



West Busway TOD Assessment and Plan

An Implementation Activity of "Allegheny Places" and the SPC "2035 Transportation and Development Plan"



West Busway Area Transit-Oriented Development Assessment and Plan

Prepared for:
**Allegheny County Economic Development and
the Southwestern Pennsylvania Commission**

**July 30, 2010
Final Report**



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In Association with:



4ward planning llc



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I. INTRODUCTION

BACKGROUND

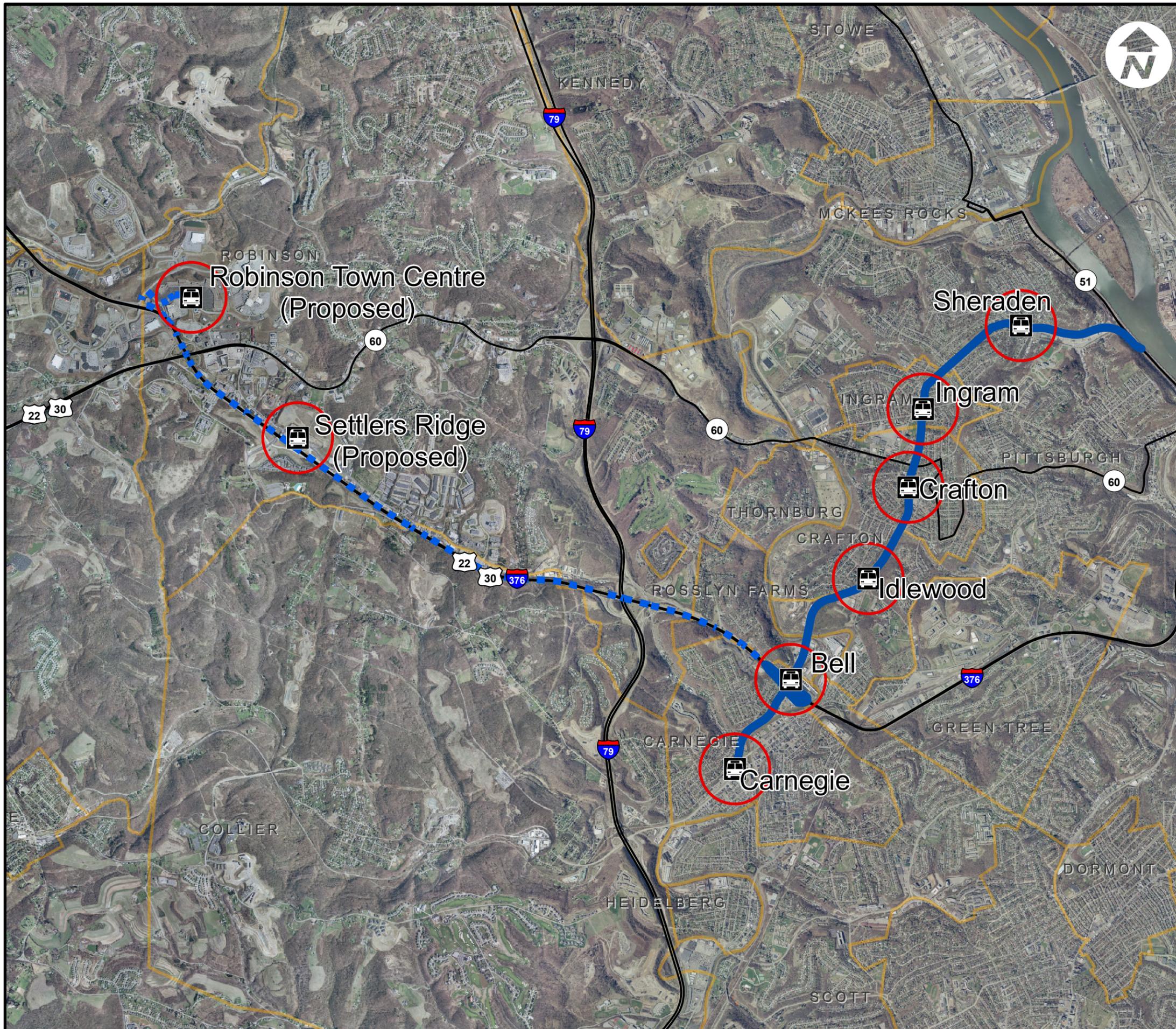
Allegheny County Economic Development (ACED) and the Southwestern Pennsylvania Commission (SPC) partnered to create a transit-oriented development (TOD) vision and plan for station areas within the West Busway corridor in western Allegheny County. The West Busway, a five-mile exclusive fixed guideway for buses, directly serves numerous communities at its six stations as well as communities in the Parkway West corridor and provides critical connections to the Pittsburgh International Airport, downtown Pittsburgh, and Oakland. The purpose of the West Busway Area TOD Assessment and Plan was to explore the revitalization potential of the West Busway and adjacent area communities that will support public transportation solutions to the region's transportation and land use challenges. This effort is an implementation activity to advance *Allegheny Places*, Allegheny County's first comprehensive plan, and SPC's *2035 Transportation and Development Plan for Southwestern Pennsylvania*.

The overall goal of this plan is to help shift development activities into established communities as a result of enhanced understanding of development opportunities and site characteristics in the vicinity of transit-served stops and park-and-ride locations along the Busway and in the vicinity. The plan focused on development and re-development patterns that would serve to stimulate economic growth and promote the attraction, retention, and expansion of business, industry, commerce, and the arts. The plan also focused on sustainable patterns of development that would promote the construction of residential, educational, and cultural facilities in mixed-use configurations near transit facilities to create holistic communities where people can live, work, play, learn, create, and invest. The plan's concepts will promote the reduction of congestion in the region's most highly congested corridor and foster multi-modal connectivity between hubs by including "Active Transportation" and "Complete Streets" concepts, as well as safety considerations, lifestyle benefits, context sensitive design, and "green" building principles.

This project is unique in that an assessment of the corridor's overall potential for TOD led to the identification of two areas for which targeted TOD development plans were developed (Sheraden and Carnegie). The information collected during a review of existing conditions in the corridor, coupled with a broad demographic and market assessment, served as input into a screening process that indicated the locations with the most immediate potential for TOD. The Carnegie and Sheraden plans serve as crucial first steps towards creating "West Busway Places," places along the West Busway that are characterized by relatively dense, mixed-use development that maximizes pedestrian access to transit and includes infill and new development. The TOD plans will serve as prototypes for the other West Busway stations by providing an example of a planning process that can be utilized as well as examples of the types of actions and improvements that can be undertaken to facilitate TOD community development.

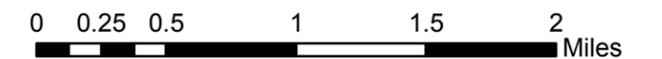
The project's study area is shown in Figure 1.1. The West Busway stations are located in the City of Pittsburgh's Sheraden and Oakwood (Idlewood Station) neighborhoods, Ingram Borough, Crafton Borough, and Carnegie (Carnegie and Bell Stations). Because many of the West Busway transit routes extend beyond the busway along the Parkway West (shown on the map as the West Busway Service Corridor), the study also evaluated the TOD potential of the Settlers Ridge and Robinson Town Centre developments in Robinson Township.

Figure 1.1 Study Area



Legend

-  1/4 Mile Radius
-  West Busway
-  West Busway Service Corridor
-  Transit Station
-  Municipal Boundary



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County

PLANNING PROCESS

The West Busway plan included four primary work tasks. Over the course of the 12-month process, the following work tasks were completed.

- Document Existing Conditions:** The existing conditions analysis included a review of the physical and regulatory characteristics of the stations along the West Busway Corridor including transit service, land use and zoning, and multimodal transportation access (e.g. parking, bike access, walkability). The project team assessed each station area's zoning ordinance to determine if modifications may be needed in order to facilitate TOD. In addition, the task included a demographic and socioeconomic analysis and real estate market assessment.
- TOD Evaluation Methodology:** The project team developed an evaluation and screening methodology to select two sites in the study area that warranted a more targeted TOD evaluation. Sheraden and Carnegie were selected as focus areas for further TOD planning efforts.
- TOD Program of Development:** The focus of this task was the development of TOD plans for the Sheraden and Carnegie station areas. A vision for each station was developed through two rounds of public meetings with station-area stakeholders. The project team translated each vision into concept plans that included land use diagrams, generalized building massing concepts and densities, transportation access and circulation plans, and zoning recommendations.
- Final Report:** The final task included compilation of all project work products into one report document that also included an implementation plan for the two TOD plans.



Sheraden public input meeting – March 23, 2010
Photo Credit: URS

PROJECT MANAGEMENT

The plan was co-managed by ACED and SPC. At the beginning of the planning process, the project team selected community-based stakeholders to oversee and guide the completion of the plan. The steering committee met four times during the course of the project. The project team and steering committee included the following individuals:

Project Team

- Lynn Heckman, ACED, Project Co-Chair
- Sara Walfoort, SPC, Project Co-Chair
- Tom Klevan, SPC
- David Totten, SPC

Steering Committee

- Michael Finnerty, Allegheny County Council
- James Ellenbogen, Allegheny County Council
- Theresa Kail-Smith, City of Pittsburgh City Council
- Michael Finley, City of Pittsburgh City Planning Department

- Debbie Stecko, Ingram Borough Secretary
- Douglas Sample, Crafton Borough Manager
- Steve George, Rosslyn Farms Borough Council
- Whitney Brady, Carnegie Borough Manager
- Richard Charnovich, Robinson Township Manager
- John Paul Jones, Governor's Southwest Regional Office
- George Scarborough, Char-West COG
- Lynn Manion, Airport Corridor Transportation Association
- Lucinda Beattie, Pittsburgh Downtown Partnership
- Denny Puko, PA Department of Community and Economic Development
- Court Gould, Sustainable Pittsburgh
- Mary Jo Morandini, Beaver County Transit Authority
- David Wohlwill, Port Authority of Allegheny County



West Busway Steering Committee Meeting – June 2, 2010
Photo Credit: URS

ACED and SPC selected URS Corporation in association with 4ward Planning LLC and Maynes Associates Architects as the consulting team to perform technical analyses; make design, development, and transportation improvements recommendations; and facilitate the public involvement process.

Project Team Members included:

- Ann Ogoreuc, AICP, URS, Project Manager
- Mark Leese, AIA, AICP, URS
- Keith Johnson, URS
- Sarah Trbovic, AICP, URS
- Todd Poole, 4ward Planning LLC
- Paula Maynes, AIA, Maynes Associates Architects
- Greg Maynes, AIA, Maynes Associates Architects
- Erica Bertke, Maynes Associates Architects



TRANSIT-ORIENTED DEVELOPMENT DESIGN PRINCIPLES

Transit oriented development (TOD) is a form of development that is conducive to increased use of transit by residents. This usually implies dense development around mass transit stations that provides a range of destinations within walking distance, including multifamily homes, shops, and workplaces.

A successful TOD preserves and builds upon an area's strengths and diversity while positioning it for a vital and sustainable future. Transit-oriented development is the perfect fit for communities that are already urban in character. Design elements implemented through streetscape improvements and façade treatments among others offer opportunities to unify the urban fabric in a transit-oriented district.



Before

Described below are basic planning and design principles that support each unique TOD community and assure an enduring and engaging urban realm. These principles should be applied in each TOD planning area.

Distinctive Destination: The components of a TOD community should be linked to but distinct from its surroundings and other districts in the vicinity. By virtue of its compactness, clear edges, human-scaled architecture, walkable streets, public spaces, amenities and eye-catching detail, it should be perceived as a distinctive place in its own right; a singular and appealing destination whose character and vitality make it more than the sum of its individual parts.

Mixed Uses: Redevelopment and new infill development should support a goal of higher density mixed use, including restaurants and retail (with emphasis on locally owned businesses), civic uses, offices, residential, entertainment and basic goods and services. A diverse use mix helps insure activity beyond traditional business hours.

Compactness: For good interconnectedness and variety, the blocks composing the village or neighborhood should be no more than a 5- to 10-minute walk around their perimeters (about 1,320 feet). Essential land uses should be established within a quarter-mile radius, promoting a compact, walkable village.



Sidewalk sales, unique business signage, and awnings

Pedestrian refuge island with landscaping, signage, and seating

New plaza area with public art and short-term parking in front of Post Office property

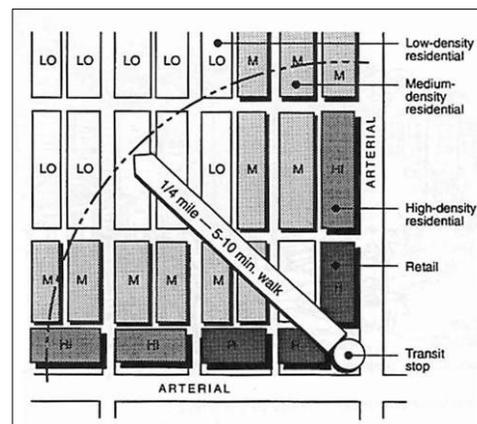
After

Bump-outs provide more space for street trees and decorative pavers, while improving pedestrian safety

Pedestrian crossing distances are reduced due to the bump-out and island

Wayfinding signage, banners, and/or hanging planters can be affixed to new pedestrian lighting

Photo Credit: URS



Great Streets: Street design should reflect a dual concept of the street as both vehicular thoroughfare and civic space. Attributes such as design speed, travel direction (one-way or two way), lane widths, corner radii, on-street parking, sidewalks, pedestrian crossings, street trees and amenities should be conceived in a comprehensive fashion to achieve a balance of the needs of drivers, transit users, bicyclists and pedestrians, and to offer real choice of mobility options.

Engaging Street Wall: New and redeveloped buildings should generally be placed at the sidewalk to give streets and blocks a comfortable sense of enclosure. Continuity of windows and doors should create a permeable relationship between the buildings and a sufficiently



Photo Credit: URS

wide sidewalk, connecting inside to outside. A consistent “visual texture,” for the street wall, created by complementary arrangements of floor lines, window and doors openings and other features is more important to a cohesive image than a consistent architectural period or style.

Parking: Parking should be on-street and/or at the center of blocks, using liner buildings to mask the lots or structures. When it isn't possible to mask surface lot parking, lots should be behind or to the side of buildings to minimize disruption of the street wall.

Authenticity: Preserve and build upon the unique assets that differentiate the village from other villages or districts in the region. Respect historic patterns, precedents and traditions. Preserve the best natural features and link them to the TOD area. Retain older buildings and blocks that lend a sense of roots and character, and that provide lower rent options for creative entrepreneurs and new business startups. Recruit and retain locally owned businesses when possible.



Photo Credit: URS

Public Space: Establish a primary public space to serve as the symbolic heart of the TOD area. It should be augmented with a diverse offering of secondary public spaces—small greens, plazas, pocket parks, and pedestrian ways that are linked by walkable streets and furnished with amenities that support and encourage activity in the public realm.



Third Places: Encourage establishment of "third places" distinct from home and work—coffee shops, internet cafes, alfresco dining areas, pubs, bookstores and the like—that foster a culture of informal gathering, socializing, conversing and the exchange of ideas. The best third places are adjacent to sidewalks and public spaces; each benefits greatly through association with the other.

Mind the Details: Great places engage both the senses and intellect with diverse and detailed architectural facades, preservation of key views, engaging signage, attractive furnishings, colorful plantings, sidewalk commerce, public art and many other points of detail. The city's regulatory framework should be flexible enough to allow the unfolding of a diverse and stimulus-rich environment over time.



Photo Credit: URS



Credit: Maynes Associates Architects

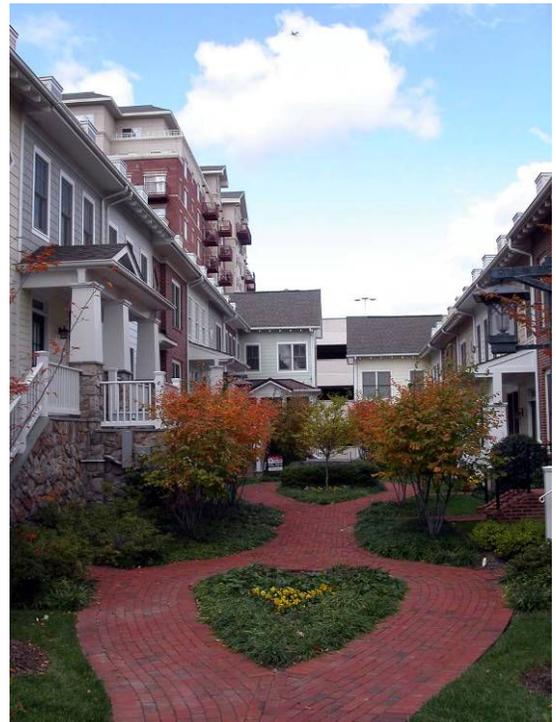


Photo Credit: URS



TOD Development at the East Busway Station in East Liberty

Photo Credit: Port Authority of Allegheny County

II. SUMMARY OF EXISTING CONDITIONS IN THE WEST BUSWAY CORRIDOR

This section highlights the existing conditions in the West Busway study corridor. It includes an overview of transit services and station amenities, the characteristics of each station area (within a one-quarter mile radius, typically regarded as the distance that an individual will walk to access transit services), an overview of recently completed plans and project in the study area, and a market and real estate analysis of the area. Information on the transit services was collected prior to the implementation of service changes from Port Authority's transit development plan; however, recommended service changes are noted where possible.

OVERVIEW OF TRANSIT IN THE CORRIDOR

The West Busway is the public transit core of the study area; however, it is supported by a variety of local transit routes and circulator services. Each of the routes that operate in the study area was recently evaluated as a part of the Port Authority of Allegheny County's (PAAC) Transit Development Plan (TDP), a comprehensive assessment of the system's services with recommendations for improving the service efficiency and effectiveness. The plan was adopted in the fall of 2009. The first phase of implementing the TDP's recommended changes began in March 2010 with additional phases of implementation over the next two years. The route information provided in this report is based on routes in operation as of September 2009.

Description of the West Busway

The West Busway is a five-mile exclusive fixed guideway for transit buses. The busway, open since September 2000, was constructed by PAAC along a former railroad right-of-way. It extends from the West End in the City of Pittsburgh to downtown Carnegie and includes six stations (each described below), five of which have a park-and-ride lot. Nine transit routes operate along the busway. Between downtown Pittsburgh and the busway entrance (just before Corliss Street), buses travel via the Fort Pitt Bridge and West Carson Street. The busway also features an exclusive on-ramp and off-ramp to the Parkway West (I-376) just beyond the Bell Station in Carnegie.

Each of the busway stations features the same architectural character and amenities. Passenger shelters are glass enclosures with green frames and gold roofs. The station areas include decorative brick paving and feature amenities such as system maps, benches, trash receptacles, emergency telephones, and bicycle racks. The condition of the amenities varies among the stations and regular maintenance of the stations is needed. As community development opportunities advance, station improvements are possible.



Ingram Station

Photo credit: Port Authority of Allegheny County

West Busway Transit Routes

Currently, eight PAAC routes and one Beaver County Transit Authority (BCTA) route operate along the West Busway. The following is a brief description of each route, including the TDP's recommended service modifications¹. The characteristics of the existing transit services are summarized in Table 2.2. The TDP recommended modifications for each route are also described below. The pick up and drop off policy at the West Busway stations varies among the routes. This issue will also be addressed in the TDP's final recommendations to make the busway more attractive and convenient to use.

- **Route 33X –West Busway All Stops to Downtown Pittsburgh:** Route 33X operates along the entire length of the West Busway from Carnegie to downtown Pittsburgh and serves each of the stations in both the inbound and outbound directions. In downtown Pittsburgh, the route terminates at Penn Station on the East Busway. The route provides 59 weekday trips and 33 trips on Saturday and Sunday. Weekday peak frequency typically varies from 3 to 20 minutes. Average weekday ridership is approximately 2,700. Ridership is very commuter oriented (inbound in the am, outbound in the pm) with the majority of trips between a busway station and downtown Pittsburgh. There is very little ridership between West Busway stations or along West Carson Street. TDP Recommendation: Route 33X will be renamed the G1. Its alignment will remain the same and service frequency will be increased.
- **Route 100 – All Stops to Downtown and Oakland:** Route 100 follows the same alignment along the West Busway from Carnegie to downtown Pittsburgh and serves each of the stations in both the inbound and outbound directions. However, at Penn Station the route continues along the East Busway and exits at the Neville ramp to provide service to Oakland. Route 100 offers 25 weekday trips. It does not operate on weekends. Its weekday peak frequency is 10 to 20 minutes. Average weekday ridership is approximately 1,800. Similar to Route 33X, there is very little boarding and alighting between West Busway stations. TDP Recommendation: Route 100 will be renamed the G2. Its alignment will be modified slightly. It will no longer serve the Carnegie busway station. Instead it will exit the busway at the Bell Station and travel the Parkway West to serve Robinson Town Centre.
- **Route 28E - Robinson Express:** Route 28E is a weekday express route between Imperial and downtown Pittsburgh with service through Robinson Township along Route 60 / Steubenville Pike. The route uses the West Busway from downtown Pittsburgh to the Bell Station where it accesses I-376 West and I-79 north to Route 60. Just beyond the Route 60 interchange with US 22 / US 30, the route operates as a loop west along Enlow Road and Cliff Mine Road to Imperial and then follows Route 60 back to I-79. The route provides four morning and four evening trips. The route's average weekday ridership is 265. TDP Recommendation: Route 28E will be combined with Route 26E and will be renamed Route 29. Its alignment will remain the same and service frequency will be increased. The new route will no longer use the West Busway.
- **Route 28K – Moon Express:** Route 28K provides weekday express service from the University Boulevard park-and-ride lot in Moon Township to downtown Pittsburgh. From Moon, the route follows Route 60 / I-376 West to the Bell Station where the route follows the West Busway into downtown. The route provides a reverse commute service on a few trips from downtown, serving some of the office and commercial areas of Moon. Approximately four trips per day extend beyond downtown to serve Oakland. The route operates 21 inbound and 20 outbound trips. Average weekday ridership is 1,040. TDP Recommendation: Route 28K will be renamed the G2 Moon Flyer. Its reverse commute and Oakland services will be eliminated.
- **Route 28M – Campbells Run Road:** Route 28M is a reverse commute express route that operates between downtown Pittsburgh and Robinson Township. From downtown Pittsburgh, it utilizes the West

¹ Bus route evaluations conducted and published as a part of the PAAC TDP were utilized to document the characteristics of the existing transit services.

Busway to I-376 West and then follows Campbells Run Road to Robinson. Its predominant alignment serves the commercial areas along Campbells Run Road as well as Bayer, CCAC West, and the Pittsburgh Technical Institute. On one outbound trip each day, the route also serves Robinson Town Centre, The Pointe at North Fayette, and RIDC West. The route provides five morning and five afternoon/evening trips. It carries approximately 110 passengers each weekday. In the outbound direction, nearly 90 percent of the route's passengers originate in downtown Pittsburgh and 78 percent alight along Campbells Run Road. TDP Recommendation: Route 28M will be renamed Route 28. It will become a feeder route that operates along Campbells Run Road and provides connections between the Pointe at North Fayette and the Crafton busway station. It will no longer operate on the West Busway or travel to downtown Pittsburgh

- **Route 28X – Airport Flyer:** Route 28X is an express route that connects Oakland, downtown Pittsburgh, Robinson Town Centre, and Pittsburgh International Airport. It utilizes the West Busway to make the connection between downtown Pittsburgh and the Parkway West. The route operates seven days per week and provides 64 roundtrips per weekday. Its average weekday ridership is 1,690. TDP Recommendation: Route 28X will be renamed the R28 Airport Rapid. The route will continue to connect Oakland and downtown Pittsburgh to the Pittsburgh International Airport. It will no longer serve Robinson Town Centre.
- **Route 33D – Bridgeville / Washington Avenue Express:** Route 33 provides weekday express route service to downtown Pittsburgh from South Fayette, Bridgeville, Collier, Heidelberg, and Carnegie. In the inbound direction, the route accesses the West Busway in Carnegie or at the Idlewood Station (it uses I-376 West in the outbound direction). The route provides eight morning and six evening trips. The average weekday ridership is 310. TDP Recommendation: Route 33D will be combined with Route 33E and will be renamed the G31 Bridgeville Flyer. It will provide peak period service only.
- **Route 33E – Bridgeville Express:** Route 33E is a weekday express route to downtown Pittsburgh with service to Cecil (Washington County), Morgan, Bridgeville, Heidelberg, and Carnegie. In Carnegie, the route enters the West Busway at Bell Station and utilizes it to travel into downtown Pittsburgh (some route variations also serve the office parks in Green Tree). The route provides eight inbound trips and 9 outbound trips. Its average weekday ridership is 320. TDP Recommendation: Route 33E will be combined with Route 33D and will be renamed the G31 Bridgeville Flyer. It will provide peak period service only.
- **BCTA Route 4 – Chippewa to Pittsburgh:** BCTA's Route 4 provides weekday express service from its park-and-ride lots in Chippewa and Center Township to downtown Pittsburgh. Route 4 utilizes Route 60 / I-376 West for most of its alignment but uses the West Busway to access downtown Pittsburgh. The route provides five morning peak and four evening peak trips, approximately every 30 minutes. Average weekday ridership is 305. BCTA does not allow boarding and alighting within Allegheny County, with the exception of the route's stops in downtown Pittsburgh.²

As shown in Table 2.1, more than 90 percent of passenger boardings along the West Busway occur in the inbound direction, demonstrating the importance of downtown Pittsburgh as a passenger destination. PAAC's recent route evaluations indicate that the level of travel between busway stations is low. As the station areas redevelop, travel destinations may develop along the busway.

² Source: Beaver County Transit Authority, Kristin Sheleheda, Planner, via telephone, 27 July 2009.

Table 2.1: Summary of Weekday Boardings at West Busway Stations – PAAC Routes Only

Station / Stop	Inbound		Outbound		Total Boardings
	Number of Boardings	Percent of Total	Number of Boardings	Percent of Total	
Sheraden	439	85%	77	15%	516
Ingram	181	92%	16	8%	197
Crafton	388	92%	32	8%	420
Idlewood	160	96%	6	4%	166
Bell	166	90%	18	10%	184
Carnegie	803	99%	10	1%	813
Robinson Town Centre	262	87%	28	13%	290
Total	2,399	93%	187	7%	2,586

Source: Port Authority of Allegheny County, Transit Development Plan, Route Evaluations, 2008.

Other Study Corridor Transit Routes

The following routes provide service in the West Busway study area. The routes do not operate on the West Busway but several provide transfers at West Busway stations.

- Route 21C – West Park:** Route 21C is a local route that operates between Kennedy Township and downtown Pittsburgh. On eight inbound and outbound trips per day, the route is extended to serve Robinson Town Centre and the Mall at Robinson. The route provides 30 roundtrips each weekday. The average weekday ridership is 1,440. TDP Recommendation: Route 21C will be renamed Route 24. All trips will be extended to serve Robinson Town Centre.
- Route 24A – Crafton / Presston:** Route 24A is a crosstown route (does not go downtown) that only operates during the midday of weekdays. It serves McKees Rocks, West Park, Wind Gap, Fairywood, Ingram, and Crafton. It provides transfers at the Crafton busway station. It serves the Crafton-Ingram Shopping Center but does not directly serve the Ingram busway station. The route carries approximately 90 passengers each weekday. TDP Recommendation: Route 24A will be eliminated. Its riders will be served by other routes.
- Route 25A – Robinson / Moon / Coraopolis:** Route 25A is a crosstown route that serves Neville Island, Corapolis, Moon Township, RIDC West, and Robinson Township. It operates seven days per week. Within the study area, the route serves the Mall at Robinson, Robinson Town Centre, and the Point at North Fayette. The route provides 16 inbound and 18 outbound trips per weekday. The weekday peak frequency is between 25 and 55 minutes. The route operates nearly hourly between 9:00 a.m. and 4:00 p.m. The average weekday ridership is 350. TDP Recommendation: Route 25A will be renamed Route 25 Moon. The service to Neville Island, RIDC West, and Cherrington Corporate Center will be eliminated.
- Route 26A – Ingram / Sheraden:** Route 26A provides daily service between Crafton and downtown Pittsburgh. This route provides transfers at the Crafton and Sheraden busway stations. The route provides 32 inbound and 31 outbound trips each weekday. It carries approximately 910 passengers each weekday. TDP Recommendation: Route 26A will be combined with Route 26D and will be renamed Route 26 Chartiers. The route will provide transfers at the Ingram and Sheraden busway stations.
- Route 26B – Fairywood via Steuben Street:** Route 26B is a daily local route that serves Crafton, the Fairywood neighborhood of Pittsburgh, Ingram, Crafton Heights, Elliot, the West End, and downtown Pittsburgh. The route provides 38 weekday roundtrips, only one of which directly serves the Ingram busway station; however, the route serves the Crafton-Ingram Shopping Center that is in close proximity to the

busway station. Average weekday ridership is 1,111. TDP Recommendation: Route 26B will be renamed Route 27 Fairywood and all trips will serve the Ingram Station.

- **Route 26D – Chartiers City:** Similar to Route 26A, Route 26D is a local weekday route that operates between Crafton and downtown Pittsburgh. The route provides connections to the West Busway at the Ingram and Sheraden stations. The route provides 17 roundtrips each weekday. The average weekday ridership is 660. TDP Recommendation: Route 26D will be combined with Route 26A and will be renamed Route 26 Chartiers. The route will provide transfers at the Ingram and Sheraden busway stations.
- **Route 26E – Robinson:** Route 26E is a local route that operates between downtown Pittsburgh and Imperial. From downtown Pittsburgh, it travels via the West End (Steuben Street) to Route 60 (Steubenville Pike). In Robinson Township, the route has several variants that serve origins and destinations such as Robinson Town Centre, The Pointe at North Fayette, RIDC West, Pittsburgh Technical Institute, and CCAC West among others. The route provides 10 inbound trips and 7 outbound trips. Its average weekday ridership is 321. TDP Recommendation: Route 26E will be combined with Route 28E and will be renamed Route 29. Its alignment will remain the same and service frequency will be increased. The new route will no longer use the West Busway.
- **Route 33F - McDonald:** Route 33F is a weekday feeder route that provides a connection from communities in southwestern Allegheny County to the West Busway at the Carnegie station. Its primary alignment begins in McDonald and uses Noblestown Road for most of its trip to Carnegie. Its alternate alignment uses Washington Pike and Thoms Run Road. The route provides 14 roundtrips each weekday. Its average weekday ridership is 95. TDP Recommendation: Route 33F will be eliminated.

The Airport Corridor Transportation Association (ACTA) is a non-profit transportation management association located at Robinson Town Centre in Pittsburgh's western suburbs. Through a contractor, ACTA provides two public transportation services, both of which are free to the user. ACTA services include the following³:

- **RideACTA Penn Center West:** A shuttle service that connects the Penn Center West office park (Building 5) to the Carnegie Station on the West Busway. It operates Monday through Friday from 4:30 p.m. to 8:30 p.m. and offers service every 30 minutes. Its average weekday ridership is 31.
- **RideACTA IKEA:** An on-demand shuttle in the Robinson Town Centre and Pointe at North Fayette retail areas that operates Monday through Friday from 6:00 a.m. to 10:00 p.m. This is an expansion of a previous service. It began operation on August 31, 2009.

Summary of Transit Services in the Corridor

There are a wide variety of transit services available in the West Busway study area including local, express, and circulator services. The West Busway is served by two dedicated routes, the 33X and 100, that generate the highest average daily ridership in the study area. Six other PAAC routes operate along the West Busway, serving many of the communities in the Parkway West Corridor, on weekdays only. PAAC operates eight additional routes in the study area that do not utilize the West Busway; however, several of these routes facilitate transfers at West Busway stations. In addition, ACTA provides two circulator services, one that operates in the Robinson retail area and one that provides connections between the Penn Center West office park and the West Busway.

Average daily ridership on the West Busway is approximately 8,500. Approximately 53 percent of that ridership is on Routes 33X and 100. Average daily ridership on the non-busway transit services in the corridor is approximately 5,000. As noted in PAAC's recent route evaluations, most ridership along the West Busway is very oriented to downtown Pittsburgh commute patterns with very little boarding and alighting between West Busway stations. In

³ Source: Airport Corridor Transportation Association, Lynn Manion, Executive Director.

addition, the route evaluations noted that ridership along the busway may be constrained by the limited capacity of the park-and-ride lots.

Table 2.2: Summary of Transit Services in the Corridor

Transit Route	Number of Trips (Inbound / Outbound)			Service Frequency (minutes)			Average Route Weekday Ridership
	Weekday	Saturday	Sunday	Weekday Peak	Saturday	Sunday	
West Busway Routes							
Route 28E	4 / 4	0 / 0	0 / 0	30	-	-	265
Route 28K	21 / 20	0 / 0	0 / 0	8 to 20	-	-	1,040
Route 28M	5 / 5	0 / 0	0 / 0	30	-	-	110
Route 28X	64 / 64	39 / 39	31 / 31	30	30 to 35	30 to 35	1,690
Route 33D	8 / 6	0 / 0	0 / 0	10 to 40	-	-	310
Route 33E	8 / 9	0 / 0	0 / 0	10 to 40	-	-	320
Route 33X	59 / 59	33 / 33	33 / 33	3 to 20	20 to 60	20 to 60	2,734
Route 100	25 / 25	0 / 0	0 / 0	10 to 20	-	-	1,800
BCTA Route 4	5 / 4	0 / 0	0 / 0	15 to 30	-	-	305
Average Weekday Ridership for West Busway Routes							8,574
Study Area Routes							
Route 21C	30 / 30	22 / 22	18 / 18	20 to 30	35 to 60	70	1,440
Route 24A	7 / 7	0 / 0	0 / 0	-	-	-	90
Route 25A	16 / 18	7 / 7	5 / 5	25 to 55	135	135	350
Route 26A	32 / 31	21 / 21	10 / 10	15 to 30	30 to 40	60 to 75	910
Route 26B	38 / 38	23 / 23	14 / 14	15 to 20	35 to 60	70	1,111
Route 26D	17 / 17	0 / 0	0 / 0	15 to 30	-	-	660
Route 26E	10 / 7	0 / 0	0 / 0	40 to 70	-	-	321
Route 33F	14 / 14	0 / 0	0 / 0	20 to 60	-	-	95
RideACTA Penn Center West	8 / 8	0 / 0	0 / 0	30	-	-	31
RideACTA IKEA ¹	Flexible shuttle	-	-	-	-	-	N/A
Average Weekday Ridership for Study Area Routes (non-busway)							5,008

Source: Port Authority of Allegheny County, Transit Development Plan, Route Evaluations, 2008.

Beaver County Transit Authority

Airport Corridor Transportation Association

¹ New service effective August 31, 2009. No ridership data available yet.

OVERVIEW OF THE STATION AREAS

This section provides a description of the transportation and land use characteristics of each of the West Busway station areas. The information was collected from a variety of sources including, but not limited to, community websites and community representatives, zoning ordinances, geographic information systems, and fieldviews of the station areas. Each station area summary is accompanied by two maps – a base existing conditions map and a zoning map. The maps follow the text description.

Population, population density, and housing density for each station area were calculated using population and housing data from the 2000 US Census. Population, housing, and area information at the census block level was collected for the blocks that comprise the one-quarter mile station area. If a block was only partially contained within the station area, data was attributed to the block based on the proportion of the block's area that is within the one-quarter mile radius. Please note that the information from the 2000 U.S. Census is now nearly 10 years old and does not take into account recent population and land use changes.

Sheraden

The Sheraden busway station is located in the Sheraden neighborhood in the City of Pittsburgh's West End. The station is located along Chartiers Avenue near the intersection with Municipal Street.

The Sheraden station area is a moderately dense urban neighborhood. It has a small neighborhood commercial district near the intersection of Chartiers Avenue and Sheraden Boulevard. The station area includes two Pittsburgh public schools, Langley High School and Pittsburgh Classical 6 through 8 (formerly Greenway Middle School), a classical academy middle school. Ball fields and athletic facilities are located at Pittsburgh Classical 6-8 and at Sheraden Park. Corliss Business Park, with several commercial/industrial tenants, is located adjacent to the busway station park-and-ride lot.

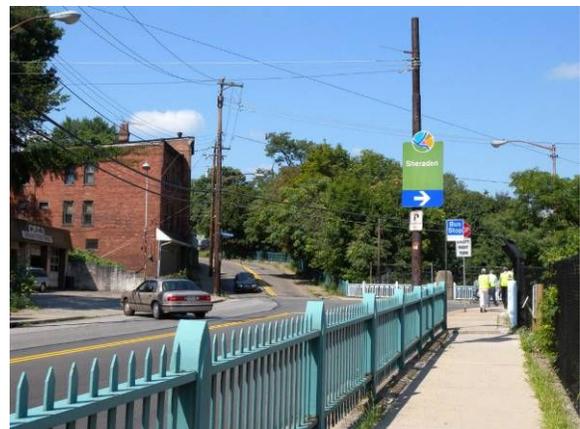
Transportation Access

Automobile

The most convenient regional access to the Sheraden station is via Route 51 / West Carson Street and Corliss Street. Corliss Street continues west as Chartiers Avenue. Local access is primarily via Chartiers Avenue, Berry Street, and Sheraden Boulevard.

Pedestrian

The Sheraden neighborhood has excellent sidewalk coverage that allows pedestrian access to the station. On the south side of the station, sidewalk access is via Chartiers Avenue. On the north side of the station, pedestrian access is provided by a pathway that connects the busway station to Chartiers Avenue (where it is a bridge over the busway).



Sheraden - Pedestrian access along Chartiers Avenue
Photo credit: SPC



Bicycle

Currently there are no dedicated bike lanes in the station area. However, Bike Pittsburgh, a non-profit group that advocates on behalf of bicycling issues in the region, has designated Chartiers Avenue through the area as an on-street bike route.

Population Density

In 2000, there were approximately 1,265 persons, or 10 persons per acre, living in the study area. The Sheraden station area has the third highest population density among the station areas. In addition, there were approximately 4.5 housing units per acre (4.10 occupied housing units per acre), fourth highest among the station areas.

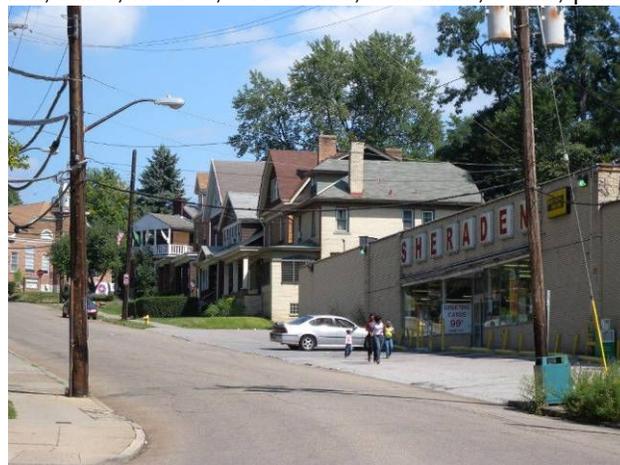
Zoning

Zoning within the station areas reflects the current land uses. The majority of the Sheraden station area is comprised of residential uses, within four types of zoning districts within the City of Pittsburgh zoning code. The three primary residential zoning districts vary according to the type of dwelling (single unit or two-unit) and level of density (low, medium, or high). The Hillside (H) district does contain residential uses. New housing in the Hillside district would require special approval.

The station area is bordered by a local neighborhood commercial (LNC) zoning district. The primary uses of the LNC district allow for a mixture of land uses including residential, office, medical, educational, restaurant, banks, parks, and retail sales and services among others. South and east of the busway station is an urban industrial (UI) zoning district. In addition to its industrial uses, the zoning district does allow for some mixing of land uses.

Parking

The Sheraden station features a 177-space park-and-ride lot, second largest among the West Busway park-and-ride lots. According to the PAAC website, the lot fills by 8:00 am. On-street parking is allowed throughout the station area, including along Chartiers Avenue where it parallels the West Busway.



Sheraden - Neighborhood grocery store on Sheraden Boulevard
Photo credit: SPC

Figure 2.2 Sheraden Station Existing Conditions



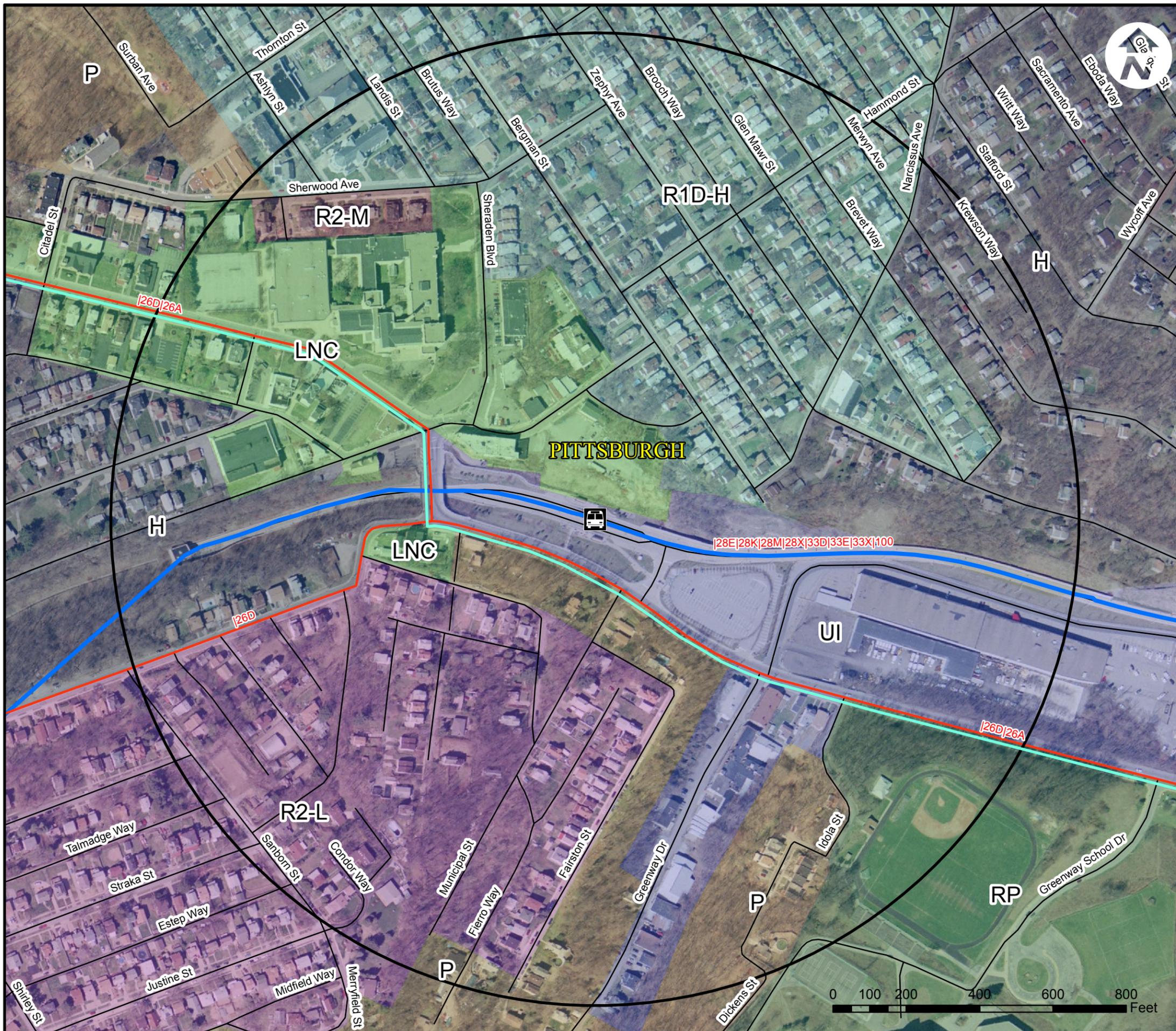
Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway
-  Transit Station
-  On-Street Bike Route
-  Park
-  Municipal Boundary
-  Public Parking (Number of Spaces)
-  School



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Bike Pittsburgh

Figure 2.3 Sheraden Station Zoning



Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- Transit Station
- On-Street Bike Route
- Municipal Boundary

City of Pittsburgh

- (H) Hillside
- (LNC) Local Neighborhood Commercial
- (P) Park
- (R1D-H) Single Unit Detached Residential, High-Density
- (R2-L) Two-Unit Residential, Low Density
- (R2-M) Two-Unit Residential, Moderate-Density
- (RP) Residential Planned Unit Development
- (UI) Urban Industrial District

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Bike Pittsburgh
 City of Pittsburgh GIS

Ingram

The Ingram busway station is located in Ingram Borough. The station is located along Ingram Avenue near the intersection with Marcross Street. The southern portion of the station area is within Crafton Borough's municipal limits.

The Ingram station area is a moderately dense neighborhood. It has a small neighborhood commercial district near the intersection of Ingram Avenue and West Prospect Avenue. A small portion of the Crafton-Ingram Shopping Center, a large local shopping center, is located in the southwest portion of the station area. The Ingram Borough Building is located a few blocks northwest of the station and Ingram Elementary is one block to the west. Ingram Park is immediately south of the station.

Transportation Access

Automobile

Because the Ingram Station does not have a park-and-ride lot (see below), the level of automobile access to the station is probably very low. Local access via local streets would be easy. Regional access would be more difficult, requiring drivers to use I-79, exit at Route 60 Steubenville Pike, and follow Ingram Avenue to the station.

Pedestrian

The Ingram station area has good sidewalk coverage. The busway itself presents a barrier to pedestrian access for residents living east of the busway. Pedestrian access from the east side of the busway is provided via a bridge over the West Busway on Prospect Avenue.



Ingram – Pedestrian/vehicular bridge over busway at West Prospect and Ingram Avenues
Photo credit: URS

Bicycle

Currently there are no dedicated bike lanes in the station area. However, SPC's recent evaluation of streets using a bike suitability model found that Ingram Avenue in the station area presents above average conditions for bicycling.

Zoning

The majority of the Ingram station area is comprised of two residential zoning districts – R2 Medium Density Residential and R3 High Density Residential. According to the Borough's zoning code, the R2 zoning district was established to preserve the community's existing residential fabric, and thus permitted uses are limited to residential and a few other uses such as churches, libraries, and schools. The R3 zoning district allows limited commercial development such as retail stores and personal services.

Along Ingram Avenue in the vicinity of the station area, the zoning district is C3, Special District. The Borough recognizes that this area is in need of redevelopment. Through its zoning ordinance, it is allowing a mixture of uses, such as multi-family housing, office, and personal services among others, in this area with the hopes of facilitating redevelopment.

Within its boundaries, the Ingram Borough has zoned the Crafton-Ingram Shopping Center as C2, Community Business District. The C2 zone is applied to those shopping areas with a larger market area than the borough alone and those requiring vehicular access and large parking areas. Low-density residential and industrial uses are not permitted in the C2 district.

Population Density

Population and density in Ingram is the highest among all station areas. In 2000, there were approximately 1,738 persons, or 13.84 persons per acre, living in the study area. In addition, there were approximately 6.3 housing units per acre (5.97 occupied housing units per acre).

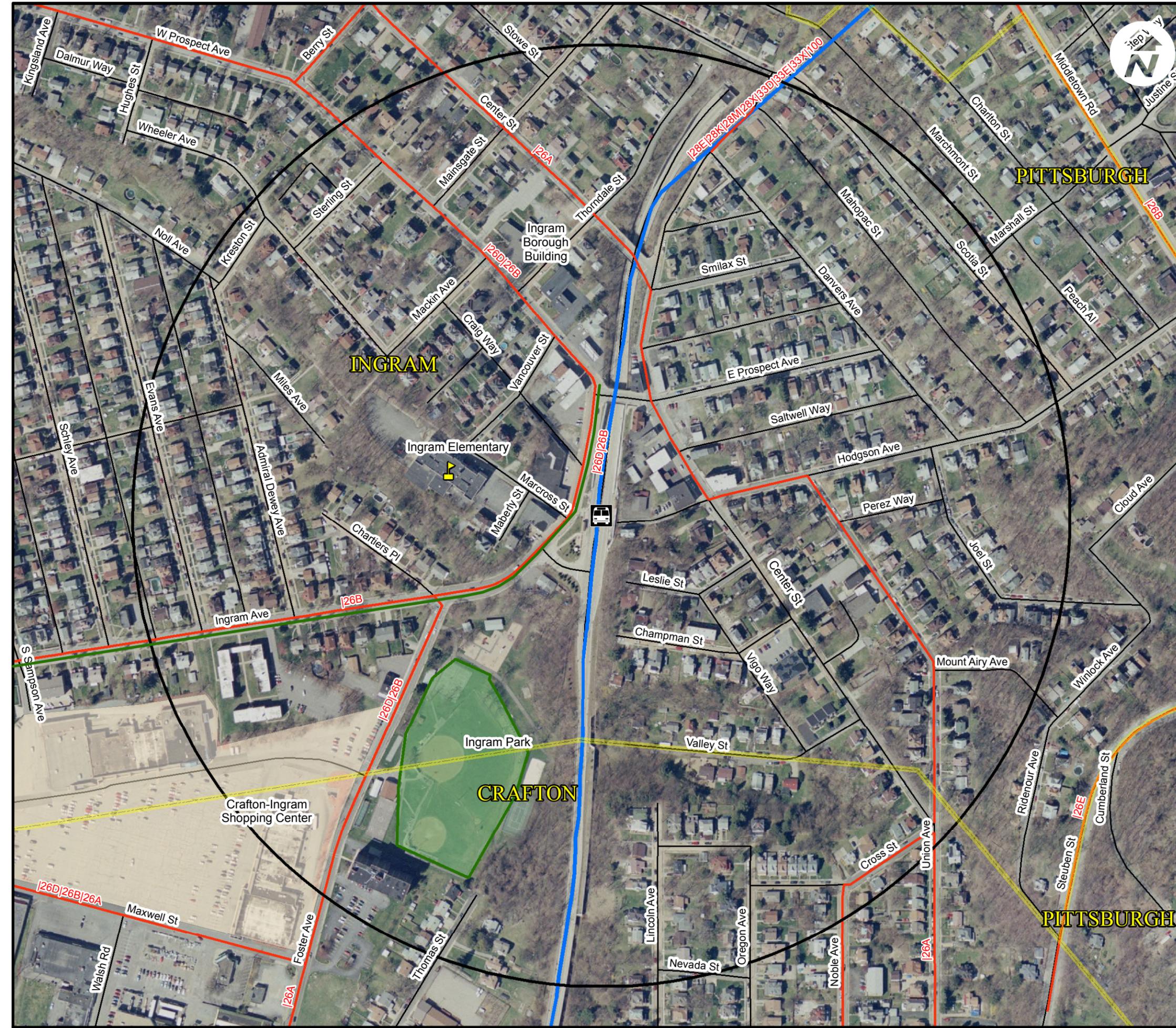
Parking

Ingram Station is the only West Busway station that does not have a park-and-ride lot. On-street parking is allowed throughout the station area, but it does not appear that there is a high level of station users parking on neighborhood streets. Restrictions on long-term parking were not observed in the field, with the exception of Center Street between East Prospect Avenue and Hodgson Avenue (two-hour parking restriction).



Ingram – Land uses adjacent to station on Ingram Avenue
Photo credit: URS

Figure 2.4 Ingram Station Existing Conditions



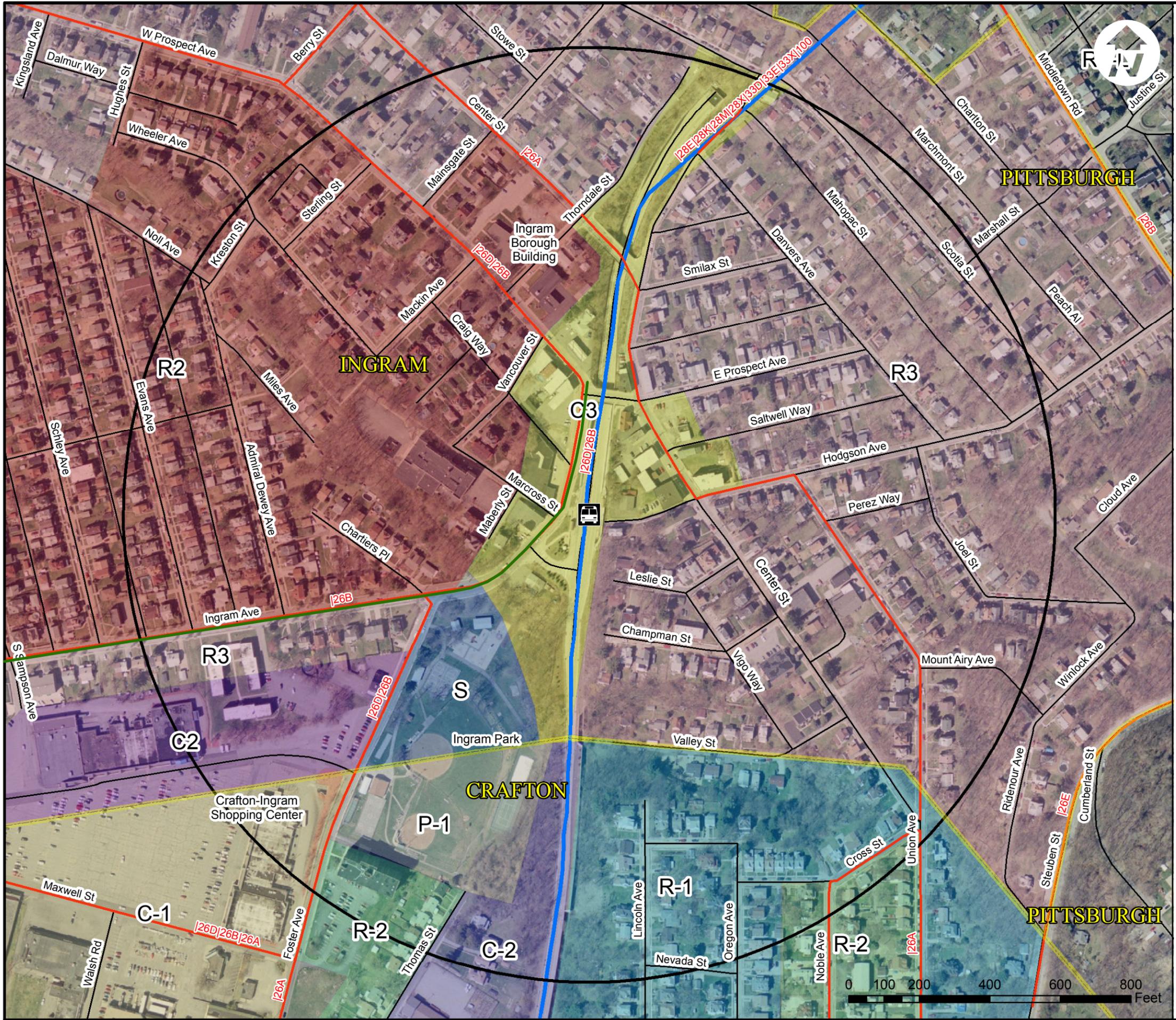
Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- Transit Station
- Above Average for Bicycling
- Park
- Municipal Boundary
- School



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County

Figure 2.5 Ingram Station Zoning



Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- Transit Station
- Above Average for Bicycling
- Park
- Municipal Boundary
- School

Crafton

- (C-1) Shopping Center
- (C-2) Commercial Core
- (P-1) Active Park District
- (R-1) Single-Family Residential
- (R-2) Single and Multi-Family Residential

Ingram

- (C2) Community Business District
- (C3) Special District
- (R2) Medium Density Residential District
- (R3) High Density Residential District
- (S) Conservancy District

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Ingram Borough
 Crafton Borough
 City of Pittsburgh GIS



Crafton

The Crafton busway station is located entirely within Crafton Borough. The station is located along Station Street adjacent to the Crafton Borough Building.

The Crafton station area is a moderately dense neighborhood. It has a small neighborhood commercial district in the area roughly bordered by Bradford Avenue, Noble Avenue, and Crafton Avenue. In addition to the Crafton Municipal Building, the Crafton library and volunteer fire department are also located near the busway station. St. Phillip Catholic Elementary School is located north of the station. The Crafton-Ingram Shopping Center is located just beyond the station area north of Steuben Street.

Transportation Access

Automobile

Primary local neighborhood vehicular access is provided by Noble Avenue, Crafton Avenue, Crennel Street, and Steuben Street. Regional access to the station is fair, requiring drivers to use I-79, exit onto Steubenville Pike and use Steuben Street to travel into Crafton.

Pedestrian

The pedestrian network is good throughout Crafton. Similar to Ingram, the busway serves as a pedestrian barrier for some adjacent neighborhood streets. On the western side of the busway, the primary pedestrian access to the station is provided at Crennel Street. On the eastern side, pedestrian access is provided along Station Street.

Bicycle

Currently there are no dedicated bike lanes in the Crafton station area. SPC's recent evaluation of streets using a bike suitability model identified portions of East Steuben Street, West Crafton Avenue, and Noble Avenue as having below average conditions for bicycling.

Population Density

In 2000, there were approximately 1,472 persons, or 11.72 persons per acre, living in the Crafton station area. There were approximately 5.72 housing units per acre (5.29 occupied housing units per acre). Crafton's population and housing density are second highest among the station areas.

Zoning

The Crafton station area is comprised of two types of zoning districts – residential and commercial. The mixture of land uses allowed in the C-2 Commercial Core zone, in the center of the station area, is intended to facilitate redevelopment, encourage a pedestrian-oriented character of development, and allow for open space. Permitted uses with the C-2 district include single- and multi-family housing, bars and restaurants, businesses, retail, and churches, among others.

The rest of the station area is primarily R-1 Single-Family Residential where uses are limited to single-family dwellings, essential services, no-impact home-based businesses, and forestry (with some conditional uses such as daycare centers



Crafton – Traffic circle on Crennel, adjacent high density housing

Photo credit: URS



and churches). A small section of the area is zoned R-2 Single-Family and Multi-Family Residential. The R-2 zone has the same principal and accessory uses as R-1. The primary difference is that it allows two-family dwelling units.

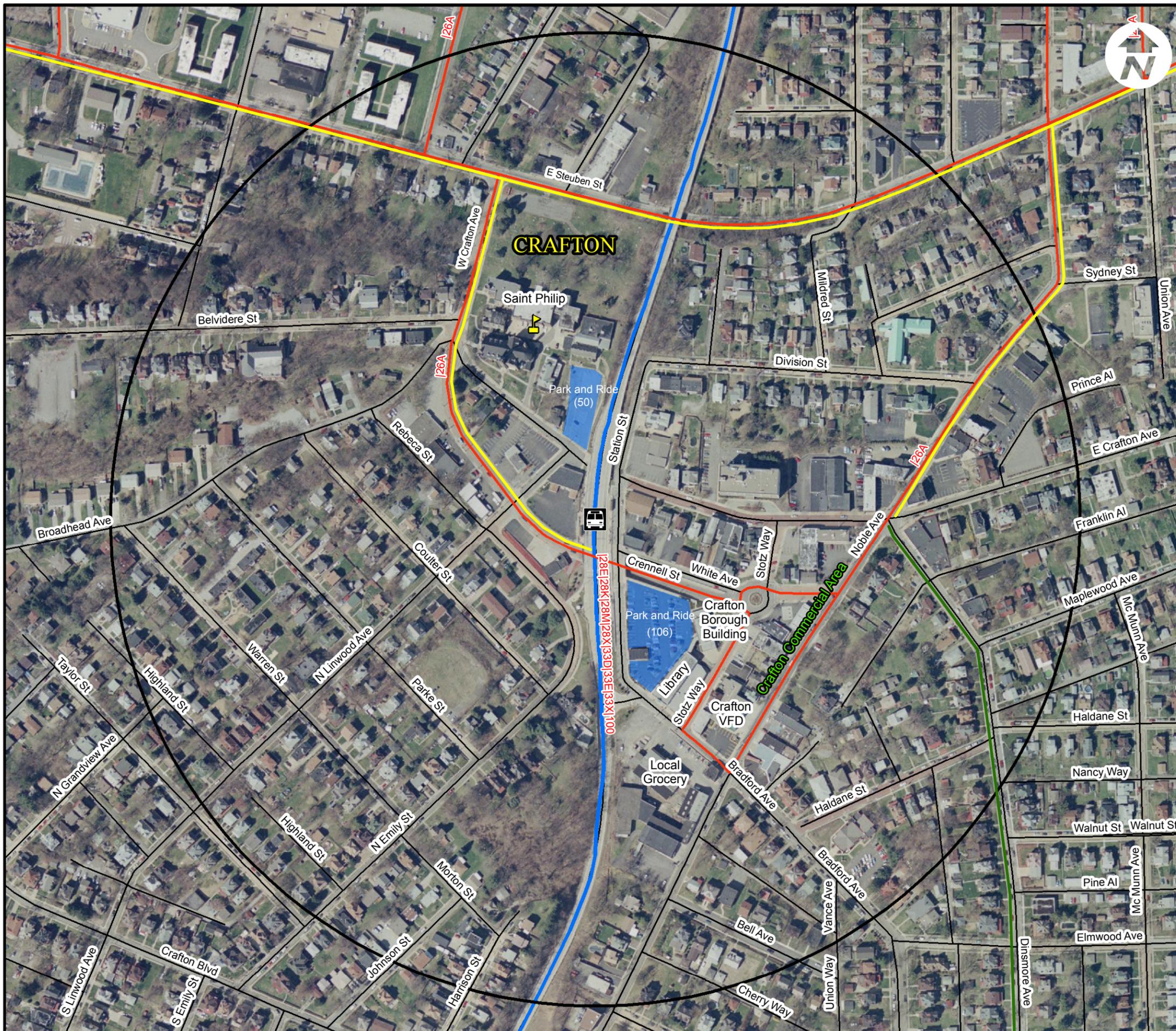
Parking

The Crafton Station features two park-and-ride lots. A 106-space lot is located behind the Crafton Municipal Building and a 50-space lot is located at the Knights of Columbus. According to PAAC, both lots fill by 7:15 am. Unrestricted parking is allowed along Station Street.



Crafton - Station and park-and-ride lot
Photo credit: URS

Figure 2.6 Crafton Station Existing Conditions



Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- Transit Station
- Above Average for Bicycling
- Below Average for Bicycling
- Park
- Municipal Boundary
- Public Parking (Number of Spaces)
- School

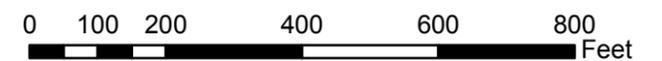
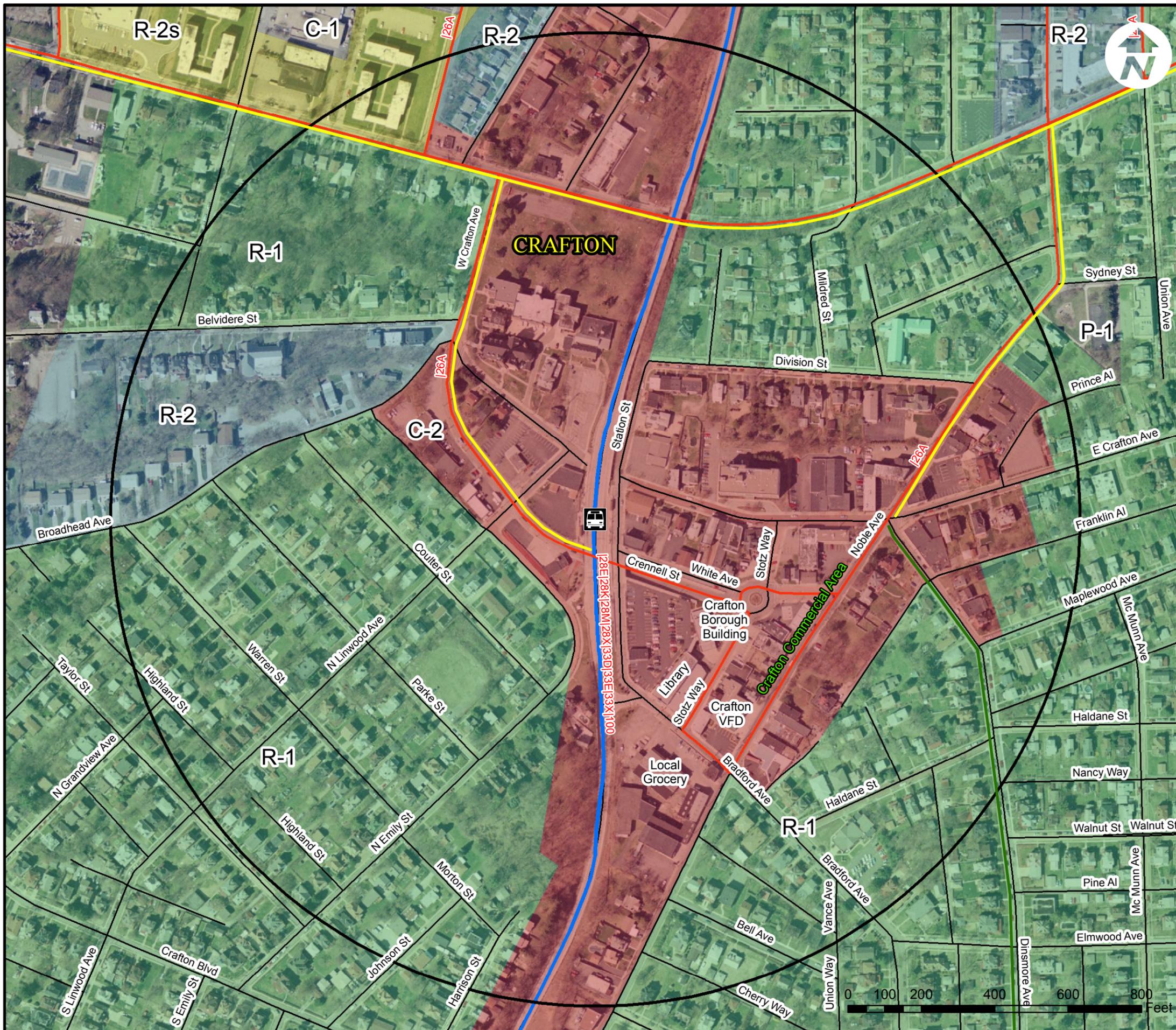


Figure 2.7 Crafton Station Zoning



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway
-  Transit Station
-  Above Average for Bicycling
-  Below Average for Bicycling
-  Municipal Boundary

Crafton

-  (C-2) Commercial Core
-  (R-1) Single-Family Residential
-  (R-2) Single and Multi-Family Residential
-  (R-2s) Steuben Street Overlay

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Crafton Borough

Idlewood

The Idlewood busway station is located at the intersection of Morange Road and Chartiers Avenue in the City of Pittsburgh. The busway station is located on the City's border with Crafton Borough. More than half of the station area is within the City of Pittsburgh in the Oakwood (east) and East Carnegie (south) neighborhoods. The City of Pittsburgh's Oakwood neighborhood is generally inaccessible to the station due to a wooded hillside between the station and the neighborhood. Canevin Catholic High School is located in the southern portion of the station area.

Transportation Access

Automobile

Local and regional automobile access to the station is poor. Primary automobile access is provided via Noblestown Road and Morange Road. Regional access is provided via the Carnegie exit on I-376 West to Noblestown and Morange Roads.

Pedestrian

Pedestrian access to the station from the adjacent Crafton residential neighborhood is good, with sidewalks provided throughout the area. As mentioned above, access for pedestrians is not possible in the adjacent City of Pittsburgh neighborhoods due to topography.

Bicycle

Currently there are no dedicated bike lanes or bike routes in the station area. Bicyclists would access the station using local streets.

Population Density

Population density is quite low in the Idlewood station area. In 2000, there were approximately 539 persons, or 4.29 persons per acre, living in the Idlewood station area. In addition, there were approximately 2.14 housing units per acre (2.02 occupied housing units per acre). The Idlewood station area's population and housing density is affected by the topography east of the station, the adjacent single-family neighborhood, and the adjacent institutional (Canevin High School) and industrial land uses.

Zoning

Land use within the station area consists of residential, industrial, and park. Within the Crafton portion of the station area, the land use is Single-Family Residential (R-1) and Single-Family and Multi-Family residential (R-2). Within the City of Pittsburgh, the wooded hillside is zoned Park (P). The residential neighborhood adjacent to the hillside is zoned for low-density single-family detached residential. The area between the West Busway and Idlewood Road is zoned for industrial uses. Some mixing of uses is allowed in a UI (urban industrial) district, although they tend to be auto-oriented uses.



Idlewood – Adjacent residential neighborhood
Photo credit: SPC

Parking

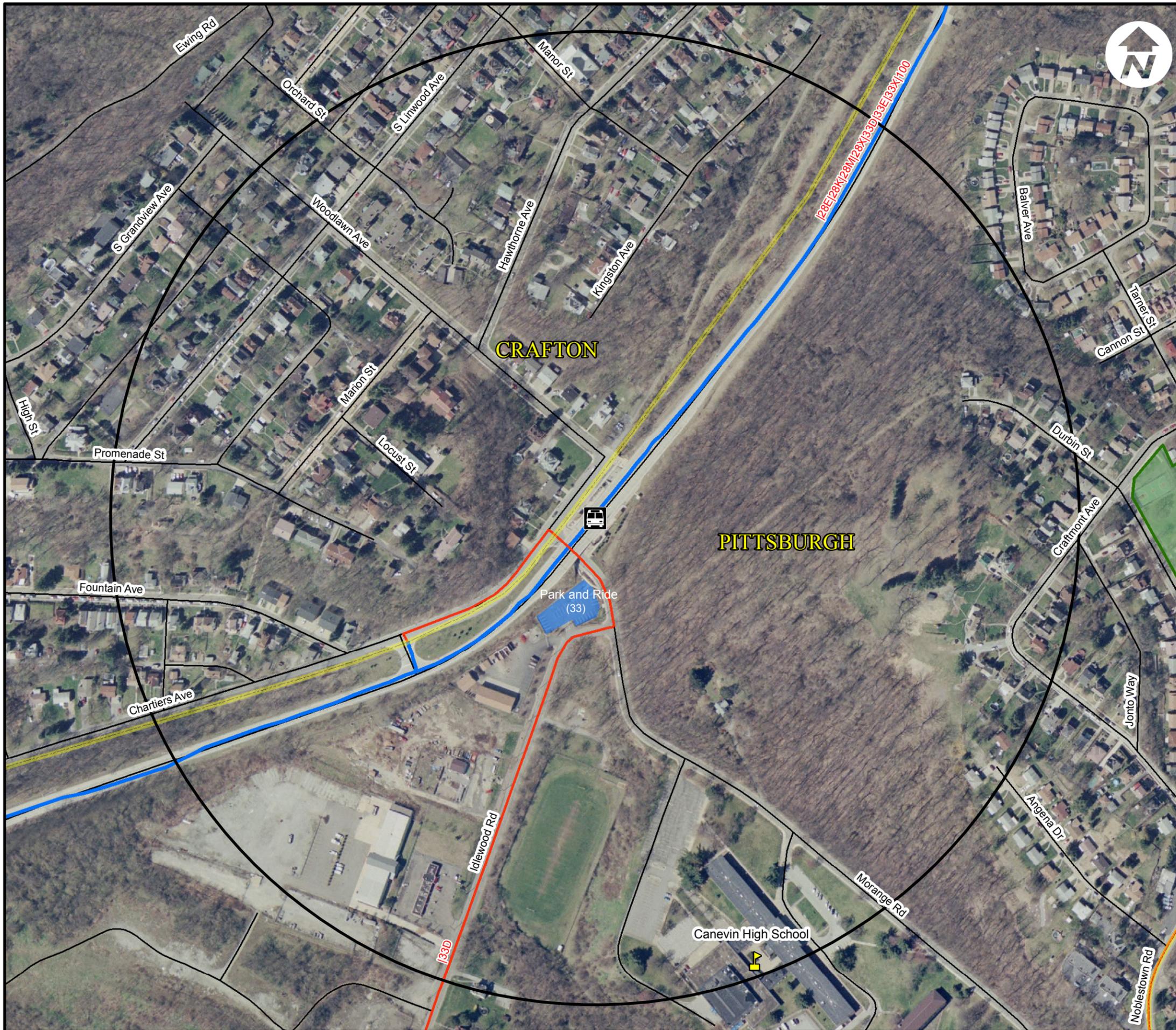
The Idlewood Station has a 33-space park-and-ride lot on Morange Road. Given its size, the lot is full by 7:15 am. Overflow parking was observed on Chartiers Avenue and Woodlawn Avenue.



Idlewood – Overflow parking on Chartiers Avenue

Photo credit: SPC

Figure 2.8 Idlewood Station Existing Conditions



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway
-  Transit Station
-  Proposed Trails
-  Park
-  Municipal Boundary
-  Public Parking (Number of Spaces)
-  School

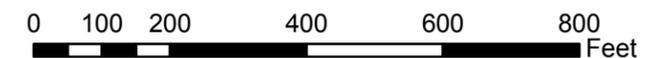


Figure 2.9 Idlewood Station Zoning



Legend

-  Study Area
 -  Transit Routes
 -  X00 Transit Route Name/Number
 -  West Busway
 -  Transit Station
 -  Municipal Boundary
- City of Pittsburgh**
-  (P) Park
 -  (R1D-L) Single-Unit Detached Residential, Low Density
 -  (RM-M) Multi-Unit Residential, Moderate-Density
 -  (UI) Urban Industrial District
- Crafton**
-  (P-1) Active Park District
 -  (R-1) Single-Family Residential
 -  (R-2) Single and Multi-Family Residential

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Crafton Borough
 City of Pittsburgh GIS

Bell

The Bell busway station is located near the intersection of Bell Avenue and Rosslyn Road in Carnegie Borough. Portions of the station area also fall within Rosslyn Farms Borough, the City of Pittsburgh, and Scott Township.

The station is dominated by industrial uses. In the southwest portion of the study area, there is a Carnegie Borough residential neighborhood. Due to topography, a small residential neighborhood in Rosslyn Farms is within the one-quarter mile radius, but the station is not accessible by foot from this area. A floodplain along Chartiers Creek runs through the station area.

Transportation Access

Automobile

Local and regional drivers most likely access the station from Carnegie using Noblestown Road/Mansfield Boulevard to Chestnut Street. To access the station from the Parkway West, drivers can exit at Carnegie, follow Lydia Street, turn north onto Chestnut Street/Arch Street to Bell Avenue.

Pedestrian

The adjacent Carnegie residential neighborhood has good sidewalk coverage, with a sidewalk linking the neighborhood and the station via Bell Avenue.

Bicycle

Currently there are no dedicated bike lanes or bike routes in the station area.

Population Density

Housing and population density in the Bell station area is slightly lower than the Idlewood station. In 2000, there were approximately 503 persons, or 4.01 persons per acre, living in the Bell station area. In addition, there were approximately 1.81 housing units per acre (1.71 occupied housing units per acre). The Bell station area's land use is dominated by industrial uses. Only a small portion of the station area is residential, and it is predominantly a single-family neighborhood.

Zoning

Across four municipalities, more than half of the Bell station area is zoned for industrial uses. Residential development is not permitted in any of the four industrial districts. The R-2 Two-Family Residence zone in Carnegie is limited to single- and multi-family housing units and related uses (e.g., churches, schools, and public buildings among others). The permitted uses within the C-3 Planned Commercial zone include banks, offices, personal services, and medical services. The C-3 district does not allow residential units as a permitted or conditional use.



Bell – Adjacent industrial uses
Photo credit: SPC



Parking

The Bell Station includes a small, 34-space park-and-ride lot which fills by 7:15 am. It can be accessed by passing under I-376 West. It does not appear that there is a high level of overflow station parking on adjacent residential streets.



Bell – Access to park-and-ride lot and adjacent residential neighborhood via Bell Avenue

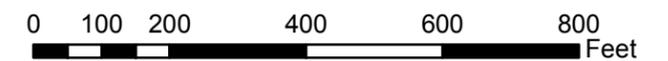
Photo credit: SPC

Figure 2.10 Bell Station Existing Conditions



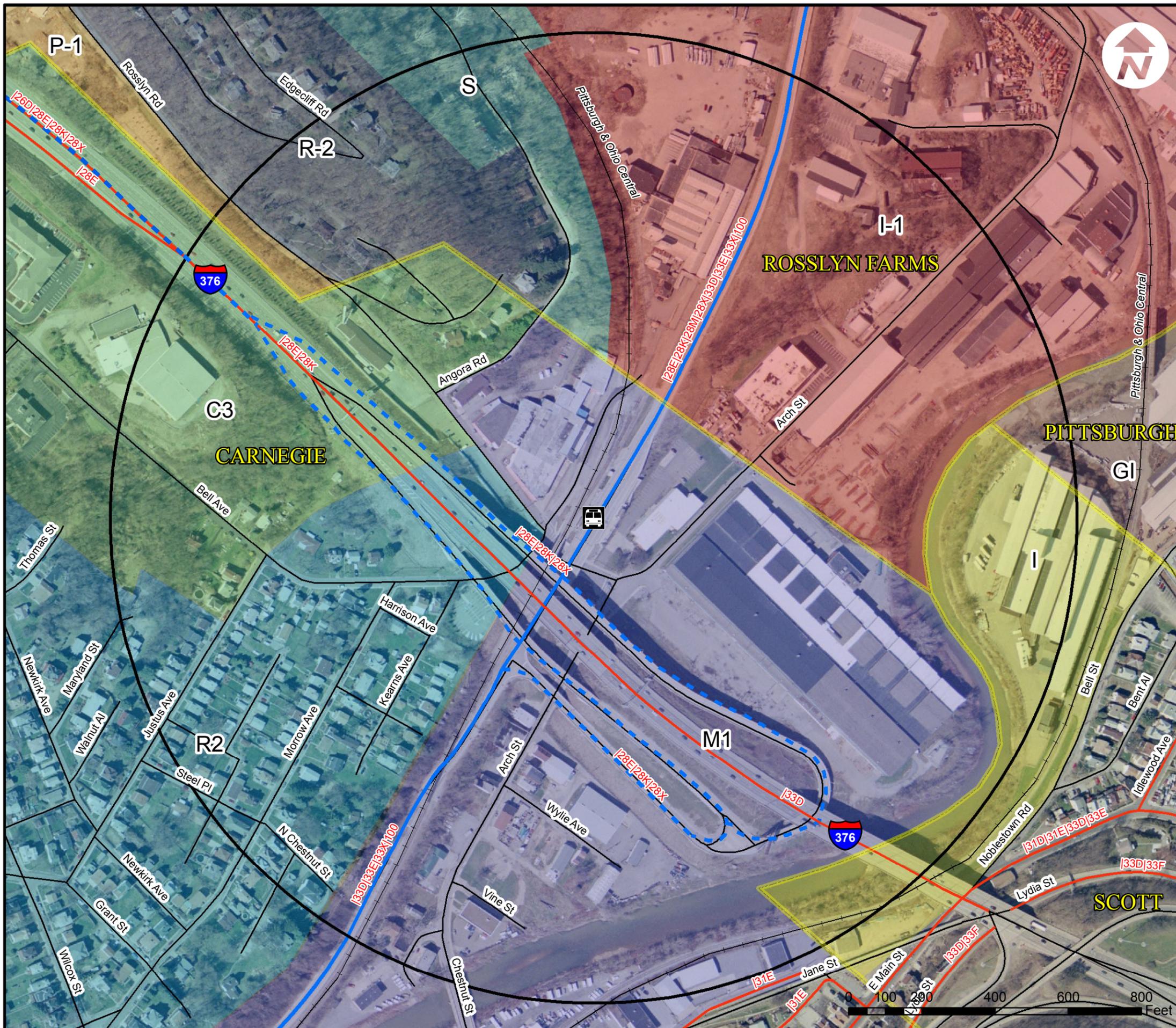
Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway
-  West Busway Service Corridor
-  Transit Station
-  Railroad
-  Proposed Trails
-  Park
-  Municipal Boundary
-  Flood Plain
-  Public Parking (Number of Spaces)



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County

Figure 2.11 Bell Station Zoning



Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- West Busway Service Corridor
- Transit Station
- Railroad
- Municipal Boundary

City of Pittsburgh

- (GI) General Industrial

Carnegie

- (C3) Planned Commercial
- (M1) Planned Industrial
- (R2) Two-Family Residence

Rosslyn Farms

- (I-1) General Industrial District
- (P-1) Active Public Park District
- (R-2) Medium-Density Residential District
- (S) Conservancy District

Scott

- (I) General Industrial

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Carnegie Borough
 Rosslyn Farms Borough
 Scott Township
 City of Pittsburgh GIS

Carnegie

The Carnegie busway station, the southernmost station, is located near the intersection with West Main Street, Mansfield Avenue, and Highland Avenue/Campbells Run Road. The study site is located entirely within Carnegie Borough.

The West Busway station is located in the commercial core of Carnegie. Within the station area, there is also a large residential section and three locations of industrial uses. The Carnegie Borough Building is located adjacent to the station's park-and-ride lot. A portion of the station area is in a floodplain for Chartiers Creek.

Transportation Access

Automobile

The Carnegie Station has good local and regional access. Local access is provided by Main Street and Mansfield Avenue/Noblestown Road. For regional drivers, the station is easily accessible by Carnegie exits off both I-79 and I-376 West. Drivers can access the station by traveling along West Main Street to Cabbage Street or West Main to Highland Avenue/Campbells Run Road to Sixth Avenue through a residential neighborhood.

Pedestrian

The pedestrian network in the Carnegie study area is fully developed with few gaps. On West Main Street, in downtown Carnegie, wide sidewalks are provided on both sides of the street in the downtown area as well as features such as decorative streetscape lighting, benches, trash receptacles, plantings, and parking meters. Recent upgrades to the pedestrian network include painted crosswalks at all signalized intersections with pedestrian signals and crosswalks at side streets throughout the downtown commercial district. Beyond West Main Street, there are sidewalks along all of the streets, although the width and conditions vary.

Pedestrian access to the Carnegie Station is provided from Logan Street via a sidewalk and from across West Main Street via a pedestrian ramp (at 1st Street). The pedestrian access is marked but there is no other signage in the commercial district directing people to the station.

Bicycle

The station area's bicycle network is less developed. The area does not have any bicycle routes, lanes, or multi-use trails. The Chartiers Creek Trail is a proposed multi-use trail along Chartiers Creek in the borough. SPC's bike suitability mapping project identified Third Street in the station area as being above average for bicycling.

Population Density

In 2000, there were approximately 1,193 persons, or 9.50 persons per acre, living in the Carnegie station area. There were approximately 5.14 housing units per acre (4.72 occupied housing units per acre). The population density was fourth among the station areas (just below Sheraden) while the housing density was third (just above Sheraden).

Zoning

The Carnegie Station is directly adjacent to the Carnegie industrial and commercial core along West Main Street. West Main Street is characterized by multi-story buildings with first-floor retail and office space and residential use on the upper floors. The mixture of commercial and industrial uses along West Main Street includes office, retail, medical, municipal, banking, and other services. North of West Main Street, the land use becomes residential with a mixture of one-family and two-family homes. South of West Main Street is a mixture of commercial, transition

commercial, and planned industrial land uses which include offices, warehouses, a multi-story apartment building, retail, restaurants, banking, and other services.

The Carnegie study area includes portions of four zoning districts. The majority of the Carnegie study site falls within the borough's C1 Commercial zoning district. The C1 district, which follows West Main Street and Washington Street, allows for the greatest mixture of uses among the Borough's zoning districts. The purpose of the C1 district is to maintain the character of the downtown area and allow people to live, work and shop near the busway station.



Carnegie – Nearby downtown Carnegie
Photo credit: SPC

The southeast quadrant of the station area falls within the borough's C2 Transition Commercial zoning district. This zoning district allows for a mix of commercial uses such as banks, offices, and personal services, but also allows residential uses such as one and two-family homes. The northern area of the study site, north of Logan/Dick Street is zoned for R2 Two-Family Residential. Permitted uses include one- and two-family houses and accessory uses. Townhouses, garden apartments, recreational clubs, and public facilities are considered conditional uses in the R2 district.

Three small areas of the study site are in the Planned Industrial district (M1). Within the M1 areas, light manufacturing, warehousing, research laboratories, and distribution centers can be built. The M1 regulations are intended to encourage the development of land as planned industrial sites and to provide a stable environment and use which is compatible with the character of the surrounding areas.

Parking

Parking in the station area includes a mixture of on-street parking and small surface lots with a mixture of permit and metered parking. The busway station features a 215-space park-and-ride lot, the largest park-and-ride lot along the West Busway. According to PAAC, the lot is full by 7:00 am. On-street metered parking (generally limited to two hours) can be found along West Main Street. On-street parking, along one or both sides of the street, is also permitted on residential streets beyond the commercial core (most limit parking to two hours between 8 am and 5 pm).



Carnegie – Park-and-ride lot and adjacent Carnegie Borough Building
Photo credit: URS

Carnegie Borough manages several surface parking lots in the study area. The lots vary from permit parking to metered parking and some lots have both.

Figure 2.12 Carnegie Station Existing Conditions



Legend

- Study Area
- Transit Routes
- Transit Route Name/Number
- West Busway
- Transit Station
- Railroad
- Proposed Trails
- Above Average for Bicycling
- Park
- Municipal Boundary
- Public Parking (Number of Spaces)
- Flood Plain



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County

Figure 2.13 Carnegie Station Zoning



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway
-  Transit Station
-  Railroad
-  Above Average for Bicycling
-  Municipal Boundary

Carnegie

-  (C1) Commercial
-  (C2) Transition Commercial
-  (C3) Planned Commercial
-  (M1) Planned Industrial
-  (R2) Two-Family Residence

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Carnegie Borough

Settlers Ridge

The Settlers Ridge proposed station is located in Robinson Township along Campbells Run Road near the intersection with Ridge Road. The site is not a transit hub at this time. The site is served by Route 28M which operates along Campbells Run Road.

The station area is dominated by the recently opened (October 2009) Settlers Ridge retail development. Retailers and restaurants include Giant Eagle, Barnes and Noble, PF Chang's, REI, LA Fitness, and Cinemark movie theater, among others. A hotel is also being constructed on the site. The site is being developed by CBL & Associates Properties and Faison Enterprises, Inc. On the opposite side of I-376, the Chestnut Ridge community features apartments and townhomes.



Settlers Ridge – Recently opened retail center
Photo credit: URS

Transportation Access

Automobile

Regional access to the Settlers Ridge development is excellent due to its location at the Ridge Road interchange on the Parkway West/I-279. In addition, the site is located along Campbells Run Road, an important arterial that passes through several communities in the study area.

Pedestrian

Attempting to access the site on foot would be extremely difficult. Much of the site is an interstate interchange. There are no sidewalks along Ridge Road. The site is connected to Campbells Run Road via Common Boulevard. Because the site sits above Campbells Run Road, it is a long walk up Common Boulevard to access the retail area (a sidewalk along Common Boulevard could not be confirmed due to snow cover at the time of the fieldview). Within the site, sidewalks and crosswalks link the various buildings and parking areas. There is not a pedestrian connection between the Settlers Ridge development and the Chestnut Ridge apartment community.

Bicycle

Bicycle access to the site would also be problematic. There are no bike lanes or designated bike routes in the area. There are paved shoulders, of varying widths and condition, along Ridge Road and Campbells Run Road.

Population Density

The Settlers Ridge station area has the lowest population and housing density among the station areas. In 2000, there were approximately 125 persons, or 1.00 persons per acre, living in the Settlers Ridge station area. The housing density was 0.49 housing units per acre (0.44 occupied housing units per acre). A very small portion of the Settlers Ridge station area is residential. The area's density is not likely to increase greatly in the near future. The Settlers Ridge development, which occupies a large portion of the station area, is a retail development that does not currently include residential land uses.

Zoning

The majority of the site is zoned C-3 Planned Commercial/Office/Multiple Family. The C3 district allows for a large mixture of uses including commercial, residential, business, medical, research, and public and essential services.

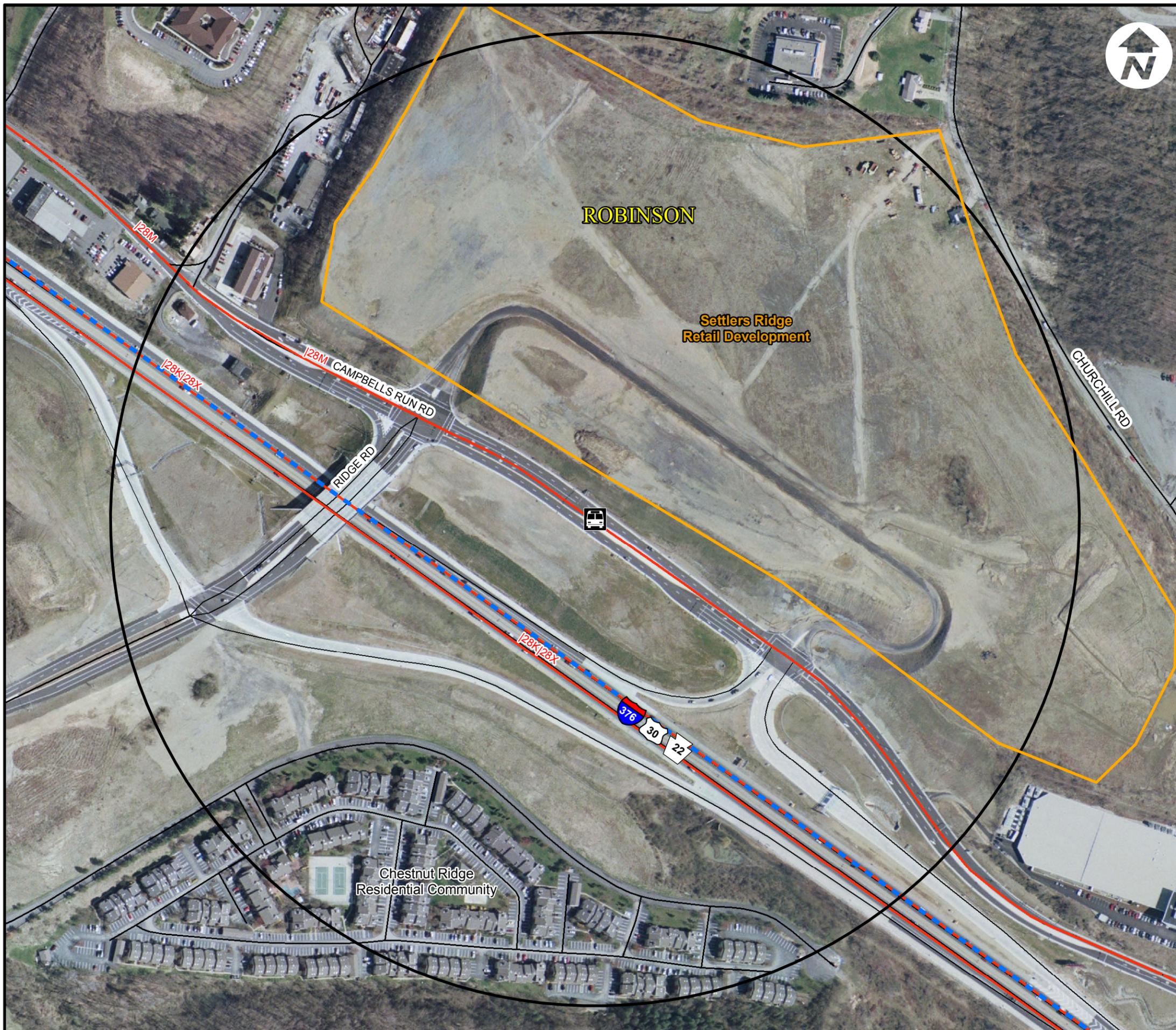


The purpose of the C3 district is to provide for large scale planned commercial, office or multiple family residential complexes developed in well landscaped, campus-like surroundings, with good access to arterial and collector roads.

Parking

At this time, the station area is dominated by parking associated with a large retail center. The site does not include a park-and-ride lot for transit.

Figure 2.14 Settlers Ridge Station Existing Conditions



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway Service Corridor
-  Transit Station (Proposed)
-  Trails
-  Park
-  Municipal Boundary

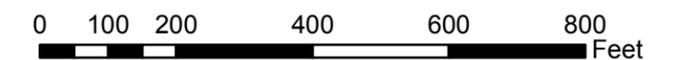
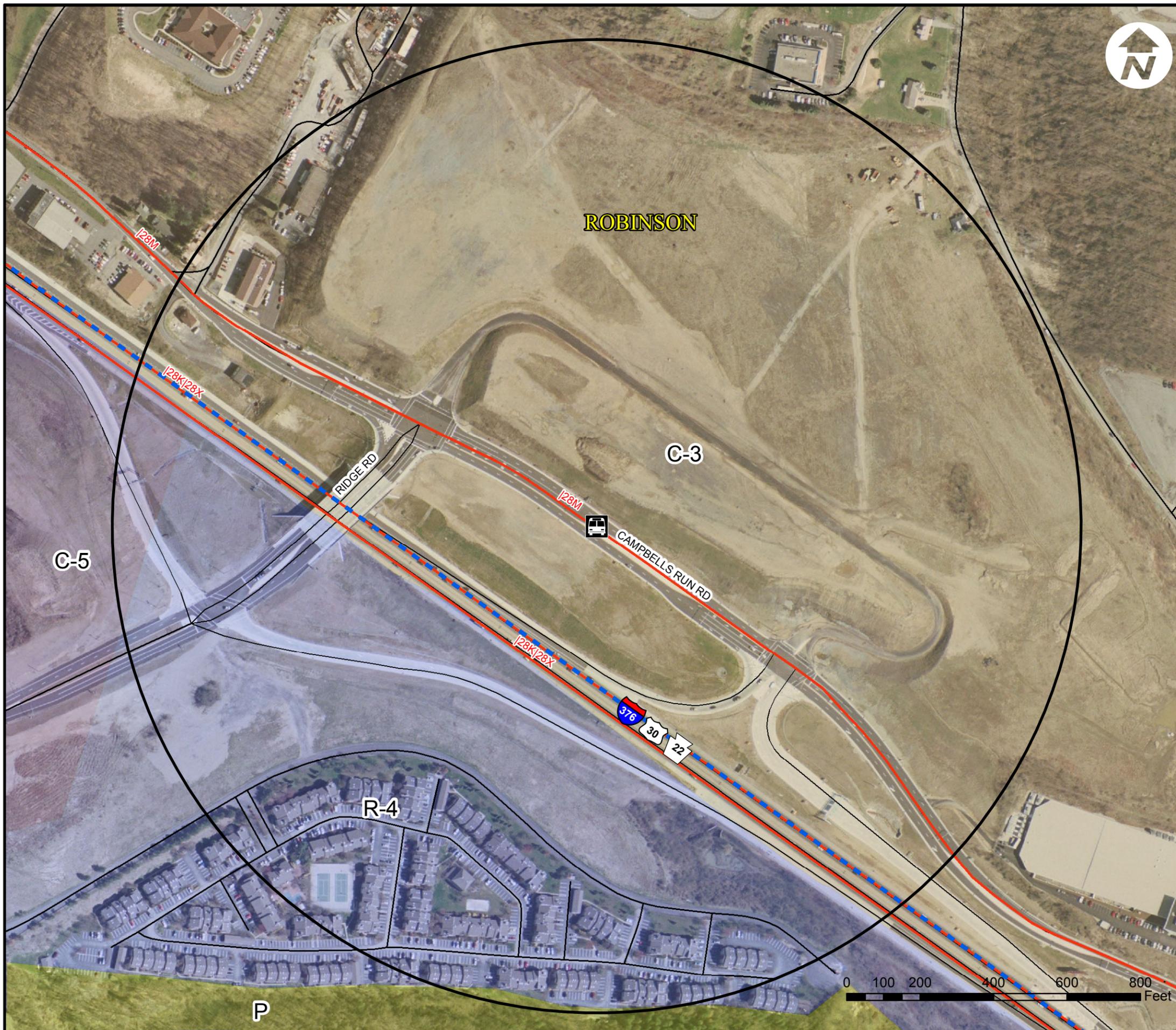


Figure 2.15 Settlers Ridge Station Zoning



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway Service Corridor
-  Transit Station (Proposed)
-  Railroad
-  Municipal Boundary

Robinson

-  (C-3) Planned Commercial
-  (C-5) Research and Development
-  (P) Park



Robinson Town Centre

The Robinson station area is centered in the heart of Robinson Town Centre along Park Manor Boulevard. This area is characterized by suburban-style, automobile-oriented commercial development. The mixture of commercial uses within Robinson Town Centre includes retail, banking, restaurants, medical, government, and other specialty services. Approximately half of the station area is occupied by a strip mall center. The strip mall's larger tenants include Jo-Ann Fabrics, Marshall's, and TJ Maxx. It currently has approximately fifty occupied store fronts and nine vacant areas. Across Park Manor Boulevard is the IKEA plaza along with several additional outparcels. Showcase Cinema is at the southern portion of the study area. In the northeast corner of the area, is a small retail center named Robinson Station Plaza. Beyond the station area is the Mall at Robinson, a large regional shopping mall. The majority of the site, with the exception of the Robinson Station Plaza, is owned by Zamagias Properties.

Robinson Town Centre, and Park Manor Boulevard in particular, is considered a transit hub in the western suburbs of Allegheny County given the number of transit routes that circulate through the area.

Transportation Access

Automobile

Automobile access to Robinson Town Centre is excellent. Local and regional access is provided via the interchange on the Parkway West/I-376 and via PA 60 Steubenville Pike.

Pedestrian

The pedestrian network in the Robinson study area has been an issue for the Airport Corridor Transportation Association (ACTA), PennDOT, and the Township for several years. The network is not connected throughout most of the retail area and pedestrians are currently walking at locations without sidewalks or steps and are crossing streets at mid block locations without protection or warning.

In March 2008, ACTA published the "Commercial Center Mobility Study Final Report", which investigated and analyzed the existing pedestrian network and also outlined potential solutions to these problems. The study showed that the Robinson Town Centre area does not have sidewalks along the side of the roads and desire lines, or worn walking paths, were found throughout the study area.

These desire lines were most noticeable along the southern side of Park Manor Boulevard, along Robinson Center Drive (leading to the Robinson Station plaza), and Robinson Town Centre Boulevard (leading to the Costco plaza). Pedestrian counts collected along and across Park Manor Boulevard in the vicinity of the IKEA and Robinson Town Centre showed that the major origin/destination was the IKEA bus shelter. Many pedestrians use the IKEA parking lot as a park-and-ride lot. The study also showed that the second most populated destination from the IKEA bus shelter was Robinson Town Centre. The study recommended several solutions (see Table 2.3) to improve the pedestrian network within this study area.



Robinson – Difficult pedestrian connections
Photo credit: URS

Table 2.3: Robinson Town Centre Recommended Pedestrian Improvements

Location	Priority
Steps from Park Manor Blvd, approximately 400' from the corner of Park Manor Blvd and Robinson Centre Drive, down to the IKEA distribution center and Robinson Town Centre parking lot	Low
Crosswalk treatment across Park Manor Blvd between the IKEA and Robinson Town Centre bus shelters	High
Crosswalk treatment across The Mall at Robinson ring road @ Joe's Crab Shack area	Medium – Completed
Crosswalk treatment across The Mall at Robinson ring road @ Park Manor Blvd	Medium - Completed

Source: ACTA Commercial Center Mobility Study Final Report, March 2008, page 21-22.

Bicycle

The Robinson Towne Center station area also does not have bicycle routes or lanes. The Montour Trail is a multi-use recreational rail-trail that runs outside of the station area on the northern side at the end of Park Manor Boulevard (past the Costco plaza). Currently, the trail does not have good access to the commercial area at Robinson Town Centre.

Population Density

Population and housing density in the Robinson station area is only slightly higher than the Settlers Ridge station area. In 2000, there were approximately 133 persons, or 1.07 persons per acre, living in the Robinson station area. There were approximately 0.62 housing units per acre (0.51 occupied housing units per acre). From fieldviews, it does not appear that there are actually any housing units in the Robinson station area. The station area may be included in a census block group that does have housing units and thus some were attributed to the station area.

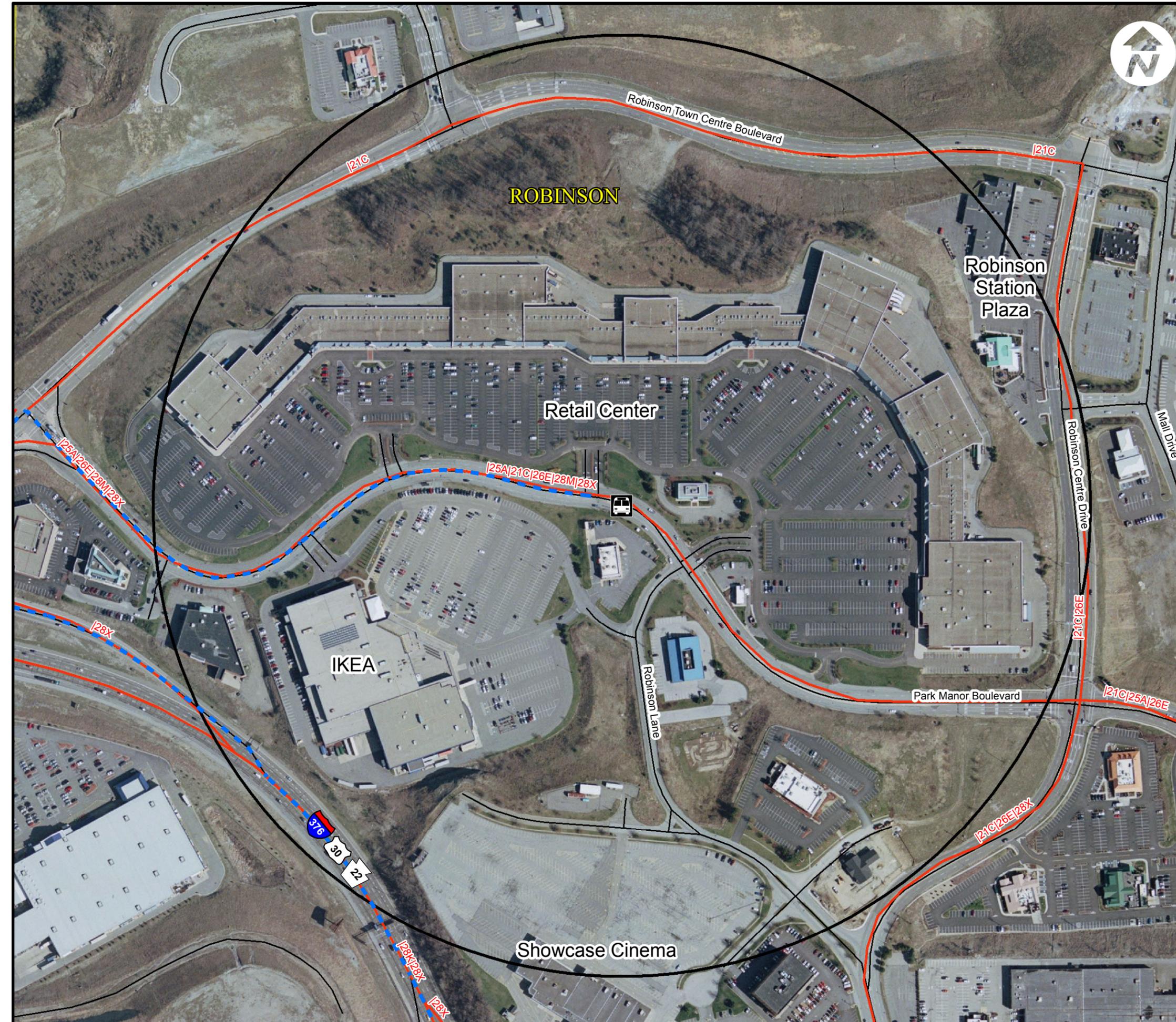
Zoning

Similar to Settlers Ridge, the Robinson Town Centre site is zoned C-3 Planned Commercial/Office/Multiple Family. The C3 district allows for a large mixture of uses including commercial, residential, business, medical, research, and public and essential services. The purpose of the C3 district is to provide for large scale planned commercial, office or multiple family residential complexes developed in well landscaped, campus-like surroundings, with good access to arterial and collector roads.

Parking

Parking in the study area consists of several large surface lots. These lots are used by those who work, shop, and dine at the Robinson Town Centre area and are also used by commuters who use some of the lots as a park-and-ride facility (IKEA and Robinson Town Centre lots). The Robinson Town Centre retail center parking lot can accommodate more than 2,000 cars. The IKEA lot has a parking capacity of approximately 740.

Figure 2.16
Robinson Town Centre Station
Existing Conditions



Legend

-  Study Area
-  Transit Routes
-  Transit Route Name/Number
-  West Busway Service Corridor
-  Transit Station (Proposed)
-  Park
-  Municipal Boundary



Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County

Figure 2.17
Robinson Town Centre Station
Zoning



Legend

-  Study Area
-  Transit Routes
-  X00 Transit Route Name/Number
-  West Busway Service Corridor
-  Transit Station (Proposed)
-  Railroad
-  Municipal Boundary

Robinson

-  (C-3) Planned Commercial

Sources: PASDA (www.pasda.psu.edu)
 SPC (Southwestern Pennsylvania Commission)
 Port Authority of Allegheny County
 Robinson Township

RELATIONSHIP TO RECENTLY COMPLETED PLANS AND STUDIES

The following plans, studies, and reports are related to transportation and land use planning in the West Busway study corridor.

Allegheny Places

Completed in late 2008, *Allegheny Places* is Allegheny County's first comprehensive plan. It sets forth the following vision for Allegheny County:

- All residents have equitable access to opportunities and benefits of our ongoing economic revitalization;
- Former brownfields are transformed into attractive destinations for residents, businesses, and visitors;
- Transit-oriented development stimulates economic activity and relieves congestion on area roadways;
- A highly efficient transportation system links Oakland, downtown, and Pittsburgh International Airport, our economic centers;
- Extensive greenways connect our communities with parks, trails, riverfronts, and other natural amenities;
- Good, stable, well-paying jobs area available in a diversified economy; and
- High quality housing choices exist for all residents at every income level.⁴

Allegheny Places' future land use plan centers on the concept of "places," or locations that should be targeted for major development. There are eight types of places in the land use plan. The transit-oriented place designation is an overlay on selected places located along existing and proposed fixed guideway transit lines. TOD places are characterized by relatively dense, mixed-use development that maximizes pedestrian access to transit. TOD places can include infill and new development when parcels are available.⁵ Within the study area, Carnegie is identified as a Community Downtown Place with a TOD Place overlay at the West Busway station.

The "Places" of Allegheny Places

- *Airport-Industry*
- *The Core*
- *Corridors*
- *Urban Neighborhoods*
- *Community Downtowns*
- *Villages*
- *Rural Places*
- *Transit-Oriented Development*

With regards to transportation in the West Busway study corridor, the plan proposes the following:

- Rapid transit connection from downtown Pittsburgh to Pittsburgh International Airport.
- Robinson Town Centre Intermodal Connection Hub (as part of a transit connection between downtown Pittsburgh and the airport).
- West Busway extension to Robinson Town Center Hub / Bus Rapid Transit improvements along the Parkway West.
- Carnegie Intermodal Facility with Intercept Garage.
- Investigate commercialization of busways for HOV and business use.

⁴ Allegheny County, *Allegheny Places* (2008), 1-2.

⁵ *Ibid*, 4A-3.

2035 Transportation and Development Plan for Southwestern PA

The *2035 Transportation and Development Plan for Southwestern Pennsylvania* developed and managed by the Southwestern Pennsylvania Commission, sets forth a coordinated implementation program of projects and actions for the region. It serves as the 10-county region's long-range plan for programming transportation plans and projects. The programmed plans and projects serve as mechanisms for achieving the regional vision.

The process to develop the *2035 Transportation and Development Plan* was known as Project Region. Through a comprehensive public involvement and community engagement process, the following regional vision was created: "Transportation and land use that supports and enhances the regional economy and the communities within it." The vision is characterized by:

- Medium to high density in centers and clusters with value placed on mixture of uses;
- Infrastructure improvements targeted within the centers and clusters of development and the corridors that connect them;
- An emphasis on infill development with reinvestment in existing business districts and brownfield rehabilitation throughout the region;
- Open space preservation and support for agriculture in rural areas;
- A strong multimodal focus and emphasis on connecting the centers and clusters and promoting excellent access to the urban core. This scenario promotes improved transportation operations and safety; and
- An upgrading of existing water and sewer systems.

Several of the plan's key policy statements correlate to the West Busway plan, including the following:

- Revitalization and redevelopment of the region's existing communities is a priority.
- Investment in infrastructure improvements will be coordinated and targeted at the corridor level to optimize the impact of the investment.
- Maintenance of the existing transportation system will be a regional priority.
- Transportation and development choices will reflect a priority on safe and secure multimodal and intermodal networks for both people and goods.
- The region's transportation system will be actively managed and operated to allow the system to function at its full potential.
- The region's transit system will connect people with resources throughout the entire region.

Airport Multimodal Major Investment Study

The Airport Multimodal Major Investment Study, completed in 2003, developed a locally preferred investment strategy (LPIS) for transportation in the corridor between the Pittsburgh International Airport, downtown Pittsburgh, and Oakland. The LPIS included recommendations to widen the Parkway West, implement bus rapid transit improvements in the corridor, and construct a new light rail line. The BRT recommendations included:

- A 1.5-mile extension of the West Busway from its terminus in Carnegie to I-79. At this new terminus, a large parking lot could be built (200 to 500 vehicles) to alleviate parking pressures in Carnegie.
- ITS improvements such as real-time traveler information that would allow travelers to opt for transit to avoid congestion.

- New transit stations/park-and-ride lots along the Parkway West utilizing short bus access roads to serve the corridor.

The LPIS light rail component is known as the Airport Connector Light Rail project. The study identified two potential alignments for connecting the airport and downtown Pittsburgh via light rail. The first, the Robinson Corridor LRT alignment, proposed potential stations in Robinson Township at the Robinson Mall and Robinson Town Centre. The second would follow the Ohio River to access the airport.

A Regional Strategic Vision for Public Transportation Serving Southwestern Pennsylvania

In March 2006, SPC and PAAC jointly released the report named *A Regional Strategic Vision for Public Transportation Serving Southwestern Pennsylvania*, also known as *20/20 Vision*. Through a multi-year strategic planning process, the region's transit operators, stakeholders, and the public developed a preferred land use growth scenario and then identified a long-term public transit vision for serving the preferred scenario. The transit vision includes a mix of transit services including light rail, bus rapid transit, commuter rail, expanded bus systems, circulator services, and water services.

The project also released a companion document named *A Toolbox for Transit-Oriented Communities in Southwestern Pennsylvania* to provide guidance to communities on how to facilitate transit-friendly design. A companion brochure, *Creating Transit-Oriented Communities*, is available from PAAC.

Airport Corridor Transportation Association Studies

The Airport Corridor Transportation Association's (ACTA) seeks to accomplish three goals in the Airport Corridor: reduce congestion, improve access and mobility, and promote the use of alternative forms of transportation. In addition to providing transportation services and information regarding transportation, ACTA has recently completed planning studies to support their mission.

- **Study of Improved Shared Ride Transportation Services to the Robinson / North Fayette Employment Center (2006):** This study sought to investigate whether there were gaps in the public transportation system in the Airport Corridor and devise solutions to reduce or eliminate the gaps. The study found that the existing transit service did not always fill the transit need due to a variety of reasons such as a mismatch of operating schedules and employer work shifts, lack of coordination between route schedules, and inability to serve all employment centers, among others. Recommendations included introducing demand response transit services in the area, coordinating transit schedules to allow transfers between routes, and improving pedestrian facilities throughout the area. ⁶
- **Commercial Center Mobility Study (2008):** The retail and commercial areas of Robinson and North Fayette Townships have become the de facto center of the Airport Corridor. However, the area has a variety of transportation issues due to its vehicular-oriented design. The study identified the multimodal issues in the area and devised and prioritized solutions, some of which have already been implemented. ⁷
- **Safety & Security at Suburban Bus Stops (2009):** This study was an outgrowth of ACTA's other planning efforts. Given the success of the commercial areas in Robinson and North Fayette's Township and their vehicular-oriented design, the purpose of the study was to design replicable prototype bus stops and bus stop placements within the retail areas to improve the transit user experience. The study focused on designing stops in four types of areas: busy roadway bus stop, suburban retail center bus stop, hub station,

⁶ Airport Corridor Transportation Association, "Commuting in the Corridor (2007)."

⁷ ----, "Moving Around Within a Suburban Commercial Area (2008)."

and intermodal transfer center. The study proposed several next steps for implementation including seeking funding for construction, working with local governments to revise local zoning ordinances, and working with transportation engineers to design roadways that balance vehicular access with bicycle and pedestrian safety.⁸

Maglev

PAAC and PennDOT have prepared a Draft Environmental Impact Statement (DEIS) for the Pennsylvania High-Speed Maglev Project (Maglev). The project would employ a method of transportation utilizing magnetic levitation technology capable of safe use at speeds in excess of 240 miles per hour. The proposed fixed guideway alignment is 54 miles long and provides stations at Pittsburgh International Airport, downtown Pittsburgh, Monroeville/Penn Hills, and Penn Township (Westmoreland County). It will not provide service in the study area.

The project's environmental impact study is nearly complete. The Federal Railroad Administration recently awarded the project \$28 million for further planning. Project sponsors are waiting to see whether the federal government's Maglev program is included in the next federal transportation law. In addition, the state is requesting stimulus funding for high speed rail to design and construct the first phase of the project (from Pittsburgh International to downtown Pittsburgh). The estimated cost for the first segment is \$2.3 billion.⁹

Smart Transportation Guidebook

In 2008, the New Jersey DOT and PennDOT jointly published *Smart Transportation Guidebook: Planning and Designing Highways and Streets that Support Sustainable and Livable Communities*. The book provides guidelines for improving a community's roadway system in accordance with Smart Transportation principles. It can be used in the planning and design of all non-limited access roadways. The Smart Transportation Principles are:

- Tailor solutions to the context.
- Tailor the approach.
- Plan all projects in collaboration with the community.
- Plan for alternative transportation modes.
- Use sound professional judgment.
- Scale the solution to the size of the problem.¹⁰

Regional Conference on Transportation and Land Use for Economic Development – Southwest Region

At a regional conference for the 10-county region in June 2005, participants generated a vision of integrating transportation and land use for the purpose of generating economic development. The conference was jointly sponsored by PennDOT, the PA Department of Environmental Protection (DEP), the PA Department of Community and Economic Development (DCED), the PA Department of Conservation and Natural Resources (DCNR), the PA Department of Agriculture (PDA), the Governor's Office, and the State Planning Board,

⁸ -----, *Safety and Security at Suburban Bus Stops* (2009), 2, 47-49.

⁹ Post-Gazette homepage, "State Applies for Stimulus Funds for High-Speed Rail Lines," <<http://www.post-gazette.com>> (17 July 2009).

¹⁰ New Jersey DOT and PennDOT, *The Smart Transportation Guidebook* (2008), 6.

The key components of the regional vision that relate to the West Busway plan including the following:

- An economy that supports demographic diversity and which is attractive enough to share a reasonable measure of national growth.
- A sustainable populace that epitomizes a strong work ethic, sense of community, and regional pride.
- Revitalized communities of all sizes that support vibrant downtowns, safe neighborhoods, affordable housing, abundant recreation, and employment opportunities close to home.
- Integrated, multi-modal transportation systems that improve connectivity and mobility while alleviating congestion and sprawl.
- Regional coordination of land use and infrastructure, with great county and municipal cooperation that incorporates private/public sector partnering.
- Disincentives to greenfield development that maximize reuse of brownfields and recycling of other infrastructure.¹¹

The conference generated a number of objectives and action steps for achieving the regional vision.

PLANNED/PROGRAMMED AND RECENTLY COMPLETED TRANSPORTATION PROJECTS IN THE CORRIDOR

The following projects have been recently completed in the study area or are programmed to be undertaken in the near future.

- **I-79 Ramps:** PennDOT District 11-0 recently completed a multi-year project to construct two new ramps as a part of the I-79 / I-376 interchange. As originally constructed, the interchange did not include ramps connecting I-79 South to Routes 22/30 West and Routes 22/30 to I-79 north. In addition to the new ramps, the Parkway West (I-376 West and Routes 22/30) was widened to three lanes from the interchange to the Campbells Run Road exit. The project was completed in 2009.¹²
- **PA 22/30/60 Interchange:** PennDOT recently began construction on a reconfiguration of the Route 60 interchange with Routes 22/30 in Robinson Township near the Robinson Town Centre development. The resulting diamond interchange will alleviate the safety and mobility issues of the existing cloverleaf design.¹³
- **I-376 Redesignation:** Congress approved the extension of I-376 from downtown Pittsburgh to the Pennsylvania Turnpike (I-76) via I-279 and PA Routes 22, 30, and 60. The designation will ultimately extend to I-80 in Mercer County. The purpose of the redesignation is to improve regional mobility, enhance economic development in the corridor, and reduce traveler confusion. SPC's *2035 Transportation and Development Plan for Southwestern Pennsylvania* includes projects in Allegheny, Beaver, and Lawrence counties to make improvements along the corridor to meet interstate standards. The improvements are programmed for the 2013 to 2018 period.¹⁴

¹¹ PennDOT, "Regional Conference on Integrating Transportation and Land Use for Economic Development – Southwest Region," 07 June 2005, 3.

¹² PennDOT District 11-0, "PennDOT Announces 2009 Allegheny County Highway and Bridge Improvement Projects," 26 February 2009.

¹³ Ibid.

¹⁴ Southwestern Pennsylvania Commission, *2035 Transportation and Development Plan for Southwestern Pennsylvania (2007, updated January 2009)*, 6-36.



- **East-West Corridor Rapid Transit Study:** The 2009 – 2012 Transportation Improvement Program (TIP) for Southwestern Pennsylvania includes an alternatives analysis study to evaluate means of connecting the Pittsburgh International Airport, downtown Pittsburgh, and Oakland with rapid transit. The study will evaluate potential modes (e.g., light rail transit, bus rapid transit, etc.) and alignments and will provide preliminary cost and ridership estimates.¹⁵
- **SR 50 Signal Upgrade:** The 2009-2012 TIP contains a project to upgrade and coordinate eight traffic signals along SR 50 from through Carnegie, Green Tree, Heidelberg, Pittsburgh and Scott Township in Allegheny County.¹⁶
- **Carnegie Realignment of Streets:** Carnegie Borough received a grant from the Allegheny County Redevelopment Authority to design and construct the reconfiguration of the intersection at West Main Street, First Street, Jefferson Street, and Mansfield Boulevard.¹⁷
- **PAAC North Fayette Intermodal Facility:** PAAC is considering constructing an intermodal facility in North Fayette Township near the Robinson Town Centre development. The 500-space park-and-ride facility will have potential to provide connections to a variety of express routes, local routes, and services offered by transit agencies in neighboring counties. In order to begin construction, an extension of Montour Church Road in North Fayette Township must be completed to provide access to the site. Approximately two years are required to complete final design and construction of the road. PAAC is currently trying to reach agreement on what entity is going to build the access road.¹⁸

¹⁵ Southwestern Pennsylvania Commission, 2009 – 2012 Transportation Improvement Program for Southwestern Pennsylvania (2008), Appendix 3.

¹⁶ Ibid, Appendix 2.

¹⁷ Post-Gazette homepage, "Intersection Project in Carnegie to Receive Funding," <<http://www.post-gazette.com>> (10 March 2009).

¹⁸ Jerry Marinzel, Port Authority of Allegheny County. 2009. Interview by author, 21 July, via telephone.

MARKET AND REAL ESTATE ANALYSIS OF THE WEST BUSWAY CORRIDOR

Methodology

In identifying the optimal land-use alternatives, 4WARD PLANNING LLC employed a combination of qualitative and quantitative techniques suitable for assessing the best TOD locations and land-uses within the West Busway study corridor for stimulating economic growth and attracting, retaining and expanding local businesses.

Our analysis began with a review of existing market and planning studies covering the West Busway study area and then proceeded to a supplemental baseline market analysis, examining local and regional demographic, labor, industry and real estate trends. Demographic trend analysis was performed using U.S. Census data and proprietary demographic analysis software (ScanU.S.) and covered the years 2000 and 2008 (estimated). Labor market data covered the 2002 to 2006 time period and is based on reported U.S. Census and Pennsylvania Labor Data. Quantitative analysis was followed by interviews with active area real estate brokers and developers (residential, retail and office), municipal land-use officials and various corridor business owners/managers. The purpose of positioning interviews after the quantitative analysis was to both share insight and validate findings with interviewees.

As the West Busway line covers a relatively large geography within and outside of the City of Pittsburgh, and typical TOD project areas attract potential residents and workers from a relatively broad geography surrounding the TOD project site, 4ward Planning determined local ZIP Code area data (demographic, employment and real estate) would be most appropriate for conducting a TOD market analysis.

The following map shows the existing station locations along the West Busway, extending west from the Sheraden Station Stop, immediately outside of Pittsburgh's central business district (CBD) to Robinson Town Centre in Robinson Township. Table 2.4 lists each of the station stops along the West Busway line and the host ZIP code area in which it is located.

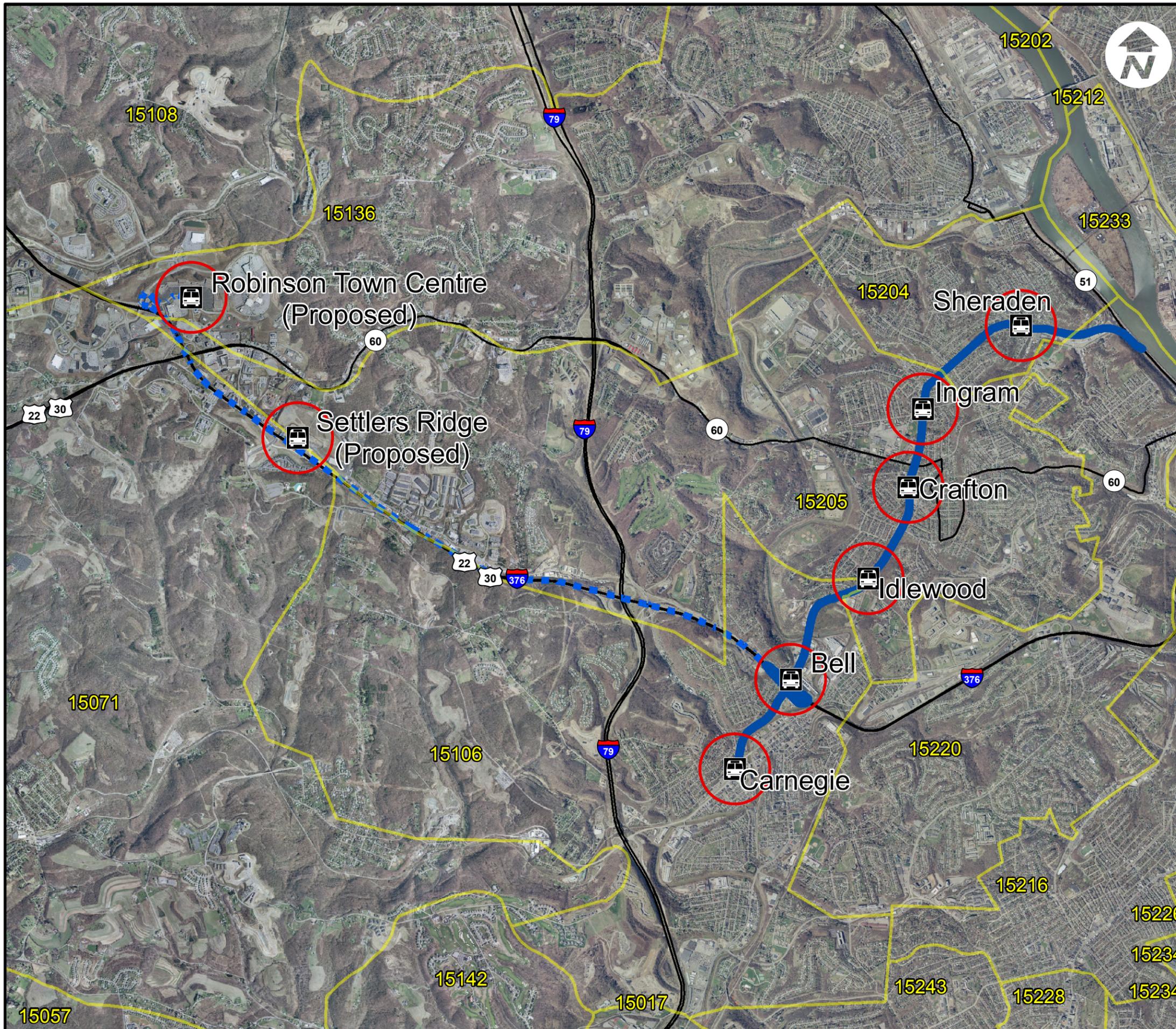
Table 2.4: Stations by Zip Code Area

Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

Note: While Robinson Town Centre is physically situated in Zip Code 15136, 4ward Planning believes its market area has more in common with Zip Code 15205. 4ward Planning excluded ZIP area 15136 from this analysis as the busway route traverses but a small fraction of the ZIP area's geography and, to have included it, would have disproportionately influenced overall demographic and real estate market findings.

Figure 2.18
Study Area with
Zip Code Boundaries



Legend

-  1/4 Mile Radius
-  West Busway
-  West Busway Service Corridor
-  Transit Station
-  Zip Code Boundary

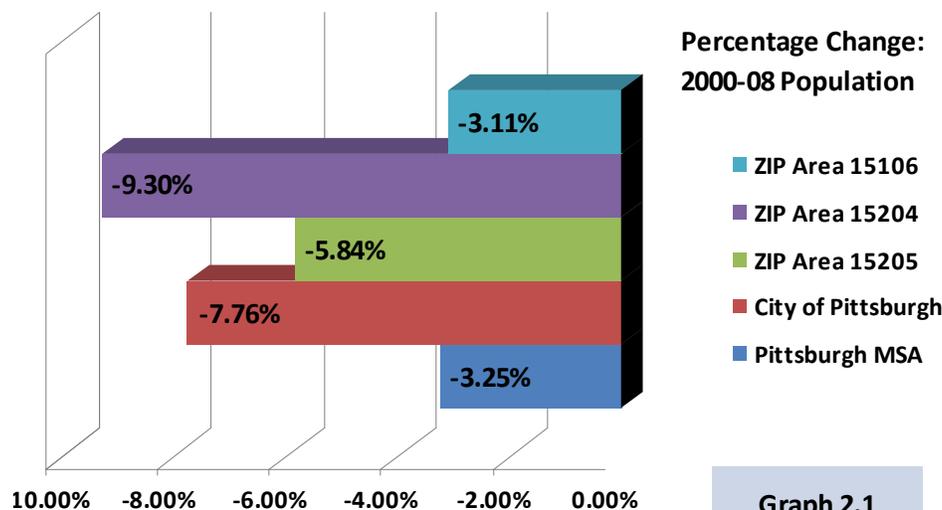


Demographic Trends – Key Findings

Population

Graph 2.1 exhibits population trends for the Pittsburgh MSA, City of Pittsburgh and ZIP Code areas 15204, 15205 and 15106. For purposes of this study, population refers only to those persons living in households, as distinguished from total population which includes persons who may be incarcerated, institutionalized or residing in dormitories – groups having relatively little influence on markets.

Each of the five geographies examined is estimated to have experienced varying degrees of population loss between 2000 and 2008, with 5.9 percent representing the average percentage loss across all geographies. ZIP Code area 15204 exhibited the largest percentage decline (negative 9.3 percent) in household based population, approximately three times the estimated percentage population loss of ZIP Code Area 15106 (negative 3.1 percent), the geography exhibiting the smallest percentage decline in population. The percentage population decline over the 2000 to 2008 period for ZIP Code area 15205 (negative 5.8 percent) was equal to the average percentage decline among all geographies examined, while the relative population declines of the Pittsburgh MSA (negative 3.3 percent) and City of Pittsburgh (negative 7.8 percent) came in significantly below and above the average, respectively, for all geographies.



Population loss or outmigration from a given geography can occur for a variety of reasons (e.g., lack of employment opportunities, poor or declining housing stock, declining performance in the local school system, perceived or real public safety concerns, etc.). The relatively high population loss exhibited in ZIP Code area 15204 over the 2000 to 2008 time period signifies likely structural economic and/or social issues requiring intervention, in advance of creating TOD project sites. Through coordinated actions facilitated by a community champion, several neighborhoods, such as East Liberty, have taken the actions necessary to revitalize and redevelop.

Household Typology

A household includes all persons who occupy a housing unit, such as an apartment, condominium or single-family house. Examination of household numbers and characteristics (e.g., size, families vs. non-families, income, etc.) is, perhaps, the most quintessential within demographic analyses, as households provide a standard measure within

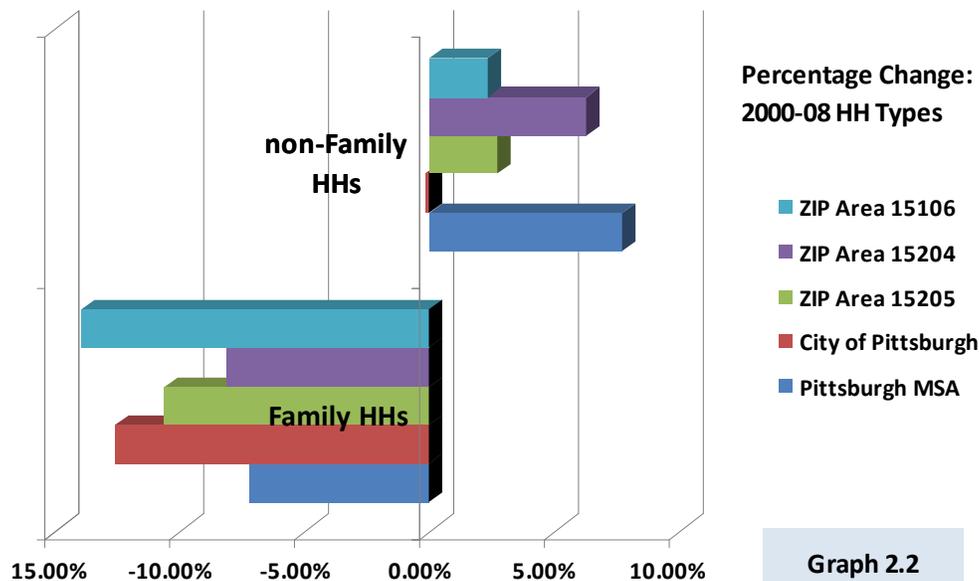
which important metrics such as incomes, consumer expenditures, and homeownership, for example, can be meaningfully compared.

Exhibited in Graph 2.2 are trend data for associated with family and non-family household change among the five geographies examined.

Consistent with population trends identified above, all geographies examined experienced loss in total households from 2000 to 2008. The percentage change in households in each geography examined closely tracked the percentage change in population. While this is not surprising (household change is always strongly and positively correlated with population change), a detailed examination of household types (e.g., family households versus non-family households, family households with children versus non-family households with children) reveals interesting and meaningful trends occurring in the West Busway primary market area.

Graph 2.2 illustrates the significant percentage decline in family households (households in which related persons (by blood, marriage or adoption) cohabitate) across all geographies examined, with ZIP Code area 15106 exhibiting the greatest such decline over the eight year period (negative 14 percent). Conversely, four of the five geographies examined (Pittsburgh is estimated to have lost a relatively small 0.2 percent of its non-family households during the period) are estimated to have realized increases in their non-family households (a non-family household may as few as one inhabitant to more than one non-familial cohabitants).

Graph 2.2 shows a relatively strong increase (7.7 percent) in non-family household units in the Pittsburgh MSA, followed by gains in ZIP Code area 15204 (6.3 percent), ZIP Code area 15205 (2.7 percent) and ZIP Code area 15106 (2.3 percent).



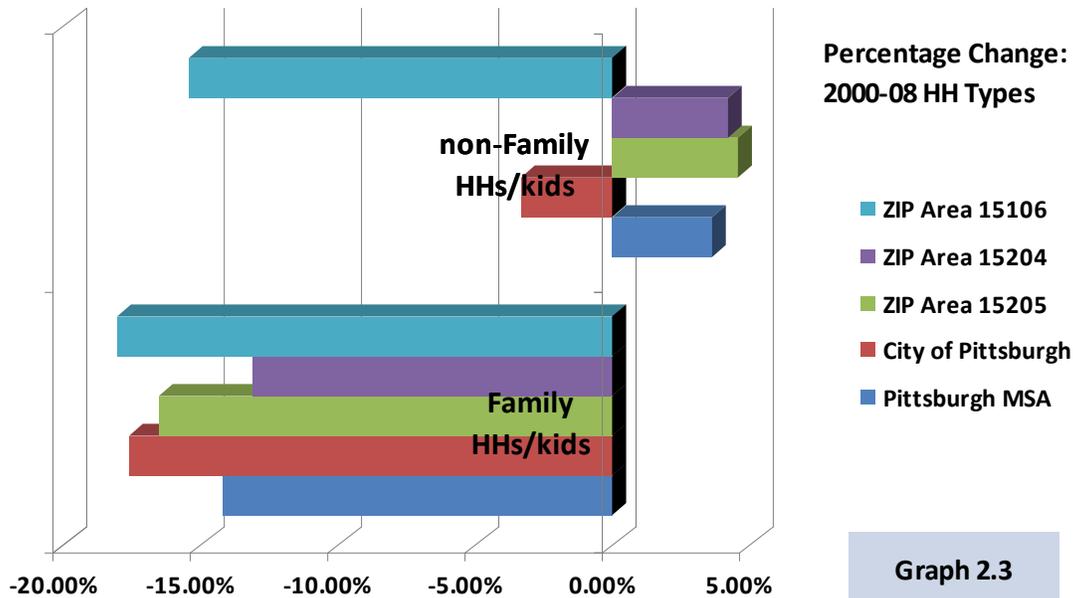
Graph 2.2

Stations by Zip Code Area

Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

Family households, as a percentage of total households, steadily declined from 2000 to 2008 across all geographies, with ZIP Code area 15204 experiencing the greatest percentage decline (from 66.2 to 62.2 percent). Equally noteworthy and arising from the analysis of household typology within the five geographies pertains to the significant decline in family households with related children, over the 2000 to 2008 time period. Graph 2.3 depicts percentage declines in family households with children across all five geographies, ranging from 13.1 percent (ZIP Code area 15204) to a high of 18 percent (ZIP Code area 15106). Indeed, the family with children household cohort is responsible for the majority (better than 80 percent) of the total household loss across geographies examined.



Graph 2.3

While non-family households with children represent a very minor portion of total households within any of the geographies examined, an observed noteworthy trend in this cohort includes the greater than 15 percent loss in such households for ZIP area 15106.

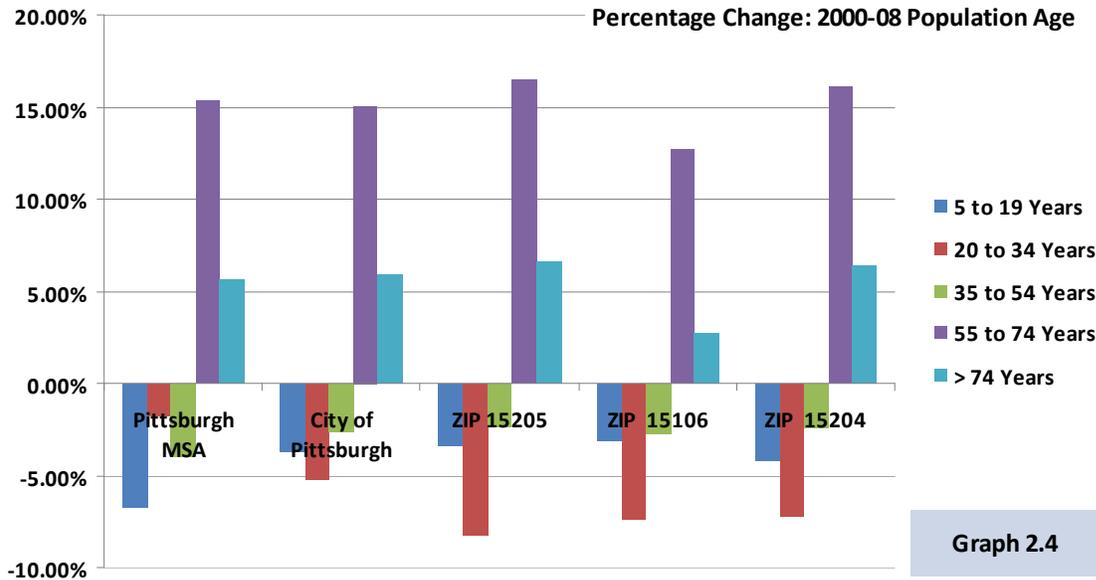
Observed average household sizes ranged from a high of 2.5 in ZIP Code area 15204 to 2.1 for ZIP Code area 15106 and the City of Pittsburgh.

The significance of the above observed household typology trends to prospective TOD opportunities located along the West Busway transit line are the decrease in households with children (both family and non-family households) and the increase (though slight) in non-family households. TOD areas are, generally, most attractive to childless young professionals and empty nester households (due in part to small housing unit sizes and limited outside recreational amenities within the TOD project area). Further, the relatively small average household sizes present in the study areas (particularly the host ZIP Code areas) bodes well for public transit use, as smaller households have less inclination for vehicle ownership than do larger sized households.

Age Profile

Identifying emerging trends concerning population age is useful for predicting not only the amount of likely future demand for housing, retail goods and services, but also the type of consumer demand – that is, the goods and services which will be most market receptive in the future.

Graph 2.4 depicts the percentage change among various age groups (cohorts) across the five geographies examined. The graph demonstrates all geographies have experienced a net population loss over the 2000 to 2008 period in age groups 54-years and younger. Conversely, population groups aged 55 and older increased their numbers in all geographies examined over the 2000 to 2008 period, with the 55- to 74-year old cohort experiencing significant growth (better than one-percent per annum) during this period. This is a favorable trend for prospective TOD projects as this cohort is associated with empty nester households, higher discretionary income and the propensity to choose smaller housing units close-in to mass transit.



Graph 2.4

A trend which warrants further monitoring is the population loss experienced by the 20- to 34 year-old age group across all geographies, but, in particular, within the host ZIP Code areas. This age group is representative of college students and young professionals – also referred to as the “creative class” by urban planning professionals, based on this group’s propensity for utilizing cutting edge technology to develop new consumer product and service offerings – and, like persons in the 35- to 54-year old cohort, possess relatively high levels of disposable income, are inclined to live in smaller housing units and be amenable to utilizing mass transit for commuting. This age group’s relatively high percentage loss within ZIP Code areas 15205 (- 8.3 percent), 15106 (-7.4 percent) and 15204 (-7.2 percent), over the 2000 to 2008 period likely indicates a dearth of living wage, career path opportunities.

Household Income

The measurement of a geography’s household income (averages and by bracket), coupled with knowledge of the household formation trends within that geography, provides insight into the prospective types of goods and services, as well as quantities, which may be demanded by these households.

Stations by Zip Code Area	
Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

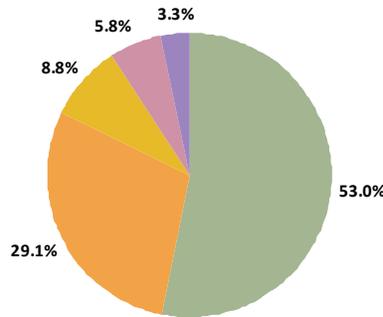
Graphs 2.5 through 2.9 present 2000 and 2008 household income distribution trends for each of the five geographies under study. Five household income brackets (<\$40,000, \$40,000 to \$74,999, \$75,000 to \$99,999, \$100,000 to

\$149,999 and >\$149,999) are presented and, based on the change in each income bracket's percentage share from 2000 to 2008, insight into a geography's economic fortunes may be gleaned.

Across all five geographies examined, household income percentage distribution is greatest within the under \$40,000 bracket in both 2000 and 2008. However, over the 2000 to 2008 period, four of the five geographies saw dramatic declines in the number of households within the income bracket (Pittsburgh being the exception with an estimated 3.2 percent increase in households within this under \$40,000 household income bracket). Over the 2000 to 2008 period, ZIP Code areas 15205, 15106 and 15204 experienced declines of 18.3, 19.5 and 26.1 percent, respectively, within the under \$40,000 household income category, as compared to the estimated 18.1 percent decline in this category for the Pittsburgh MSA over the same eight-year period.

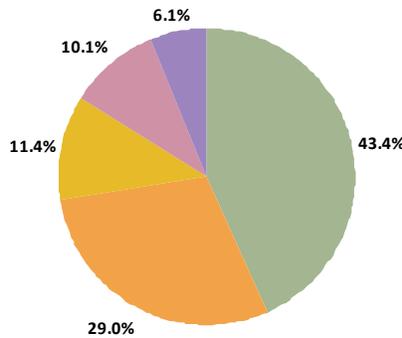
Graph 2.5a Pittsburgh MSA 2000 Household Income Share

■ <\$40K ■ \$40K to \$74.9K ■ \$75K to \$99.9K ■ \$100K to \$149.9K ■ >\$149.9K



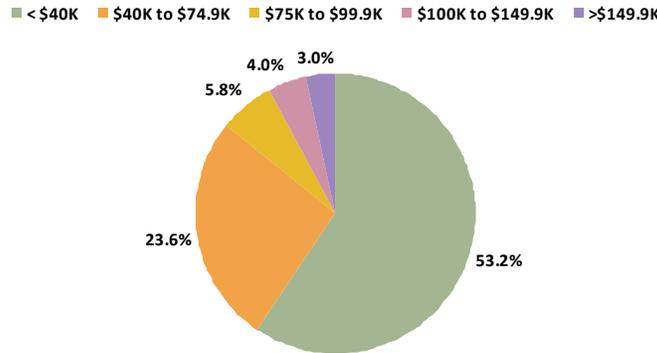
Graph 2.5b Pittsburgh MSA 2000 Household Income Share

■ <\$40K ■ \$40K to \$74.9K ■ \$75K to \$99.9K ■ \$100K to \$149.9K ■ >\$149.9K



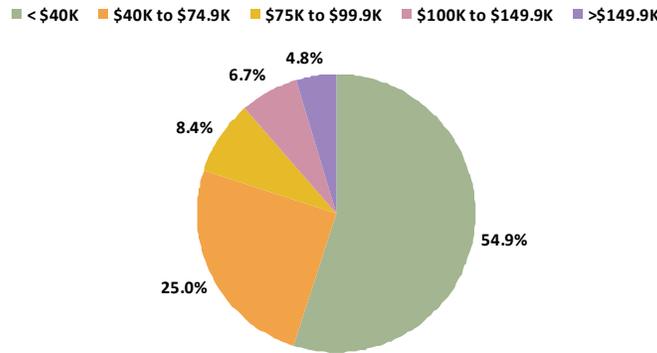
Graph 2.6a

City of Pittsburgh 2000 Household Income Share



Graph 2.6b

City of Pittsburgh 2008 Household Income Share



As total households decreased in all geographies examined, it is likely that lower-income households accounted for the largest share of outmigration. The relatively large decline in lower income households within the West Busway ZIP code areas also suggests a lack of suitably matched employment opportunities within these geographies (*employment opportunities consistently ranks as the number one reason for household outmigration*).

Successful TOD sites (in terms of real performance, business investment and service utilization) are typically within close proximity to upper middle- and high-income households – households which would tend to find the housing and retail amenities within a TOD, in addition to mass transit access, attractive.

The ZIP Code areas surrounding the West Busway line exhibit favorable household income share or distribution trends, as demonstrated by Graphs 2.7 through 2.9. Specifically, the percentage increase in the share of households earning at least \$75,000 to as much as \$99,999, between 2000 and 2008, increased at the estimated rates of 22.3, 48.0 and 107.5 percent for ZIP Code areas 15205, 15106 and 15204, respectively. Over the same period, the

Stations by Zip Code Area

Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

percentage increase in the share of households earning \$100,000 up to \$149,999 was greater still for each ZIP Code area (ZIP Area 15205 – 103.7 percent, ZIP Area 15106 – 50 percent, and ZIP Area 15204 – 129.0 percent).

The share increase for each of the upper-middle and high-income households within ZIP Areas was greater than the share increase for the identical income categories within the City of Pittsburgh and on-par to slightly greater than the share increase for the identical categories within the Pittsburgh MSA, over the same period.

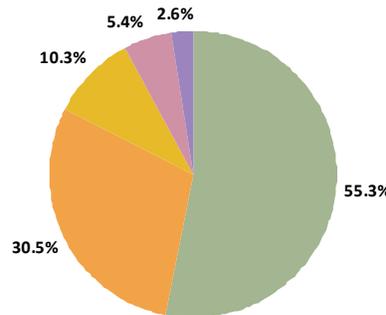
Other notable patterns include the following:

- ZIP Area 15204 saw a more than two fold increase in the percentage of households earning \$75,000 to just under \$150,000 over the 2000 to 2008 period
- ZIP Area 15205 experienced a doubling in its share of households earning between \$100,000 and \$150,000 over the eight year period.
- While the share of households earning \$100,000 to \$149,999 in ZIP Area 15204 was 3.1 percent in 2000 (as compared to 4 percent for the City of Pittsburgh that year), in 2008, this household income group's estimated share (7.1 percent) exceeded the share of households earning the equivalent amount (6.7 percent) for the City of Pittsburgh, as a whole.

Graph 2.7a

ZIP Area 15205 - 2000 Household Income Share

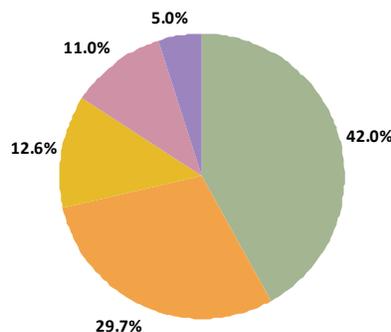
■ < \$40K ■ \$40K to \$74.9K ■ \$75K to \$99.9K ■ \$100K to \$149.9K ■ >\$149.9K



Graph 2.7b

ZIP Area 15205 - 2008 Household Income Share

■ < \$40K ■ \$40K to \$74.9K ■ \$75K to \$99.9K ■ \$100K to \$149.9K ■ >\$149.9K

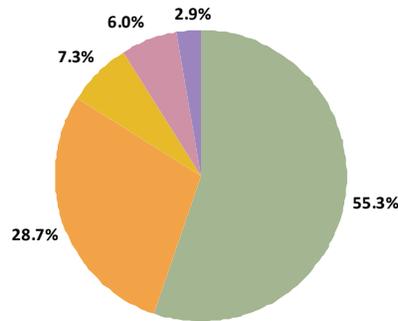




Graph 2.8a

ZIP Area 15106 - 2000 Household Income Share

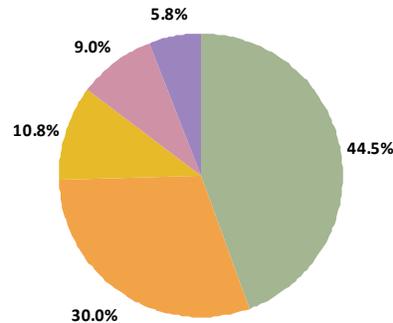
< \$40K \$40K to \$74.9K \$75K to \$99.9K \$100K to \$149.9K >\$149.9K



Graph 2.8b

ZIP Area 15106 - 2008 Household Income Share

< \$40K \$40K to \$74.9K \$75K to \$99.9K \$100K to \$149.9K >\$149.9K

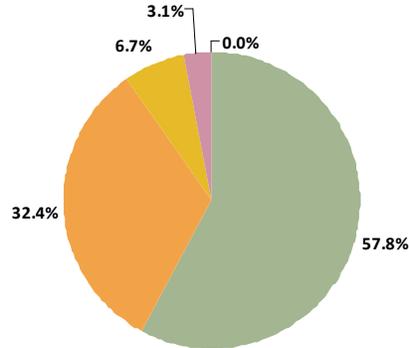




Graph 2.9a

ZIP Area 15204 - 2000 Household Income Share

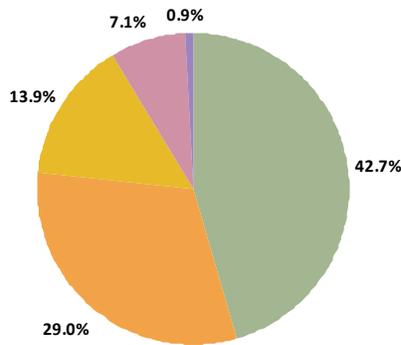
< \$40K \$40K to \$74.9K \$75K to \$99.9K \$100K to \$149.9K >\$149.9K



Graph 2.9b

ZIP Area 15204 - 2008 Household Income Share

< \$40K \$40K to \$74.9K \$75K to \$99.9K \$100K to \$149.9K >\$149.9K



Vehicle Availability

Table 2.5 summarizes the availability of vehicles by household in the study area in 2000 and 2009 (estimated). Between 2000 and 2009, the number of households with zero vehicles decreased among all three zip codes, with the greatest decrease in Zip Code 15204. Conversely, the number of households with three or more vehicles increased between three and six percent in the zip codes. The total number of vehicles available within the zip codes was fairly similar in 2000 and 2009 in Zip Codes 15204 and 15205 while the total in Zip Code 15106 increased 7 percent.

Table 2.5: Available Vehicles within the West Busway Zip Code Study Area – 2000 to 2009

	Sheridan			Ingram, Crafton & Idlewood			Bell & Carnegie			Settler's Ridge & Robinson		
	2000	2009*	Pct. Chg.	2000	2009*	Pct. Chg.	2000	2009*	Pct. Chg.	2000	2009*	Pct. Chg.
	15204	15204		15205	15205		15106	15106		15136	15136	
0 Vehicle/Households	797	663	-16.8%	1,385	1,297	-6.4%	1,152	1,034	-10.2%	1,779	1,574	-11.5%
1 Vehicle/Households	1,467	1,404	-4.3%	4,899	4,654	-5.0%	4,084	3,919	-4.0%	3,821	3,640	-4.7%
2 Vehicle/Households	1,249	1,207	-3.4%	3,299	3,199	-3.0%	2,882	3,002	4.2%	2,958	3,004	1.6%
3 or more Vehicles/Households	283	345	21.9%	982	1,160	18.1%	812	1,058	30.3%	850	1,097	29.1%
Total Vehicles Available	4,907	4,946	0.8%	14,760	14,885	0.8%	12,554	13,420	6.9%	12,560	13,287	5.8%
Average Vehicles per Household	1.29	1.37	6.2%	1.40	1.44	2.9%	1.41	1.49	5.7%	1.34	1.43	6.7%

* Estimate based on household trends.

Source: US Census Bureau; ScanUS; 4ward Planning LLC, 2010

Educational Attainment

Like household income, a geography's educational attainment trends (for adults 25-years of age and older) provide clues concerning potential business investment and revitalization opportunities. As educational attainment is both strongly and positively correlated with income, areas experiencing increases in educational attainment levels (e.g., increasing percentage of adults possessing a four-year degree, etc.) would likely be favorably disposed to TOD service and amenities.

Notwithstanding population loss, all geographies examined exhibited increases over the 2000 to 2008 period in the share of adult residents (25-years of age and older) who possess either a bachelors or graduate degree. Graph 2.10 illustrates the 2000 and 2008 percentage share of adult residents with bachelors' degrees for each geography. Among all geographies, ZIP Area 15205 was home to the highest percentage share of adults with bachelors degrees in both 2000 (17.5 percent) and 2008 (20.1 percent).

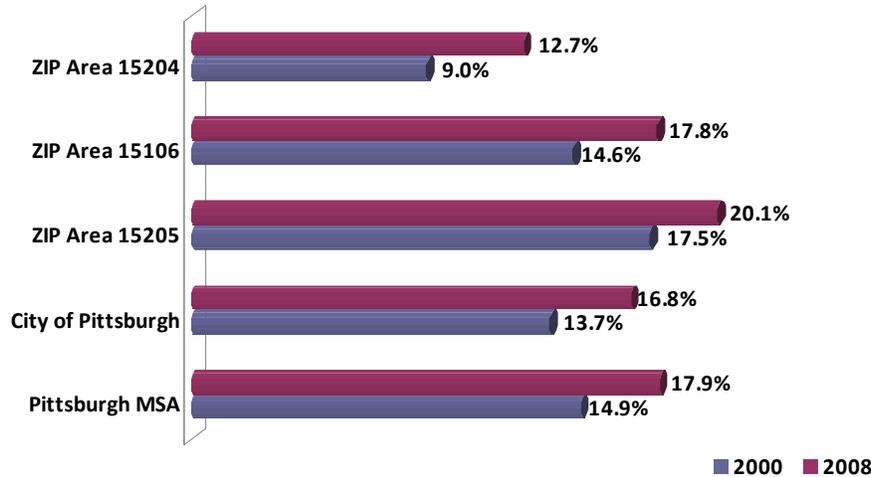
Given the relatively large number of higher educational institutions within Pittsburgh, it may be assumed that a large percentage of these college graduates have an affiliation with one or more area universities and colleges.

The Pittsburgh MSA and ZIP Area 15106, effectively, exhibited the same percentage share of adults with college degrees in 2000 (MSA – 14.9 percent; ZIP Area 15106 – 14.6 percent) and 2008 (MSA – 17.9 percent; ZIP Area 15106 – 17.8 percent). ZIP Area 15204, as illustrated in Graph 2.10, had a substantially smaller percentage share of college educated adults in 2000 (9.0 percent) and 2008 (12.7 percent). However, the growth in the percentage of adults possessing a four-year degree over the 2000 to 2008 period within ZIP Area 15204 was an estimated 41.1 percent – the greatest growth rate among all geographies for the college educated segment.



Percentage of Adult Residents with Bachelors Degrees

Graph 2.10



Given the West Busway's service (direct or through connections) to area institutions of higher education, 4ward Planning expects continued strong growth in degreed adults within each of the subject ZIP Areas.

Household Tenure

Housing tenure refers to the occupancy status of a given housing unit – owner occupied, renter occupied or vacant. An examination of housing tenure trends within a give geography facilitates the identification of areas attracting investment (or experiencing disinvestment) and considered stable or in transition.

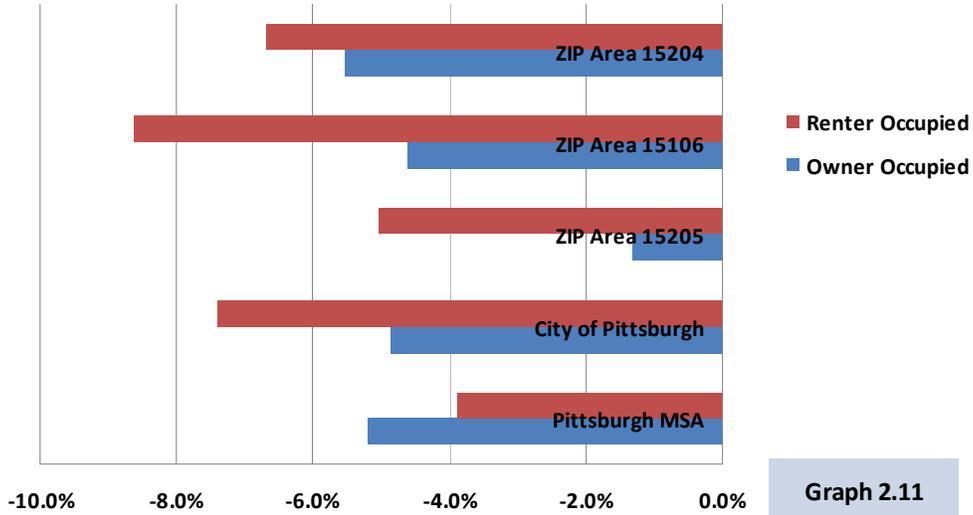
Stations by Zip Code Area

Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

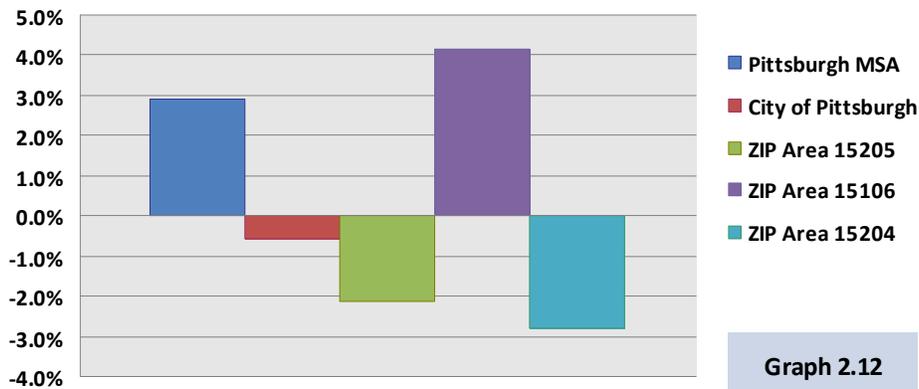
4ward Planning examined housing tenure dynamics for the five geographies exhibited in Graph 2.11 and identified several important trends. First, and consistent with outmigration trends within the greater Pittsburgh region, each geography (to greater and lesser degrees) has experienced a percentage decline in both owner- and renter-occupied housing units over the 2000 to 2008 period.

Percentage Change in Housing Tenure: 2000 to 2008



Graph 2.11

Percentage Change in Housing Units: 2000 to 2008



Graph 2.12

In terms of owner-occupied housing units, ZIP Code area 15205 is estimated to have experienced the smallest decline over the eight year period (negative 1.3 percent), notwithstanding its larger percentage declines in both population (negative 5.8 percent) and households (negative 4.9 percent) over the same period. This would suggest that the majority of outmigration within this geography were renter households, as is illustrated in Graph 2.11 where renter-occupied units for ZIP Area 15205 are estimated to have declined by just over five-percent. ZIP Area 15205's housing tenure trend over the 2000 to 2008 period suggests relative investment stability. In comparison, ZIP Area 15204 experienced substantially higher percentage declines in owner-occupied housing units (negative 5.5 percent) and renter-occupied units (negative 6.7 percent) during the same eight year period. These housing tenure trends indicate relative disinvestment within the geographic area.

As illustrated in Graph 2.11, ZIP Area 15106 is estimated to have experienced the greatest percentage decline (negative 8.6 percent) in renter occupied housing units. Given this geography's relatively small percentage decline in

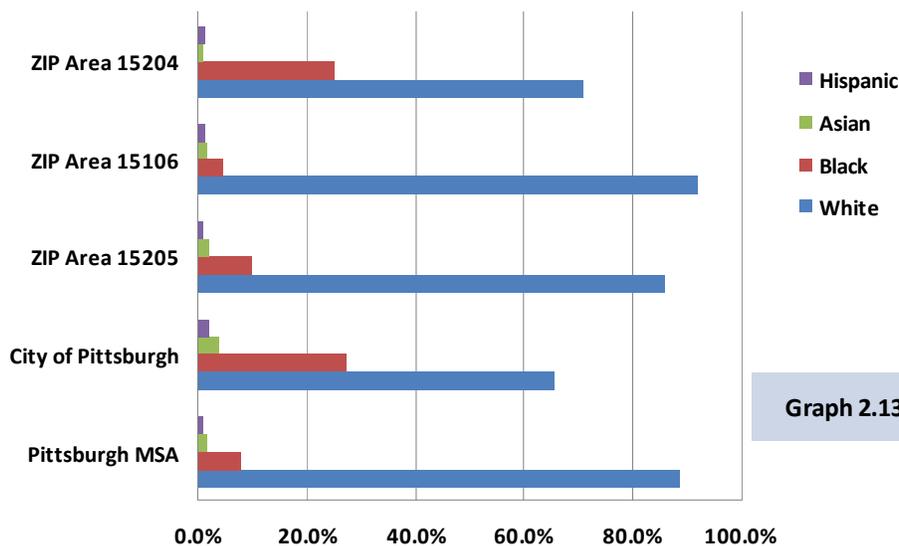
owner occupied housing units (negative 4.6 percent) and the estimated increase in total housing units (4.2 percent), over the same period, it may speculated that a number of renter households converted to home owners.

Race

As depicted in Graph 2.13, white residents were the largest estimated racial group in 2008, across all geographies examined. ZIP Code area 15106 contained the largest percentage of white residents (91.9 percent), followed by the Pittsburgh MSA (88.6 percent), ZIP Code area 15205 (85.7 percent), ZIP Code area 15204 (70.8 percent) and the City of Pittsburgh (65.6 percent). Racial diversity was greatest within the City of Pittsburgh, on the whole, and least diverse within ZIP Code area 15106. African-Americans were most strongly represented in the City of Pittsburgh (27.2 percent) and ZIP Code area 15204 (25 percent). Asian, Hispanic and other racial minority groups represented less than an estimated four-percent of total residential population, across all geographies examined for 2008.

Over the 2000 to 2008 time period, all geographies experienced a modest decline in the percentage of white and black residents, with the exception of ZIP Code area 15106 which saw a substantial percentage increase (36.4 percent) in its African-American population. Asian, Hispanic and other racial minority groups also increased significantly over the eight year period, though still representing a small fraction of total population within each geography.

Racial Makeup as Percent of Total Population: 2008



Graph 2.13

Industry Employment Trends

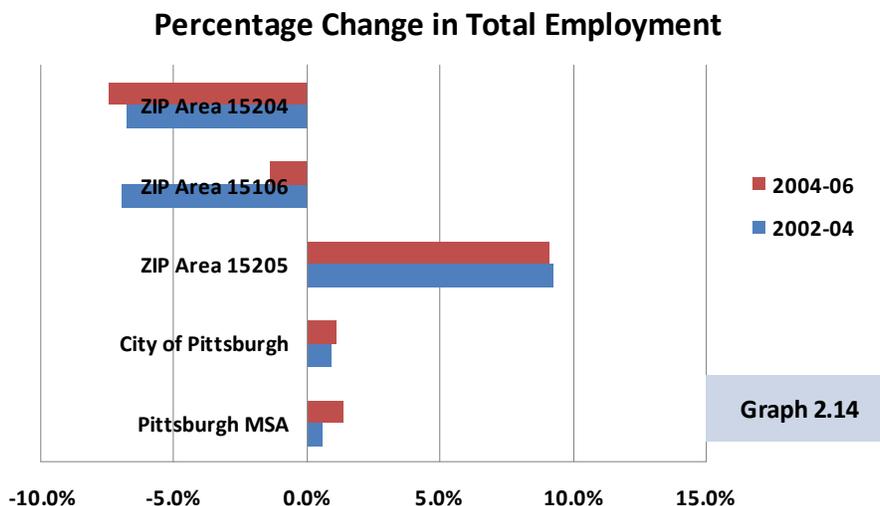
4ward Planning utilized the U.S. Census based program, On the Map, to identify and examine industry employment trends within each of the geographies under study. On the Map is a proprietary geospatial database which permits users to query for population and employment data by geography. The most current data provided by the On the Map program is for the calendar year 2006. Findings are presented for employment data reported in even years, permitting trend analysis over a typical business cycle (four to five years). Further, and in order to facilitate meaningful findings, 4ward Planning limited the analysis to only those industries representing 15-percent or more of total employment in 2002.

Stations by Zip Code Area	
Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

Graph 2.14 illustrates the percentage change in total industry employment for each of the five geographies under study, over the periods 2002 to 2004 and 2004 to 2006. Percentage growth in total employment was greatest for ZIP area 15205 for both the 2002-04 (9.2 percent) and 2004-06 (9.1 percent) time periods. These growth rates in total employment are all the more impressive, given population and household declines for this area and the surrounding region. In contrast, ZIP areas 15106 and 15204 both experienced employment declines over the two time periods examined, with ZIP area 15204 realizing a nearly 7.5 percent decrease in total jobs during the 2004 to 2006 time period.

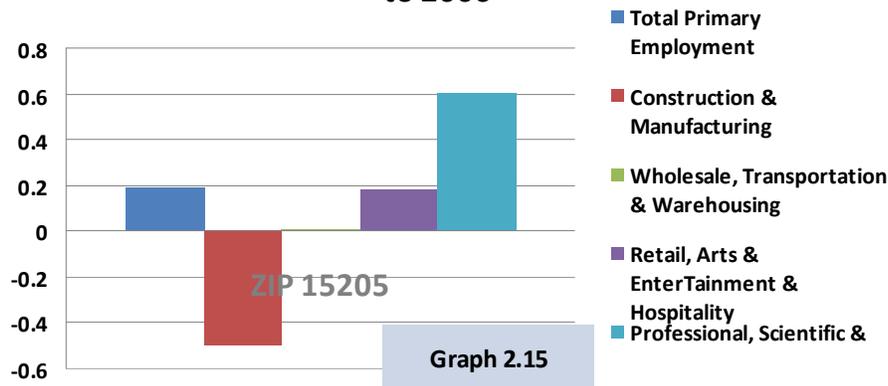
It should also be noted that the scale of total employment among the three ZIP Code areas under study differ markedly; for example, reported 2006 employment figures for ZIP Areas 15205, 15106 and 15204 are 23,048, 8,060 and 805, respectively. These absolute total employment figures are particularly relevant when considering prospective TOD locations, as areas containing high concentrations of employment (specifically where it is growing) will be more attractive to prospective residential and commercial developers.



Graph 2.14

Graphs 2.15 to 2.17 depict percentage change in employment for those industries which represented at least 15-percent of the geography's total employment in 2002. The percentage change in total primary employment (e.g., principal full-time job) over the 2002 to 2006 time period for each of the host ZIP Code areas illustrates the stark differences in the economic fortunes of these areas. While the percentage total primary employment in ZIP area 15205 increased by slightly more than 19 percent over the 2002 to 2006 period, employment decreased by 8.3 and 13.7 percent in ZIP areas 15106 and 15204, respectively, over the same period. The significant increase in ZIP area's employment was principally related to the 60 percent employment growth in the professional, scientific and technical services sector (a sector that represented approximately 15 percent of ZIP 15205's total employment in 2002 and grew to represent approximately 24 percent of the geography's total employment in 2006). Though representing significantly smaller percentage growth in employment over the 2002 to 2006 time period, the retail, arts, entertainment and hospitality sub-sector, nonetheless, grew by 18.5 percent over the period and by 2006 represented the largest share of total employment (25.6 percent) within ZIP 15205.

Percentage Change in Industry Employment: 2002 to 2006



The significant increase in service industry workers within ZIP 15205, particularly among the relatively better compensated workers in the professional, technical and scientific sub-sector, bodes favorably for prospective TOD projects as service workers, empirically, demonstrate a strong inclination to utilize commuter and light rail transit service where that service provides for a relatively short and dependable work trip.

Notwithstanding ZIP 15205's significant overall employment gains over the 2002 to 2006 time period, noteworthy is the fact that the ZIP area's share of employment within the construction and manufacturing sub-sectors decreased from 25.4 percent in 2002 to 12.8 percent in 2006, for a loss of just under 50 percent over the four-year period. This relatively large employment decrease in these sectors can be explained, in part, by structural economic changes regionally – manufacturing investment shifting to lower cost regions – and population outmigration – fewer housing units demanded.

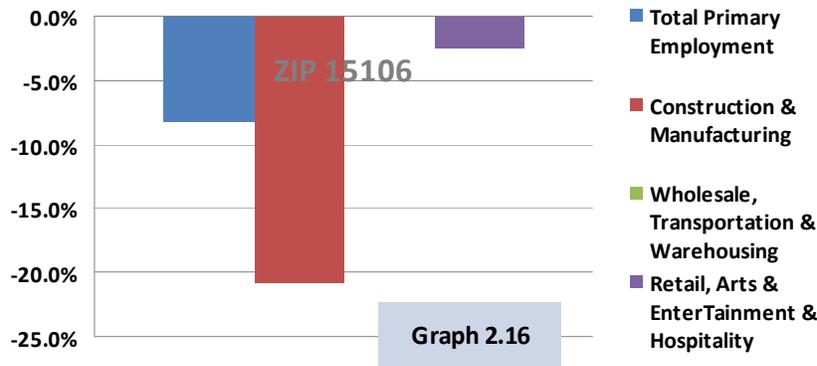
Stations by Zip Code Area

Station Name	Zip Code
Sheraden	15204
Ingram, Crafton, Idlewood, Settlers Ridge, Robinson	15205
Bell, Carnegie	15106

Source: URS, 4ward Planning LLC, 2009

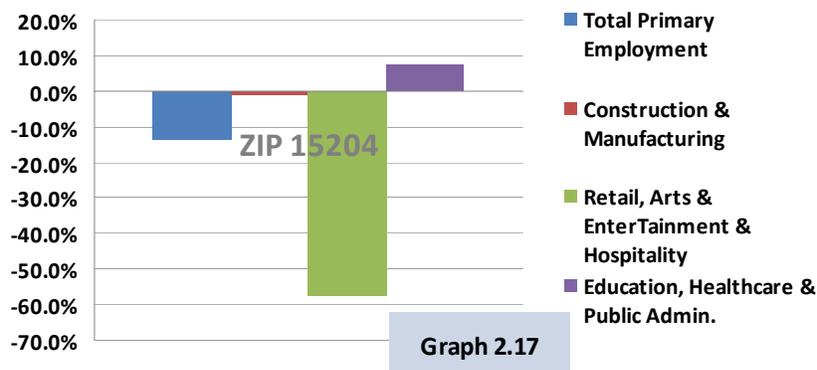
Like ZIP 15205, the percentage loss in construction employment in ZIP 15106 was relatively large (approximately 21 percent) over the 2002 to 2006 period and principally contributed to this geography's overall percentage loss in employment (8.3 percent). Additionally, as the absolute total primary employment in ZIP 15106 is relatively small (estimated at 8,060 in 2006), supporting a mixed-use TOD project in this area would be challenging.

**Percentage Change in Industry Employment:
2002 to 2006**



As illustrated in Graph 2.17, ZIP 15204's employment loss over the 2002 to 2006 period was principally driven by a significant employment percentage decline (57.6 percent) in the retail, arts and entertainment, and hospitality sub-sector. This employment loss is consistent with the relatively large decline in population and households in the ZIP area and associated commercial disinvestment. Notwithstanding ZIP 15204's overall decline in employment over the four-year period, employment within the education, healthcare and administration industry sub-sector (government and institutional employment, principally) increased by approximately seven and one-half percent during this period. Importantly, the total number of primary jobs within this ZIP area in 2002 was estimated at 933, declining to 805 by 2006. Accordingly, ZIP 15204 does not demonstrate strong employment numbers (in total or percentage change) sufficient to justify an employment led TOD strategy.

**Percentage Change in Industry Employment:
2002 to 2006**



Real Estate Market Analysis and Interview Notes

Real Estate Market Overview

4ward Planning examined a number of secondary real estate reports covering the Pittsburgh metropolitan area residential, retail, and commercial office markets. Residential report sources included RealStats, Trulia.com, Zillow.com, and ForRent.com; retail and office report sources included NAI Pittsburgh, Cushman and Wakefield Alliance, Grant Street Associates, LoopNet.com, and CB Richard Ellis. 4ward Planning also interviewed a number of knowledgeable real estate and local planning/development professionals who provided critical insight concerning current real estate market trends within the Pittsburgh metropolitan area and its sub-markets. Following is a findings summary concerning trends within residential, retail and office markets within the Pittsburgh region, generally, and the ZIP code areas under study, in particular.

Residential Market Trends

To best understand the current health and likely future direction of a housing market, 4ward Planning focused on three key metrics - *estimated median house value, percentage of housing units which have increased and the percentage which have decreased in value, and percentage of total housing units in some state of foreclosure.* Following is a rationale for utilizing these metrics to evaluate housing markets:

Estimated Median House Value – Conventional housing market analysis has focused on average sale price trends (e.g., mean and median), over a given period, to discern the current health and likely future direction of a given housing market. While the sales price approach to understanding the current health and likely future direction of a housing market is seemingly straight forward, it's predicated on only those housing units which are selling (e.g., high-end versus starter homes; starter homes versus mid-range move up housing, etc.) and, therefore, likely to either over- or under-represent the estimated median value for all housing in that market.

Alternatively, 4ward Planning utilizes Zillow.com's proprietary methodology for estimating median housing values within a given market. This methodology, referred to as a "Zestimate", relies upon a combination of county and municipal reported housing transaction data for a given market (inclusive of sale price, date of sale, home square footage, bedrooms, house type, lot size, etc.) to derive an estimated value for all housing units within a given market (state, county, ZIP code area, and neighborhood).

Once having produced a value estimate for all houses in a given market (an estimate of what each housing unit could sell for in a given time period), calculating a mid-point estimated value for the entire market is straightforward. This mid-point estimated value or median (the estimated value of half of the houses in the market would be below the estimated mid-point value and half would be above the mid-point value) then is used as one benchmark for evaluating the housing market's current health and likely future direction.

Housing Demand Index Value – Based on Zillow.com's methodology for deriving an estimated value for all housing units within a given market, this metric serves as a broad indicator for past and prospective demand within a specific market. The HDIV is derived by dividing the percentage of housing units which increased in value from the previous year by the percentage of housing units which decreased in value over the same period. Healthy housing markets with increasing demand will, typically, exhibit ratio values in excess of one (e.g., a greater percentage of the market's housing units have increased in price as compared to the percentage which have decreased in price over the same time period). Reducing this metric to a ratio allows for easier comparisons across markets and over time.

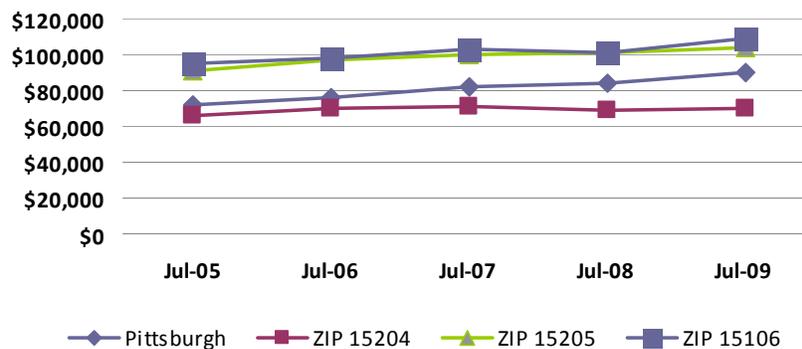
Percentage of Housing Units in Some State of Foreclosure – While housing foreclosure (when homes are in some stage of being repossessed or auctioned off by the lending institution) occurs in most housing markets, it can and does vary significantly. Markets which exhibit a relatively high percentage of housing foreclosure activity or show an upward trend of foreclosure activity over a long period of time indicate some degree of instability or stress, due to larger socio-economic issues.

Five Year Residential Market Trends

As depicted in Graph 2.18, all regional markets examined experienced housing value increases over the five-year period ended in July 2009, by varying degrees. While the estimated July 2009 median housing values were highest in ZIP areas 15106 and 15205 (\$109,000 and \$104,000, respectively), based on data obtained from Zillow.com, the Pittsburgh housing market experienced a 25.6 percent increase in median housing value over the five year period, as compared to increases of 14.6, 14.0 and 7.2 percent for ZIP areas 15106, 15205 and 15204, respectively. The estimated five-year change (July 2005 to July 2009) in the median housing value within ZIP 15204 remained relatively flat, notwithstanding the bullish housing market, both nationally and regionally.

**Five-Year Median Home Value Index
Regional Geographies**

Graph 2.18

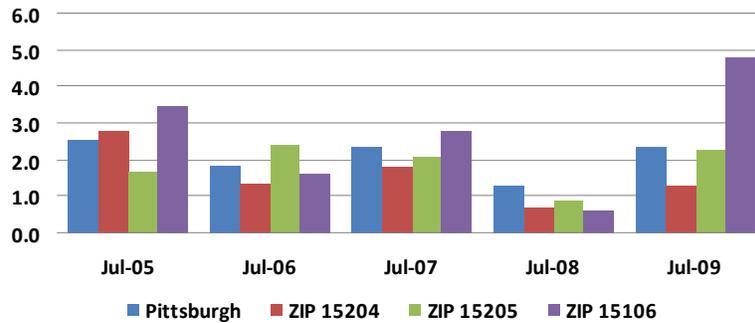


Source: Zillow.com; 4ward Planning LLC, 2009

A comparative measure of housing market demand over the five-year period from July 2005 to July 2009 is depicted in Graph 2.19 where the annual ratio of housing units increasing in value to those decreasing in value is shown for the Pittsburgh regional market and each of the three ZIP areas under study (15204, 15205 and 15106). A ratio of one indicates that the number of housing units increasing in value is equal to the number of housing units decreasing in value. The greater the ratio value, the stronger the housing demand in that given market. The percentage of housing units with unchanged values in a given market are not considered in this analysis and represent a relatively small portion of the total.

Five-Year Regional Housing Demand Index Value

Graph 2.19



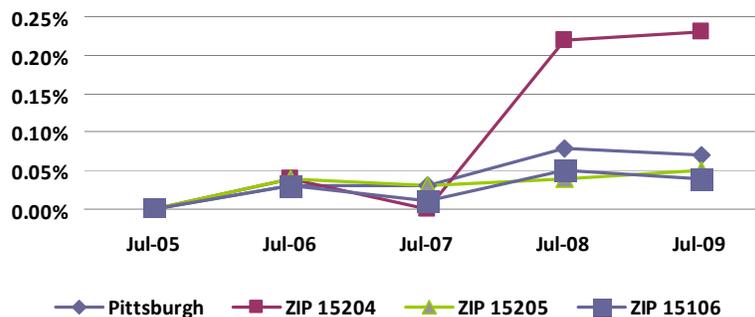
Source: Zillow.com; 4ward Planning LLC, 2009

ZIP area 15106 had the highest average HDIV (2.6 times as many housing units increasing in value than decreasing in value) over the observed five-year period, followed by the Pittsburgh region (2.1), ZIP area 15205 (1.8) and ZIP area 15204 (1.6). As exhibited in Graph 2.19, ZIP area 15106 had the two highest HDIV among all geographies analyzed – July 2005 (3.4) and July 2009 (4.8). In only one year (2005) did ZIP 15204 realize a HDIV of two or greater.

The percentage of housing units within a given market which are subject to some phase of foreclosure action provide a general barometer of socio-economic stability or stress within the housing market. Graph 2.20 displays the percentage of total housing which were in some form of foreclosure action in the month of July over the past five years. As illustrated in the graph, foreclosure activity across all geographies examined was relatively small from July 2005 to July 2007. However, as the crisis in sub-prime loans, nationally and regionally, began to materialize in mid 2007, foreclosure activity rose across all geographies, as exhibited in Graph 2.20. While the percentage rate of foreclosure activity remained relatively low in the Pittsburgh region from mid-2007 to mid-2009, as compared to many other regions of the country, the spike in foreclosure activity was noteworthy, nonetheless. Foreclosure activity in the month of July increased by well over 1,000 percent in ZIP 15204 from 2007 to 2009 - more than three times the percentage increase in foreclosure activity in ZIP area 15106 and nearly ten times the percentage increase observed for the Pittsburgh region.

Housing Foreclosures as Percent of Total Housing Units

Graph 2.20



Source: Zillow.com; 4ward Planning LLC, 2009

As part of its due diligence, 4ward Planning examined housing market activities over a six month period – December 2008 through May 2009 – within the three ZIP code areas having some portion of the West Busway corridor. The following are notable findings exhibited within Table 2.6:

- Over the six month period examined, housing transactions within ZIP area 15204 were scant (7), when compared to ZIP areas 15205 (27) and 15106 (34).
- While nearly 75 percent of the total housing units transacted across all three geographies were single-family detached units, just over half of the 27 housing units sold in ZIP area 15205 (14) were condominiums.
- While the median square footage for all housing units sold in ZIP area 15205 was approximately four percent less than the median square footage for units sold in ZIP area 15106 during the same six month period, the per square foot sales price in ZIP area 15205 was more than eight percent greater than the per square foot sales price in ZIP area 15106.

Table 2.6: Housing Market Activities in the Study Area

Table 2.6: Housing Market Activities for ZIP Areas 15204, 15205 and 15106 - December 2008 through May 2009

Market Area	Total Units Sold ¹	Single Family ²	Condos	Townhouse	Median S.F. ³	Median Sale Price ⁴	Median Price/S.F.
ZIP 15204	7	7	0	0	1,134	\$87,500	\$80
ZIP 15205	27	13	14	0	1,294	\$105,500	\$92
ZIP 15106	34	30	2	2	1,346	\$117,500	\$85

Notes

- ¹ Total units sold excludes housing units deemed by 4ward Planning to have been distress sales or likely transacted between family members.
- ² Single-family units are detached housing units.
- ³ Half of the units sold were larger than the median and half were smaller.
- ⁴ Half of the units sold at a price higher than the median and half sold at a price less than the median.

Source: Zillow.com; 4ward Planning LLC, 2009

Office Market Trends

According to the commercial brokerage firm, CB Richard Ellis, the Pittsburgh regional office market is comprised of ten submarkets (see Figure 2.19), totaling more than 78.1 million square feet of office space, as of the second quarter of 2009. Slightly more than 14 percent (11.2 million s.f.) of the region's total rentable office space is located within the Parkway West sub-market – the market area in which the West Busway line operates.

As reported by CB Richard Ellis and exhibited in Table 2.7, the office vacancy rate for the Parkway West sub-market, at the end of the second quarter of 2009, was approximately 18 percent, as compared to a 14.1 percent office vacancy rate for the region as a whole.

At the end of the second quarter of 2009, 730,000 s.f. of new office space was reported under construction within the West Parkway sub-market, according to CB Richard Ellis – representing approximately 36 percent of total office space under construction within the Pittsburgh region at the end of the quarter.



Figure 2.19:
Pittsburgh Office Submarkets

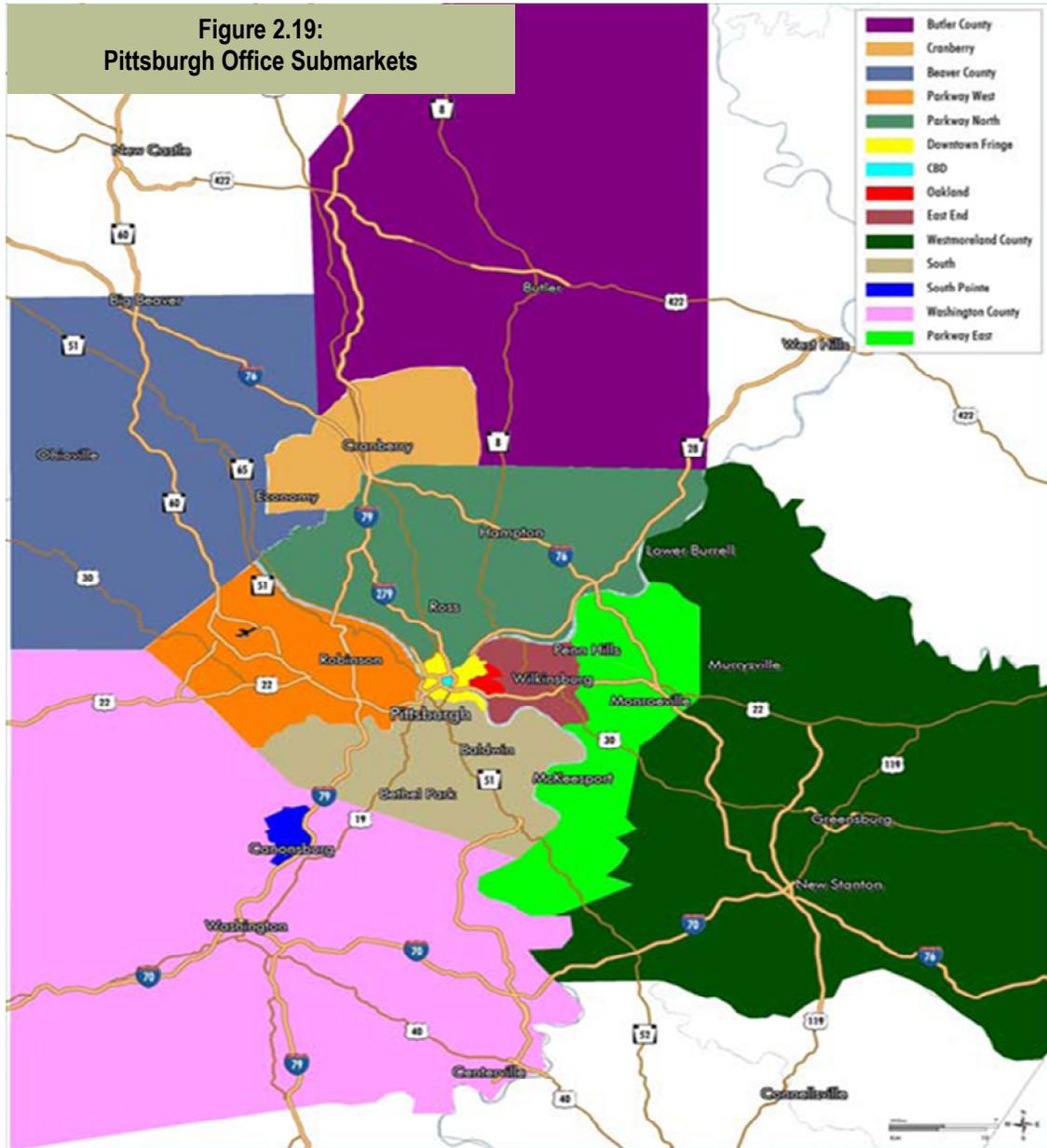


Table 2.7: Characteristics of the Pittsburgh Regional Office Market by Submarket

Market	Rentable Area	Vacant SF	Vacancy Rate %	Available SF	Availability Rate %	Class A Average Lease Rate - \$\$/SF/YR	Class B Average Lease Rate - \$\$/SF/YR	Under Construction SF
CBD	26,286,929	3,832,355	14.58%	4,096,320	15.58%	\$23.45	\$17.16	326,000
Cranberry	3,330,785	185,327	5.56%	302,582	9.08%	\$21.50	\$18.98	470,000
Downtown Fringe	11,090,123	1,649,732	14.88%	1,723,757	15.54%	\$22.30	\$15.06	150,000
East End	4,248,941	399,780	9.41%	404,585	9.52%	\$19.41	\$15.22	285,600
Oakland	3,406,411	98,499	2.89%	116,644	3.42%	\$21.45	\$19.79	0
Parkway East	4,770,344	742,809	15.57%	800,758	16.79%	\$20.91	\$13.76	0
Parkway North	6,594,453	902,836	13.69%	944,897	14.33%	\$20.86	\$16.80	0
Parkway West	11,233,092	2,020,864	17.99%	2,034,263	18.11%	\$20.04	\$15.14	730,000
South	5,310,322	938,866	17.68%	989,258	18.63%	\$20.86	\$15.63	40,000
Southpointe	1,873,175	217,008	11.59%	251,925	13.50%	\$20.44	\$18.30	0
Pittsburgh	78,144,575	10,988,076	14.06%	11,664,989	14.93%	\$21.94	\$15.96	2,001,600

Source: CB Richard Ellis, 2009

Office Market Activity by ZIP Code Area

Utilizing LoopNet.com, an on-line commercial real estate data site providing national, regional, state and sub-market coverage, 4ward Planning examined office space availability within each of three ZIP areas under study. Twelve of the twenty available office space properties identified through LoopNet.com are clustered within ZIP area 15106, east of I-79 within the Borough of Carnegie. Approximately seven of the sites in Carnegie were within a half-mile of the West Busway stop. The balance of office space, with the exception of a site located in Crafton, was found in the Robinson Township area (ZIP 15205). No available office space was identified within ZIP area 15204, due, primarily, to little inventory of Class A and B office space.

With one exception, the majority of the available office space within Carnegie was relatively small by conventional office market standards, ranging from a low of 500 s.f. to as much as 10,000 s.f.

63,000 s.f. of available office space was identified at 631 Idlewood Street in Carnegie. Annual lease rates from \$6.75/s.f. for Class C office space with few amenities to as much as \$19.50 s.f. for Class A office space. The majority of lease rates identified through LoopNet.com for the Carnegie market clustered around \$16.00/s.f., which is in line with the annual asking lease rate per square foot for Class B space within the larger Pittsburgh regional market.

Summary Findings from Interviews

4ward Planning conducted a series of confidential interviews (eight in all) with area real estate and community development professionals knowledgeable about residential and commercial real estate trends within the eight host bus stop communities along the West Busway study route. Interviewees were asked their opinions about the West Busway's potential to create TOD development and/or redevelopment opportunities in the immediate surrounding areas of the designated busway stops.

4ward Planning also queried interviewees about which sites, among the eight examined, offered the best near-term investment opportunity, from the perspective of a real estate developer. That is, if they were being presented with a current opportunity to choose one or more of the busway locations in which to implement a TOD project, which site or sites would rise to the top.

The following is a summary of general findings and areas of concurrence arising from the interviews conducted by 4ward Planning:

- None of the interviewees had recalled riding the West Busway line; though, all respondents felt the West Busway line represented a potentially strong tool to stimulate community and economic development within the communities in which it passed.
- One of the respondents stated they would only consider the suburban stops located at Robinson Town Center and Settler's Ridge, based on land availability and "market vibrancy."
- Interviewees were unanimous in declaring the Sheraden bus stop, and, to a lesser extent, the Ingram stop, a far off TOD opportunity, based on their perceived "run down" character and limited appeal to higher income households.
- Carnegie was cited by all but one respondent as a likely near-term TOD opportunity; however, several interviewees cautioned that real or perceived issues associated with the severe flooding which occurred in 2004 would have to be adequately addressed in advance of mounting a TOD effort.
- Carnegie was the only busway stop host community mentioned for prospectively accommodating a mixed-use residential, office and retail TOD project, based on the downtown area's existing building stock, service needs and urban character.
- Respondents provided mixed opinions about what type of TOD project, if any, would have success at either Settler's Ridge or Robinson Town Center. All interviewed concurred that back filling a shopping center site with residential units would prove difficult, from a market receptivity standpoint.
- None of the interviewees were aware that the Bell Avenue station existed or that there was an area referred to as "Bell".
- While the communities of Crafton and Idlewood were recognized by the respondents as "solid" communities, most interviewees also saw limited TOD opportunities in these communities, given insufficient developable land.
- While all residential brokers interviewed confided that the West Busway could create a premium for close-in residential projects, none felt that residential real estate consumers were placing a priority on locating near transit. However, one interviewee did state that the East Busway line had grown quite popular with the more affluent households in the eastern areas of Pittsburgh.
- One respondent thought that, while a longer-term opportunity, the Corliss Business Park in Sheraden could make for an attractive TOD project in close proximity to Pittsburgh's CBD.

Transit-Oriented Development Potential: West Busway Stops

Sheraden – The most obvious TOD redevelopment opportunity exists within the current location of the Corliss Business Park site – approximately 30 acres, inclusive of large surface parking lots for employee parking and commercial vehicle storage. Immediately across Chartiers Avenue, there are a few infill development opportunities which could be made part of a larger TOD project. Topography is relatively steep in certain areas near the busway stop. Older commercial buildings are scattered throughout the vicinity. A large surface parking lot is adjacent to station stop.

TOD Readiness:	Long-Term (9 plus years)
Location Strengths:	Population density, proximity to Pittsburgh CBD, large land parcel owned by single entity.
Location Challenges:	Market receptivity, land acquisition and business relocation, brownfield remediation.
Community Impact:	Favorable to Very Favorable

Ingram – In order to facilitate meaningful TOD within this station area, wholesale redevelopment activities (e.g., property acquisition, relocation, demolition, etc.) would be required. Existing topography is fairly steep along West Prospect Street. Commercial stock immediately adjacent to the station is in fair to poor condition and idled storefronts were observed along West Prospect Street. The housing stock beyond the immediate station vicinity is good. No dedicated station parking was identified.

TOD Readiness:	Long-Term (9 plus years)
Location Strengths:	Proximity to Pittsburgh CBD, population density, recreational amenities.
Location Challenges:	Market receptivity, land acquisition, topography.
Community Impact:	Favorable to Very Favorable

Crafton – The Crafton Station is adjacent to a small commercial district having limited off-street parking (the surface parking lot adjacent to the station stop was full the day of the field visit), small neighborhood-oriented retail stores and a municipal office building. Prospective infill development sites are limited, due to the built-out property surrounding the station and mature residential areas close-in. Prospective opportunity to acquire several close-in commercial parcels to redevelop more intensely – increase floor area ratio two to three fold.

TOD Readiness:	Mid-Term (5 to 8 Years)
Location Strengths:	Household Income, population density, educated population, proximity to Pittsburgh CBD.
Location Challenges:	Limited infill opportunities, parking, land acquisition costs.
Community Impact:	Limited to Favorable.

Idlewood – This station stop is wedged between an older residential community, light industrial area, and Bishop Canevin High School. Very little surface parking exists at this station stop (while touring the site, 4ward Planning found it difficult to navigate around many of the parked cars due to tight turning radii created by the smallness of the lot) and the existing topography would make development of any scale challenging at best. Further, the station's location is particularly isolated, requiring users to drive through either narrow residential streets or a two-lane industrial service road, generally hidden from view. As with the Bell Station site, prospective TOD activity could replace existing light industrial uses, but would require expensive land acquisition, relocation, demolition and remediation costs in advance of building.

TOD Readiness:	Mid-Term (5 to 8 Years)
Location Strengths:	Household Income, population density, educated population, proximity to Pittsburgh CBD.
Location Challenges:	Market receptivity, visibility, brownfield remediation, limited infill opportunities, parking.
Community Impact:	Limited to Favorable

Bell – This station stop is within what is primarily an industrial area immediately outside of Carnegie. The station stop's accessibility (and visibility from I-279) is somewhat difficult and serves as an initial challenge to prospective TOD activity. Most of the uses observed in the immediate area appear to be light assembly, distribution and warehousing oriented. Most building structures appeared to be active, as parking lots were full and various work activities were easily observed. Based solely on field observations, any prospective TOD project activity would likely be prohibitively expensive, assuming costs associated with property acquisition, business relocation, demolition and environmental remediation. Prospective TOD opportunities would likely be limited to an arts or business focused incubator campus, providing low-cost rental space and quick access to Pittsburgh's commercial district and universities. Opportunities for adaptively re-using vacant or under-utilized buildings as part of a TOD project are also a possibility, but require further examination.

TOD Readiness:	Long-Term (9 plus years)
Location Strengths:	Employment center, proximity to Pittsburgh CBD, educated workers
Location Challenges:	Market receptivity, visibility, brownfield remediation, limited infill opportunities
Community Impact:	Limited

Carnegie – Carnegie's older urban central business district offers a small town feel. The area's older building stock is, generally, well preserved, notwithstanding observed vacancies throughout the commercial district. Large scale infill redevelopment potential exists immediately across from the station stop on what is now the municipal building surface parking lot. Such a development would require structured parking and would likely need to achieve a minimum of 12 stories in height to be economically feasible. Additionally, 4ward Planning observed several prospective adaptive re-use development opportunities east of bus stop – former light industrial buildings and a vacant auto-dealership.

TOD Readiness:	Near-Term (1 to 4 Years)
Location Strengths:	Building stock, infill opportunities, educated workers, gentrification, proximity to Pittsburgh
Location Challenges:	Real or perceived flooding issues, existing building vacancies, brownfield remediation
Community Impact:	Favorable to Very Favorable

Settlers Ridge – 600,000 s.f. regional retail center development, located on 77-acres in Robinson Township, southeast of the Robinson Town Centre regional shopping center. The retail center at Settlers Ridge will feature an anchor supermarket (150,000 s.f. Giant Eagle) and typical lifestyle center clothing, book and service retailers. The development site is located on a large, office campus to the west and State Highway 60 to the north.

As with Robinson Town Centre, existing surface parking area may be able to be converted for residential rental development, should economic conditions prove difficult for the retail center over the next five years.

TOD Readiness:	Mid-Term (5 to 8 Years)
Location Strengths:	Land, lifestyle center shopping, proximity to employment center, highway access
Location Challenges:	No dedicated lane for busway system, weak population density, market receptivity
Community Impact:	Limited

Robinson Town Centre – Large regional shopping center in good to excellent condition and easily accessible from major arteries (I-279, U.S. Highways 22 and 30 and PA 60) and the West Busway line. Depending upon economic fortunes within the retail sector over the next five years or more, a substantial amount of surface parking space may be able to be converted for office and/or residential development, creating a mixed-use development site. The development of the aforementioned uses would also provide some additional demand (associated with new residents and office workers who did not previously patronize the shopping center) for the center's retail offerings.

TOD Readiness:	Mid-Term (5 to 8 Years)
Location Strengths:	Land, infill opportunities, access to regional shopping, household income, highway access
Location Challenges:	No dedicated lane for busway system, weak population density, market receptivity
Community Impact:	Limited



CONCLUSION

Using the information contained in this section, the project team began to draw conclusions regarding each West Busway station's potential for generating transit-oriented development in short-, medium-, and long-range timeframes. As mentioned in the introduction, the scope of work called for selecting two stations that demonstrated the most immediate potential for TOD for more in-depth TOD planning efforts. The next step toward selecting the two focus stations was to use the information contained in this section as inputs into an evaluation methodology.



III. TOD EVALUATION METHODOLOGY

The purpose of this evaluation methodology was to assess the potential for transit-oriented development at each station in the West Busway corridor. The outcome of the evaluation methodology was the selection of the two stations that demonstrate the most immediate potential for TOD development. The project team, with the communities, subsequently created detailed TOD implementation plans for the two selected stations (see Chapters V and VI).

The evaluation methodology employed a number of factors that can be used to measure each station's likely potential for TOD. The list of evaluation factors was culled from commonly accepted principles of TOD projects, the SPC TOD Success Factors project, and input from the project team and steering committee members. In order to undertake a manageable evaluation task, the project team selected eight evaluation factors that were easy to calculate, readily available from existing data sources (e.g. Technical Memorandum No. 1, US Census Bureau, etc.), and/or easy to ascertain from field observations, examination of aerial photos, and input from the project team and steering committee members.

An evaluation matrix, similar in format to the sample shown below, was used to describe the performance of each station related to each of the evaluation measures. Within each column, the stations were compared and assigned a performance rating of high (3), medium (2), or low (1) relative to the other stations. Justification for each rating was provided. The "other comments" column allowed the team to note unique and critical information about a station that cannot be captured by the evaluation factors but that affected a station's overall potential (positive or negative) for TOD.

Sample Evaluation Matrix

Station	Factor 1	Factor 2	Total Score	Other Comments
Station 1	3	2	5	Zoning Favorable -
	Justification for rating	Justification for rating		
Station 2	1	3	4	Zoning Unfavorable - Poor pedestrian environment, but municipality is undertaking major streetscape improvements.
	Justification for rating	Justification for rating		



OVERVIEW OF EVALUATION FACTORS

The evaluation factors, described below, measured each station's performance in eight areas:

- Population
- Employment
- Existing Importance as an Origin/Destination - Average daily transit passenger boardings
- Existing Importance as an Origin/Destination - Number of peak period transit vehicle trips
- Pedestrian Environment
- Developable Land
- TOD Readiness from a Market Perspective
- Community Support

For each of the measures that could be calculated using data, the high, medium, and low scores were assigned by roughly allocating the stations into one-thirds groupings. That could be adjusted slightly where there are outliers on either end that are clearly better or worse than the others.

A summary table containing each of the station's ratings and justification follows the description of the evaluation factors.

Population: Population is an evaluation factor that measures the size of the existing population around a station. The SPC TOD Success Factors project noted the importance of population around transit stations. The larger the population, the larger the potential market of local users to support a TOD development. The score for this factor is based on the total population within one-quarter mile of the transit station (US Census 2000). The figures in the table below were based on apportioning the population within a one-quarter mile radius based on the proportion of the area of the block groups within the radius. High (3), medium (2), and low (1) ratings have been assigned to each station.

Table 3.1: Population Evaluation Factor Ratings

Station	Population	Rating
Ingram	1,738	3
Crafton	1,473	3
Sheraden	1,264	2
Carnegie	1,194	2
Idlewood	539	1
Bell	503	1
Robinson Town Centre	133	1
Settlers Ridge	125	1

Employment: The SPC TOD Success Factors project noted that in addition to connectivity to downtown Pittsburgh, employment density within a site is also equally critical. The indicator demonstrates the degree to which a site is its own economic center that attracts people to it for live / work / play options. A site that has both high population and employment densities may suggest a "greater likelihood of a vibrant economic center both during and post primary work hours."¹ The score for this factor is based on the total employment within one-quarter mile of the transit station. The US Census is the source of the employment data (2006 figures).

Table 3.2: Employment Evaluation Factor Ratings

Station	Employment	Rating
Carnegie	1,804	3
Robinson Town Centre	1,144	3
Crafton	447	2
Sheraden	277	2
Bell	184	1
Ingram	145	1
Settlers Ridge	101	1
Idlewood	92	1

Existing Transit Boardings: The project team and steering committee struggled to find one or more factors that would indicate the importance of a station due to the connectivity and/or level of service it affords. Given time and data constraints, the group settled on the following two measures. While not a perfect measure, the number of daily transit boardings reflects a demand for services at that station. Those that board at each station also represent potential users of enhanced TOD offerings. This factor relates to the SPC TOD Success Factors regarding transit service density. This evaluation factor is based on total boardings in the inbound and outbound direction, as shown in the table below, with station ratings. This factor does not include ridership on routes that serve the busway on adjacent streets.

Table 3.3: Transit Boardings Evaluation Factor Ratings

Station / Stop	Total Boardings (Inbound and Outbound)	Rating
Carnegie	813	3
Sheraden	516	2
Crafton	420	2
Robinson Town Centre	290	2
Ingram	197	1
Bell	184	1
Idlewood	166	1
Settlers Ridge	< 5	1

Source: Port Authority of Allegheny County, Transit Development Plan, Route Evaluations, 2008.

¹ SPC TOD Success Factors Project, 2009, page 7.

Peak Hour Transit Vehicle Trips: This factor measures the importance of a station by looking at the number of transit vehicle trips that serve it. A higher number of transit vehicle trips indicates a higher number of opportunities for using transit and making connections throughout the system. This measure is based on the number of transit vehicle trips per hour (operated by PAAC) that serve each station during the peak period. Because five busway routes serve Sheraden, Ingram, Crafton, Idlewood, and Bell stations, the number of vehicle trips is similar. The number is slightly higher at Ingram, Sheraden, and Crafton due to connections with non-busway routes. Three of the five busway routes exit at the Bell Station to enter the Parkway West/I-376 and serve other destinations. Thus, only two of the five busway routes serve Carnegie due to its location south of the Bell Station/Parkway interchange. The number of transit vehicle trips per hour is based on initial service planning resulting from PAAC's TDP.

Table 3.4: Peak Hour Transit Vehicle Trips Evaluation Factor Ratings

Station / Stop	Number of Vehicle Trips Per Hour (peak period)	Rating
Ingram	27	3
Sheraden	24	3
Crafton	21	2
Idlewood	20	2
Bell	20	2
Robinson Town Centre	14	2
Carnegie	10	1
Settlers Ridge	1	1

Pedestrian Environment: This factor assesses the quality of the pedestrian environment surrounding the station from three perspectives: 1) quality of infrastructure (e.g., sidewalks are adequately wide and well-maintained, provide a complete network of connections, pedestrian-friendly design such as minimal setbacks and few large parking lots, etc.), 2) quality of services within walking distance (restaurants, cafes, convenience retail, grocery stores, etc.), and 3) topography (Does topography make it difficult to for pedestrians to access the station?). The score for this factor is based on fieldview observations and aerial mapping. Note that as a part of the evaluation, none of the stations was given a 3 rating for pedestrian environment because none of them was excellent in all three areas. For example, a station may have an excellent sidewalk infrastructure and walkable topography but there may be few attractions to walk to.

The SPC TOD Success Factors project used WalkScore.com to measure pedestrian friendliness. Walk Score only assesses the number of amenities within walking distance of a location and not the quality of the pedestrian environment. The qualitative measure for Pedestrian Environment used here takes both into account.

Table 3.5: Pedestrian Environment Evaluation Factor Ratings

Station / Stop	Pedestrian Environment Rating
Sheraden	2
Ingram	2
Crafton	2
Idlewood	1
Bell	1
Carnegie	2
Robinson Town Centre	1
Settlers Ridge	1



Developable Land / Availability of Properties: This factor assesses the extent to which there is land and/or property currently available for TOD development. The SPC TOD Success Factors project noted that this is an important qualitative indicator. The lack of developable land or properties available for redevelopment is an impediment to transit-oriented development. Developers may need to assemble multiple parcels to construct a development. This factor also takes topography into consideration when evaluating land availability. Property availability considers the amount of observed underutilized or vacant buildings in the vicinity of the station. The score for this factor is based on fieldview observations and aerial mapping.

Table 3.6: Developable Land / Availability of Properties Evaluation Factor Ratings

Station / Stop	Developable Land Rating
Sheraden	2
Ingram	2
Crafton	2
Idlewood	1
Bell	1
Carnegie	3
Settlers Ridge	1
Robinson Town Centre	1

Community Interest: This evaluation factor assesses the level of municipal and/or community group(s) support for TOD and redevelopment projects. Support can be demonstrated by participation in the West Busway TOD planning effort (e.g., attending meetings, providing information when requested, etc.) and undertaking of catalyst projects that may enhance TOD potential (e.g., infrastructure improvements) among others.

Table 3.7: Community Interest Evaluation Factor Ratings

Station / Stop	Community Interest Rating
Sheraden	2
Ingram	1
Crafton	1
Idlewood	2
Bell	2
Carnegie	3
Settlers Ridge	2
Robinson Town Centre	3



TOD Readiness: This factor evaluates the extent, from a market perspective, to which a station demonstrates a readiness for TOD development (as highlighted in the market report conclusions – short-term, mid-term, and long-term potential.). The ratings are shown below.

Table 3.8: TOD Readiness Evaluation Factor Ratings

Station Stop	TOD Readiness	Rating
Sheraden	Long-term	1
Ingram	Long-term	1
Crafton	Mid-term	2
Idlewood	Mid-term	2
Bell	Long-term	1
Carnegie	Near-term	3
Settlers Ridge	Mid-term	2
Robinson Town Centre	Mid-term	2

Table 3.9: TOD Evaluation Methodology Scoring and Justification

Station / Stop	Population	Employment	Transit Boardings	Peak Hour Transit Vehicle Trips	Pedestrian Environment	Developable Land	Community Interest	TOD Readiness	Total	Other Comments
Sheraden	2	2	2	3	2	2	2	1	16	Zoning – Favorable Only City of Pittsburgh location
	In the middle range of population sizes	In the middle range of employment	In the middle range of transit boardings	Has the second highest number of transit vehicle trips per hour in the peak period.	Good sidewalk network throughout, minimal setbacks. Small amount of services/amenities within walking distance. Difficult access to station from NW portion of area.	In addition to park-and-ride lot, just a few other properties appear available for development. Comcast site is not currently available for redevelopment.	City is participating in the process. West End communities are undertaking strategic plan. No known catalyst projects planned/underway.	Market report identified site as having long-term potential.		
Ingram	3	1	1	3	2	2	1	1	14	Zoning - Favorable
	Highest station area population	In the low range of employment	In the lower range of transit boardings	Has the highest number of transit vehicle trips per hour in the peak period.	Good sidewalk network throughout, minimal setbacks. Small amount of services/amenities within walking distance. Crafton-Ingram Shopping Center beyond walking distance. Difficult access to station from SE portion of area.	Existing moderately dense neighborhood. There are a few potential lots adjacent to station that may have potential for redevelopment. No park-and-ride lot.	No community participation in the process. No known catalyst projects planned/underway.	Market report identified site as having long-term potential.		
Crafton	3	2	2	2	2	2	1	2	16	Zoning - Favorable
	Second highest station area population	In the middle range of employment	In the middle range of transit boardings	In the middle range of transit vehicle trips per hour in the peak period.	Good sidewalk network throughout, minimal setbacks. Small amount of services/amenities within walking distance. Crafton-Ingram Shopping Center beyond walking distance.	Existing moderately dense neighborhood. There are a few potential lots adjacent to station that may have potential for redevelopment, including park-and-ride lot.	No community participation in the process. No known catalyst projects planned/underway.	Market report identified site as having mid-term potential.		
Idlewood	1	1	1	2	1	1	2	2	11	Zoning - Unfavorable
	In the lower range of population sizes	Lowest station area employment	In the lower range of transit boardings	In the middle range of transit vehicle trips per hour in the peak period.	Sidewalks in residential area only. No pedestrian connection to City of Pittsburgh neighborhood. No amenities/services within walking distance.	Nearly half of site not developable due to topography and existing institutional uses (high school). Small area of light industrial has potential for redevelopment.	City of Pittsburgh is participating but Crafton is not. No known catalyst projects planned/underway.	Market report identified site as having mid-term potential.		



Station / Stop	Population	Employment	Transit Boardings	Peak Hour Transit Vehicle Trips	Pedestrian Environment	Developable Land	Community Interest	TOD Readiness	Total	Other Comments
Bell	1	1	1	2	1	1	2	1	10	Zoning - Unfavorable
	In the lower range of population sizes	In the low range of employment	In the lower range of transit boardings	In the middle range of transit vehicle trips per hour in the peak period.	Sidewalks in residential area only. No pedestrian connection to Rosslyn Farms neighborhood due to topography. No amenities/services within walking distance.	Active industrial uses occupy half of site. Topography an issue in Rosslyn Farms. Stable residential neighborhood occupies portion of station area.	Rosslyn Farms, City of Pittsburgh, and Carnegie are all participating. No known catalyst projects planned/underway.	Market report identified site as having long-term potential.		
Carnegie	2	3	3	1	2	3	3	3	20	Zoning – Favorable overall. May need to modify M1 Planned Industrial adjacent to park-and-ride lot.
	In the middle range of population sizes	Highest station area employment	Highest level of transit boardings	Has the second lowest number of transit vehicle trips per hour in the peak period.	Good sidewalk network throughout, minimal setbacks. Some sidewalk disruption due to parking lots. Most of downtown Carnegie's amenities are beyond ¼-mile walking distance. Poor crossing conditions to station along West Main Street due to roadway configuration (under re-design) and active railroad (with intermittent service). Few direct pedestrian connections from neighborhood west of station.	Large park-and-ride lot and borough lot offer opportunity for development. Other properties and parking lots within the station area may be available for redevelopment.	Carnegie is participating in the process and is undertaking catalyst projects (e.g., intersection re-design at station, streetscape redevelopment along Third St, redevelopment plan in the works).	Market report identified site as having short-term potential.		
Settlers Ridge	1	1	1	1	1	1	2	2	10	Zoning – Favorable
	In the lower range of population sizes	In the lower range of employment	In the lower range of transit boardings	Has the lowest number of transit vehicle trips per hour in the peak period.	Auto-oriented design. Difficult pedestrian access from Campbells Run Road and Chestnut Ridge community across I-376 West.	Half of station area is I-376 West right-of-way. Development plan for Settlers Ridge occupies the remainder of the site.	Robinson Township is participating in the process. No known catalyst projects planned/underway (new development is auto-oriented and does not include non-retail uses).	Market report identified site as having mid-term potential.		
Robinson	1	3	2	2	1	1	3	2	15	Zoning - Favorable
	In the lower range of population sizes	Second highest station area employment	In the middle range of transit boardings	In the middle range of transit vehicle trips per hour in the peak period.	Auto-oriented design. Poor bicycle and pedestrian access to and within site.	Only a few small out parcels currently available	Robinson Township is participating in the process. ACTA is undertaking planning processes to improve area.	Market report identified site as having mid-term potential.		



FINAL SELECTION OF TWO SITES

Upon completion of the scoring exercise, the steering committee removed Idlewood, Bell, and Settlers Ridge from further consideration for TOD planning as a part of this process due to their very long-term prospects for TOD. With 20 points, Carnegie Station had the highest score. Due to the many positive aspects of this station, the steering committee selected the Carnegie Station as one of the two TOD sites for further study.

Using the scoring system, Sheraden and Crafton tied with the second highest score (16 points). The steering committee discussed the merits of both stations for TOD planning. The steering committee noted the differences in community interest (in the West Busway TOD planning process) and in the community typology. It was noted that Sheraden would provide an interesting contrast to the Carnegie site (suburban) due to its location in the City of Pittsburgh (urban). The steering committee voted to select Sheraden as the second station for TOD planning.

IV. HOUSING MARKET EVALUATION AND DEVELOPMENT SCENARIOS

Based on the information and data findings gained through the previously completed market and real estate analysis (*Chapter II*), 4ward Planning performed a market evaluation to determine the demand for new housing and commercial and retail development in the Sheraden and Carnegie station areas. This section provides a technical description of the process used to determine this demand. It also includes an assessment as to whether residential demand can be met in modest- and flat-growth household formation scenarios. Additionally, the housing analysis includes an extrapolated demand, based on unit type (owner-occupied vs. rental), unit size (number of bedrooms), and household income.

The second portion of this chapter includes proposed development scenarios for the two station areas. The analysis includes likely and suitable locations for redevelopment or new development in each of the project areas. It provides suggestions for TOD appropriate uses and densities that take market demand into consideration (from both prospective in-migration and pent-up housing demand from workers within the greater Pittsburgh central business district).

The demographic and socioeconomic research that underpins this analysis is based on data collected at the ZIP code level geography (a map of the study ZIP code geography is provided in Figure 2.18 in Chapter II). The ZIP code geography was selected due to size of the study area and the resources available for data collection. ZIP code geographies are becoming study areas of choice among planning and market professionals due to the robust amount of current data for this geography (employment, housing, general demographics, etc.). Additionally, ZIP code geographies are typically good representations of where intra-migration takes place (e.g., when households move, they typically stay within the county in which they presently live and, often times, within the same ZIP code boundary or close to it – US Census studies provide the basis for this assertion).

This market analysis is a tool to be used by project planners to understand what the market will bear at the Sheraden and Carnegie stations. It is important to note that creating a vision for the station areas can positively impact the findings in the previously completed market analysis. If the transit-oriented development around the transit station becomes a distinctive destination, market feasibility will be improved beyond the trends indicated by projecting census data into the future. Incentives and gap financing offered by the public sector can also change the market analysis' projected outcomes. Similarly, in the future, the proximity to transit will increase the value and viability of TOD.

PROJECTING FUTURE RESIDENTIAL DEMAND FOR SHERADEN AND CARNEGIE STATION AREAS

In projecting future residential demand, 4ward Planning considered the underlying demographic and real estate trends laid out in the market and real estate analysis (*Section II*). Successful TOD sites (in terms of real performance, business investment and service utilization) are typically within close proximity to upper middle- and high-income households – households that would tend to find the housing and retail amenities within a TOD, in addition to mass transit access, attractive. The *Market and Real Estate Analysis* showed an overall decline in population and total households; however, the areas surrounding the West Busway line exhibit favorable household income share or distribution trends; thus, it is likely that lower-income households accounted for the largest share of outmigration.

Like household income, a geography's educational attainment trends (for adults 25-years of age and older) provide clues concerning potential business investment and revitalization opportunities. As educational attainment is both strongly and positively correlated with income, areas experiencing increases in educational attainment levels (e.g., increasing percentage of adults possessing a four-year degree, etc.) would likely be favorably disposed to TOD



service and amenities. That said, the subject areas exhibited increases over the 2000 to 2008 period in the share of adult residents possessing a four-year degree or more advanced degree.

Also of note, population groups aged 55 and older increased their numbers in all geographies examined over the 2000 to 2008 period, with the 55- to 74-year-old cohort experiencing significant growth (better than 1 percent per annum) during this period. This is a favorable trend for prospective TOD projects as this cohort is associated with empty-nester households, higher discretionary income, and the propensity to choose smaller housing units close in to mass transit.

From a real estate market perspective, all regional markets examined experienced housing value increases over the five-year period ending in July 2009, with Carnegie having the highest median housing value of all areas studied. Meanwhile, Sheraden exhibited the lowest value and a relatively flat median housing value from 2005 to 2009, notwithstanding the bullish housing market during the same period, both nationally and regionally. All regional markets also showed a positive annual ratio of housing units increasing in value to those decreasing in value. Carnegie had the highest average ratio (2.6 times as many housing units increasing in value than decreasing in value) from 2005 to 2009. Sheraden also showed a positive ratio (1.6), but to a lesser extent than any other geography examined in the study.

Given known housing and demographic trends, Carnegie is expected to absorb development at a faster pace than Sheraden; however, both geographies are anticipated to positively respond to TOD scenarios. These trends, coupled with enhanced marketability and expectations anticipated from a planned and incentivized development strategy are reflected in the development scenarios proposed forthwith.

In projecting future residential demand, 4ward Planning created two possible housing demand scenarios, using different assumptions for household formation, as exhibited in Tables 4.1 through 4.4. In the first scenario for each location, we assumed a modest growth rate for household formation of 0.75 percent per annum. The second scenario for each area assumed a flat or zero annual rate of growth of 0.0 percent annually for household formation (e.g., zero or near zero change in household formation). Further, and so as to identify prospective household growth attributable specifically to local employment, 4ward Planning assumed that demand would also come from the greater Pittsburgh Central Business District (CBD) workers who currently live outside of the CBD, Sheraden, and Carnegie.

In 2008, an estimated 161,000 persons worked in the CBD and immediate areas. Approximately 152,000 of these workers, however, lived outside of the downtown, Carnegie, and Sheraden (Source: US Census On-the-Map Program Data, 2008). Based on the foregoing statistic, there is likely pent-up demand for housing within the Sheraden and Carnegie study areas – that is, the demand associated with workers who now commute to the greater CBD and would like to live closer to their place of employment if adequate housing were available. For purposes of this analysis, we assume 10 percent (15,200) of the greater Pittsburgh CBD workers, who do not currently live within the CBD, Sheraden, or Carnegie, desire to live in or close to downtown (based on national trends associated with workers seeking housing closer to their places of employment). 4ward Planning further assumed a conservative expectation of 1 percent of the current greater CBD workforce that desires to live in or close to downtown (e.g., the approximate 15,000 workers identified above) would contribute to demand in Sheraden (150 workers representing 150 new households), and 3 percent of these workers (450 workers representing 450 new households) would drive demand in Carnegie. The difference in worker absorption rates between Sheraden and Carnegie is related to current market trends described above, which are currently more favorable in Carnegie.

We then determined an estimated amount of marketable housing units (units that could either be rented or sold, regardless of whether or not they are or would be currently listed as available) by reducing the total amount of residential units in the study area by 10 percent for Sheraden (demonstrating a high degree of physical housing unit

obsolescence and vacancy) and 5 percent for Carnegie, to account for those units that, based on physical obsolescence or configuration, are unlikely to be leased or sold. Further, recognizing that all housing stock wears out over time, particularly housing stock that is relatively old and demonstrates a significant amount of deferred maintenance, 4ward Planning assumed an annual obsolescence rate of 0.63 percent for Sheraden (based on the assumption that 1.25 percent of housing units in this market, annually, become physically obsolescent and half of these units (0.625 percent) will be beyond rehabilitation efforts) and 0.50 for Carnegie (based on the assumption that 1.0 percent of housing units in this market, annually, become physically obsolescent and half of these units (0.50 percent) will be beyond rehabilitation efforts). Our assumption for these annual obsolescence rates is based on the finding that a majority of the residential units within each study area were built prior to 1940 (Source: US Census Bureau). Further, on-site observations confirmed that deferred maintenance for many of the units has made them unmarketable and is contributing to premature obsolescence.

Finally, after assuming an average annual residential vacancy rate of 5 percent (stable housing markets typically exhibit vacancy rates of between 3 percent and 7 percent), we calculated the amount of net available units that could either be leased or sold (e.g., marketable housing units). The estimated number of marketable units was then compared against each of the two projected household formation scenarios – annual modest growth (0.75 percent) and annual flat growth (0.0 percent). Comparing these numbers produced either a residual demand for additional housing units or showed an excess amount of units in the study area (e.g., supply exceeds demand). From these figures, we further segmented demand for residential units that would come from replacement of obsolete units and demand generated by household growth plus pent-up demand from area workers. Further, 4ward Planning determined the amount of demand for rental housing units versus owner-occupied housing units by looking at historical tenure rates for the area. We assumed a higher percentage of rental households (70 percent for Sheraden and 60 percent for Carnegie) in the future based on tighter home lending standards since the onset of the subprime mortgage crisis and recession.

Along with tenure type, we further segmented the additional housing units by number of bedrooms and household income. To determine figures for one-, two-, and three-bedroom units, we assumed a percentage bedroom mix of 20 percent one-bedroom units, 70 percent two-bedroom units, and 10 percent three-bedroom units, based on observed current and future demographic trends. 4ward Planning utilized a similar procedure to project demand for housing units based on household incomes of \$39,999 and less (51 percent of demand), \$40,000 to \$74,999 (25 percent), and household incomes of \$75,000 and greater (24 percent). For purposes of this study, we assume most or all of low- and moderate-income housing (affordable) units will be accommodated within the \$39,999 and less housing demand category.

Based on the above assumptions, net new residential housing demand is a function of the annual housing obsolescence rates (0.63 percent for Sheraden and 0.50 percent for Carnegie) and household formation growth scenarios (moderate or flat). For example, in the first scenario, annual modest household growth (0.75 percent) shows that by the year 2014, 425 new and/or substantially rehabilitated residential units will be demanded in Sheraden and 368 new or substantially renovated units will be demanded in Carnegie. The second scenario, annual flat household growth (0.0 percent) indicates a relatively small increase (292 and 51 for Sheraden and Carnegie, respectively) in net new or substantially renovated residential units. The above methodology and analysis demonstrates that demand for residential units is generated not only by new household formations (e.g., in-migration from outside of the county, recently separated or divorced couples, and adult children moving out from their parents' house), but also from pent-up demand from local workers currently living outside of the area and replacement of obsolescent housing stock.

Table 4.1: Carnegie Scenario 1, Modest Annual Growth, 2009 through 2014

	2009	2010	2011	2012	2013	2014
Scenario 1: Modest Annual Growth						
Population	18,344	18,482	18,620	18,760	18,901	19,042
Households	8,352	8,415	8,478	8,541	8,605	8,670
Estimated Total of Central Business District Worker Pent-Up Demand	15,000	15,000	15,000	15,000	15,000	15,000
Housing Units	9,943					
Net Marketable Housing Units	9,446	9,399	9,352	9,305	9,258	9,212
Estimated Number of Pent-Up Demand Households	450	450	450	450	450	450
Estimated Housing Unit Demand	8,352	8,415	8,478	8,541	8,605	8,670
Add Average Number of Vacant Units	8,802	8,865	8,928	8,991	9,055	9,120
Net Housing Unit Demand (Excess Units)	472	470	468	465	463	461
Replacement Demand	(172)	(64)	44	152	260	368
Household Growth and Pent-Up Worker Demand	-	-	47	47	47	46
Demand - Owner-Occupied	-	-	(3)	105	213	322
Demand - Rental	-	-	17	61	104	147
Demand - One Bedroom (20%)	-	-	26	91	156	221
Demand - Two Bedroom (70%)	-	-	9	30	52	74
Demand - Three Bedroom or Greater (10%)	-	-	31	106	182	258
Demand - HH Income \$75,000 and Greater (24%)	-	-	4	15	26	37
Demand - HH Income \$40,000 to \$74,999 (25%)	-	-	10	36	62	88
Demand - HH Income \$39,999 and Less (51%)	-	-	11	38	65	92
	-	-	22	77	133	188



Table 4.2: Carnegie Scenario 2, Flat Annual Growth, 2009 through 2014

	2009	2010	2011	2012	2013	2014
Scenario 2: Flat Annual Growth						
Population	18,344	18,344	18,344	18,344	18,344	18,344
Households	8,352	8,352	8,352	8,352	8,352	8,352
Estimated Total of Central Business District Worker Pent-Up Demand	15,000	15,000	15,000	15,000	15,000	15,000
Housing Units	9,943					
Net Marketable Housing Units	9,446	9,399	9,352	9,305	9,258	9,212
Pent-Up Housing Unit Demand By PMA Workers Living Outside of PMA						
Households	450	450	450	450	450	450
Estimated Housing Unit Demand	8,352	8,352	8,352	8,352	8,352	8,352
Add Average Number of Vacant Units	8,802	8,802	8,802	8,802	8,802	8,802
Net Housing Unit Demand (<i>Excess Units</i>)	472	470	468	465	463	461
	(172)	(127)	(82)	(38)	7	51
Replacement Demand	-	-	-	-	47	46
Household Growth and Pent-Up Worker Demand	-	-	-	-	(40)	4
Demand - Owner-Occupied	-	-	-	-	3	20
Demand - Rental	-	-	-	-	4	30
Demand - One Bedroom (20%)	-	-	-	-	1	10
Demand - Two Bedroom (70%)	-	-	-	-	5	35
Demand - Three Bedroom or Greater (10%)	-	-	-	-	1	5
Demand - HH Income \$75,000 and Greater (24%)	-	-	-	-	2	12
Demand - HH Income \$40,000 to \$74,999 (25%)	-	-	-	-	2	13
Demand - HH Income \$39,999 and Less (51%)	-	-	-	-	3	26



Table 4.3: Sheraden Scenario 1, Modest Annual Growth, 2009 through 2014

	2009	2010	2011	2012	2013	2014
Scenario 1: Modest Annual Growth						
Population	8,548	8,612	8,677	8,742	8,807	8,873
Households	3,476	3,502	3,528	3,555	3,581	3,608
Estimated Total of Central Business District Worker Pent-Up Demand	15,000	15,000	15,000	15,000	15,000	15,000
Housing Units	4,023					
Net Marketable Housing Units	3,621	3,598	3,576	3,553	3,531	3,509
Estimated Number of Pent-Up Demand Households	150	150	150	150	150	150
Estimated Housing Unit Demand	3,476	3,502	3,528	3,555	3,581	3,608
Add Average Number of Vacant Units	3,626	3,652	3,678	3,705	3,731	3,758
Net Housing Unit Demand (Excess Units)	181	180	179	178	177	175
	186	234	282	329	377	425
Replacement Demand	25	23	22	22	22	22
Household Growth and Pent-Up Worker Demand	161	211	259	307	355	403
Demand - Owner-Occupied	56	70	84	99	113	127
Demand - Rental	130	164	197	230	264	297
Demand - One Bedroom (20%)	37	47	56	66	75	85
Demand - Two Bedroom (70%)	130	164	197	230	264	297
Demand - Three Bedroom or Greater (10%)	19	23	28	33	38	42
Demand - HH Income \$75,000 and Greater (24%)	45	56	68	79	90	102
Demand - HH Income \$40,000 to \$74,999 (25%)	47	58	70	82	94	106
Demand - HH Income \$39,999 and Less (51%)	95	119	144	168	192	217

Table 4.4: Sheraden Scenario 2, Flat Annual Growth, 2009 through 2014

	2009	2010	2011	2012	2013	2014
Scenario 2: Flat Annual Growth						
Population	8,548	8,548	8,548	8,548	8,548	8,548
Households	3,476	3,476	3,476	3,476	3,476	3,476
Estimated Total of Central Business District Worker Pent-Up Demand	15,000	15,000	15,000	15,000	15,000	15,000
Housing Units	4,023					
Net Marketable Housing Units	3,621	3,598	3,576	3,553	3,531	3,509
Pent-Up Housing Unit Demand By PMA Workers Living Outside of PMA Households	150	150	150	150	150	150
Estimated Housing Unit Demand	3,626	3,626	3,626	3,626	3,626	3,626
Add Average Number of Vacant Units	181	180	179	178	177	175
Net Housing Unit Demand (<i>Excess Units</i>)	186	208	229	250	272	292
Replacement Demand	25	23	22	22	22	22
Household Growth and Pent-Up Worker Demand	161	185	207	228	249	270
Demand - Owner-Occupied	56	62	69	75	81	88
Demand - Rental	130	145	160	175	190	205
Demand - One Bedroom (20%)	37	42	46	50	54	58
Demand - Two Bedroom (70%)	130	145	160	175	190	205
Demand - Three Bedroom or Greater (10%)	19	21	23	25	27	29
Demand - HH Income \$75,000 and Greater (24%)	45	50	55	60	65	70
Demand - HH Income \$40,000 to \$74,999 (25%)	47	52	57	63	68	73
Demand - HH Income \$39,999 and Less (51%)	95	106	117	128	138	149

PROJECTING OFFICE AND RETAIL DEVELOPMENT DEMAND

In projecting future office demand, 4ward Planning considered the underlying real estate market trends laid out in the market and real estate analysis. 4ward Planning primarily used CB Richard Ellis and LoopNet.com in examining office market conditions.

The analysis showed a high office vacancy rate in Carnegie relative to the region as a whole, much of which is within one-half mile of the West Busway Station. Meanwhile, no available office space was identified within the Sheraden study area, primarily due to little inventory of Class A and B office space. Given the current supply of office space, little new office development is proposed for either Carnegie or Sheraden. What is recommended is small scale in nature and will likely comprise service-oriented businesses for existing and new residents.

Retail development in the Carnegie and Sheraden study areas is based on land availability and the perceived demand associated with new housing units. The retail recommended in the TOD scenarios is relatively small in scale and likely to be convenience oriented. Given the extent of anticipated land availability and higher level of new residential opportunities, more retail square footage is recommended for the Sheraden area.

DEVELOPMENT SCENARIOS FOR CARNEGIE AND SHERADEN STATION AREAS

Carnegie Station Area

Carnegie is an older urban central business district that offers a small-town feel. The area's older building stock is generally well preserved, notwithstanding observed vacancies throughout the commercial district. Based on the market analysis conducted as a part of this study, the Carnegie Station area was seen as likely to accommodate transit-oriented development in the short to mid-term (one to three and four to seven years, respectively).

Infill and redevelopment opportunities have been identified within a five- to ten-minute walking distance to the Carnegie West Busway Station. Most of the properties are located within the preferred TOD quarter-mile radius (five-minute walk), with two sites within an acceptable half-mile (ten-minute walk) distance (Figure 4.1). The subject sites are either underutilized lots or contain ample non-developed land to accommodate mixed-use development. Because many of these infill sites are currently surface parking lots, redevelopment at some sites will require structured parking and will likely need to achieve mid-rise levels of density to be economically feasible. Additionally, there are several prospective adaptive re-use development opportunities east of the station stop, including former light industrial buildings and a vacant auto dealership.

Figure 4.1: Carnegie TOD Area



Credit: 4Ward Planning

Based on current and anticipated market demand, and taking into consideration desirable TOD uses and densities, the recommended development strategy for the Carnegie West Busway Station area includes a mix of uses and densities phased over 1 to 11 years (Figure 4.2). The residential aspects of the development strategy would include a mix of sale and rental properties to accommodate those interested in living near a transit station and the conservative estimated 450 workers that currently commute to the area, but would find Carnegie a suitable housing choice. The area could also accommodate additional small-scale professional and medical services, as well as convenience retail opportunities.

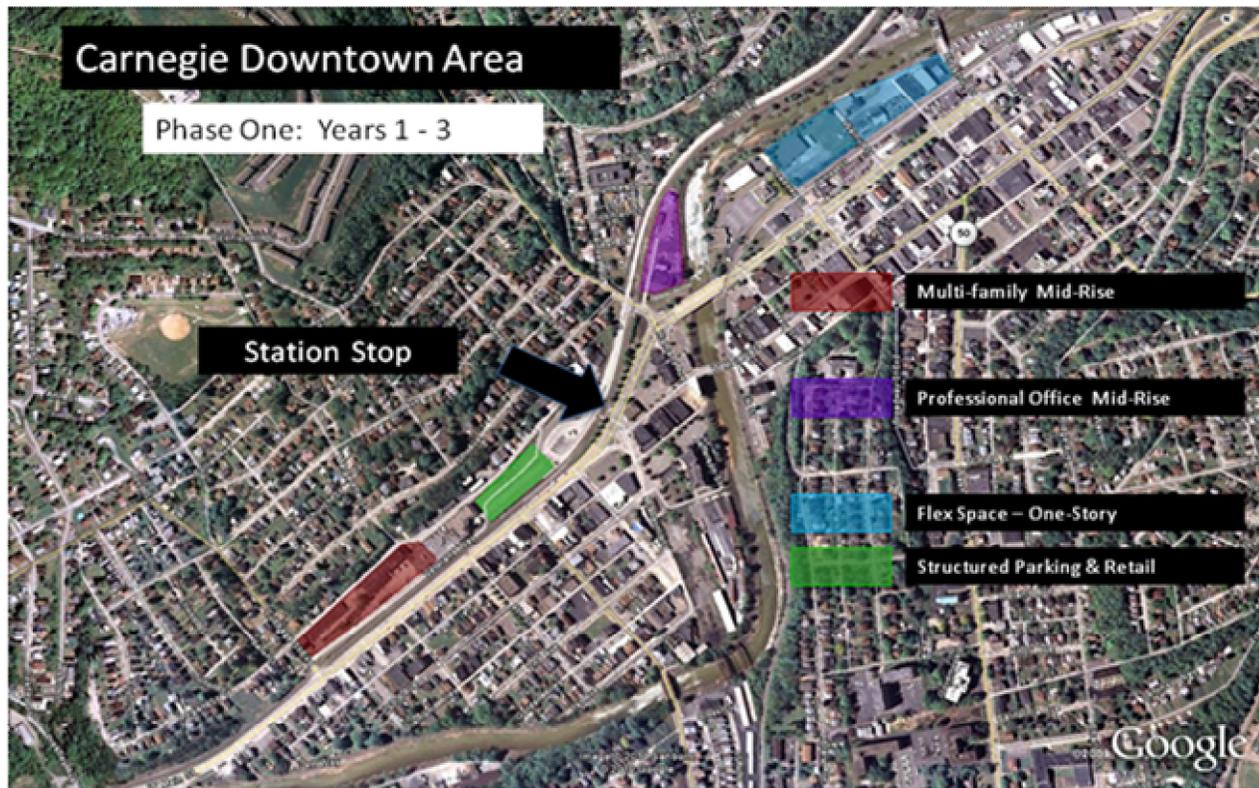
Figure 4.2: Carnegie TOD Development Scenario



Credit: 4Ward Planning

In the short term (one to three years), the study area could reasonably expect to accommodate mid-rise multi-family housing on underutilized property adjacent to the municipal complex, structured parking and retail directly adjacent to the busway station and mid-rise professional office space north of Chartiers Street from the station and one-story flex space¹ adjacent to Chartiers Creek, between Broadway and Chestnut Streets (Figure 4.3).

Figure 4.3: Carnegie Phase I Development



Credit: 4Ward Planning

In the mid-term (four to seven years), the area can expect to add mid-rise retail/office/residential mixed-use on the other side of James Street from the previously noted flex space. Additional mid-rise multi-family housing south of the busway station could also likely be accommodated (Figure 4.4).

In the long-term (seven to ten) years, the site can accommodate additional low-rise multi-family housing south of the busway station (Figure 4.5).

¹ Flex space is commercial property that is flexible enough in its design to allow for a variety of office, retail, and/or industrial uses (e.g., small office with storage, dance school/gymnastics, light assembly, etc.).

Figure 4.4: Carnegie Phase II Development



Credit: 4Ward Planning

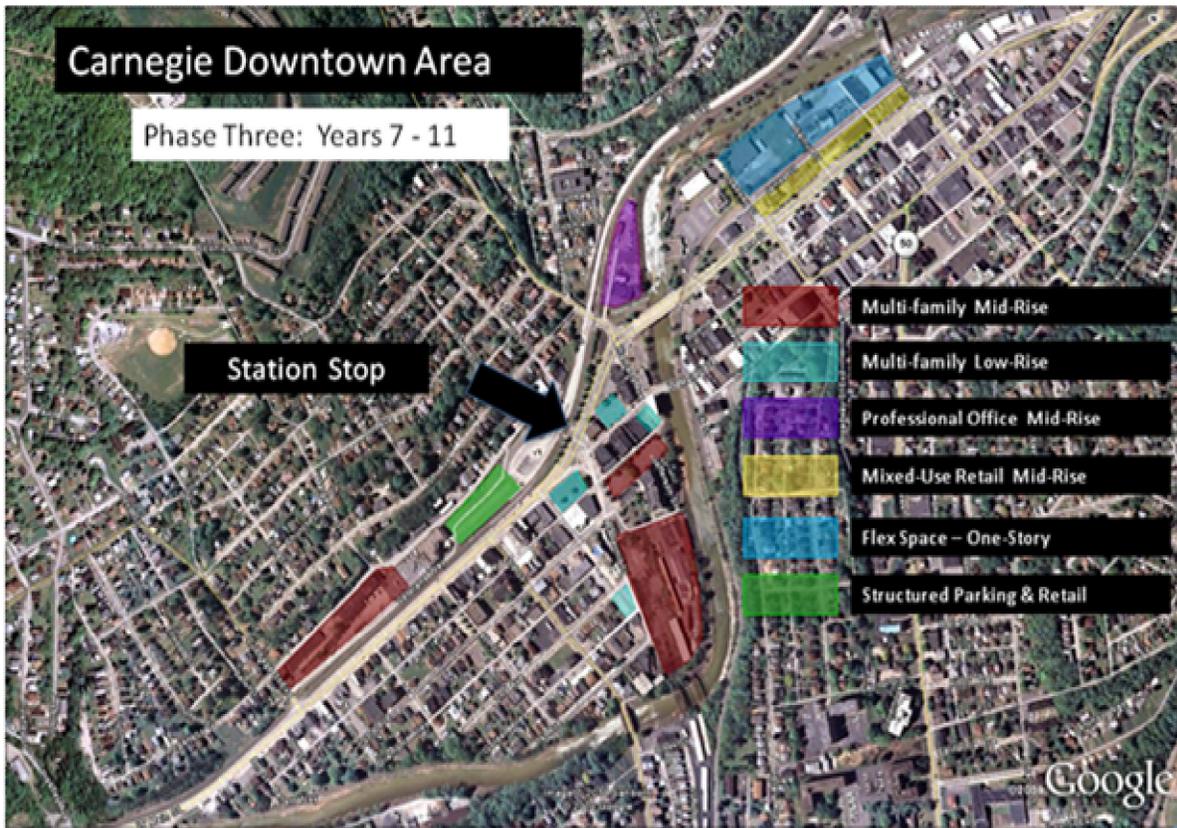
At full build-out the Carnegie market area could accommodate 780 residential units (approximately 312 for-sale and 468 rentals), 30,000 square feet of retail, 10,000 square feet of professional office, and 30,000 square feet of flex space. Of the total market area build-out, 386 residential units are expected within the 10-minute walking distance to the West Busway Station. This is juxtaposed to a zero-growth strategy that would likely see 57 units of residential (approximately 23 for-sale and 34 rentals), 10,000 square feet of retail, 10,000 square feet of professional office, and 10,000 square feet of flex space through re-use and/or redevelopment under current allowable development levels. In the zero-growth scenario, 51 residential units are expected within the 10-minute walking distance to the West Busway Station

Carnegie Development Scenarios

<u>Development Type</u>	<u>Slow Growth</u>	<u>Flat Growth</u>
Residential Units	780	57
Retail (Square Feet)	30,000	10,000
Office (Square Feet)	10,000	10,000
Flex Space (Square Feet)	30,000	10,000

Source: 4ward Planning LLC, 2010

Figure 4.5: Carnegie Phase III Development



Credit: 4Ward Planning 1

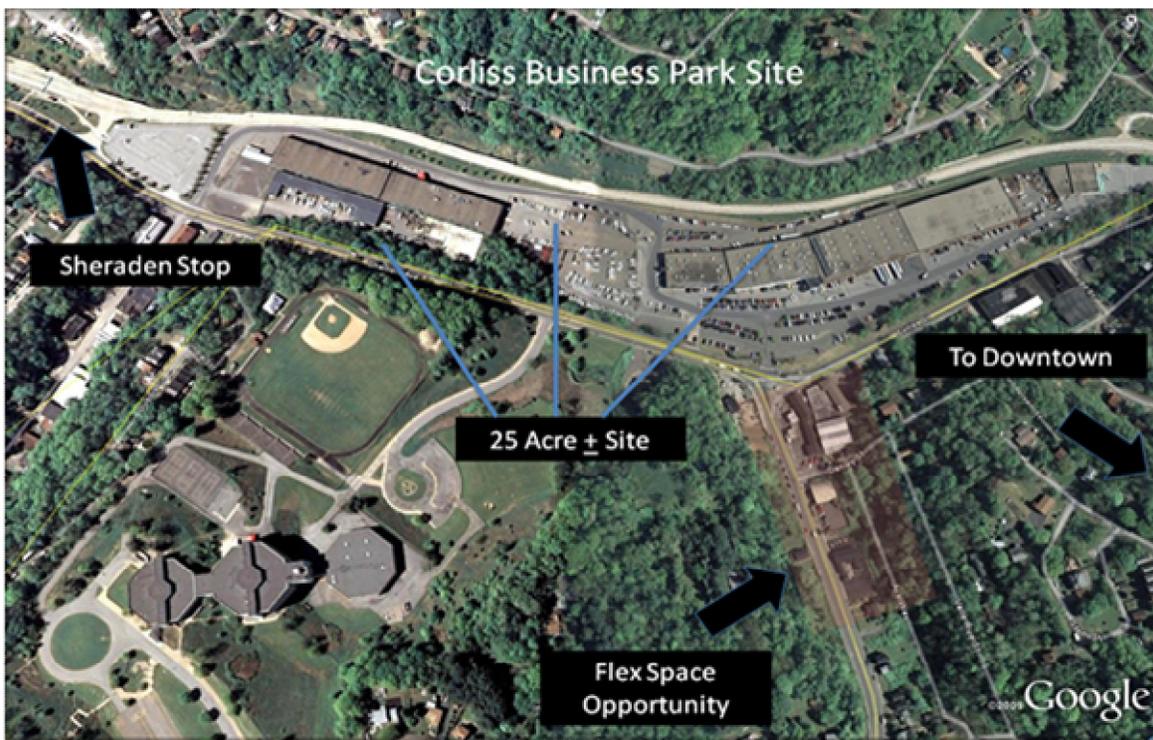
Some infrastructure up-grades will have to occur to accommodate the TOD growth strategy. Most notably, the infill development will eliminate a significant amount of existing surface parking. To accommodate new residents and user parking needs, a limited amount of structured parking will need to be included in the development strategy. Other utility related costs may include the relocation of lines, poles and transformers, which are considered typical construction expenses. Carnegie Borough may wish to consider moving such utilities underground for aesthetic purposes, which would constitute an added cost to the developer. Project proponents should ascertain the quality and capacity of water infrastructure prior to advancing TOD plans.

Properties with contamination may require tax incentives or other financial assistance to make them more attractive for redevelopment. The community should consider structuring a tax increment financing (TIF) program to fund necessary infrastructure up-grades, parking in particular. As with any major redevelopment strategy, the community will need to provide technical support to interested property owners to inform them of their new development options and support them through the redevelopment process.

Sheraden Station Area

Based on the market analysis conducted as a part of this study, the Sheraden Station area was seen as likely to accommodate transit oriented development (TOD) in the mid-term (3 to 7 years). Sheraden has many positive attributes that make it desirable for TOD, including its location within the Pittsburgh City boundary and in close proximity to the City's central business district. The most obvious TOD redevelopment opportunity exists within the current location of the Corliss Business Park – approximately 30 acres, inclusive of a large surface parking lot for employee parking and commercial vehicle storage. Immediately across Chartiers Avenue, there are a few infill development opportunities that could be made part of a larger TOD project. In addition, older derelict commercial buildings are scattered throughout the vicinity. Topography may be of concern, as it is relatively steep in certain areas near the busway station (Figure 4.6).

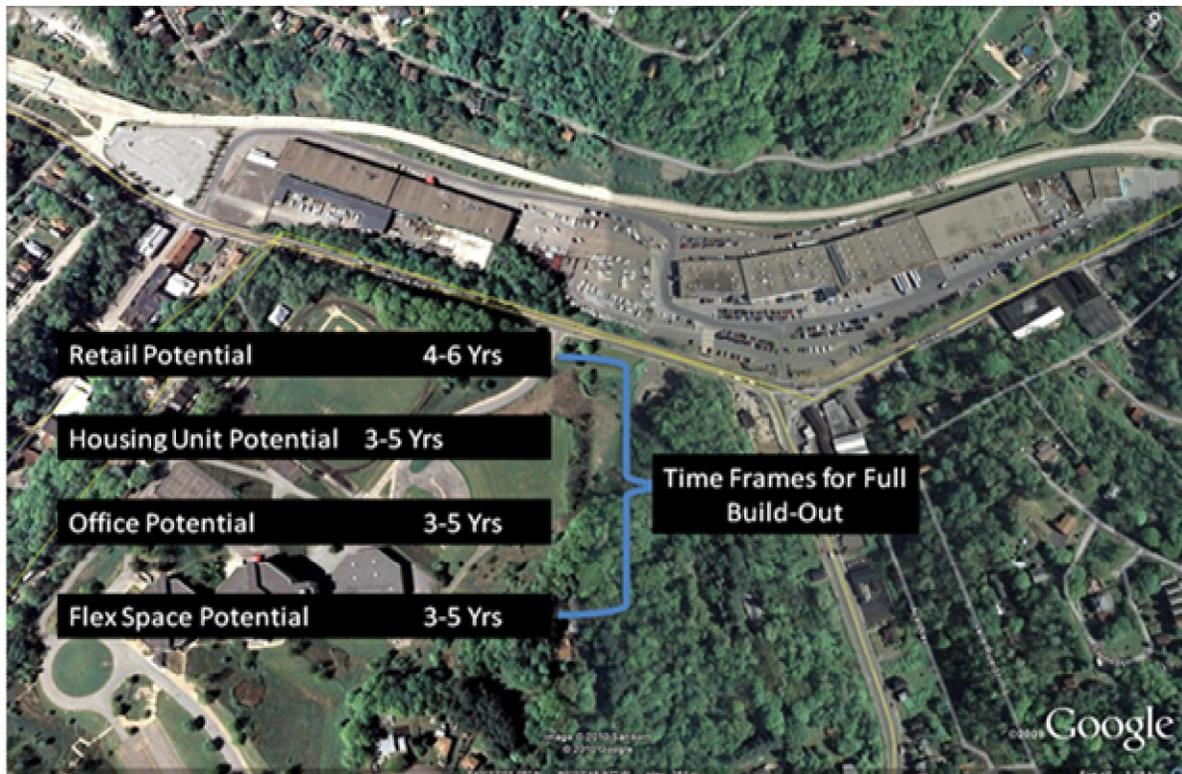
Figure 4.6: Sheraden TOD Area



Credit: 4Ward Planning

Based on current and anticipated market demand, and taking into consideration desirable TOD uses and densities, the recommended development strategy for the Sheraden West Busway Station area includes a mix of uses and densities that could be expected in the next six years (Figure 4.7). The residential aspects of the development strategy would include a mix of sale and rental properties to accommodate those interested in living near a transit station and the conservative 1 percent demand amongst the 15,200 workers that currently commute to the area, but wish to live in or to close downtown. There is also a significant need to replace or substantially rehabilitate existing residential properties that are expected to be physically obsolete over time. Further, the area could accommodate additional small-scale professional and medical offices, a neighborhood shopping center and some flex-space. The redevelopment sites near the Sheraden busway station can accommodate 15,000 square feet of flex space, 10,000 square feet of professional office (preferably medical services) and 400 units of mid-rise rental and condo flats in the next 3 to 5 years.

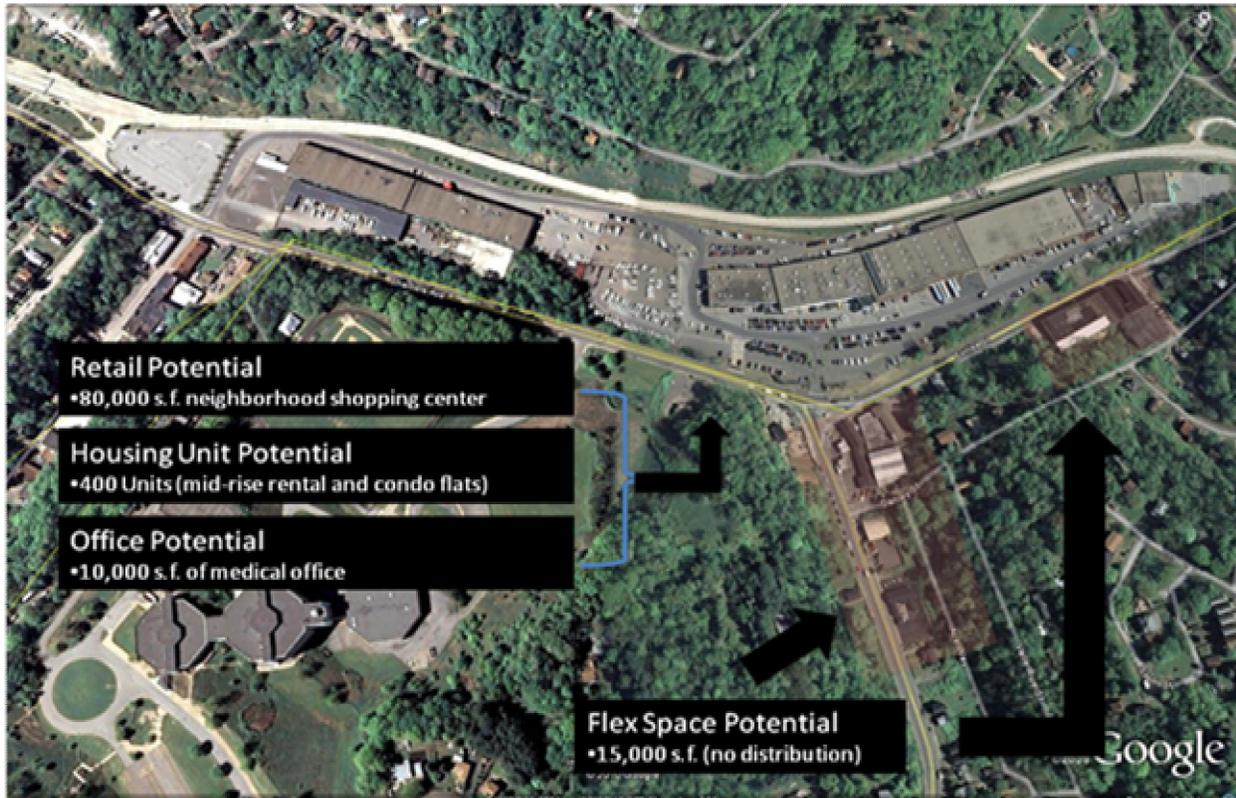
Figure 4.7: Sheraden TOD Development Timeframes



Credit: 4Ward Planning

Following the residential development, the area could reasonably accommodate 80,000 square feet of neighborhood retail in 4 to 6 years. Should Sheraden encourage a growth strategy through land development ordinances, it can also expect to see an additional 20,000 square feet of commercial space and 731 residential units outside the immediate station area. Under a zero-growth strategy, Sheraden would still likely see 50,000 square feet of retail, 10,000 square feet of office, 5,000 square feet of flex space and 814 residential units due to typical redevelopment of obsolete and/or under-utilized properties. Under all scenarios, Sheraden can expect 70 percent of future residential development to be rental.

Figure 4.8: Sheraden TOD Development Scenario



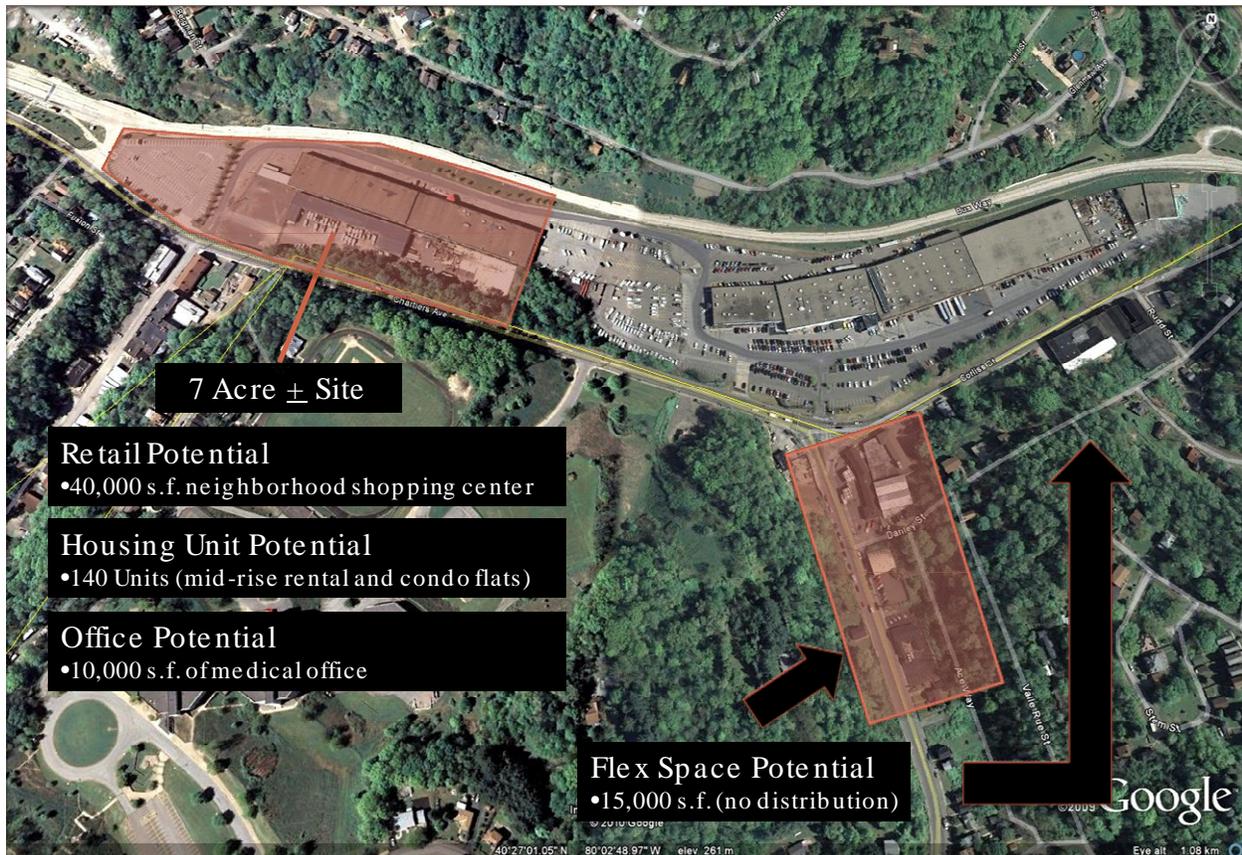
Credit: 4Ward Planning

Sheraden Development Scenarios		
Development Type	Slow Growth	Flat Growth
Residential Units	1,131	814
Retail (Square Feet)	100,000	50,000
Office (Square Feet)	10,000	10,000
Flex Space (Square Feet)	15,000	5,000

Source: 4ward Planning LLC, 2010

While full-scale redevelopment of the Corliss Business Park may not be feasible in the short or long term, a limited land availability scenario might include approximately seven acres directly adjacent to the West Busway Station (Figure 4.9). This scaled back land area, if built at a slightly higher density than the full development scenario, could accommodate 140 residential units, 40,000 square feet of retail and 10,000 square feet of office. The 15,000 square feet of proposed flex space would remain the same, as the land available for that use is outside the Corliss Business Park property.

Figure 4.9: Sheraden Limited Land Availability TOD Development Scenario



Credit: 4Ward Planning 2

Some infrastructure upgrades will have to occur to accommodate the TOD growth strategy. To accommodate new residents and user parking needs, structured parking will need to be included in the development strategy. Other utility related costs may include the relocation of lines, poles and transformers, which are considered typical construction expenses. The City may wish to consider moving such utilities underground for aesthetic purposes, which would constitute an added cost to the developer. Project proponents should ascertain the quality and capacity of water infrastructure prior to advancing TOD plans.

While not necessarily the highest and best use of the property, a large portion of the proposed TOD area includes a viable business park – Corliss Business Park. The City may wish to enter into discussions with the property owner about the possibility of redeveloping a portion of the site with a TOD-favorable mix of uses. Properties with contamination might also require tax incentives or other financial assistance to make them more attractive for redevelopment. As with any major redevelopment strategy, the community will need to provide technical support to interested property owners to inform them of their new development options and support them through the redevelopment process.



NEXT STEPS

Building on the existing conditions analysis and demographic and market assessment (Chapter II), this chapter's housing market evaluation and development scenarios was the final input into the project team's planning toolbox. The next step for the project team was a synthesis of all information collected in the planning process to develop preliminary TOD concepts for the Carnegie and Sheraden station areas. The concept development phase also kicked off the public involvement process for the project.

V. SHERADEN TOD PLAN

Planning for transit-oriented development (TOD) is a way to address long-term challenges in the context of short-term uncertainty. It increases a community's capacity to integrate long-term goals into short-term investment plans, and it gives confidence to developers and the market because they can see that investments are being made in those long-term goals, investments that are essential to addressing current challenges and being well-positioned when conditions improve.

A decade ago, the region made a substantial investment in the western communities of Allegheny County by constructing the West Busway. Many communities in the United States have found that although busways and other fixed guideway transit systems add value to the station areas, in most cases, rapid transit alone cannot be expected to drive the real estate markets that produce TOD. When sufficient market forces are not present, the role of the public sector becomes an important ingredient for fostering TOD and the sustainable land use goals it advances.

As important as public sector involvement is in TOD implementation, the commitment and dedication of the Sheraden community to carry this plan forward will be critical to its success. The long implementation horizon requires perseverance and continued involvement. As various components develop, residents and stakeholders, including the arts community, should continue to provide input and ensure that projects match the community vision. The community should also pursue implementation of recommendations from the recently completed West Pittsburgh Plan and continue their Operation Weed and Seed program activities to further support and bolster their TOD efforts. While there will be many individuals and agencies supporting the community's efforts, it will be up to the community to maintain the momentum and tout its success!

PUBLIC PROCESS AND STAKEHOLDER ISSUES

Two public meetings were held during the course of the planning process. At the first meeting, held at the Sheraden Senior Center on March 23, 2010, the project team introduced the project to the community and facilitated small group discussion on the types of improvements and development that stakeholders would like to see around the West Busway station. Discussion at the meeting was very positive and the participants demonstrated their passion about their community and their commitment to improving it. The comments from the meeting are summarized below.

- Need neighborhood-scale mixed uses in the heart of Sheraden, such as:
 - Grocery store / market
 - Bakery
 - Coffee shop
 - Restaurants
 - Gift shops
 - Medical offices / pharmacy
- Create commercial opportunities.
- Create uses that generate activity all day long in the heart of Sheraden.



Sheraden public input meeting – March 23, 2010
Photo credit: URS

- Need more parking at the busway station park-and-ride lot.
- Need additional parking for new retail development.
- Enhance visibility of neighborhood from Chartiers Avenue and the busway.
- Provide additional connections from the neighborhood to and from the busway station.
- Address public safety issues.
- Market the many positive attributes of living in Sheraden (proximity to downtown, affordable housing, neighborhood views).
- Provide improved information in the busway shelters (updated maps, schedules, etc.).
- Provide positive engagement activities for youth and senior citizens.
- Utilize green building techniques in all redevelopment.
- Focus development in the central part of Sheraden.
- Address housing issues such as tenancy, vacancy, and deterioration.
- Maintain jobs at the business park and find ways to attract their employees to spend money in Sheraden.
- Continue to redevelop Greenway Drive with lofts and office space.
- Create connections along Chartiers Avenue to the future bike trail along West Carson Street.

At the second meeting at the Sheraden Senior Center on June 2, 2010, the project team shared the preliminary development concepts for Sheraden. The development concepts were based on the project's assessment of existing conditions and transportation access and the input obtained at the March workshop. Again, the feedback was very positive and the attendees were enthusiastic about the proposed improvements. The following is a summary of feedback provided at the meeting.

- Who has authority to make decisions on behalf of Sheraden (e.g., the Sheraden Community Council, the local CDC, local government representatives)?
- Focus should be on rebuilding the heart of Sheraden.
- Must get a grocery to commit to locating in the neighborhood.
- Provide lunch / deli spots for industrial park workers.
- Have further discussion on what to call the Sheraden neighborhood and busway areas.
- Have retail in the center of Sheraden and housing above parking structure at the busway park-and-ride.
- Maintain free parking in the area.
- Provide pedestrian lighting in parking areas.
- If park-and-ride is relocated to make room for mixed-use development, ensure that parking for persons with disabilities is kept as close as possible to the busway station.
- Consider a pedestrian bridge that connects Sheraden to the proposed mixed-use development at the station (versus a connection to the station).

TOD PLAN ELEMENTS

The Sheraden TOD vision calls for a mixed-use neighborhood with 24/7 activity in the heart of the community. The TOD vision will re-establish the community center that existed less than 20 years ago. The neighborhood will offer a distinctive character and branding which will attract new residents and retain existing residents. Residents will be attracted to its many housing options (with choices for a broad range of household incomes), diverse population, short commute, accessibility from other areas, walkability, and access to natural features and recreational amenities. Where possible, the vision will be facilitated through redevelopment of the community's existing buildings and assets, including renovation and adaptive reuse of existing buildings. Where necessary, parcels will be redeveloped with buildings that fit the neighborhood character of development.

The Sheraden station area has two potential nodes for development: Sheraden central, the area near the intersection of Chartiers Avenue and Sheraden Boulevard (from here on called "Sheraden") and the area busway station and east of the busway station (from her on called "Sheraden busway station").

Sheraden

At the two public meetings, it was the consensus of attendees that the near-term priority for TOD is the redevelopment of the heart of Sheraden, the area centered on the intersection of Chartiers Avenue, Hillsboro Street, and Sheraden Boulevard. In the recent past the area was known as "The Station," and was a hub of neighborhood activity due to its mix of businesses and activities including a full-scale grocery store, a movie theater, and a bakery among others. Today the intersection features Langley High School, a bank branch, and a multi-story building with first floor retail and apartments above. Along Sheraden Boulevard, a vacant lot is used for parking, a couple of parcels are underutilized, and a limited-scale grocery store sits back from the street with perpendicular parking in front of the store. This TOD vision seeks to re-energize the neighborhood through a mix of land uses, including basic services, that will generate 24/7 activity around a central gathering spot.

The TOD Plan for central Sheraden has 12 principal parts, as shown in Figure 5.1:

- Renovate the existing building at the south corner of Hillsboro Street and Sheraden Boulevard (the Murphy Building).
- Continue the street face east along Hillsboro Street by constructing two new three-story mixed-use buildings (retail first floor, office or residential on upper floors) and a public parking lot. Entrance to the new public parking lot would be between the two new mixed-use buildings.
- Reserve the triangle parcel at the east end of the new parking lot for a destination restaurant offering outstanding neighborhood views or a daycare center with a landscaped outdoor play area.
- Assemble properties at the northeast corner of Hillsboro Street and Sheraden Boulevard to develop a new building with first floor retail and offices or residential above. Place the building at the sidewalk line and place public parking behind.



Example of Mixed-Use Building
Photo Credit: URS



Figure 5.1: TOD Concept Plan for Sheraden



Credit: URS

- Continuing northward on Sheraden Boulevard, construct a two- to three-story residential building. This will serve as a transition from the mixed uses at the corner of Sheraden Boulevard and Hillsboro Street and the single-family homes that continue north on Sheraden Boulevard. Place the residential building at the sidewalk line and place parking behind.

- Create a central plaza in front of Langley High School, preserving and incorporating the existing war memorials. A row of ornamental trees will frame the place of the street and plaza.
- Create infill development on the two parcels west of PNC Bank along Chartiers Avenue.
- Improve the streetscape along Chartiers Avenue, Hillsboro Street, and Sheraden Boulevard, including wayfinding and crosswalks to facilitate walking within the Sheraden downtown district and improve the public realm. Improvements can include sidewalk repair and replacement, pedestrian lighting, placement underground of aerial utilities, banners and signage, crosswalk improvements, street furniture and other ornamentation, and wayfinding elements among others.
- Construct a pedestrian bridge that would provide additional connections between the neighborhood and the busway station. During public outreach it was noted that it is a long walk from some parts of the neighborhood to the existing busway access sidewalk. The TOD plan includes a pedestrian bridge from the Sheraden redevelopment area to the busway station, including steps and elevators at the station. While a study will be needed to assess feasibility and alignment, a possible phase two extension of the bridge to Municipal Street would provide a hillside-to-hillside link.
- Improve and enhance the busway station. Port Authority should assess the possibility of enhancing its station shelter to further support the area's redevelopment. At a minimum, the station area must be maintained regularly. Information should be provided at the station including routes and schedules as well as wayfinding elements that direct users to Sheraden.
- Improve bike access to the area by installing bike racks throughout and evaluating the potential placement of shared lane pavement markings or bike lanes on Chartiers Avenue (currently designated as a bike route by Bike Pittsburgh), Sheraden Boulevard, and Hillsboro Street.
- Where possible, facilitate renovation and adaptive reuse of existing buildings.



Example of Pedestrian Bridge
Photo Credit: URS

A graphic rendering of the proposed improvements for Sheraden is shown in Figure 5.2.

Mix of Uses

As a part of their community's renewal, Sheraden stakeholders were adamant about their desire to see a return of basic services that they could access without leaving the neighborhood. The community expressed a strong desire for a grocery store within walking distance for most homeowners. Many years prior, one had existed in the same footprint the TOD seeks to improve. While it seems unlikely that a major name grocer would be willing to invest in the spaces along Chartiers Avenue, a suggestion for a community-owned cooperative grocery store, such as the East End Food Co-op, generated positive feedback.

As mixed-use projects develop, implementation agencies should strive to attract businesses that will provide services and amenities to neighborhood residents such as drug stores/pharmacies, bakeries, dry cleaners, print and shipping stores, small cafes and restaurants, coffee shops, and medical offices among others. These same types of businesses will attract transit users, residents of neighboring communities, and employees of local businesses.

Figure 5.2: Sheraden with TOD Development and Plaza



Credit: Maynes Associates Architects

View from west side of Sheraden/Hillsboro/Chartiers intersection, looking east toward the proposed mixed use buildings on the east side of Sheraden Boulevard and the south side of Hillsboro.

Housing Revitalization

The TOD plan calls for new housing in Sheraden around the core of Chartiers Avenue, Hillsboro Street, and Sheraden Boulevard. These new housing units should provide options for a variety of household incomes and sizes. In addition to new housing, the community noted the importance of improving the existing housing stock in the neighborhood. The community has a very affordable housing stock. However, in recent years there have been problems of vacancy, abandonment, and deterioration. Community leaders should work the City of Pittsburgh and the Urban Redevelopment Authority to increase code enforcement and encourage homeowners to utilize tax abatement and loan programs to finance home purchases and improvements. In addition, the community should work with the City of Pittsburgh to create an inventory of abandoned homes and use community revitalization tools to acquire these properties and prepare them for re-sale.

Sheraden Branding

New places compete for buyers. A place, like a product or a restaurant, must be marketed. A first step in marketing a place is to develop a brand. Branding a place, like branding a product, carries with it many benefits. Customers perceive brands as having quality and a name they can trust, knowing their experience will be a good one. Customers are also willing to pay a premium price for a brand and remain brand loyal over time. Through branding, which brings out a brand's distinct personality, a bond is created between the customer and the product or place, and enthusiasm for what is offered is generated. The opportunity here is that the redevelopment that will occur in downtown Sheraden can be branded and marketed and the public perception of that place will influence the perceptions that the public has about the Sheraden neighborhood as a whole. Whether the branding recalls a historic place or reflects a new direction, it is important that the whole community participate in a discussion on its direction.



Example of Residential Development

Photo credit: URS

Parking

From an urban design perspective, the placement of all new buildings at the sidewalk line will unify the streetscape and create the activity mode that residents are looking for. Parking should be placed behind the buildings but with convenient access to building entrances. On-street parking in downtown Sheraden can reduce off-street parking needs, provide short-term access to local businesses, provide traffic calming improvements, and protect pedestrians from moving vehicles. To protect nearby residential streets from being used for parking by transit patrons, the City could consider including a portion of Sheraden in the residential parking permit program.

Sheraden Busway Station

The second potential node for TOD development is the busway park-and-ride lot and the area east of it. Corliss Business Park, with numerous commercial and light industrial tenants, currently occupies the area bounded by the West Busway to the North, Corliss Street and Chartiers Avenue to the north, Greenway Drive to the west, and the Corliss Tunnel to the east. It is a functioning and viable business park. Sheraden residents are not dissatisfied with its current use, and in fact, they would like to find ways to attract its workers to businesses in Sheraden. In the public meetings, the residents and stakeholders noted that development in Sheraden was the immediate priority and that development in the business park site would be deferred to a future time.

Because the site has tremendous potential for TOD given its proximity to the West Busway station, the project team sought ideas for its redevelopment should part or all of the site become available at some point in the future. The following alternatives present options for the westernmost portion of the site. The concepts could also be expanded to a larger portion of the site. The second alternative provides ideas for enhanced light industrial uses coupled with a parking structure at the West Busway station.

Alternative A: TOD Development

As shown in Figure 5.3, Alternative A presents a mixed-use development concept and expands the Sheraden neighborhood along Chartiers Avenue. It has the following elements:

- Construct a galleria-style development on the existing park-and-ride site. The development would feature retail on the first floor and offices on the second floor.
- Relocate the park-and-ride to the east of its current site. As shown, it would be a landscaped surface lot with 50 percent more spaces. A parking deck could be added to further increase its capacity. Alternatively, the parking structure could be a mixed-building that would mitigate its appearance. At the farthest corner, it would be 800 feet to the busway station, approximately a 2- to 3-minute walk.
- Construct a new building north of new park-and-ride site. It would feature first floor retail with residential flats on the second and third floors. Parking is tucked under and behind the building.
- Consolidate the vehicle entrance to the TOD and park-and-ride lot opposite Greenway Drive. After consolidation, the traffic levels may warrant a traffic signal at this intersection, benefiting park-and-ride users, retail consumers, and residents.
- Create a new street that divides existing site, forming blocks of development.
- Include additional mixed-use buildings to the east of the park-and-ride lot.

This alternative offers additional opportunities to create live-work-play options in the Sheraden community. The site offers options to provide retail goods and local services to both transit users and residents. Relocating the park-and-ride lot to the east of the galleria site provides a pleasant walking environment to the station and forces the commuters to pass by the stores, hopefully attracting their business.

A graphic rendering of Alternative A is shown in Figure 5.4.

Figure 5.4: Sheraden Busway Station Area with Mixed-Use Development



Credit: Maynes Associates Architects

Aerial view from south-east of the existing park-and-ride lot, looking at the proposed retail development (on the current site of the park-and-ride lot) and mixed-use development to the east of that, with a proposed park-and-ride lot in front.



Alternative B: Enhanced Light Industrial

Alternative B offers a variation on the existing light industrial use of the site. The proposal's elements, shown in Figure 5.5, include the following:

- Construct a two-level parking structure with a capacity of 220 vehicles at existing park-and-ride site.
- Consolidate the vehicle entrance to the park-and-ride structure and light industrial area opposite Greenway Drive. The traffic levels may warrant a traffic signal at this intersection.
- Redevelop the industrial site with landscaping improvements. Move loading functions to the back side of the building and create a visitor entrance off the Greenway Drive entrance. Provide a path from the industrial area to Chartiers Avenue or through the parking structure for access to the Sheraden neighborhood.

IMPLEMENTATION PLAN

The following sections outline key considerations for successful implementation of the vision presented in this TOD plan: infrastructure costs, roles and responsibilities, phasing, zoning recommendations, and potential sources of funding.

Public Infrastructure Costs

For the purposes of this plan, the project team compiled preliminary order-of-magnitude estimates of public infrastructure development costs for the study area. The cost estimates include expenses for engineering and design but do not include land acquisition. The project team expects that these concept-level estimates will be refined as the TOD plans are carried forward.

Table 5.1: Sheraden TOD Plan Infrastructure Cost Estimates

Project Component	Cost Estimate
Town plaza / parklet	\$150,000
Landscaping improvements to Langley High School property	\$85,000
Streetscape improvements on Sheraden Boulevard, Hillsboro Street, and Chartiers Avenue	\$750,000
Participation in developing common parking lots (2) in Sheraden	Unknown
Pedestrian bridge, elevators, and stairs connecting Sheraden to busway station (Note: Cost includes proposed Phase 2 connection to Municipal Street.)	\$3,000,000
Alt. A - TOD / Park-and-Ride land trade	Unknown
Alt. B – Structured Parking on Park-and-Ride Lot (2 levels, 220 spaces)	\$3,800,00

Roles and Responsibilities

Successful TOD projects require a collaboration of many parties – primarily the local government (typically involving more than one department, division, or authority), the transit agency, and real estate developers.¹ All three must form a partnership to allow TOD projects to overcome the regulatory, market, and other issues that usually make TOD implementation difficult. Other participants in the process include community development corporations, the metropolitan planning organization (MPO), and local community stakeholders, but the primary responsibility for TOD implementation rests on those three primary entities. The key responsibilities of local government, developers, and transit agencies are outlined in the following table.

Table 5.2: Roles and Responsibilities of TOD Participants

Participant	Roles and Responsibilities
Local Government	<ul style="list-style-type: none"> Facilitate the community process through interaction and communications with local stakeholders including neighborhoods. Control the regulatory actions including the planning, zoning, and permitting process (such as developing new TOD zoning codes or ordinances). Use other implementation tools such as infrastructure construction (for examples, streets and utilities), land purchase and assembly, and creation of urban design and related guidelines.
Developers	<ul style="list-style-type: none"> Develop TOD proposals and site plans through careful collaboration with the local government and transit agency. Work through the regulatory and entitlement process by obtaining needed zoning, permits, and other approvals. Securing financing for TOD projects. Complete any needed land assembly for the projects. Manage final design and construction of the projects.
Transit Agency	<ul style="list-style-type: none"> Partner with local governments to develop station area plans and TOD concept plans. Develop and enhance the transit infrastructure to best serve the TOD project. Provide advance land assembly for future resale to the local government or developer when permitted by statute. Prepare joint development proposals on agency-owned land to enhance agency revenues and supplement surrounding development. Facilitate construction coordination when transit investments are being built or expanded concurrently with joint development or TOD.

Source: Strategic Plan for Transit-Oriented Development, Regional Transportation District, 2008.

¹ The commitment and dedication of the Sheraden community to carry this plan forward will be critical to its success. The long implementation horizon requires perseverance and continued involvement. As various components develop, residents and stakeholders, including the arts community, should continue to provide input and ensure that projects match the community vision. It will be up to the community to maintain the momentum and tout its success!

For the Sheraden plan, the City of Pittsburgh, primarily through and its Department of City Planning, Department of Public Works, and Urban Redevelopment Authority (URA), will take the lead on many of the elements. The West Side United Community Development Corporation (WSUCDC), currently in its infancy, may also take the lead on implementation actions. The Port Authority of Allegheny County will lead efforts involving development on their park-and-ride lot, possibly seeking joint development proposals from developers for parking and mixed-use options that will generate revenue and transit ridership. Potential funding agencies, such as PennDOT, will support the implementing parties. Throughout all phases of implementation it is crucial that the community be given meaningful opportunities for providing input on the elements.

Phasing Plan

The phasing and implementation matrix shown below provides a draft work plan for implementing the elements of the Sheraden TOD Plan. The implementation tasks are grouped into three implementation phases: short term (0 to 2 years), medium term (3 to 10 years), and long term (10 to 20 years). The short-term implementation phase focuses on kicking off the design of catalyst projects such as streetscape improvements and the Sheraden plaza / parklet. The construction of these elements early in the medium-term phase will support and enhance the viability of the recommended mixed-use development and infill elements by demonstrating to developers and potential residents that the community is committed to its redevelopment plan. In addition, these early projects will provide amenities to current residents. Another early priority for the medium-term phase is the design and construction of the pedestrian bridge which will give current residents and visitors another connection into the heart of Sheraden. The long-term phase includes development in the busway station area should part or all of the area become available for development.

Table 5.3: Sheraden TOD Plan Implementation Matrix

Implementation Element	Responsible Parties
Short -Term Phase (0 to 2 years)	
Engineering and design of landscaping improvements to Langley High School property	DCP, DPW, URA, WSUCDC, Pittsburgh Public Schools
Engineering and design of town plaza / parklet	DCP, DPW, URA, WSUCDC
Engineering and design of streetscape improvements on Sheraden Boulevard, Hillsboro Street, and Chartiers Avenue	DCP, DPW, URA, WSUCDC
Pursue renovation of the Murphy Building (existing building at corner of Chartiers Avenue and Hillsboro Street)	DCP, URA, WSUCDC, Property Owner
Implement bike lanes or share-the-road signs and pavement markings in Sheraden	DCP, DPW, Bike Pittsburgh
Create community branding campaign	WSUCDC, Sheraden Community Council, local residents

Implementation Element	Responsible Parties
Medium-Term Phase (3 to 10 years)	
Construction of town plaza / parklet and landscaping improvements to Langley High School property	URA, WSUCDC
Construction of streetscape improvements on Sheraden Boulevard, Hillsboro Street, and Chartiers Avenue	DPW, URA, WSUCDC
Engineering, design, and construction of pedestrian bridge, elevators, and stairs connecting Sheraden to busway station	DCP, DPW, URA, WSUCDC
Assemble parcels for mixed-use development and parking improvements along Hillsboro Street. Issue developer Request for Proposals.	DCP, DPW, URA, PPA, WSUCDC
Assemble parcels for mixed-use development and parking improvements on Sheraden Boulevard. Issue developer Request for Proposals.	DCP, DPW, URA, WSUCDC
Pursue infill development on Chartiers Avenue (west of National City Bank)	DCP, URA, WSUCDC
Pursue enhancements to the busway station area	PAAC
Long-Term Phase (10 to 20 years)	
Participate in redevelopment of park-and-ride site and portion of existing Corliss Business Park	PAAC, URA, DCP, DPW, WSUCDC
Ongoing	
Participation and input on design and implementation of project elements	Sheraden residents, Sheraden Community Council, transit users

Key

DCP – City of Pittsburgh Department of City Planning

DPW – City of Pittsburgh Department of Public Works

PPA – Pittsburgh Parking Authority

URA – City of Pittsburgh Urban Redevelopment Authority

WSUCDC – West Side United Community Development Authority

PAAC - Port Authority of Allegheny County

Zoning Assessment

Two zoning districts comprise most of the area surrounding the Sheraden busway station, Local Neighborhood Commercial (LNC) and Urban Industrial (UI). Pittsburgh recently updated its zoning and therefore these districts reflect the existing conditions and the potential for new transit-oriented development. The concept plan for Sheraden station is generally consistent with the existing zoning.

Uses

The concept plan shows infill development north of the station that is primarily mixed-use development with ground floor retail and upper stories of residential or office space. Other uses that are recommended in this area include restaurants, bakeries, day cares, grocery stores, medical offices, and a variety of housing types. Almost all of these uses are permitted as of right and some are permitted with the review of a City agency or Council. To the south of the station, most of the land is in the Urban Industrial district, and the plan provides two alternatives for development. One alternative proposes light industrial uses with a park-n-ride structure to support the station. The other alternative has mixed use development with residential above retail. All of the uses in these alternatives are permitted as of right or with the review of a City agency or Council.

Dimensions

Both alternatives of the concept plan generally meet the dimensional requirements of the zoning ordinance. In the UI district, buildings cannot exceed 60 feet or four stories. The floor-to-area ratio (FAR) is tiered to allow more FAR near the station. Within 1,500 feet of a transit facility the FAR is 4:1, which should accommodate the intensity of development in concept plan. In the LNC district, buildings may be 45 feet tall and cover a maximum of 90% of the lot. Again, the concept plan is consistent with these parameters. The LNC district's FAR requirement of 2:1 might be slightly lower than necessary to accommodate the intensity of development proposed.

Model Zoning Ordinance

A model zoning ordinance for transit-oriented places, developed as a part of *Allegheny Places*, is provided in Appendix B.

Financing Strategies

TOD projects are difficult to finance given their multiple elements and differing implementation timeframes. Implementation partners must be savvy to identify appropriate funding sources and manage their use. A catalog of potential financing mechanisms and assistance programs was compiled for this TOD plan. Some of the most promising implementation mechanisms for TOD in Sheraden are described below. Because many programs' funding levels are subject to change, it is necessary to contact the funding source directly to find detailed and current funding information.

Development Incentives

There are numerous development and redevelopment supportive incentive programs available from state, regional, and local agencies, many of which include federal pass-through funds. Table 6.4 summarizes many of these incentives.

The Commonwealth of Pennsylvania programs include several grant and loan programs, like **Building Pennsylvania** and the **Economic Advancement Program** that provide direct funds for site development and redevelopment activities. In addition, the **H2O PA Act**, created programs that provide grant funds to government entities for water infrastructure improvements, including flood control, drinking water, and sanitary sewer and storm sewer projects. The Commonwealth, through the **Industrial Sites Reuse Program**, also offers grants and loans that government entities and authorities can utilize to investigate and remediate industrial sites. The **Neighborhood Assistance Program (NAP)** is a tax credit program that encourages businesses to invest in projects that improve distressed areas. In addition, but not detailed on the chart below, are several below prime loan and loan guarantee programs directly to businesses for expansion and improvements, including the **Pennsylvania Capital Access Program (PennCAP)**. The **Housing and Redevelopment Assistance (HRA) Program** provides state-funded grants for community revitalization by assisting the community in becoming competitive for business retention, expansion and attraction and spurring further economic development. The **Growing Greener II Program** assists in business development and public improvements in core communities. Growing Greener covers capital improvement costs associated with acquisition and predevelopment. Finally, the Commonwealth will provide guarantees to eligible Tax Increment Financing (TIF) programs.

At the local level, Allegheny County Economic Development (ACED), the Redevelopment Authority of Allegheny County (RAAC), and the Allegheny County Industrial Development Authority (ACIDA) have many incentive programs that government, developers and/or businesses can use to support development and redevelopment initiatives. Four programs provide preferable loan rates to businesses for expansion, including the **ACED Small Business Loan** and **Target Industry Loan** programs, the RAAC **Economic Development Fund**, and the ACIDA Tax-Exempt and Taxable Bond Program. In addition, the **Allegheny Tax Abatement Program** (under LERTA) offers tax abatements for development and rehabilitation. Allegheny County provides loan and direct expense assistance to municipalities for infrastructure and neighborhood safety through the **Sewer & Water Program** and the **Safe Neighborhood Demolition Program**, respectively. Allegheny County also provides technical and financial support for tax increment financing programs (TIF), including TIFs for transit known as Transit Revitalization Investment Districts (TRID).

The Allegheny County Economic Development **Community Infrastructure and Tourism Fund (CITF)** is overseen by the Redevelopment Authority of Allegheny County (RAAC). The program's purpose is to provide financial assistance to entities to facilitate economic development through infrastructure assistance, stabilize or correct existing infrastructure problems or plan and prepare sites and buildings for future use. The annual allocation is \$6.6 million for Allegheny County and is funded by Pennsylvania for construction, development, improvement and maintenance of infrastructure projects. Grants and loans allow municipalities, authorities and COGs and for-profit



Table 5.4: Summary of TOD Development Incentives

Incentive Program Title	Funding Source				Eligible Funding Activities									Funding Range					Eligible Entities					Fund Type				
	Federal	State	Local	Other	Acquisition	Development	Redevelopment	Site/Infrastructure	Commercial	Industrial	Residential	Support Services	Mixed-Use	\$10K to \$100K	\$100K to \$500K	\$500K to \$1M	\$1M to \$5M	>\$5M	Municipalities	Non-Profits	Authorities	Lenders/Entities	Developers	Business Owners	Grant	Loan	Tax Credit Equity	
Building Pennsylvania																												
Business in Our Sites																												
Community & Business Dev.																												
Economic Advancement																												
Growing Greener II Main Street and Downtown Development ¹																												
Housing and Redevelopment Assistance Program ²																												
H2O PA - Flood Control																												
H2O PA - Water Supply Sanitary Sewer & Storm Sewer																												
Industrial Sites Reuse																												
Neighborhood Assistance Program																												
Regional Economic Development District Initiative														Varies														
Increment Financing (TIF/TRID)																												
Allegheny Small Business Loan																												
Allegheny Target Industry Loan																												
Allegheny Tax Abatement (LERTA)																												
Allegheny Sewer & Water Program																												
Allegheny Safe Neighborhood Demolition Program																												



Table 5.4: Summary of TOD Development Incentives (continued)

Incentive Program Title	Funding Source				Eligible Funding Activities								Funding Range					Eligible Entities					Fund Type					
	Federal	State	Local	Other	Acquisition	Development	Redevelopment	Site/Infrastructure	Commercial	Industrial	Residential	Support Services	Mixed-Use	\$10K to \$100K	\$100K to \$500K	\$500K to \$1MM	\$1MM to \$5MM	>\$5MM	Municipalities	Non-Profits	Authorities	Lenders/Entities	Developers	Business Owners	Grant	Loan	Tax Credit Equity	
RAAC Economic Development Fund																												
Allegheny County Act 42 Residential/Enhanced Residential																												
Allegheny County Act 202																												
Community Development Block Grant / HOME ³																												
Community Infrastructure and Tourism Fund																												
Pittsburgh Housing Construction Fund																												
Pittsburgh URA Business Development Center Loans																												
Mayor Ravenstahl's Storefront Renovation Program																												
Pittsburgh Home Rehabilitation Program (PHRP)																												

businesses (loans only), and others to carry-out important infrastructure-related projects, or for the acquisition and development of key sites for future use. Projects must be located within Allegheny County.

An up-to-date resource regarding Allegheny County assistance and incentives can be found at <http://economic.alleghenycounty.us/>

TOD implementing agencies are strongly encouraged to incorporate low-impact, green infrastructure components into any improvement. The Three Rivers Wet Weather agency is an excellent resource on this topic as well as a potential funder of such improvements.

Finally, the City of Pittsburgh, also offers development incentives through its Urban Redevelopment Authority (URA). To encourage housing development, the **Pittsburgh Housing Construction Fund** and the **Rental Housing Development & Improvement Program** provide gap financing for construction and rehabilitation. In addition, the URA Business Development Center has a number of loan programs for business expansion. The City of Pittsburgh provides technical and financial assistance for TIF initiatives as well.

Other State and Federal Transportation Funding Programs

There are a number of state and federal transportation programs that can provide funding to implement transportation elements that support development plans and increase their viability. Federally funded transportation programs could be subject to change in the near future when a new transportation authorization bill is enacted.

- **Federal Transit Administration Section 5307 Urbanized Area Formula Program:** This program provides funding to transit systems in urbanized areas for transit capital and operating assistance. Expenses related to the construction facilities such as transfer facilities, intermodal terminals, and bus shelters, including design and engineering, and land acquisition are eligible under this program. At least one percent of the funding apportioned to each urbanized area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities. The local match is 20 percent of capital expenses (10 percent for bike-related projects).
- **Federal Transit Administration Section 5309 Bus and Bus Facilities:** This federal discretionary program provides capital assistance for buses, bus-related equipment, and facilities. Eligible capital projects include the purchasing of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment. The Federal share of net capital expenses is 80 percent. The federal share is 90 percent for bicycle access projects.
- **Transportation Enhancements Program / Hometown Streets / Safe Routes to School:** A portion of federal transportation funding is set aside for enhancement projects such as constructing pedestrian and bicycle facilities and landscaping and beautification among others. PennDOT oversees the projects after selection is made through a competitive process conducted by SPC. The Home Town Streets program funds a variety of streetscape improvements projects that are vital to re-establishing downtown and commercial centers. Projects may include sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, traffic calming, bicycle amenities, kiosks, signage and other visual elements. The local match is 20 percent of the total project cost. Projects may be awarded up to \$1 million. SPC does not anticipate conducting a funding cycle for these programs in 2010.
- **Pennsylvania Community Transportation Initiative Program (PCTI):** This new program administered by PennDOT is intended to fund planning and construction projects that demonstrate creative and efficient ways of

addressing various transportation challenges through strong local partnerships and with careful consideration of community goals. In 2009, the first round of funding (\$60 million) was awarded to 50 projects across the state.

- **Surface Transportation Program:** The Surface Transportation Program (STP) is a federal program that provides flexible funding to be used by States and localities for projects on any Federal-aid highway, including the National Highway System, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. SPC oversees the processes for defining the projects that will receive this funding.
- **Congestion Mitigation and Air Quality (CMAQ):** The CMAQ program, jointly administered by the Federal Highway Administration and the Federal Transit Administration (FTA), provides funds to State DOTs, MPOs, and transit agencies to invest in projects that reduce criteria air pollutants regulated from transportation-related sources. Funding is available for areas that do not meet the National Ambient Air Quality Standards (nonattainment areas) as well as former nonattainment areas that are now in compliance (maintenance areas). SPC manages the project selection process for CMAQ in southwestern Pennsylvania.
- **Transportation Infrastructure Finance and Innovation Act (TIFIA):** This program provides Federal credit assistance for large transportation projects of regional and national importance. The possible assistance includes direct loans, loan guarantees, and standby lines of credit. Many types of transportation projects are eligible. More information can be found at www.fhwa.dot.gov/ipd/tifia/.
- **State and Federal Earmarks:** The US Congress and the Commonwealth of Pennsylvania can fund projects at their discretion through targeted earmarks.

Other Notable Federal Initiatives

TOD proponents should be aware of two other Federal initiatives that support TOD planning and implementation. In June 2009, the US Department of Transportation, the US Department of Housing and Urban Development, and the US Environmental Protection Agency formed the Partnership for Sustainable Communities (PSC). Through this partnership, the agencies are working together to ensure that their programs provide and support affordable housing, community revitalization, transportation choice, lower transportation costs, and environmental quality. The partnership initiatives will be handled primarily through existing funding and grant programs. However, HUD has recently announced the Sustainable Communities Initiative program. For 2010, the initiative has an appropriation of \$100 million for three purposes:

- Support preparation of regional plans for sustainable development that integrate housing, transportation, and environmental quality;
- Support preparation of execution plans to implement existing sustainable development plans; and
- Provide funding to communities that have sustainable development plans in place and have a need for funding to implement a catalytic project or program that demonstrates commitment to implement a broader plan.

HUD issued its Notice of Funding Availability (NOFA) for this program in June 2010. Its current emphasis appears to be on the creation and implementation of regional plans. In addition, the NOFA announced the availability of funding to plan and design surface transportation projects through the Transportation Investment Generating Economic Recovery (TIGER II) Planning Grants. However, the first round of grant applications is due on August 23, 2010. TOD proponents should continue to follow this program's evolution and determine if it might provide funding opportunities in the future.

TOD project proponents should also follow Congressional debate and action on the Livable Communities Act of 2010, a bill introduced by Senator Christopher Dodd. The purpose of the act, among others, is to encourage regional

planning for livable communities, including the implementation of techniques such as TOD. In addition, it seeks to revitalize and encourage growth in existing communities and coordinate Federal policies to promote sustainable development. The Act proposes to establish two new grant programs, a comprehensive planning grant program and a sustainability challenge grant program. Both programs appear to offer opportunities for funding to support implementation of TOD plans.

CONCLUSION

The Sheraden TOD Plan builds upon and complements the Sheraden community's recent efforts to address safety, revitalize housing, re-establish its community center, and create a marketing identify. As with the West Pittsburgh Plan and Operation Weed and Seed, the community's residents must champion change and lead the effort to move forward. Recognizing the community's desire to improve first at its center, the implementation plan focuses on making short-term publicly-funded investments in improved streetscapes and public spaces that will benefit existing residents while demonstrating to visitors, future residents, and prospective developers that the community is committed to moving forward. And, at some point in the future, (if the opportunity presents itself), the community may be able to build upon its success and extend their community vision outward!

VI. CARNEGIE TOD PLAN

Planning for transit-oriented development (TOD) is a way to address long-term challenges in the context of short-term uncertainty. It increases a community's capacity to integrate long-term goals into short-term investment plans, and it gives confidence to developers and the market because they can see that investments are being made in those long-term goals, investments that are essential to addressing current challenges and being well-positioned when economic conditions improve.

A decade ago, the region made a substantial investment in the western communities of Allegheny County by constructing the West Busway. Many communities in the United States have found that although busways and other fixed guideway transit systems add value to the station areas, in most cases, rapid transit alone cannot be expected to drive the real estate markets that produce TOD. When sufficient market forces are not present, the role of the public sector becomes an important ingredient for fostering TOD and the sustainable land use goals it advances.

As important as public sector involvement is in TOD implementation, the commitment and dedication of the Carnegie community to carry this plan forward will be critical to its success. The long implementation horizon requires perseverance and continued involvement. As various components develop, residents and stakeholders, including the arts community, should continue to provide input and ensure that projects match the community vision. The community should also pursue the construction of the Third Street streetscape improvements and the East Main Street gateway as well as implementation of the upcoming multi-municipal plan (including zoning revisions) to further support and bolster their TOD efforts. While there will be many individuals and agencies supporting the community's efforts, it will be up to the community to maintain the momentum and tout its success!

PUBLIC PROCESS AND STAKEHOLDER ISSUES

Two public meetings were held during the course of the planning process. At the first meeting, held at the Carnegie Borough Building on March 24, 2010, the project team introduced the project to the community and facilitated small group discussion on the types of improvements and development that stakeholders would like to see around the West Busway station. Discussion at the meeting was very positive and the participants demonstrated their passion about their community and their commitment to improving it. The comments from the meeting are summarized below.

- Need a mixture of uses in the station area including restaurants and a grocery store.
- Need pedestrian and bicycle connections, especially to and from station (overcoming railroad and typography obstacles).
- Improve pedestrian crossings along West Main Street to the station area.
- Need more parking at the park-and-ride lot.
- Explore opportunities for educational / institutional uses at the park-and-ride lot.
- Study possibilities for utilizing traffic calming techniques.
- Create a connection to the Panhandle Trail.



Carnegie Public Input Meeting - March 24, 2010
Photo credit: URS

- Improve wayfinding throughout the area.
- New buildings should be "Green" and flood-resistant.
- Provide housing variety and affordability.
- Public art, improved streetscapes, gardens.
- View Chartiers Creek as a community amenity.
- Shuttle to community attractions.
- Determine status of railroad line that goes through the study area.
- Investigate shared parking arrangements with the park-and-ride lot.
- Market the area and its convenience to downtown Pittsburgh and short walk to downtown Carnegie.
- Promote façade improvements along Main Street.

At the second meeting at the Carnegie Borough Building on June 3, 2010, the project team shared the preliminary development concepts for Carnegie. The development concepts were based on the project's assessment of existing conditions and transportation access and the input obtained at the March workshop. Again, the feedback was very positive and the attendees were enthusiastic about the proposed improvements. The primary issue that participants commented about was the West Main traffic calming proposal. Stakeholders want to make sure that the proposal does not worsen traffic conditions or encourage drivers to bypass Carnegie.

TOD PLAN ELEMENTS

The Carnegie TOD vision builds upon the many historic, cultural, and natural assets that exist in Carnegie today. Existing corridors of activity along Third Street, East and West Main Streets, and Jefferson Street will be strengthened by infill development with mixed uses that attract a wide variety of patrons and users. New and existing residents, transit users, downtown Carnegie workers, and visitors will travel easily to and through the area due to improved multimodal connections, gateway enhancements, traffic calming, and new travel options. Their time in Carnegie will be enhanced by placemaking improvements and urban green space amenities.

The Carnegie TOD plan is depicted in Figure 6.1. The plan can be broken down into four separate corridors of development: West Main Street, Third Street, East Main Street, and Jefferson Street. A rendering of each corridor is included within the respective section.

West Main Street

As shown in Figure 6.2, West Main Street TOD recommendations include the following:

- Construct a parking structure on the current site of the Port Authority park-and-ride lot. Parking would occupy the first three levels and provide capacity for 366 cars. The first level of the building would have retail space aimed at providing convenience services for transit users. Recommended uses on the upper floors include offices and facilities for educational and cultural institutions. The design of the building should mask its parking use from the street level.
- Create a new public plaza and kiss-and-ride along Logan Street between the parking garage and bus layover area. The bus layover area could be reduced to accommodate the plaza and parking structure (less layover space is needed due to recent service modifications).
- Improve transfer connections for other transit systems and routes (e.g. ACTA shuttle). Explore letting connecting services turnaround in the bus layover area or accommodate them in the new kiss-and-ride area.
- Build space into the design of the parking structure to allow for an expanded public plaza at the Borough Building.
- Build new residential units along Logan Street (e.g., two- to three-story townhomes with garages underneath).
- Infill retail mixed-use or residential on the south side of West Main Street.
- Put West Main Street on a "road diet" to create a sense of place along West Main, soften its appearance, provide a new multimodal connection, and create an extension of East Main Street. Preliminary recommendations include reducing the number of travel lanes by one in each direction and installing a left turn lane. A landscaped buffer and shared-use path will be placed between the road and railroad line. The shared-use path will provide a connection to the busway station and a future connection to the Panhandle Trail. On the south side of West Main Street, the parking lane will remain and the streetscape will be enhanced with pedestrian lighting, street trees, trash receptacles, street furniture, and public art. Figures 6.3 and 6.4 depict the proposed improvements for West Main Street.



Example of Parking Structure with Retail
Photo credit: URS

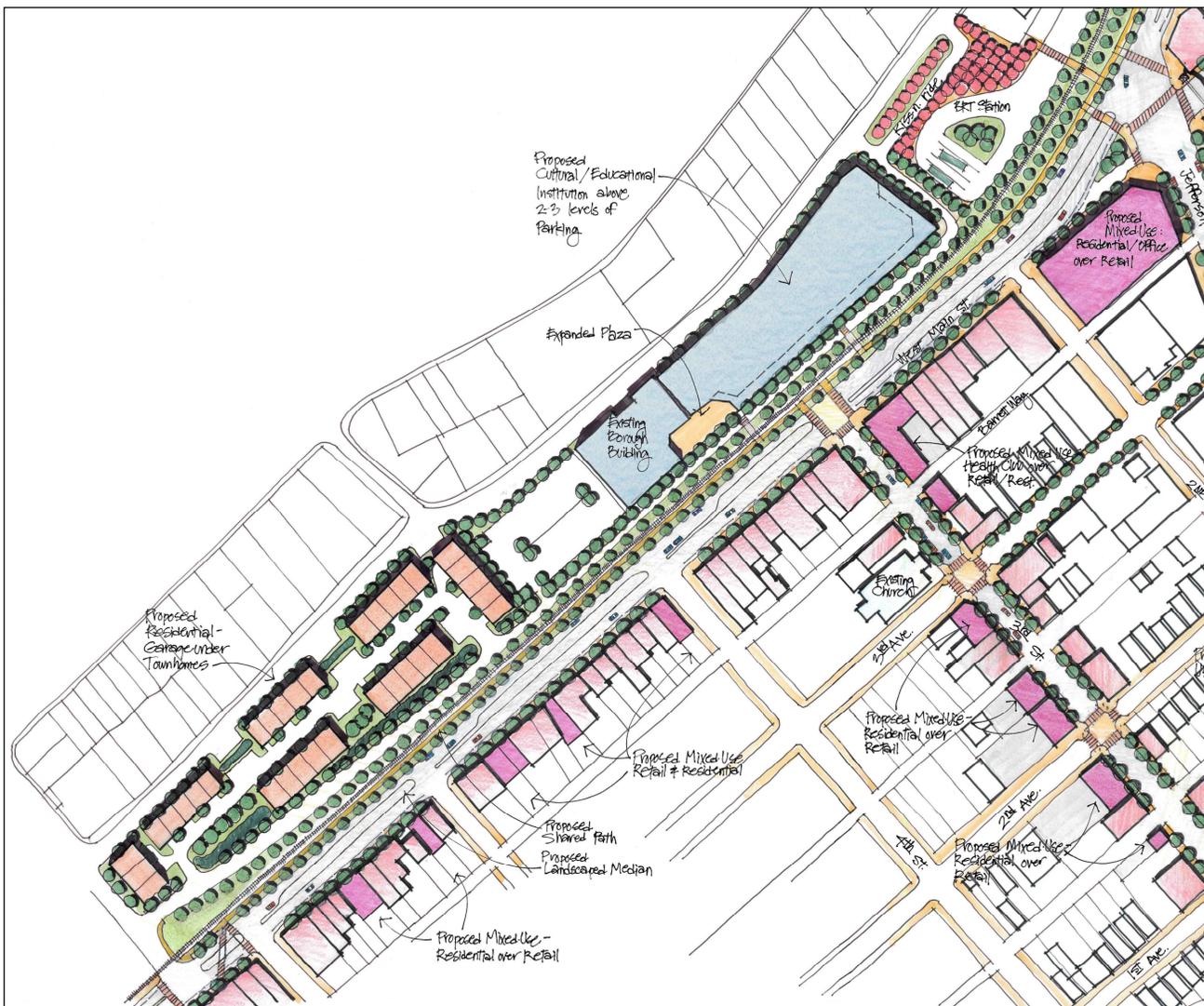


Example of Residential Development
Photo Credit: URS

A graphic rendering of the proposed busway station area is shown in Figure 6.5.



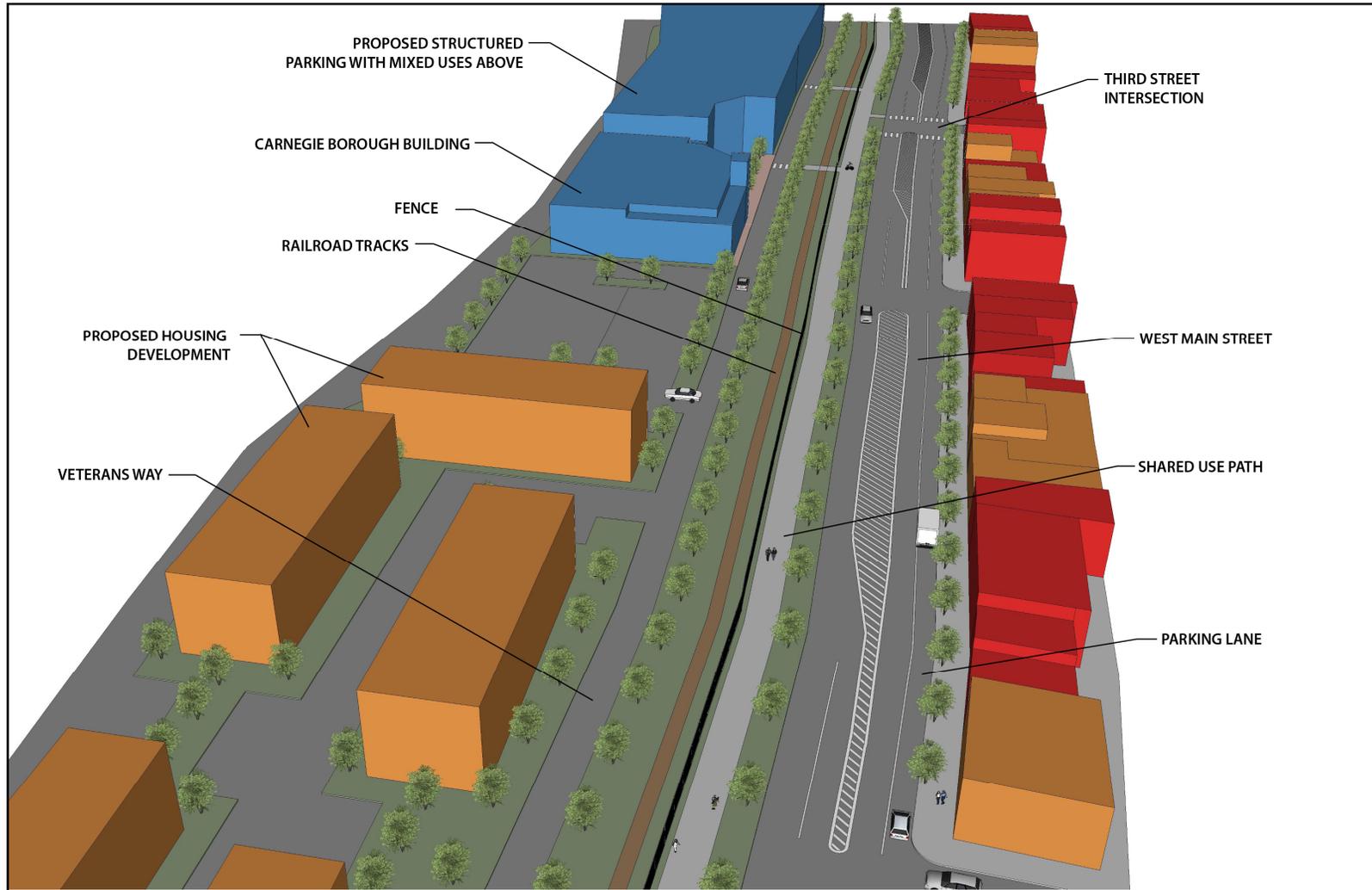
Figure 6.2: Carnegie West Main Street TOD Concepts



Credit: URS



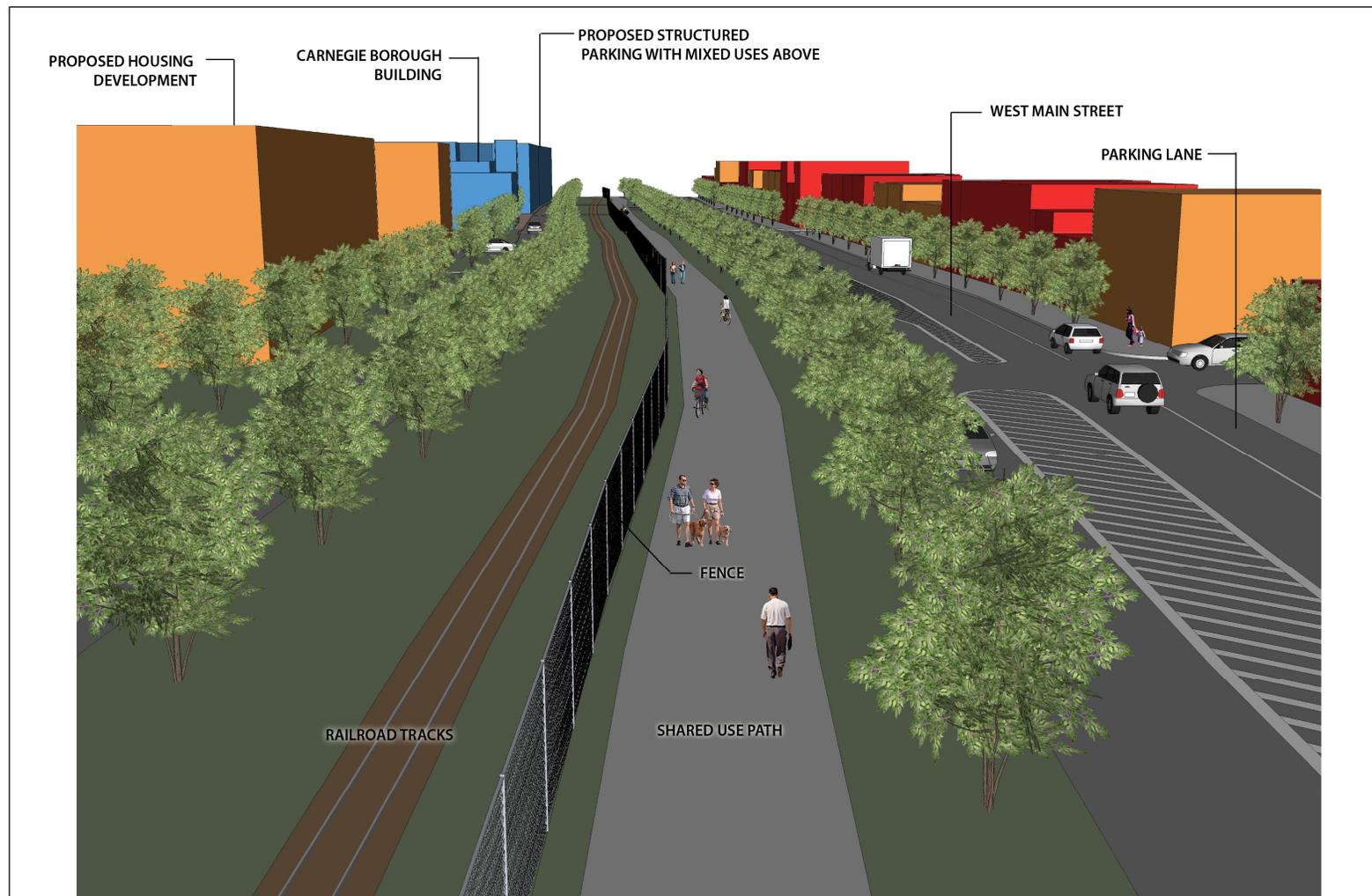
Figure 6.3: Proposed West Main Street Improvements



Credit: URS



Figure 6.4: Proposed West Main Street Improvements



Credit: URS

Figure 6.5: Proposed Parking Structure Development at the Park-and-Ride Lot



Credit: Maynes Associates Architects

View from east side of Main Street / Jefferson Street intersection, looking at the busway station in front of a building with a cultural / educational institutional use over two or more levels of structured parking.



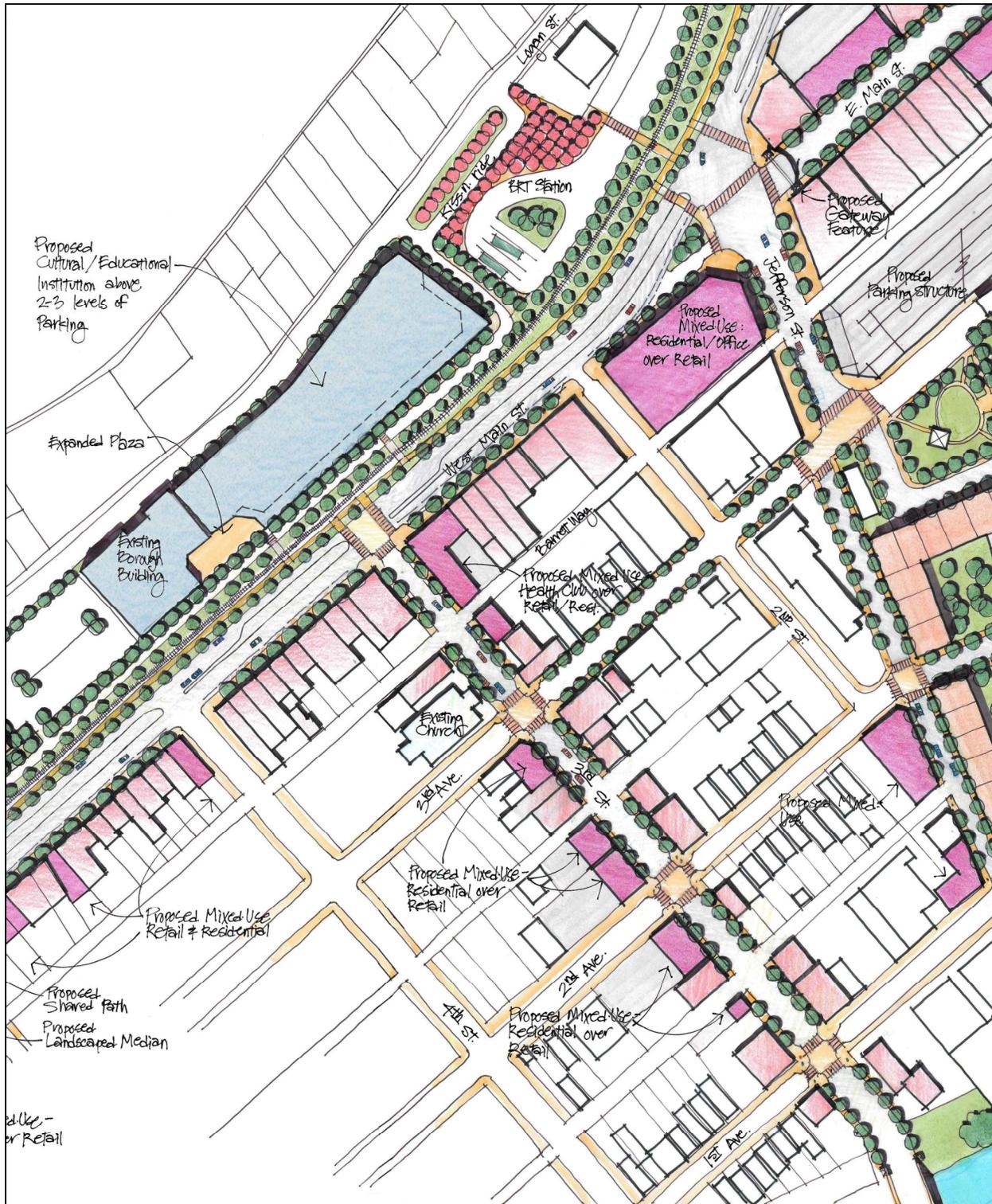
Third Street

The Third Street TOD recommendations, shown in Figure 6.6, build upon the Third Street streetscape project currently under design.

- Encourage a nucleus of galleries and restaurant / office / residential infill along Third Street to complement the existing Third Street Gallery.
- Create an entertainment and restaurant district with a distinctive ambiance.
- Encourage infill development at Third Street and West Main Street. The building should house retail on the first floor (e.g. coffee shop, book store, restaurant, etc.) and uses on upper floors that might appeal to transit commuters, such as a YMCA or health club.
- Design and construct a new crosswalk and ramps at Third Street and West Main Street to access the busway station area.
- Enhance the streetscape along Third Avenue between Third Street and Jefferson Street and provide an improved crosswalk at Third Avenue and Jefferson Street. This will help facilitate pedestrian access to the East Main Street area given some of the difficult crossing conditions at Mansfield Boulevard and Jefferson Street. Streetscape elements include pedestrian lighting, street trees, trash receptacles, street furniture, and public art.



Figure 6.6: Carnegie Third Street TOD Concepts



Credit: URS

East Main Street

East Main Street, bisected by Chartiers Creek, is Carnegie's charming downtown district. The following recommendations, shown in Figure 6.7, will strengthen the area's aesthetics and further attract people to it.

- Create a gateway to East Main Street at Jefferson Street. The soon-to-be completed re-construction of the intersection of Jefferson Street and West Main Street will allow eastbound West Main Street travelers to continue straight on East Main Street into downtown Carnegie. This is the perfect location for a gateway sign or arch to announce one's arrival to downtown (note: this sign is currently under design).
- Improve the aesthetics of the East Main Street Bridge over Chartiers Creek. Design element options include ornamental abutment monumentations, open-style metal railings, lighting, and a sidewalk surface of a single material. A graphic rendering is presented in Figure 6.8.
- Transform the parking lot across from the old Post Office into a town green. Featuring a central monument, the town green will serve as a meeting place and passive open space in the heart of downtown. Head-in angled parking on the north and south edges will allow for short-term parking.
- Attract a destination restaurant to occupy the old post office "on the green" with sidewalk café seating.
- Replace the surface parking lot at Mansfield Boulevard and Broadway Street with a three-level parking structure with the capacity for 315 cars. The parking garage could serve as a remote parking location and shuttle stop for patrons attending evening events at the Carnegie Free Library and Music Hall.
- Encourage infill development with office or residential on upper floors along East Main Street.
- Upgrade and freshen the streetscape elements along East Main Street and Broadway Street. Paint the ornamentation to match the streetscape ornamentation farther east on East Main Street.
- Investigate options for providing a pedestrian pathway from the East Main Street area to the Carnegie Free Library and Music Hall.



Example of Bridge Abutment Ornamentation
Photo credit: URS



Example of a gateway
Photo credit: URS



Example of outdoor dining
Photo credit: URS

Figure 6.8: Proposed East Main Street Bridge Improvements



Credit: Maynes Associates Architects

View from the east end of the East Main Street bridge, looking west at (from left to right): proposed "Creek-front" housing development, existing senior housing, proposed parking structure, and the existing commercial building at the west end of the bridge.

Jefferson Street

The Jefferson Street proposals offer probably the most radical change of land use among the four corridors of development. It is a long-term vision of residential development and urban open space amenities should the industrial uses cease to exist at some point in the future. The Jefferson Street proposals are depicted in Figure 6.9.

- Encourage a mixed-use (residential or office over retail) infill project at Main Street and Jefferson Street to act as an "anchor" to downtown Carnegie.
- Enhance the streetscape along Jefferson Street using pedestrian lighting, street trees, trash receptacles, street furniture, and public art.
- Create a new residential development featuring two- to three-story townhomes between First and Third Avenues. The residential development would wrap around an interior parking structure and green space.
- Create a new creek-front park featuring a 270-degree view of the Chartiers Creek natural area.
- Construct a three-level parking structure at Jefferson Street and Third Avenue. The vehicle capacity would be approximately 315 cars.



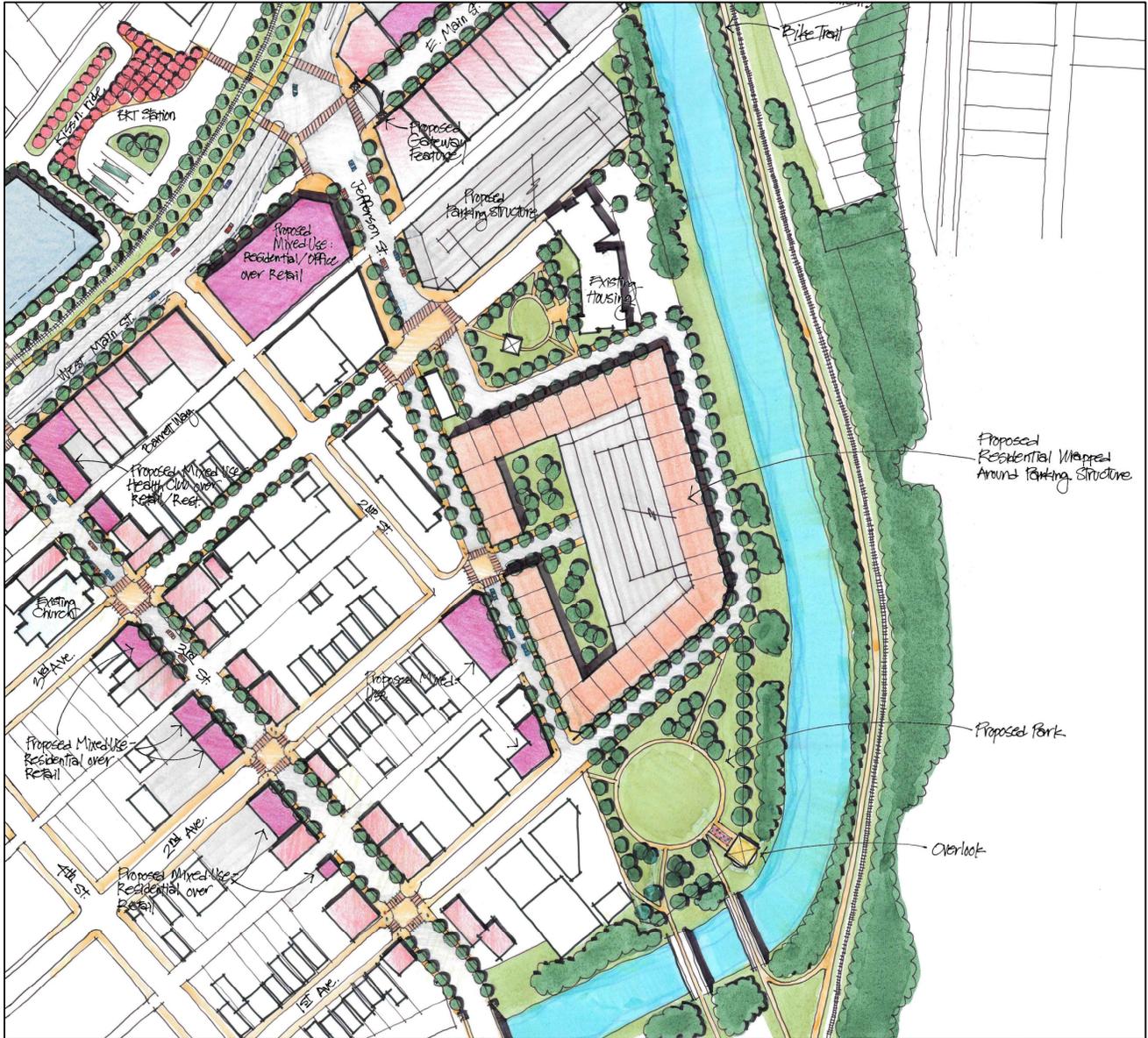
Urban park with new housing
Photo credit: URS



Example of low-rise residential development
Photo credit: URS



Figure 6.9: Carnegie Jefferson Street TOD Concepts



Credit: URS

IMPLEMENTATION PLAN

The following sections outline key considerations for successful implementation of the vision presented in this TOD plan: infrastructure costs, roles and responsibilities, phasing, zoning recommendations, and potential sources of funding.

Public Infrastructure Costs

For the purposes of this plan, the project team compiled preliminary order-of-magnitude estimates of public infrastructure development costs for the study area. The cost estimates include expenses for engineering and design but do not include land acquisition. The project team expects that these concept-level estimates will be refined as the TOD plans are carried forward.

Table 6.1: Carnegie TOD Plan Infrastructure Cost Estimates

Project Component	Cost Estimate
West Main Street road diet, shared-use path along West Main Street / Mansfield Boulevard from Cabbage Street to Broadway Street (including landscaped tree buffer south of Veterans Way)	\$5,900,000
West Main Street streetscape improvements (south side)	\$750,000
Third Street / West Main Street / Railroad pedestrian crossing (includes improved traffic signals)	\$1,100,000
Third Avenue streetscape improvements	\$120,000
Jefferson Street streetscape improvements	\$650,000
East Main Street and Broadway Street streetscape upgrades	\$275,000
East Main Street Bridge Improvements	\$650,000
East Main Street Town Green	\$250,000 to \$500,000
Parking Structure at busway station, transit plaza - 3 levels, 366 car spaces (does not include private development on upper floors)	6,310,000

Project Component	Cost Estimate
Parking Structure at Mansfield Boulevard and Broadway Street - 3 levels, 204 cars spaces	\$3,500,000
Creek's Bend Park	\$550,000 to \$950,000
Parking Structure at Jefferson Street and Third Avenue - 3 levels, 315 car spaces	\$5,400,000

Roles and Responsibilities

Successful TOD projects require a collaboration of many parties – primarily the local government (typically involving more than one department, division, or authority), the transit agency, and real estate developers.¹ All three must form a partnership to allow TOD projects to overcome the regulatory, market, and other issues that usually make TOD implementation difficult. Other participants in the process include community development corporations, the metropolitan planning organization (MPO), and local community stakeholders, but the primary responsibility for TOD implementation rests on those three primary entities. The key responsibilities of local government, developers, and transit agencies are outlined in the following table.

Table 6.2: Roles and Responsibilities of TOD Participants

Participant	Roles and Responsibilities
Local Government	<ul style="list-style-type: none"> Facilitate the community process through interaction and communications with local stakeholders including neighborhoods. Control the regulatory actions including the planning, zoning, and permitting process (such as developing new TOD zoning codes or ordinances). Use other implementation tools such as infrastructure construction (e.g., streets and utilities), land purchase and assembly, and creation of urban design and related guidelines.
Developers	<ul style="list-style-type: none"> Develop TOD proposals and site plans through careful collaboration with the local government and transit agency. Work through the regulatory and entitlement process by obtaining needed zoning, permits, and other approvals. Secure financing for TOD projects. Complete any needed land assembly for the projects. Manage final design and construction of the projects.

¹ The commitment and dedication of the Carnegie community to carry this plan forward will be critical to its success. The long implementation horizon requires perseverance and continued involvement. As various components develop, residents and stakeholders, including the arts community, should continue to provide input and ensure that projects match the community vision. It will be up to the community to maintain the momentum and tout its success!

Participant	Roles and Responsibilities
Transit Agency	<ul style="list-style-type: none"> • Partner with local governments to develop station area plans and TOD concept plans. • Develop and enhance the transit infrastructure to best serve the TOD project. • Provide advance land assembly for future resale to the local government or developer when permitted by statute. • Prepare joint development proposals on agency-owned land to enhance agency revenues and supplement surrounding development. • Facilitate construction coordination when transit investments are being built or expanded concurrently with joint development or TOD.

Source: Strategic Plan for Transit-Oriented Development, Regional Transportation District, 2008.

For the Carnegie plan, Carnegie Borough and the Carnegie Community Development Corporation (CCDC) will take the lead on most of the elements. The Port Authority of Allegheny County (PAAC) will lead efforts involving development on its park-and-ride lot, possibly seeking joint development proposals from developers for parking and mixed-use options that will generate system revenue and transit ridership. The task leader will be supported by many agencies such as Allegheny County Economic Development that provide funding and financing assistance. PennDOT may participate as a funding agency but will also be a partner where state-owned roads are targeted for improvement (e.g., West Main Street). Throughout all phases of implementation it is crucial that the community be given meaningful opportunities for providing input on the elements.

Phasing Plan

The phasing and implementation matrix shown below provides a draft work plan for implementing the elements of the Carnegie TOD Plan. The implementation tasks are grouped into three implementation phases: short term (0 to 2 years), medium term (3 to 10 years), and long term (10 to 20 years).

The short-term implementation phase focuses on kicking off the design and implementation of catalyst projects that will support and enhance the viability of the recommended mixed-use developments and infill elements by demonstrating to developers and potential residents that the community is committed to its redevelopment plan. The first phase will feature the construction of the Third Street streetscape project and the East Main Gateway, two projects that are currently in design. The design of the West Main Street and Third Avenue improvement projects in the short-term phase will lead to their construction early in the medium-term phase and, coupled with the short-term implementation projects, will result in a rapid succession of infrastructure improvements that will be clearly visible to the public and development community. In the medium-term phase, Carnegie Borough should also begin the design and construction of the East Main Street bridge improvements and the town green. Those efforts should start at the bridge and work eastward to build on the construction of the East Main Street gateway and improvements in the busway station area. At the beginning of the medium-term phase, Carnegie Borough also should evaluate mechanisms for financing parking structures in order to prepare for the construction of the Broadway Street / Mansfield Boulevard parking garage towards the end of this phase.

The long-term phase proposes the construction of the parking garage at Jefferson Street and Third Avenue. During the medium-term phase and early long-term phase, the Borough can evaluate the need for this parking garage based on demand generated by new development. Finally, the construction of the Creek's Bend Park as well as a nearby residential development is dependent on a change of land use in this area from its existing industrial use.

Table 6.3: Carnegie TOD Plan Implementation Matrix

Implementation Element	Responsible Parties
Short –Term Phase (0 to 2 years)	
Traffic study, engineering, and design of West Main Street “road diet,” shared use path, landscape buffer, streetscape improvements (south side of road)	Carnegie Borough, PennDOT, Allegheny County Economic Development (ACED)
Design new crosswalks and ramps at Third Street and West Main Street	Carnegie Borough, PennDOT, Railroad
Construct Third Street streetscape improvements (currently under design)	Carnegie Borough, ACED
Construct East Main Street gateway (currently under design)	Carnegie Borough
Design and engineering of Third Avenue streetscape improvements	Carnegie Borough
Improve physical and service-related connections between West Busway services and connecting services (e.g., ACTA shuttle)	PAAC, ACTA
Medium-Term Phase (3 to 10 years)	
Construct West Main Street “road diet,” shared use path, landscaped buffers, and streetscape improvements (south side of road)	Carnegie Borough, PennDOT
Construct Third Avenue streetscape improvements	Carnegie Borough
Construct a new crosswalk and ramps at Third Street and West Main Street to access the busway station area	Carnegie Borough, PennDOT
Design and construct East Main Street bridge improvements	Carnegie Borough
Design and construct East Main Street Town Green	Carnegie Borough

Implementation Element	Responsible Parties
Evaluate financing mechanisms for parking structures	Carnegie Borough
Pursue joint development / issue developer RFP for busway station mixed-use parking structure with cultural / institutional uses above. Create two new plazas and kiss-and-ride area.	PAAC, Carnegie Borough, ACED
Design and construct parking structure at Broadway Street and Mansfield Boulevard	Carnegie Borough
Conduct engineering feasibility study for pedestrian connection to Carnegie Library	Carnegie Free Library and Music Hall
Long-Term Phase (10 to 20 years)	
Design and construct Creek's Bend Park	Carnegie Borough
Design and construct parking structure at Jefferson Street and Third Avenue	Carnegie Borough
Ongoing	
Participation and input on design and implementation of project elements	Carnegie residents, West Busway transit users, and others

Zoning Assessment

The Borough of Carnegie will be creating a new zoning code in the near future. While the proposed new development and redevelopment in the Carnegie station area concept plan span three different zoning districts in the existing code, Commercial 1 (C1), Manufacturing 1 (M1), and Commercial 2 (C2), these uses and dimensional requirements will be rewritten before the development in this plan is built.

In general, the new code should be focused on the form of the building, the design of the building and how it relates to the pedestrian environment and adjacent buildings. The new code should be flexible to allow for a variety of uses such as structured parking, restaurants, retail, a variety of housing types including multi-family, institutional, outdoor dining, office and any combination of these uses in one building. Careful attention should be paid to loading, parking access, and landscaping of parking to minimize its impact on the pedestrian environment. The new code should establish a build-to line with no parking in the front yard area and require that buildings have their main entrances on the street, as opposed to the parking area.

The new zoning code for Carnegie should allow for a reduction in the required parking spaces for compatible mixed uses in a shared parking calculation. The Urban Land Institute has created a model for calculating the appropriate percent reduction for a variety of shared uses that could be integrated into the new code. The new zoning should consider adding parking maximums and allowing for a reduction in required parking for residential uses that are located in the station area. Residential uses near transit have the highest ridership of all possible uses and many households will forego owning a second car. Parking requirements could also be reduced for providing a car share parking space and covered bicycle parking.

Lastly the new code could provide incentives for green building practices, flood-resistant building practices, public plazas, and street furniture.

Model Zoning Ordinance

A model zoning ordinance for transit-oriented places, developed as a part of *Allegheny Places*, is provided in Appendix B.

Financing Strategies

TOD projects are difficult to finance given their multiple elements and differing implementation timeframes. Implementation partners must be savvy to identify appropriate funding sources and manage their use. A catalog of potential financing mechanisms and assistance programs was compiled for this TOD plan. Some of the most promising implementation mechanisms for TOD in Carnegie are described below. Because many programs' funding levels are subject to change, it is necessary to contact the funding source directly to find detailed and current funding information.

Development Incentives

There are numerous development and redevelopment supportive incentive programs available from state, regional, and local agencies, many of which include federal pass-through funds. Table 6.4 summarizes many of these incentives.

The Commonwealth of Pennsylvania programs include several grant and loan programs, like **Building Pennsylvania** and the **Economic Advancement Program** that provide direct funds for site development and redevelopment activities. In addition, the **H2O PA Act**, created programs that provide grant funds to government entities for water infrastructure improvements, including flood control, drinking water, and sanitary sewer and storm sewer projects. The Commonwealth, through the **Industrial Sites Reuse Program**, also offers grants and loans that

government entities and authorities can utilize to investigate and remediate industrial sites. The **Neighborhood Assistance Program (NAP)** is a tax credit program that encourages businesses to invest in projects that improve distressed areas. In addition, but not detailed on the chart below, are several below prime loan and loan guarantee programs directly to businesses for expansion and improvements, including the **Pennsylvania Capital Access Program (PennCAP)**. The **Housing and Redevelopment Assistance (HRA) Program** provides state-funded grants for community revitalization by assisting the community in becoming competitive for business retention, expansion and attraction and spurring further economic development. The **Growing Greener II Program** assists in business development and public improvements in core communities. Growing Greener covers capital improvement costs associated with acquisition and predevelopment. Finally, the Commonwealth will provide guarantees to eligible Tax Increment Financing (TIF) programs.

At the local level, Allegheny County Economic Development (ACED), the Redevelopment Authority of Allegheny County (RAAC), and the Allegheny County Industrial Development Authority (ACIDA) have many incentive programs that government, developers and/or businesses can use to support development and redevelopment initiatives. Four programs provide preferable loan rates to businesses for expansion, including the **ACED Small Business Loan and Target Industry Loan** programs, the RAAC **Economic Development** Fund, and the ACIDA Tax-Exempt and Taxable Bond Program. In addition, the **Allegheny Tax Abatement Program** (under LERTA) offers tax abatements for development and rehabilitation. Allegheny County provides loan and direct expense assistance to municipalities for infrastructure and neighborhood safety through the **Sewer & Water Program** and the **Safe Neighborhood Demolition Program**, respectively. Allegheny County also provides technical and financial support for tax increment financing programs (TIF), including TIFs for transit known as Transit Revitalization Investment Districts (TRID).

The Allegheny County Economic Development **Community Infrastructure and Tourism Fund (CITF)** is overseen by the Redevelopment Authority of Allegheny County (RAAC). The program's purpose is to provide financial assistance to entities to facilitate economic development through infrastructure assistance, stabilize or correct existing infrastructure problems or plan and prepare sites and buildings for future use. The annual allocation is \$6.6 million for Allegheny County and is funded by Pennsylvania for construction, development, improvement and maintenance of infrastructure projects. Grants and loans allow municipalities, authorities and COGs and for-profit businesses (loans only), and others to carry-out important infrastructure-related projects, or for the acquisition and development of key sites for future use. Projects must be located within Allegheny County.

An up-to-date resource regarding Allegheny County assistance and incentives can be found at <http://economic.alleghenycounty.us/>

At the local level, the Carnegie Community Development Corporation (CCDC) also offers development incentives to encourage economic development. Currently the organization offers a short-term loan program aimed at construction and renovation projects primarily in the business district. Through its façade improvement program, the CCDC provides assistance for cosmetic or structural improvements to facades in the commercial zoning districts. Beginning in 2011, the CDC plans to start offering a revolving loan program to assist with new business attraction and business expansion. To support the TOD plan implementation, the CDC is conducting a business attraction market study that will include marketing materials. It is also a partner in the renovation of 17 East Main Street where two local businesses are expanding and moving into a new space. CCDC is taking space on the building's top floor that will include conference space.

TOD implementing agencies are strongly encouraged to incorporate low-impact, green infrastructure components into any improvement. The Three Rivers Wet Weather agency is an excellent resource on this topic as well as a potential funder of such improvements.



Table 6.4: Summary of TOD Development Incentives

Incentive Program Title	Funding Source				Eligible Funding Activities									Funding Range					Eligible Entities					Fund Type					
	Federal	State	Local	Other	Acquisition	Development	Redevelopment	Site/Infrastructure	Commercial	Industrial	Residential	Support Services	Mixed-Use	\$10K to \$100K	\$100K to \$500K	\$500K to \$1MM	\$1MM to \$5MM	>\$5MM	Municipalities	Non-Profits	Authorities	Lenders/Entities	Developers	Business Owners	Grant	Loan	Tax Credit Equity		
Building Pennsylvania																													
Business in Our Sites																													
Community & Business Dev.																													
Economic Advancement																													
Growing Greener II Main Street and Downtown Development ¹																													
Housing and Redevelopment Assistance Program ²																													
H2O PA - Flood Control																													
H2O PA - Water Supply Sanitary Sewer & Storm Sewer																													
Industrial Sites Reuse																													
Neighborhood Assistance Program																													
Regional Economic Development District Initiative														Varies															
Increment Financing (TIF/TRID)																													
Allegheny Small Business Loan																													
Allegheny Target Industry Loan																													
Allegheny Tax Abatement (LERTA)																													
Allegheny Sewer & Water Program																													
Allegheny Safe Neighborhood Demolition Program																													

Table 6.4: Summary of TOD Development Incentives (continued)

Incentive Program Title	Funding Source				Eligible Funding Activities								Funding Range					Eligible Entities					Fund Type					
	Federal	State	Local	Other	Acquisition	Development	Redevelopment	Site/Infrastructure	Commercial	Industrial	Residential	Support Services	Mixed-Use	\$10K to \$100K	\$100K to \$500K	\$500K to \$1MM	\$1MM to \$5MM	> \$5MM	Municipalities	Non-Profits	Authorities	Lenders/Entities	Developers	Business Owners	Grant	Loan	Tax Credit Equity	
RAAC Economic Development Fund																												
Allegheny County Act 42 Residential/Enhanced Residential																												
Allegheny County Act 202																												
Community Development Block Grant / HOME ³																												
Community Infrastructure and Tourism Fund																												
Carnegie Short Term Loans																												
Carnegie Façade Improvement Program																												

1. No minimum or maximum grant funding amount. Typical grants average between \$250,000 and \$500,000.
2. No minimum or maximum grant funding amount. Typical grants average between \$150,000 and \$200,000.
3. CDBG/HOME – Both programs have income-limit restrictions.

Other State and Federal Transportation Funding Programs

There are a number of state and federal transportation programs that can provide funding to implement transportation elements that support development plans and increase their viability. Federally funded transportation programs could be subject to change in the near future when a new transportation authorization bill is enacted.

- **Federal Transit Administration Section 5307 Urbanized Area Formula Program:** This program provides funding to transit systems in urbanized areas for transit capital and operating assistance. Expenses related to the construction facilities such as transfer facilities, intermodal terminals, and bus shelters, including design and engineering, and land acquisition are eligible under this program. At least one percent of the funding apportioned to each urbanized area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities. The local match is 20 percent of capital expenses (10 percent for bike-related projects).
- **Federal Transit Administration Section 5309 Bus and Bus Facilities:** This federal discretionary program provides capital assistance for buses, bus-related equipment, and facilities. Eligible capital projects include the purchasing of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment. The Federal share of net capital expenses is 80 percent. The federal share is 90 percent for bicycle access projects.
- **Transportation Enhancements Program / Hometown Streets / Safe Routes to School:** A portion of federal transportation funding is set aside for enhancement projects such as constructing pedestrian and bicycle facilities and landscaping and beautification among others. PennDOT oversees the projects after selection is made through a competitive process conducted by SPC. The Home Town Streets program funds a variety of streetscape improvements projects that are vital to re-establishing downtown and commercial centers. Projects may include sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, traffic calming, bicycle amenities, kiosks, signage and other visual elements. The local match is 20 percent of the total project cost. Projects may be awarded up to \$1 million. SPC does not anticipate conducting a funding cycle for these programs in 2010.
- **Pennsylvania Community Transportation Initiative Program (PCTI):** This new program administered by PennDOT is intended to fund planning and construction projects that demonstrate creative and efficient ways of addressing various transportation challenges through strong local partnerships and with careful consideration of community goals. In 2009, the first round of funding (\$60 million) was awarded to 50 projects across the state.
- **Surface Transportation Program:** The Surface Transportation Program (STP) is a federal program that provides flexible funding to be used by States and localities for projects on any Federal-aid highway, including the National Highway System, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. SPC oversees the processes for defining the projects that will receive this funding.
- **Congestion Mitigation and Air Quality (CMAQ):** The CMAQ program, jointly administered by the Federal Highway Administration and the Federal Transit Administration (FTA), provides funds to State DOTs, MPOs, and transit agencies to invest in projects that reduce criteria air pollutants regulated from transportation-related sources. Funding is available for areas that do not meet the National Ambient Air Quality Standards (nonattainment areas) as well as former nonattainment areas that are now in compliance (maintenance areas). SPC manages the project selection process for CMAQ in southwestern Pennsylvania.

- **Transportation Infrastructure Finance and Innovation Act (TIFIA):** This program provides Federal credit assistance for large transportation projects of regional and national importance. The possible assistance includes direct loans, loan guarantees, and standby lines of credit. Many types of transportation projects are eligible. More information can be found at www.fhwa.dot.gov/ipd/tifia/.
- **State and Federal Earmarks:** The US Congress and the Commonwealth of Pennsylvania can fund projects at their discretion through targeted earmarks.

Other Notable Federal Initiatives

TOD proponents should be aware of two other Federal initiatives that support TOD planning and implementation. In June 2009, the US Department of Transportation, the US Department of Housing and Urban Development, and the US Environmental Protection Agency formed the Partnership for Sustainable Communities (PSC). Through this partnership, the agencies are working together to ensure that their programs provide and support affordable housing, community revitalization, transportation choice, lower transportation costs, and environmental quality. The partnership initiatives will be handled primarily through existing funding and grant programs. However, HUD has recently announced the Sustainable Communities Initiative program. For 2010, the initiative has an appropriation of \$100 million for three purposes:

- Support preparation of regional plans for sustainable development that integrate housing, transportation, and environmental quality;
- Support preparation of execution plans to implement existing sustainable development plans; and
- Provide funding to communities that have sustainable development plans in place and have a need for funding to implement a catalytic project or program that demonstrates commitment to implement a broader plan.

HUD issued its Notice of Funding Availability (NOFA) for this program in June 2010. Its current emphasis appears to be on the creation and implementation of regional plans. In addition, the NOFA announced the availability of funding to plan and design surface transportation projects through the Transportation Investment Generating Economic Recovery (TIGER II) Planning Grants. However, the first round of grant applications is due on August 23, 2010. TOD proponents should continue to follow this program's evolution and determine if it might provide funding opportunities in the future.

TOD project proponents should also follow Congressional debate and action on the Livable Communities Act of 2010, a bill introduced by Senator Christopher Dodd. The purpose of the act, among others, is to encourage regional planning for livable communities, including the implementation of techniques such as TOD. In addition, it seeks to revitalize and encourage growth in existing communities and coordinate Federal policies to promote sustainable development. The Act proposes to establish two new grant programs, a comprehensive planning grant program and a sustainability challenge grant program. Both programs appear to offer opportunities for funding to support implementation of TOD plans.

Parking Structure Financing Options

The Carnegie TOD plan proposes constructing two public parking structures in the study area, one at Jefferson Street and Third Avenue and the other at Broadway Street and Mansfield Boulevard. In the near future, Carnegie Borough should solicit the assistance of a financial advisor in identifying and evaluating mechanisms for financing the construction and operation of parking structures. Potential options include, but are not necessarily limited to: general obligation bonds, parking revenue bonds, tax increment financing, public / private partnerships, in-lieu parking fees, and special grants and funding programs.



CONCLUSION

The Carnegie TOD Plan sets forth a comprehensive plan and coherent framework for development around the West Busway station. The plan will build on the community's existing strengths and assets by focusing recommendations along four key corridors: West Main Street, Third Street, East Main Street, and Jefferson Street. The implementation plan calls for early public infrastructure investments along West Main Street and Third Street to create a sense of "place" through traffic calming, a landscaped buffer, streetscape improvements, and a shared-use path. These early projects will build momentum and set the stage for continuing the improvements eastward into the heart of downtown Carnegie. A key anchor project to link the two corridors is the redevelopment of the parcel at the corner of West Main Street and Jefferson Street. Of critical importance for Carnegie is to implement key improvements early on, tout their success, and continue to seek community support throughout.

APPENDIX A. SUMMARY OF PUBLIC INPUT

The primary means of obtaining public input on the development of the TOD plans for Sheraden and Carnegie was through two rounds of public input meetings. The purpose of the first round of meetings, held in March 2010, was to introduce the plan to each of the communities, share the information that had already been collected as part of the planning process, and solicit stakeholders' input on the types of development they would like to see around the stations as well as the types of transportation improvements that are necessary. The purpose of the second round of meetings, held in early June 2010, was to obtain input on the preliminary recommendations developed by the project team.

This section summarizes the public comment received at and after the plan's public meetings.

SHERADEN

Public Workshop Meeting, March 23, 2010

Following the project team presentation introducing the project, meeting participants were split into small groups and asked to describe their vision for the station area using the following questions:

- What is your vision for the area 20 years hence?
- What could be added to the station area to add vitality to the area?
- What would bring people together and enhance their lives?
- Are there gaps/missing links in the pedestrian network?

The following is a summary of the small group comments.

Group 1

- Mixed use development (Southside Works) – 20 year vision
- Public safety infrastructure
- Enhance visibility of the neighborhood from Chartiers Avenue and busway
- Student transportation to Langley HS active kids
- Immediate busway context sensitive placemaking development seamlessly woven into the existing urban fabric
- How can people access the neighborhood in other ways, not just the busway? (ped/car/bicycle)
- Streetscaping, particularly green buffers on boulevards?
- Reconstruction of Corliss Tunnel entrance
- Gaps in the pedestrian network – city steps, West Carson Street, narrow sidewalks in general
- Bigger park-and-ride
- Vehicular chokepoints at Corliss Tunnel and West End Circle



Sheraden public input meeting – March 23, 2010
Photo credit: URS

Group 2

- Grocery store – prefer a full fledged supermarket
- Convert parish school to apartments
- Pedestrian path needed in front of Corliss Business Park along Chartiers Avenue and along back side of business park too
- Need youth center
- Post office
- Coffee shops
- Neighborhood restaurants
- Pedestrian pathway development (Comcast/station/village)
- Develop bike trails
- Neighborhood retail redevelopment
- Add parking for retail redevelopment
- At busway station, need bus route information (schedules, where they go)



Sheraden public input meeting – March 23, 2010
Photo credit: URS

Group 3

- 20 year vision
- Community "memory" - too nice to let it fail
- Need sidewalks, etc.
- Commercial opportunities
- Sheraden Market/Chartiers (market/bakery)
- Redundant Data Ctr.
- More parking at park-and-ride
- Infill opportunities for cultural, retail, entertainment
- West End circulator bus? Why go downtown to get to McKees Rocks?
- No local grocery
- Multiple connections necessary for child care - trip chaining not an option
- Opportunities to engage seniors
- Positive engagement for teens/young adults (possibly church-sponsored events, 3hrs/2 times week)
- Park programs – movies, etc.
- You are here kiosks/route shout
- Who parks at park-and-ride?
- Childcare facility with outdoor area

Group 4

- Is Buncher willing to work with neighborhood?
- Station as town center

- Parking deck – mixed use above
- Potential residential along Chartiers Avenue
- Artist lofts – in development (Greenway Drive, 60% leased)
- Green building
- Modular housing units (that can be youth assembled in winter – employment opportunity)
- ADA – compliant residences
- Views are an asset

Post-Workshop Input – April 2010

Subsequent to the March 23, 2010 workshop, several neighborhood residents and stakeholders met to put together additional ideas for the station area. The following was submitted to the project team for inclusion in the project.

Image / Vision

Create a target market for new residents attracted to our new image with a name change to – Sheraden Place.

Market Sheraden Place as a residential place to live now, not just as a developing market by publicizing our existing amenities and advantages: great housing stock at affordable prices, close-knit community life, culturally diverse population, extensive natural wooded areas, well sized yards, adequate parking, large park with nature trails, tennis courts and swimming pool – extremely easy access to all major thoroughfares and NO TRAFFIC ISSUES, located 1.5 miles from downtown Pittsburgh.

Use brochures and special events to reach target markets, including stories of people who live and work in Sheraden that would attract an economically and culturally diverse population that would invest in the improvement of the community.

Open a visible storefront real estate office specializing in Sheraden Place. Provide information to realtors about Sheraden Place, including regular updates and listings of available homes, post available homes on the Westside United Community Development Corporation website, and link development planning maps to homes for sale online.

Housing

Invite area architects to compete in renovating our existing housing stock with innovative and green technologies allowing us to market innovative homes to perspective buyers.

Build new high quality mixed-income housing with those same qualities signaling that this is a ground-breaking community with cutting edge technologies combined with the aura of the traditional.

Focus on first-floor retail with second floor lofts in empty or underutilized buildings.

Build new and rehabilitate high quality housing in strategic locations, such as main corridors and at gateways to advance neighborhood change.

Business / Cultural District

Sheraden has always been a community where a car was not a necessity. The newly developed Sheraden Place should be a "walkable" district with easy walks throughout the business district.

Develop stores/activities in Sheraden that lead to sidewalk activity throughout the day and evening with inviting garden areas to congregate. In order to be successful, Sheraden Place needs a strong mix of both locally owned and national businesses.

Draw stores such as Whole Foods Market, Panera, Starbucks, Borders, specialty food stores, where people not only shop, but also congregate and socialize. Create jobs, support business district, homeowners with stores such as Fed-Ex/Kinko's, Walgreens, Staples, Trader Joe's and a medical complex.

Take advantage of our close proximity to downtown Pittsburgh's Cultural District by including it as an extension of our community, inviting new residents based on easy accessibility. By car, only seven minutes pass from my garage door to my theater seat in the cultural district.

Establish a shuttle system from Sheraden Place to the Cultural District.

Several new restaurants, strategically clustered to create a destination dining district, offer diverse international cuisine to please a diverse community.

Construct a Residence Inn, office building, gymnasium and quality restaurants geared to business persons who can travel between all points of Pittsburgh and back to the airport via our busway.

Encourage a "two-sided" retailing strategy with stores on both sides of the street.

Create residential opportunities at all price points in the commercial core.

Install environmental lighting, trees, public art, trash receptacles, and street furniture in the business district.

Green Technology Center / Sheraden Park

Based on the centuries old Italian tradition of uniting the community in a central location, create a Piazza/Plaza/Town Square, which would serve as a meeting place, location for celebrations with a bandstand for special activities, cultural events and live entertainment.

Green uses for vacant lots, community gardens, children's play spaces, community play spaces, bio-fuel crop gardens, and community food gardens.

Neighborhood street tree plantings, signage, benches alongside pedestrian environments.

Invite area architects to compete in renovating our existing housing stock with innovative green technologies allowing us to market creative homes to perspective buyers. Build new valued housing with those same qualities signaling that this is an innovative community with cutting edge super-energy-efficient housing combined with the aura of the traditional.

Provide for cycling accessibility wherever possible.

Add amenities such as workout stations and a dog park.

Implement green strategies on vacant lots to add value to adjacent properties.

West Busway / Biking / Pedestrians

Maintain the stop in Sheraden.

Work closely with Bike Pittsburgh and the City to improve bike and walking access to downtown Pittsburgh with cycling amenities along the Ohio River (along Route 51 / West Carson Street).

Prioritize bicycling in development project making Sheraden Place a walking and bicycle friendly community.

Provide adequate parking to sustain future parking needs.

Public Input Meeting, June 2, 2010

At the public meeting held on Tuesday, June 2, 2010, the project team sought input on the initial recommendations for the Sheraden station area. The following is a summary of the comments provided at the meeting.

- Who has authority to make decisions on behalf of Sheraden (e.g., the Sheraden Community Council, the local CDC, local government representatives)?
- Focus should be on rebuilding the heart of Sheraden.
- Must get a grocery to commit to locating in the neighborhood.
- Provide lunch / deli spots for industrial park workers.
- Have further discussion on what to call the Sheraden neighborhood and busway areas.
- Have retail in the center of Sheraden and housing above parking structure at the busway park-and-ride.
- Maintain free parking in the area.
- Provide pedestrian lighting in parking areas.
- If park-and-ride is relocated to make room for mixed-use development, ensure that parking for persons with disabilities is kept as close as possible to the busway station.
- Consider a pedestrian bridge that connects Sheraden to the proposed mixed-use development at the station (versus a connection to the station).



Sheraden public input meeting – June 2, 2010
Photo credit: URS

Post-Public Meeting Input – June 2010

Subsequent to the June 2, 2010 public meeting, additional input was provided by several neighborhood residents and stakeholders. The following was submitted to the project team for inclusion in the project.

Existing Buildings

We have great 'EXISTING BUILDING' opportunities within the ¼ mile range.

Since our neighborhood is so extremely long and expansive, it would serve so many more of our residents if the development would continue along Chartiers Avenue (within your ¼ mile limit), similar to other neighborhoods, (i.e. South Side, Belleview, etc.). The businesses located along the Main thoroughfares of the Chartiers Ave. thrived well

in years past. This is suggested as opposed to developing the triangular piece of property, designated as a future daycare/destination restaurant in the end of the parking lot overlooking the Sheraden Station Bus Stop.

The buildings include:

1. The drive-in PNC Bank at the corner of Chartiers Ave. and Ditzler St. is not used to its full potential.
2. There are two adjacent stone apartment buildings across the street from the PNC drive-in bank, at 2901 Chartiers (corner of Chartiers Ave. and Ditzler St.). I have recently toured both buildings and the apartments are quite charming and in excellent condition. There are six apartments in each stone building.
3. There is an extremely large building that is no longer active and it would have great potential located at 800 Chetopa St.- Parcel I.D. – 0042-R-00252-0000-00

Busway Parking Lot

The busway parking lot should be over-built. We already have a problem with Busway patrons from other areas utilizing all available spaces. With additional businesses, dwellings, restaurants, and various activities, the parking could turn into a nightmare.

We would also like that the parking lot building was not a 'featured' building or highly visible from the traffic passing on Chartiers Ave. The lot should be designed to be enclosed, behind or under the future housing/business area.

Efforts should be made to secure that no traffic problems are created in the area.
With all the space available the parking lot traffic should flow easily.

Neighborhood Participation

Planning such a development is a complicated endeavor. Even though local residents have been invited to participate, the time allowed for their participation and their experience levels with such issues is extremely limited. During our meeting, the majority of residents' comments were not concerned with actual development issues. Taking this into consideration, another meeting designated only to discussing specific development matters may be advisable.

CARNEGIE

Public Workshop Meeting, March 24, 2010

Following the project team presentation introducing the project, meeting participants were split into small groups and asked to describe their vision for the station area using the following questions:

- What is your vision for the area 20 years hence?
- What could be added to the station area to add vitality to the area?
- What would bring people together and enhance their lives?
- Are there gaps/missing links in the pedestrian network?

The following is a summary of the small group comments.

Group 1

- Bus station is isolated from appropriate uses
- Park & Ride should be structured and a bit away from station with retail on bottom. Mixed-use building.
- Scrap yard for parking by creek with good access
- Shuttle to "downtown" Carnegie
- Get rid of rail and have two-sided development
- Have a surplus of NOT viable retail real estate
- Extend trail from Panhandle Trail
- Traffic calming needed like Jefferson Street
- Build off 3rd Street and Elizabeth Seton church
- Cross RR from 3rd Street for access
- Shuttles to areas like Maronda townhouses so they don't drive and park all day
- Important Goal – transit investigation should reap benefits and be maximized
- Flat area around 3rd Street prime for redevelopment
- Need a circulator and accommodation by pick-up
- Trader Joe's or Aldi type grocery near station
- Carnegie is a safe community and could attract residences right next to/adjacent to transit (high rise)



Carnegie public input meeting – March 24, 2010
Photo credit: URS

Group 2

- Opportunity to attract Robert Morris students in Airport Corridor (as well as downtown workers)
- Provide linkages from station to cultural sites and residences up "hills" topography
- Park & Ride overflows → shared parking (day vs. evening)
- Create linkage with business district from station
- RR tracks are a barrier

- Circulating shuttle?
- Grocery store, drycleaner, (enough pizza shops), restaurants – choices
- The Carnegie Civil War Room recently restored – major draw up to 300 attendees at evening performances, relationship with Duquesne University for performances
- Provide continuous sidewalks on Mansfield with landscaping
- Strengthen business presence along Main Street
- Create connection to bike trails – Panhandle Trail (on busway?)
- Structure parking at business district (with circulator)
- Perception of transit and its users, can be a challenge, shifts over time
- Flood-resistant construction

Group 3

- Railroad and trail (when will trail be finished?)
- Finish trail between Walkers Mill to Carnegie
- Bike racks, bike friendly (bike lanes), ped crossings at railroad (more than one)
- Examine demand for parking/capacity issues
- Lack of sidewalks on Mansfield Blvd.
- Address future of railroad/frequency
- Bus station is isolated – increase number of crossings
- Retail business to accommodate park and riders
- Lighting/streetscape/way finding on busway
- Advertising of area
- Post-secondary institutions, branch campus
- Specialty eateries or “niche” ...NO GROCERY STORE!
- Anchor “retail”
- Congestion on Chestnut and Mansfield
- 20 minute trip to downtown Pittsburgh
- Convenient for activities



Carnegie public input meeting – March 24, 2010
Photo credit: URS

Group 4

- Grocery store (walkable)
- Smaller markets (specialty convenience in traditional neighborhood Main Street) like Broadway, Dormont
- W. Main Street façade renovation
- Artist lofts above storefront
- CCDC has façade grant (up to \$10,000 has to be matched)
- Irish-Town needs revitalization - too many low-income rentals (residential area located south and west of station)

- Playground needs to be better monitored or re-sited (currently on 7th Street, two blocks off W. Main)
- Potential for affordable housing but must be safe
- Home-ownership programs
- Community gardens
- Elizabeth Anne Seton Catholic Church needs revitalization (located on 3rd Street)
- CCDC owns Holy Souls – will be market/yoga/dance center for Indian-Americans
- Take advantage of creek/waterfront (canoeing, bike path/trails, connect to Panhandle Trail, capture value of the trail)
- Access to Park & Ride is bad. Hard to get to – need better walk/bridge
- Need easier connection
- Access from Park & Ride to Campbell's Run – sidewalk or bike path
- Bike parking
- Lot could serve users better (parking over commercial)
- Code enforcement especially on Main Street
- Amphitheater outdoor in downtown Carnegie
- The Arts
- Annual arts festival is big draw

Group 5

- Railroad as barrier. Does rail volume (low) justify disruption to the community?
- Need continuous sidewalk on Mansfield at Station Area
- Scrap yard as potential housing site. (1st St at 1st Ave)
- Streetscape along Third St
- Mixed use options / challenges for relatively small P&R site
- Visual focal points already exist. How to utilize?
- Medical/Education as a driving use
- Use transit station as community marketing tool. "One minute walk to jazz, food, etc."
- Attract "green" population. Access to trail etc.
- Two-way traffic flow – not just transit parkers headed elsewhere.
- Need some retail.
- Need fast food to serve Industrial Park
- Development options for key sites – 3rd and Main
- Loft space options
- Market what exists
- Creek as amenity.



Carnegie public input meeting – March 24, 2010
Photo credit: URS

- Hi rise on PNR site
- Internal (Carnegie) traffic / movement issues

Public Input Meeting, June 3, 2010

At the public meeting held on June 3, 2010, the project team sought input on the initial recommendations for the Carnegie station area. The following is a summary of the comments provided at the meeting.

- There are viable businesses where townhomes and a park are indicted on Jefferson Street. This would be a very long-term proposal.
- Owner of the old Post Office has not had luck leasing the space to a restaurant.
- Traffic is heavy on West Main Street. If the number of traffic lanes is reduced, cars will bypass Carnegie because traffic will be bad.
- Some residents of Carnegie do not perceive traffic on West Main Street as a problem.
- The proposed plan for West Main Street would be hugely beneficial, especially towards a feeling of "placemaking" in the community.
- Good comprehensive approach to parking needs of community.
- Improving existing park-and-ride lot is a great idea.
- Joint parking arrangements may allow some parking lots along Third Street to be redeveloped.
- Address busway station connections with other transit route services (e.g., ACTA shuttles).



Carnegie public input meeting – June 3, 2010

Photo credit: URS



Carnegie public input meeting – June 3, 2010

Photo credit: URS

MODEL ZONING PROVISIONS FOR ALLEGHENY COUNTY TOD PLACES

ARTICLE Y: TRANSIT-ORIENTED DEVELOPMENT DISTRICTS

Y00	General Provisions
Y01	Permitted Uses
Y02	Development Standards — Development Parcels
Y03	Development Standards — Roadways
Y04	TOD Station District
Y05	TOD Primary Pedestrian District
Y06	TOD Secondary Pedestrian District

Y00 GENERAL PROVISIONS

Y00.01 Definitions.

Unless otherwise expressly stated, the following words shall, for the purpose of this Article, have the meanings indicated:

- Cartway** The extent of a street from curb to curb, including the travelway, shoulders, and on-street parking areas.
- Neck-down** A traffic calming device, usually at intersections, in which the curb line is brought out to the edge of the travelway. The effect of a neck-down is to reduce the effective width of the street for pedestrians, while maintaining the width of the street for the movement of traffic.
- Primary pedestrian frontage** A streetscape in which the front façades of buildings are constructed up to the street right-of-way and for which there are no building setbacks.
- Right-of-way** A strip of land occupied by a street, including its cartway, boulevard, and sidewalks.
- Streetscape** The area between building façades on either side of a street or between properties on either side of a street, encompassing its cartway, boulevards, sidewalks, setbacks, and property façades or frontages.
- TOD station district** A zoning district in the immediate vicinity of a transit station and encompassing lands generally within 1/8-mile of the transit station.
- TOD primary pedestrian district** A zoning district adjacent to a TOD Station District and encompassing lands generally with 1/4-mile of a transit station.
- TOD secondary pedestrian district** A zoning district adjacent to a TOD Primary Pedestrian District and encompassing lands generally with 1/2-mile of a transit station.
- Traffic calming** Physical measures taken within the right-of-way of a street that have the effect of increasing pedestrian safety. Traffic calming may be achieved by devices that lessen pedestrians' exposure to vehicles, increase pedestrians' visibility to motorists, reduce vehicular speeds, or have a combination of these effects.

- Transit station** A location for passenger boarding and alighting from public transportation vehicles traveling on fixed guideways, including rail stations.
- Travelway** The lanes of a street for moving traffic and any shoulders between the lanes and on-street parking areas.

Y00.02 Permitted Uses.

Uses are Permitted by Right, as Special Exceptions, and as Conditional Uses in transit-oriented development districts in accordance with Section Y01.

Y00.03 Conditional Uses.

The [governing body] is authorized to grant Conditional Uses for uses specified in Section Y01 in accordance with Article ____ and for applications meeting the following criteria:

- A) The use shall not generate high levels of vehicular traffic, nor noise, noxious odors, air pollution, or glare;
- B) The manner, location, and hours of operations and of deliveries to the premises shall be compatible with the daily cycle of active and quiet periods associated with any adjacent or nearby residential uses;
- C) The use shall complement other uses in the district, creating a mixed-use character that contributes toward an increased rate of pedestrian access to local services, including transit, minimized auto-trip generation, and additional security for district businesses;
- D) Additional Conditional Use criteria specified in Sections of this Article are met, when appropriate.

Y00.04 Accessory Uses.

Accessory uses are permitted in accordance with Article ____.

Y00.05 Buffers.

Buffers shall be provided in accordance with Article ____.

Y00.06 Signs.

Signs shall be in accordance with Article ____.

Y00.07 Sewer and Water Facilities.

All development in transit-oriented development districts shall be served by central water and sanitary sewer facilities acceptable to the [governing body] and subject to the approval of the Pennsylvania Department of Environmental Protection or its successor agency and the appropriate municipal authority providing water or sewer facilities.

Y00.08 Performance Standards.

Any activity or use in transit-oriented development districts shall comply with the performance standards of Article ____.

Y00.09 Street and Parcel Layout.

Transit-oriented development districts shall consist of an interconnected grid or modified grid layout of streets with development parcels generally bounded by streets formed as part of this layout. Rights-of-way and streets shall be in accordance with Section Y03.

Y00.10 Pedestrian and Bicycle Orientation.

Transit-oriented development districts shall facilitate pedestrian and bicycle access to the transit station and a high level of mobility throughout TOD districts. Sidewalks and bike lanes shall be provided in accordance with Section Y03. Additional routes for pedestrians and cyclists, such as mid-block cut throughs and all-weather trails, shall also be provided. Intersection neck-downs shall be provided wherever feasible. Traffic calming techniques shall be employed to promote pedestrian safety.

Y00.11 Use Mix.

Transit-oriented development districts shall consist of a mix of land uses. TOD Station Districts shall substantially comprise street-level shops, with office and residential uses above. TOD Primary Pedestrian Districts shall substantially comprise residential uses with retail uses oriented to local residents. TOD Secondary Pedestrian Districts shall comprise a mix of residential, retail, and other uses. Institutional uses, ranging from community centers and post offices to day-care centers, schools, and libraries, are recommended in transit-oriented development districts and strongly recommended in TOD Station Districts.

Y00.12 Transit Station.

Transit stations shall be located centrally within a TOD Station District, with a high degree of accessibility, surrounded by a closely-related mix of retail, office, and residential uses. Transit stations shall provide covered platforms and bicycle storage space for transit patrons. Access, drop-off, and waiting opportunities for rubber-tired transit vehicles (feeder bus, shuttle bus) and other vehicles (private auto, taxi) shall be provided. Civic open space shall be provided adjacent to the transit station.

Y00.13 Parking and Loading.

On-street parking is required in accordance with Section Y03. Off-street parking and loading shall be provided in accordance with Article _____. On-street parking spaces located within five hundred (500) feet of a use may be credited toward required off-street parking spaces as specified in Article _____. Off-street parking should take the form of small lots behind buildings and as part of structures containing other uses, such as retail, residential, and office uses.

Y00.14 Open Space.

Linear open space corridors shall be provided to facilitate pedestrian and bicycle connections to the transit station as well as from TOD Station Districts to TOD Primary Pedestrian Districts and TOD Secondary Pedestrian Districts. Non-linear open space in TOD Station Districts shall be usable for civic and community functions. TOD Primary Pedestrian Districts

shall contain open space areas for passive recreation and tot-lots. TOD Secondary Pedestrian Districts shall contain substantial open space areas for active and passive recreation. Open space shall protect natural features, including floodplains, wetlands, and tree masses.

Y00.15 Natural and Landscaped Areas.

Except as provided for in specific sections of this Article, all portions of a tract not occupied by buildings and required improvements shall be maintained as landscaped areas consisting of natural environmental features and/or planted vegetation.

MODEL ZONING PROVISIONS FOR ALLEGHENY COUNTY TOD PLACES

Section Y01: Permitted Uses – Transit-Oriented Development Districts

Use Classification	DISTRICTS		
	STN.	PP	SP
Use Classification			
1. Stores and personal service shops dealing directly with customers	P	P	SE
2. Restaurants or other similar establishments, but excluding drive-in facilities	P	P	CU
3. Banks, but excluding drive-in facilities	P	P	CU
4. Cinemas or similar recreational or cultural establishments	P	P	CU
5. Exercise or fitness facilities	P	P	SE
6. Studios for dance, art, music or photography	P	P	SE
7. Nursery schools or day care centers	P	P	SE
Business or professional offices, including:			
1. Operations designed to attract and serve customers or clients on the premises, such as the offices of physicians, lawyers, other professions, veterinarians (but excluding animal boarding facilities), insurance and stock brokers, travel agents, & government entities	P	P	CU
2. Operations designed to attract little or no customer or client traffic other than employees of the entity operating the principal use	P	P	CU
Hotels, motels or inns	P	CU	
Bed & breakfast establishments	P	P	P
Lawn and garden centers			CU
Not-for-profit museums, libraries or other educational, cultural, religious, civic or philanthropic uses of a similar nature	P	P	CU
Public or private not-for-profit open space and recreation uses	P	P	P
For-profit open space and recreation uses		CU	P
Transit stations or public utility facilities	P	P	P
Animal hospital, veterinarian, or kennel		P	CU
Single-family detached residential dwellings (SFD)			P
Two-family residential dwellings (2F)		CU	P
Single-family attached residential dwellings (SFA)		P	P
Multi-family residential dwellings (MF)	P	P	P
Residences, in mixed-use commercial-residential or institutional-residential buildings	P	P	SE
Drive-in facility			CU
Non-accessory antennas			CU
Public garage, motor-vehicle sales, service or repair shop, gasoline service station and motor vehicle parking lot		CU	CU

P Permitted
STN. Station District

SE Special Exception
PP Primary Pedestrian District

CU Conditional Use
SP Secondary Pedestrian District

MODEL ZONING PROVISIONS FOR ALLEGHENY COUNTY TOD PLACES

Section Y02: Development Standards – Transit-Oriented Development Districts

Standards	DISTRICTS		
	STN.	PP	SP
Maximum Tract Density (floor-area ratio[FAR])	1.2	0.8	0.6
Minimum Tract Density (floor-area ratio[FAR])	0.6	0.4	-
Maximum Tract Density (units per developable acre)	40	20	7
Minimum Tract Density (units per developable acre)	25	10	-
Minimum Tract Area (square feet)	1,000	2,500	5,000
Maximum Building Coverage (% of tract)*	55	45	35
Maximum Impervious Coverage (% of tract)	65	55	45
Central Water & Sewer Facilities Required	Yes	Yes	Yes
Maximum Height - Principal Structures (feet)	65	45	35
Minimum Height - Principal Structures (feet)	35	25	-
Maximum Height - Accessory Structures (feet)	45	50% height of tallest principal structure	16
Minimum Lot Width at Right-of-Way Line (feet)	20	20	20
Minimum Lot Width at Building Setback Line (feet)	20	20	30
Minimum setbacks from streets (feet):			
■ Any building face to arterial street ultimate right-of-way	0	0	20
■ Any building face to collector or local street ultimate right-of-way	0	0	10
■ Any building face to common parking area	5	5	10
■ Surface parking areas to arterial street ultimate right-of-way	20	20	30
■ Surface parking areas to collector street ultimate right-of-way	10	10	15
■ Surface parking areas to local street ultimate right-of-way	10	10	10
Maximum setbacks from streets (feet):			
■ Any building face to arterial street ultimate right-of-way	5	10	-
■ Any building face to collector or local street ultimate right-of-way	0	5	-
Minimum principal structure setbacks from tract perimeter (excluding street frontages) (feet):			
■ From other like-zoned tracts	5	5	10
■ From other district boundary lines	10	10	15
Minimum principal building spacing (feet):			
■ Window wall to windowless wall	20	20	20
■ Window wall to window wall			
a) Front to front	40	40	50
b) Rear to rear	35	35	45
c) End to end	25	25	35
d) Front to rear	40	40	50
e) Front to end	40	40	50
f) Rear to end	35	35	45

* Excluding parking structures required to meet minimum off-street parking requirements.

MODEL ZONING PROVISIONS FOR ALLEGHENY COUNTY TOD PLACES

Section Y03: Development Standards – Transit-Oriented Development Districts Roadway Types

Standards	ROADWAY TYPES					
	Arterial	Collector	Boulevard	Mixed Use	Residential	Alley
Function	As per Place Master Plan					
Design Speed	40	30	30	25	25	15
Right-of-Way Width (feet)	86	64	78	64	52	18
Paved Width (Cartway) (feet)	66	44	22 x 2 = 44	44	24 – 28	18
Parking, both sides	Yes	Yes	Yes	Yes	Yes *	No
Parking, one side	No	No	No	No	Yes **	No
Concrete or Granite Curbing	Yes	Yes	Yes	Yes	Yes	No
Central Landscaped Area (14-foot-wide boulevard)	No	No	Yes	No	No	No
Side Landscaped Areas (5 feet between cartway & sidewalks)	Yes	Yes	Yes	Yes	Yes	No
Sidewalks (both sides)	Yes	Yes	Yes	Yes	Yes	No
Bikeways (both sides)	Yes	Yes	Yes	Yes	No	No
Street Lights (both sides)	Yes	Yes	Yes	Yes	Yes	One Side
Street Lights -- Maximum Height (feet)	16	16	16	16	16	16
Street Lights -- Maximum Spacing (one side) (feet)	90	80	70	60	60	60
Shade (Street) Trees (both sides)	Yes	Yes	Yes + Blvd.	Yes	Yes	No
Shade (Street) Trees -- Maximum Spacing (one side) (feet)	80	70	60	40	40	-

* 28-foot-wide cartway
 ** 24-foot-wide cartway

Y04 TOD STATION DISTRICT

Y04.01 Intent.

The intent of the TOD Station district is to provide for the combining of offices, stores and shops, hotels and inns, higher-intensity residential uses, and civic, public, and semi-public uses in a closely-knit walking precinct at transit stations. It is the purpose of these regulations to encourage a diversification of uses in each TOD Station district and to promote close interrelationships among different uses; high-quality, visually-attractive, and environmentally-responsible site design and buildings; efficient circulation systems; conservation of land and energy resources; reduced rates of auto-trip generation; and increased opportunities for pedestrian circulation. In addition, the specific intent of the district is to:

- A) Encourage the development of land and buildings at transit stations for a variety of uses, either individually or together within the same building, for compatible mixed-use developments;
- B) Permit the development of functionally-related land uses in a manner that is supportive of transit usage and that is more efficient, environmentally-sensitive, and mutually-supporting than conventional sprawling, strip-type, low-intensity suburban development;
- C) Maximize transit patronage and minimize auto-trip generation through maximizing opportunities for pedestrian mobility to transit and pedestrian movement and patronage of multiple facilities in a development district that emphasizes the interrelationship of uses and structures;
- D) Establish a framework for development that anticipates and encourages the necessary conditions for a high level of transit utilization and pedestrian circulation;
- E) Provide for civic, public, and semi-public uses, including exterior common use areas, convenient to office and commercial concentrations, so as to function for the general benefit of the community as places for relaxation, recreation, and social activity;
- F) Enhance the functional values of natural and landscaped areas for developed areas, including groundwater recharge, runoff control, and microclimate moderation.

Y04.02 Permitted Uses.

Uses are Permitted by Right, as Special Exceptions, and as Conditional Uses in TOD Station districts in accordance with Section Y01.

Y04.03 Development Standards.

Uses shall occur in accordance with the standards of Section Y02.

Y04.04 Pedestrian Frontages.

At least seventy-five percent (75%) of streetscapes in TOD Station districts shall be primary pedestrian frontages.

Y04.05 Building Size and Spacing.

The greatest dimension of a structure, measured parallel to exterior walls, shall not exceed two hundred (200) feet. The minimum distance between structures shall be ten (10) feet, except that all structures connected by a common roof line or effectively connected by means of intervening covered areas shall be considered as one (1) structure.

Y05.06 Orientation of Retail and Service Commercial Premises.

Patron access to commercial premises shall be by way of a door or similar opening giving access directly from the sidewalk along the front of the property or directly from the street right-of-way.

Y04.07 Pedestrian Circulation Provisions for Natural and Landscaped Areas.

Natural and landscaped areas, as provided for in Section Y00.15, shall predominantly consist of natural environmental features or planted and maintained vegetation, but up to twenty percent (20%) of the total area may also consist of exterior common use areas such as pedestrian paths, sidewalks, plazas, courtyards, and recreational amenities. Whenever practicable, ground surfaces in common use areas shall be constructed of pavers in a sand setting bed with permeable joints, or similar partly-pervious surface treatments.

Y05 TOD PRIMARY PEDESTRIAN DISTRICT

Y05.01 Intent.

The intent of the TOD Primary Pedestrian district is to provide for the combining of medium-high intensity, residential uses, stores and shops, offices, and civic, public, and semi-public uses in a closely-knit walking precinct close to transit stations. It is the purpose of these regulations to encourage a diversification of uses in each TOD Primary Pedestrian district and to promote close interrelationships among different uses; high-quality, visually-attractive, and environmentally-responsible site design and buildings; efficient circulation systems; conservation of land and energy resources; reduced rates of auto-trip generation; and increased opportunities for pedestrian circulation. In addition, the specific intent of the district is to:

- A) Encourage the development of land and buildings close to transit stations for a variety of uses, either individually or together within the same building, for compatible mixed-use developments;
- B) Permit the development of functionally-related land uses in a manner that is supportive of transit usage and that is more efficient, environmentally-sensitive, and mutually-supporting than conventional sprawling, strip-type, low-intensity suburban development;
- C) Maximize transit patronage and minimize auto-trip generation through maximizing opportunities for pedestrian mobility to transit and pedestrian movement and patronage of multiple facilities in a development district that emphasizes the interrelationship of uses and structures;
- D) Establish a framework for development that anticipates and encourages the necessary conditions for a high level of transit utilization and pedestrian circulation;

- E) Provide for public and semi-public uses, including exterior common use areas, convenient to medium-high density residential concentrations, so as to function for the general benefit of the community as places for relaxation, recreation, and social activity;
- F) Enhance the functional values of natural and landscaped areas for developed areas, including groundwater recharge, runoff control, and microclimate moderation.

Y05.02 Permitted Uses.

Uses are Permitted by Right, as Special Exceptions, and as Conditional Uses in TOD Primary Pedestrian districts in accordance with Section Y01.

Y05.03 Development Standards.

Uses shall occur in accordance with the standards of Section X02.

Y05.04 Pedestrian Frontages.

At least fifty percent (50%) of streetscapes in TOD Primary Pedestrian districts shall be primary pedestrian frontages.

Y05.05 Retail and Service Commercial Uses.

Retail and service commercial uses shall be contained in multistory, mixed-use structures with retail and service commercial uses on the ground level and office and/or dwellings on the upper levels. The greatest dimension of a structure, measured parallel to exterior walls, shall not exceed two hundred (200) feet. The maximum ground level footprint of a retail and service commercial building shall be twenty thousand (20,000) square feet. The minimum distance between structures shall be ten (10) feet, except that all structures connected by a common roof line or effectively connected by means of intervening covered areas shall be considered as one (1) structure.

Y05.06 Orientation of Retail and Service Commercial Premises.

Patron access to commercial premises shall be by way of a door or similar opening giving access directly from the sidewalk along the front of the property or directly from the street right-of-way.

Y05.07 Pedestrian Circulation Provisions for Natural and Landscaped Areas.

Natural and landscaped areas, as provided for in Section Y00.15, shall predominantly consist of natural environmental features or planted and maintained vegetation, but up to twenty percent (20%) of the total area may also consist of exterior common use areas such as pedestrian paths, sidewalks, plazas, courtyards, and recreational amenities. Whenever practicable, ground surfaces in common use areas shall be constructed of pavers in a sand setting bed with permeable joints, or similar partly-pervious surface treatments.

Y06 TOD SECONDARY PEDESTRIAN DISTRICT

Y06.01 Intent.

The intent of the TOD Secondary Pedestrian district is to provide for the combining of moderate-intensity residential uses, stores and shops, offices, and civic, public, and semi-public uses in areas near to transit stations. It is the purpose of these regulations to encourage a diversification of uses in each TOD Secondary Pedestrian district and to promote close interrelationships among different uses; high-quality, visually-attractive, and environmentally-responsible site design and buildings; efficient circulation systems; conservation of land and energy resources; reduced rates of auto-trip generation; and increased opportunities for pedestrian circulation. Furthermore, it is the intent to:

- A) Establish or reinforce moderate-intensity, mixed-use areas, following the precedent of traditional towns, by keeping a variety of different, reasonably-compatible uses together in a closely-knit setting;
- B) Provide for convenient, local services for residents living in and near to these areas and opportunities for short-distance trips by automobile or alternate means, such as by bicycle or on foot;
- C) Encourage the use of transit;
- D) Allow for moderate-intensity commercial uses where more intensive commercial use would have adverse effects on adjacent and neighboring residential areas;
- E) Minimize auto-trip generation through maximizing opportunities for pedestrian movement and patronage of multiple facilities in a development district that emphasizes the interrelationship of uses and structures;
- F) Establish a framework for development that anticipates and encourages the necessary conditions for a high level of pedestrian circulation.
- G) Enhance the functional values of open space and landscaping for developed areas, including groundwater recharge, runoff control, microclimate moderation, noise attenuation, and visual buffering.

Y06.02 Permitted Uses.

Uses are Permitted by Right, as Special Exceptions, and as Conditional Uses in TOD Secondary Pedestrian districts in accordance with Section Y01.

Y06.03 Development Standards.

Uses shall occur in accordance with the standards of Section X02.



APPENDIX B. MODEL ZONING PROVISIONS FOR ALLEGHENY COUNTY TOD PLACES