Sold	\$4,500-599,000 \$23,000-640,000
Rental Residential	20 Units of Various sizes available	\$775-1,965 per month
Retail	163,221 SF Available	\$13.58-28 per SF/Year
Office	82,056 SF Available	\$11-29 per SF/Year
Mixed-Use Commercial	56,575 SF Available	\$14-18 per SF/Year
Industrial/Warehouse	82,859 SF Available	\$3-12 per SF/Year
For-Sale Commercial/Industrial	2 Industrial Buildings & 2 Commercial Sites available	\$80-90 per SF n/a

3.

TRID RECOMMENDATIONS

East Liberty is experiencing a long-delayed rebirth in both the historic business core of Penn Avenue, and along the busway edge through projects like East Side and Bakery Square. Development efforts over the last five years are transforming the half-mile area around the station and have now reached the parcels adjacent to the station which have been slated for transit-oriented development in neighborhood planning studies for over ten years. For TOD to reach its maximum potential in the immediate area of the station and in the larger district beyond, key infrastructure improvements are needed.

The station and surrounding public realm are not conducive to TOD and would benefit from reconstruction in conjunction with new development. Key projects to reconfigure existing streets and improve the public realm are an essential part of the East Liberty Community plan and should be implemented to support development. Site improvements for major development sites are also needed. The creation of a Transit Revitalization Investment District can be a key tool for capturing the value of transit to finance public transportation capital improvements, site development, other public infrastructure and maintenance needs to support TOD in East Liberty.

Applying the TOD Principles:

1. Maximize location efficiency

The station is already surrounded by a mix of uses including, housing, offices, shopping and civic uses. Enormous potential exists for future mixed-use development adjacent to the station. To maximize this potential and to achieve principle 4, it is recommended that the station be relocated slightly to the east with a new front door at the Penn & Shady intersection.

2. Build a mix of housing choices and complimentary uses

New housing should be a key component of the development adjacent to the station. Residential units should accommodate a variety of household types at a range of price points including long term strategies for including and maintaining affordable housing options. The diagram at right explores the possibility of a substantial new housing development on the Shady Hill Plaza in long term future.

3. Create walkable places for people.

New development and the redesign of the station should be integrated so as to create a seamless high-quality pedestrian realm which connects the streets in East Liberty and Shadyside directly to the station. The proposed design includes a new public plaza and major connection thorough the private development site to the north of the station.

4. Maximize station connectivity and visibility.

The redesign of the station should create major pedestrian connections to key



public street frontages and intersections to maximize pedestrian connectivity and station visibility especially along Penn and Shady Avenues. Adjacent private development should respond to the major station entry routes and organize building entries and pedestrian paths through the development to reenforce the station circulation, particularly on the parcels to the north of the station.

5. Design streets for all users.

The unimproved streets and intersections to the south and east of the station should be redesigned to better accommodate bicycle and pedestrian access to the station. Existing bicycle infrastructure should be extended to reach the station entries and bicycle parking should be expanded.

6. Manage parking effectively.

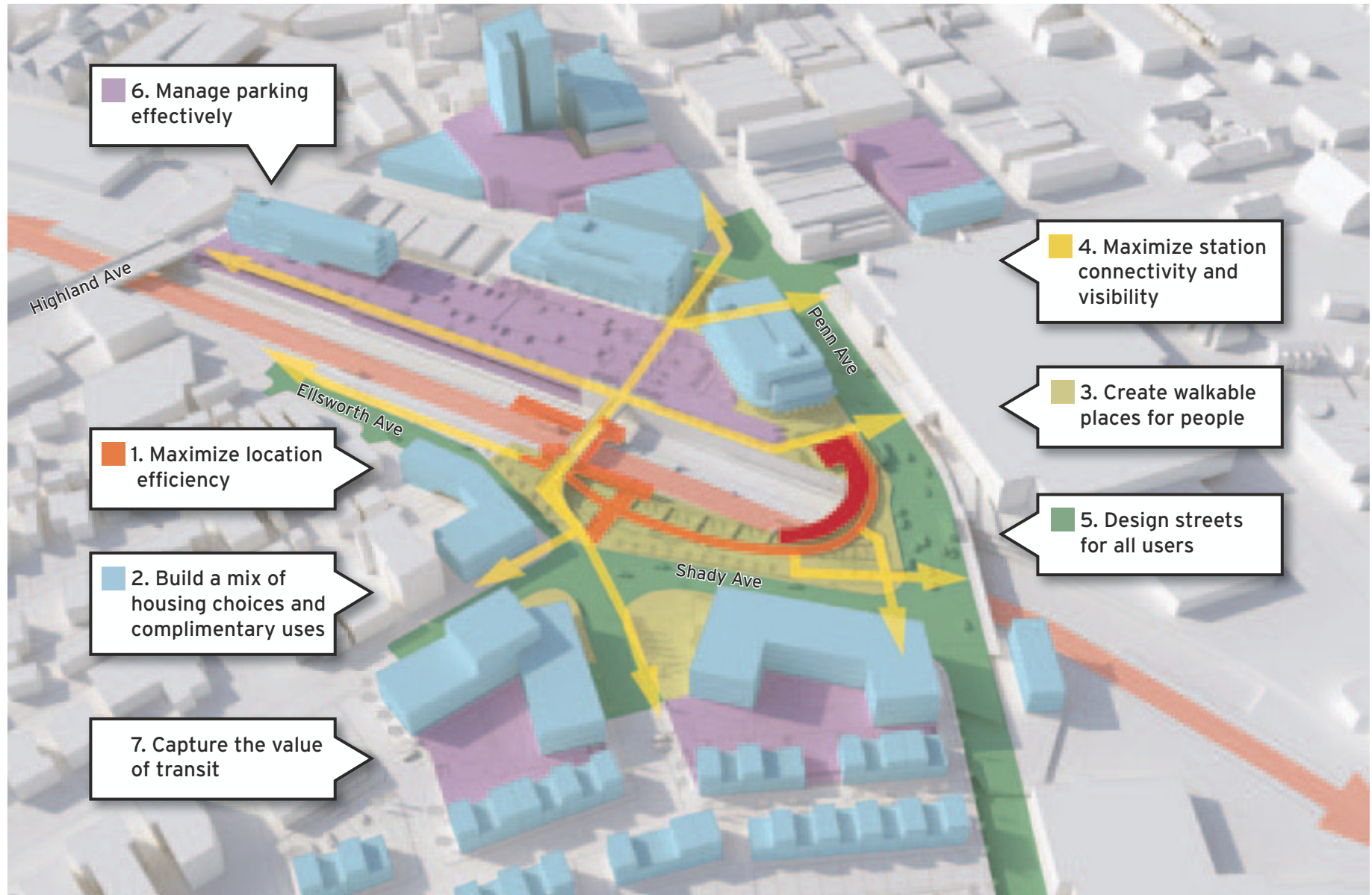
New parking should be shared to the degree feasible and folded into a larger coordinated district-wide parking strategy. Parking should be organized to encourage transit use. The parking strategy should include bicycle parking, car pooling priority, and ideally bicycle and car sharing services.

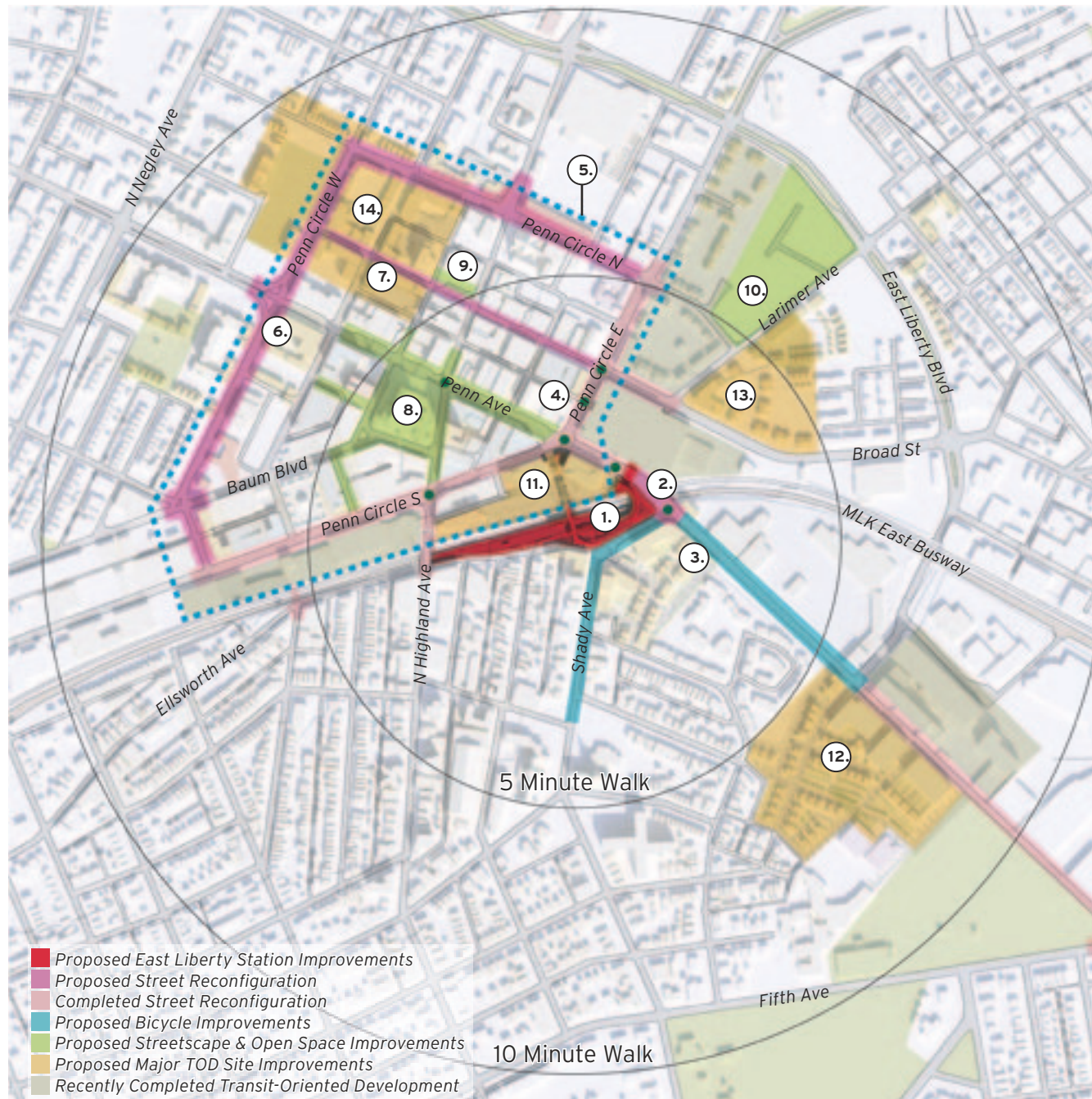
7. Capture the value of transit

A TRID should be established as a means to fund necessary infrastructure improvements, encourage higher quality development, and ensure community benefits such as affordable housing, small business opportunities and job creation.

APPLYING THE TOD PRINCIPLES TO EAST LIBERTY

62





RECOMMENDED INFRASTRUCTURE IMPROVEMENTS

Transportation, Streetscape & Open Space

63

- East Liberty Station Improvements
- Shady & Penn Intersection Reconfiguration
- Shady & Penn Bike Lanes
- ITS Infrastructure & Signalization Upgrades*
- Coordinated Smart Parking District*
- Penn Avenue 2-Way Conversion*
- Broad Street 2-Way Conversion*
- Town Square Streetscape*
- Broad Street Plaza*
- Larimer Avenue Park*

TOD Site Improvements

- Eastside III & IV*
- Bakery Square II*
- Larimer Avenue Housing*
- Mellon's Orchard

* Recommendations based on existing neighborhood plans & know projects

Recommended Infrastructure Improvements

Recommended public infrastructure and transit improvements focus on application of the TOD principles within the eTRID study area. The busway and East Liberty station are existing transit assets that must be enhanced as the focus of the strategy to facilitate TOD. Areas outside of the immediate station vicinity should also incorporate these guidelines to further efforts to recreate a truly urban setting. Investments outlined in this report are necessary to foster revitalization led by key TOD opportunities.

The major infrastructure projects identified in this section are primarily proposals already envisioned in the current planning for the neighborhood. These key improvements were also vetted with the public and various stakeholders through the planning process. Recommendations focus both on district-wide improvements and those necessary for specific potential TOD sites. Reconstruction of the urban fabric will facilitate an estimated \$280 million of dense, mixed-use development in the study area.

As often occurs with urban projects, large scale redevelopment efforts will require new infrastructure or significant enhancements. These sites will require public improvements such as structured parking, internal street networks and utility upgrades. eTRID identifies impediments to these specific sites that are most conducive to TOD and provides conceptual designs of the station area.

ESTIMATED INFRASTRUCTURE COSTS

East Liberty TRID Infrastructure Investments

<i>Project</i>	<i>Estimated Cost</i>	<i>Time</i>	<i>Project Specific or VC Fund</i>
Eastside Structured Parking Facility	13,036,175	1-5	Part of Eastside project costs.
Eastside TOD Infrastructure Pedestrian Plaza, Ramp Conversion	tbd	1-5	Part of Eastside project costs.
East Liberty Station Improvements	tbd	1-5	Part of Eastside project costs.
St Peter & Paul Demolition 83-S-243	tbd	1-5	Could be tied to a specific future project or through the value capture funds.
Adaptive Signalization	250,000	1-5	Value Capture Funds
Penn Circle Conversion	tbd	10-15	Could be tied to a specific future project or through the value capture funds.
Reizenstein-BkSq Phase II infrastructure	8,000,000	1-5	Part of BkSq Phase II project
Broad Street Conversion	tbd	5-10	Value capture funds.
Lairmer Avenue Park	tbd	5-10	Could be tied to the project or through the value capture funds.
Lairmer Ave Development Infrastructure	tbd	5-10	Could be tied to the project or through the value capture funds.
Site Assemblage and Remediation	tbd	5-20	Could be tied to a specific future project or through the value capture funds.
Town Square Plan Implementation	600,000	1-5	Value capture funds or possibly tied to ELDIs projects.
Broad Street Plaza	1,000,000	1-5	
Bicycle Lanes & Amenities	tbd	1-20	Could be tied to a specific future project or through the value capture funds.
General Streetscape & Pedestrian Improvements	tbd	1-20	Could be tied to a specific future project or through the value capture funds.
Parking Benefits District Pricing & Mgmt Strategy (Kiosks)	750,000	1-10	Combination of ELDI projects and general value capture.
PAAC Maintenance Fund	tbd	1-20	Specific for Eastside infrastructure but also portion of value capture.
PAAC Infrastructure Signage, Tech Upgrades, Shelters	tbd	1-10	Could be tied to a specific future project or through the value capture funds.
Total (known costs)	23,636,175		

Much of the potential development identified here is dependent on key district-wide infrastructure that will allow for increased density.

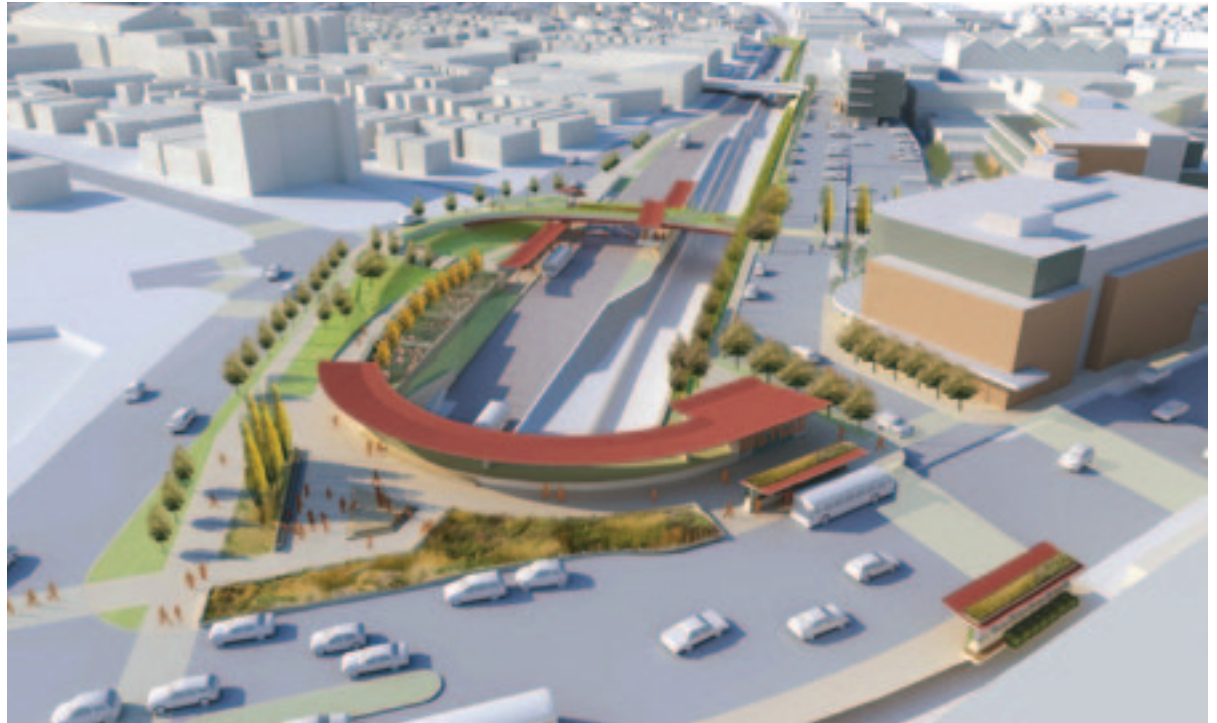
Improvement to the station and immediate areas are a top priority as primary contributors to the recognized goal of increased transit utilization.

Significant improvements to major streets around the station will provide for alternative modes of transportation while still accommodating automobile use. Other recommended district-wide improvements include a coordinated district-wide parking strategy, public space and those that enhance other key parts of the road network. Detailed proposals are provided for a redesigned station, street reconfiguration options for the Penn and Shady intersection and recommendations for bicycle improvements on segments of these roadways.

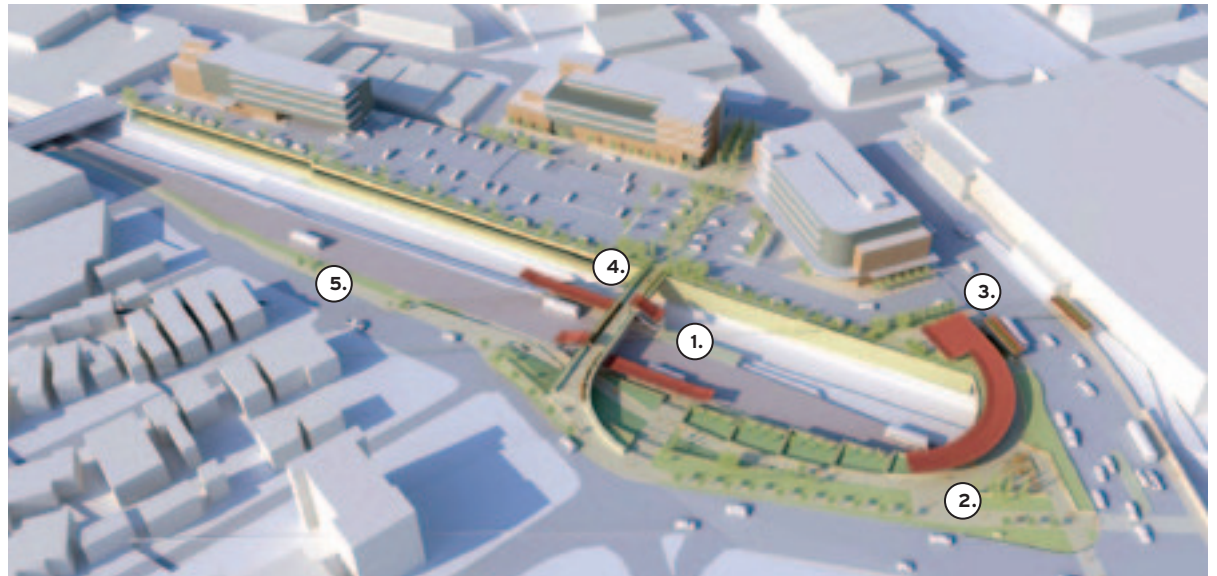
Infrastructure investments will be prioritized by their ability to facilitate further redevelopment and benefit multiple users in the study area. The strategy would remain flexible to accommodate various future scenarios, but maintain the ability to provide assistance to large scale redevelopment projects as well as district-wide improvements. Further planning, engineering and design related to infrastructure improvements are expected beyond the recommendations outlined by eITRID.

EAST LIBERTY STATION IMPROVEMENTS

The recommended strategy for redesigning the station moves the station platforms 150' to the east towards its most public street frontage along Shady and Penn Avenues. The front door of the station is then moved to this major intersection by repurposing the existing busway access ramp into a new ADA accessible route to the station from a new station entry plaza. In addition a single new pedestrian bridge is created that connects the intersection of Shady and Ellsworth Avenues



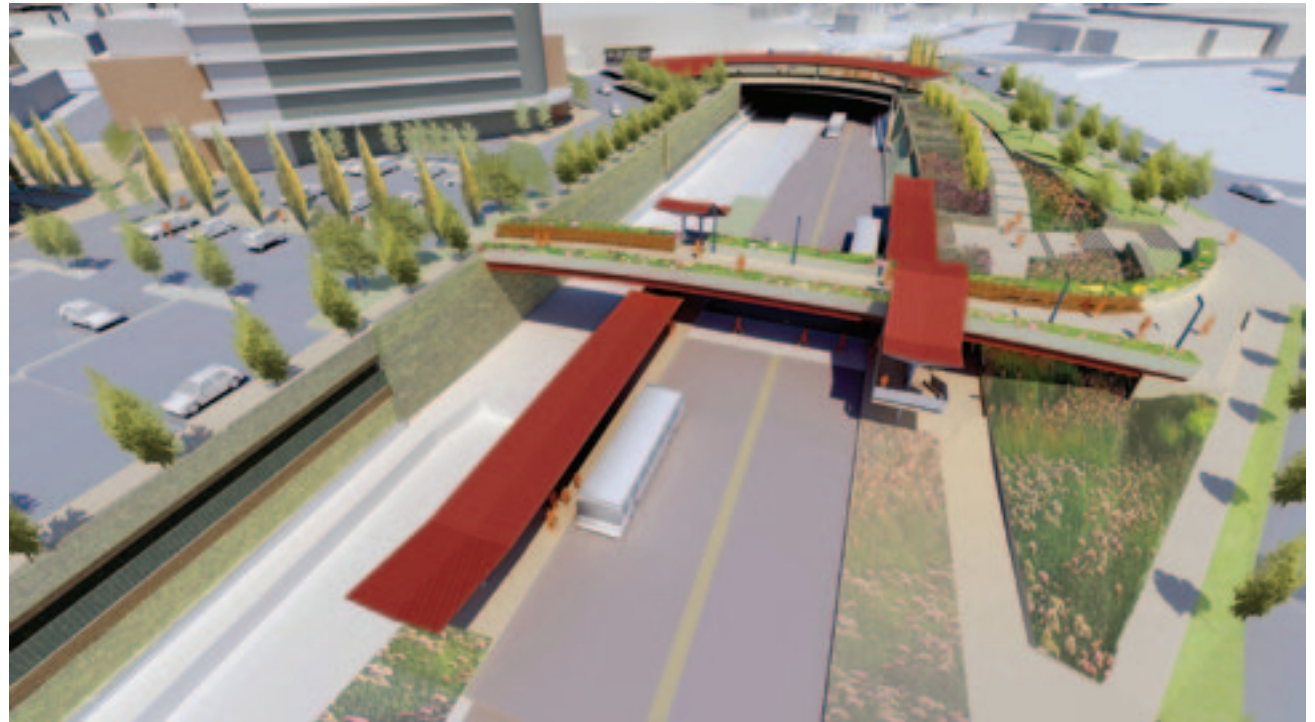
- ① New Relocated Platforms & Canopies
- ② Entry Plaza & Transfer Concourse
- ③ On-Street Shelters, Waiting Areas & Bicycle Garage
- ④ New Pedestrian Bridge & Stairs
- ⑤ New Emergency Access







Reconfiguring the Station for Connectivity and Visibility

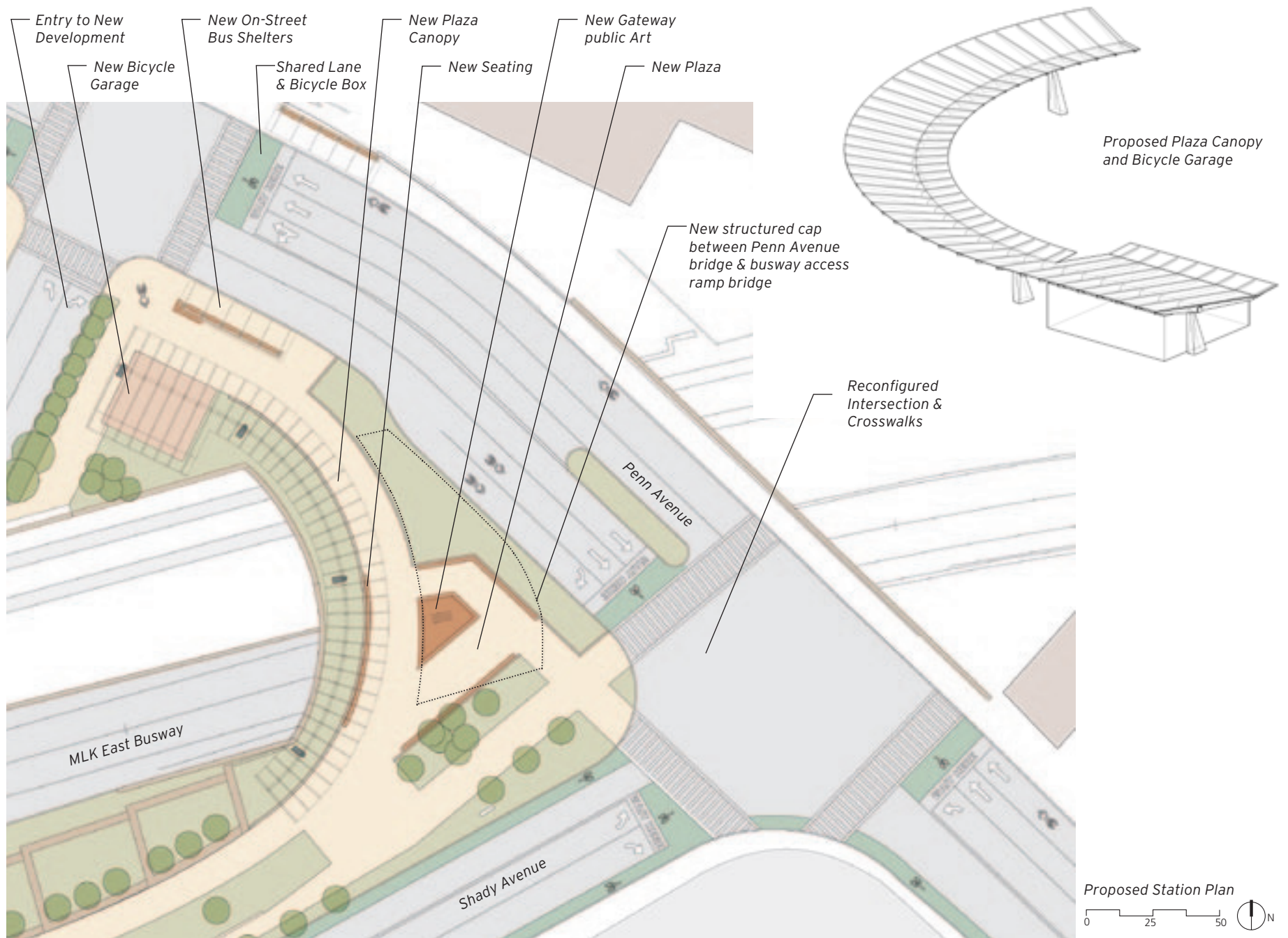


69



Top: The plaza looking west toward the station and the on-street bus shelters

Bottom: The on-street bus shelters and bicycle garage at the entrance to the new development



**A New Gateway to East
Liberty and the Station**

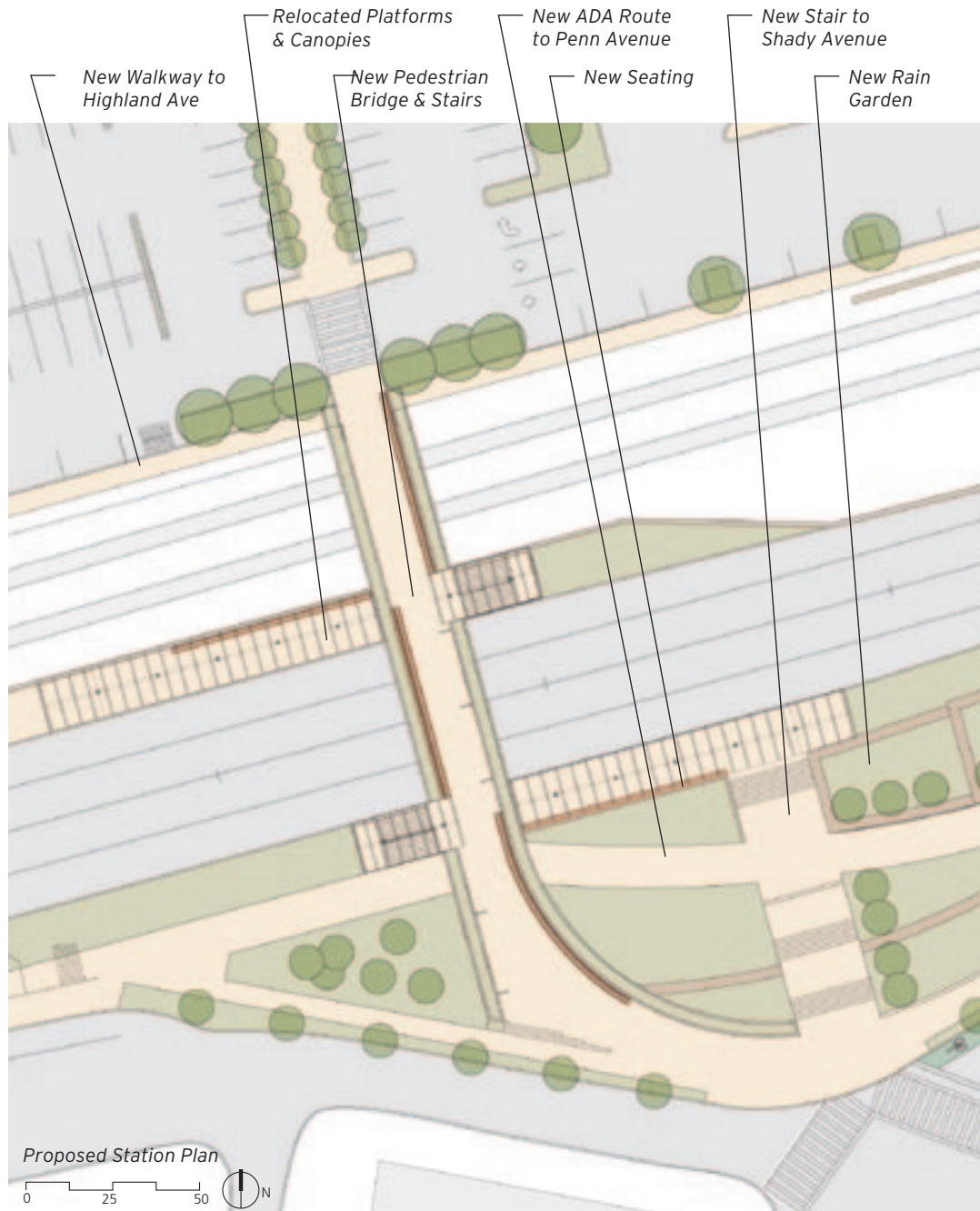
71



*Top: The plaza looking west toward the station
and the on-street bus shelters*



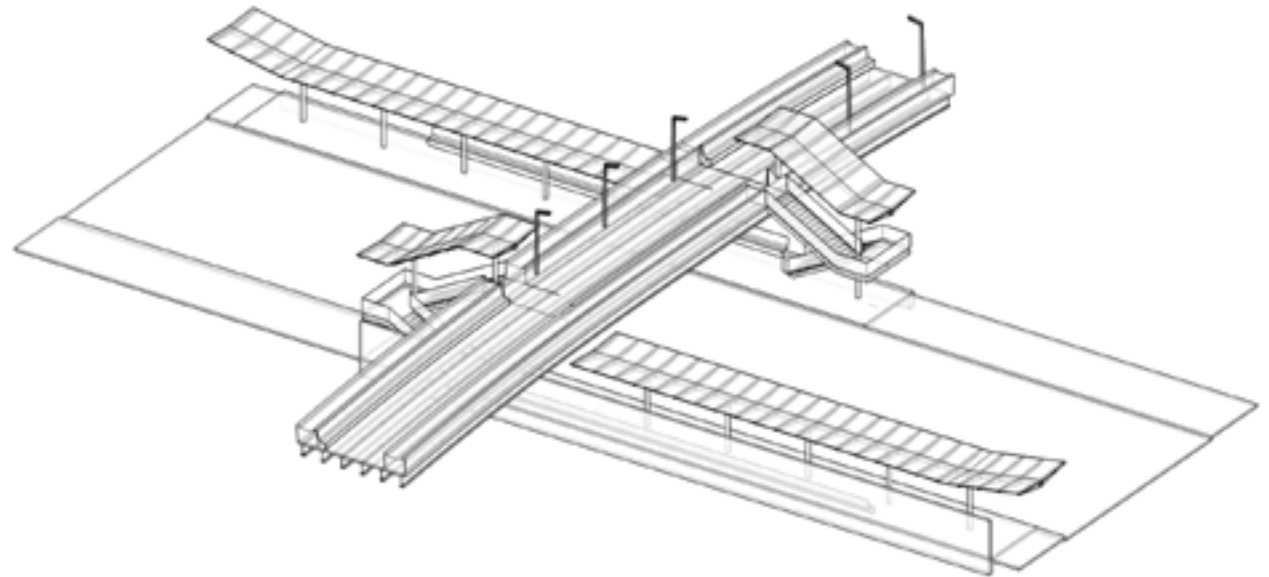
*Bottom: The on-street bus shelters and bicycle
garage at the entrance to the new development*



**Connecting East Liberty
and Shadyside Through the
Station**

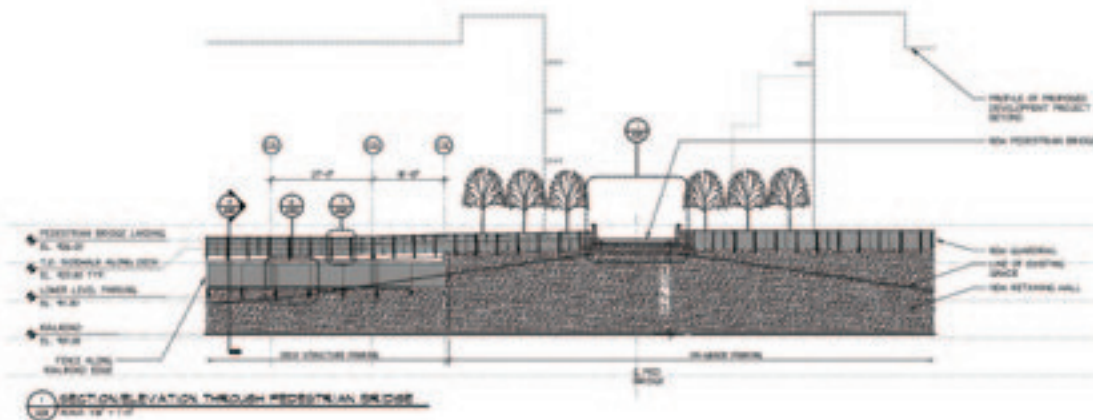
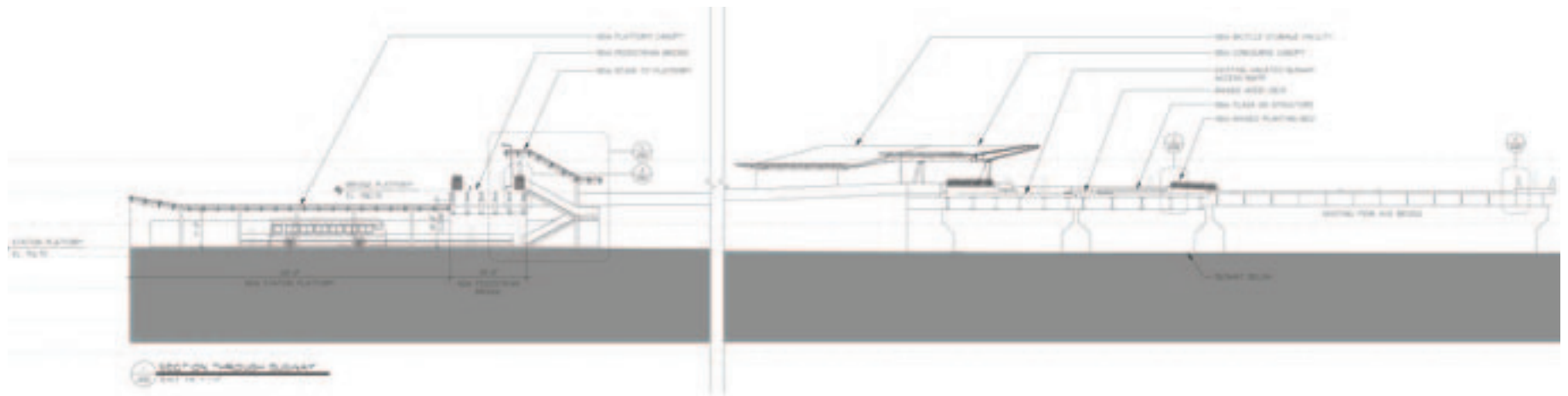
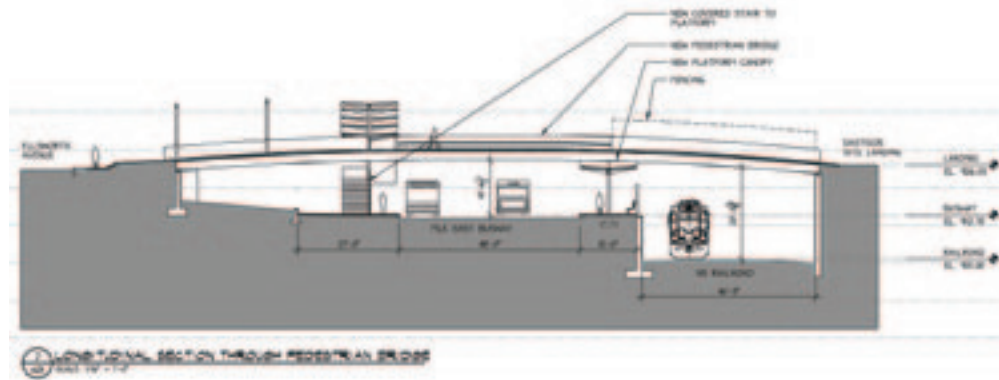


73

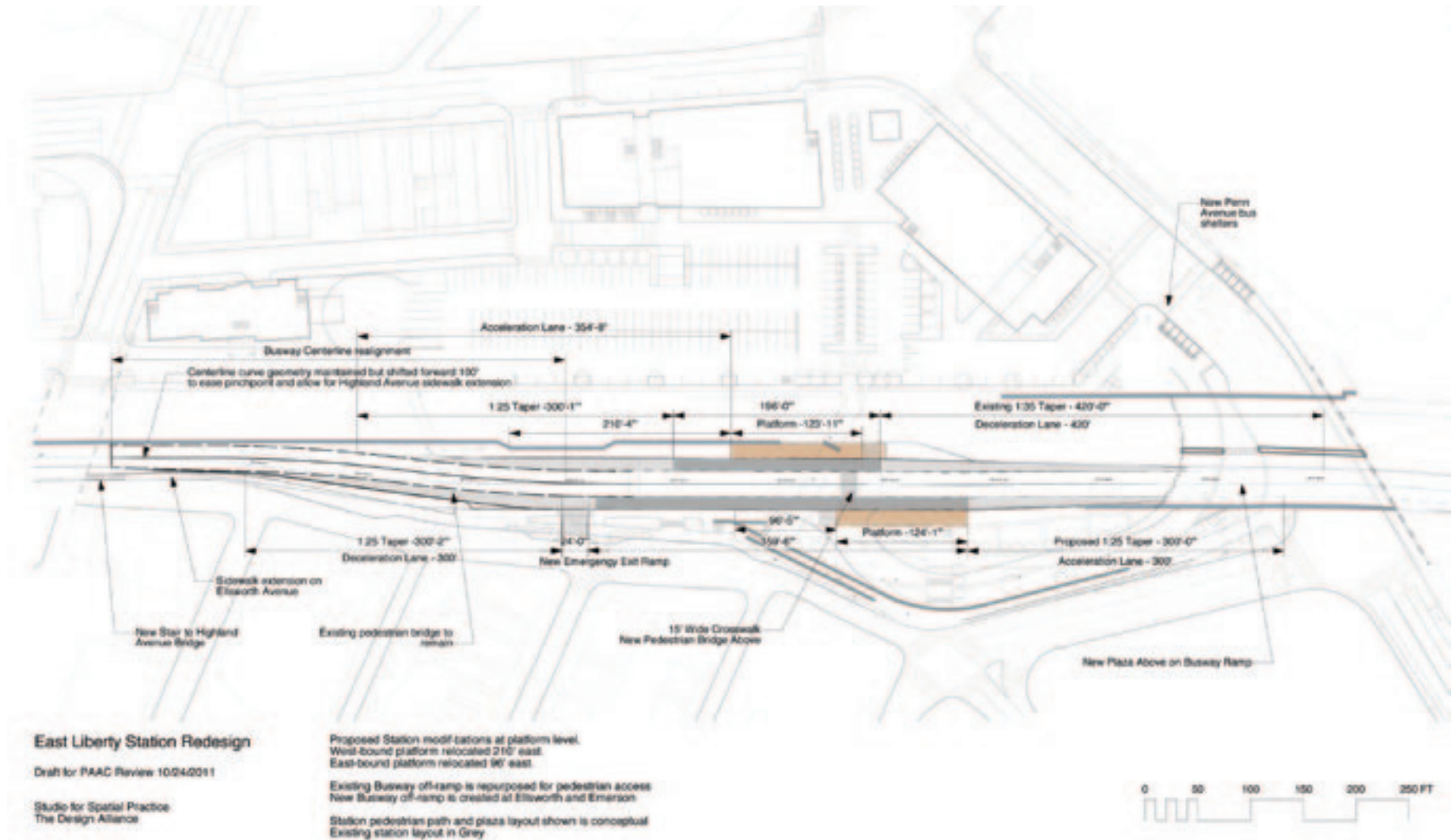


*Top: The new pedestrian bridge leading towards
East Liberty*

*Bottom: The proposed station integrates a new
bridge, stairs and platform canopies*



East Liberty Station Redesign:
Proposed sections through the station,
pedestrian bridge, canopies and plaza.



*East Liberty Station Redesign:
Proposed platform relocation, lane alignments,
and new emergency busway access ramp*

SHADY & PENN INTERSECTION RECONFIGURATION

Existing Penn-Shady intersection

Combined with a road diet for Penn Avenue east of Shady Avenue, the Penn-Shady intersection can potentially be redesigned to make it more pedestrian and bicycle friendly. Replacing the high-speed right turn ramp from Penn Ave to Shady Ave will require vehicles to make the turning movement in a slow and controlled fashion. Textured crosswalks along all approaches will signal to drivers that pedestrians are to be expected. Also, bicycle lanes and bike priority treatments (including pavement markings and signage) should be used wherever possible to provide comfortable access through the intersection and to the busway station.

A review of signal plans along the Penn Avenue corridor revealed that the Penn-Shady intersection is not currently coordinated with the other traffic signals to the west. The redesign of this intersection should include new signal equipment and communication systems so that traffic along the corridor can be more efficiently managed. The following illustrations show some of the concepts that should be explored in greater detail for the Penn-Shady intersection.



existing conditions

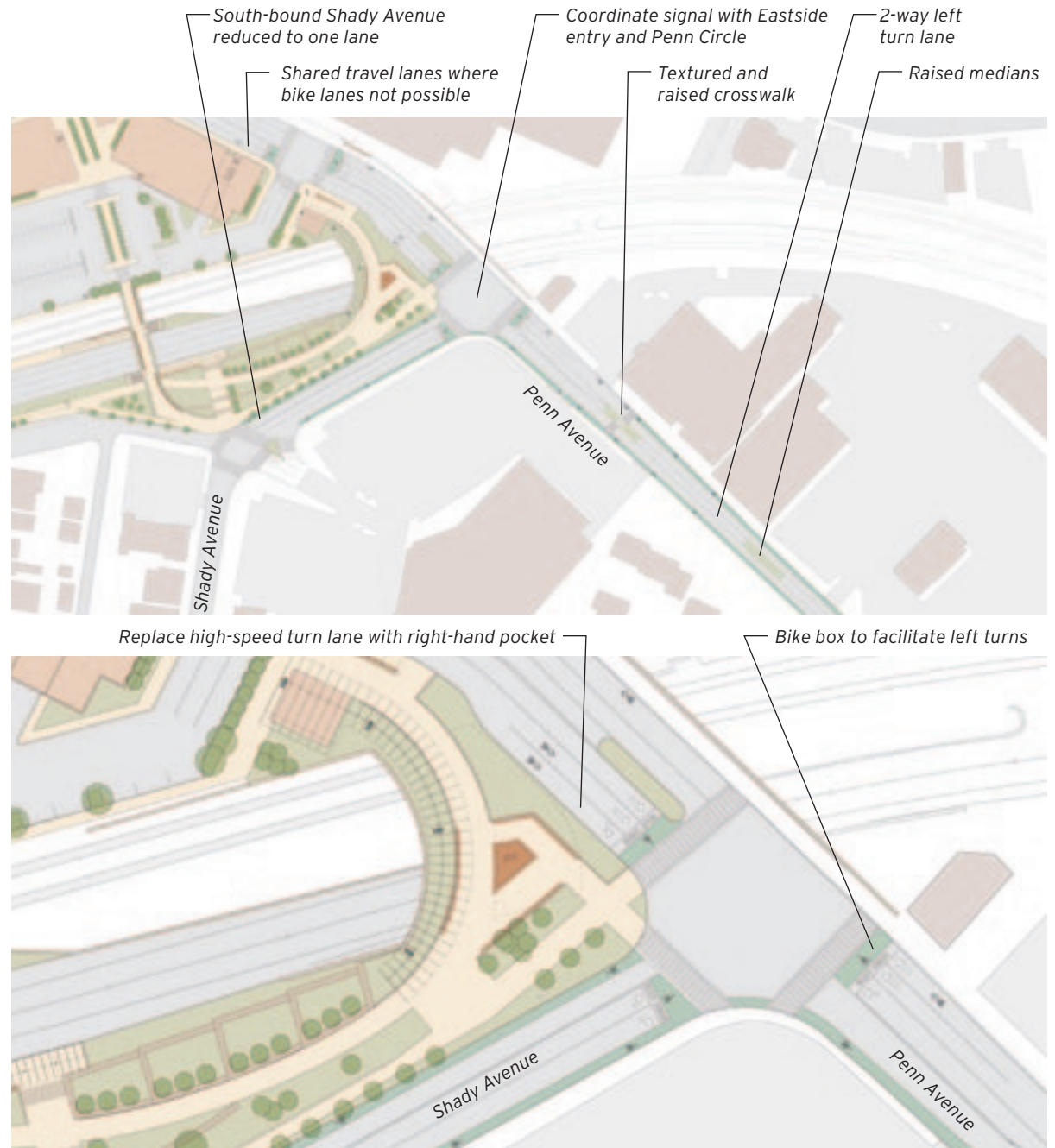


Penn and Shady Intersection

Near-term: Intersection improvement to Penn and Shady

As previously explained, Penn Avenue is a multi-lane arterial that is unfriendly to bicyclist and pedestrians. Eventually, Penn Avenue is constricted to a single travel lane in each direction west of Penn Circle East; however, in the immediate vicinity of Shady Avenue it is two lanes in each direction with turn lanes. Numerous pedestrian crossings have been observed at this intersection. The following illustration shows the number of lanes on Penn Avenue.

The intersection alteration removes the island and channelized right-turn lane on Penn and instead adds a right-turn pocket for the east-bound Penn to Shady movement. This lane is only possible in conjunction with the new plaza and structured cap. The proposed changes improve both pedestrian and bicycle safety and mobility by creating a complete set of crosswalks and through the addition of bicycle boxes coordinated with the signal timing.



Long-term: Roundabout at Penn Avenue and Shady Avenue

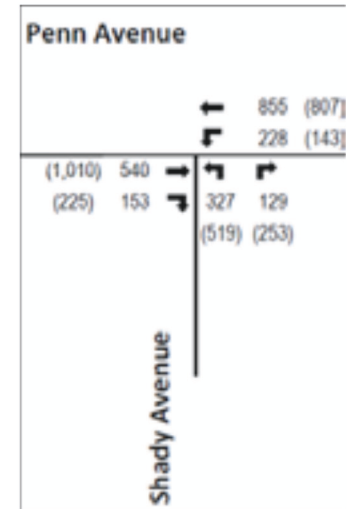
Modern roundabouts in both the United States and other countries have achieved a 50 to 90 percent reduction in collisions compared with intersections using traffic signals. Studies have found a particularly significant reduction (up to 90%) in the number of crashes that result in death or disability, in good part because roundabouts eliminate the high-speed, severe angle crashes (such as T-bone and head-on crashes) which occur at traffic signals. In addition, the high capacity of the roundabouts is what makes it possible to remove lanes between intersections. This can potentially allow for the addition of bicycle lanes in lieu of the underutilized travel lanes.

Properly designed roundabouts provide large safety benefits for pedestrians, when compared to intersections controlled by either stop signs or traffic signals. For example, a Dutch study of 181 intersections that were converted to roundabouts found an 89 percent reduction in casualties (fatalities and injuries). Other studies have also found major improvements in pedestrian safety. This reduction in crashes occurs because roundabouts provide three key features that pedestrians need for a safe crossing: simple decision-making, short crossing distances, and low traffic speeds.

Decision-making is simple because pedestrians cross one direction of traffic at a time, traveling from curb to splitter



island, then from splitter island to curb. Vehicle speeds are kept low by the physical constraints of the roundabout. On one side, pedestrians cross behind drivers who are waiting to enter the roundabout. On the other, drivers exiting the roundabout at low speed have room to pause outside the circle, while pedestrians cross the 13 feet from splitter-island to curb. By contrast, crossing Penn Avenue at a signal, pedestrians face conflicts from both right-turning and left-turning drivers who also have a green light, and also are at risk from drivers making a right-turn on red. All of these drivers at signals are simultaneously searching for gaps in traffic. Because roundabouts reduce the large number of conflicts found at signals, they are able to provide safety improvements for pedestrians.



Roundabouts also slow traffic, and are particularly useful in areas where drivers should recognize the presence of pedestrians. They can also serve as an attractive gateway to a community. As East Liberty develops land adjacent to the busway station, a more visible transit node will emerge which can be greatly enhanced by gateway treatments in the center of the roundabout.

Based on forecasted traffic volumes developed for the Eastside Development project, a roundabout that could work at the Penn Avenue/Shady Avenue intersection is shown in the above diagram.

A conceptual illustration of this roundabout superimposed onto the station area plan is shown at right. This roundabout would need to be approximately 180 feet

in diameter to accommodate forecasted traffic and offer the proper vehicle deflection to keep speeds low and maximize safety. From the illustration it is clear that such a roundabout would have impacts to property (the existing Giant Eagle site) and likely require some modification to the bridge structure that carries Penn Avenue over the busway and railroad tracks.

A roundabout of this geometric configuration would perform better than the existing traffic signal, and provide superior safety and traffic calming benefits. Perhaps the most significant downside to this concept is the impact to adjacent land use. This begs the question: Can the roundabout be smaller?

Based on a very conceptual analysis, a single-lane roundabout at this location would work with a 30 percent reduction in traffic (see sections on following pages for possible solutions for traffic reduction). The roundabout would likely need to be elliptical to get the necessary vehicle deflection required for safe operations. With detailed design, the correct orientation of the ellipse, and the correct shape of the ellipse, the size of the roundabout could likely be reduced. An alternative design could make minor realignments of the approach roads or move the roundabout off-center, both of which can reduce the size of the roundabout. There are numerous geometric options that can, and should be, explored.



Successful application of a single-lane roundabout at Penn and Shady will likely be dependent on the conversion of Penn Circle West and North to 2-way vehicular traffic. Preliminary analysis of the roundabout indicates that the afternoon peak hour is expected to exceed the capacity of a single-lane roundabout. In addition to overall higher traffic use in the afternoon, there is a heavy eastbound flow along Penn Avenue which will create a significant vehicle queue that could block the Eastside III

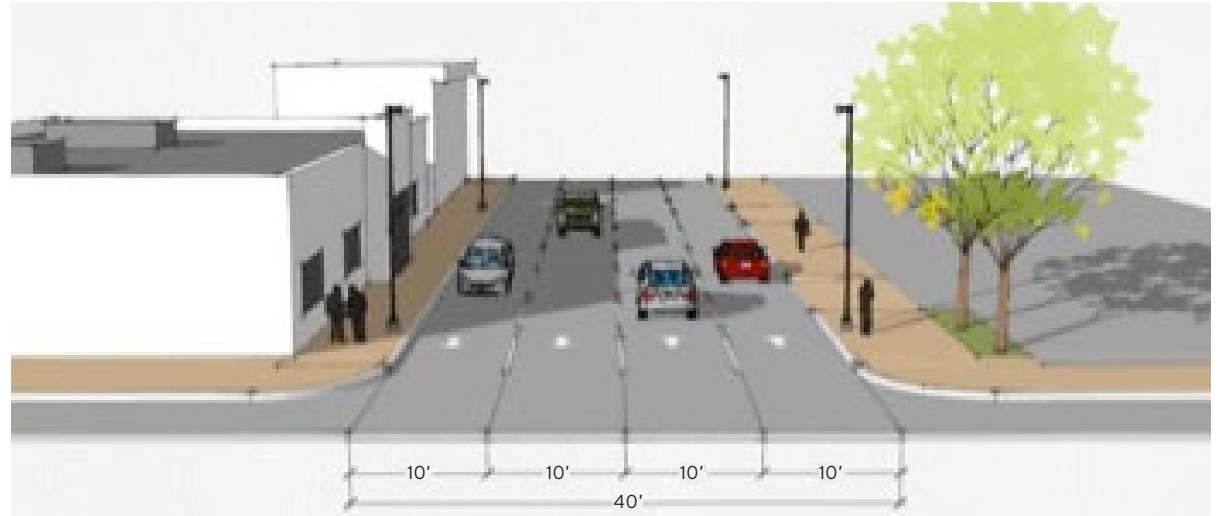
driveway and the Collins Street/Penn Circle intersection.

If Penn Circle West and North were opened to traffic destined toward the northeast, it is possible that enough traffic could be distributed from Penn Avenue to Broad St. and East Liberty Boulevard to make the roundabout work during the PM peak. Confirmation of this assumption would require a much more detailed study of traffic patterns than can be provided in this study.

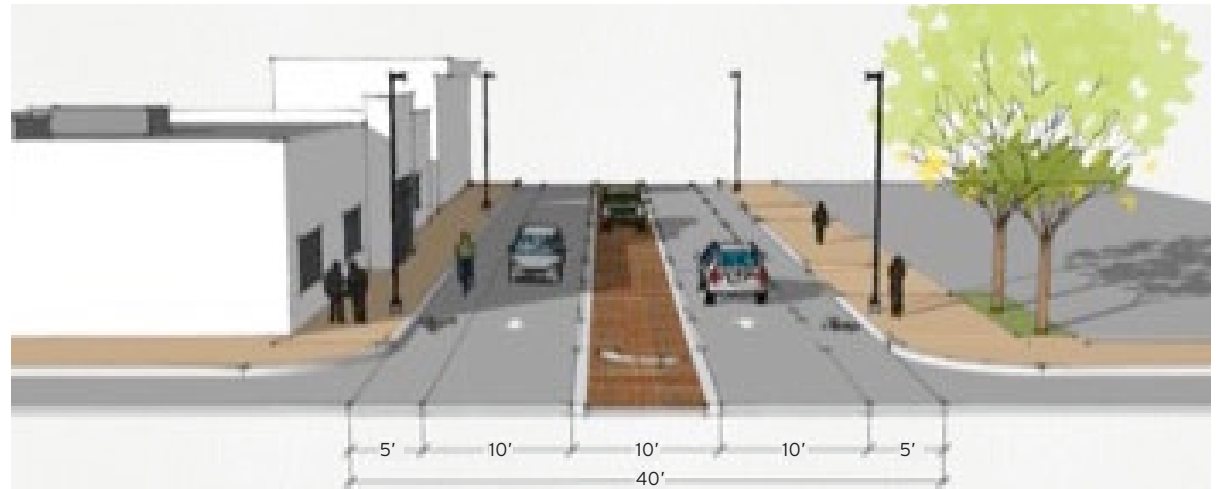
SHADY & PENN BICYCLE LANES & ROAD DIET

A road diet is the conversion of a wide street to a narrower one, such as the conversion of a four-lane undivided thoroughfare into a three-lane street composed of two travel lanes and a two-way left-turn lane. This conversion provides additional space to accommodate other desirable features such as bike lanes, wider sidewalks, pedestrian refuges, transit priority lanes, landscaping, or on-street parking. Case studies demonstrate that road diets reduce conflicts at intersections, reduce accidents and have minimal effects on traffic capacity and diversion on thoroughfares under 20,000 vehicles per day. According to 2011 traffic numbers maintained by PennDOT, Penn Avenue east of Shady Avenue carries about 13,600 vehicles per day.

Three-lane roadways can also improve emergency response by allowing emergency vehicles to bypass congestion by using the two-way left-turn lane. They create opportunities for pedestrian refuges at midblock and intersection crossings and eliminate the common “multiple threat” hazards pedestrians experience crossing four-lane roads. Other benefits include easier egress from driveways (improved sight distance), and smaller curb returns, improvements for transit (allows curbside stops outside of travel lane). Road diets can improve the flow of traffic and reduce travel speeds, particularly when used in conjunction with roundabouts.



Existing Penn Avenue Section: East Liberty Boulevard to Shady Avenue



Proposed Penn Avenue Section: East Liberty Boulevard to Shady Avenue

IMPLEMENTING PREVIOUSLY IDENTIFIED INFRASTRUCTURE IMPROVEMENTS

Numerous essential infrastructure needs have already been identified for East Liberty through past planning. In some cases, such as the Penn Circle Conversion, aspects of these projects have been implemented. Completing infrastructure improvements in the larger district is key to realizing the TOD potential in East Liberty and the creation of a TRID can be a key mechanism for funding infrastructure improvements.

ITS Infrastructure & Signalization Upgrades

Traffic21 is a multi-disciplinary research initiative of Carnegie Mellon University. Its goal is to design, test, deploy and evaluate information and communications technology based solutions to address the problems facing the transportation system of the Pittsburgh region.

The Pittsburgh region will serve as a “learning lab,” deploying solutions that can be applied around the nation and the globe. Traffic21 will leverage Carnegie Mellon’s leadership in relevant areas such as critical infrastructure, transportation access, transportation routing, human factors, artificial intelligence, web applications and autonomous vehicles.

One of Traffic 21’s initiatives is the development of smart adaptive traffic signals. This includes technology that will allow traffic signals to communicate with each other and adapt to traffic in real time.

A simulation model was developed for downtown traffic, and it has demonstrated that adaptive signals are effective and if even only a few lights can be made to adapt their signal patterns to changing conditions, substantial reductions in congestion can be achieved.

A potential application of this technology could be to adjust traffic signals to prioritize routes around the TOD area and make better use of the larger roadway network. This could include roads such as Penn Circle West and North, Highland Avenue, Broad Street, Negley Run Boulevard, and East Liberty Boulevard. This technology can manage demand so that some of the through traffic is discouraged from using Penn Avenue, and directed to other routes. This would be advantageous to both the near-term intersection modification and the longer-term roundabout concepts.

Coordinated Smart Parking District

Currently parking in East Liberty is a mix of publicly owned and managed off-street surface lots, on-street metered parking, and private surface and garage parking some associated with large scale developments and individual businesses. Parking is inconsistently priced and underutilized. In accordance with TOD principles, parking should be managed with

a coordinated district wide strategy. This should include improvements to existing parking resources such as the installation of shared pay stations for on-street parking and a coordinated graduated pay structure both on-street and off-street parking. Mobile technology applications should also be employed to connect parking spaces to provide real-time parking availability



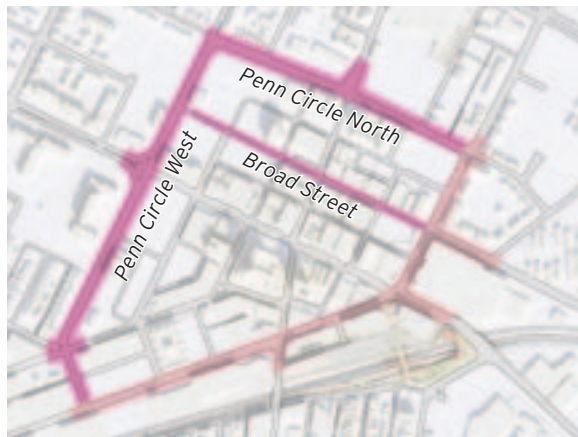
information to incoming drivers. As new parking garages are constructed, strategies should be employed to create shared parking resources when possible. Finally provisions should be included for car sharing services and bicycle parking.

Penn Avenue 2-Way Conversion

To date two of the four sections of Penn Circle have been converted back to bidirectional traffic from the one-way loop implemented in the 1960s. While Penn Circle South and East have been converted

back into two-way traffic in 2003 and 2011, Penn Circle West and North remain as sections of high-speed one-way street dividing the core of East Liberty from the surrounding neighborhoods.

- 82 Converting the remaining sections of Penn Circle to two-way traffic is essential for the implementation of the residential housing strategy envisioned for the western edge of the neighborhood in the community plan. The conversion will also diversify the available routes for PM peak traffic and relieve pressure from the segment of Penn Ave between Penn Circle South and Shady Avenue adjacent to the station.



Broad Street 2-Way Conversion & Broad Street Plaza

Like Penn Circle, Broad Street has also been identified a candidate for conversion from one-way to two-way traffic to support Broad street's revitalization a secondary commercial street. The plan includes changes to the cartway as well as streetscape improvements and a plaza at Broad Street and Highland Avenue.

Town Square Streetscape

Another key public realm improvement for East Liberty is the Town Square project to improve the streetscapes and facades in the core of the retail district. The Town Square masterplan proposes minor street alterations and significant streetscape improvements in the blocks surrounding East Liberty Presbyterian Church.



Town Square Masterplan - Semple Brown Design

The plan calls for new sidewalks, street trees and landscape, lighting, and street furniture, as well as special paving and new pavilions in key locations. In addition key development and renovation opportunities in this area are recommended. The town square will from the centerpiece of East Liberty's public realm, and is essential to the community vision for a revitalized mixed-use district. The masterplan's proposed streetscape improvements for Penn Avenue would connect to the new pedestrian routes proposed for the station in this study, creating a seamless high-quality public realm leading from the station platform to the center of the neighborhood.

Larimer Avenue Park

A final major infrastructure improvement is the creation of a new park along Larimer Avenue to the north of the station. This park proposed in the Larimer Vision Plan, will create a new green address for continued residential development along Larimer Avenue. The park is also a key element in the larger green infrastructure strategy for East Liberty, creating a series of rain gardens for the collection of stormwater.



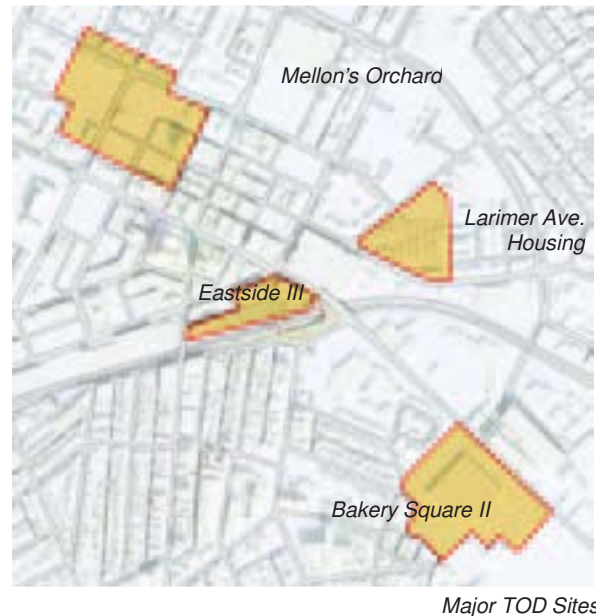
Larimer Vision Plan - Strada Architecture

TRANSIT ORIENTED DEVELOPMENT SITE IMPROVEMENT NEEDS

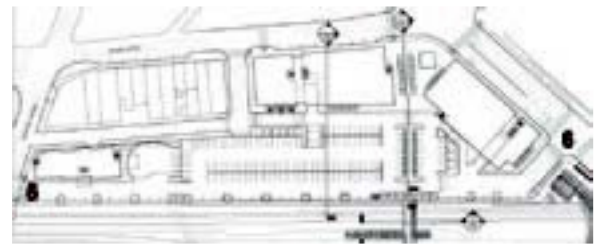
Some of the largest sites for future transit-oriented development are currently organized as large super blocks lacking internal site circulation or utilities. In order for these sites to be developed with a mix of uses including housing, these larger sites will require substantial infrastructure improvements. Needs will include new streets and sidewalks, new street lighting, new on-site utilities, and new parking both surface and in some cases structured.

In most cases these sites are superblocks resulting from the Urban Renewal era reorganization of East Liberty's streets. Creating a finer grain network of circulation on these sites for pedestrians bicycles and cars is essential to allow them to be redeveloped in a mix-use pedestrian oriented manner consistent with TOD principles.

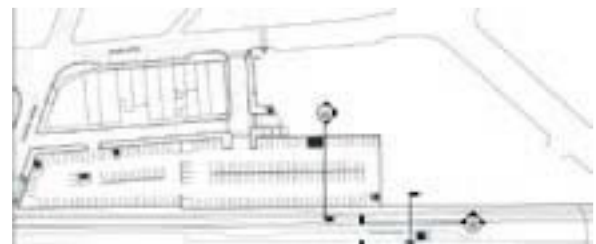
A private development site of particular importance to the station is the Eastside III project adjacent to the station. The current proposal for Eastside II, developed in conjunction with the proposed station design, creates a continuous upper level deck at the elevation of the new station pedestrian bridge and Penn and Highland Avenues. This new "ground plane" allows direct pedestrian routes to the station through the development block from the Penn, Highland and Penn Circle South.



Major TOD Sites



Eastside III Upper Level - The Design Alliance Architects



Eastside III Lower Level - The Design Alliance Architects

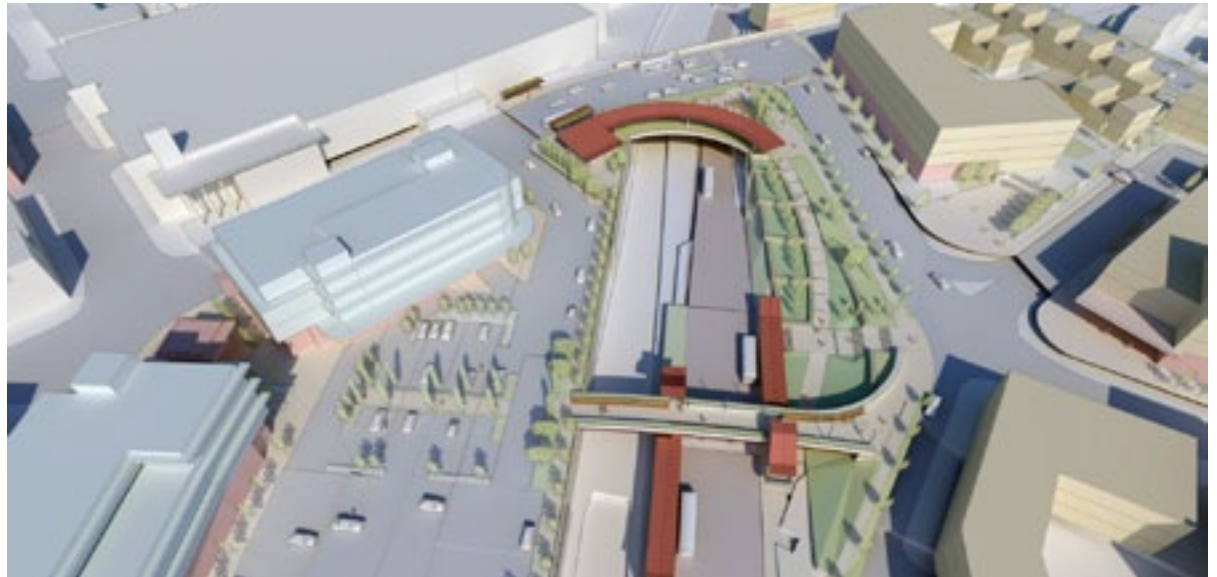
The design creates an internal street along the railroad and busway edge ensuring that routes to the station are accessible and visible from key intersections in East Liberty. The deck also creates a new shared two-level parking reserve supporting the mixed-use Eastside development. The proposed new station pedestrian bridge is designed to connect to the pedestrian sidewalks through Eastside. The upper level deck and pedestrian realm of Eastside are essential to connections to East Liberty Station that will help maximize the impact of the TOD in the larger district.

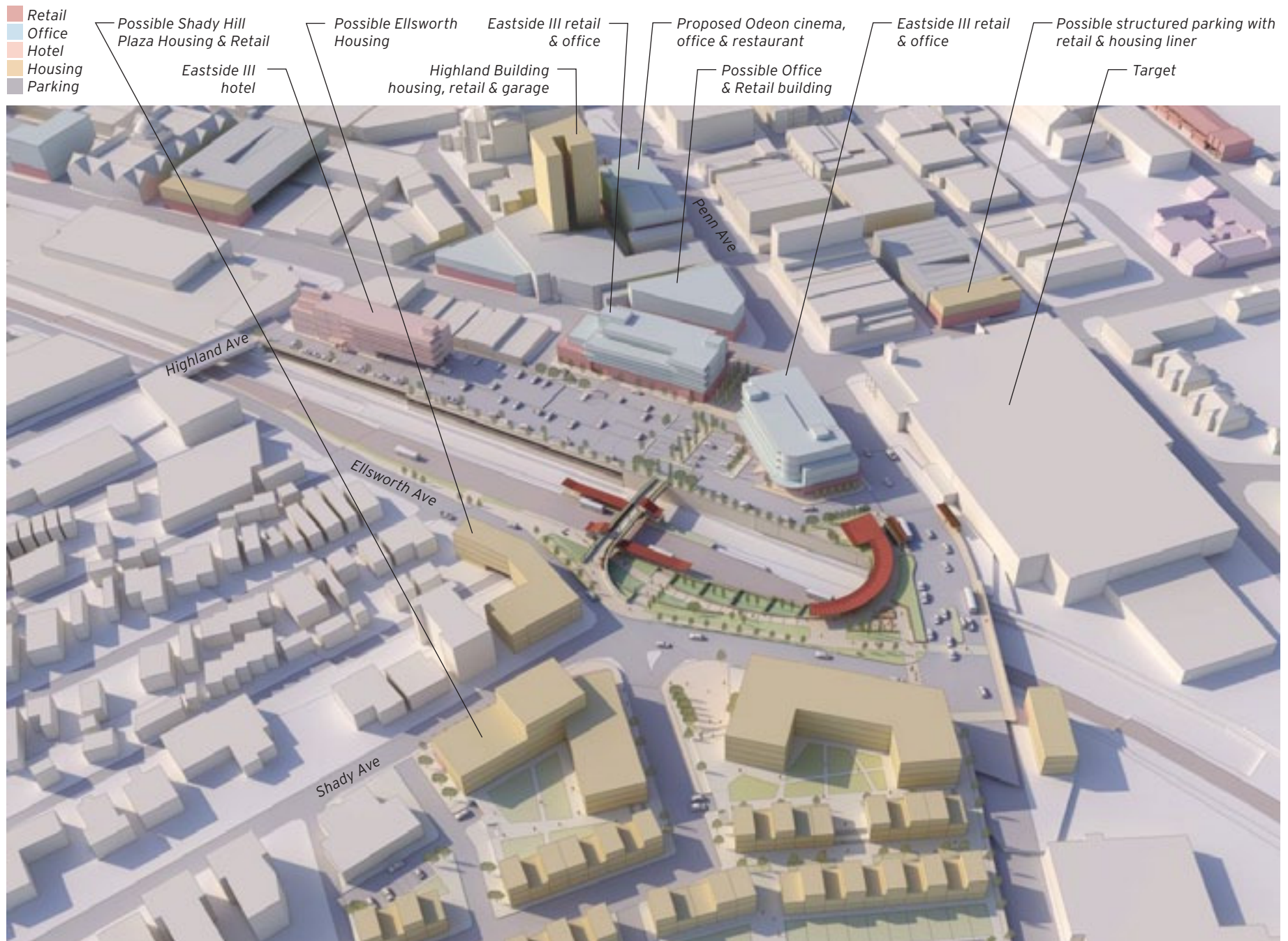
STATION AREA DEVELOPMENT VISION

84

Significant opportunities exist for new transit-oriented development to transform the station area, integrating it into a new pedestrian oriented mixed-use district at the gateway to East Liberty's historic core. The renderings on this and the following page show how transit-oriented development could surround the station on all sides in the future. The developments pictured are a mix of projects which are already underway or are standing proposals, along with speculative proposals for how TOD best practices could be applied to sites like the Shady Hill plaza.

The proposed vision builds on the East Liberty Community plan, and TOD principles to transform the Eastern Gateway.





Above: The station area today

Below: The long term vision for transit-oriented development in the station area



Existing Zoning and TOD

While the existing zoning is relatively conducive to TOD in terms of allowable use mix, it is less than ideal in terms of allowable development intensity and height. Currently the highest intensity residential zoning near the station is along Highland Avenue in the RM-H district allowing 9 story apartment buildings. On the parcels adjacent to the station the maximum density is FAR 4.0 with a maximum height of 4 stories.

Best practice development targets for a *Mixed Use Center* station such as East Liberty recommend higher intensity residential development than is currently permitted by zoning.

In the area immediately adjacent to the station in the East Liberty core and along Penn Avenue higher intensity residential development zoning should be explored in the future. Creating an additional TOD zoning overlay allowing midrise residential development typologies of 6-9 stories (FAR 5.0-6.0) within 700' of major fixed guideway transit facilities would allow the residential density in the immediate station area to be significantly increased, creating a critical mass of transit friendly housing units and more appropriately capitalizing on the value of transit. Variations of this type are shown in the image of Portland at right and in the Del Mar Station case study. The implications of this for East Liberty Station are illustrated in the visualizations at right.



In addition areas with zoning categories that are not conducive to TOD should be reconsidered as future development occurs. In particular parcels along Penn Avenue zoned Highway Commercial currently disallow almost all residential uses and allows site development standards which are automobile rather than pedestrian oriented.

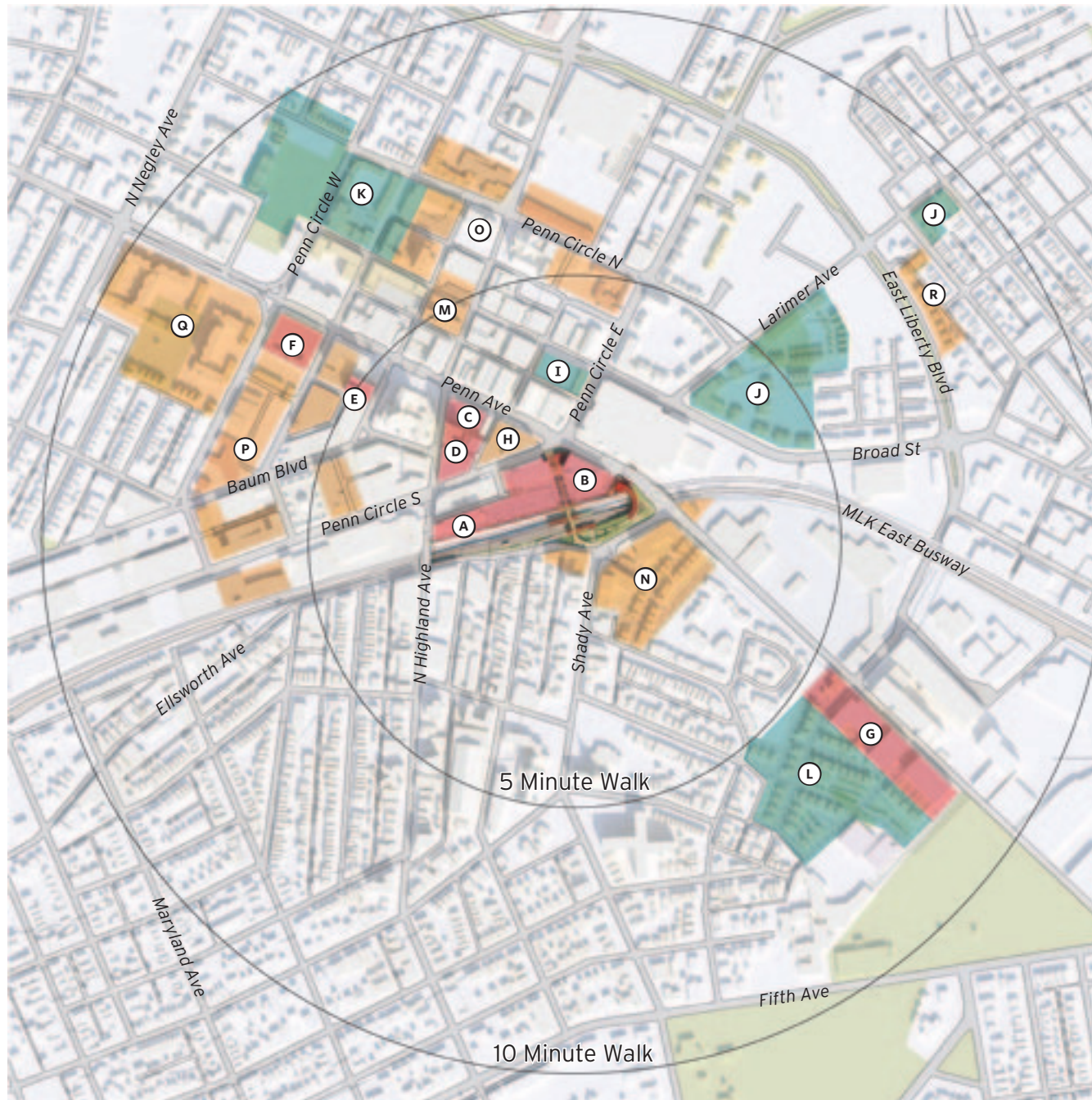
87



Visualization of 3-4 story mixed-use development on the Shady Hill Plaza adjacent to the station. Buildings are a mix of apartments, small retail spaces and town houses with structured parking



Visualization of the same development with limited additions of 8-9 story midrise buildings. Allowing higher intensity residential development would create more units close to transit and would help support retail uses around the station.



MAJOR TOD SITES

Years 1-5

- (A) Eastside III Hotel
- (B) Eastside IV Retail/Office
- (C) Odeon Theater/Office/Rest.
- (D) Highland / Wallace Housing
- (E) YMCA Hotel
- (F) East Liberty Place II Mixed-Use
- (G) Bakery Square II Office

Years 5-10

- (H) Penn/Center Mixed-Use
- (I) Kirkwood Garage/Mixed-Use
- (J) Larimer Avenue Housing
- (K) Mellon's Orchard
- (L) Bakery Square II Housing

Years 10+

- (M) Governor's Hotel Mixed-Use
- (N) Shady Hill Plaza Mixed-Use
- (O) Penn Circle North Sites
- (P) Penn Circle West Sites
- (Q) Penn Plaza Housing
- (R) Larimer Infill Housing

THE PROPOSED TRID BOUNDARY

The identified TOD principles provide a guide to key improvements that will enhance the public realm, especially in the area surrounding East Liberty station. As detailed above, significant investment in site specific and district-wide public infrastructure is necessary in the effort to transform the eLTRID study area into a place more conducive to TOD. These public improvements will increase the value of surrounding private properties, in part due to improved access to services and activities. Sites in close proximity to public transit investments often experience a 5-20% increase in sale prices and rents for example.

Funding such extensive public infrastructure from capital budgets alone has become more and more challenging. The TRID Act details a mechanism that provides for the capture of a portion of the new value created as private property in the vicinity of transit investments appreciates over time. Within the proposed TRID Boundary, real property tax and other select tax revenues can be utilized for the purposes of implementing the improvements detailed in the planning study. Establishment of value capture areas within the boundary allows for the diversion of incremental tax revenues to finance public transportation capital improvements, site development, other public infrastructure and maintenance in accordance with the Act.



Within the study area, the current 5 year development pipeline includes significant projects that will redevelop sites for a mix of new uses including residential, office, retail, hotels and a proposed movie theater. Much of this activity will focus on the core of East Liberty's commercial corridor and the area commonly referred to as the Eastern Gateway. The proposed initial 5 year TRID Boundary focuses on facilitating these opportunities and is illustrated on the following page.

Reconstruction of the East Busway station will help facilitate the next two phases of the Eastside project by Mosites. The closed

former bus turnaround and transfer facility along with a surface parking lot will be redeveloped with several mixed-use office/retail structures and a hotel. Site infrastructure will transform 4 acres of disconnected property into a new ground plane to serve as a podium for high-density development. More importantly, these improvements will help physically and psychologically reconnect East Liberty to Shadyside as spatial barriers are overcome. New critical infrastructure constructed as part of the Eastern Gateway Intermodal Center will allow the project to be fully integrated with transit at this prime TOD location.

Another significant project is planned for vacant and underutilized properties at the corner of South Highland Avenue and Penn Avenue. A joint development of ELDI and Blasier Urban, the Odeon building will feature a 5 screen movie theater and café with additional restaurant space on the second floor. Levels 3-6 will each include 13,000 square feet of Class A office space. The redevelopment effort is seen as a significant catalyst for the core of East Liberty.

Walnut Capital and Massaro Properties will soon commence another key project at the Highland Building within the central business district. The long vacant architectural landmark was constructed in 1909 by industrialist Henry Clay Frick. Rehabilitation of the historic building and adjacent Wallace Building will create 123 market rate rental residential units along with ancillary commercial space in to compliment the expansion of the South Highland Avenue entertainment district.⁵

ELDI is also negotiating with a 'trendy' hotel operator to occupy the former YMCA building on Whitfield Street. Public spaces within the unique structure can accommodate hotel amenities such as a ballroom, gymnasium and swimming pool. After a series of failed redevelopment attempts, the new concept will include approximately 65 boutique rooms.

The proposed initial value capture area extends along the southern side of Penn Avenue to Penn Circle West. Following their recently completed East Liberty Place North project, The Community Builders are

also advancing plans for a second phase on the south parcel of the former East Mall apartment complex. It is anticipated the project would include 60 additional apartment units above approximately 13,000 square feet of ground floor commercial space.

At the far eastern end of the Phase I area along Penn Avenue lies another significant potential development site within the eITRID study area. The former Reizenstein Middle School is now occupied by the Pittsburgh Public School District (PPSD) Barack Obama Academy of International Studies (Pittsburgh Obama). Born out of the closed Schenley High School in Oakland, the magnet school serves grades 6-12. PPSP announced plans to relocate the Pittsburgh Obama to the Peabody High School building in 2010 as part of a reconfiguration throughout the East End.

Faced with an estimated \$50 million renovation of the facility, PPSP decided instead to obtain bids for the prime location. The proposed development program includes a mix of office, retail and market rate residential uses. It is anticipated the initial phase would focus on redevelopment of the Penn Avenue frontage with the commercial components in an effort to build off the momentum of the adjacent Bakery Square project.

This front portion of the Reizenstein parcel which will be the focus of the first phases of redevelopment is included within the boundary. The Penn Avenue Right of Way is also included so that the proposed value

capture area remains contiguous with other areas in the core.

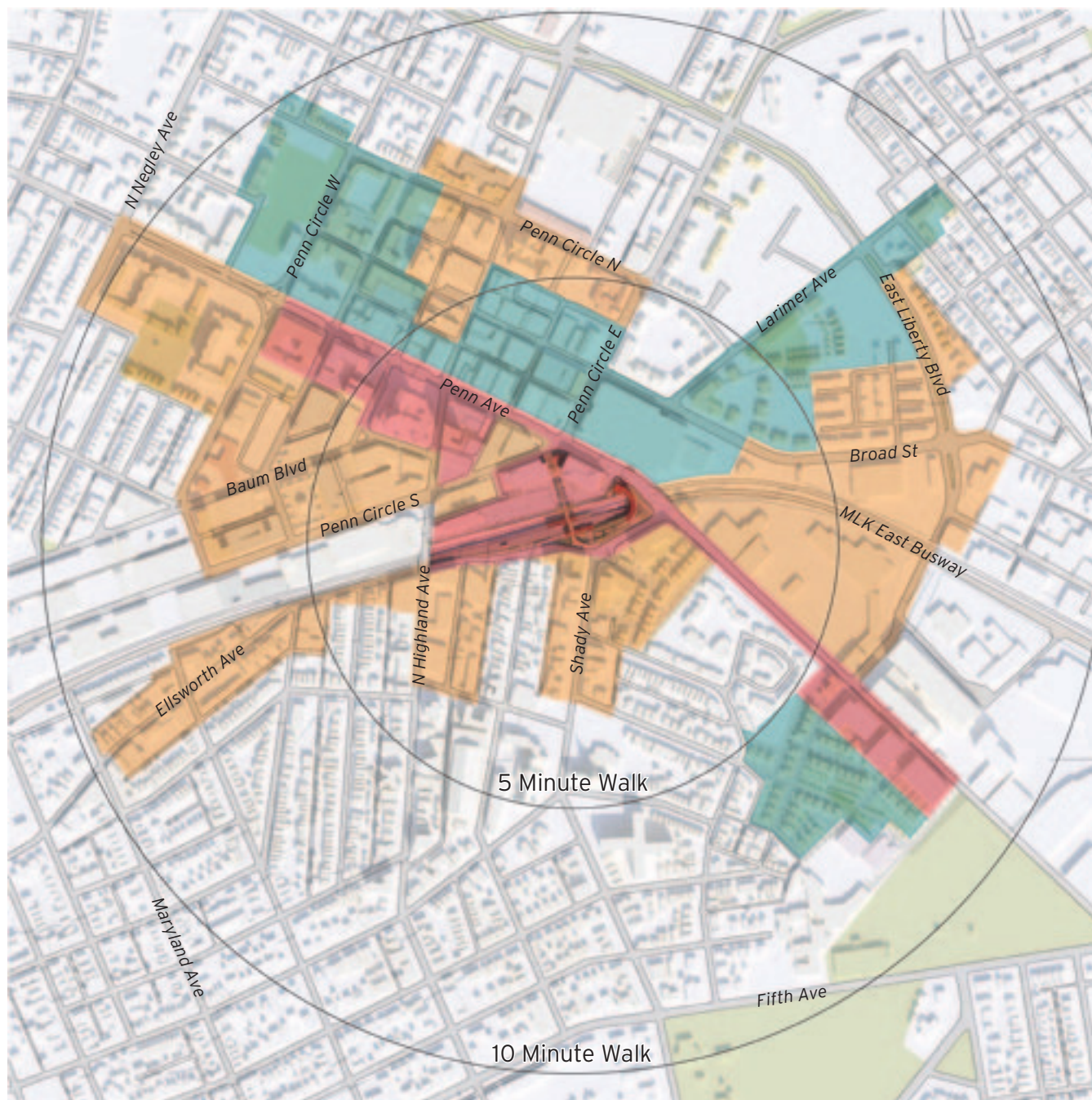
Phasing of the TRID value capture delineation in response to changing market conditions and development potential is a key component of the eITRID value capture strategy. It is anticipated the proposed TRID value capture area could be expanded by the eITRID Management Entity at a later date in an effort to continue revitalization within the study area. The Act specifically includes provisions for the expansion of the specific value capture area based on local circumstances such as economic development and planning goals, community character, property boundary and scale variations. Expansion must be authorized by the Management Entity based upon the findings of the TRID Planning Study.

Based upon the findings of eITRID contained here within, expansion would focus on facilitating redevelopment of key sites not currently within the known pipeline. However, these areas are situated in close proximity to the first wave of investment and thus present opportunities where market forces are likely to drive redevelopment. The 2nd phase of the proposed TRID value capture area would remain contiguous with the initial area as well.

Proposed expansion would focus on similar areas within the central business district and Eastern Gateway. The Phase II area extends to the north of the commercial core between Penn Avenue and Harvard Square. The top floors of many structures along the northern side of Penn Avenue

⁵ This project is currently within the KOZ and not included in conservative value capture estimates. Potential increment could be collected in 2017 and dedicated to the eITRID VC Fund.

PROPOSED TRID BOUNDARY & PHASING



are currently underutilized. This area also includes the Broad Street Corridor which features the highest number of currently vacant and available properties within the study area. A PPAP surface parking lot lies between Kirkwood Street and Broad Street immediately adjacent to the new Target store. Phase II of the proposed value capture area would also extend towards the traditional residential portions of the neighborhoods of East Liberty and Larimer. At the northwest corner of Penn Circle, conceptual plans call for redevelopment of surface parking lots and abandoned structures for new residential use including a mix of for sale single family detached houses and townhomes. The traditional neighborhood design being planned calls for new units to fit the existing context while maintaining the historic and architectural integrity of surrounding houses. In addition, the TRID value capture area would be extended on the eastern portion behind the Target to include the first phase of a planned residential development off Larimer Avenue in close proximity to other recent mixed-income residential initiatives along this corridor.

Expansion of the value capture area accommodates the likely phasing of redevelopment of the former Reizenstein school site as well. The recommended expansion in the 2nd phase would encompass the remainder

of the parcel slated for additional development. It is likely the residential components of the proposed project would occur at a later stage to best respond to market conditions.

As the wave of revitalization continues, a 3rd expansion could capture value of longer term development potential. The final proposed TRID value capture area would encompass other fringe areas that present opportunities in the 10+ year horizon building upon early momentum within the study area. Beyond accounting for improved market conditions, this phased expansion strategy allows for the greatest level of value capture to reinvest in TOD and other district-wide infrastructure improvements or maintenance.

The TRID value capture area would be expanded to Penn Circle North to encapsulate the remainder of the central business district. This includes many properties that are suburban in nature and totally oriented to automobile use. Improvements would target better connectivity to the residential portions of East Liberty to the north and Larimer to the east.

Also within this expansion is a block of vacant or underutilized structures in between North Highland Avenue and North Whitfield. These parcels, including the dilapidated former Governor's Hotel building, were originally targeted for a large scale redevelopment comprising of a hotel and commercial space. Significant

opportunity still exists within this block including building rehabilitation and new construction.

Three key commercial areas would also be included in the final value capture area expansion. Underutilized properties across Center Avenue and the initial phases of Eastside present various opportunities to strengthen this corridor. Connectivity would improve with Friendship to the west and new residential developments along Penn Circle West. Although they are stable drivers of local market activity, Ellsworth Avenue and South Highland Avenue do present opportunities for investment that will continue their success over the longer term. Ellsworth Avenue especially could benefit from an extension of economic activity from its current terminus under the South Highland Avenue bridge towards the new intermodal center and eventually connecting to Shady Avenue.

Properties along Shady Avenue, especially Shady Hill Plaza, represent areas with the most significant TOD potential in the study area pending infrastructure improvements. Expansion of the TRID value capture area to include this suburban style shopping center would help facilitate its eventual reconfiguration into a more multimodal development at a pedestrian scale. Situated directly adjacent to the new Eastern Gateway Intermodal Center, the site can also be connected to new activity along

an extended Ellsworth Avenue corridor.

Similarly, the recently upgraded Village at East Side is another suburban style shopping center that could benefit from future improvements aimed at multimodal use and pedestrian connectivity. The property benefits from tremendous access to the new intermodal center and significant on-street bus activity along Penn Avenue. Positioned between the central business district and Bakery Row developments, it could become another anchor TOD within the district.

It is anticipated over \$280 million of mixed-use and residential development will occur within the TRID Boundary over the 30 year timeframe.⁶ This includes known projects within the pipeline as well as sites that have been identified as potential redevelopment opportunities. At full build out, this new development is expected to create over \$230 million of total assessed value.⁷ This conservative estimate does not include smaller projects, background assessed value growth or redevelopment of certain targeted sites that could potentially occur following district wide infrastructure improvements. Assessed value projections are estimates only and based upon assessment of comparable properties both in and outside the study area as well as previous studies.⁸

6. Construction costs obtained from developers, comparable projects and the Eastside TOD/TIF Analysis performed by ERA (April 2008)

7. Assessed value estimates do not include potential residential exemptions available for owner occupied units and assume the study area is withdrawn from the LERTA Program.

8. Eastside TOD/TIF Analysis performed by ERA (April 2008)

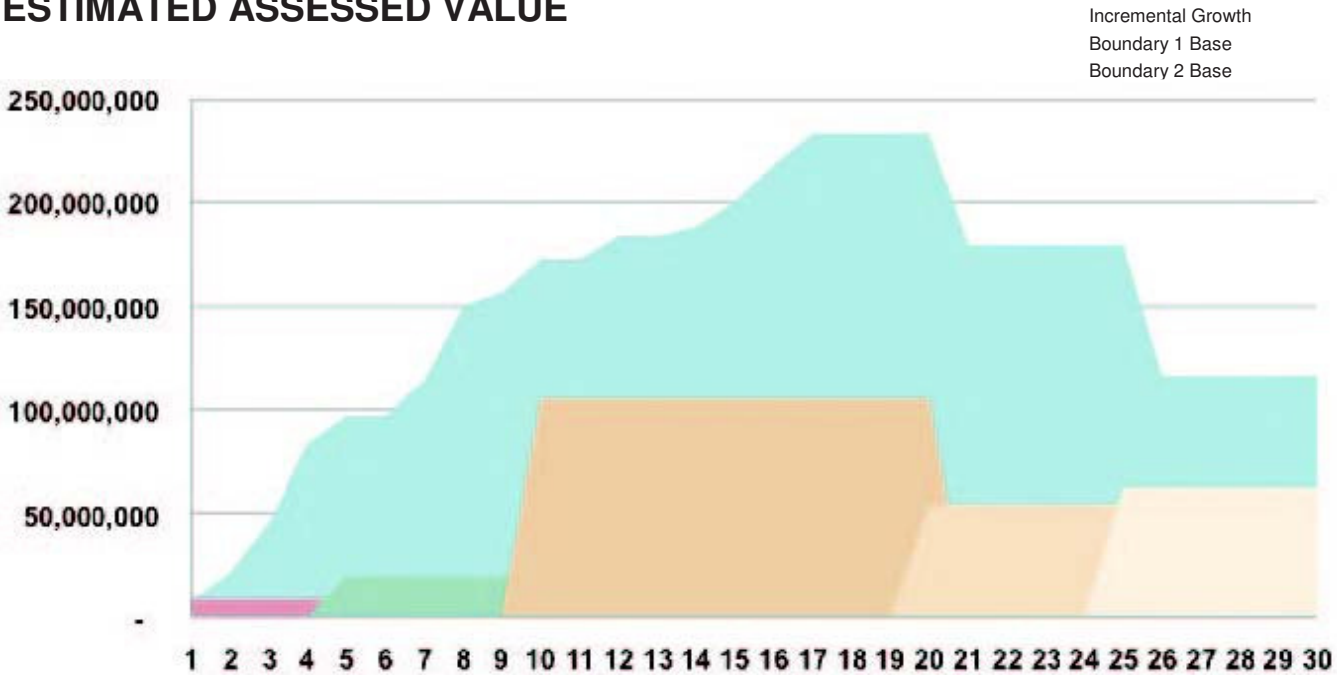
TOTAL STUDY AREA DEVELOPMENT PROGRAM

Product Type	Units/SF	Development Cost	Estimated Assessed Value
Boundary I			
Hotel	192 rooms	\$ 23,382,716	\$ 14,535,837
Office	447,630 sf	\$ 105,536,214	\$ 67,730,762
Mixed-Use Commercial*	153,995 sf	n/a	
Theater*	5 screens	n/a	
Multi-Family Rental	75 units	\$ 12,500,000	\$ 6,853,304
Stand Alone Commercial	10,000 sf	\$ 1,700,000	\$ 2,100,000
Total		\$ 143,118,930	\$ 91,219,903
Boundary II			
Office	39,000 sf	\$ 7,485,000	\$ 5,365,000
Mixed-Use Commercial*	10,000 sf	n/a	
Single Family Detached	76 units	\$ 18,200,000	\$ 25,400,000
Single Family Attached	106 units	\$ 20,289,000	\$ 21,020,000
Multi-Family Rental	110 units	\$ 9,324,000	\$ 7,603,300
Multi-Family For Sale	14 units	\$ 3,430,000	\$ 2,152,500
Total		\$ 58,728,000	\$ 61,540,800
Boundary III			
Single Family Detached	12 units	\$ 3,000,000	\$ 4,200,000
Single Family Attached	98 units	\$ 17,802,000	\$ 18,400,000
Multi-Family Rental	160 units	\$ 16,320,000	\$ 13,320,000
Multi-Family For Sale	80 units	\$ 19,600,000	\$ 12,100,000
Stand Alone Commercial	35,000 sf	\$ 5,950,000	\$ 7,350,000
Total		\$ 62,672,000	\$ 55,370,000
Grand Total**		\$ 284,518,930	\$ 233,897,776

*Cost included in office or residential component.

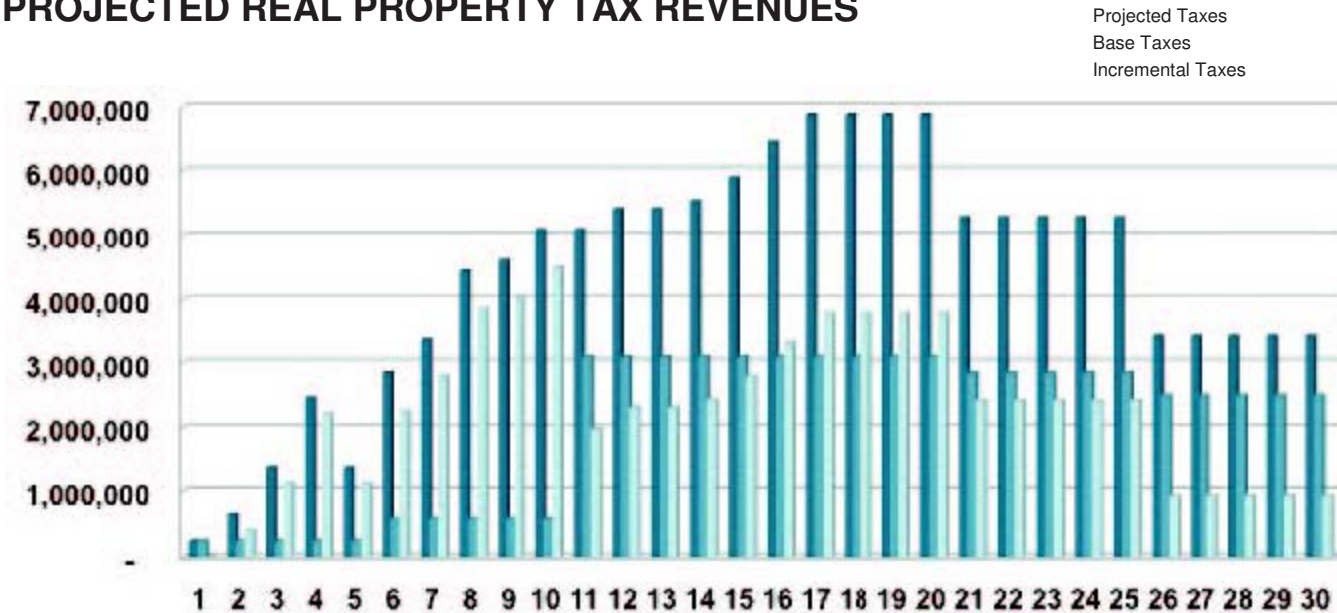
**Grand Total includes cost of known public infrastructure and the incremental increase in assessed value of land

ESTIMATED ASSESSED VALUE



The graphs on this page illustrate the assessed value growth over time along with projected real property tax increments that would be available for the eITRID value capture. Approximately \$125 million of incremental assessed value would be created by the development program at the peak of the third TRID Boundary. The newly created value represents a 20% increase over the base assessed value of the largest district boundary. Within the half-mile study area, new incremental value created in the TRID Boundary would represent an approximately 33% increase in total assessed value after all value capture areas within the district expire.

PROJECTED REAL PROPERTY TAX REVENUES



Annual incremental real property tax revenue of \$3.8 million would be generated by this increase in assessed value during the peak. Approximate \$62 million of incremental revenues would be generated by new projects within the TRID Boundary over 30 years if the value capture area is phased over time. A portion of these new revenues would be diverted to fund specific project infrastructure or district wide improvements as later outlined in the eITRID comprehensive value capture strategy.

Financing TOD

Urban, mixed-use TOD projects are overburdened with additional costs when compared to competing real estate investments. TOD has significantly more expense than other suburban or even infill real estate products. These additional cost factors include:⁹

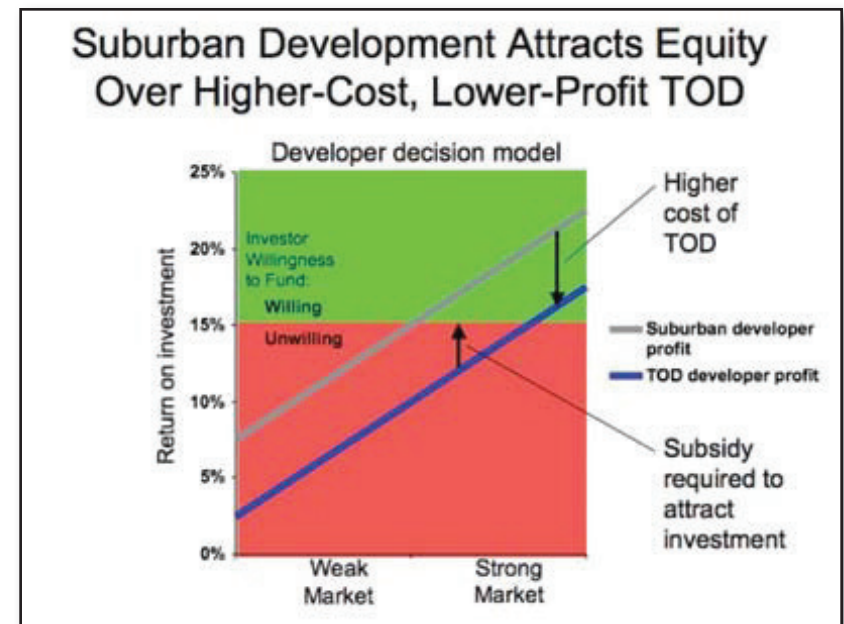
TOD	Other Real Estate
Urban Land	'Greenfield' Land
Upgraded Utilities	New Utilities
Environmental Remediation	Low Impact Past Use
Mid/High Rise Construction	Low Rise Construction
Mixed-Use Buildings	Single Use Buildings
Higher Interior Finish	Standard Finishes
Complex Street Network	Minimal Street Network
Multi-Modal Accommodations	Auto-oriented Design

Higher costs result in TOD facing a difficulty in competing for investment dollars versus other products. This inherent gap often requires some type of subsidy/incentive to ensure TOD projects attract private financing and equity sources. TRID can provide the public financial assistance necessary to facilitate TOD projects within the study area.

⁹ *Fostering Equitable and Sustainable TOD, CTOD (Feb 2009)*

The figure at right illustrates a few of the numerous parties involved in TOD implementation. This includes groups responsible for delivering transit, developing real estate and financing transactions. The process includes government entities at all levels as well as for-profit and non-profit entities. Special interest groups throughout the community are often involved in transactions especially in their efforts to advocate for initiatives such as affordable housing, living wage jobs and other local benefits.

**Source: Fostering Equitable and Sustainable TOD, CTOD (Feb 2009)*



Conflicting goals of all parties involved can add to the cost or time frame necessary to implement TOD. Ultimately, successful TOD requires good markets, good station areas and excellent coordination between numerous parties all dedicated to its success. With all of these ingredients, the study area is uniquely positioned to capitalize on TOD opportunities. However, the current infrastructure and urban fabric remains a hindrance to dense, mixed-use development in the vicinity of East Liberty station. Uncertainty as to how these improvements will be financed deters the development community from advancing projects despite improving market conditions. A financial strategy to address the site specific and district-wide impediments to TOD is critical to unlocking the estimated \$280 million of redevelopment potential in the eTRID study area.

TRID Background

eTRID represents the planning study mandated by Pennsylvania's Transit Revitalization Investment District (TRID) Act 238 of 2004 for municipalities, Counties and public transportation agencies seeking to implement a TRID based value capture strategy. Introduced with active participation by the Delaware Valley Regional Planning Commission, this innovative legislation passed by the Commonwealth seeks to facilitate TOD, especially joint development opportunities. The Act defines the processes and procedures for the creation of a designated TRID whose intent is to:

- Coordinate transportation, land use and private investment by promoting TOD and joint development.
- Increase ridership on public transportation systems while generating additional revenues for current and expanded services, capital improvements and related ongoing maintenance.
- Promote multi-municipal, cooperative approaches to generate new investment and community revitalization.
- Establish appropriate mechanisms to capture the real property taxation and other values added by TOD activities for reinvestment in the transit system and local communities.
- Encourage greater community involvement in design, implementation and investment activities.
- Leverage existing Federal and State laws and programs.

The creation of a TRID itself does not represent a direct source of upfront funding for TOD, transit improvements or other public infrastructure. Though the Act directs the PA Department of Community and Economic Development and other agencies to commit resources to assist with TRID implementation, the only funds available are for planning studies. No capital funding is currently committed directly and exclusively to TOD projects or other TRID initiatives. Developers or local public agencies seeking financial assistance must apply to other broad economic development programs.

As budgetary pressures mount at all levels of government, these funding programs are increasingly under scrutiny, continually faced with allocation cuts and thus more competitive than ever. The lack of a dedicated funding source has hindered the implementation of TRID's that have been studied throughout the Commonwealth. The Act however enables the use of a district-based tax increment financing mechanism to capture increases in real property taxes resulting from new assessed values to pay for necessary improvements detailed in the planning study. Although each features key differences regarding establishment and implementation, TIF and TRID are essentially the same financing tool based upon future tax revenues generated by projects that create new assessed value.

Significant redevelopment projects often face funding gaps that result from necessary public infrastructure. TIF assists these projects in the form of developer repayment of a portion of eligible costs incurred or by providing up front financing of certain improvements. Financing districts are created either to facilitate single projects or various projects within a defined area. In southwestern PA, TIF is most commonly applied for specific known projects rather than the district-wide model used elsewhere in the country. Both the Bakery Square and Target component of Eastside benefited from TIF.

Due to the upfront capital need to fill funding gaps, TIF typically utilizes incremental tax revenues generated to finance debt incurred to construct a project. TIF is nationally recognized as an instrument of economic development finance, but TRID is not an

established mechanism of municipal debt. Within a larger district such as TRID, much of the incremental revenue flow would be speculative at the time of establishment. The amount of upfront financing available would be dependent upon only known projects within the TRID or not available until construction is completed. These challenges limit the ability to raise initial capital funding through a TRID backed public revenue bond issuance.

Whether district-wide or project specific, TIF statutes across the country are constructed with the elimination of blight and community revitalization as primary goals. New development is expected to result in private investment and job creation. However, few TIF programs have a direct emphasis on single public policy goals such as TOD. TRID is unique in this regard with its promotion of TOD and transit improvements through comprehensive, community based planning. The eTRID value capture strategy detailed below is driven by this specific policy as a means to facilitate revitalization within the study area.

TIF could applied in an effort to foster TOD led redevelopment throughout the eTRID study area either for specific sites or on a district-wide basis. Though, there are several issues that limit the ability to implement TIF to achieve the development and infrastructure program outlined within this study. The City is limited in the value of taxable property within active TIF districts. Adding the full proposed TRID Boundary

to the existing parcels within TIF districts throughout the City would bring the URA close, if not over, the 10% statutory limit. Further, utilizing TIF for larger specific sites would limit the cohesive strategy between projects and momentum built through decades of planning.

TIF would also require a certification of 'blight' which is often contentious especially when including non-blighted parcels in a larger district. The legislative approval process for expanding a TIF boundary would be approximately twice as long per the terms of each Act. TRID can be utilized in areas regardless of the condition of property and the Act includes specific provisions for boundary expansion. With its focus on TOD principles and increased stakeholder participation, TRID is the preferred development finance tool to facilitate revitalization within the study area.

eTRID Value Capture Strategy

Pursuant to Chapter 7 of the Act, a coterminous value capture area shall be simultaneously created at the time a specific TRID boundary is determined. Establishment of this value capture boundary allows the local taxing bodies and transit agency to share incremental tax revenues generated without in the boundary to implement projects identified in the planning study. As discussed, the value capture area essentially mirrors a 20 year TOD specific TIF District with revenues dedicated to fund specific improvements and maintenance. However, revenues

may not be utilized by municipalities and counties for general government purposes or by transit agencies for capital improvements elsewhere in the system.

**eTRID Value
Capture**

**District-wide or
Project Specific
Improvements**

**New Increment
Created**

**Value Capture
Fund Increase**

Under a district-wide strategy, improvements financed would most likely facilitate further development that would create new incremental revenue. The amount available to a value capture fund would increase and allow additional district-wide or project specific improvements to be financed. This process would continue over the 20 year life of the TRID. Establishing a large value capture district, such as the full half-mile maximum radius, beyond current development opportunities would limit the total amount of increment available for planning study recommended improvements and maintenance. For example, redevelopment of a site in year 10 would provide only 10 years of new increment dedicated to a value capture fund.

As previously discussed, the recommended value capture area within the eTRID boundary would be expanded over time to accommodate redevelopment of key sites not currently within the known pipeline. Much of this potential development is dependent on key district-wide infrastructure that will allow for increased density. The expansion would respond to local market conditions and provide the greatest degree of flexibility in terms of implementing the development, transit and infrastructure recommendations in this planning study. Proposed value capture area expansions are based upon maximizing the potential value capture to fund these improvements. The recommended eTRID value capture strategy will guide investment in project specific infrastructure, district-wide improvements and maintenance.

Approximately \$65 million of incremental revenues would be generated by new projects within the TRID Boundary over 30 years by phasing the value capture areas. Implementing the full boundary today would result in significantly less TRID proceeds available for the recommended projects. Nearly \$17 million of available increment would be generated after year 20 and not captured if the value capture area was coterminous with the TRID boundary. This amount would most likely be even larger as the redevelopment potential of several sites not included in the analysis above increase after significant future district-wide improvements, such as completion of the Penn Circle Two-Way conversion, are completed. However, further revitalization efforts dependent upon this infrastructure would be limited without additional investment from the additional TRID proceeds realized only under the phased strategy.

The recommended eTRID value capture strategy combines elements of the project specific and district-wide approaches to provide a means for key investments that will facilitate TOD within the study area. To the extent possible, the strategy provides for upfront funding for larger projects to overcome challenges inherent in these urban, mixed-use developments. Other redevelopment projects will contribute to the newly created eTRID value capture fund (VC Fund) which will be utilized primarily to fund district-wide improvements. A guiding principal of the strategy will be to incentivize, not subsidize, TOD and

infrastructure development within the study area. Investments will be prioritized by their ability to facilitate further redevelopment. Like with the local TIF program, the 'but-for' test should apply where projects should only seek assistance if they cannot proceed without a TRID investment.

Sections below detail an example of how the value capture strategy could be implemented for both projects in the immediate pipeline and those further on the horizon. As with the boundaries of the value capture area, the TRID Management Entity would be responsible for determining project financing structures and VC Fund investment priorities across the district. The strategy would remain flexible to accommodate various future scenarios, but maintain the ability to provide assistance to large scale redevelopment projects as well as improvements that benefit multiple users.

Phase I Strategy

As detailed earlier, the proposed Phase I value capture area within the eTRID Boundary contains several major redevelopment projects expected to commence within the next 5 years. One of the most significant is the proposed expansion of Eastside in conjunction with reconstruction of the East Busway station. Site development and necessary public

infrastructure for Eastside III & IV are expected to exceed \$12 million with approximately \$13 million of additional costs tied to the Eastern Gateway Intermodal Center (EGIC)

Public financial assistance is necessary to fill the funding gap that results from these improvements. A top priority within the study area, the EGIC and associated Eastside site infrastructure will enable mode sharing and vastly improve connectivity. More active land use in the immediate vicinity of the new station will yield numerous benefits, especially increase transit utilization. As identified in the 2010 Community Plan, the significant transit assets in this Eastern Gateway geographic zone can be built upon to facilitate further revitalization throughout the neighborhood.

At full build-out, the project will generate an estimated \$723,864 of annual incremental real property tax and an additional \$370,610 of income tax for potential capture. The value capture strategy provides the option for a stand-alone financing specific to the project and its funding gap. These incremental revenues could support approximately \$3.25 million of TRID debt obligations or \$5.5 million if income taxes are also pledged to debt repayment. Due to required coverage, excess increment would be available annually after payment of debt service. These funds could be made available for contribution to the VC Fund or to reimburse eligible project costs. Under this scenario

an additional \$4.3 million could be provided to the developer over the term of the financing with \$1.4 million flowing back to the fund. Several district-wide TIF models across the country provide assistance only in the form of repayment for eligible project costs.

Due to the extraordinary public infrastructure cost associated with site development and the station area, this scenario assumes 100% of the City and County real property tax increment is pledged to the TRID. A diversion of 40% of annual School District revenues is assumed in line with the local TIF policy. Finally, if income taxes are also part of the TRID financing it is assumed the City and School District will each pledge 1%. These assumptions are for example only and subject to change pending review by the TRID Management Entity. Again, the implementation strategy aims to provide flexibility to account for circumstances such as the availability of other funding assistance to off-set project costs. Appendix II includes a full analysis of incremental tax revenues generated by the project and potential TRID debt structure.

The other projects within the initial eTRID value capture area do not require such large site specific public infrastructure improvements as to warrant an upfront financing. Incremental revenues generated

upon their completion would contribute to the eTRID VC Fund. Proposed projects by ELDI and East Liberty Place South will generate an estimated \$403,389 of annual incremental real property tax and an additional \$228,005 of income tax at full-build out for potential contribution to the fund. It is important to note this conservative estimate does not include incremental revenue derived from redevelopment of the Highland Building. The project is included in the Phase I boundary, and could potentially contribute to the fund after the KOZ exemption expires in 2017.

This analysis assumes only 60% of incremental real property tax revenues are pledged to the fund by each taxing body. It is anticipated this amount will be sufficient to fund recommended Phase I improvements with participation by other funding sources attracted by the TRID investments. Initial infrastructure improvements should be prioritized on the basis of their benefit to multiple users and ability to facilitate further redevelopment in the study area. Appendix III includes a full analysis of incremental tax revenues and contributions to the VC Fund over the life of the initial TRID Boundary.

The eTRID value capture strategy examines the potential of dedicating a portion of the annual increment from other Phase I projects to provide

additional support for Eastside III & IV, including the EGIC infrastructure. If an additional \$200,000 of stabilized annual incremental property tax revenues were diverted from the VC Fund to support the Eastside TRID debt, an upfront financing of approximately \$4.65 million could be made available to defray a portion of the cost of necessary public infrastructure (not including potential pledged income tax revenues). Further, approximately \$3.5 million of excess increment could be made available for developer reimbursement if appropriate.

Considering several significant projects are expected to commence within the next 5 years, the recommended value capture strategy provides yet another option for funding necessary public improvements. A pooled financing mechanism could provide funding for both site specific and district-wide infrastructure. Estimated annual increment of \$938,181 generated by Eastside III & IV, ELDI's two projects and East Liberty Place South could be pooled to support a larger TRID debt issuance.

These incremental revenues could support approximately \$5.5 million of TRID obligations or \$9.2 million if income taxes are also pledged to debt repayment. In addition, approximately \$5.7 million of excess increment, or \$7 million including pledged income taxes, could be made available for reimbursement of project costs in line with scenarios outlined

above. Financing options would be similar to those for stand-alone structures. Linking these projects together results in larger annual cash flow and less investor risk as the tax base is more diversified. Station area improvements would remain a priority use of the net proceeds generated. Additional funds could be committed to district-wide infrastructure critical to facilitating further TOD. This approach allows for more immediate availability of funds for these initiatives as opposed to waiting for VC Fund revenues to stabilize.

The initial phase also includes the proposed redevelopment of the former Reizenstein School with a mix of office, commercial and residential uses. Phase I of the boundary includes the front of the parcel along Penn Avenue which is likely to be developed first with mixed-use buildings. A boundary expansion would capture the residential components of the project as build-out continues. It is anticipated this significant project will apply for a stand-alone financing as well with estimated infrastructure costs in excess of approximately \$10 million.

At full build-out of the commercial component, the project will generate an estimated \$1,067,104 of annual incremental real property tax and an additional \$882,000 of income tax for potential capture. These incremental revenues could support approximately

\$6.25 million of TRID financing or \$10 million if income taxes are also pledged to debt repayment. Diversion assumptions, including those for income tax revenue, match those of the Eastside project due to the funding need resulting from anticipated infrastructure costs. An additional \$6.5 million could be provided to reimburse the developer over the term of the financing if appropriate. Annual increment of \$558,703 from the future residential component is assumed to be made available for the VC Fund. Appendix IV includes a full analysis of incremental tax revenues generated by the project, contributions to the fund and potential TRID debt structure.

During Phase I alone, approximately \$3.7 million, or \$7.4 million of incremental revenues if income taxes are also diverted, would be contributed to the VC Fund by these other projects (not including Reizenstein or potential Highland Building Redevelopment revenues). These incremental revenues would be available for district-wide improvements outlined in the planning study to facilitate further revitalization within the study area. Contributions to the eTRID VC Fund from future projects beyond the 5 year development pipeline would allow for even greater investment in planned infrastructure and transit facilities across the district continuing the cycle.

Strategy for Future Phases

As revitalization continues with the 2nd and 3rd recommended boundary expansions, implementation of the eITRID value capture strategy proceeds. No project specific TRID financings were analyzed so it is anticipated all available increment flows into the VC Fund. This assumes only 60% of incremental real property tax revenues are pledged to the fund by each taxing body. An increase in this diversion rate could be requested depending on the investment strategy determined and the cost of necessary improvements.

Appendix V & VI include a full analysis of incremental tax revenues and contributions to the VC Fund over the life of the later phases of the eITRID value capture area. The Phase II expansion adds another \$25.4 million of incremental revenue to the value capture fund over the 20 year period and another \$2.25 million if income taxes are also pledged. If the recommended final value capture area expansion is another \$15.7 million of incremental revenue would be available from those projects and another \$780,000 if incomes tax revenues are also captured.

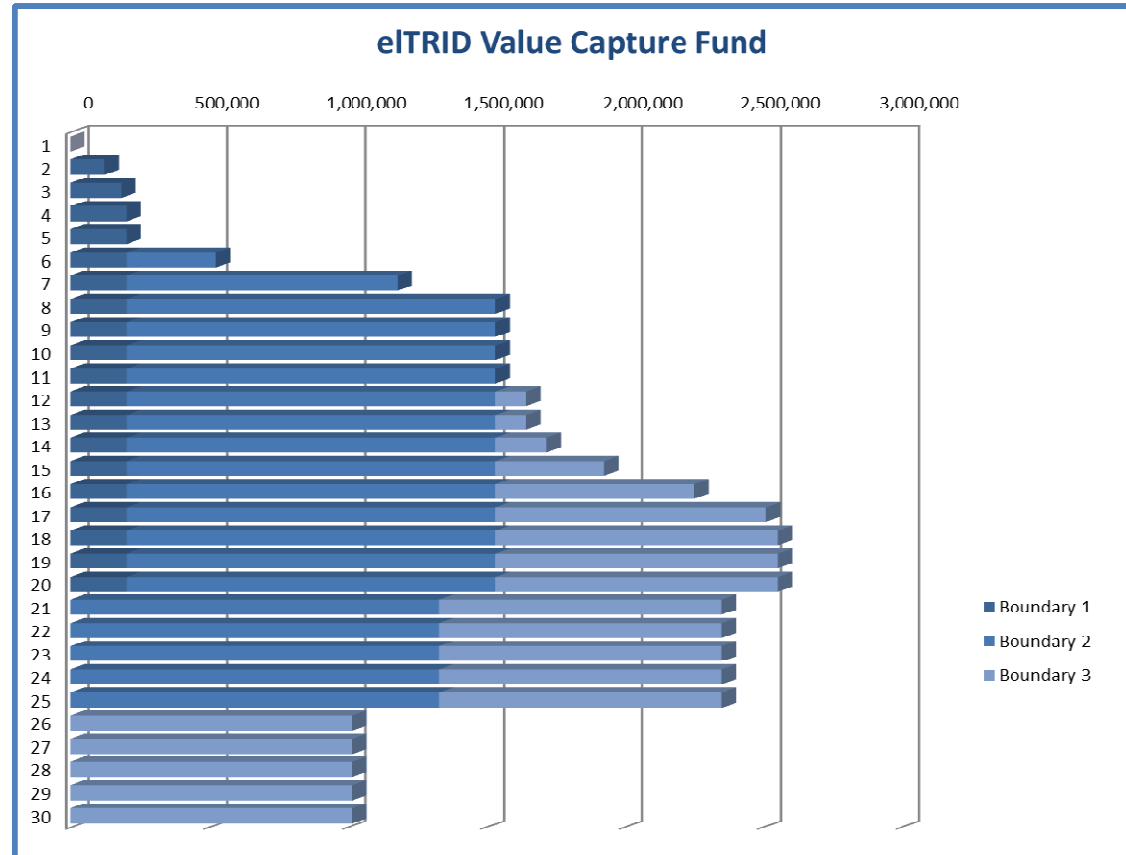
Implementation of Phase I only will result in capture of TRID proceeds insufficient to fund large scale infrastructure projects, such as the Penn Circle Conversion. For the first period until the 2nd expansion, the VC Fund should be utilized to fund additional infrastructure and other necessary planning studies that provide a level of detail greater than the recommendations presented here.

Though, some small scale gap financing can also be offered for merit projects within the initial boundary. Retention of most of the eITRID VC Fund balance will allow those revenues to combine with more significant future revenues anticipated during Phases II and III of the value capture area. Once annual TRID revenues have stabilized, larger scale district-wide improvements become more feasible.

However, note it is likely that several potential large scale redevelopment

projects noted earlier would pursue stand-alone financing, or be pooled together, in an effort to defray site development and infrastructure costs. Project specific financings could in some cases utilize less than the full amount of increment available, with the remainder diverted to the VC Fund. A key component of the value capture strategy is use of the VC Fund as a means of leverage for other potential funding sources which could help limit the amount of fund proceeds required in these transactions. Any

101

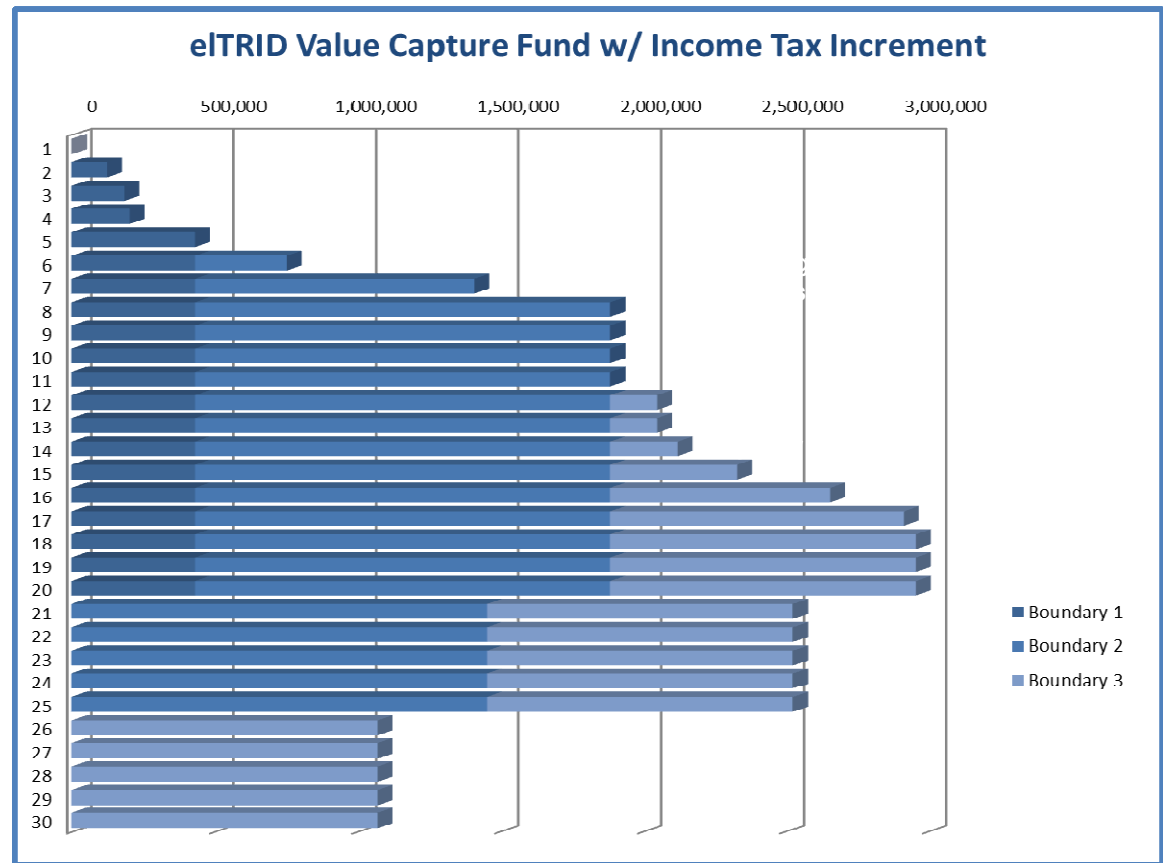


unencumbered revenues within the eTRID VC Fund could also be utilized to provide additional security to any project specific TRID debt or dedicated to pooled financing like the earlier example.

The figure above illustrates the annual incremental real property tax revenue flows into the eTRID VC Fund. When income tax increment is also pledged to the fund, the annual flows increase as illustrated in the figure on the right. The net present value of these annual revenues is \$12.3 million and \$14.7 million respectively representing a rough example of potential future financing capacity of the VC Fund. As the initial and Phase II value capture areas are retired, those tax revenues return in full to the taxing bodies and the annual amount available decreases accordingly.

Over the 30 year period until the expiration of the 3rd TRID value capture area, the VC Fund is expected to collect approximately \$44 million of incremental revenues or \$52 million if all income taxes are also diverted to the fund. The figure illustrates growth of the eTRID VC Fund over time minus potential contributions to the Eastside III & IV projects. Again, this conservative estimate does not include smaller projects, background increment or redevelopment of certain targeted sites that could be targeted following district wide infrastructure improvements.

The annual amount revenue available to the fund would be decreased if projects pursue financing based upon site specific



increment created or several projects combine for a pooled TRID debt issuance. Those projects could also seek additional contributions from the VC Fund to support TRID backed debt like the Eastside example. However, they could also return excess increment back to the fund if other funding sources are available. Remaining proceeds of the fund will be utilized for:

- District-wide infrastructure and transit improvements

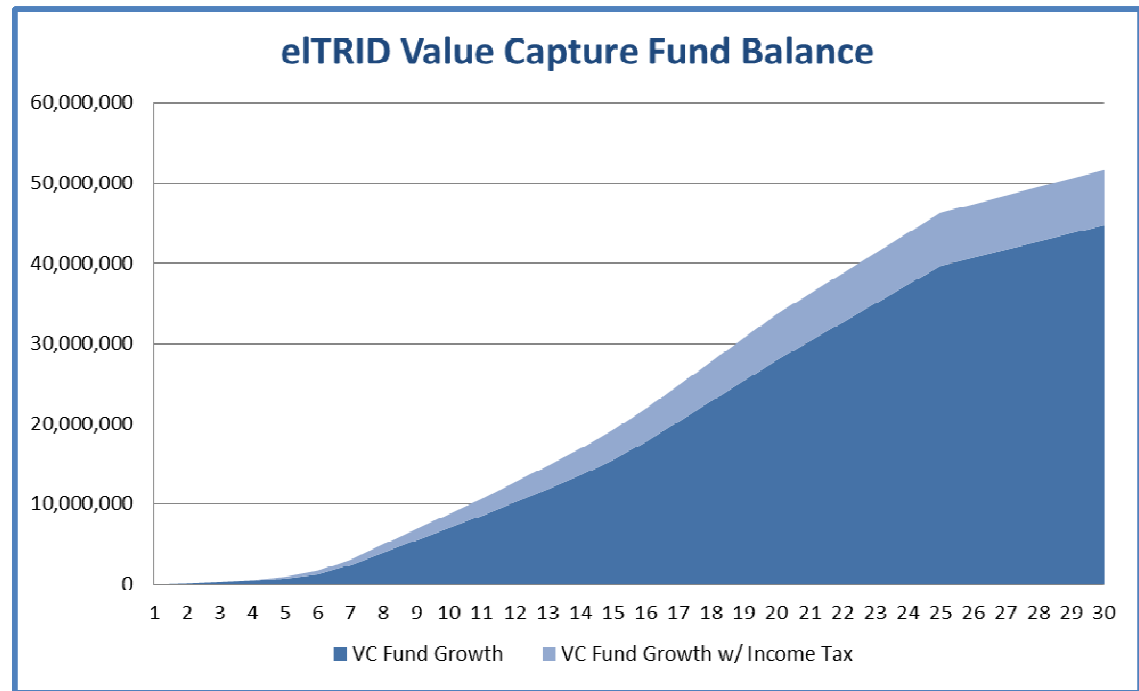
- Infrastructure maintenance
- Development site assemblage and remediation
- Contributions to larger projects that require additional funding, including pledged security
- Gap financing for smaller scale redevelopment projects to stabilize commercial core and preserve local business

As mentioned, there is a potential to eventually issue public TRID revenue bonds once the proposed development within the future eITRID Boundary has stabilized. The net present value amounts illustrated above do not factor in other potential large and small scale projects or background growth in assessed value over time. Marketability will increase significantly after full build-out once the new developments have an established history of assessments and tax payments. Any issuance could also be structured to include refinancing of stand-alone TRID debt as well.

Obviously a great amount of uncertainty exists with regard to potential increments available and use of the VC Fund beyond the first eITRID value capture area. It is recommended that the general value capture strategy remains in place to provide a balance between large scale redevelopment and smaller organic growth facilitated as the urban fabric and transit system within the study area is enhanced. Investment priorities for the VC Fund will be the responsibility of the eITRID Management Entity.

TRID Management Entity

Section 502 of the Act details creation of a management entity by the partnering municipalities similar to



103

other municipal authorities established to support transit, redevelopment activities or infrastructure development. The recommended eITRID Revitalization Authority (eITRIDRA) would be charged with implementation of value capture areas within the eITRID Boundary, the value capture strategy and the recommended VC Fund.

Membership on the eITRIDRA Board of Directors would be comprised of representatives from the participating taxing bodies, PAAC, ELDI, Shadyside Action Coalition and three at-large members from the local business community serving set terms.

Representatives of the three taxing bodies would be the only voting members of the organization as all others would only serve in an advisory role. Additional advisory would come from agencies such as PA DCED and the Southwestern Pennsylvania Commission as needed. As with the Pittsburgh Industrial Development Authority, the eITRIDRA would be housed within the URA, whose management and technical employees would provide day to day staff on behalf of the Board. The URA Executive

would serve a dual role as eITRIDRA Executive Director in preparing materials for review by the Board.

Suggested responsibilities of the eITRIDRA include:

eITRID Guidelines

- Based upon URATIF Guidelines (including elements such as the Hiring Plan, MWDBE requirements and green building)
- Set investment priorities for value capture
- Guidelines for TOD design based on eITRID recommendations

Market potential development sites within the study area

- Solicit developer interest and market TOD opportunities with assistance from URA, ELDI and Shadyside Action Coalition
- Serve as the conduit through which the PAAC can enter into joint development agreements with private developers
- Assemble and remediate development sites within the study area

Project Review

- TRID funding application similar to TIF for project requesting stand-alone financing to determine project feasibility

- Stand-alone projects can be project specific TRID financing or GAP financing from VC Fund
- Ensure market viability of proposed development
- Enter into development agreements to ensure goals of the local community
- Collect administrative fees for stand-alone financings

District-wide Improvements

- Prioritize infrastructure and transit within the study area
- Determine structure of pooled financings for district-wide improvements
- Choose agency responsible for implementation of district-wide improvements
- Solicit additional funding to offset liability of the VC Fund

Value Capture Area Boundaries

- Define areas of value capture within the proposed eITRID Boundary, expanding the area over time to correspond to market conditions

Annual Reporting

- Review of the eITRID stand-alone financings and VC fund activity

- Potential return of any unutilized incremental revenue to the taxing bodies

eITRIDRA will implement the value capture strategy which is critical to guide TOD led revitalization in the study area. Further, oversight will make certain that TOD elements are incorporated into the project design and that development builds off other investments in public infrastructure and the transit system. The strategy will blend asset preservation in stable portions.

Obviously the capture of TRID revenues within the proposed value capture areas represents taxes foregone by the local taxing bodies. Every dollar of this public investment will leverage at least six dollars of private investment. The strategy includes the ability for some revenues to be retained for general government use and a return of excess TRID revenues at certain times. However, significant economic impacts are expected within the study area following implementation of the eITRID. Estimated benefits include private investment, job creation, retention of existing jobs and other non-real property or income tax revenues/fees.

eTRID Approval and Implementation

The Act includes specific instructions as to the process of advancing a TRID from a redevelopment concept around a transit station to implementation of the proposed value capture strategy and eventual financing of specific improvements. Once a location is identified, the process of planning, program management/implementation and execution of the TRID begins over 16 defined steps.¹⁰ Some of these steps occur concurrently. eTRID represents the required Planning Study and includes a detailed discussion of future implementation through the Value Capture Strategy outlined above.

Planning

Step 1 – City and PAAC agreed to work cooperatively to create a TRID (in conjunction with other agencies on Steering Committee)

Step 2 – City selected Project Team for eTRID Planning Study to determine location, boundaries, and rationale

Step 3 – City and PAAC conducted community public meeting on eTRID facilitated by Project Team

Step 4 – eTRID is circulated to Steering Committee, revised and completed

Step 5 – City (through the Department of City Planning) and PAAC accept eTRID's findings and recommendations

Management and Implementation

Step 6 – City and PAAC hold a public meeting on eTRID Value Capture Strategy and Phase I improvements

Step 7 – City and PAAC coordinate with PPSD and the County on eTRID Value Capture Strategy (three taxing bodies authorize eTRID Resolutions)

Step 8 – City forms eTRIDRA within the URA to administer eTRID implementation

Step 9 – City, PPSD, County, URA, PAAC and eTRIDRA execute eTRID Cooperation Agreement and Tax Fund Agreements

Execution

Step 10 – eTRIDRA markets development sites and commences project review for specific redevelopment projects

Step 11 – eTRIDRA prepares project lists of public sector infrastructure improvements, including costs, phasing and maintenance based on findings of eTRID

Step 12 – Development proposals accepted by eTRIDRA

Step 13 – eTRIDRA executes Development Agreement with Developer, including eTRID financed improvements and private sector commitments - or – eTRIDRA selects contractor to complete district-wide improvements

Step 14 – Project construction and completion

Step 15 – eTRIDRA administers captured revenues and project expenditures from the eTRID Value Capture Fund in accordance with the approved eTRID Value Capture Strategy

Step 16 – Amendments to Agreement or eTRID for future phases of the value capture area

Appendix VII includes a draft of the cooperation agreement, including development agreement template, as referenced in this process. It is anticipated the eTRID VC Fund would be held with an escrow agent who would

¹⁰ Sources: Implementing Transit-Oriented Development in Pennsylvania, Delaware Valley Planning Commission (2005) and Implementing Transit Revitalization Investment Districts in Philadelphia, Econsult Corporation (2008). Revised in accordance with anticipated local implementation process based upon local TIF policies.

also act as paying agent with respect to the Fund or future TRID

106 backed obligations. A trust indenture would establish the rights, duties, responsibilities and remedies of eITRIDRA, the trustee and holders of any TRID obligations. Stand-alone financings would require a loan agreement and additional documents such as those associated with a typical TIF issuance.

Appendix I - eITRID
Total Annual TRID Value Capture

Year	Effective Base Assessed Value (1)	Estimated Assessed Value of Land & Development	Projected Real Estate Taxes (2)				Base Real Estate Taxes (3)				Projected Tax Increments				Projected Tax Increments Retained (4)	
			City of Pittsburgh		Pittsburgh Public School District	Allegheny County	City of Pittsburgh		Pittsburgh Public School District	Allegheny County	City of Pittsburgh		Pittsburgh Public School District	Allegheny County	Total	Total
			Millage==>	Millage==>	10.8	13.92	4.69	29.41								
1	8,232,825	8,232,825			88,915	114,601	38,612	242,127	88,915	114,601	38,612	242,127	-	-	-	-
2		31,914,511			344,677	444,250	149,679	938,606	88,915	114,601	38,612	242,127	255,762	329,649	111,067	696,478
3		56,153,231			606,455	781,653	263,359	1,651,467	88,915	114,601	38,612	242,127	517,540	667,052	224,747	1,409,339
4		91,952,285			993,085	1,279,976	431,256	2,704,317	88,915	114,601	38,612	242,127	904,170	1,165,375	392,644	2,462,189
5		105,077,285			1,134,835	1,462,676	492,812	3,090,323	88,915	114,601	38,612	242,127	1,045,920	1,348,075	454,201	2,848,196
6	20,033,025	116,877,485			1,262,277	1,626,935	548,155	3,437,367	216,357	278,860	93,955	589,171	1,045,920	1,348,075	454,201	2,848,196
7		137,399,501			1,483,915	1,912,601	644,404	4,040,919	216,357	278,860	93,955	589,171	1,267,558	1,633,741	550,449	3,451,748
8		173,038,751			1,868,819	2,408,699	811,552	5,089,070	216,357	278,860	93,955	589,171	1,652,462	2,129,840	717,597	4,499,898
9		178,798,051			1,931,019	2,488,869	838,563	5,258,451	216,357	278,860	93,955	589,171	1,714,662	2,210,009	744,608	4,669,279
10		192,819,801			2,082,454	2,684,052	904,325	5,670,830	216,357	278,860	93,955	589,171	1,866,097	2,405,192	810,370	5,081,659
11	105,175,504	277,962,280			3,001,993	3,869,235	1,303,643	8,174,871	1,135,895	1,464,043	493,273	3,093,212	1,866,097	2,405,192	810,370	5,081,659
12		289,046,780			3,121,705	4,023,531	1,355,629	8,500,866	1,135,895	1,464,043	493,273	3,093,212	1,985,810	2,559,488	862,356	5,407,654
13		289,046,780			3,121,705	4,023,531	1,355,629	8,500,866	1,135,895	1,464,043	493,273	3,093,212	1,985,810	2,559,488	862,356	5,407,654
14		293,246,780			3,167,065	4,081,995	1,375,327	8,624,388	1,135,895	1,464,043	493,273	3,093,212	2,031,170	2,617,952	882,054	5,531,176
15		305,284,780			3,297,076	4,249,564	1,431,786	8,978,425	1,135,895	1,464,043	493,273	3,093,212	2,161,180	2,785,521	938,513	5,885,214
16		324,144,780			3,500,764	4,512,095	1,520,239	9,533,098	1,135,895	1,464,043	493,273	3,093,212	2,364,868	3,048,052	1,026,966	6,439,886
17		339,073,280			3,661,991	4,719,900	1,590,254	9,972,145	1,135,895	1,464,043	493,273	3,093,212	2,526,096	3,255,857	1,096,981	6,878,934
18		339,073,280			3,661,991	4,719,900	1,590,254	9,972,145	1,135,895	1,464,043	493,273	3,093,212	2,526,096	3,255,857	1,096,981	6,878,934
19		339,073,280			3,661,991	4,719,900	1,590,254	9,972,145	1,135,895	1,464,043	493,273	3,093,212	2,526,096	3,255,857	1,096,981	6,878,934
20		339,073,280			3,661,991	4,719,900	1,590,254	9,972,145	1,135,895	1,464,043	493,273	3,093,212	2,526,096	3,255,857	1,096,981	6,878,934
21	-105,077,283	233,995,995			2,527,157	3,257,224	1,097,441	6,881,822	1,046,980	1,349,442	454,661	2,851,083	1,480,177	1,907,782	642,780	4,030,739
22		233,995,995			2,527,157	3,257,224	1,097,441	6,881,822	1,046,980	1,349,442	454,661	2,851,083	1,480,177	1,907,782	642,780	4,030,739
23		233,995,995			2,527,157	3,257,224	1,097,441	6,881,822	1,046,980	1,349,442	454,661	2,851,083	1,480,177	1,907,782	642,780	4,030,739
24		233,995,995			2,527,157	3,257,224	1,097,441	6,881,822	1,046,980	1,349,442	454,661	2,851,083	1,480,177	1,907,782	642,780	4,030,739
25		233,995,995			2,527,157	3,257,224	1,097,441	6,881,822	1,046,980	1,349,442	454,661	2,851,083	1,480,177	1,907,782	642,780	4,030,739
26	-87,742,516	146,253,479			1,579,538	2,035,848	685,929	4,301,315	919,538	1,185,183	399,318	2,504,039	660,000	850,665	286,611	1,797,276
27		146,253,479			1,579,538	2,035,848	685,929	4,301,315	919,538	1,185,183	399,318	2,504,039	660,000	850,665	286,611	1,797,276
28		146,253,479			1,579,538	2,035,848	685,929	4,301,315	919,538	1,185,183	399,318	2,504,039	660,000	850,665	286,611	1,797,276
29		146,253,479			1,579,538	2,035,848	685,929	4,301,315	919,538	1,185,183	399,318	2,504,039	660,000	850,665	286,611	1,797,276
30		146,253,479			1,579,538	2,035,848	685,929	4,301,315	919,538	1,185,183	399,318	2,504,039	660,000	850,665	286,611	1,797,276
					66,188,193	85,309,227	28,742,836	180,240,255	22,717,900	29,280,858	9,865,460	61,864,219	43,470,293	56,028,368	18,877,375	35,045,082
													37%	47%	16%	100%
																30%

Line denotes expansion of value capture area within eITRID Boundary. Additional contributions to base district value result from expansion. Actual base at time of expansion likely to be higher.

(1) Base assessed value corresponds to effective value capture area phased over time (total base includes certain tax exempt parcels).

(2) Does not assume background incremental growth of other parcels included in the eITRID boundary.

(3) Portions of district currently tax exempt and not included in base tax calculations.

(4) Estimated increment retained by the taxing bodies specific to the proposed eITRID Value Capture Strategy.

Appendix II - eITRID
Private Development Summary - Eastside III & IV TOD Project

Use	Square Footage or Rooms	Acres	Phasing	Total Private Development (1)	Estimated Assessed Value
Hotel	127		Year 4	17,882,716	9,525,000
Mixed-Use Bldg 1: Retail Office	19,390 68,550		Year 2	20,069,019	9,157,578
Mixed-Use Bldg 2: Retail Office	12,105 46,080		Year 3	13,467,195	6,102,883
Infrastructure	-		Yr 1 & 2	12,000,000	
Land	-	2.84		6,246,446	1,428,807
TOTAL	146,125 127	2.84		69,665,376	26,214,267

(1) Includes value of site preparation, soft costs and building construction.

Parcel - Owner	Base Assessed Value	Base Taxes	Acres
84-F-183 - Eastside Limited Partnership III	74,800.00	2,199.87	0.21
84-G-27 - Eastside Limited Partnership III	140,900.00	4,143.87	0.47
84-G-27-1 - PAAC	1,600.00	-	0.02
84-G-26 - Eastside Limited Partnership III	1,040,900.00	30,612.87	0.77
84-G-14 - Eastside Limited Partnership III	38,100.00	1,120.52	0.31
84-G-14-1 - PAAC	40,900.00	-	0.07
84-C-55 - Eastside Limited Partnership III	306,700.00	9,020.05	0.51
84-C-57 - PAAC	2,887,000.00	-	0.35
84-C-72 - PAAC	1,100.00	-	0.05
84-C-74 - PAAC	5,600.00	-	0.08
	4,537,600.00	47,097.17	2.84
		1,601,400.00	

Appendix II - eTRID
Real Property Tax Increments - Eastside III & IV TOD Project

Year	Estimated Assessed Value of Land & Developmont	Projected Real Estate Taxes				Base Real Estate Taxes (1) Pittsburgh Public				Projected Tax Increments			
		City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total
	Millage==>	10.8	13.92	4.69	29.41								
1	1,601,400	17,295	22,291	7,511	47,097	17,295	22,291	7,511	47,097	-	-	-	-
2	10,586,385	114,333	147,362	49,650	311,346	17,295	22,291	7,511	47,097	97,038	125,071	42,140	264,248
3	16,689,267	180,244	232,315	78,273	490,831	17,295	22,291	7,511	47,097	162,949	210,023	70,762	443,734
4	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
5	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
6	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
7	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
8	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
9	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
10	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
11	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
12	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
13	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
14	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
15	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
16	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
17	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
18	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
19	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
20	26,214,267	283,114	364,903	122,945	770,962	17,295	22,291	7,511	47,097	265,819	342,611	115,434	723,864
		5,107,517	6,583,021	2,217,986	13,908,524					4,778,909	6,159,483	2,075,286	13,013,678
										37%	47%	16%	100%

(1) Portions of development site currently tax exempt due to PAAC ownership.

Appendix II - eITRID
Pledged Real Property Tax Increments - Eastside III & IV TOD Project

Tax Increment					Tax Increment to Taxing Bodies					Pledged Tax Increment to TRID					
	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	Discounted Pledged Tax Increment (1)		
Year	Pittsburgh	District	County		Pittsburgh	District	County		Pittsburgh	District	County				
					0%	40%	0%		100%	60%	100%				
1	-	-	-	-	-	-	-	-	-	-	-	-	-		
2	97,038	125,071	42,140	264,248	-	50,028	-	50,028	97,038	75,043	42,140	214,220	209,936		
3	162,949	210,023	70,762	443,734	-	84,009	-	84,009	162,949	126,014	70,762	359,725	352,530		
4	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
5	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
6	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
7	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
8	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
9	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
10	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
11	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
12	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
13	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
14	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
15	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
16	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
17	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
18	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
19	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
20	265,819	342,611	115,434	723,864	-	137,044	-	137,044	265,819	205,567	115,434	586,820	575,084		
	4,778,909	6,159,483	2,075,286	13,013,678	-	2,463,793	-	2,463,793	4,778,909	3,695,690	2,075,286	10,549,885	10,338,887		

(1) Discount for full payment of tax bill on time 2%

Appendix II - eTRID
Potential TRID Debt - Eastside III & IV TOD Project

	Pledged Tax Increment Available	Debt Service	Balance Available After Debt Service Payment (1)	Cumulative Available Cash AFTER Debt Service (2)	Cash to Developer Repayment	Cash to TRID VC Fund
1	-	-	-	-	-	-
2	209,936	-	209,936	209,936	-	-
3	352,530	-	352,530	562,466	-	-
4	575,084	356,296	218,788	781,254	164,091	54,697
5	575,084	356,296	218,788	1,000,041	164,091	54,697
6	575,084	356,296	218,788	1,218,829	164,091	54,697
7	575,084	356,296	218,788	1,437,616	164,091	54,697
8	575,084	356,296	218,788	1,656,404	164,091	54,697
9	575,084	356,296	218,788	1,875,192	164,091	54,697
10	575,084	356,296	218,788	2,093,979	164,091	54,697
11	575,084	356,296	218,788	2,312,767	164,091	54,697
12	575,084	356,296	218,788	2,531,554	164,091	54,697
13	575,084	356,296	218,788	2,750,342	164,091	54,697
14	575,084	356,296	218,788	2,969,129	164,091	54,697
15	575,084	356,296	218,788	3,187,917	164,091	54,697
16	575,084	356,296	218,788	3,406,705	164,091	54,697
17	575,084	356,296	218,788	3,625,492	164,091	54,697
18	575,084	356,296	218,788	3,844,280	164,091	54,697
19	575,084	356,296	218,788	4,063,067	164,091	54,697
20	575,084	356,296	218,788	4,281,855	164,091	54,697
	10,338,887	6,057,032			2,789,542	929,847

NPV = 4,624,045

Assumptions

Principal	3,250,000		
Interest	8.00% per Year	Cash Flow	575,084
Term	20 Years	w/ coverage	383,389
Ammoritization	17 Years	w/ coverage - fees	368,389
Debt Service	356,296	PV	3,360,312
DCR	1.50		

(1) Anticipated Cash Flow After Debt Service would be used to reimburse eligible project costs and flow to the eTRID VC Fund.

(2) Cumulative Cash Flow could alternatively be used to prepay TRID Debt.

Appendix II - eTRID
Pledged Income Tax Increment - Eastside III & IV TOD Project

Use	Square Footage or Rooms	Employees Per 1,000 SF or Room	Employment Projection	Average Annual Wage Rate	Total Annual Wages	City of Pittsburgh Income Tax	Pittsburgh Public School District Income Tax	Total Annual Income Tax Increment Available
Hotel	127	0.03	4	25,000	95,250	953	953	1,905
Mixed-Use Bldg 1:								
Retail	19,390	2	39	25,000	969,500	9,695	9,695	19,390
Office	68,550	2.5	171	75,000	12,853,125	128,531	128,531	257,063
Mixed-Use Bldg 2:								
Retail	12,105	2	24	25,000	605,250	6,053	6,053	12,105
Office	46,080	2.5	115	75,000	8,640,000	86,400	86,400	172,800
								463,263
								370,610 (1)
						Over Life of the TRID:		6,300,370

*Discounted not all workers will live in the City of Pittsburgh.

Appendix II - eITRID

Potential TRID Debt w/ Income Tax Increment - Eastside III & IV TOD Project

	Pledged Tax Increment Available	Debt Service	Balance Available After Debt Service Payment (1)	Cumulative Available Cash AFTER Debt Service (2)	Cash to Developer Repayment	Cash to TRID VC Fund
1	-	-	-	-	-	-
2	209,936	-	209,936	209,936	-	-
3	575,084	-	575,084	785,019	-	-
4	945,694	602,962	342,732	1,127,751	257,049	85,683
5	945,694	602,962	342,732	1,470,483	257,049	85,683
6	945,694	602,962	342,732	1,813,215	257,049	85,683
7	945,694	602,962	342,732	2,155,947	257,049	85,683
8	945,694	602,962	342,732	2,498,679	257,049	85,683
9	945,694	602,962	342,732	2,841,411	257,049	85,683
10	945,694	602,962	342,732	3,184,143	257,049	85,683
11	945,694	602,962	342,732	3,526,875	257,049	85,683
12	945,694	602,962	342,732	3,869,607	257,049	85,683
13	945,694	602,962	342,732	4,212,339	257,049	85,683
14	945,694	602,962	342,732	4,555,071	257,049	85,683
15	945,694	602,962	342,732	4,897,803	257,049	85,683
16	945,694	602,962	342,732	5,240,535	257,049	85,683
17	945,694	602,962	342,732	5,583,267	257,049	85,683
18	945,694	602,962	342,732	5,925,999	257,049	85,683
19	945,694	602,962	342,732	6,268,731	257,049	85,683
20	945,694	602,962	342,732	6,611,463	257,049	85,683
	16,861,817	10,250,354			4,369,833	1,456,611

NPV = 7,484,323

Assumptions

Principal	5,500,000		
Interest	8.00% per Year	Cash Flow	947,694
Term	20 Years	w/ coverage	631,796
Amortization	17 Years	w/ coverage - fees	616,796
Debt Service	602,962	PV	5,626,190
DCR	1.50		

(1) Anticipated Cash Flow After Debt Service would be used to reimburse eligible project costs and flow to the eITRID VC Fund.

(2) Cumulative Cash Flow could alternatively be used to prepay TRID Debt.

Appendix II - eITRID

Potential TRID Debt w/ Additional Increment from VC Fund - Eastside III & IV TOD Project

	Pledged Tax Increment Available	Pledged Tax Increment Available From VC Fund	Total Increment Available	Debt Service	Balance Available After Debt Service Payment (1)	Cumulative Available Cash AFTER Debt Service (2)		Cash to Developer Repayment
1	-	-	-	-	-	-		-
2	209,936	75,000	284,936	-	284,936	284,936		-
3	352,530	100,000	452,530	496,165	-43,635	241,301		-
4	575,084	200,000	775,084	496,165	278,919	520,220		209,189
5	575,084	200,000	775,084	496,165	278,919	799,138		209,189
6	575,084	200,000	775,084	496,165	278,919	1,078,057		209,189
7	575,084	200,000	775,084	496,165	278,919	1,356,975		209,189
8	575,084	200,000	775,084	496,165	278,919	1,635,894		209,189
9	575,084	200,000	775,084	496,165	278,919	1,914,813		209,189
10	575,084	200,000	775,084	496,165	278,919	2,193,731		209,189
11	575,084	200,000	775,084	496,165	278,919	2,472,650		209,189
12	575,084	200,000	775,084	496,165	278,919	2,751,568		209,189
13	575,084	200,000	775,084	496,165	278,919	3,030,487		209,189
14	575,084	200,000	775,084	496,165	278,919	3,309,405		209,189
15	575,084	200,000	775,084	496,165	278,919	3,588,324		209,189
16	575,084	200,000	775,084	496,165	278,919	3,867,243		209,189
17	575,084	200,000	775,084	496,165	278,919	4,146,161		209,189
18	575,084	200,000	775,084	496,165	278,919	4,425,080		209,189
19	575,084	200,000	775,084	496,165	278,919	4,703,998		209,189
20	575,084	200,000	775,084	496,165	278,919	4,982,917		209,189
	10,338,887			8,930,970				3,556,212

NPV = 6,215,939

Assumptions

Principal	4,650,000		
Interest	8.00% per Year	Cash Flow	775,084
Term	20 Years	w/ coverage	516,722
Amortization	18 Years	w/ coverage - fees	501,722
Debt Service	496,165	PV	4,702,086
DCR	1.50		

(1) Anticipated Cash Flow After Debt Service would be used to reimburse eligible project costs or flow back to eITRID VC Fund.

(2) Cumulative Cash Flow could alternatively be used to prepay TRID Debt.

Appendix III - eI TRID
Private Development Summary - Years 1-5 Development Projects

Use	Square Footage or Rooms or Units	Acres	Phasing	Total Private Development (1)	Estimated Assessed Value
Hotel	65		Year 3	5,500,000	5,010,837
Mixed-Use Bldg:			Year 2	18,000,000	13,095,301
Retail	8,500				
Theater					
Office	63,000				
Mixed-Use Bldg:			Year 4	12,500,000	6,853,304
Retail	24,000				
Residential	75				
Land	-	2.44	Immediate		
TOTAL	95,575 65 75	2.44		36,000,000	24,959,441

(1) Includes value of site preparation, soft costs and building construction.

Parcel - Owner	Base Assessed Value	Base Taxes	Acres
<i>Odeon Project</i>			
84-B-59 - ELDI	350,000	10,294	0.25
84-C-41 - ELDI	97,500	2,867	0.05
84-C-42 - ELDI	108,000	3,176	0.06
84-C-43 - 100 Sheridan Square Associates	374,000	10,999	0.09
84-C-39 - ELDI	153,300	4,509	0.05
	1,082,800	31,845	0.5
<i>ACE Hotel</i>			
84-B-210 - ELDI	550,000	16,176	0.27
<i>East Liberty Place South</i>			
84-B-173 - URA	585,600	-	0.86
84-B-172 - URA	48,200	-	0.45
84-B-500-0-1 - URA	25,900	-	0.12
84-B-500-0-2 - URA	50,000	-	0.24
	709,700		1.67
	2,218,400	48,021	2.44
		1,632,800	

Appendix III - eTRID
Real Property Tax Increments - Years 1-5 Development Projects

Projected Real Estate Taxes						Base Real Estate Taxes (1)				Projected Tax Increments			
Year	Estimated Assessed Value of Land & Developmpt <i>Millage==></i>	Pittsburgh				Pittsburgh Public				Pittsburgh			
		City of Pittsburgh	Public School District	Allegheny County	Total	City of Pittsburgh	School District	Allegheny County	Total	City of Pittsburgh	Public School District	Allegheny County	Total
		10.8	13.92	4.69	29.41								
1	1,632,800	17,634	22,729	7,658	48,021	17,634	22,729	7,658	48,021	-	-	-	-
2	13,095,301	141,429	182,287	61,417	385,133	17,634	22,729	7,658	48,021	123,795	159,558	53,759	337,112
3	18,106,138	195,546	252,037	84,918	532,502	17,634	22,729	7,658	48,021	177,912	229,309	77,260	484,481
4	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
5	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
6	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
7	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
8	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
9	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
10	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
11	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
12	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
13	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
14	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
15	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
16	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
17	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
18	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
19	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
20	24,959,441	269,562	347,435	117,060	734,057	17,634	22,729	7,658	48,021	251,928	324,707	109,402	686,037
		4,919,529	6,340,726	2,136,351	13,396,606					4,584,478	5,908,883	1,990,852	12,484,214
										37%	47%	16%	100%

(1) Portions of development site currently tax exempt due to URA ownership.

Appendix III - eTRID
Pledged Real Property Tax Increments - Years 1-5 Development Projects

Tax Increment					Tax Increment to Taxing Bodies					Pledged Tax Increment to TRID				
	City of Pittsburgh	Pittsburgh Public School District	Allegheny County		City of Pittsburgh	Pittsburgh Public School District	Allegheny County		City of Pittsburgh	Pittsburgh Public School District	Allegheny County		Discounted Pledged Tax Increment (1)	
Year	Pittsburgh	District	County	Total	Pittsburgh	District	County	Total	Pittsburgh	District	County	Total		
					40%	40%	40%		60%	60%	60%			
1	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	123,795	159,558	53,759	337,112	49,518	63,823	21,504	134,845	74,277	95,735	32,255	202,267	198,222	
3	177,912	229,309	77,260	484,481	71,165	91,724	30,904	193,792	106,747	137,585	46,356	290,689	284,875	
4	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
5	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
6	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
7	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
8	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
9	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
10	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
11	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
12	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
13	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
14	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
15	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
16	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
17	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
18	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
19	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
20	251,928	324,707	109,402	686,037	100,771	129,883	43,761	274,415	151,157	194,824	65,641	411,622	403,389	
	4,584,478	5,908,883	1,990,852	12,484,214	1,833,791	2,363,553	796,341	4,993,686	2,750,687	3,545,330	1,194,511	7,490,528	7,340,718	

(1) Discount for full payment of tax bill on time 2%

3,317,050

Appendix III - eTRID
Pledged Income Tax Increment - Years 1-5 Development Projects

Use	Square Footage or Rooms	Employees Per 1,000 SF or Room	Employment Projection	Average Annual Wage Rate	Total Annual Wages	City of Pittsburgh Income Tax	Pittsburgh Public School District Income Tax	Total Annual Income Tax Increment Available
Hotel	65	0.03	2	25,000	48,750	488	488	975
Mixed-Use Bldg 1:								
Retail (2)	8,500	6	17	25,000	425,000	4,250	4,250	8,500
Theater (3)			30	25,000	750,000	7,500	7,500	15,000
Office	63,000	2.5	158	75,000	11,812,500	118,125	118,125	236,250
Mixed-Use Bldg 2:								
Retail	24,000	2	48	25,000	1,200,000	12,000	12,000	24,000
Office	75	2.5	0	75,000	14,063	141	141	281
								285,006
								228,005 (1)
						Over Life of the TRID:		3,876,085

(1) Discounted not all workers will live in the City of Pittsburgh.
(2) Assume restaurant use.
(3) From ERA Study.

Appendix III - eTRID

TRID Fund Balance - Years 1-5 Development Projects

	Annual Property Tax Increment Available	Proceeds to Eastside (1)	Total		Annual Income Tax Increment Available	Total with Income Tax Increment
1	-	-	-		-	-
2	198,222	75,000	123,222		-	123,222
3	284,875	100,000	184,875		-	184,875
4	403,389	200,000	203,389		-	203,389
5	403,389	200,000	203,389		228,005	431,394
6	403,389	200,000	203,389		228,005	431,394
7	403,389	200,000	203,389		228,005	431,394
8	403,389	200,000	203,389		228,005	431,394
9	403,389	200,000	203,389		228,005	431,394
10	403,389	200,000	203,389		228,005	431,394
11	403,389	200,000	203,389		228,005	431,394
12	403,389	200,000	203,389		228,005	431,394
13	403,389	200,000	203,389		228,005	431,394
14	403,389	200,000	203,389		228,005	431,394
15	403,389	200,000	203,389		228,005	431,394
16	403,389	200,000	203,389		228,005	431,394
17	403,389	200,000	203,389		228,005	431,394
18	403,389	200,000	203,389		228,005	431,394
19	403,389	200,000	203,389		228,005	431,394
20	403,389	200,000	203,389		228,005	431,394
	7,340,718	3,575,000	3,765,718		3,648,080	7,413,798

Appendix IV - eITRID
Private Development Summary - Fromer Reizenstein School Redevelopment Project

Use	Square Footage or Rooms	Acres	Phasing	Total Private Development (1)	Estimated Assessed Value
Mixed-Use Bldg 1:			Year 3	18,000,000	13,125,000
Retail	30,000				
Office	90,000				
Mixed-Use Bldg 2:			Year 4	18,000,000	13,125,000
Retail	30,000				
Office	90,000				
Mixed-Use Bldg 3:			Year 5	18,000,000	13,125,000
Retail	30,000				
Office	90,000				
Stand Alone Commercial	10,000		Year 4	1,700,000	2,100,000
Single Family Detached	20		Year 7	5,000,000	7,000,000
Single Family Attached	70		Year 8	13,545,000	14,000,000
Infrastructure	-		Yr 1 & 2	8,000,000	
Land	-	12.91	Year 4	5,400,000	4,195,750
			Year 8		4,195,750
TOTAL	370,000	12.91		\$87,645,000	\$70,866,500
	90				

(1) Includes value of building construction.

Parcel - Owner	Base Assessed Value	Base Taxes	Acres
84-M-130 B of Edu	22,920,500.0	-	12.91

Appendix IV - eTRID
Real Property Tax Increments - Fromer Reizenstein School Redevelopment Project

		Projected Real Estate Taxes				Base Real Estate Taxes (1)				Projected Tax Increments			
		City of	Pittsburgh	Allegheny	Total	City of	Pittsburgh	Allegheny	Total	City of	Pittsburgh	Allegheny	Total
		Pittsburgh	Public School District	County		Pittsburgh	Public School District	County		Pittsburgh	Public School District	County	
Year	Estimated Assessed Value of Land & Developpent (2)												
	Millage==>	10.8	13.92	4.69	29.41								
1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-
3	13,125,000	141,750	182,700	61,556	386,006	-	-	-	-	141,750	182,700	61,556	386,006
4	32,545,750	351,494	453,037	152,640	957,171	-	-	-	-	351,494	453,037	152,640	957,171
5	45,670,750	493,244	635,737	214,196	1,343,177	-	-	-	-	493,244	635,737	214,196	1,343,177
6	45,670,750	493,244	635,737	214,196	1,343,177	-	-	-	-	493,244	635,737	214,196	1,343,177
7	52,670,750	568,844	733,177	247,026	1,549,047	-	-	-	-	568,844	733,177	247,026	1,549,047
8	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
9	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
10	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
11	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
12	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
13	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
14	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
15	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
16	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
17	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
18	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
19	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
20	70,866,500	765,358	986,462	332,364	2,084,184	-	-	-	-	765,358	986,462	332,364	2,084,184
21	24,195,750	261,314	336,805	113,478	711,597	-	-	-	-	261,314	336,805	113,478	711,597
22	24,195,750	261,314	336,805	113,478	711,597	-	-	-	-	261,314	336,805	113,478	711,597
23	24,195,750	261,314	336,805	113,478	711,597	-	-	-	-	261,314	336,805	113,478	711,597
24	24,195,750	261,314	336,805	113,478	711,597	-	-	-	-	261,314	336,805	113,478	711,597
25	24,195,750	261,314	336,805	113,478	711,597	-	-	-	-	261,314	336,805	113,478	711,597
		13,304,804	17,148,413	5,777,734	36,230,951					13,304,804	17,148,413	5,777,734	36,230,951
		37%	47%	16%	100%								

(1) Portions of development site currently tax exempt due to PAAC ownership.

(2) TRID for Phase I expires in Year 20.

Appendix IV - eTRID

Pledged Real Property Tax Increments - Fromer Reizenstein School Redevelopment Project

Tax Increment					Tax Increment to Taxing Bodies					Pledged Tax Increment to TRID					Discounted Pledged Tax Increment (1)
Year	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total		City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total		
					0%	40%	0%			100%	60%	100%			
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	141,750	182,700	61,556	386,006	-	73,080	-	73,080	141,750	109,620	61,556	312,926	306,668		
4	351,494	453,037	152,640	957,171	-	181,215	-	181,215	351,494	271,822	152,640	775,956	760,437		
5	493,244	635,737	214,196	1,343,177	-	254,295	-	254,295	493,244	381,442	214,196	1,088,882	1,067,104		
6	493,244	635,737	214,196	1,343,177	-	254,295	-	254,295	493,244	381,442	214,196	1,088,882	1,067,104		
7	568,844	733,177	247,026	1,549,047	-	293,271	-	293,271	568,844	439,906	247,026	1,255,776	1,230,661		
8	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
9	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
10	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
11	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
12	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
13	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
14	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
15	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
16	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
17	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
18	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
19	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
20	765,358	986,462	332,364	2,084,184	-	394,585	-	394,585	765,358	591,877	332,364	1,689,599	1,655,807		
21	261,314	336,805	113,478	711,597	-	134,722	-	134,722	261,314	202,083	113,478	576,875	576,875		
22	261,314	336,805	113,478	711,597	-	134,722	-	134,722	261,314	202,083	113,478	576,875	576,875		
23	261,314	336,805	113,478	711,597	-	134,722	-	134,722	261,314	202,083	113,478	576,875	576,875		
24	261,314	336,805	113,478	711,597	-	134,722	-	134,722	261,314	202,083	113,478	576,875	576,875		
25	261,314	336,805	113,478	711,597	-	134,722	-	134,722	261,314	202,083	113,478	576,875	576,875		
	13,304,804	17,148,413	5,777,734	36,230,951	-	6,185,756	-	6,185,756	13,304,804	10,289,048	5,777,734	29,371,586	28,841,841		

(1) Discount for full payment of tax bill on time 2%

Appendix IV - eITRID
Potenital TRID Debt - Fromer Reizenstein School Redevelopment Project

	Pledged Tax Increment Available - Phase I	Debt Service	Balance Available After Debt Service Payment (1)	Cumulative Available Cash AFTER Debt Service (2)	Pledged Tax Increment Available for VC Fund- Phase II (3)
1	-	-	-	-	-
2	-	-	-	-	-
3	306,668	-	306,668	306,668	-
4	760,437	685,184	75,253	381,920	-
5	1,067,104	685,184	381,920	763,841	-
6	1,067,104	685,184	381,920	1,145,761	-
7	1,067,104	685,184	381,920	1,527,682	163,557
8	1,067,104	685,184	381,920	1,909,602	588,703
9	1,067,104	685,184	381,920	2,291,522	588,703
10	1,067,104	685,184	381,920	2,673,443	588,703
11	1,067,104	685,184	381,920	3,055,363	588,703
12	1,067,104	685,184	381,920	3,437,283	588,703
13	1,067,104	685,184	381,920	3,819,204	588,703
14	1,067,104	685,184	381,920	4,201,124	588,703
15	1,067,104	685,184	381,920	4,583,045	588,703
16	1,067,104	685,184	381,920	4,964,965	588,703
17	1,067,104	685,184	381,920	5,346,885	588,703
18	1,067,104	685,184	381,920	5,728,806	588,703
19	1,067,104	685,184	381,920	6,110,726	588,703
20	1,067,104	685,184	381,920	6,492,646	588,703
21					588,703
22					588,703
23					588,703
24					588,703
25					588,703
	18,140,774	11,648,128			10,760,211

NPV = 7,744,989

Assumptions

Principal	6,250,000		
Interest	8.00% per Year	Cash Flow	1,067,104
Term	20 Years	w/ coverage	711,403
Ammoritization	17 Years	w/ coverage - fees	696,403
Debt Service	685,184	PV	6,352,333
DCR	1.50		

(1) Anticipated Cash Flow After Debt Service would be used to reimburse eligible project costs.

(2) Cumulative Cash Flow could alternatively be used to prepay TRID Debt.

(3) Phase II increment diverted to TRID VC Fund.

Appendix IV - eITRID

Pledged Income Tax Increment - Fromer Reizenstein School Redevelopment Project

Use	Square Footage or Rooms	Employees Per 1,000 SF or Room	Employment Projection	Average Annual Wage Rate	Total Annual Wages	City of Pittsburgh Income Tax	Pittsburgh Public School District Income Tax	Total Annual Income Tax Increment Available (1)
Mixed-Use Bldg 1:								
Retail	30,000	2	60	25,000	1,500,000	15,000	15,000	30,000
Office	90,000	2.5	225	75,000	16,875,000	168,750	168,750	337,500
Mixed-Use Bldg 2:								
Retail	30,000	2	60	25,000	1,500,000	15,000	15,000	30,000
Office	90,000	2.5	225	75,000	16,875,000	168,750	168,750	337,500
Mixed-Use Bldg 1:								
Retail	30,000	2	60	25,000	1,500,000	15,000	15,000	30,000
Office	90,000	2.5	225	75,000	16,875,000	168,750	168,750	337,500
								1,102,500
								882,000
Over Life of the TRID:								13,230,000

(1) Discounted not all workers will live in the City of Pittsburgh.

Appendix IV - eTRID

Potential TRID Debt w/ Income Tax Increment - Fromer Reizenstein School Redevelopment Project

	Pledged Tax Increment Available	Debt Service	Balance Available After Debt Service Payment*	Cumulative Available Cash AFTER Debt Service*
1	-	-	-	-
2	-	-	-	-
3	306,668	-	306,668	306,668
4	760,437	1,205,924	-445,487	-138,820
5	1,067,104	1,205,924	-138,820	-277,639
6	1,949,104	1,205,924	743,180	465,541
7	1,949,104	1,205,924	743,180	1,208,721
8	1,949,104	1,205,924	743,180	1,951,901
9	1,949,104	1,205,924	743,180	2,695,081
10	1,949,104	1,205,924	743,180	3,438,261
11	1,949,104	1,205,924	743,180	4,181,441
12	1,949,104	1,205,924	743,180	4,924,621
13	1,949,104	1,205,924	743,180	5,667,801
14	1,949,104	1,205,924	743,180	6,410,981
15	1,949,104	1,205,924	743,180	7,154,161
16	1,949,104	1,205,924	743,180	7,897,341
17	1,949,104	1,205,924	743,180	8,640,521
18	1,949,104	1,205,924	743,180	9,383,701
19	1,949,104	1,205,924	743,180	10,126,881
20	1,949,104	1,205,924	743,180	10,870,061
	31,370,769	20,500,708		

NPV = 12,883,023

Assumptions

Principal	11,000,000		
Interest	8.00% per Year	Cash Flow	1,949,104
Term	20 Years	w/ coverage	1,299,403
Ammoritization	17 Years	w/ coverage - fees	1,284,403
Debt Service	1,205,924	PV	11,715,859
DCR	1.50		

(1) Phase I increment only.

(2) Anticipated Cash Flow After Debt Service would flow to the TRID Value Capture Fund or prepay TRID Debt.

Appendix V - eITRID
Real Property Tax Increments - Years 5-10 Development Projects

Year	Estimated Assessed Value of Land & Development	Projected Real Estate Taxes				Base Real Estate Taxes (1)				Projected Tax Increments			
		City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total
	Millage==>	10.8	13.92	4.69	29.41								
1	2,229,200	24,075	31,030	10,455	65,561	24,075	31,030	10,455	65,561	-	-	-	-
2	13,522,016	146,038	188,226	63,418	397,682	24,075	31,030	10,455	65,561	121,962	157,196	52,963	332,122
3	30,965,516	334,428	431,040	145,228	910,696	24,075	31,030	10,455	65,561	310,352	400,010	134,773	845,135
4	36,724,816	396,628	511,209	172,239	1,080,077	24,075	31,030	10,455	65,561	372,553	480,179	161,784	1,014,516
5	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
6	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
7	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
8	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
9	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
10	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
11	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
12	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
13	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
14	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
15	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
16	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
17	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
18	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
19	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
20	50,746,566	548,063	706,392	238,001	1,492,456	24,075	31,030	10,455	65,561	523,988	675,362	227,546	1,426,896
		9,646,100	12,432,751	4,188,908	26,267,759					9,188,668	11,843,172	3,990,264	25,022,104
										37%	47%	16%	100%

(1) Only new base from boundary expansion. Portions of development site currently tax exempt due to public or non-profit ownership.

Appendix V - eITRID
Pledged Real Property Tax Increments - Years 5-10 Development Projects

Tax Increment					Tax Increment to Taxing Bodies				Pledged Tax Increment to TRID				Discounted Pledged Tax Increment (1)
Year	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	
					40%	40%	40%		60%	60%	60%		
1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	121,962	157,196	52,963	332,122	48,785	62,878	21,185	132,849	73,177	94,318	31,778	199,273	195,288
3	310,352	400,010	134,773	845,135	124,141	160,004	53,909	338,054	186,211	240,006	80,864	507,081	496,939
4	372,553	480,179	161,784	1,014,516	149,021	192,072	64,714	405,806	223,532	288,107	97,071	608,710	596,535
5	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
6	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
7	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
8	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
9	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
10	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
11	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
12	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
13	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
14	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
15	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
16	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
17	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
18	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
19	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
20	523,988	675,362	227,546	1,426,896	209,595	270,145	91,019	570,758	314,393	405,217	136,528	856,137	839,015
	9,188,668	11,843,172	3,990,264	25,022,104	3,675,467	4,737,269	1,596,106	10,008,842	5,513,201	7,105,903	2,394,159	15,013,263	14,712,997

(1) Discount for full payment of tax bill on time 2%

6,459,032

Appendix V - eITRID
Pledged Income Tax Increment - Years 5-10 Development Projects

Use	Square Footage or Rooms	Employees Per 1,000 SF or Room	Employment Projection	Average Annual Wage Rate	Total Annual Wages	City of Pittsburgh Income Tax	Pittsburgh Public School District Income Tax	Total Annual Income Tax Increment Available
Mixed-Use Bldg 1:								
Retail	10,000	2	20	25,000	500,000	5,000	5,000	10,000
Office	39,000	2.5	98	75,000	7,312,500	73,125	73,125	146,250
								156,250
								125,000 (1)
						Over Life of the TRID:		2,250,000

(1) Discounted not all workers will live in the City of Pittsburgh.

Appendix V - eITRID

TRID Fund Balance - Years 5-10 Development Projects

TRID YR	Annual Property Tax Increment Available (1)	Proceeds from Reizenstein Phase II (2)	Previous Ongoing Contributions to the Value Capture Fund	Total		Annual Income Tax Increment Available	Previous Ongoing Contributions to the Value Capture Fund	Total with Income Tax Increment
1	6	-	-	203,389	203,389	-	228,005	431,394
2	7	195,288	163,557	203,389	562,234	-	228,005	790,239
3	8	496,939	588,703	203,389	1,289,032	125,000	228,005	1,642,037
4	9	596,535	588,703	203,389	1,388,628	125,000	228,005	1,741,633
5	10	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
6	11	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
7	12	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
8	13	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
9	14	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
10	15	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
11	16	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
12	17	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
13	18	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
14	19	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
15	20	839,015	588,703	203,389	1,631,107	125,000	228,005	1,984,112
16	21	839,015	588,703		1,427,718	125,000		1,552,718
17	22	839,015	588,703		1,427,718	125,000		1,552,718
18	23	839,015	588,703		1,427,718	125,000		1,552,718
19	24	839,015	588,703		1,427,718	125,000		1,552,718
20	25	839,015	588,703		1,427,718	125,000		1,552,718
14,712,997		10,760,211	3,050,842	28,524,051		2,250,000	3,420,075	34,194,126
Previous VC Fund Balance:			714,875	Previous Income Tax VC Balance:	942,880			
Total Balance at end of Year 25:			29,238,926	Balance with Income Tax Increment:	35,137,006			

(1) Assumes all increment diverted to the eITRID VC Fund. Larger projects would likely request stand-alone financing.

(2) Additional contributions from Phase I cash flow could be realized.

Appendix VI - eTRID
Private Development Summary - Year 10+ Development Projects

Use	Square Footage or Rooms or Units	Acres	Phasing (1)	Total Private Development (2)	Estimated Assessed Value
<i>Shady Hill Plaza Redevelopment</i>					
Single Family Attached	46		Year 16	7,740,000	8,000,000
Multi-Family 1	80		Year 16	8,160,000	6,660,000
Multi-Family 2	80		Year 17	8,160,000	6,660,000
Stand Alone Commercial	20,000		Year 16	3,400,000	4,200,000
Land		5.12			3,328,000
<i>Shady Avenue Redevelopment</i>					
Multi-Family	30		Year 17	7,350,000	4,537,500
Land		0.62			403,000
<i>N Highland/Broad/Kirkwood/Whitfield Block Redevelopment (Governor's Hotel)</i>					
Multi-Family	50		Year 12	12,250,000	7,562,500
Stand Alone Commercial	15,000		Year 12	2,550,000	3,150,000
Land		0.6			372,000
<i>Liberty Place Redevelopment</i>					
Single Family Detached	12		Year 14	3,000,000	4,200,000
Single Family Attached	52		Year 15	10,062,000	10,400,000
Land		2.5			1,638,000
TOTAL	35,000 12 98 160 80	8.88		62,672,000	61,111,000

(1) From inception of the TRID.

(2) Includes value of building construction. Excludes land, site preparation and infrastructure.

Parcel - Owner	Base Assessed Value	Base Taxes	Acres
<i>Shady Hill Plaza Redevelopment</i>			
84-G-258 - SHAKESPEARE STREET ASSOCIATES	2,620,600	77,072	3.74
84-G-258-1 - PAAC	5,700	-	0.05
84-G-239 - ITALIAN CHRISTIAN CHURCH OF PGH	940,600	-	0.19
84-G-233 - ERIC SEGAL	171,000	5,029	0.09
84-G-231 - SHAKESPEARE STREET ASSOCIATES	23,200	682	0.08
84-G-229 - SHAKESPEARE STREET ASSOCIATES	23,100	679	0.08
84-G-227 - SHAKESPEARE STREET ASSOCIATES	16,500	485	0.10
84-G-225 - SHAKESPEARE STREET ASSOCIATES	28,000	823	0.10
84-G-224 - SHAKESPEARE STREET ASSOCIATES	77,900	2,291	0.29
84-G-347 - SHAKESPEARE STREET ASSOCIATES	99,600	2,929	0.35
84-G-270 - URBAN REDEVELOPMENT AUTH OF PITTSBURGH	7,200	-	0.04
	4,013,400	89,992	5.12
<i>Shady Avenue Redevelopment</i>			
84-G-204 - NATIONAL APARTMENT LEASING CO	46,000	1,353	0.25
84-G-142 - PAAC	157,600	-	0.37
	203,600	1,353	0.62
<i>N Highland/Broad/Kirkwood/Whitfield Block Redevelopment (Governor's Hotel)</i>			
84-B-4- Governor's hotel	726,900	21,378	0.19
84-B-11 - Governor's hotel	91,000	2,676	0.11
84-B-10 - Governor's hotel	80,100	2,356	0.06
84-B-1- Gov hotel/Opcion Co.	127,200	3,741	0.07
83-P-258 - Gov Hotel	180,000	5,294	0.19
	1,205,200	35,445	0.62
<i>Liberty Place Redevelopment</i>			
84-N-125 107 - Brian Schreiber	285,000	8,382	0.01
84-A-176108 - City of Pittsburgh	238,200	-	2.28
84-A-198- Angelus Hospital	30,600	-	0.23
	553,800	8,382	2.52
	5,976,000	135,171	8.88
		4,596,100	

Appendix VI - eITRID
Real Property Tax Increments - Year 10+ Development Projects

Year	Estimated Assessed Value of Land & Developent	Projected Real Estate Taxes				Base Real Estate Taxes (1)				Projected Tax Increments			
		City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total	City of Pittsburgh	Pittsburgh Public School District	Allegheny County	Total
	Millage==>	10.8	13.92	4.69	29.41								
1	4,596,100	49,638	63,978	21,556	135,171	49,638	63,978	21,556	135,171	-	-	-	-
2	11,084,500	119,713	154,296	51,986	325,995	49,638	63,978	21,556	135,171	70,075	90,319	30,431	190,824
3	11,084,500	119,713	154,296	51,986	325,995	49,638	63,978	21,556	135,171	70,075	90,319	30,431	190,824
4	15,284,500	165,073	212,760	71,684	449,517	49,638	63,978	21,556	135,171	115,435	148,783	50,129	314,346
5	27,322,500	295,083	380,329	128,143	803,555	49,638	63,978	21,556	135,171	245,445	316,351	106,587	668,383
6	46,182,500	498,771	642,860	216,596	1,358,227	49,638	63,978	21,556	135,171	449,133	578,883	195,040	1,223,056
7	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
8	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
9	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
10	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
11	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
12	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
13	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
14	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
15	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
16	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
17	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
18	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
19	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
20	61,111,000	659,999	850,665	286,611	1,797,275	49,638	63,978	21,556	135,171	610,361	786,687	265,055	1,662,103
		10,438,335	13,453,854	4,532,944	28,425,133					9,495,215	12,238,277	4,123,385	25,856,878
										37%	47%	16%	100%

(1) Only new base from boundary expansion. Portions of development site currently tax exempt due to public or non-profit ownership.

Pledged Real Property Tax Increments - Year 10+ Development Projects

Discount for full payment of tax bill on time	2%	6,119,217
---	----	-----------

Appendix VI - eITRID
Pledged Income Tax Increment - Year 10+ Development Projects

Use	Square Footage or Rooms	Employees Per 1,000 SF or Room	Employment Projection	Average Annual Wage Rate	Total Annual Wages	City of Pittsburgh Income Tax	Pittsburgh Public School District Income Tax	Total Annual Income Tax Increment Available
Stand Alone Commercial	20,000	2	40	25,000	1,000,000	10,000	10,000	20,000
Stand Alone Commercial	15,000	6	90	25000	2,250,000	22,500	22,500	45,000
								65,000
								52,000 (1)
						Over Life of the TRID:		780,000

(1) Discounted not all workers will live in the City of Pittsburgh.

Appendix VI - eITRID

TRID Fund Balance - Year 10+ Development Projects

Yr	Annual Property Tax TRID Increment Available(1)	Previous Ongoing Contributions to the Value Capture Fund	Total		Annual Income Tax Increment Available	Previous Ongoing Contributions to the Value Capture Fund	Total with Income Tax Increment
1	11	-	1,631,107		-	353,005	1,984,112
2	12	112,204	1,631,107		-	353,005	2,096,316
3	13	112,204	1,631,107		-	353,005	2,096,316
4	14	184,835	1,631,107		-	353,005	2,168,947
5	15	393,009	1,631,107		-	353,005	2,377,121
6	16	719,157	1,631,107		52,000	353,005	2,755,269
7	17	977,317	1,631,107		52,000	353,005	3,013,429
8	18	977,317	1,631,107		52,000	353,005	3,013,429
9	19	977,317	1,631,107		52,000	353,005	3,013,429
10	20	977,317	1,631,107		52,000	353,005	3,013,429
11	21	977,317	1,427,718		52,000	125,000	2,582,035
12	22	977,317	1,427,718		52,000	125,000	2,582,035
13	23	977,317	1,427,718		52,000	125,000	2,582,035
14	24	977,317	1,427,718		52,000	125,000	2,582,035
15	25	977,317	1,427,718		52,000	125,000	2,582,035
16	26	977,317	977,317		52,000		1,029,317
17	27	977,317	977,317		52,000		1,029,317
18	28	977,317	977,317		52,000		1,029,317
19	29	977,317	977,317		52,000		1,029,317
20	30	977,317	977,317		52,000		1,029,317
15,203,844		23,449,660	38,653,504		780,000	4,155,050	43,588,554
Previous VC Fund Balance:			5,789,265		Previous VC Balance:		7,532,295
Total Balance at end of Year 30:			44,442,769		Balance with Income Tax Increment:		51,120,849

(1) Assumes all increment diverted to the eITRID VC Fund. Larger projects would likely request stand-alone financing with only partial contribution to VC Fund.

(2) Additional contributions from Reizenstein Phase I cash flow could be realized.

FUNDING AND DEVELOPMENT AGREEMENT

This FUNDING AND DEVELOPMENT AGREEMENT (“*Development Agreement*”) is made as of the *insert date*, by and between the EAST LIBERTY TRID REVITALIZATION AUTHORITY (the “*eLTRIDRA*”), an authority organized by the City of Pittsburgh, Pennsylvania (the “*City*”) under the Urban Redevelopment Law of Pennsylvania, the Act of May 24, 1945, P.L.991, *et seq.*, as amended (the “*Act*”),

AND

THE *insert name of private developer/contractor* (the “*insert abbreviated name*”), a *insert legal description of entity and address*,

WITNESSETH:

WHEREAS, the *private developer* seeks to construct *insert description of the transit oriented development project or public improvement* (the “*insert name Project*”); and

WHEREAS, the City has prepared and on *insert date*, adopted a detailed plan, the East Liberty Transit Revitalization Investment District Plan (the “*eLTRID Plan*”), for the for the redevelopment of the area around the East Liberty Station on Port Authority’s MLK East Busway; and

WHEREAS, eTRID details infrastructure and transit improvements (the “*Improvements*”) necessary to facilitate various phases of transit oriented development around the Station in accordance with accepted principles; and

WHEREAS, construction of the *insert name* Project will be facilitated by certain substantial public on-site improvements (the “*insert name Public Improvements*”) as contemplated in the eTRID and fully described in the eTRID Application submitted to eLTRIDRA by *private developer*; and

WHEREAS, the City has established the East Liberty TRID Boundary (the “*eLTRID Boundary*”) pursuant to the eTRID, and has agreed to participate in the eTRID Boundary; and

WHEREAS, the County of Allegheny and Pittsburgh Public School District (collectively with the City, the “*Taxing Bodies*”) have agreed to participate in the eTRID Boundary; and

WHEREAS, the *private developer* has requested eLTRIDRA finance the a portion of the *insert project name* Public Improvements through the issuance by eLTRIDRA of its 2012 TRID Note (hereinafter defined); and

WHEREAS, eLTRIDRA desires to assist *private developer* in the development of the *insert name* Project by issuing the 2012 TRID Note; and

WHEREAS, eTRIDRA desires to issue its 2012 TRID Note in an aggregate principal amount of *insert gross amount* pursuant to the terms of the Indenture (hereinafter defined), which 2012 TRID Note shall be designated as the East Liberty TRID Revitalization Authority Transit Revitalization Investment District Funding Note (*insert name* Project), Series 2012 (the “*2012 TRID Note*”), or such other designation as eTRIDRA should subsequently determine, to fund the *insert name* Public Improvements; and

WHEREAS, the 2012 TRID Note shall be issued pursuant to the Trust Indenture (the “*Indenture*”) dated as of *insert date*, between eTRIDRA and *insert trustee name* and shall be limited obligations of eTRIDRA payable from the Trust Estate (as defined in the Indenture), which shall include the positive tax increments realized from the eTRID Boundary and other sources and security as described in the Indenture; and

WHEREAS, as additional security and credit enhancement for the 2012 TRID Note, *insert description of any additional security or credit enhancement* (the *insert abbreviation*); and

WHEREAS, pursuant to a Cooperation Agreement (the “*Cooperation Agreement*”) among the Taxing Bodies, the Port Authority of Allegheny County (the “*Port Authority*”), the Urban Redevelopment Authority (the “*URA*”) and the eTRIDRA, the Taxing Bodies shall contribute *insert percentage* of tax revenues to assist in the funding and/or refinancing of the *insert name* Public Improvements in accordance with the eTRID; and

WHEREAS, *private developer* and eTRIDRA are entering into this Development Agreement in order that eTRIDRA shall undertake to fund the *insert name* Public Improvements to facilitate the *insert name* Project as described in the Indenture, the Cooperation Agreement and the eTRID; and

WHEREAS, the 2012 TRID Note will be purchased by *insert name of TRID Note purchaser/investor*.

NOW THEREFORE, intending to be legally bound by the terms of this Development Agreement, by their mutual promises and for other valuable consideration, eTRIDRA and *private developer* agree as follows:

1. **Definitions.** The recitals to this Development Agreement and the terms defined above in the heading and in such recitals are incorporated herein by reference. In addition, the following terms shall have the meanings provided below:

“Certificate of Independent Inspector” means a certificate prepared by the Independent Inspector in the form set forth in Schedule II to Exhibit B hereto certifying that the work for which a Payment Request has been submitted to eTRIDRA has been completed in accordance with the plans and specifications.

“Completion Date” means *insert project completion date*.

“Construction Agreements” means, collectively, any existing or future public improvemetn agreements or similar construction agreements by and between the *private developer* and any third party or parties for construction or installation in connection with the *insert name* Public Improvements.

“Construction Fund” means the fund of that name held by the Trustee under the Indenture and available to pay, or reimburse, the *private developer* for the payment of *insert name* Public Improvements costs incurred in constructing the *insert name* Public Improvements upon requisition as provided in the Indenture.

“Debt Service Reserve Fund” shall have the meaning given to such term in the Indenture.

“Draw Request” shall have the meaning assigned to that term in the Indenture.

“Independent Inspector” means any engineering or construction management firm or firms retained by the *private developer* with the consent of elTRIDRA pursuant to a Construction Agreement, who will provide the certifications required hereby.

“Land” means those certain parcels of land owned by *insert owner* described on Exhibit A to this Development Agreement.

“Payment Request” means a requisition requesting the payment of costs of the *insert name* Public Improvements from moneys held in the Construction Fund, which shall be in the form required by the Indenture, a copy of which is attached hereto as Exhibit B.

“Pledged Revenues” means (a) the TRID Revenues pledged pursuant to the Cooperation Agreement, (b) all income, interest and profits received from the investment of moneys held in any Fund established under the Indenture (except for moneys held in the Rebate Fund under Section 5.08) and (c) all moneys paid by *insert name of additional security or credit enhancement* pursuant to *insert abbreviation*.

“Surplus Fund” shall have the meaning given to such term in the Indenture.

2. **Representations and Warranties.** Each of the *private developer* and elTRIDRA represents and warrants to the other and for the benefit of the Trustee that: (a) it is duly and validly created under the laws of the Commonwealth of Pennsylvania; (b) it has corporate power and lawful authority to enter into this Development Agreement and to perform its obligations hereunder; (c) this Development Agreement has been duly and validly executed and delivered and constitutes its enforceable obligation; and (d) the execution and delivery hereof of this Development Agreement by it does not violate or constitute an event, which with notice or lapse of time or both, would constitute a default or event of default under any law, regulation, decree, order or agreement by which it is bound or to which its properties are subject.

3. **Pledge of Pledged Revenues and Compliance with TIF Obligations.** In consideration of the obligations of elTRIDRA hereunder and of the benefits to the *private*

developer contemplated by the elTRID, the *private developer* hereby *insert language with regards to additional compliance with TIF Obligations*.

4. **Project Construction, Oversight and Completion.**

(a) Duty of the *private developer* to Construct. The *insert name* Public Improvements shall be constructed by or at the direction of the *private developer* in accordance with the elTRID, this Development Agreement and the Construction Agreements. The *private developer* represents to elTRIDRA and hereby agrees that the *private developer* shall: (i) oversee the *insert name* Project to assure that the *insert name* Public Improvements are substantially completed, lien free, on or before the Completion Date; (ii) cause the *insert name* Project to be completed in accordance with the plans and specifications as have been approved by *private developer* (the “*Plans and Specifications*”) and in accordance with the Project Budget attached hereto as Exhibit C (the “*Project Budget*”); and (iii) *insert brief description of improvements*, to be completed in accordance with State (PennDOT), County and local laws, regulations and ordinances.

(b) **Independent Contractor.** The *private developer* is an independent contractor and not the agent or employee of elTRIDRA. elTRIDRA shall not be responsible for making any payments to any contractor, subcontractor, agent, consultant, employee or supplier of the *private developer*.

(c) **Inspections.** The *private developer* shall inspect, or cause others to inspect, the *insert name* Public Improvements as the work progresses and will keep elTRIDRA advised as to such progress and will give such general supervision and management as may be required to assure the construction and completion of the *insert name* Public Improvements in an efficient and workmanlike manner in compliance with the plans and specifications and other applicable laws and regulations. The parties acknowledge and agree that nothing in this Section shall place any additional obligation on the *private developer* to submit any plans and specifications to any governmental authorities or agencies, except as may otherwise be required by the Construction Agreements.

5. **Payment of Project Costs.** This Development Agreement is for the funding by elTRIDRA of the costs of the *insert name* Public Improvements, solely from the proceeds of the sale of the 2012 TRID Note and other monies available for such purposes in the fund established under the Indenture. This Development Agreement shall not involve the expenditure of, or an encumbrance on, any other funds or monies of elTRIDRA. Neither elTRIDRA nor the Trustee shall be obligated to fund the costs of the *insert name* Public Improvements except from amounts on deposit in the Construction Fund and Surplus Fund, and only upon condition that the *private developer* has complied with all of the terms, conditions and provisions of this Development Agreement. elTRIDRA makes no warranty, express or implied, that the proceeds of the 2012 TRID Note deposited and held in the Construction Fund, any investment earnings thereon deposited to the Construction Fund, or any other amounts held under the Indenture will be sufficient for funding of all of the costs of the *insert name* Public Improvements. elTRIDRA shall have no responsibility whatsoever to the *private developer* with respect to any investment of funds made by the Trustee under the Indenture, including any loss of all or a portion of the

principal invested or any penalty for liquidation of an investment. Any such loss may diminish the amounts available in the Construction Fund to fund the costs of the *insert name* Public Improvements hereunder. The *private developer* acknowledges that the obligation of any owner of real property in the eTRID Boundary, including the *private developer* to the extent it owns any interest in real property in the eTRID Boundary, to pay real estate taxes is not in any way affected by (a) the availability of amounts in the Construction Fund to pay for all or any portion of the *insert name* Public Improvements or (b) the alleged or actual misconduct of eTRIDRA in the performance of its obligations under this Development Agreement, the Indenture, or any other agreement to which the *private developer* and eTRIDRA are signatories.

6. **Payment.**

(a) **Payment.** eTRIDRA shall not requisition funds from the Construction Fund to pay the costs of the *insert name* Public Improvements except as provided herein, subject to the requirements of the Indenture. Upon receipt of the Payment Request and Certificate of Independent Inspector, eTRIDRA shall, by submitting the Payment Request prepared by *private developer*, direct the Trustee to make payment to the *private developer* or third party payee of the amount set forth in such Payment Request from monies on deposit in the Construction Fund. Any approved Payment Request not paid due to an insufficiency of funds in the Construction Fund shall be paid in accordance with Section 6(e) of this Development Agreement.

(b) **Agreement to Fund Costs of Public Improvements.** eTRIDRA hereby agrees to cause amounts in the Construction Fund to be used to fund the costs of the *insert name* Public Improvements to the *private developer* in accordance with the terms and conditions of this Development Agreement, subject to the requirements of the Construction Agreements, the Indenture, and the eTRID, unless this Development Agreement is terminated by eTRIDRA for default as provided herein.

(c) **Payment Requests.** In order to receive funding for a *insert name* Public Improvement, the *private developer* shall periodically, but no more frequently than monthly, prepare and deliver to eTRIDRA (i) a Draw Request and (ii) a Payment Request for the costs of such *insert name* Public Improvement, together with a Certificate of the Independent Inspector. *Private developer* acknowledges that payments of moneys from the Construction Fund cannot be paid by the Trustee until not less than fifteen (15) days following the submission by eTRIDRA of a Draw Request to the Trustee, which Draw Request shall be prepared by *private developer*.

(d) **Restrictions on Payments.** The following restrictions shall apply to any payments made to the *private developer* under this Article:

(i) **Limitation on Amount of Payments.** eTRIDRA shall not be obligated to cause the Trustee to (A) make any disbursement to the *private developer* for the benefit of any contractor for costs of any *insert name* Public Improvement that is subject to a Construction Agreement that is in material default to the extent of such material default, (B) make any disbursement to the *private developer* for costs of any *insert name* Public Improvement for the benefit of any contractor as to which there has been issued a notice of a default which is material in nature to the extent of such material default, or (C) make any

disbursement to the *private developer* beyond the available funds in the Construction Fund. The *private developer* shall be solely responsible for payment of any costs beyond the available funds in the Construction Fund. The parties hereto acknowledge and agree that all payments to the *private developer* to fund the costs of the *insert name* Public Improvements are intended to be either reimbursements to the *private developer* for moneys already expended or for payment to the *private developer* (or directly by the Trustee) to be paid to unrelated third parties in respect of such *insert name* Public Improvements.

(ii) Joint or Third Party Payments. The Trustee may make any payment jointly to the *private developer* and any mortgagee, contractor or supplier of materials, as their interests may appear, or solely to any such third party, if the *private developer* so requests the same in the Payment Request, provided in any event that the items listed for payment solely to any third party (other than a mortgagee) shall be supported by invoices or statements identifying the costs to be paid.

(iii) Restrictions of Indenture. The *private developer* acknowledges that, under certain circumstances, the Indenture requires that amounts in the Construction Fund be transferred to the Debt Service Fund and used to redeem the 2012 TRID Note, and in such event will no longer be available to fund the costs of the *insert name* Public Improvements hereunder.

(e) Insufficiency of Funds. In the event monies on deposit in the Construction Fund are insufficient at any particular time to fund a Payment Request, such Payment Request shall be funded at such time, if ever, as monies are available for such purpose, and elTRIDRA agrees to direct the Trustee to transfer monies between or among funds and accounts under the Indenture, to the extent permitted by the Indenture, to cause monies to be available in the Construction Fund for such purpose; provided that the 2012 TRID Note shall have been issued and the sum of *insert gross amount* shall have been deposited with the Trustee in accordance with the Indenture. The failure to cause monies to be so available shall not diminish any obligation of the *private developer* to pay for the costs of the *insert name* Public Improvements beyond the available funds in the Construction Fund.

(f) Use of Monies by elTRIDRA. elTRIDRA agrees not to take any action or direct the Trustee to take any action to expend, disburse or encumber the monies held in the Construction Fund and any monies to be transferred thereto for any purpose other than the purposes permitted by the Indenture. elTRIDRA agrees not to modify, amend or supplement the Indenture without the prior written approval of the *private developer* if as a result or as a consequence of such modification, amendment or supplement, (i) the amount of monies that would otherwise have been available under the Indenture for disbursement for the costs of the *insert name* Public Improvements is reduced, delayed or deferred, (ii) the obligations or liabilities of the *private developer* are or may be increased or otherwise adversely affected in any manner, or (iii) the rights of the *private developer* are or may be modified, limited, restricted or otherwise adversely affected in any manner.

(g) Regular Requirements for Payments. In compliance with construction and other contracts now or hereafter entered into with respect to the *insert name* Project, *private*

developer shall timely honor all requests for payment for construction and other services, all commitments under purchase contracts, which have been approved by the **private developer** and others whose approval may be required.

(h) Copies to eTRIDRA. On a monthly basis, **private developer** shall send to eTRIDRA copies of all payment requests for work on the **insert name** Public Improvements and copies of payment records made in response to such requests. Such information shall be made available to eTRIDRA within thirty (30) days of such receipt and disbursement.

(i) Payments to Contractors. **Private developer** shall be solely responsible for payments to contractors for all construction. **private developer** shall require each contractor with whom it contracts to perform any construction work to file with the Prothonotary of the Court of Common Pleas of Allegheny County a waiver of the right to file a mechanic's lien, which waiver shall be effective against claims by the contractor and all of its subcontractors, materialmen and workmen, arising out of any work done by them.

(j) Bonding and Insurance Requirements. Prior to the commencement of any construction, **private developer** shall ensure that all contractors provide for a completion and for payment and performance bonds guaranteeing completion of the **insert name** Project and naming eTRIDRA as an additional insured and a certificate of insurance certifying that the **private developer** and/or its contractors and subcontractors have the insurance coverage and limits required under Exhibit D naming the **private developer**, eTRIDRA and the Trustee as additional insured and containing a notice of cancellation clause providing for thirty (30) days prior notice of cancellation.

(k) Surplus Fund Payments. eTRIDRA, upon the written request of the **private developer** shall requisition funds from the Surplus Fund for the purposes, in accordance with and subject to the provisions of the Indenture.

7. Reports and Records.

(a) **Private developer** shall maintain books, records, documents, correspondence, and other data generated pursuant to this Development Agreement, along with any other evidence pertaining to the costs and expenses of this Project (the "**Records**"), to the extent and in such detail as shall properly reflect all costs, direct and operating, of labor, materials, equipment, supplies and services and other costs and expenses of whatever nature for which funding has been provided under this Development Agreement. The Records shall be maintained in accordance with generally accepted accounting principles. **Private developer** agrees to require the construction manager, contractors, subcontractors, their respective assigns or agents to comply with the records retention requirements of this Development Agreement.

(b) **Private developer** shall retain the Records and make them available for inspection by eTRIDRA for a period ending the later of:

(i) Five years after the **insert name** Project is certified by **private developer** as complete, or

(ii) Five years after the Term of this Development Agreement shall have expired pursuant to Section 10 hereof.

8. **Indemnification; Limited Liability of Parties.**

Private developer shall indemnify, protect, defend and hold eTRIDRA and its appointed officials, officers, agents and employees, completely harmless from and against all liability, losses, suits, claims (including, without limitation, third party claims for personal injury or real or personal property damage), judgments, fines, actions, administrative proceedings, penalties or demands: (i) arising from injury or death of any person or damage to any property, including all reasonable costs for investigation and defense thereof (including attorney fees, court costs, and expert fees) unless such injury, death or damage is directly caused by the sole and gross negligence or willful misconduct of eTRIDRA; and (ii) arising from *private developer's* obligations hereunder. eTRIDRA shall give notice to *private developer* of any such liability, loss, suit, claim or demand, and *private developer* shall defend same using counsel reasonably acceptable to eTRIDRA. The provision of this Section shall survive the expiration or early termination of this Development Agreement.

It is understood and agreed that neither eTRIDRA, nor its directors, members, the agents, attorneys or employees, or their respective heirs, personal representatives or successors, are generally or personally liable in connection with any matter, cause or thing pertaining to the 2012 TRID Note or the issuance thereof, the Indenture, or any instruments and documents executed and delivered by the eTRIDRA in connection with the *insert name* Project. Any liability of eTRIDRA, including any judgment entered against eTRIDRA in connection herewith, including in connection with the Indenture, the 2012 TRID Note, this Funding Agreement, or any instruments and documents executed and delivered by eTRIDRA in connection with the *insert name* Project, or as a result of the incorrectness of any representation in, or omission from, any of such instruments and documents, by any means (including by judicial process), shall be strictly limited to, and noted as, a lien against the Trust Estate only, and shall not affect any other property or assets of eTRIDRA.

The obligations of the *private developer* pursuant to this Funding and Development Agreement ("**TRID Obligations**") are limited obligations payable solely from the Pledged Revenues and, if any, to the extent payable out of moneys attributable to any Funds established pursuant to the Indenture, the 2012 TRID Note proceeds or the income from the temporary investment thereof as provided in the Indenture and any insurance proceeds.

THE TRID OBLIGATIONS ARE LIMITED OBLIGATIONS OF THE eTRIDRA PAYABLE SOLELY FROM THE SOURCES PROVIDED HEREIN. NEITHER THE PRINCIPAL OF THE TRID OBLIGATIONS, NOR THE INTEREST ACCRUING THEREON, SHALL EVER CONSTITUTE A GENERAL INDEBTEDNESS OF THE eTRIDRA OR AN INDEBTEDNESS OF THE COMMONWEALTH OF PENNSYLVANIA, THE CITY OF PITTSBURGH OR ANY POLITICAL SUBDIVISION OR INSTRUMENTALITY THEREOF WITHIN THE MEANING OF ANY CONSTITUTIONAL OR STATUTORY PROVISION WHATSOEVER OR SHALL EVER CONSTITUTE OR GIVE RISE TO A PECUNIARY

LIABILITY OF THE COMMONWEALTH OF PENNSYLVANIA, THE CITY OF PITTSBURGH OR ANY POLITICAL SUBDIVISION OR, EXCEPT WITH RESPECT TO THE eITRIDRA'S LIMITED OBLIGATIONS SET FORTH HEREIN, ANY INSTRUMENTALITY THEREOF, NOR WILL THE TIF OBLIGATIONS BE, OR BE DEEMED TO BE, AN OBLIGATION OF THE COMMONWEALTH OF PENNSYLVANIA, THE CITY OF PITTSBURGH OR ANY POLITICAL SUBDIVISION OR, EXCEPT AS AFORESAID, ANY INSTRUMENTALITY THEREOF. THE eITRIDRA HAS NO TAXING POWER.

9. **Minority Business Enterprise/Women Business Enterprise Requirements.**

(a) *Private developer*, in order to promote the program and policies adopted by the *insert information on the City MWDBE Program*, shall utilize Minority/Women Business Enterprise (MBE/WBEs) as defined pursuant to 49 Code of Federal Regulations, Part 23, issued by the United States Department of Transportation, in the construction of the *insert name* Project. Utilization of MBE/WBEs will be on a direct contract basis with *private developer* and/or subcontractors through prime contractors.

(b) *Private developer* understands and agrees that all MBE/WBE contractors and subcontractors utilized, and contracts and subcontracts entered into in accordance with the MBE/WBE provisions contained herein, shall comply with the promulgated MBE/WBE program of the City of Pittsburgh and the Disadvantaged Business Enterprise (DBE) program of as adopted and which may from time to time be amended.

(c) If *private developer* cannot meet the established MBE/WBE or DBE guidelines as set forth above, *private developer* shall submit, in writing, a statement describing the reason(s) why it cannot comply with such MBE/WBE or DBE guidelines.

(d) *Private developer* shall provide for participation by certified DBEs in the design, construction management and construction of the *insert name* Public Improvements to the Land. *Private developer* shall take any necessary and reasonable steps, in accordance with Title 49, Code of Federal Regulations, Part 23, as amended, to ensure that DBEs have the maximum opportunity to compete for and perform contracts.

10. **Effective Date; Termination.**

This Development Agreement shall become effective on the date of its execution and delivery by the parties, and shall terminate upon the occurrence of the following events: (a) the date all 2012 TRID Notes issued and outstanding under the Indenture have been paid or provision for their payment made in accordance with the Indenture, or (b) such later date as shall be acceptable to elTRIDRA and the *private developer* as evidenced by a supplement to this Development Agreement duly executed by them.

11. **Termination at Election of elTRIDRA.**

The following events shall constitute grounds for elTRIDRA, at its option to terminate this Development Agreement, without the consent of *private developer*;

(a) a bankruptcy proceeding shall be commenced by or against *private developer*. *Private developer* shall be the subject of an order for relief under the Federal Bankruptcy Code, or an order or decree shall be entered appointing a receiver or receivers of *private developer* or of the revenues thereof with the consent or acquiescence of the *private developer*, or if such order of decree, having been entered without the acquiescence or consent of the *private developer*, shall not be vacated or discharged or stayed on appeal within thirty (30) days after entry; or

(b) ***Private developer*** shall abandon construction of the ***insert name*** Public Improvements, provided that no event of force majeure shall give rise to such abandonment absent written acknowledgment by an officer of the ***private developer*** that the construction of the ***insert name*** Public Improvements has been discontinued and shall not be resumed;

(c) ***Private developer*** shall breach any material covenant or default in the performance of any material obligation hereunder, which breach or default has not been cured, or the cure thereof commenced and diligently pursued, within thirty (30) days after written notice thereof from elTRIDRA to the ***private developer***.

(d) ***Private developer*** shall transfer any of its rights or obligations under this Development Agreement to any party other than the County of Allegheny, Pennsylvania, without the prior written consent of elTRIDRA; or

(e) a material event of default by ***private developer*** shall occur under any of the Construction Agreements (which default is not cured within any applicable cure period).

In the event that this Agreement is terminated by the elTRIDRA for any cause set forth in the preceding clauses (a)-(e), the elTRIDRA may either execute contracts for or perform any remaining work related to the unfinished ***insert name*** Public Improvements and use all or any portion of the monies in the Construction Fund or other amounts transferred to the Construction Fund and ***private developer*** shall have no claim or right to any further payments to fund the costs of the ***insert name*** Public Improvements, except as otherwise provided by written agreement of elTRIDRA and the ***private developer***. elTRIDRA's remedies under this section for completion of the ***insert name*** Public Improvements are not exclusive, and do not limit the elTRIDRA's rights under any other agreement between elTRIDRA and the ***private developer***.

12. **Limited Liability of elTRIDRA.**

Notwithstanding anything to the contrary contained in this Development Agreement, the ***private developer*** agrees that any and all obligations of the elTRIDRA arising out of, or related to, this Agreement are limited obligations of the elTRIDRA and may not constitute debt of the elTRIDRA or a pledge of the elTRIDRA's general credit, and the elTRIDRA's obligations to make any payments hereunder are restricted entirely to the monies, if any, in the Construction Fund, the Surplus Fund and no other source. Except from moneys and funds held under the Indenture, the ***private developer*** shall not have any claim against the elTRIDRA or any of its officers, directors, attorneys, officials, agents, or employees, past, present or future (or any of their respective heirs, personal representatives or successors), for damages suffered as a result of the elTRIDRA's failure to perform, in any respect, any covenant, undertaking, or obligation under this Agreement, the 2012 TRID Note or any other agreement, document, instrument or certificate executed, delivered or approved in connection with the issuance, sale and delivery of the 2012 TRID Note (collectively, the "***TRID Note Documents***"), or as a result of the incorrectness of any representation in, or omission from, any of the TRID Note Documents.

13. **Notices.**

Any notice, payment or instrument required or permitted by this Development Agreement to be given or delivered to either party shall be deemed to have been received when personally delivered or transmitted by telecopy or facsimile transmission (which shall be immediately confirmed by telephone and shall be followed by mailing an original of the same within 24 hours after such transmission) or registered or certified mail, postage prepaid, addressed as follows:

eLTRIDRA:

private developer:

14. **Severability.**

If any part of this Development Agreement is held to be illegal or unenforceable by a court of competent jurisdiction, the remainder of this Development Agreement shall be given effect to the fullest extent possible.

15. **Merger.**

No other agreement, statement or promise made by any party or any employee, officer or agent of any party with respect to any matters covered hereby that is not in writing and signed by all the parties to this Development Agreement shall be binding.

16. **Amendment.**

This Development Agreement may be amended, from time to time in a manner consistent with the eLTRID, by written supplement hereto and executed by both eLTRIDRA and the *private developer*.

17. **Counterparts.**

This Development Agreement may be executed in counterparts, each of which shall be deemed an original.

18. **Governing Law.**

This Agreement shall for all purposes be governed by, and construed and interpreted in accordance with, the laws of the Commonwealth of Pennsylvania without regard to choice of law rules.

IN WITNESS WHEREOF, the parties to this Agreement, intending to be legally bound hereby, have executed this Development Agreement on the date first written above.

e/TRID REVITALIZATION AUTHORITY

PRIVATE DEVELOPER/CONTRACTOR

EXHIBIT A
BOUNDARY DESCRIPTION

DRAFT

EXHIBIT B
REQUISITION FORM

EXHIBIT C
PROJECT BUDGET