April 2003

Airport Multimodal Major Investment Study

final report

Prepared for:
Port Authority of Allegheny County
Southwestern Pennsylvania Commission
Allegheny County
City of Pittsburgh
Pennsylvania Department of Transportation

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Executive Summary

1.0

"What is the best way to spend transportation dollars to improve the Airport Corridor?"

This question, along with Transportation *Need* and Regional *Vision and Goals,* drive the Airport Corridor Major Investment Study (MIS or Study) and its resultant Locally Preferred Investment Strategy (LPIS). The LPIS, if implemented, will physically improve the region's transportation network. These improvements, in turn, will become regional assets enabling growth in Southwestern Pennsylvania.

Today, Southwestern Pennsylvania relies on the highly congested, 50 year old Parkway West (or Parkway) for access to three of its largest and most critical activity centers – the Airport, Downtown Pittsburgh, and Oakland. By 2010, with the Airport Corridor Locally Preferred Investment Strategy in place, the corridor will enable residents (whether they are automobile travelers, pedestrians, cyclists, transit passengers, or freight movers) and new businesses to access jobs, customers, and the region's world-class airport, from within and outside the region.

The plan establishes two projects which, when working together, address both the Need and the Regional Vision and Goals:

1. The Parkway West Widening (with BRT Expansion/Enhancement and Core Area Improvements), which includes:
   a) Parkway West widening by one lane in each direction and interchange improvements from the Fort Pitt Tunnels to Beaver County,
   b) Improvements to the "Core Area" between the Banksville Road

interchange and Downtown Pittsburgh, which may include two new two-lane tunnels, in addition to the existing Fort Pitt Tunnels, as well as interchange improvements at both ends of the tunnels,

c) Bus Rapid Transit (BRT) system expansion beyond the current West Busway,
d) Transportation system enhancements including roadway, trail, safety, Intelligent Transportation System (ITS), interchange improvements, and access improvements to facilitate movement throughout the corridor, and
e) If feasible (based on PENNDOT's ongoing Wheeling and Lake Erie (W&LE) study), using the W&LE alignment and tunnel to bypass Greentree Hill and the Fort Pitt Tunnels and Bridge. This route would connect to the Wabash Tunnel, West End Bypass, and Route 51 North.

2. The Airport Connector Light Rail project that will:
   a) Provide a rapid transit link between Pittsburgh and the Airport,
   b) Provide a link to the downtown subway, North Shore and South Hills LRT via the North Shore Connector currently under design.
   c) Serve local communities by providing reliable and frequent service to jobs, residences, and commercial activity centers for the City of Pittsburgh, McKees Rocks, Stowe Township, Kennedy Township, Robinson Township, North Fayette Township, Moon Township, and Findlay Township,
   d) Enhance transit oriented land uses in those communities, and
   e) Provide opportunities to connect to Oakland and other corridors if light rail is selected in those corridors.

The following paragraphs provide the Study background and an introduction to this report. The report itself will present the Study processes and findings, and present the conclusions based upon analysis, evaluation, and public input. The appendices provide newsletters and definitions identifying key project participants and processes.

1.1 Introduction

This MIS evaluated "multimodal" transit and highway improvements to address transportation needs for the Airport Corridor. In addition, the Study examined project costs and developed an investment strategy to support these transit and highway improvements. This MIS was a 12-month study that built on prior and related work, including the following:

- Parkway West Multimodal Corridor Study (1989)
- Airport Multimodal Corridor Feasibility and Marketing Study (1996)

- SPC Policy Committee Studies (1998 through 2000)

With a focus on implementation, this Study allowed the selection of modes and corridors for highway and transit improvements, to be used as input to subsequent environmental studies and preliminary engineering.

The term "multimodal transportation" as used in this MIS includes vehicular (auto and truck), public transportation (both bus and rail), pedestrian, and bicycle modes of transportation. The Study Partners reflected these "multimodal" interests. In addition, the Study also included review and participation by both the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

As part of the corridor and modal evaluation, the Study also examined the relationship between the various modes of transportation, land use in the Airport Corridor communities, and connections to other transportation modes including air, freight, and the proposed Pennsylvania High-speed Maglev system. Opportunities for improvements in the Corridor were studied in regard to linkages, benefits, and mode shifts in this multimodal network.

The effort to exchange ideas and take comments from the public and Study participants enabled the MIS to evaluate multiple transportation concepts and suggestions and to optimize the benefit for the region's communities. These measures helped develop a list of corridor alternatives for both highway and transit system major investments. These corridor investment alternatives were evaluated against the project goals and needs, the study "no-build" scenario, and a set of lower cost improvements identified as the project Transportation System Management (TSM) alternative. This comparison afforded the opportunity to reduce the initial Long List of Alternatives down to a Locally Preferred Investment Strategy.

1.2 Study Background

On January 24, 2001, Regional Leaders including members of the state legislative delegation, the City of Pittsburgh's Mayor Tom Murphy, and Allegheny County Chief Executive Jim Roddey identified the Airport Corridor between Downtown and the Parkway West as the County's most pressing transportation problem. The meeting concluded that transit and highway improvements were a top priority for the region. The Regional Leaders asked Port Authority of Allegheny County (Port Authority), the Southwestern Pennsylvania Commission (SPC), the Pennsylvania Department of Transportation (PENNDOT), Allegheny County (County), the Allegheny County Airport Authority (Airport Authority), and the City of Pittsburgh (City) to conduct this MIS to identify and plan Airport Corridor transportation improvements.

Port Authority, with SPC as its Study co-lead agency, initiated a procurement process on behalf of the six public agencies listed in the preceding paragraph (the Study Partners) that selected a consultant, Michael Baker Jr., Inc., and a team of technical sub-consultants as the Study Team for the MIS. Work on the 12-month long Study began on October 15, 2001.

The first task in the MIS was formal identification of project needs. The following were identified as statements of the Airport Corridor's transportation needs:

- There are insufficient transportation choices in the Airport Multimodal Corridor,
- The roadway capacity is insufficient to relieve existing and future predicted congestion,
- The safety characteristics of the major highways in the corridor need to be improved,
- The existing physical deficiencies of the corridor's roadways impede the efficient movement of people, goods, and services through the region,
- The linkages between major highways and between transportation modes in the corridor are insufficient, and
- The transportation services in the corridor are insufficient to support economic development and land use priorities.

These needs were documented fully in a report entitled "Transportation Needs Analysis." The needs and a related set of project goals provided the Measures of Effectiveness (MOE's) that were used to evaluate the various transit and highway alternatives developed during the Study.

1.3 Highway and Transit Corridor Alternatives – Development and Evaluation

The preferred transit and highway alternatives that make up the Airport Corridor Locally Preferred Investment Strategy resulted from a three-pronged effort to develop effective responses to the needs. The three aspects of this effort were:

- Extensive Public and Community Involvement to identify effective alternatives and integrate the alternatives into local comprehensive and land use plans.
- Utilization of information generated in prior studies and concurrent studies.
- Development, analysis, and evaluation of new concepts for both public transportation and highway by the Study Team under the direction of the Study Partners, and guidance and input from Regional Stakeholders (refer to Figure 1-1).

This effort to develop corridor level transit and highway alternatives focused on an

area entitled the "Area of Potential Investment" (API). The API is identified in yellow on Figure 1-2. The API includes several of the Southwestern Pennsylvania region's largest and fastest growing residential and employment areas, including Downtown, Oakland, Moon Township, North Fayette Township, and Findlay Township. In addition, the API also includes a number of communities (such as McKees Rocks, Neville Island, and Coraopolis), which are seeking to redevelop and to join in the growth being enjoyed by their neighbors.

The process used to develop, refine, and select among the various alternatives included the steps shown in Figure 1-1 and further defined throughout the latter sections of this MIS.

Figure 1-1: Process Diagram

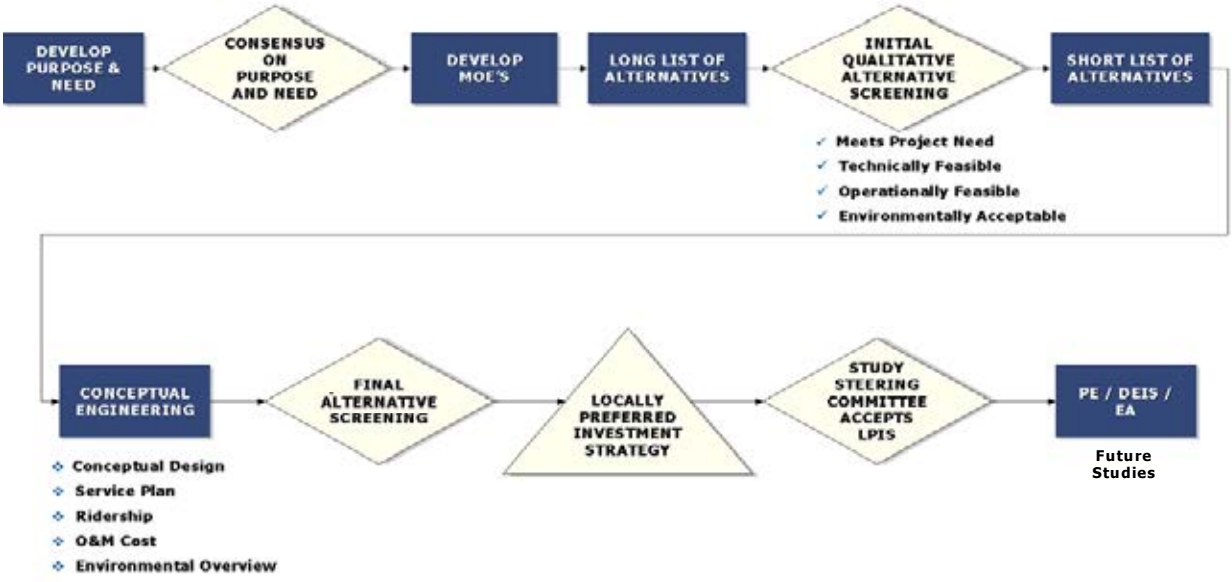
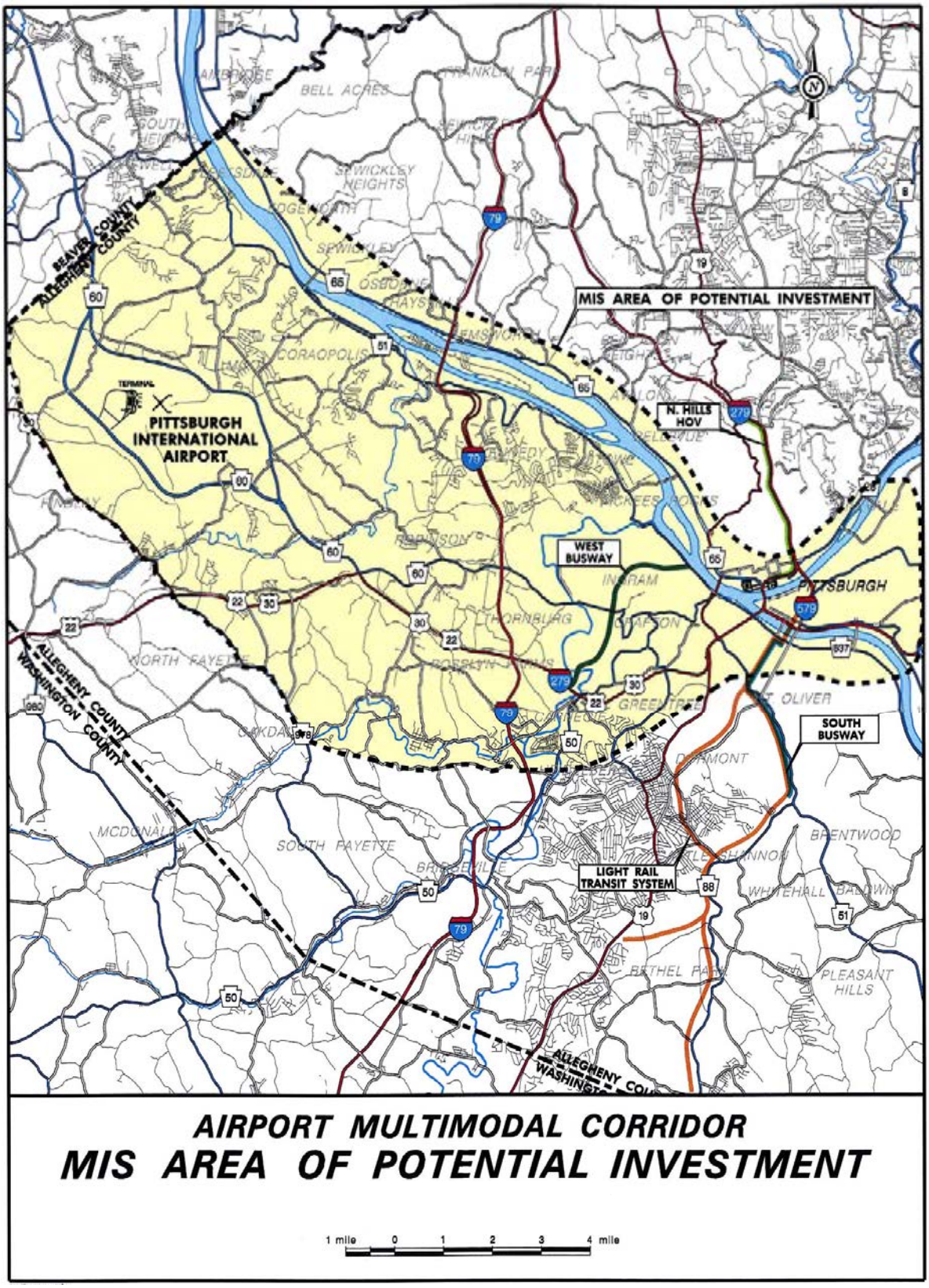


Figure 1-2: MIS Area of Potential Investment



1.4 Public and Community Involvement and Input

An extensive public involvement process was designed to build awareness and solicit public input during the development, evaluation, and alternative selection processes for this MIS. During each phase of the Study, multiple opportunities were provided for information distribution and exchange with stakeholder groups. These included general public meetings/municipal briefings, public officials' briefings, municipal and community outreach meetings, and presentations to agencies and authority boards. Four rounds of public meetings and over 40 community group presentations were conducted throughout the duration of the study. As shown in Table 1-1, Study representatives conducted 104 meetings, reaching over 1,600 people in the process.

Table 1-1: Public Meeting Summary

Type of Meeting	Number of Meetings
Public Meetings	11
Public Official Briefings	4
Municipal Meetings	32
Community Outreach Meetings	44
Agency/Other	13
Total	104

With such an extensive public program, the input and comments varied widely. However, two comments stood out and helped direct the Study toward the preferred alternative. The first was "Fix the Parkway!" The second was "Give us more transit choices." Many respondents addressing public transportation offered positive comments about the West Busway, but indicated that rail transit should be added to the corridor choices if possible.

Most importantly, the public provided several very specific elements of the preferred alternatives, as follows:

1. The Parkway Widening alternative includes tunnel, traffic, and connection concepts that were provided by local residents, Dr. Neal Schorr and Mr. Chris Miller, both of whom attended public meetings and provided very detailed drawings illustrating their concepts.
2. The Airport Connector light rail alternative includes close coordination with local communities regarding the relationship between transit and land use. In particular, the community of McKees Rocks helped the Study focus the light rail alternative on station area development and compatible land uses

as part of a redevelopment plan for their community.

3. Manchester residents in the City of Pittsburgh emphasized access to jobs and also provided strong input on potential light rail line and station locations in and near their community.
4. Members of the Montour Trail Council and the Hollow Oak Land Trust helped focus attention on valuable environmental resources and recreational facilities in the western part of the corridor.

Input from these groups and individuals are clearly reflected in the preferred alternatives. However, the hundreds of other comments individually and collectively helped steer the Study toward the preferred alternatives.

1.5 Benefits from the Locally Preferred Alternatives

The MIS, with extensive input from the public, has identified several key benefits from the preferred alternatives, which comprise this Airport Corridor Locally Preferred Investment Strategy. These benefits include the following:

1. Parkway West Widening with BRT Expansion/Enhancement and Core Area Improvements with BRT Enhancements

   - Reduces the traffic queue in both directions at the Fort Pitt Tunnels and Bridge.
   - Reduces regional travel times to the Airport, Downtown, and Oakland.
   - Increases Parkway West capacity, thereby reducing "cut through" traffic on local and neighborhood roadways.
   - Directly addresses the 50-year-old Parkway West's need for updated design.
   - Reinforces long-term investments that have been made in the Parkway West Corridor, including infrastructure and community facilities.
   - Reinforces investment in the West Busway.
   - Allows the expansion of Bus Rapid Transit (BRT) further west in the corridor.
   - Reinforces community land use plans.
   - Minimizes environmental impacts due to extensive use of existing right of way.
   - Lowest cost of all highway alternatives studied.

2. Airport Connector LRT

   - Provides a new transit alternative to the Parkway.
   - Reduces regional travel times to the Airport, Downtown, and with potential future extensions to Oakland and other corridors.
   - Provides a rail connection to the Airport from Downtown.

- Serves approximately 19,000 transit boardings per day in the corridor.
- Reinforces community land use plans.
- Provides a component of a potential regional rail system.
- Builds on the opportunity provided by the North Shore Connector for westward expansion of the LRT system.

Transportation enhancements (the TSM alternative) are incorporated into the Preferred Alternatives. Thus, safety enhancements, trail expansion, ITS improvements, park and ride expansion, BRT application, and improved system connectivity become added benefits.

1.6 Costs for the Locally Preferred Alternatives

The costs associated with the Locally Preferred Alternatives are presented in Table 1-2. More detail on the preferred alternatives and the selection process can be found in the relevant sections throughout this report.

Table 1-2: Current Year Costs for the Locally Preferred Alternatives (in Thousands)

Cost Description	Parkway West Widening (including TSM enhancements)	Airport Connector LRT (via one of the following two corridors)	
		Robinson Transit Alternative	Ohio Valley – Neville Island Transit
Capital Cost of Alternative	$911,320	$1,238,100	$1,180,600
ROW Cost for Alternative	$60,300	$115,000	$94,000
Annual Transit Operating Cost	$3,280	$20,500	$22,200

1.7 Coordination with other Local Projects

The Parkway West Widening and Airport Connector LRT are compatible with other planned local projects. This Study is based upon full build out of the projects that are included in the SPC Long Range Plan. Thus, several major projects included in the plan are included in the "no build" scenario. These projects include the Mon Fayette Expressway, Findlay Connector, Southern Beltway, the Wabash High Occupancy Vehicle (HOV) Facility, and the North Shore Connector LRT Extension. Importantly, this "no build" scenario includes the completion of the "Missing Ramps" between Interstate 79 and the Parkway West, which are currently under design.

Three additional projects require comment, as well:

1. W&LE Corridor - PENNDOT has initiated a study to determine the feasibility of using the W&LE railroad corridor for non-railroad use, such as HOV, High Occupancy Toll (HOT), or for general traffic. PENNDOT's study started after this MIS and will not be completed until 2003. Therefore, this MIS includes two suggestions for PENNDOT to consider regarding potential use of the W&LE in the Parkway / Banksville Road area:

    a) As a truck route alternative between Carnegie and the West End Bypass (eliminating truck traffic on Greentree Hill and in the Fort Pitt Tunnels)
    b) As an HOV or HOT corridor carrying approximately 1,200 vehicles in the peak hour and peak direction during the peak hours (a.m. and p.m.)

    These suggestions reflect the lane and directional limitations imposed by the existing Greentree tunnel. PENNDOT's study may identify other higher capacity (and lower cost) options.

2. Strategic Regional Transit Visioning Study – Port Authority and SPC conducted the Visioning Study to set the public transportation agenda for Southwestern Pennsylvania for the future. The Airport Corridor was identified as a priority corridor for rail or bus enhancements. This MIS expanded the concepts advanced in the Visioning Study and sets forth a plan for implementation in the Airport Corridor.

3. Pennsylvania Maglev Project - The Federal Railroad Administration, Port Authority, and PENNDOT are preparing a Draft Environmental Impact Statement (DEIS) for a 54 mile long high speed magnetically levitated transportation system connecting Pittsburgh International Airport, Downtown Pittsburgh, Monroeville, and Westmoreland County. Upon completion of the EIS process, the Pennsylvania Project may be eligible for $950 million in federal assistance to design and construct the project.

The Pennsylvania Maglev project and this Study's API overlap in several areas:

a) Airport to Downtown service,
b) Common use of the Robinson corridor between the airport and the Ohio River,
c) An Airport (Landside) Station, and
d) An Airport development area Station.

This overlap is critical because of the findings from the Maglev ridership study. These findings demonstrate that travelers in the Maglev service catchment area

(within the vicinity of the four stations) will demonstrate a preference for travel by Maglev in lieu of either the automobile or transit modes.

Thus, this Study recognizes potential adjustments in the Airport Corridor Locally Preferred Investment Strategy if the Pennsylvania Maglev project is constructed. These include:

- Truncating the light rail line within the five-mile Maglev service catchment area around the airport terminal. This will minimize duplication of service and investment. Note that light rail could eventually be extended to the airport if justified by ridership.
- Altering the BRT element associated with the Parkway to support both Maglev station and airport service needs.

The Parkway West Widening alternative would be unaffected by the Maglev project.

1.8 Conclusion

The Study concludes that an Airport Corridor Locally Preferred Investment Strategy should incorporate two projects, the Parkway West Widening with BRT enhancements, and the Airport Connector LRT. These projects and their associated $2,150,000,000 in capital costs should be incorporated in the SPC Long Range Plan.

multimodal
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Public Involvement and Outreach

Public Involvement and Outreach

2.0

An extensive public involvement process was designed to build awareness and solicit public input during the three phases of the MIS, including Needs, Long List of Alternatives, and Short List of Alternatives to report study outcomes. During each phase of the Study, multiple opportunities were provided for information distribution and exchange with stakeholder groups. These included general public meetings/municipal briefings, public officials' briefings, municipal and community outreach meetings, and presentations to agencies and authority boards. Four rounds of public meetings and over 40 community group presentations were conducted throughout the duration of the study. The project team and sponsors attended 104 meetings (see Table 2-1) reaching over 1,600 people in the process.

Four rounds of public meetings were held, one for each of the three phases of the MIS plus one wrap-up meeting to present the study outcomes. Public meetings were held in locations evenly distributed throughout the Airport Corridor and each venue met the Americans with Disabilities Act (ADA) requirements and was accessible by transit. These meetings were publicized through local newspaper ads, press releases, Public Service Announcements (PSAs), posters, Airport Corridor organizations' monthly publications, and the Study website. Local community cable access television was utilized to air interviews with project team members and publicize meetings. The electronic billboard at the Mall at Robinson announced the meetings. Newsletters and meeting announcements were created and distributed through the mail. These materials also were provided to participants at public, public officials, municipal, and community outreach meetings.

The project team utilized display boards, MS PowerPoint presentations, 3-D visualizations, handouts, and comment forms during these meetings. Attendees were invited to contribute comments, ask questions, and provide written feedback through a comment form.

2.1 Public Officials Briefings

Prior to each round of public meetings, a public officials' briefing was held. Federal, state, county, and municipal officials that represented stakeholders throughout the entire region were invited to attend. Community group leaders and major employers were invited to attend the first, second, and fourth briefings. (The third briefing represented a joint presentation among several transportation studies and had to be limited to federal, state, county and City of Pittsburgh officials. A local

Table 2-1: Public Outreach - Municipal, Community Outreach, and Agency Groups

Category	Organization	
Airport Corridor Groups	Airport Area Chamber of Commerce	
	Airport Area Development Council	
	Allegheny County Airport Authority - Board of Directors	
	Allegheny County Airport Authority - Cargo Task Force	
Community Organizations	African American Chamber of Commerce	McKees Rocks Planning
	Allegheny County Job Access Committee	Neville Island Development Association
	Banksville Civic Association	Northside Leadership Conference
	Coraopolis Kiwanis	Oakland Taskforce
	Hill District Consensus Group	Pittsburgh Downtown Partnership
	Manchester Citizens Corporation	Riverlife Task Force
	McKees Rocks Chamber of Commerce	
Environmental Groups	Hollow Oak Land Trust	
	Montour Trail Council	
Land Use Organizations/ Developers	NAIOP	Sustainable Pittsburgh
	Regional Development Consortium	Soffer Organization
Municipalities	Carnegie	North Fayette
	Char West COG	North Hills COG
	Coraopolis	Pittsburgh City Planning
	Findlay	Quaker Valley COG
	Greentree	Robinson
	Kennedy	Rosslyn Farms
	McKees Rocks	South Hills Area COG
	Moon	Stowe
	Neville Island	Beaver/Butler COG
Transit Associations	Airport Corridor Transportation Association	Beaver County Transit
	Allegheny County Transit Council	Butler County Transit
Other	Allegheny County Economic Development Boards	PA State Representative Mike Turzai
	Moon Township & City of Pittsburgh Cable Access TV	SPC Regional Policy Advisory Committee
	Port Authority of Allegheny County Board	SPC Board

municipal officials' briefing was held prior to Round 3 public meetings.)

2.2 Municipal Meetings

Two rounds of municipal meetings were held in addition to several meetings with area Councils of Governments (COG's). The purpose of these meetings was to obtain feedback on alternatives, review land use and development plans, and identify local preferences. The second round of meetings resulted in invitations for presentations to boards of supervisors and borough councils.

2.3 Community Outreach Meetings

From the start of the Study, it was the project team's intention to reach as many people as possible to build awareness and solicit feedback. The most effective means of contact was found to be the development of a speakers' bureau to present to established community organizations during their regularly scheduled meetings.

2.4 Agency Boards

Over the course of the Study, presentations were given to several County Boards, including Port Authority, Airport Authority, and Economic Development. Additionally, updates were provided to the SPC Policy Advisory Committee and SPC Board. Table 2-1 is a summary of municipal, community outreach, and agency groups that met with the project team.

2.5 Additional Public Contact

Four newsletters were completed (Winter 2002, Summer 2002, Fall 2002 and Winter 2003). The winter 2002 edition introduced the Study, presented the Study schedule and goals, and invited the public to participate in the process. The Summer 2002 newsletter provided a Study update including the short list of alignments, and advertised the third round of public meetings. The Fall 2002 newsletter reported the Study outcomes. The Winter 2003 newsletter summarizes the findings of the Study.

An interactive Study website was developed and maintained by Port Authority with links to the other Study sponsors, FTA, FHWA, several Airport Corridor municipalities, and other concurrent project websites. The website was updated on a regular basis to reflect changes to highway and transit corridor alignment maps as well as the Study schedule, publicize public meetings, and solicit public comment.

A total of six press releases were distributed to local and regional newspapers, one prior to each of four rounds of public meetings, one the day of the final public

meeting, and one prior to the June 14, 2002 public officials' briefing. Two video interview shows were produced and aired on Moon Cable Access TV and PCTV21, city of Pittsburgh cable access. Fliers that advertised the public meetings were placed in Airport Corridor churches, libraries, and municipal offices. The second and third rounds of public meetings were advertised on the electronic billboard at the Mall at Robinson.

A toll free number served as a means for the public to ask questions, provide feedback and place their names on the project database to receive future mailings and meeting notifications.

The database of contacts was regularly updated and included a total of 4,450 unduplicated entries. The database was used to distribute newsletters and meeting announcements.

multimodal
airport corridor project

Study Conditions

Study Conditions

3.0

Understanding the Study and its results requires an understanding of the existing conditions in the Airport Corridor. The following examines several key considerations.

3.1 Congestion

Traffic congestion on the Parkway West affects regional travelers between Pittsburgh and Pittsburgh International Airport on a daily basis. Demand far outstrips the number of lanes available between the Fort Pitt Bridge and Carnegie, and increasingly exceeds capacity as far west as the Route 60 / Business 60 split in Moon Township. Travel times are long today, with significant increases anticipated in the future.

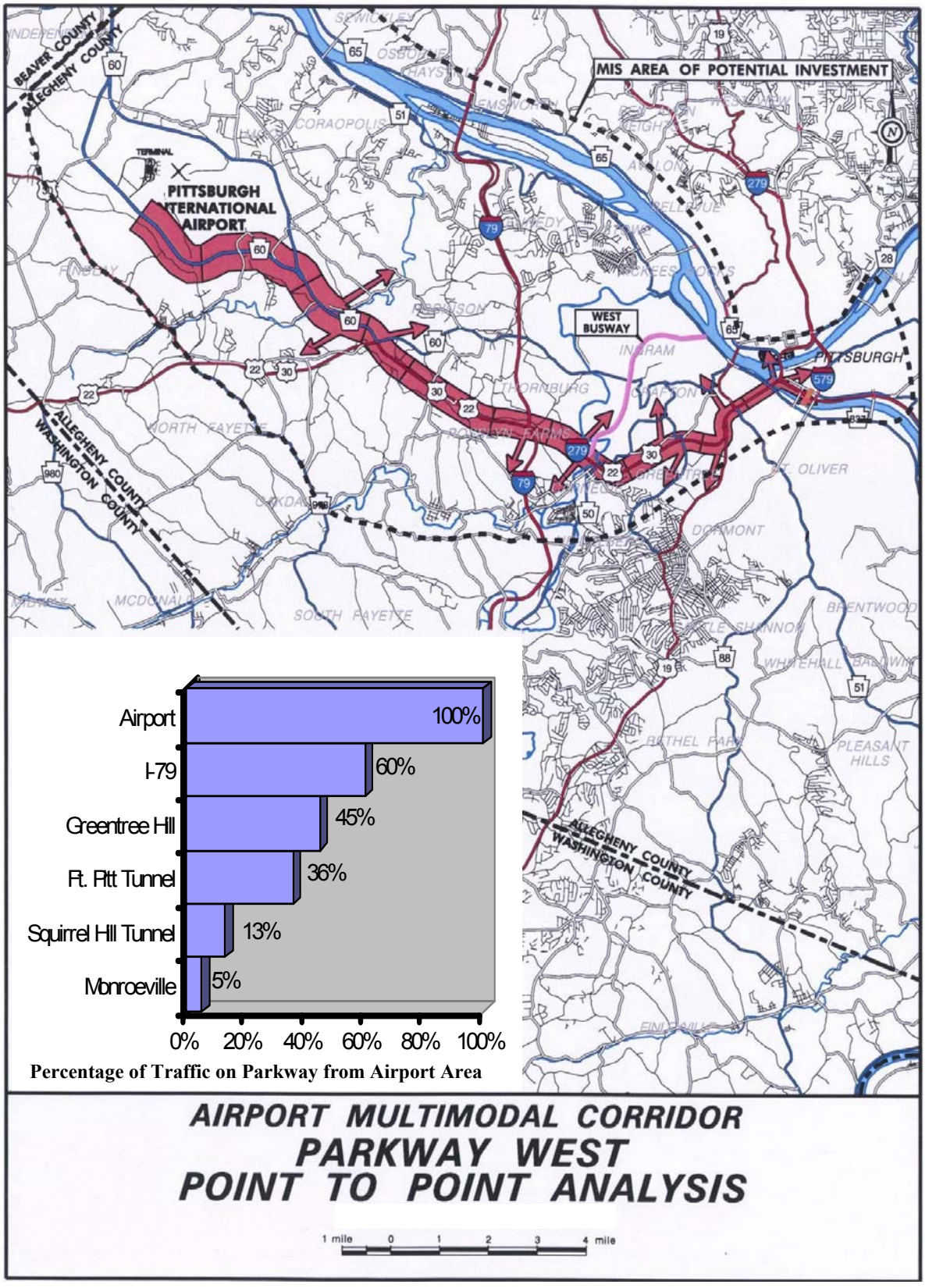
To avoid the Parkway congestion, travelers can choose to use the West Busway. However, many choose to drive via numerous alternative and "cut-through" routes through Greentree, the City's Banksville, West End, and Manchester neighborhoods, McKees Rocks, Carnegie, and other communities as well. Those who make this choice may save some time – but, in the process, they add unwanted traffic to secondary streets and roadways in residential and commercial areas. Anticipated increases in both travel time and traffic volumes point to increasing cut-through traffic in the future.

3.1.1 Origin ~ Destination Analysis

Currently, the Parkway West provides primarily "local" service in the Airport Corridor. Most travelers on the Parkway travel no more than two or three exits. In addition, the heaviest traffic volumes, both inbound (toward Pittsburgh) and outbound (away from Pittsburgh) occur between I-79 and the Fort Pitt Bridge. A point-to-point analysis of traffic and travel characteristics along the Parkway West was conducted to evaluate the traffic along the Parkway.

To provide insight on origins and destinations of travelers on the Parkway West, SPC used its travel demand model to conduct a "Point to Point" analysis. This type of analysis tracks the number of vehicles traveling from a given point to another point in the network. For the location of most interest to this project, the number of vehicles per day passing a point on SR 60 southbound, south of the Airport, was tracked to other points on the Parkway West and to other key points in the region. This analysis is represented graphically in Figure 3-1. The band along the Parkway

Figure 3-1: Parkway West – Point-to-Point Analysis



West represents traffic characteristics by varying the width of the band to represent analysis results.

In addition, the chart included in Figure 3-1 shows that only 36 percent of the traffic traveling south on the Parkway (SR 60) from the Airport (representing approximately 8,000 vehicles per day) is destined for the Fort Pitt Tunnel. The remaining 64 percent of traffic exits at intermediate points such as Montour Run, Robinson Town Centre, I-79, Carnegie, and Greentree. The 36 percent of traffic (approximately 8,000 vehicles per day) traveling to the Fort Pitt Tunnels represent only 13 percent of the 60,000 inbound vehicles that use the tunnel daily. Executing this analysis in the reverse direction yields similar results.

The graphic reveals the following as important considerations affecting Airport Corridor congestion:

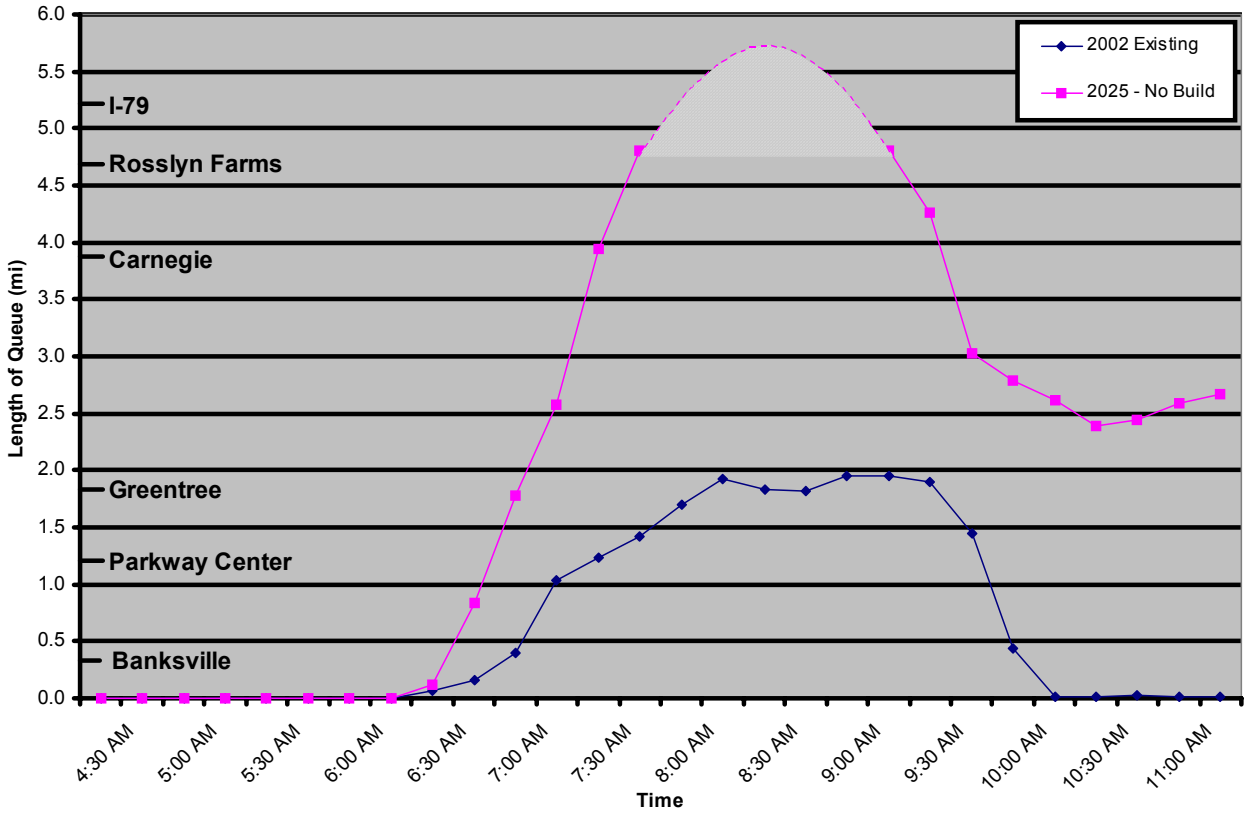
- The Parkway West congestion problem affects Airport access from throughout the region, but is not caused by Airport travelers.
- Most traffic volume on the Pittsburgh end of the Parkway is local, traveling two to three exits.
- Improving the conditions that create the traffic queue will provide the greatest improvement in regional access to the Airport.

3.1.2 Traffic Queuing at the Fort Pitt Tunnel

The image of inbound and outbound traffic backing at the Fort Pitt Tunnel and Bridge is a familiar site to most Southwestern Pennsylvania residents. This Study quantified that image and used the numbers to analyze alternative solutions. The current condition is on display every day. The critical question is "how much worse will the queue be in the future?"

The Study Team conducted a queuing analysis to determine the answer to this question. Figure 3-2 illustrates both the current queue and the year 2025 queue in the "no build" condition based on model runs from SPC. The x-axis (Time) represents time during a typical morning from 4:30am to 11:00am. The y-axis (Length of Queue) represents the distance from the Fort Pitt Tunnels with 0.0 starting at the southern portal of the tunnel. As the distance increases, landmarks were added to further depict the location of the traffic queue. For example, the 2002 existing traffic queue peaks 2.0 miles from the inbound tunnel entrance at approximately 9:00am, which is past Greentree.

Figure 3-2: Parkway West Inbound AM Queue



The graphic reveals the following potential future conditions if nothing is done to address the Parkway congestion:

- By 2025, the queue will extend beyond the I-79 interchange, more than doubling the current length.
- By 2025, the queue will diminish by 10 a.m., but will never shorten to its current maximum length at any time during the day.
- This longer queue will extend beyond the current West Busway ramps, thus reducing the time savings currently associated with busway service in the inbound direction.

3.1.3 Capacity

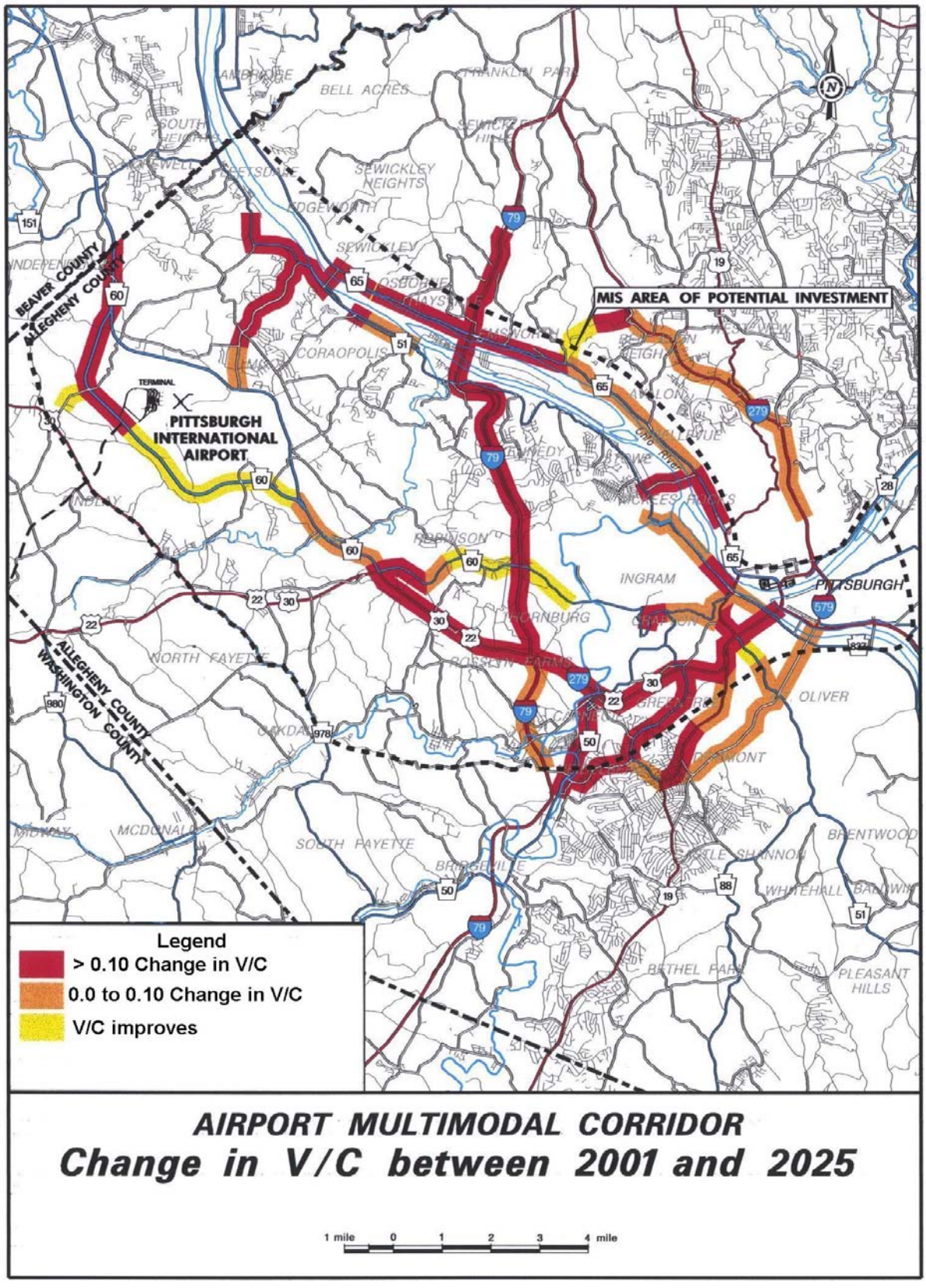
Access to the Airport from the entire region is a critical problem. Input from people throughout the region indicates the Airport as a common destination to which improved access is important. Because Downtown and Oakland are the two largest regional activity centers, connections between these two areas and the Airport are critical. The Study focuses on travel times between these three activity centers and other points throughout the region. As indicated above, without improvements, travel conditions in the Airport Corridor will deteriorate

significantly. Figure 3-3 illustrates the deteriorating condition by using the Volume / Capacity (V/C) ratio for the major traffic routes in the corridor.

All colored roadway segments indicated in Figure 3-3 will have reduced level of service between the present and 2025. The segments in the Study Corridor that will suffer the greatest decline in traffic level of service are highlighted in red. Most roadways in the corridor fall into the deteriorating level of service category.

The deteriorating V/C condition translates into increasing travel times, which leads to important considerations affecting alternatives to improve the congestion in the Airport Corridor. The congestion problem in the corridor is most obvious along the Parkway West, but affects the entire Corridor and the entire Southwestern Pennsylvania region due to the importance of Airport accessibility. Given the scope of the transportation problems, no single solution will solve the Airport Corridor transportation problem – rather, the solution will involve multiple corridors and modes.

Figure 3-3: Change in V/C between 2001 and 2025



3.2 Travel Time

The trend toward increased congestion points to a worsening future travel condition in the Airport Corridor, which in turn points toward negative impacts on regional economic development. Figure 3-4 illustrates the magnitude of the transportation problem.

Figure 3-4: Predicted Future Peak Period Travel Times

Without Parkway West / Airport Corridor improvements, SPC predicts that peak period travel times will increase:

TODAY - 41 minutes

YEAR 2025 - 63 minutes

Congested times:

- **7 hours per day today**
- **10 or more in 2025**

The Study analysis looks at travel times between 19 different communities, providing 342 different combinations. This report will focus on the following pairs of locations (see Table 3-1), highlighting both the need for regional improvements through the Airport Corridor and the improvements provided by the Study alternatives:

Table 3-1: Estimated Peak Hour Highway Travel Times – 2025 Study No-Build

FROM: \ TO:	Downtown	Oakland	Monroeville	McKeesport	Greentree	Bridgeville	Rob Towne Ctr	Airport	Sewickley	Cranberry	Butler	Kittanning	New Stanton	Greensburg	Blairsville	New Kensington	Charleroi	Washington	Beaver
Downtown	--	12	28	36	15	31	33	43	29	36	69	66	57	61	74	43	52	53	57
Oakland	14	--	29	35	29	45	46	56	42	47	70	64	58	63	76	42	58	66	67
Monroeville	29	28	--	23	41	57	58	68	55	44	57	55	33	38	51	33	44	54	66
McKeesport	38	35	23	--	46	49	65	60	65	70	77	75	48	50	71	50	36	47	93
Greentree	16	24	40	48	--	21	23	33	29	41	71	77	69	73	86	55	65	42	52
Bridgeville	31	39	55	48	21	--	23	28	28	40	70	93	62	87	101	71	40	26	53
Rob. Towne Ctr.	31	40	55	63	22	22	--	16	24	36	67	92	78	88	102	69	55	42	36
Airport	45	53	68	59	36	28	18	--	29	53	84	107	77	90	115	85	54	43	27
Sewickley	29	39	55	63	29	28	25	30	--	27	58	85	84	88	101	64	61	48	29
Cranberry	35	45	42	69	42	41	38	54	28	--	40	67	67	72	99	43	74	61	34
Butler	70	68	57	77	79	73	70	86	60	40	--	39	81	92	86	52	96	92	69
Kittanning	67	64	55	75	78	94	93	106	86	65	38	--	85	78	62	39	94	105	89
New Stanton	60	59	36	47	79	61	77	76	82	70	83	81	--	25	54	55	28	49	99
Greensburg	64	63	39	50	76	74	93	90	90	73	93	79	26	--	32	48	42	63	95
Blairsville	79	78	54	72	90	106	108	118	105	99	86	63	54	32	--	49	71	91	126
New Kensington	45	41	34	50	56	72	71	84	65	45	52	38	53	49	49	--	69	80	67
Charleroi	52	52	43	34	55	38	55	54	59	71	96	94	29	42	70	68	--	30	76
Washington	51	59	54	46	42	25	42	43	47	59	90	113	49	62	90	80	30	--	66
Beaver	57	63	64	90	57	50	37	28	29	34	69	94	89	93	110	65	77	66	--

HIGHLIGHTED TIMES ARE EQUAL TO OR LESS THAN EXISTING TIMES.

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From the peak hour highway travel times between destinations in the study area, 232 of the 342 destinations will experience an increase in highway travel times by the year 2025 without the improvements proposed by this Study.

3.3 Outdated Design Features - Safety and System Linkage

In order to better understand the causes of congestion and travel time delays, the study looked at areas of safety concerns, poor system linkages, and substandard

design. The Parkway West was designed shortly after World War II and constructed in the 1950's and early 1960's. Since that time, median barriers and paved shoulders have been added. Today, the interchange configurations, roadway width, and geometric design are substantially the same as when the road was constructed. However, the Parkway handles more than twice the design traffic volume and, in addition, carries a high percentage of trucks. And, despite the congestion that affects the Carnegie to Pittsburgh segment (and, increasingly, the I-79 to the Airport segment), the latent traffic demand is far greater than what the road actually carries every day. A higher than statewide accident rate and areas of poor linkage were highlighted early in the Study as part of the Needs report. The accident rates are indicated in Figure 3-5, while the areas of poor system linkage are in Figure 3-6.

Both of these measures relate directly to conditions that specifically affect the Parkway (due to its age) and to each of the existing arterials in the Corridor. The following are important in regard to the development of corridor alternatives and modes:

- The 1950's era design conditions can be addressed only by directly correcting the specific problem. As such, the Parkway West and other arterials have a baseline need for improvements, regardless of new modes or corridors.
- New corridors, whether highway or transit, may provide direct benefits, but cannot directly address the need to update the Parkway and other arterials.

Figure 3-5: Accident Rates

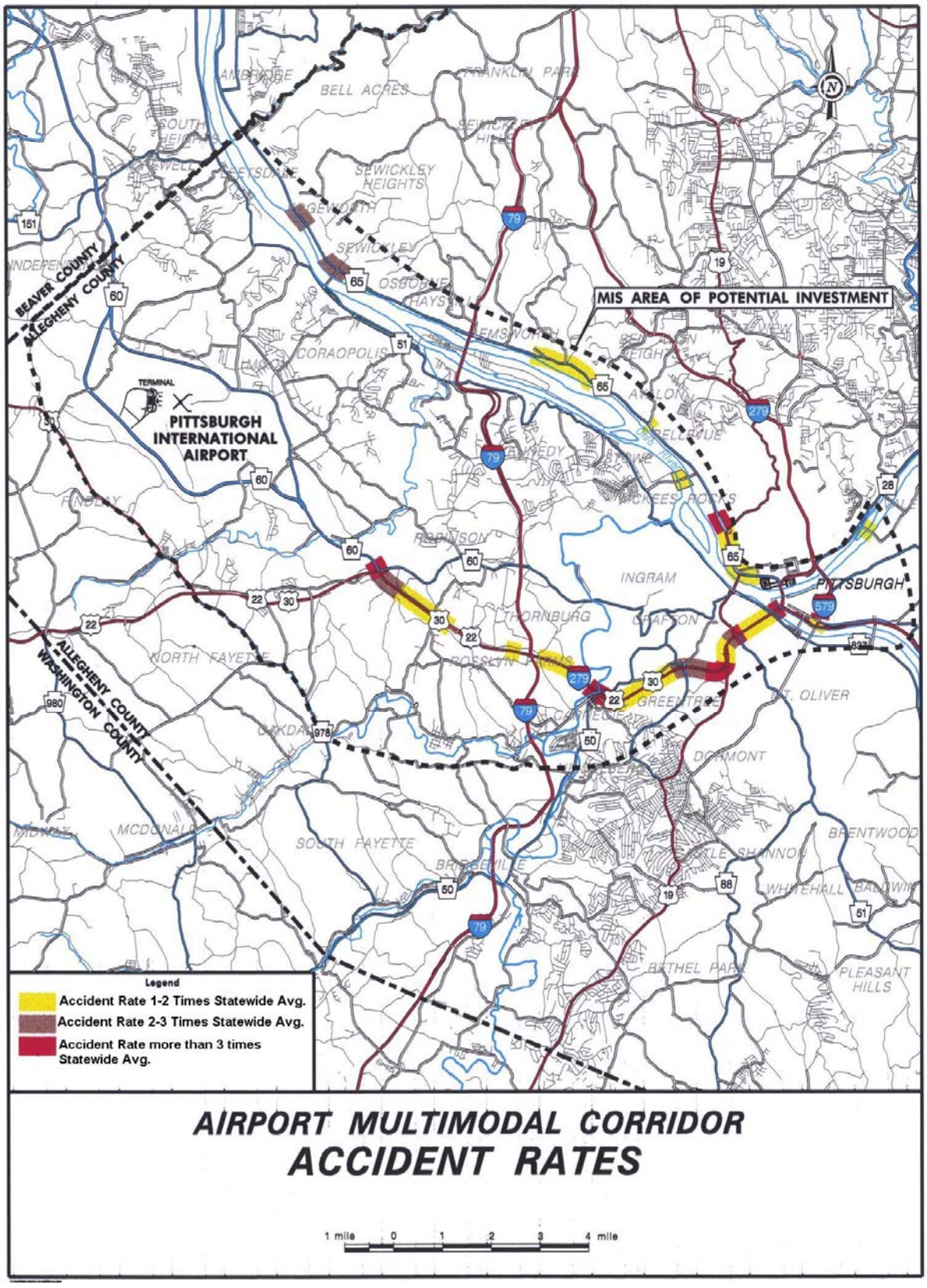
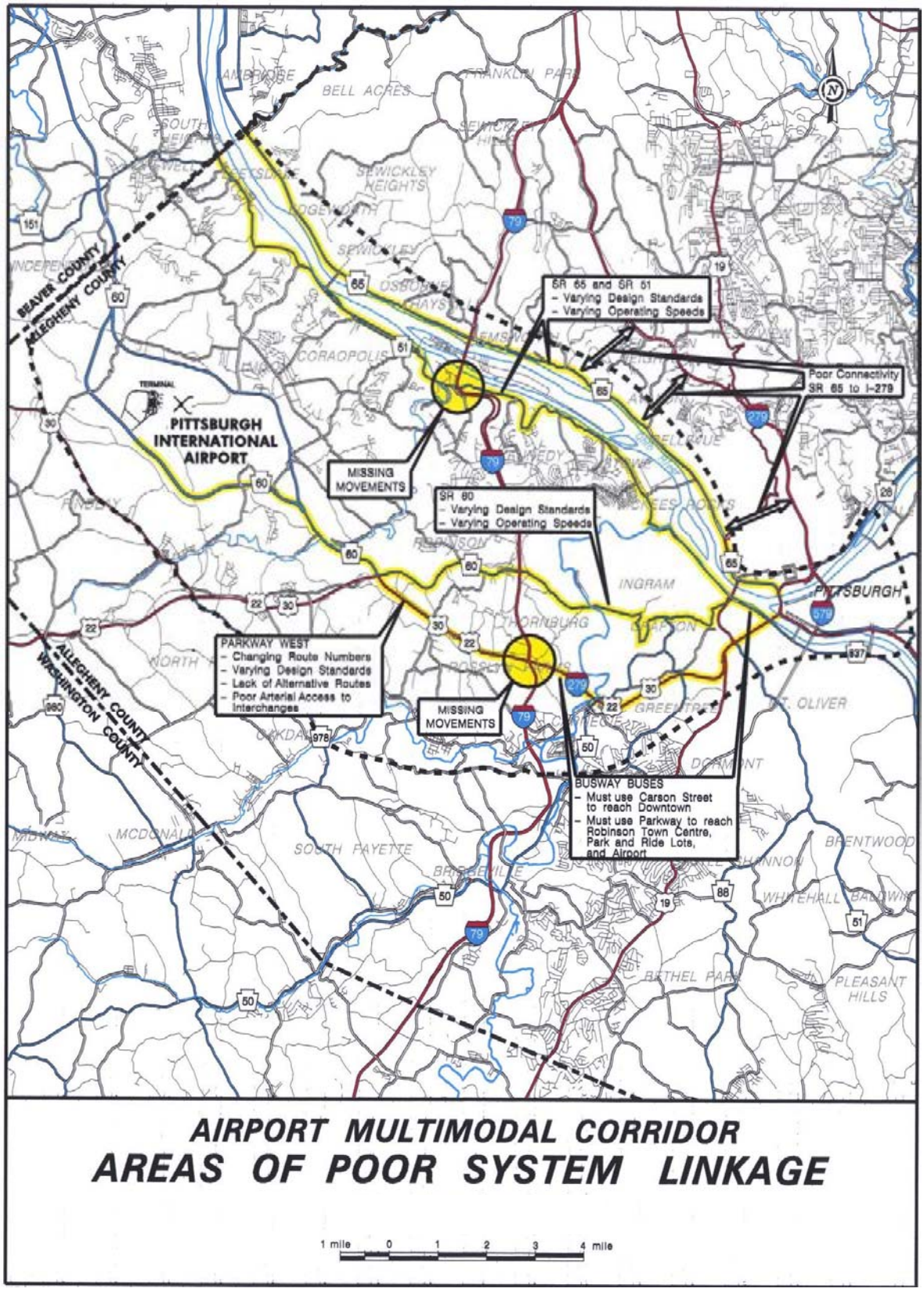


Figure 3-6 Areas of Poor System Linkage



3.4 Public Input - Round 1

The congestion, travel time, physical deficiencies, and crash information were presented to the Public in the initial round of Public Meetings. The Public was encouraged to provide input regarding the needs and suggestions for improvement to Airport Corridor transportation movements. Input was sorted into three different themes: Highway, Transit, and Interconnectivity.

In terms of highways, people wanted the interchanges on the Parkway West and I-79 completed and improved. People not only wanted more interchanges, such as the I-79 missing ramps, but they would like to see improvements made to current interchanges allowing for easier exiting and access. Many commented that existing major roadways should be widened. Expanding the Parkway West to three lanes in each direction was identified as a need, recognizing the importance of this major artery through the Corridor. People wanted alternative routes and modes to the Airport. They indicated a desire to move through the Corridor more freely. A beltway around the City was recommended as a means of traversing north – south – east – west while avoiding downtown Pittsburgh. Several suggestions included directing the Parkway West away from the Fort Pitt Tunnel to an alternate route and adding more roadways.

Public input indicated the desire for more and improved bus service. Improved transit was described most frequently as a need for more park and rides, but also more bus service with shorter wait times, and additional bus routes. Light rail, and to a lesser extent Maglev, using former railroads' Right-of-Ways (ROWs), was an attractive transit alternative.

The public was interested in interconnectivity from regional as well as transportation mode perspectives. There was a need to think more regionally by connecting the Airport Corridor to the greater metropolitan area. Providing access to the South Hills, North Hills, Oakland, and Monroeville was mentioned. This led to connections beyond the borders of the County, including links to the Airport from all over the region, particularly from the Airport to Oakland. Additionally, people would like to see interconnectivity between transportation modes, connecting rail, air, river, and highway.

This public outreach was the most critical element in the Study, helping to define the needs, identify improvements to address those needs, and select the best transportation investments for the Corridor. The Study Team worked closely with the public, transportation and environmental agencies, and other stakeholders in the corridor to develop study goals.

3.5 Transportation Needs

Prior to the start of the Study, Baker presented the proposed project during an Agency Coordination Meeting (ACM) in June of 2001 to inform the environmental resource agencies of the potential for a Multimodal MIS project in the future. A second presentation was conducted in February 2002 to provide a project update and present the transportation needs for concurrence. At the meeting, the agency representatives indicated their concurrence with the needs, as presented. Port Authority of Allegheny County has received concurrence forms as follow up to this ACM presentation. Concurrence forms from all ACM representatives will be needed at the start of the next project phase, the environmental clearance process.

Based on the gathered data and input from the public, transportation and environmental agencies, the following goals were developed:

Goals:

- Improve transportation with cost effective, travel enhancing options and connections within the study corridor.
- Reduce travel times, improve travel reliability, improve freight and goods movement, and decrease congestion between Pittsburgh (particularly Downtown and Oakland), the Pittsburgh International Airport, and various key destinations within the western corridor of the region.
- Improve the safety and reduce the potential for traffic accidents along the Parkway West and the other major transportation arteries in the Airport Corridor.
- Enhance transportation connections and options to employment and development opportunities within the Airport Corridor and throughout the region.
- Enhance communities and minimize environmental impacts.
- Improve the accessibility of the Airport Corridor from destinations throughout the region.

These goals provided the basis for establishing transportation needs for the Airport Multimodal Corridor. The Study Team analyzed existing and year 2025 traffic conditions in the corridor, reviewed accident rates, and reviewed the physical and operational characteristics of roadways in the corridor. This analysis, combined with public and stakeholder input, was used to define the following transportation needs in the corridor:

Need #1: There are insufficient transportation choices in the corridor.

The age of the existing roadway network in the Airport Multimodal Corridor and the steeply rolling terrain in the study area have resulted in a poorly linked and

highly circuitous roadway network with only one multi-lane, limited access highway serving the high growth area linking Pittsburgh and the Airport area. With the exception of the West Busway, transit service in the area is also largely dependent upon the deficient roadway network that is in place. As a result, congestion and delays have become an indicative aspect of travel along the Parkway West. These conditions are exacerbated by the lack of transportation choices in the area inhibiting motorists from alternate travel routes when congestion or incidental roadway closures occur due to vehicular accidents or maintenance on the Parkway West.

Need #2: Roadway capacity is insufficient to relieve existing and future (predicted) congestion.

Congestion and travel time deficiencies associated with the existing transportation network are clearly a function of capacity. Traffic volumes on the Parkway West and other roadways in the corridor exceed the capacity of the roadways. Travelers today can expect the 17-mile trek from Pittsburgh to the Airport to take approximately 41 minutes during peak hours. Without improvement to the existing system, travelers in 2025 can expect this same drive to take approximately 63 minutes. Overall highway congestion occurs for 7 hours per day today. This is expected to increase to 10 or more hours per day by the year 2025.

Need #3: Safety characteristics on the major highways in the corridor need to be improved.

Accident rates on the Parkway West and other roadways in the corridor exceed statewide averages for similar facilities. The safety shortfalls within the corridor need improvement to protect the motorists and transit passengers utilizing this transportation system. SPC predicts that travel will continue to grow in the Airport Multimodal Corridor, thus exposing more travelers to deficient facilities if no improvements are made. In turn, peak period travel times and safety concerns will increase along the existing Parkway West and other highways.

Need #4: Existing physical deficiencies in the corridor's roadways impede efficient movement of people, goods and services.

Geometric deficiencies such as narrow medians, lack of shoulders, inadequate acceleration and deceleration lanes, and lack of continuity in design standards and operating speeds are prevalent throughout the corridor. The interchanges throughout the corridor are also deficient. These deficiencies lower the capacity of the roadways, thus contributing to congestion. In addition, the corridor's primary highway, the Parkway West, consists of four different numbered routes, leading to driver confusion.

The horizontal and vertical clearance restrictions within the corridor further inhibit the movement of trucks. The public commented that trucks have difficulty accessing industrial areas and development sites where good truck access is needed, and conversely, truck traffic impedes traffic flow and negatively impacts the quality of areas where truck traffic is not wanted but where trucks have no alternative routes.

Need #5: Linkages between highways and between transportation modes in the corridor are insufficient.

Access to interchanges on the major highways is often via circuitous two lane roads, and is in concert with the fact that there are missing movements at interchanges throughout the corridor.

Public input regarding the linkages in the corridor defined a need for better interconnectivity between rail, river, and highway traffic; more park and ride facilities; and for trails to be interconnected to each other and to be connected to transit routes and parking facilities.

Need #6: Transportation services in the corridor are insufficient to support economic development and land use priorities.

The congestion, lack of suitable modal alternatives, and system discontinuities described previously are restricting the region's economic growth and competitiveness with other similar metropolitan areas. These restrictions result in economic losses from lower revenues, lower property values and lost productivity. There has been significant public investment in the corridor, particularly at the airport and in the development of business parks, and the transportation system has not kept pace. Travel times of nearly one hour or more separate the airport from key economic activity centers such as Downtown, Oakland, Monroeville, and centers in other counties in the region.

Job growth in the Airport Corridor is being facilitated by the new terminal at the Airport, but is dependent on an accessible labor supply. Much of that potential labor supply is in Pittsburgh and areas to the north and east that have long travel times to those job opportunities. "Brownfield" redevelopment in the many former industrial sites along the Ohio River in the corridor could help protect the environment and revitalize older communities, by promoting re-use of existing sites rather than having all of the region's new development occur on new "Greenfield" sites, but the lack of fast reliable transportation facilities in the corridor restricts the attractiveness of these sites. Access to a variety of public facilities such as recreation areas, cultural areas, and stadiums is hindered by the existing transportation problems, resulting in a lower quality of life for area residents. Emergency access to area hospitals, fire, and Emergency Medical Services (EMS) and other emergency

services response times, are also hindered by the existing transportation problems.

These were the basis for the development of the Long List of Alternatives and the Measures of Effectiveness (MOE's) used to evaluate these alternatives.

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Long List of Alternatives

Long List of Alternatives

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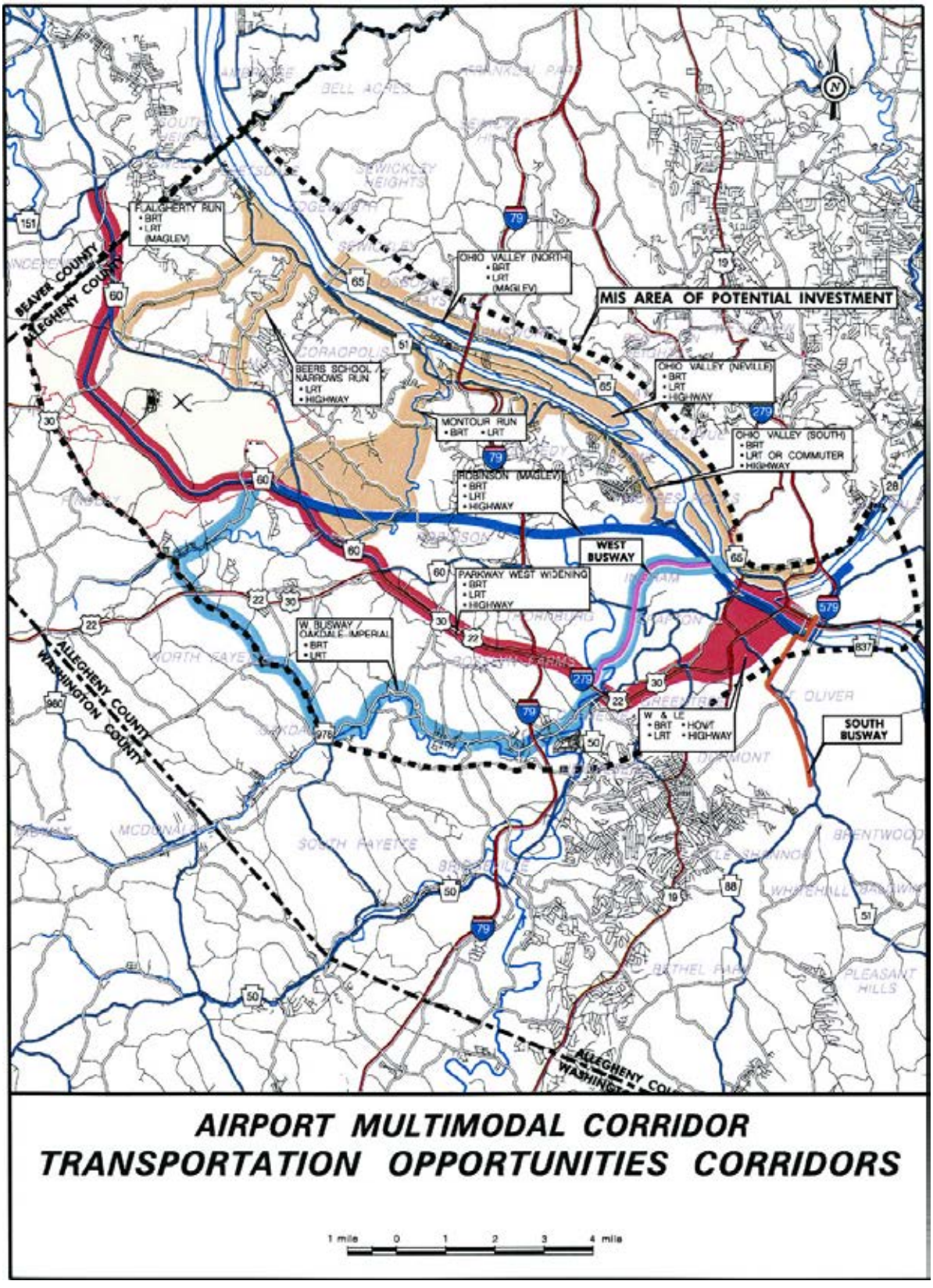
The Long List of Alternatives was the first set of corridors and modal options explored. These corridors resulted from a three-pronged effort to develop effective responses to the need: (1) via public and community involvement, (2) utilizing prior and concurrent studies, and (3) new alternatives developed by the Study Team, Study Partners, and Regional Stakeholders.

The Long List included potential corridors and potential modes. This list of alternatives was presented at project meetings, community meetings, and public meetings during February and March of 2002 (see Figure 4-1).

Figure 4-1: Long List of Alternatives – Transportation Corridors



Four broad corridors were selected as potential locations for corridor alignments. Within each corridor, several modes were considered. The following Table 4-1 contains a description of each alternative, which correlates to Figure 4-1 on the previous page.

Table 4-1: Long List of Alternatives

Alternative	Color Code on Figure 4-1	Mode	Alignment Description
Study No-Build	N/A	N/A	The Study No-Build Alternative includes all of the projects incorporated into SPC's Long Range Plan for 2025, with the exception of SR60 6-8 lanes from Parkway West to Flaugherty, Parkway West 6 lanes, Camp Horne Road (I-65 to I-279), and the W&LE Connection (Banksville to Wabash). The No Build also includes full build-out of Parkway West I-79 Missing Ramps
Ohio Valley - North Corridor	Orange	LRT or BRT	Airport to Downtown along SR 60 Business, Beers School Rd./Montour Run/Flaugherty Run, SR 51 through Coraopolis, crossing over Neville Island, and continuing along SR 65 Corridor through Manchester to North Shore Connector and Downtown
Ohio Valley-Neville Island Corridor	Orange	LRT or BRT	Airport to Downtown along SR 60 Business, Beers School Rd./Montour Run/Flaugherty Run, SR 51 to Coraopolis, via Neville Island to Stowe Township, McKees Rocks, and crossing Ohio River to Manchester, North Shore Connector and Downtown
Ohio Valley-South Corridor	Orange	LRT or BRT	Airport to Downtown along SR 60 to Robinson Town Centre; Beers School Rd./ Montour Run/Flaugherty Run to Ohio Valley; CSX Railroad to Stowe Township and McKees Rocks; and crossing Ohio River to Manchester, North Shore Connector and Downtown
Robinson (Maglev) Corridor	Blue	LRT or BRT	Airport to Downtown along SR 60 and Maglev A5 Alignment through Robinson Township to McKees Rocks crossing Ohio to Manchester, North Shore Connector and Downtown

Alternative	Color Code on Figure 4-1	Mode	Alignment Description
W&LE Corridor to Parkway West to Airport	Red	LRT or BRT	Airport to Downtown along SR 60 and Parkway West to Carnegie and continuing on W&LE Railroad to Wabash or South Hills Tunnel to Downtown
W&LE Corridor to Oakdale and Imperial to Airport	Red	LRT or BRT	Airport to Downtown along SR 60, SR 978 and other roadways through Imperial and Oakdale to Carnegie and continuing on W&LE Railroad to Wabash or South Hills Tunnel to Downtown
West Busway/ Parkway Corridor to Parkway West to Airport	Light Blue	LRT or BRT	Airport to Downtown along SR 60 and Parkway West to Carnegie and continuing on West Busway to Downtown
West Busway Extension to Oakdale and Imperial to Airport	Light Blue	LRT or BRT	Airport to Downtown along SR 60, SR 978 and other roadways through Imperial and Oakdale to Carnegie and continuing on W&LE Railroad to Wabash or South Hills Tunnel to Downtown
Ohio Valley Commuter Rail-North Corridor	Orange	Commuter Rail	Beaver County to Downtown along northern bank of Ohio using existing Norfolk Southern Railroad
Ohio Valley Commuter Rail-South Corridor	Orange	Commuter Rail	Beaver County to Downtown (possibly Station Square) along southern bank of Ohio using existing CSX Railroad
Parkway West Widening with Core Area Improvements	Red	Major Highway Improvements	Widening from four all-purpose lanes to six all-purposes lanes of the Parkway West (Route 60/Route 22/30/I-279) from Route 151 in Beaver County to Downtown. This includes interchange improvements and alternative projects near the Fort Pitt Tunnel/Banksville

Alternative	Color Code on Figure 4-1	Mode	Alignment Description
Robinson (Maglev A5) Corridor New Highway	Blue	New Highway	A new highway beginning at Route 65 in the Manchester area, crossing the Ohio River at Brunot Island and crossing I-79 north of I-79 Parkway West Interchange and connecting to Route 60 at the Route 60/Business Route 60 split.
Ohio Valley-Neville Island New Highway	Orange	New Highway	A new highway beginning at Route 65 in the Manchester area, crossing the Ohio River at Brunot Island then proceeding north through McKees Rocks on railroad right of way to Neville Island to I-79 then from I-79 approximating Montour Run and connecting to Route 60 at the Route 60/Business Route 60 split.
TSM Improvements	N/A	Multimodal TSM	Park and Rides Improved bus service Park and Ride at I-79 Carnegie Exit with busway connection to West Busway Designation for the entire Parkway West Trail extensions and pedestrian improvements Route 65 improvements McKees Rocks Truck Route through rail corridor Sewickley Bridge improvements ITS improvements

Only corridor level concepts were examined at the Long List stage. In order to evaluate the Long List of Alternatives, qualitative evaluation criteria were developed based on the project goals and needs.

4.1 Development of Qualitative Measures of Effectiveness

The Long List of Alternatives was evaluated using a set of *qualitative* MOE's. In order to evaluate the long list of alternatives, a long list set of MOE's was developed based on the project needs and goals. The MOE screening criteria included the following factors for each alternative:

1. Does the alternative provide an alternative to travel on the Parkway West?
2. Does the alternative provide an enhancement to travel on the Parkway West?
3. Does the alternative have the potential to improve travel times between key points in region (Oakland/Downtown and Airport)?

4. Does the alternative have the potential to reduce travel time variability in corridor on selected paths / routes?
5. Does the alternative have the potential to increase transit trips in corridor?
6. Does the alternative directly improve safety deficiencies in "problem areas" on existing highways?
7. Does the alternative substantially reduce the public's exposure to safety deficiencies by reducing exposure to such deficiencies?
8. Does the alternative physically improve linkages (e.g., interchanges, connections, and information about such linkages) between major highways and roads?
9. Does the alternative substantially improve the linkages between highways and other modes?
10. Does the alternative provide access to jobs?
11. How many residential and planned residential areas does the alternative serve?
12. What is the degree to which the alternative facilitates development or brownfield redevelopment?
13. Does the alternative minimize major environmental impacts (e.g., parks, wetlands, historic sites, and other resources including 4f)?
14. Does the alternative minimize disruptions to communities within the corridor?
15. What is the availability of existing ROW for the alternative?
16. Does the alternative have the potential for significant traffic improvements relative to potential cost?
17. Does the alternative have the potential for high ridership relative to potential cost (transit only)?
18. What is the alternative's compatibility with the existing transportation system?

The data was incorporated into the Transportation Needs Analysis and used to conduct a screening of the Long List of Alternatives.

4.2 Screening the Long List of Alternatives

These MOE's were compared against each alternative and utilized to evaluate the effectiveness of each alternative. Table 4-2 was utilized to compare the alternatives' performance against the 18 long list MOE's. The term "Key MOE Performance" along with "Positive" and "Negative" columns shown in the table were utilized to represent criteria specific to each alternative which tipped the scale in a positive or negative direction for that alternative. The table identifies the best ("positive") and weakest ("negative") performance of each alternative when compared against the MOE's.

Table 4-2: Long List of Alternatives – Screening

Alternative	Mode	Key MOE Performance	
		Positive	Negative
Ohio Valley-North Corridor	LRT or BRT	• Compatible with existing transportation system (Northside/North Hills transit service) • Potential to improve travel time between key points in the region • Potential to increase ridership	• Difficult airport area linkage • Limited access to existing development and redevelopment areas • Does not directly improve safety deficiencies on existing highways
Ohio Valley-Neville Island Corridor	LRT or BRT	• Potential to improve travel time between key points in the region • Potential to increase transit trips because it serves high density development • Ability to access residential and planned residential areas • Potential for brownfield development • Existing transportation ROW • Compatible with existing transportation system	• Does not directly improve safety deficiencies on existing highways • Does not physically improve linkages between major highways and roads • Multiple bridge structures raise costs relative to potential ridership
Ohio Valley-South Corridor	LRT or BRT	• Potential to improve travel time between key points in the region • Potential to increase transit trips because it serves high density development • Ability to access residential and planned residential areas • Serves river communities with potential for brownfield development • Uses existing transportation ROW • Compatible with existing transportation system	• Does not directly improve safety deficiencies on existing highways • Does not physically improve linkages between major highways and roads • Inconsistent with current municipal land use priorities

Alternative	Mode	Key MOE Performance	
		Positive	Negative
Robinson (Maglev) Corridor	LRT or BRT	• Potential to improve travel time between key points in the region • Ability to access residential and planned residential areas • Compatible with existing transportation system • Provides some enhancement to travel on the Parkway West	• Does not directly improve safety deficiencies on existing highways • Does not physically improve linkages between major highways and roads • Does not facilitate brownfield development/redevelopment
W&LE Corridor to Parkway West to Airport	LRT or BRT		• Eliminated from further evaluation due to similar alignment (West Busway/ Parkway Corridor to Parkway West to Airport) with redundant service potential
W&LE Corridor to Oakdale and Imperial to Airport	LRT or BRT	• Consistent with current and planned land use priorities • Uses some existing transportation ROW • Compatible with existing transportation system	• Low potential to improve travel time to key points in the region • Does not directly improve safety deficiencies on existing highway • Ridership potential is low because not in proximity to large number of high density areas • Does not physically improve linkages between major highways and roads • Does not provide access to development and redevelopment areas in the region

Alternative	Mode	Key MOE Performance	
		Positive	Negative
West Busway/ Parkway Corridor to Parkway West to Airport	LRT or BRT	• Enhances travel on the Parkway West • Improves travel times between key points in the region • Potential to increase transit trips because it serves high density development • Serves existing and planned development • Uses existing transportation ROW • Potential to increase ridership significantly relative to potential cost • Compatible with existing transportation system	• Does not facilitate brownfield development/ redevelopment
West Busway Extension to Oakdale and Imperial to Airport	LRT or BRT	• Uses existing transportation ROW • Compatible with existing transportation system	• Low potential to improve travel time to key points in the region • Ridership potential is low • Does not directly improve safety deficiencies on existing highways • Does not improve linkages between highways and other modes • Does not provide access to development and redevelopment areas in the region • Does not facilitate brownfield development/ redevelopment
Ohio Valley Commuter-Rail-North	Commuter Rail	• Uses existing transportation ROW	• Does not serve airport
Ohio Valley Commuter Rail- South	Commuter Rail	• Uses existing transportation ROW	• Does not serve airport

Alternative	Mode	Key MOE Performance	
		Positive	Negative
Parkway West Widening with Core Area Improvements	Major Highway Improvements	• Enhances travel on the Parkway West • Potential to improve travel time between key points in the region • Directly improves safety deficiencies in problem areas on the existing highway • Substantially reduces the public's exposure to safety deficiencies • Serves existing and planned development • Uses existing transportation ROW • Potential to improve traffic significantly relative to potential cost • Compatible with existing transportation system • Minimizes environmental impact	• Does not provide alternative to the Parkway West • Minimal improvement to travel time variability
Robinson (Maglev A5) Corridor New Highway	New Highway	• Potential to improve travel time between key points in the region • Serves existing and planned development • Potential to improve traffic significantly	• Requires entirely new ROW • Does not directly improve safety deficiencies on existing highway
Ohio Valley-Neville Island New Highway	New Highway	• Potential to improve travel time between key points in the region • Directly improves safety deficiencies on existing highway • Serves existing and planned development • Uses existing transportation ROW (Ohio Valley) • Potential to improve traffic significantly • Compatible with existing transportation system	• Multiple bridge structures raise costs • New ROW required west of Interstate 79

4.3 Summary ~ Recommended Short List of Alternatives

The information contained in Table 4-2 was utilized to select a Short List of Alternatives based on the corridors that performed the best in regard to the MOE's.

At the Study Steering Committee Meeting on March 28, 2002, the following modal alternative corridors were advanced on to the Short List of Alternatives.

Highway Corridor Alternatives:

- **Parkway West Widening** (with Core Area Improvements, including W&LE, Banksville, Mon Bridge, Wabash Tunnel, and Citizen's Alternatives)
- **Robinson** (Maglev A5 Alignment) Corridor New Highway - Route 65 to Route 60 / Business 60
- **Ohio Valley – Neville Island** (New Highway) Route 65 to I-79, with the Airport Area Chamber of Commerce's proposed connection to the Airport Area

Transit Corridor Alternatives (either BRT or LRT):

- **West Busway / Parkway Corridor to Parkway West** to Airport – Transit
- **Robinson** (Maglev A5 Alignment) Corridor Transit
- **Ohio Valley - Neville Island** Transit
- **Ohio Valley - South Corridor & Montour Run** Transit

The text in bold identifies the corridor name which was carried into the Short List evaluation. In addition to the above corridors, the TSM and No Build alternatives were both carried into the Short List portion of the Study and presented to the Public during the second round of Public Meetings.

4.4 Public Input ~ Round 2

During the second round of Public Meetings, the public provided input concerning the long list of alternatives. In addition, the proposed short list of alternatives was presented to the public for their input.

Transit remained a popular solution to traffic congestion in the Airport Corridor, providing access to communities. The alternatives that the public wanted most to be considered for implementation included: Robinson Corridor; West Busway Extension along the Parkway West; and the Ohio Valley - Neville Island Corridor. The Robinson Corridor was considered to be the most direct, with the quickest access between downtown Pittsburgh and the Airport. The West Busway Extension was suggested because of the success of the existing busway. The Ohio Valley options were identified for the access they would provide to different communities.

The Parkway West Widening was considered the most important for implementation among the highway alternatives. The public felt it was the easiest, most practical to complete, and provided benefits to the most people while minimizing impacts to residential neighborhoods. The Robinson Corridor was selected in second place because of the directness of the route.

Better bus service (with additional park and rides) was considered the most important improvement to existing transportation systems, followed by improved signage, and a single route designation (I-376) for the Parkway West. The result of this round of public input was the refinement of alternatives into a short list for further technical evaluation.

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Short List of Alternatives

Short List of Alternatives

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In order to further analyze the Short List of Alternatives, conceptual engineering was utilized to better define each of the selected alternatives. The alternatives were then analyzed with SPC's regional travel demand estimation models and reviewed for their ability to meet the project needs. Cost estimates were developed to define the alternatives in terms of investment required and the alternatives' ability to meet the project needs and goals relative to their cost. The following sub-sections will describe each alternative and present the conceptual engineering for corridor alignments that were conceptually engineered.

The transit corridor alternatives were carried into the Short List phase of the Study as either BRT or LRT. In order to provide corridor level comparison of travel demand characteristics (particularly boardings, mode share shift to transit and travel time), the model runs were performed on LRT service concepts only. It is likely that BRT service at the corridor level would produce travel demand results that would be similar to LRT. The results of the LRT modeling and analysis were applied to the BRT corridor alternatives. Later in this Section, there is discussion of the application of the two modes in the corridor. A more detailed evaluation of the two modes is possible in the next (DEIS) phase of the study.

5.1 Highway Corridor Alternatives

Corridor level mapping and typical sections were prepared for each of the short list highway alternatives described in the following paragraphs. The typical sections were utilized to develop cost estimates for each alternative and are presented for informational purposes. They are not intended to depict the detailed design of the highway alternative. Highway design and alignment will be fully developed and refined during the later phases of project development.

5.1.1 Parkway West Widening

General Roadway Concept:

This alternative would widen the existing Parkway West (I-279, SR 22 and 30, and SR 60) by one through traffic lane in each direction from SR 151 in Hopewell Township, Beaver County to the Fort Pitt Tunnel. The alternative considers the existing physical and community constraints surrounding the Parkway to be more critical than the latent traffic demand in the corridor and, as such, limits the

widening to six lanes (three in each direction). Figure 5-1 depicts the Parkway West Widening and Core Area Improvements Corridor. Figure 5-2 contains a typical section for this roadway.

The typical section for the Parkway West Widening was provided to depict the basis for cost estimates, not to present the design or alignment of the planned improvements, which will occur during the environmental clearance process. Due to the constraints associated with the Parkway Widening alternative, the typical section template shown in Figure 5-2 was utilized to maintain a feasible project cost and reduce the encroachment on residents and businesses on either side of the existing roadway.

Figure 5-1: Parkway West Widening and Core Area Improvements Corridor

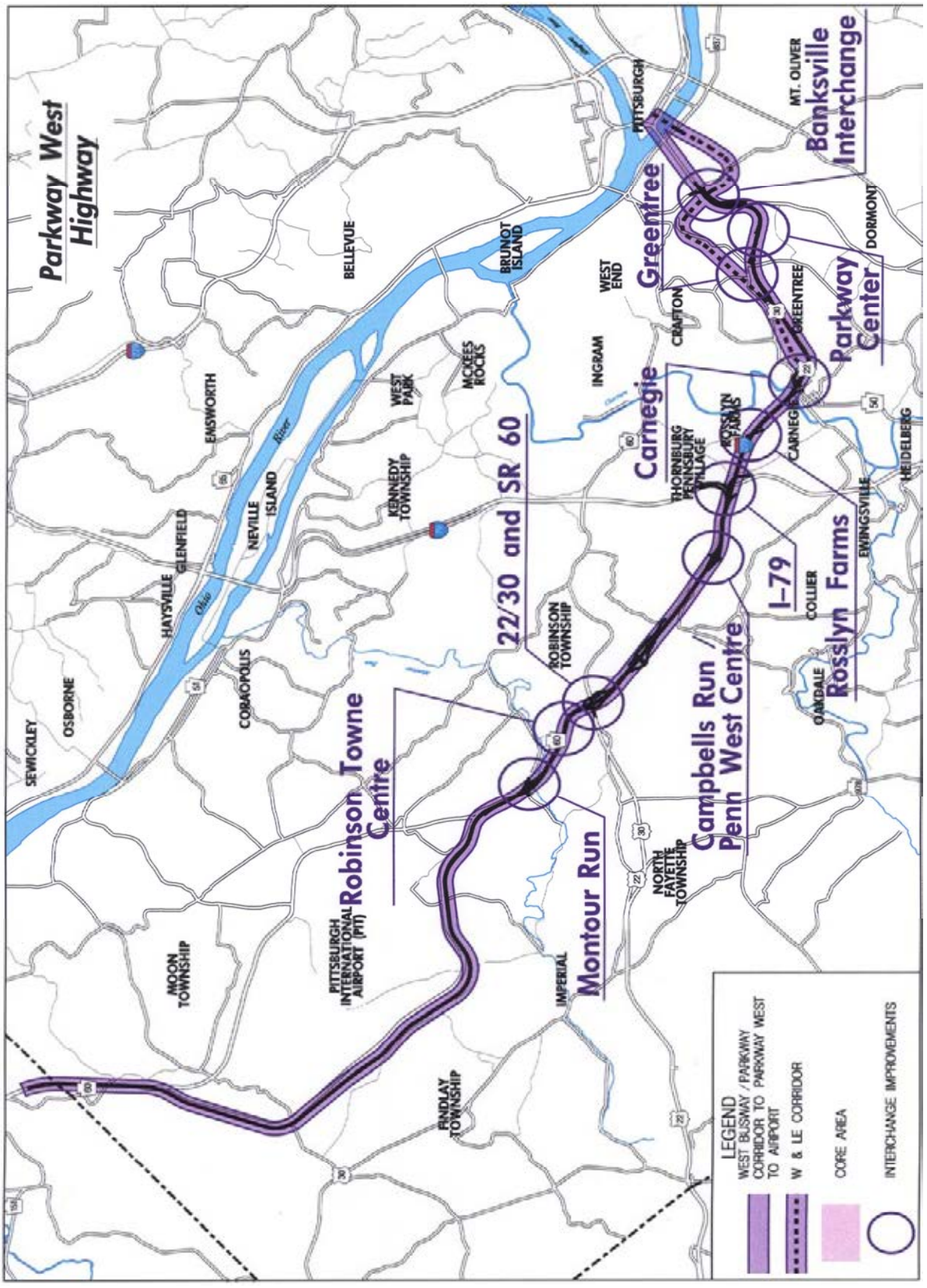
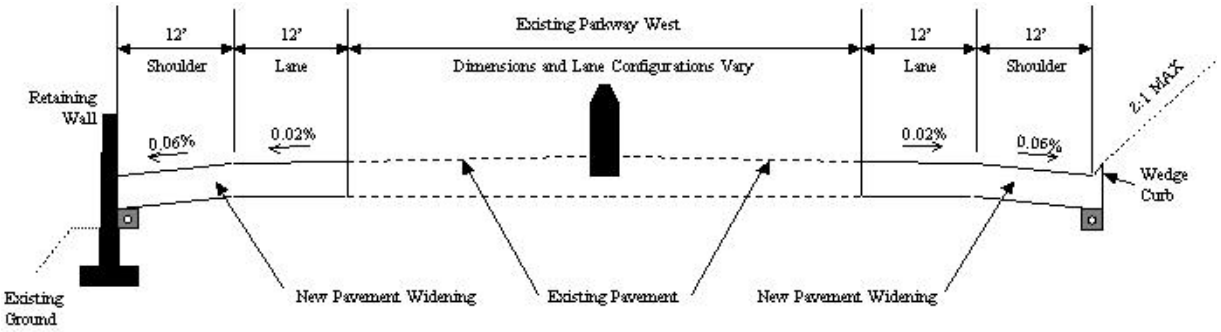


Figure 5-2: Parkway West Widening and Core Area Improvements Typical Section



Interchange Concept:

The alternative includes improved and upgraded existing interchanges, including improved ramp configurations and merge / weave patterns at the following locations:

- Banksville – including a "flyover" connection to SR 51 and the West End Bypass
- Parkway Center
- Greentree
- Carnegie
- Rosslyn Farms
- I-79 – Completing the interchange is considered a baseline improvement and is included in the "no build" scenario
- Penn Center West
- SR 22 and 30 / SR 60
- Robinson Towne Center
- Montour Run

In addition, the alternative includes the following improvements that are already under consideration by PENNDOT and Allegheny County:

- W&LE near Carnegie – for either trucks only, HOV's, or other service as determined by PENNDOT's feasibility study
- Potential interchanges and connections to enhance system linkages at two locations: Carnegie / Rosslyn Farms and Campbells Run near Penn Center West
- Clinton Road – "missing ramps"
- Settlers Cabin – currently planned for construction

Initial Core Area Improvement Alternatives – Carnegie to Pittsburgh:

At the initial Short List stage of the project, the Study identified a group of initial

"Core Area Improvements" intended to resolve the traffic queue problem between Carnegie and Downtown Pittsburgh. These improvements are presented in Figure 5-1 and described as follows:

- W&LE Corridor – a PENNDOT feasibility study (to be completed in 2003) considers the potential to use the W&LE rail corridor and Greentree tunnel to add capacity to the inner Parkway West corridor. The W&LE corridor's capacity was considered to be limited to a maximum of two lanes by the 4,715-foot long, 25'-6" wide Greentree tunnel. Potential connections may include Route 51, the West End bypass, and the Wabash Tunnel. (see Figure 5-3).
- Banksville Connector – improved interchange and ramp connections between the Parkway West and Banksville Road and Route 51, the West End bypass, and the Wabash Tunnel (see Figure 5-4).
- Citizen's Alternative – a member of the public, Mr. Chris Miller, provided his own detailed concept for connecting the Parkway West to the Parkway East (I-376). Mr. Miller's concept utilized the Wabash Tunnel (which would require widening), a new tunnel paralleling the Wabash and a new Mon River Bridge to connect the Parkway West to the Parkway East. Reconfigured interchange ramps would connect the Parkway West, Banksville Road, and Route 51 to the Fort Pitt Tunnels and Bridge. Mr. Miller's concept directs downtown and Fort Duquesne Bridge traffic through the existing Fort Pitt Bridge and tunnel and carries Parkway East traffic on the new bridge and tunnel and the Wabash Tunnel. Mr. Miller's concept is depicted in Figure 5-5.

Figure 5-3: Wheeling and Lake Erie Corridor

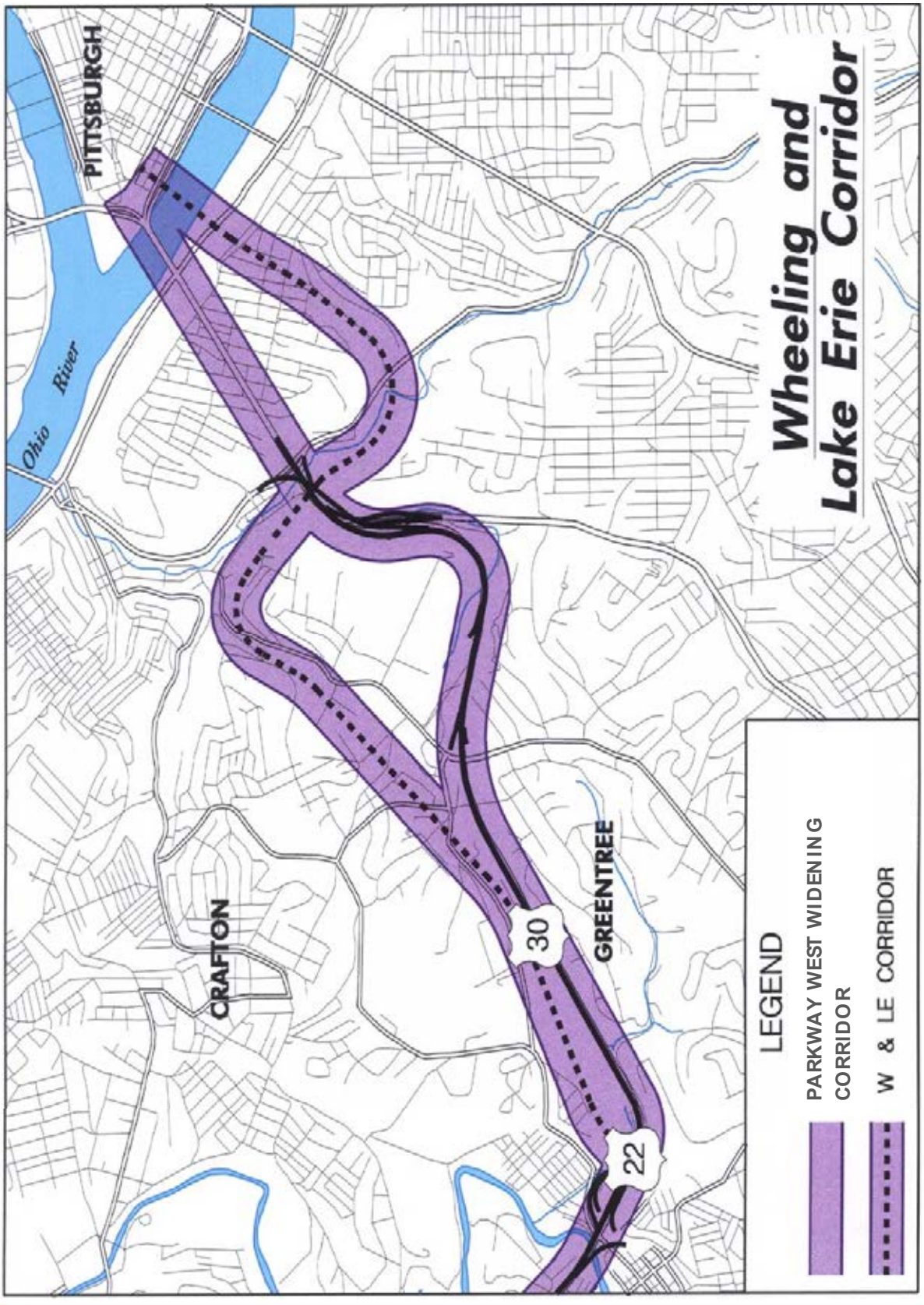


Figure 5-4: Banksville Connector

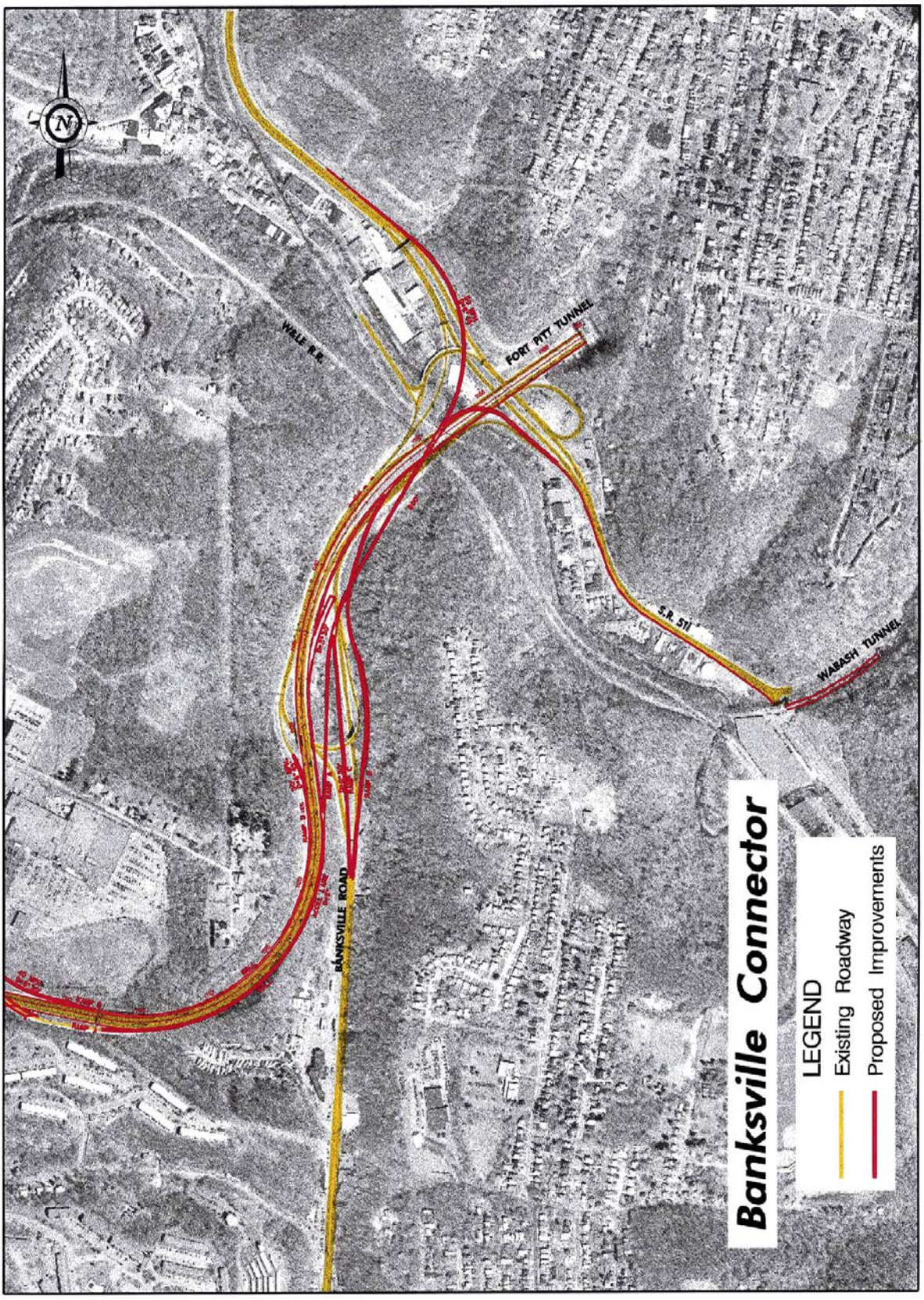
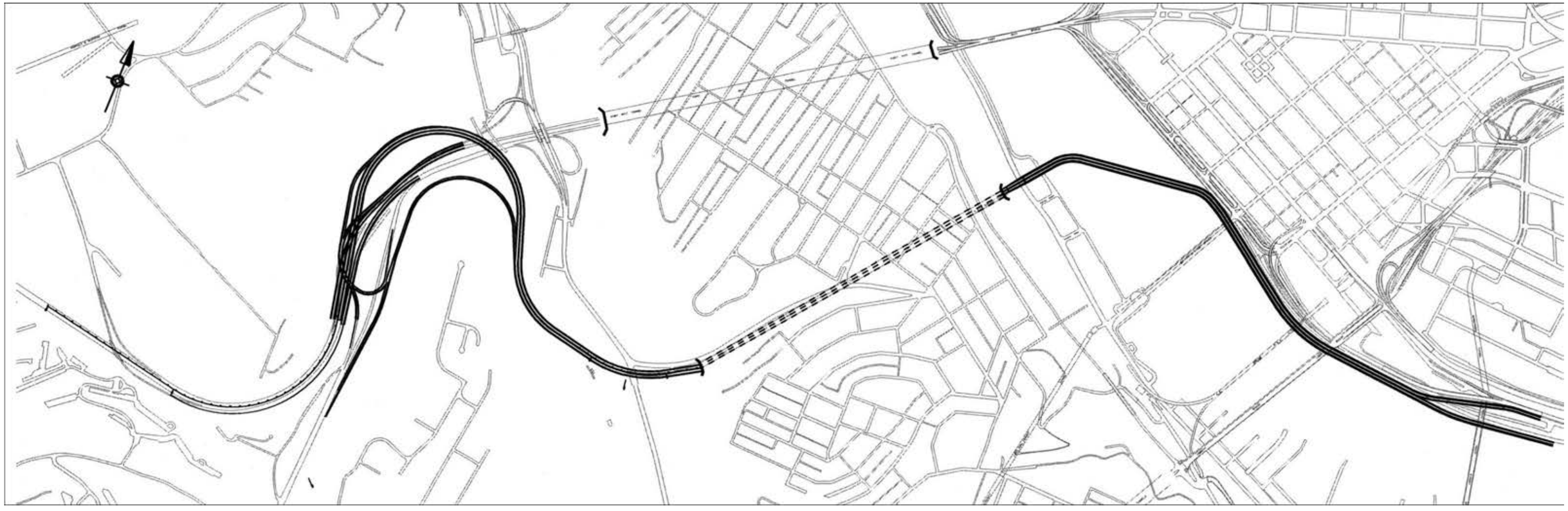


Figure 5-5: Citizen's Alternative - Inbound to Pittsburgh via the Parkway West and Expanded Wabash Tunnel to Parkway East Segment



5.1.2 Robinson Corridor (New Highway)

General Roadway Concept:

The Robinson Corridor new highway (4 lanes and compatible with BRT or LRT transit) will connect SR 65 in the Manchester section of the City of Pittsburgh to the airport via SR 60 in Findlay Township. The new highway, constructed on a new alignment passes through (see Figure 5-6):

- Woods Run section of the City of Pittsburgh near the State Correctional Facility
- Brunot Island and over the Ohio River (see Section 5.2.5)
- McKees Rocks and along Chartiers Creek
- Kennedy Township
- Robinson Township
- Moon Township

Figure 5-7 contains a typical section for this roadway. The typical section for the Robinson Corridor (New Highway) was provided to depict the basis for cost estimates, not to present the design or alignment of the planned improvements, which will occur during the environmental clearance process.

Figure 5-6: Robinson Corridor (New Highway)

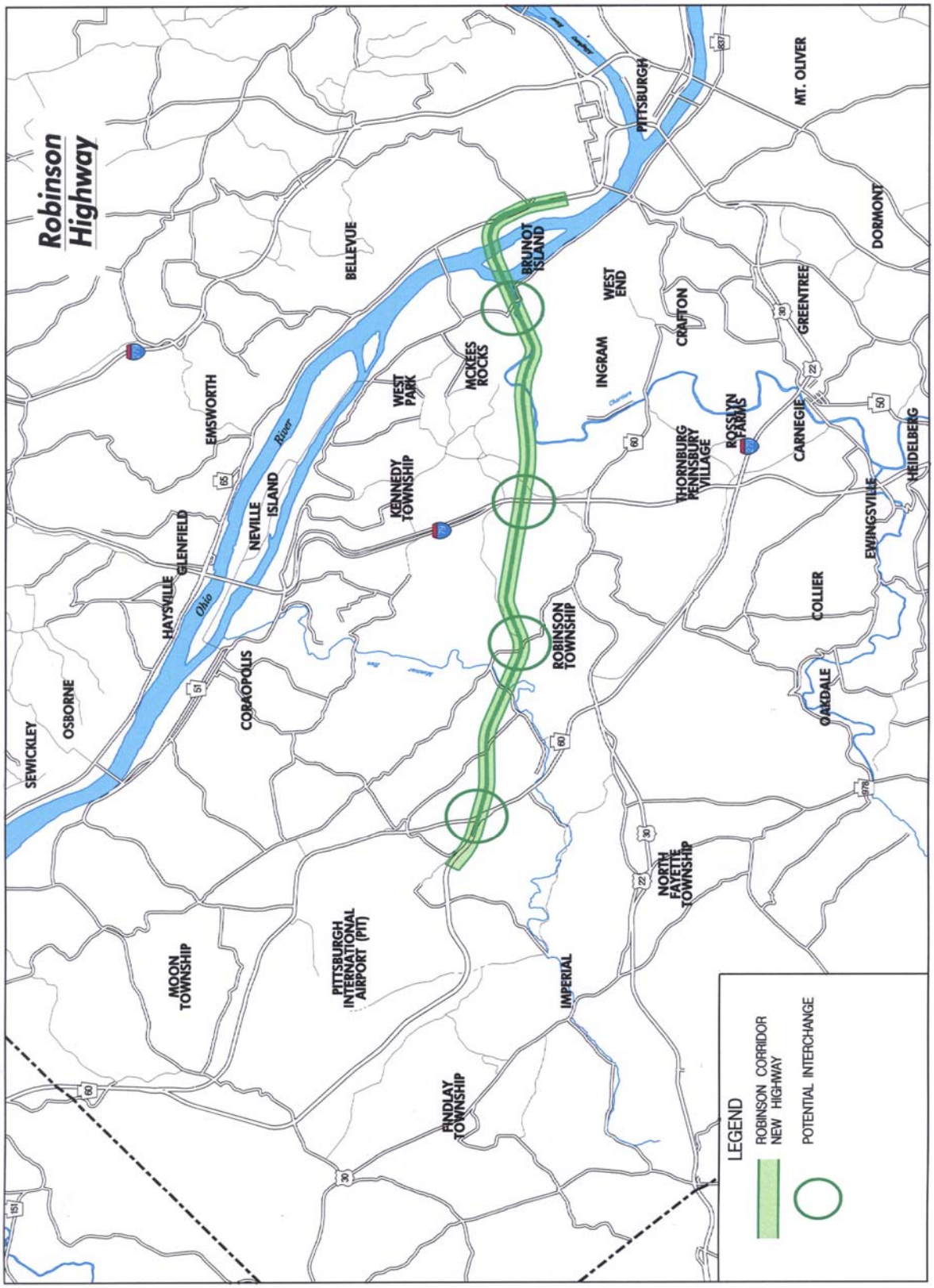
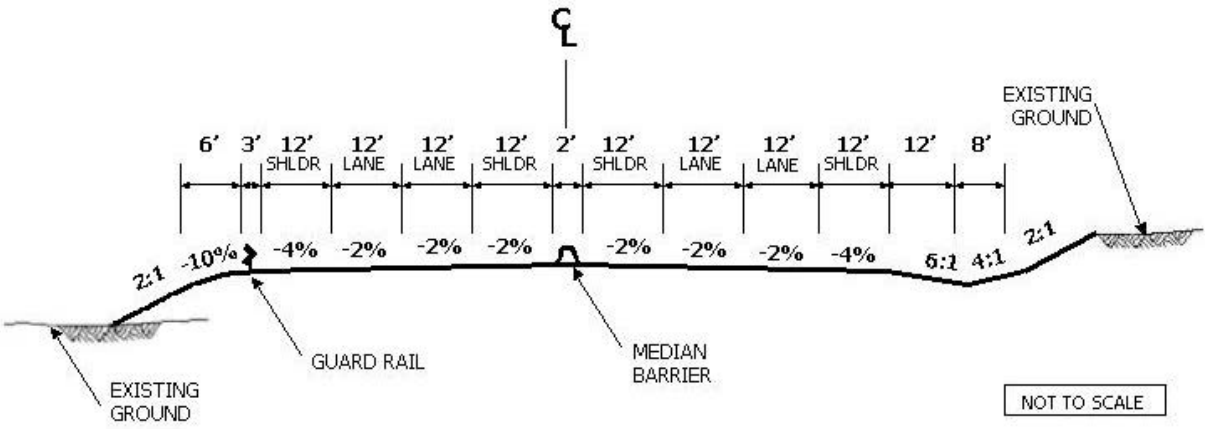


Figure 5-7: Robinson Corridor (New Highway) Typical Section



Interchange Concept:

The following are potential locations for new interchanges, providing connections to:

- Pittsburgh via SR 65 in Manchester using the Fort Duquesne Bridge to access Downtown, the Parkway East, and Oakland
- McKees Rocks at SR 51
- I-79
- Robinson Township
- Airport, Findlay, and Moon Township via SR 60 and Business 60

5.1.3 Ohio Valley ~ Neville Island (New Highway) Corridor

General Roadway Concept:

The Ohio Valley – Neville Island new highway (4 lanes, compatible with BRT or LRT transit) will connect SR 65 in the Manchester section of the City of Pittsburgh to the airport via SR 60 in Findlay Township. The new highway, constructed on a new alignment passes through (see Figure 5-8):

- City of Pittsburgh (Woods Run for Brunot Island crossing or along SR 65 to McKees Rocks Bridge)
- Ohio River crossing between Brunot Island and Bellevue / Stowe Township (see Section 5.2.5)
- McKees Rocks (Brunot Island Crossing only)
- Stowe Township
- Neville Island
- Robinson Township
- Moon Township

Figure 5-8: Ohio Valley – Neville Island (New Highway) Corridor

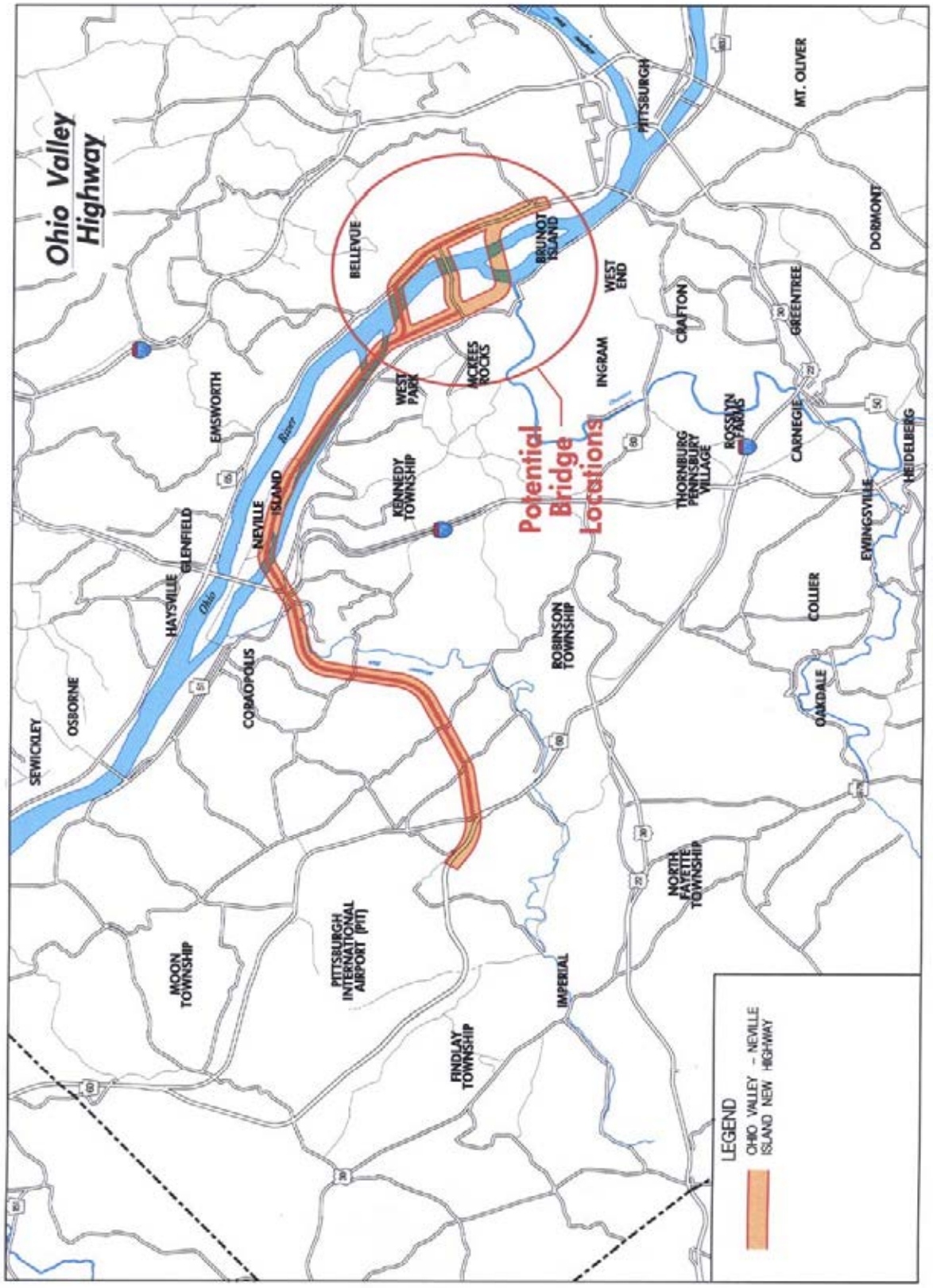
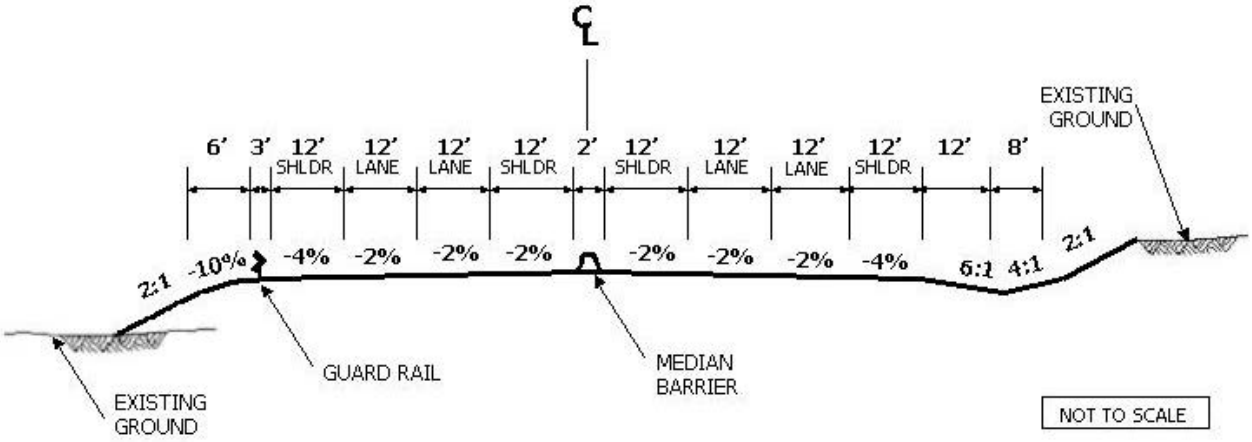


Figure 5-9 contains a typical section for this roadway. The typical section for the Ohio Valley – Neville Island (New Highway) was provided to depict the basis for cost estimates, not to present the design or alignment of the planned improvements, which will occur during the environmental clearance process.

Figure 5-9: Ohio Valley – Neville Island (New Highway) Typical Section



Interchange Concept:

The following are potential locations for new interchanges, providing connections to:

- Pittsburgh via SR 65 in Manchester using the Fort Duquesne Bridge to access Downtown, the Parkway East, and Oakland
- McKees Rocks at McKees Rocks Bridge (for Brunot Island crossing)
- SR 51 at Fleming Park (Stowe Township / Neville Island)
- I-79 connecting to SR 51 and Coraopolis
- Airport, Findlay, and Moon Township via SR 60 and Business 60

5.2 Transit Corridor Alternatives

The descriptions that follow summarize the alternatives evaluated as part of the Study. All transit corridors studied included consideration of both BRT and LRT options. Relative to the mode of transportation for all of the transit alternative corridors, there are different connection links for BRT and LRT alternatives to reach Downtown Pittsburgh.

As was indicated in Section 5.0, the transit alternatives were modeled and analyzed based on LRT for all of the transit corridors. Both modes of transportation were carried into the Short List of Alternatives for consideration.

5.2.1 West Busway / Parkway Corridor to Parkway West to Airport – Transit

General Transit Concept:

The West Busway / Parkway Corridor to Parkway West to Airport would be a new fixed guideway transit corridor (either BRT or LRT), approximately 19 miles in length, connecting Downtown Pittsburgh and Pittsburgh International Airport. The new fixed guideway, constructed in both existing and new corridors, traverses (see Figure 5-10):

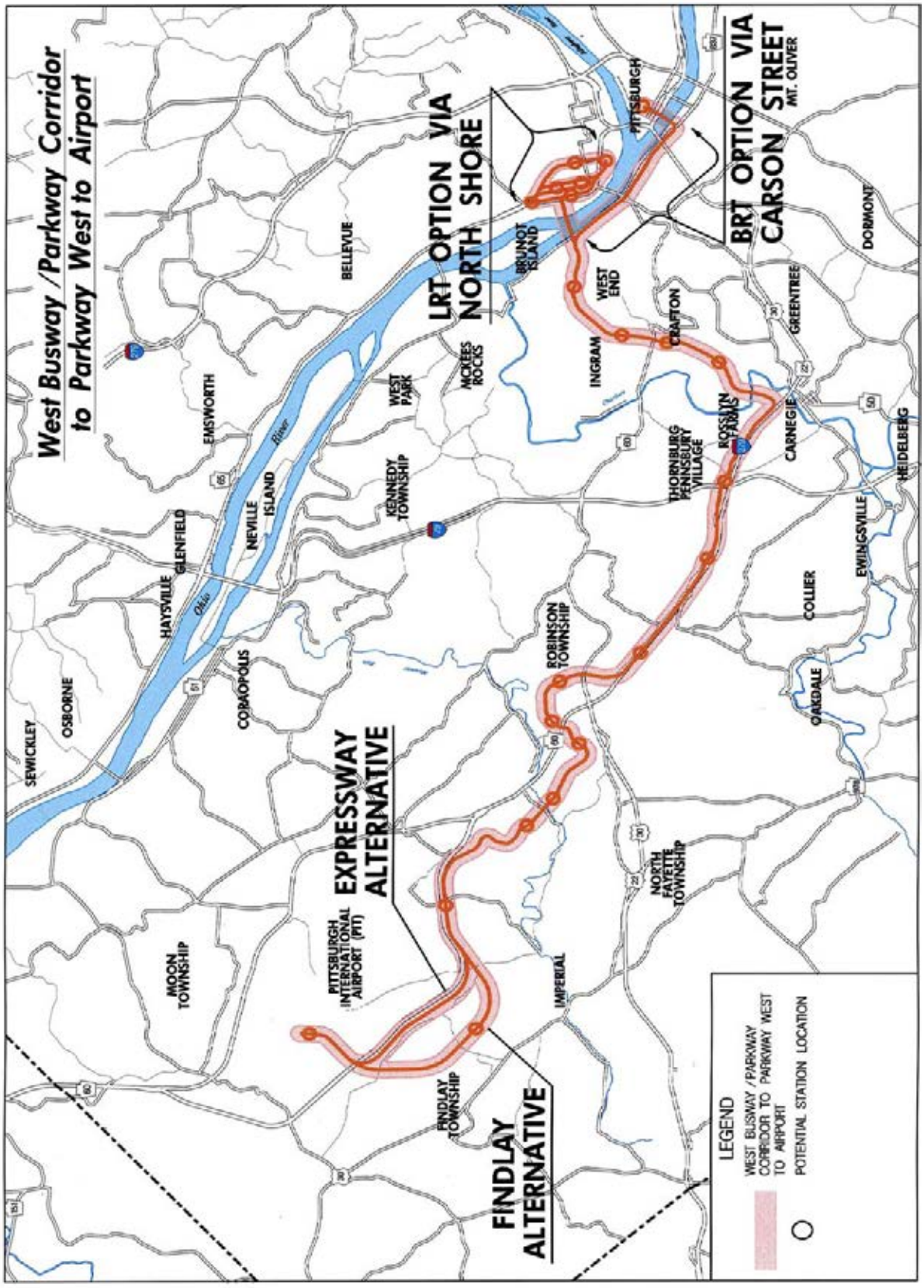
- City of Pittsburgh (North Shore Connector – Allegheny Station and Manchester for LRT) in new corridor
- Ohio River crossing between the West End Bridge and Brunot Island in new corridor (see Section 5.2.5)
- City of Pittsburgh (North Shore and Manchester, West End, Corliss, and Sheraden, following the existing West Busway corridor for BRT)
- Ingram, Crafton, and Carnegie (following the West Busway Corridor)
- Carnegie, Rosslyn Farms, and Robinson Township following a new fixed guideway in the Parkway West Corridor
- Robinson Township, North Fayette Township, and Findlay Township following a new fixed guideway corridor in the Robinson Towne Center, Pointe at North Fayette, RIDC, and Industry Drive areas
- Pittsburgh International Airport via the median of the Airport Expressway and Findlay Township potential development site

The West Busway/Parkway Corridor to Parkway West to Airport alternative includes optional sub-corridors. These options will be examined further during subsequent environmental and engineering studies to identify one preferred corridor from the North Shore to the Airport. The optional sub-corridors include:

- Manchester (City of Pittsburgh) – the study examined several connection and service alternatives between the Allegheny Station near Heinz Field and an Ohio River Bridge crossing. The sub-corridor options include Brighton Road, Chateau Street, and Beaver Avenue.
- Airport Area – connecting RIDC West and Industry Drive to the Airport via either the Expressway Alternative or the Findlay Alternative.

The North Shore Connector – Allegheny Station would link an LRT mode to Downtown Pittsburgh, while Carson Street would be utilized to connect a BRT alternative to the City.

Figure 5-10: West Busway/Parkway Corridor to Parkway West to Airport Corridor



Following are potential locations for stations/stops:

- Manchester
- Sheraden
- Ingram
- Crafton
- Idlewood
- Bell Avenue
- Carnegie
- I-79 Park and Ride
- Penn Center West
- Settlers Cabin
- Robinson Mall
- Robinson Towne Center
- The Pointe at North Fayette
- RIDC Park
- Industry Drive
- McClaren
- Findlay Township
- Pittsburgh International Airport
- Future Connection to Beaver County

Ridership – 5,500 boardings (Airport to Downtown) per average weekday, in addition to the anticipated 12,000 daily boardings along the existing section of the West Busway
Running Time – 30 minutes skip stop (express), 35 minutes for all stops (Pittsburgh to Airport).

5.2.2 Robinson Corridor Transit

General Transit Concept:

The Robinson new fixed guideway transit corridor (either LRT or BRT) is approximately 18 miles in length, and connects Downtown Pittsburgh and Pittsburgh International Airport. The new fixed guideway, constructed in a new corridor passes through (see Figure 5-11):

- City of Pittsburgh (North Shore Connector – Allegheny Station and Manchester for LRT) in new corridor
- City of Pittsburgh (North Shore and Manchester, West End, Corliss, and Sheraden, following the existing West Busway corridor for BRT)
- Ohio River crossing between the West End Bridge and Brunot Island in new corridor (see Section 5.2.5)
- McKees Rocks

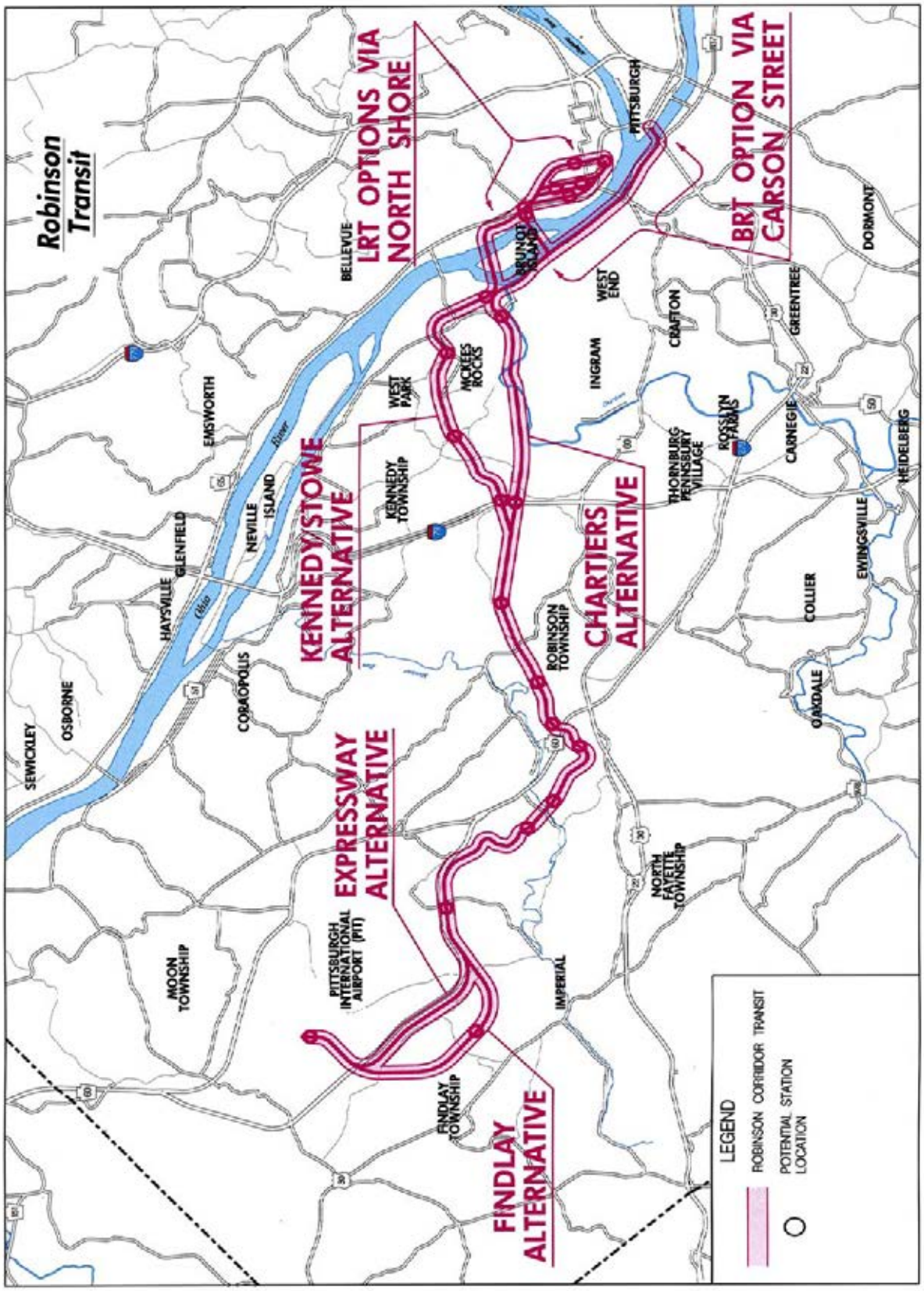
- Kennedy Township
- Robinson Township
- North Fayette Township
- Findlay Township
- Pittsburgh International Airport

The Robinson Corridor includes several optional sub-corridors. These sub-corridor options will be examined further during subsequent environmental and engineering studies to identify one preferred corridor from the North Shore to the Airport. The optional sub-corridors include:

- Manchester (City of Pittsburgh) – the study examined several connection and service alternatives between the Allegheny Station near Heinz Field and an Ohio River Bridge crossing. The sub-corridor options include Brighton Road, Chateau Street, and Beaver Avenue.
- Kennedy and Chartiers - connecting the Ohio River crossing and McKees Rocks to Robinson Township near I-79 via either the Kennedy/Stowe Alternative or the Chartiers Alternative.
- Airport Area – connecting RIDC West and Industry Drive to the Airport via either the Expressway Alternative or the Findlay Alternative.

The North Shore Connector – Allegheny Station would link a LRT mode to Downtown Pittsburgh, while Carson Street would be utilized to connect a BRT alternative to the City.

Figure 5-11: Robinson Corridor Transit



Following are potential locations for stations/stops:

- Manchester
- Woods Run
- McKees Rocks
- West Park
- Kennedy Township / Ohio Valley Hospital
- I-79 Park and Ride
- Robinson Township
- Robinson Mall
- Robinson Towne Center
- The Pointe at North Fayette
- RIDC Park
- Industry Drive
- McClaren
- Findlay Township
- Pittsburgh International Airport
- Future Connection to Beaver County

Ridership – 19,600 boardings (Airport to Downtown) that would be in addition to 12,000 daily riders on the West Busway
Running Time – 36 minutes skip stop (express), 43 minutes for all stops.

5.2.3 Ohio Valley ~ Neville Island Transit

General Transit Concept:

The Ohio Valley - Neville Island new fixed guideway transit corridor (either LRT or BRT) is approximately 20 miles in length, and connects Downtown Pittsburgh and the Pittsburgh International Airport. The new fixed guideway, constructed in a new corridor traverses (see Figure 5-12):

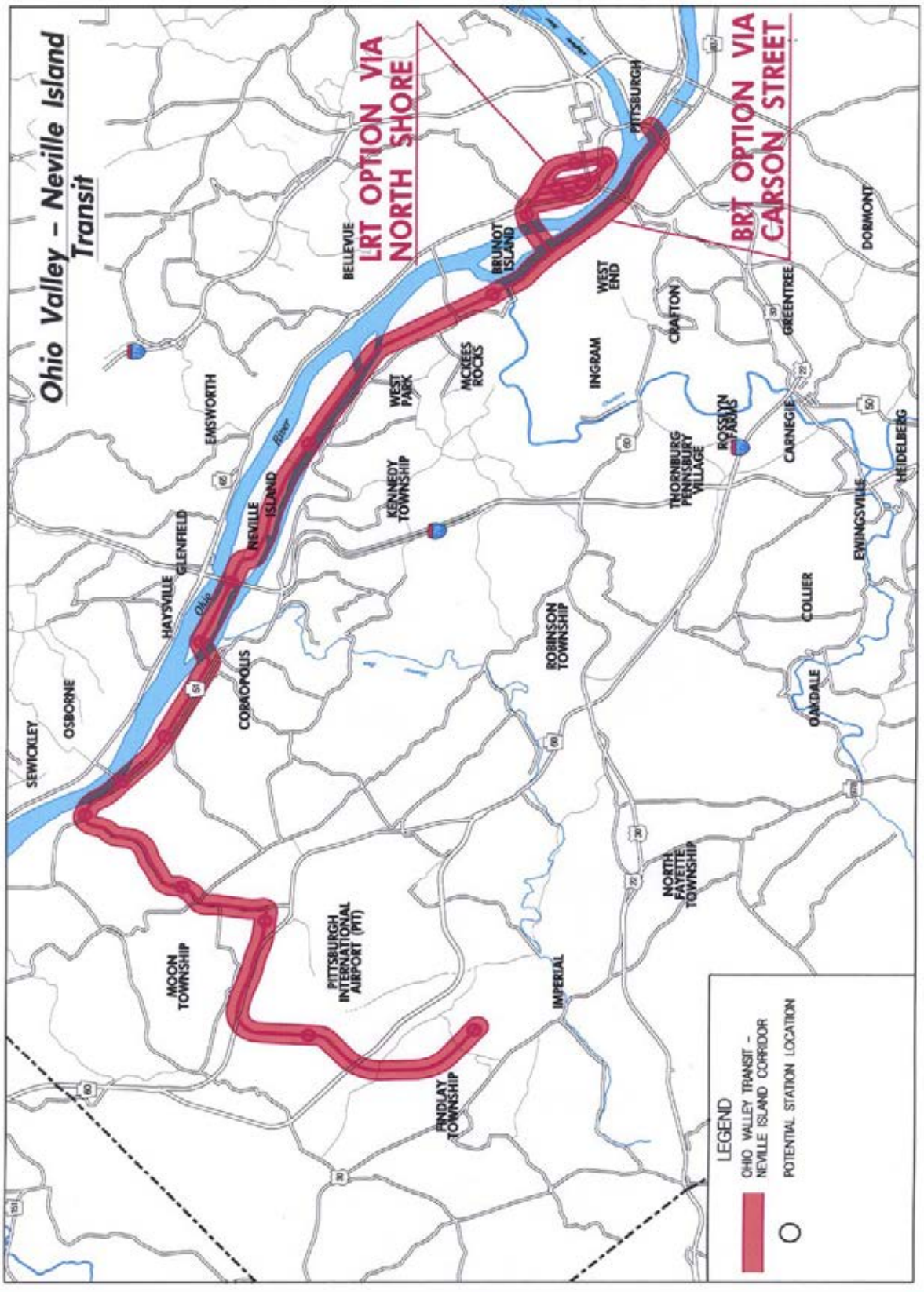
- City of Pittsburgh (North Shore Connector – Allegheny Station and Manchester for LRT) in new corridor
- Ohio River crossing between the West End Bridge and Brunot Island (see Section 5.2.5)
- City of Pittsburgh (North Shore and Manchester, West End, Corliss, and Sheraden, following the existing West Busway corridor for BRT)
- McKees Rocks
- Stowe Township
- Neville Island
- Coraopolis
- Moon Township
- Pittsburgh International Airport

The Ohio Valley – Neville Island Transit Corridor includes an optional sub-corridor. This sub-corridor option will be examined further during subsequent environmental and engineering studies to identify one preferred corridor from the North Shore to the Airport. The optional sub-corridor includes:

- Manchester (City of Pittsburgh) – the study examined several connection and service alternatives between the Allegheny Station near Heinz Field and an Ohio River Bridge crossing. The sub-corridor options include Brighton Road, Chateau Street, and Beaver Avenue.

The North Shore Connector – Allegheny Station would link a LRT mode to Downtown Pittsburgh, while Carson Street would be utilized to connect a BRT alternative to the City.

Figure 5-12: Ohio Valley – Neville Island Transit Corridor



Following are potential locations for stations/stops:

- Manchester
- Woods Run
- McKees Rocks
- Neville Island (2-3 stops)
- Coraopolis
- Coraopolis Park and Ride
- Narrows Run Park and Ride
- Robert Morris University
- Moon Township
- Pittsburgh International Airport
- Findlay Township
- Future Connection to Beaver County

Ridership – 18,300 boardings (Airport to Downtown) that would be in addition to 12,000 daily riders on the West Busway
Running Time – 39 minutes skip stop (express), 46 minutes for all stops.

5.2.4 Ohio Valley - South Transit

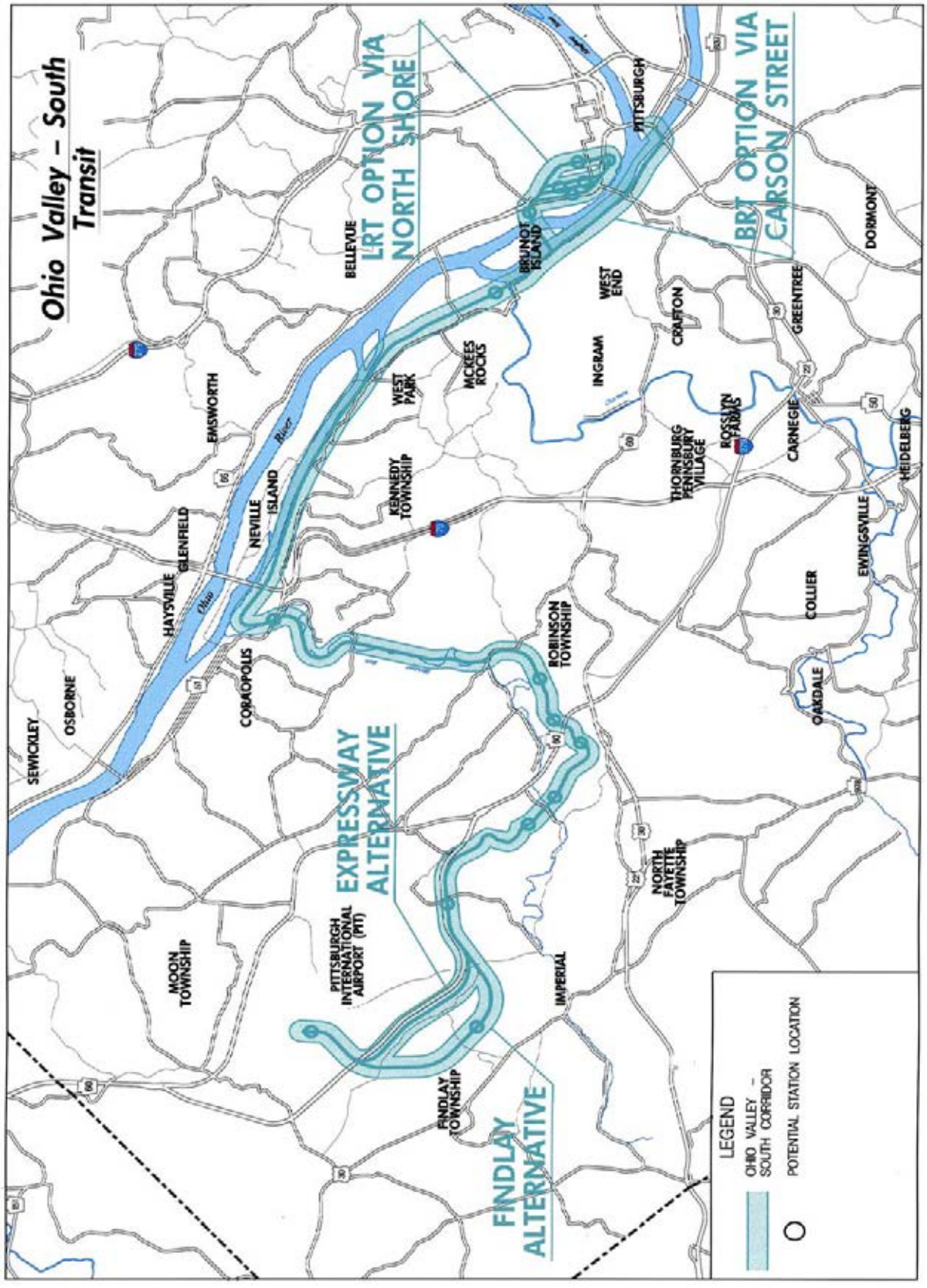
General Transit Concept:

This alternative is a new fixed guideway transit corridor, approximately 21 miles in length, connecting Downtown Pittsburgh and Pittsburgh International Airport. The new fixed guideway, constructed in a new corridor traverses (see Figure 5-13):

- City of Pittsburgh (North Shore Connector – Allegheny Station and Manchester for LRT) in new corridor
- Ohio River crossing between the West End Bridge and Brunot Island (see Section 5.2.5)
- City of Pittsburgh (North Shore and Manchester, West End, Corliss, and Sheraden, following the existing West Busway corridor for BRT)
- McKees Rocks
- Stowe Township
- Kennedy and Robinson Townships along the Ohio River
- Robinson Township along Montour Run
- Robinson Township
- North Fayette Township
- Findlay Township
- Pittsburgh International Airport

The Ohio Valley – South Transit Corridor includes optional sub-corridors. These sub-corridor options would be examined further during subsequent environmental

Figure 5-13: Ohio Valley – South Transit



and engineering studies to identify one preferred corridor from the North Shore to the Airport. The optional sub-corridors include:

- Manchester (City of Pittsburgh) – the study examined several connection and service alternatives between the Allegheny Station near Heinz Field and an Ohio River Bridge crossing. The sub-corridor options include Brighton Road, Chateau Street, and Beaver Avenue.
- Airport Area – connecting RIDC West and Industry Drive to the Airport via either the Expressway Alternative or the Findlay Alternative.

The North Shore Connector – Allegheny Station would link a LRT mode to Downtown Pittsburgh, while Carson Street would be utilized to connect a BRT alternative to the City.

Following are potential locations for stations/stops:

- Manchester
- Woods Run
- McKees Rocks
- Robinson Mall
- Robinson Towne Center
- The Pointe at North Fayette
- RIDC Park
- Industry Drive
- McClaren
- Findlay Township
- Pittsburgh International Airport
- Future Connection to Beaver County

Ridership – 12,000 boardings (Airport to Downtown) based on early Study model runs. Later, more refined travel demand data is available and presented for the other transit alternatives. However, the decision to discontinue work on Ohio Valley – South Corridor based on analysis and public input (as presented in Section 5.5. and 5.6, which follow) precluded the need for more refined travel demand analyses.
Running Time – 44 minutes for all stops.

The following table contains a summary of the transit corridor alternatives.

Table 5-1: Transit Corridor Alternatives Summary (LRT or BRT)

	Length	Number of Potential Stops	Additional Boardings	Travel Time (Airport to Downtown)	
				Skip Stop (Express)	All Stops
West Busway/ Parkway Corridor to Parkway West to Airport	19 miles	19	5,500 (plus 12,000 anticipated on the West Busway)	30	35
Robinson Corridor	18 miles	16	19,600	36	43
Ohio Valley – Neville Island Corridor	20 miles	14	18,300	39	46
Ohio Valley – South Corridor	21 miles	12	12,000	N/A	44

5.2.5 Major River Crossings

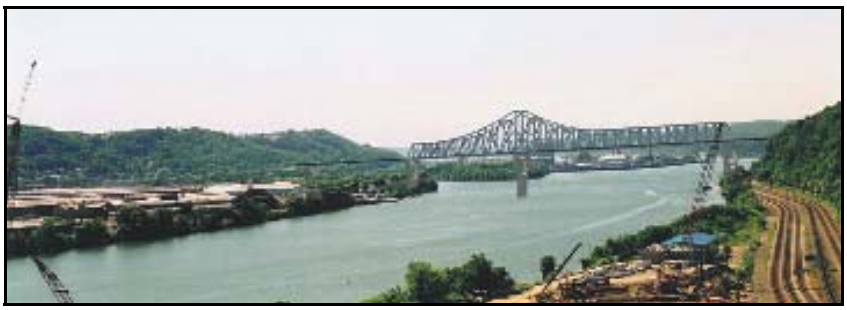
Each of the alternatives, except the TSM, BRT, and the Parkway West Widening, required a minimum of one major river crossing to connect the Airport with Downtown Pittsburgh. The river crossing location addressed in each of the Short Listed alternatives was over the Ohio River, between the West End Bridge and Neville Island. Potential crossing locations were examined for two reasons; 1) in order to estimate the project construction costs associated with each corridor, and 2) to allow the study participants to visualize several bridge design concepts.

In addition, three potential bridge types were presented at the Study's third round of public meetings for a sample Ohio River crossing location between the McKees Rocks Bridge and Neville Island. Figures 5-14, 5-15, and 5-16 illustrate the sample bridge crossings.

Figure 5-14: Arch Bridge

Figure 5-15: Cable Stayed Bridge

Figure 5-16: Truss Bridge



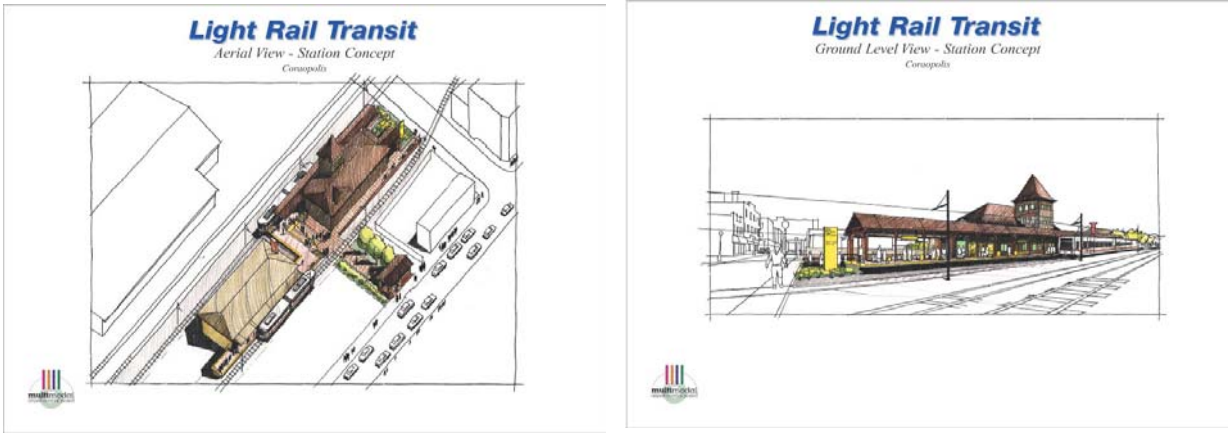
Detailed type, size, and location (TS&L) studies were not part of this Study. Preliminary and final TS&L studies will be part of the future environmental/ preliminary engineering phase of project development.

5.2.6 Transit Station Concepts

Transit station concepts were part of the Study, as well. In addition, the relationship between transit service to Airport Corridor communities and land use was addressed. As a result, Transit Oriented Development (TOD) concepts were explored for each of the three transit corridors. The public involvement and community outreach efforts identified several communities/locations that had a strong interest in correlating their land use plans with the transit corridors: McKees Rocks, Moon Township, Coraopolis, Neville Island, and the Pittsburgh International Airport. The most advanced planning TOD concept arising from the Study was prepared by Perkins Eastman, a consultant, working for McKees Rocks Borough. This concept was prepared via a cooperative effort involving the Study Team, the McKees Rocks planning committee, and Perkins Eastman. This concept incorporated the McKees Rocks committee's redevelopment plan for the community and an LRT station that would be part of either the Robinson or Ohio Valley corridors. The rendering in Figure 5-17 illustrates the station as part of a mixed use, commercial/office/residential, redevelopment of the McKees Rocks community. Another station and transit oriented development concept is highlighted in the following renderings in Figure 5-18. They illustrate the reuse of the historic Coraopolis rail station as a transit station.

Figure 5-17: TOD Concept for McKees Rocks

Figure 5-18: TOD Concepts for the Coraopolis Station



TOD and land use relationships underlie each of the transit alternatives developed during the Short List of Alternatives Study task. The TOD concepts will be further developed for the locally preferred corridor during the later phases of environmental studies and preliminary design.

5.3 Transportation System Management Alternative

Aside from the large-scale improvements analyzed in this MIS, some smaller scale and lower cost TSM improvement projects are recommended to improve system-wide efficiency. The following TSM improvements are included in the LPIS as proposals for consideration in future updates of SPC's Long Range Plan for the region:

Highway TSM Improvements:

1. Sewickley Bridge Improvements

   - Construct additional lane on eastbound approach to the intersection of the Sewickley Bridge and Ohio R. Blvd. in Sewickley to create separate left, through, and right lanes for additional queue storage.
   - For left turns from Ohio R. Blvd. to bridge, add peak hour changeable overhead control signals to create dual left turn lanes. Construct additional lane with merge/lane shift before bridge superstructure.
   - Construct additional lane on southbound approach to the intersection of Ohio R. Blvd. and the Sewickley Bridge to create separate dedicated right turn lane for bridge access.

2. Route 65 Improvements

   - Construct minor widening of the lanes from the Sewickley / Edgeworth border to Walnut Street to provide a 48-foot roadway.

- Construct similar minor widening through Sewickley, and from Camp Horne Road through Ben Avon and Avalon.
- Construct center turn lane and decrease the number of access points through Avalon business district.
- Reduce number of bus stops located within short distance of each other southbound on SR. 65 past Hazelwood St.

3. Completion of Interchange at Route 51 & I –79

   - A ramp connecting Interstate 79 and Route 51 will be constructed at the Groveton Interchange to allow access to SR 51 from Interstate 79 southbound and access to Interstate 79 northbound from SR 51.

4. Trail Extensions and Pedestrian Improvements

   - Provide connectivity and linkage for trails and key points in the area.
   - Construct a bicycle route from the Montour Run Trail in Coraopolis to downtown Pittsburgh via the Ohio Valley Fixed Guideway – Neville Island Corridor.
   - Improve intersection safety for bicycle and pedestrian traffic.

5. Route 51 Realignment in McKees Rocks

   - The current SR 51 alignment directs traffic through McKees Rocks. The alignment of SR 51 will be modified to provide a new route through the rail corridor in McKees Rocks, which will divert through traffic.

Transit TSM Improvements:

1. Improved Bus Service and West Busway Extension

   - Develop BRT service in the corridor by providing an integrated set of improvements that makes travel faster, easier to use, convenient, secure, and even – fun. Examples would include low-floor, "visually advanced" buses, off-board fare payment, real-time traveler information systems, convenient and well-sited parking availability, comfortable bus stations, signal priority or access lanes for buses, just to name a few.
   - Extend the West Busway from its current terminus in the Borough of Carnegie to a connection with Interstate 79 at the Carnegie exit, approximately 1.5 miles.

2. ITS Improvements

   - Provide real-time alerts of congestion delays ahead, park and ride space

availability, and transit service and price information to allow a traveler to get out of his or her car if the transit alternative saves time or money from downtown parking.
- Provide off-board fare collection at each BRT station.
- Connect transit system ITS improvements into the current utility of PENNDOT's Traffic Management Center to provide the benefit of providing added safety and security to the travel system.
- Advanced fare collection systems will require a modest retrofit of the current busway stations and may take the form of a simple "magstripe" card up to a full "Smartcard" system.

3. Park and Ride Facilities

- Locate 3-4 stations or park and ride locations approximately 5-7 miles apart at easy to use locations between Carnegie and the Airport.
- These stations will build upon the two large reservoirs of parking in Robinson and Moon Townships being developed by Port Authority. These sites are very well located and can accommodate 850 and 1400 spaces respectively for riders.
- Park and ride Facility at the I-79 Carnegie Exit with a Connection to the West Busway to provide a new higher capacity (200 – 500 space) park and ride facility at this location. This facility will add capacity (south and west), and alleviate the pressures now being experienced in Carnegie where parking is quite limited.

5.4 Development of Quantitative Measures of Effectiveness

In the development of project need and goal based *quantitative* MOE's, the qualitative MOE's described in Section 4.1 were refined and expanded for the purposes of analyzing and ranking the alternatives. The Study Team and the Alternatives Development Work Group collaborated to develop these MOE's. Also assisting in establishing these MOE's was the Travel Demand Work Group, which assessed the traffic and ridership MOE's, and the Land Use and Environmental Work Group, which considered MOE's covering the natural environment, social and economic factors, environmental justice, community development, regional planning, and land use issues. The project need and goal based MOE screening criteria included the following factors for each alternative:

- Does the alternative provide a new alternative to travel other than the Parkway West?
- Does the alternative provide an enhancement to travel on the Parkway West by:
  - Regional total mode share shift?
  - Reduction in V/C on the Parkway West 2025?

- Does the alternative have the potential to decrease travel time between key points in the region for:
  - In vehicle transit?
  - Highway travel?
- Does the alternative have the potential to increase transit trips in the corridor for the alternative?
- Does the alternative have the potential to relieve congestion throughout the corridor by reducing the V/C on:
  - Interstate 79?
  - Parkway West?
  - State Route 51?
  - State Route 65?
  - Narrows Run / Beers School?
  - Sewickley Bridge?
  - McKees Rocks Bridge?
- Does the alternative directly improve safety deficiencies in problem areas on the existing highway?
- Does the alternative substantially reduce the public's exposure to safety deficiencies?
- Does the alternative *physically* improve linkages between highways and other modes?
- Does the alternative *substantially* improve the linkages between highways and other modes?
- Is the alternative compatible with local land use plans and economic development initiatives?
- Does the alternative minimize major environmental impacts based on secondary source environmental data from SPC?
- Does the alternative provide a cost effective solution based on the estimated capital and operating costs?

In order to evaluate the short list of alternatives, quantitative measurements of the refined MOE's were established by means of modeling the conceptually engineered corridors and researching pertinent specific factors relative to each corridor.

5.4.1 Modeling and Data Analysis

For the purpose of this study, traffic and transportation simulation models were run by SPC. The data that was developed based on the MOE's was used to compare the alternatives.

5.5 Screening the Short List of Alternatives

Upon the completion of the quantitative modeling and data collection processes, the appropriate and corresponding MOE's were compared against each alternative and utilized to evaluate the effectiveness of each alternative. The following Table 5-2 represents the needs based MOE analysis for the highway and transit alternatives. In the table, MOE's are shown for six needs and two of the project goals. Travel demand model input, environmental criteria, and cost estimates provide the majority of the data in Table 5-2. The following provides background on these inputs.

Travel Demand

Travel demand data was derived from model runs performed by SPC. These model runs provided a means by which the relative differences between each alternative could be identified. The model run results were, in turn, used to screen the short list of alternatives. Thus, the model run results enabled the Study Team to evaluate the relative differences between each alternative and screen the short list of alternatives.

- The No Build scenario includes all of the projects incorporated into SPCs Long Range Plan for 2025, with the exception of SR 60 6-8 lanes from Parkway West to Flaugherty, Parkway West 6 lanes, Camp Horne Road (I-65 to I-279), and the W&LE Connection (Banksville to Wabash). The No Build also includes full build-out of Parkway West I-79 Missing Ramps.
- The highway alternatives were based on the descriptions provided in Section 5.1.
- Transit alternatives, as indicated previously, were modeled based on LRT service plans. This was done to provide uniformity in the modeling results, and because the results of LRT service plan model runs were generally applicable to the BRT service plans. Therefore, model run results for LRT service plans were utilized and applied to BRT service plans. The descriptions were provided in Section 5.2.

Environmental Criteria

One of the project goals incorporated into Table 5-2 is to minimize major environmental impacts. The items listed under this portion of the table reflect

various types of environmental features identified from secondary sources including data bases maintained by SPC and others. The environmental features were evaluated based on the features contained within the 1000' corridor for each specific corridor alternative. The items listed are not necessarily impacts associated with a highway or transit alignment, but are features associated with the 1000' wide corridor. Analysis of impacts (as well as avoidance and mitigation) associated with specific alternatives will be addressed in any future NEPA related work on the LPIS alternatives. For this MIS, features such as wetlands, floodplains, section 4(f) resources, and community resources and structures were tabulated for each corridor alternative, but many can be either avoided or mitigated.

During the MIS, the controlling feature for corridor evaluation was identified as SPC's "environmental bio-diversity area" resource layer that SPC defines as "Environmental Concerns." This expansive feature coincides, in the API, with major undeveloped watershed areas, including Montour Run and Chartiers Creek. Thus, corridors that cross or avoid these watersheds have lower potential effect on this feature than corridors that coincide or parallel these areas.

Cost Estimates

Cost estimates for each corridor alternative were developed based upon the conceptual designs discussed in this Section 5. The cost estimates were based on local and national data for both transit and highway projects. All costs were in current (i.e., 2002) dollars, with allowances made for "soft" costs such as engineering and inspection, as well as for contingencies. The costs expressed in Table 5-2 reflect the alternatives as described in Sections 5.1 and 5.2. Cost adjustments were made during the alternative refinement phase of the MIS described in Sections 5.8 and 5.6. These refined costs are used the summary sections of this MIS report.

Table 5–2: Short List of Alternatives – MOE Evaluation

				Highway – 2025								LRT or BRT Transit – 2025 (Analyzed based on LRT service)							
				Study No-Build		Parkway West Widening		Robinson		Ohio Valley – Neville Island		West Busway/Parkway Corridor to Parkway to Airport		Robinson		Ohio Valley - Neville Island		Ohio Valley South	
Need #1	Provides a new alternative to travel other than the Parkway West?			No		No		Yes		Yes		Yes		Yes		Yes		Yes	
	Provides an enhancement to travel on the Parkway West by:	Regional Total (Attractions and Productions) Mode Share Shift	Percentage of Total Trips Generated by Transit	3.22%		3.23%		3.22%		3.23%		3.27%		3.34%		3.37%		3.29%	
			New Transit Trips	N/A		543		116		135		4,560		10,100		11,965		5,756	
		*Reduction in V/C on the Pkwy West 2025 (Difference in Volume/Capacity value between No-Build and alternative)		Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:
				1.74	1.68	-0.24	-0.22	-0.28	-0.27	-0.36	-0.29	-0.03	0.01	-0.02	0.02	-0.02	0.02	-0.02	0.01
Need #2	Potential to decrease travel time between key points in the region for:	In vehicle transit (number of travel times that decreased compared to the total number of travel times examined)		N/A		N/A		N/A		N/A		120 of 154		109 of 154		115 of 154		124 of 154	
		Highway travel (number of travel times that decreased compared to the total number of travel times examined)		N/A		281 of 342		282 of 342		281 of 342		N/A		N/A		N/A		N/A	
	Potential to increase transit trips in the corridor for:	Alternative (number of boardings)		N/A		-462		-245		-99		5,590 (plus 12,000 anticipated on W. Busway)		19,606 (plus 12,000 anticipated on W. Busway)		18,368 (plus 12,000 anticipated on W. Busway)		12,231 (plus 12,000 anticipated on W. Busway)	
	Potential to relieve congestion throughout the corridor by reducing the V/C on: (Difference in Volume/ Capacity value between No-Build and alternative)	I-79 (Volume/Capacity)		Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:	Inbound:	Outbound:
				0.85	0.81	0.06	0.06	0.05	0.06	0.00	0.02	0.03	0.03	0.02	0.03	0.02	0.04	0.02	0.03
		Parkway West (Volume/Capacity)		1.74	1.68	-0.24	-0.22	-0.28	-0.27	-0.36	-0.29	-0.03	0.01	-0.02	0.02	-0.02	0.02	-0.02	0.01
		SR 51 (Volume/Capacity)		0.97	0.93	-0.04	0.01	0.00	0.02	-0.05	-0.02	-0.03	-0.01	0.00	-0.01	-0.01	0.01	0.00	-0.01
		SR 65 (Volume/Capacity)		1.07	1.12	-0.07	-0.06	0.00	-0.07	-0.15	-0.18	-0.01	0.00	-0.01	0.01	0.00	0.00	-0.02	0.02
		Narrows Run / Beers School (Volume/Capacity)		1.08	1.17	0.02	-0.11	0.07	-0.05	0.12	-0.07	0.18	-0.08	-0.04	-0.05	-0.05	-0.12	-0.03	-0.11
		Sewickley Bridge (Volume/Capacity)		2.18	2.07	-0.45	-0.47	-0.30	-0.27	-0.08	-0.08	-0.07	-0.02	-0.04	-0.02	-0.04	0.01	-0.04	-0.02
		McKees Rocks Bridge (Volume/Capacity)		1.21	1.22	-0.20	-0.15	-0.12	-0.30	-0.09	-0.13	-0.02	-0.01	-0.03	0.00	-0.02	-0.05	-0.03	-0.01

			Highway – 2025								LRT or BRT Transit – 2025 (Analyzed based on LRT service)			
			Study No-Build		Parkway West Widening		Robinson		Ohio Valley – Neville Island		West Busway/Parkway Corridor to Parkway to Airport	Robinson	Ohio Valley - Neville Island	Ohio Valley South
Need #3	Does the alternative:	Directly improve safety deficiencies in problem areas on existing highway?	0 lane miles		10.6 lane miles		0 lane miles		0 lane miles		0 lane miles	0 lane miles	0 lane miles	0 lane miles
		Substantially reduce the public's exposure to safety deficiencies?	Increase	Increase	Reduction	Reduction	Reduction	Reduction	Reduction	Reduction	N/A	N/A	N/A	N/A
Need #4	Does the alternative *physically* improve linkages between major highways, roads, and modes?		No		Yes		Yes		Yes		Yes	Yes	Yes	Yes
Need #5	Does the alternative *substantially* improve the linkages between highways and other modes?		Low		High		Medium		High		High	High	High	High
Need #6	Is the alternative compatible with local land use plans and economic development initiatives (per input from Municipal Meetings)		Medium		High		Medium		Low		High	Medium	High	Low
Goals	Minimize major environmental impacts?	Archaeological Sites	N/A		0 locations		2 locations		1 location		0 locations	1 location	3 locations	3 locations
		Cemeteries	N/A		5.1 acres		0.0 acres		0.0 acres		9.4 acres	0.0 acres	3.1 acres	0.4 acres
		Churches	N/A		0 locations		0 locations		0 locations		0 locations	0 locations	0 locations	0 locations
		Environmental Concerns (Environmental Bio-Diversity Area)	N/A		186.4 acres		183.1 acres		451.6 acres		95.3 acres	298.6 acres	115.5 acres	980.2 acres
		Flood Prone Area	N/A		82.1 acres		236.1 acres		668.9 acres		138.8 acres	305.1 acres	915.7 acres	681.8 acres
		Hazardous Waste Sites	N/A		1 location		1 location		6 locations		1 location	2 locations	5 locations	4 locations
		Historic Sites	N/A		2 locations		0 locations		0 locations		4 locations	2 locations	6 locations	3 locations
		Parks	N/A		41.1 acres		1.0 acres		0.0 acres		4.2 acres	1.9 acres	6.2 acres	3.0 acres
		Schools	N/A		1 location		1 location		0 locations		2 locations	1 location	3 locations	1 location
		SPC Wetlands	N/A		4.5 acres		20.0 acres		0.0 acres		5.6 acres	24.5 acres	0.0 acres	13.0 acres
	Initial Cost Estimates*:	Capital Cost	N/A		$400,450,000		$886,852,400		$687,578,000		$1,235,800,000	$1,238,100,000	$1,180,600,000	$1,236,200,000
		ROW Cost	N/A		$40,000,000		$115,373,000		$105,424,000		$50,000,000	$115,000,000	$94,000,000	$100,000,000
		Total Capital Costs	N/A		$440,450,000		$1,002,225,000		$793,022,000		$1,285,800,000	$1,353,100,000	$1,274,600,000	$1,336,200,000
		Operating Cost (developed 2002)	N/A		N/A		N/A		N/A		$22,100,000	$20,500,000	$22,200,000	$22,800,000

*Final Cost Estimates in Chapter 7

The detailed screening analysis was utilized to evaluate each alternative's overall ability to meet the study needs and goals. In order to simplify the detailed results seen in Table 5-3, the results of this analysis were summarized for the Public. The MOE's were presented in the following format based on their performance regarding the Key MOE's:

Table 5-3: Short List of Alternatives – Screening

Alternative	Mode	Key MOE Performance	
		Positive	Negative
Parkway West Widening	Highway	• Reduces congestion • Improves identified roadway deficiencies • Supports economic development and land use priorities • Improves linkages between modes • Positive public reaction	• Does not maximize transportation choice in the corridor unless coupled with a transit alternative
Robinson	Highway	• Provides a transportation choice in the corridor • Reduces congestion	• Low impact to identified roadway deficiencies • Does not improve modal linkages • Cost
Ohio Valley-Neville Island	Highway	• Provides a transportation choice in the corridor • Reduces congestion • Improves linkages between modes	• Significant environmental impact • Low impact to identified roadway deficiencies • Negative public reaction • Cost
West Busway/ Parkway Corridor to Parkway to Airport	LRT or BRT	• Supports economic development and land use priorities • Provides transportation choice in the corridor • Low cost for BRT • Reduces VMT	• New transit trips are lower than other corridors. However, total transit trips in the corridor include the 12,000 trips associated with existing Busway service • Higher cost for LRT
Robinson	LRT or BRT	• Provides a transportation choice in the corridor • Supports economic development and land use priorities • Reduces VMT	• Low impact to identified roadway deficiencies unless matched with Parkway West Widening
Ohio Valley-Neville Island	LRT or BRT	• Provides a transportation choice in the corridor • Supports economic development and land use priorities • Positive public reaction • Reduces VMT	• Low impact to identified roadway deficiencies unless matched with Parkway West Widening
Ohio Valley-South	LRT or BRT	• Provides a transportation choice in the corridor • Reduces VMT	• Significant environmental impact • Low impact to identified roadway deficiencies • Negative public reaction

5.6 Public Input - Round 3

Attendance at the third round of public meetings was twice that of the previous two rounds. This was due in part to the number of preliminary municipal meetings held, as well as interest from environmental groups in the Corridor. The communities of Moon Township, McKees Rocks and Manchester on the Northside were strongly represented. The Hollow Oak Land Trust and Montour Trail Council presented position papers on alternative corridors, raising concerns about the potential impacts to the Montour Trail and Montour Run watershed due to the Ohio Valley South transit alternative.

The two transit corridors that received the strongest support were the Ohio Valley – Neville Island Fixed Guideway and the West Busway Extension/Parkway West Corridor to Parkway to Airport. Public preference for these corridors was driven by their use of existing ROW, preservation of environmental assets, level of service, and access to communities.

Improvements to the Parkway West ranked significantly higher in the public's comments than the two new-build highway alternatives. Reasons for this included a clear preference for improvement to an existing highway, environmental considerations, directness of route, access to existing development, and apparent cost effectiveness.

Better bus service, including more park and rides, and improvements to S.R. 65 and the Sewickley Bridge received the strongest support among the TSM alternatives. The park and ride at I-79 exit at Carnegie was specifically mentioned. The public felt that better bus service with more park and rides provides a solution to traffic congestion; more parking increases transit use; and, better service means improved access. The public also felt that improvements to movements along S.R. 65 and the Sewickley Bridge would provide an effective alternative to the Parkway.

Several additional themes arose from public input at the public, community group, and municipal meetings:

- Save the Montour Trail
- Preliminary interest in a transit station in Manchester, perhaps along Chateau Street
- Consideration to add light rail among corridor transit choices.
- Favorable comment about bikeways and an emphasis on pedestrian accommodations
- Emphasis on "No new highways"
- Enhance the utility of the West Busway and other existing transit services
- The Airport Authority provided favorable comment towards LRT

Most importantly, the public provided several very specific and tangible elements of the Short List of Alternatives, as follows:

1. Dr. Neal A. Schorr attended the public meetings and provided very detailed drawings illustrating an alternate concept for the "core area" on the Parkway West. This concept is addressed in more detail in Section 5.8.
2. The Airport Connector light rail alternative includes close coordination with local communities regarding the relationship between transit and land use. In particular, the community of McKees Rocks helped the Study Partners and the Study Team focus the light rail alternatives on station area development and compatible land uses as part of a redevelopment plan for their community.
3. Manchester residents in the City of Pittsburgh emphasized access to jobs and also provided strong input on potential light rail line and station locations in and near their community.
4. Members of the Montour Trail Council and the Hollow Oak Land Trust helped focus attention on valuable environmental resources and recreational facilities in the western part of the corridor.

5.7 Short List Cost Estimate

Cost estimates were prepared as part of the conceptual engineering activities during the Short List evaluation. The quantities reflect conceptual alternatives developed to support the corridor evaluations for each of the highway, transit, and TSM alternatives. These cost estimates were established to allow comparison of the alternatives and to help the Study Partners select preferred corridors.

Highway costs were estimated based upon conceptual alternatives developed by the Study Team. Unit costs were based on recent PENNDOT and Pennsylvania Turnpike Commission projects in the Southwestern Pennsylvania region. Estimates were reviewed with PENNDOT.

Transit corridor comparative costs were based on the light rail mode for both capital and operating costs. Port Authority of Allegheny costs were used, where available, and were compared to New Starts rail projects in other cities, as well. Light rail was selected for estimating fixed guideway in order to provide a ceiling for estimates. It was noted that BRT costs would be expected to be less than light rail in each of the corridors. Estimates were reviewed by Port Authority.

Cost Estimate for the Parkway West Widening Highway:

The capital cost associated with the Parkway West Widening alternative, as described in Section 5.1, is approximately $400,450,000. The approximate ROW cost associated with the Parkway West Widening alternative is $40,000,000. The

total cost is therefore, $440,450,000.

Cost Estimate for Initial Core Area Improvements Highway:

- W&LE Corridor – PENNDOT will prepare a cost estimate for the W&LE as part of its on-going study. No estimate is available to support this MIS.
- Banksville Connector – the Connector concept is part of the Parkway West Widening
- Citizen's Alternative - $650 million, in addition to the preceding $400,450,000 cost for the Parkway West Widening.

Cost Estimate Robinson Highway:

The capital cost associated with the Robinson Corridor New Highway alternative is approximately $887,000,000, with anticipated ROW costs at approximately $115,000,000. Therefore, the total cost is approximately $1,002,000,000.

Cost Estimate Ohio Valley Neville Island Highway:

The capital cost associated with the Ohio Valley – Neville Island (New Highway) alternative is approximately $688,000,000, with anticipated ROW costs at approximately $106,000,000. Therefore, the total cost is approximately $794,000,000.

Cost Estimate West Busway / Parkway Corridor to Parkway West to Airport Transit:

The capital cost associated with the West Busway / Parkway Corridor to Parkway West to Airport Corridor LRT alternative is $1,235,800,000 with anticipated ROW costs of approximately $50,000,000. The total capital cost estimate is $1,285,800,000. The estimated operating cost is approximately $22,100,000 (current year dollars).

A BRT alternative (based on the Transit TSM described in Section 5.3) was developed and is discussed separately in Section 6.2.1.

Cost Estimate for Robinson Corridor Transit:

The capital cost associated with the Robinson Corridor Transit alternative is $1,238,100,000 with anticipated ROW costs of approximately $115,000,000. The total capital cost estimate is $1,353,100,000. The estimated operating cost is approximately $20,500,000 (current year dollars).

Cost Estimate Ohio Valley – Neville Island Transit:

The capital cost associated with the Ohio Valley – Neville Island Transit Corridor is $1,180,600,000 with anticipated ROW costs of approximately $94,000,000. The total capital cost estimate is $1,274,600,000. The estimated operating cost is approximately $22,200,000 (current year dollars).

Cost Estimate Ohio Valley - South Transit:

The capital cost associated with the Ohio Valley - South Transit alternative is $1,236,200,000 with anticipated ROW costs of approximately $100,000,000. The total capital cost estimate is $1,336,200,000. The estimated operating cost is approximately $22,800,000 (current year dollars).

TSM Cost Estimate:

A TSM cost estimate has been prepared. The estimated cost of Highway TSM improvements is $56,579,000 with an estimated ROW cost of approximately $5,000,000. The estimated cost of Transit TSM improvements is $84,140,000 with associated ROW costs of $5,300,000. The annual operating cost is $3,277,980. The total cost of the TSM alternative is $151,019,000.

Table 5-4 summarizes the Capital Cost estimates for the highway and transit alternatives. Table 5-5 summarizes the operating costs associated with the transit alternatives and the TSM alternative. The operating costs shown in Table 5-5 are annual costs based on current year (2002) estimates.

Table 5-4: Short List of Alternatives – Cost Estimates

Highway	Parkway West Widening HIghway	Robinson Highway	Ohio Valley-Neville Island Highway	TSM (Highway and Transit)
Capital Cost	$400,450,000	$866,852,000	$687,598,000	$140,719,000
ROW Cost	$40,000,000	$115,373,000	$105,424,000	$10,300,000
TOTAL	**$440,450,000**	**$1,002,225,000**	**$793,022,000**	**$151,019,000**
Transit	**West Busway/ Parkway Corridor to Parkway West**	**Robinson Transit**	**Ohio Valley-Neville Island Transit**	**Ohio Valley-South Transit**
Capital Cost	$1,235,800,000	$1,238,100,000	$1,180,600,000	$1,236,200,000
ROW Cost	$50,000,000	$115,000,000	$94,000,000	$100,000,000
TOTAL	**$1,285,800,000**	**$1,353,100,000**	**$1,274,600,000**	**$1,336,200,000**

Notes:

- Note 1 – the Parkway West Widening Cost was modified after the Short List evaluation, as described in Sections 5.8.1 and 6.0.
- Note 2 – W&LE Corridor was not included. Cost estimates will not be available until a later phase of PENNDOT's on-going feasibility study.
- Note 3 – the cost for Citizen's Alternative was not included in the Parkway West Widening. This is addressed further in Section 5.8.1.

Table 5-5: Short List of Alternatives – Annual Operating Cost Estimates

Transit	West Busway/ Parkway Corridor to Parkway West Transit	Robinson Transit	Ohio Valley-Neville Island Transit	Ohio Valley-South Transit	TSM (Transit)
Annualized Operating Cost (2002 current year)	$22,100,000	$20,500,000	$22,200,000	$22,800,000	$3,278,000

5.8 Preliminary Locally Preferred Investment Strategies

At the July 2002 Study Steering Committee meeting, it was concluded that the Short List of Alternatives could be reduced based on both the quantitative screening presented in Section 5.5, the public input presented in Section 5.6, and the cost estimate data presented in Section 5.7. The following two sections, 5.8.1 and 5.8.2 present these determinations for both highway and transit. In addition, these two sections present the results of the additional studies and conceptual engineering that were performed in order to complete the evaluation of the corridor and modal alternatives.

5.8.1 Highway and TSM

The Parkway West Widening alternative was the clear public preference among the three highway alternatives, based on the input received at the Round 3 Public Meetings and via the public outreach meetings. The Parkway fared better in regard to many of the MOE's and performed better with two other cost considerations factored into the evaluation as described in the following paragraphs.

The cost estimates for the new highway corridor alternatives (Robinson and Ohio Valley – Neville Island) had to be adjusted in order to implement the modifications listed below for the corridor alternatives. These adjustments were warranted to determine the cost required for each of the three build alternatives to meet the needs equally. The following adjustments were applied and are reflected in Table 5-6:

1. Both the Robinson and Ohio Valley – Neville Island new highway alternatives performed well in regard to travel time improvements and access to the Airport, Downtown, and Oakland. Additionally, from I-79 to the Airport, the Ohio Valley corridor performed well as a connection between the North Hills and Butler County and the Airport. However:

   - Neither of the new highway corridors aided the majority of Parkway West travelers, either by serving actual origins and destinations (as indicated in Section 3.1.1, most Parkway trips are local, less than 3 exits) or by substantially reducing the queue at the Fort Pitt Tunnels and Bridge.
   - Neither corridor directly addressed the outdated features of the existing Parkway.
   - The connection between the North Hills and Airport would be provided with a widened Parkway along with the missing ramps at I-79 that are part of the No-build.

   Thus, even if the new highway corridors were constructed, the Parkway

West would require widening and improvement. As such, the cost for the Parkway West Widening represents a "baseline" $400,450,000 without Core Area Improvements and $40,000,000 in ROW costs that will be required either with or without the new highway corridors. For the final evaluation, $440,450,000 was added to the cost for both the Ohio Valley – Neville Island and Robinson new highways.

2. An additional component of the Study involved assessing the potential benefit that tolling could provide toward financing the new highway alternatives. The toll revenue anticipated from the new highways was $36 million annually (in 2002 dollars). After adjusting this revenue amount for operating costs, $26 million was available to fund capital costs. Bonding this revenue would cover approximately $300 million of the capital cost of the new highway project. This $300 million was subtracted from the cost for the Ohio Valley and Robinson new highways.

3. The TSM Alternative scored well on the MOE's, in regard to capital cost and boardings (see Section 6.2.1). It was concluded, based on this analysis, that the Transit TSM should be implemented with the Parkway West Widening highway alternative. Furthermore, the TSM alternatives should be considered, on a project-by-project basis, when SPC develops future long range plan updates.

Table 5-6: Modified Highway Corridor Alternative – Preliminary Cost Evaluation

Highway	Parkway Widening	Robinson + Parkway Widening	Ohio Valley + Parkway Widening	Transit TSM
Capital Cost	$400,450,000	$886.852.000	$687,598,000	$84,140,000
ROW Cost	$40,000,000	$115,373,000	$105,424,000	$5,300,000
Operating Cost	N/A	N/A	N/A	$3,278,000
Added Cost for Parkway	$0	$440,450,000	$440,450,000	$0
Benefit (Reduction) for Capitalized Toll	$0	-$300,000,000	-$300,000,000	$0
TOTAL	**$440,450,000**	**$1,142,675,000**	**$933,472,000**	**$92,718,000**

The Parkway Widening directly addresses the Study goal to provide cost effective improvements and enhancements. However, the Parkway West Widening, as of the July 2002 Study Steering Committee meeting, still did not provide the best

Volume / Capacity performance at the Fort Pitt Tunnel because the Widening did not include a fully effective "core area" improvement. Several factors still needed to be addressed:

- The widening from the Fort Pitt Tunnels westward added approximately 40% to the traffic volume at the Fort Pitt Tunnels and Bridge. The bridge, with four lanes in both directions, had sufficient capacity to handle this added volume. The tunnels, with two lanes per direction, did not. Thus, without added capacity at the tunnels, the widening would add to the traffic queue, rather than providing a reduction.
- The transit corridor alternatives, working in tandem with the Parkway West Widening, provided an alternative that would help reduce the queue.
- The W&LE Corridor, if PENNDOT were to find a feasible alternative could provide another partial alternative solution. However, because of the limited width available in the W&LE corridor, this alternative would be feasible in only one direction (i.e., the peak direction). Another alternative would be required to provide added capacity in the opposite direction.
- The Greentree Hill queue and congestion is not just an a.m. consideration – evening congestion involved both an inbound (to Pittsburgh) queue and an outbound (to Airport) queue. Due to simultaneous peaks, an alternative that improved traffic in both directions is needed.

In order to address each of these factors, a full engineering concept, estimate, and SPC traffic analysis were developed to test the concept that Dr. Neal Schorr presented in the drawings he provided at the Public Meetings. If feasible, Dr. Schorr's concept would provide two new tunnels and avoid the need for a new bridge (as required by Citizen's Alternative) by maximizing the use of the existing traffic lanes on the Fort Pitt Bridge. This refinement is presented in Section 6.0.

5.8.2 Transit

As a result of screening the Short List of Transit Alternatives:

1. The Ohio Valley South transit alternative was dropped from further consideration due to higher environmental encroachment acreage, low community compatibility, lower boardings, and unfavorable public comment.

2. BRT was selected as the preferred mode of transportation for the Parkway West Transit corridor. The LRT fixed guideway option was dropped from further consideration due to two factors:

   a) Lower boardings relative to cost. Based on the preliminary ridership numbers for LRT, the Parkway West Transit corridor did not result in a

high number of new riders due to the redundancy of the existing busway. In effect the alternative extends the Busway rather than providing an additional transit option, thus limiting the number of new riders that would be served.

b) BRT can be effectively implemented in conjunction with the Parkway West Widening, producing a joint transit/highway project.

3. The third conclusion was that LRT was the preferred mode of transportation for fixed guideway transit in the Robinson and Ohio Valley-Neville Island Corridors. LRT would maximize the region's opportunity to create a direct west to east rail connection from the Airport to Downtown (and in the future to Oakland). This would also build on the North Shore Connector, which is being designed to allow for future extension west to the Airport. The inclusion of a fixed guideway corridor with LRT service enhances the user's choice and flexibility when matched with the application of BRT. The availability of both BRT and LRT would match the choices available in other corridors (for example the south, with the existing LRT and South Busway). These modes build upon the existing transportation network by expanding opportunities to connect with other LRT and BRT fixed guideways. Compatible and enhanced fixed guideway corridor opportunities include:

   a) The North Shore, which was designed anticipating a connection to the airport;
   b) The downtown subway's ability to distribute passengers;
   c) Compatibility with South Hills LRT service; and
   d) Potential connection to fixed guideway expansions to the north and east which are under consideration in the on-going Visioning and Eastern Corridor Transit Studies

   The Airport Authority also endorses LRT service. According the Airport Authority, LRT to the Airport offers the Airport and the region a competitive advantage and is important as an alternative to the Pennsylvania High-speed Maglev project. The Airport Authority also endorsed LRT in a "with Maglev scenario," expecting that LRT would provide good feeder service to Maglev as the system expands to the west, beyond the initial Pittsburgh project.

Both the Robinson and Ohio Valley - Neville Island Transit Corridors will be developed further and refined, prior to selection of a preferred corridor during a DEIS.

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Final Alternative Refinement

Final Alternative Refinement

6.0

Refinements made to the preferred highway and transit alternatives are described herein.

- Section 6.1 – Highway – Refined Parkway West Widening Core Area Improvements
- Section 6.2 – Transit – including (a) refinements of the Robinson and Ohio Valley – Neville Island light rail corridors, (b) BRT implemented as part of the Transit TSM and Parkway Widening alternatives, and (c) Airport to Downtown and Oakland transit connection strategies, which are being coordinated with the Strategic Regional Transit Visioning Study and Eastern Corridor Transit Study.

Finally, the outcome from the final round of public input (obtained from community and group meetings during August and September 2002 and from the September 19 public officials and public meetings) is presented.

6.1 Refined Highway Short List of Alternatives

After the third round of public meetings and the July 25, 2002 Steering Committee Meeting, the Study's final phase of highway alternative development focused on mitigating the higher traffic volumes associated with the Parkway West Widening. As the conceptual engineering proceeded, several design provisions were addressed:

- Added capacity in both directions (to Pittsburgh as well as to the airport) throughout the day
- Direct high capacity connection into the Parkway East, the Fort Duquesne Bridge, and Downtown
- Minimizing impacts on neighborhoods and businesses
- Maintaining Carson Street traffic movements to Downtown Pittsburgh and the Parkway East
- Maintaining existing highway traffic connections west of the tunnels
- No significant design exceptions required to implement the concept

These provisions were examined for each of the Core Area Improvements cited previously in Section 5.1.1 (W&LE Corridor, Banksville Connector, and Citizen's Alternative), as well as for the Two Additional Tunnels and Ramp Realignment at Fort Pitt described in the following paragraphs.

6.1.1 Two Additional Tunnels and Ramp Realignment at Fort Pitt

The Study Team evaluated Dr. Neal Schorr's proposed Fort Pitt Tunnel, Bridge, and ramp configuration during the final alternative refinement. The Study Team conducted a conceptual engineering evaluation of the concept, determined that the concept appeared feasible, and developed a conceptual cost estimate. Thus, the following Fort Pitt Tunnel and Ramp Realignment elements were added to the evaluation of Core Area Improvements:

- Two new tunnels, one inbound toward Pittsburgh located to the east of the existing tunnels, and one outbound, away from Pittsburgh located to the west of the existing tunnels;
- Reconfiguration of the connecting ramps between the Fort Pitt Bridge and Tunnel to align with the new tunnels (i.e., 4 tunnel lanes aligned with the 4 bridge lanes);
- Channelization of bridge and tunnel traffic as follows:
  - I-279 Northbound, Route 28, Downtown traffic to Fort Duquesne Blvd. and Liberty Avenue, and North Shore traffic would use the existing (western) inbound tunnel and the left two lanes of the Fort Pitt Bridge;
  - I-376 Eastbound and Downtown traffic to Grant Street and the Blvd. of the Allies would use the new (eastern) inbound tunnel and the right two lanes of the Fort Pitt Bridge;
  - I-279 Southbound, Route 28, Downtown traffic from Fort Duquesne Blvd. and Liberty Avenue, and North Shore traffic would use the right two lanes of the Fort Pitt Bridge and the new (western) outbound tunnel;
  - I-376 Westbound and Downtown traffic from Grant Street, Stanwix Street, and the Blvd. of the Allies would use the left two lanes of the Fort Pitt Bridge and existing (eastern) outbound tunnel;
  - Providing barrier between the two eastern and western lanes on both the upper and lower decks of the Fort Pitt Bridge, thus eliminating the four lane weave across the highway;
  - Establishing the I-279 / I-376 split inbound at the top of Greentree Hill;

- Reconstructing the Carson Street Ramps to and from the Fort Pitt Bridge;
- Providing an alternative for the general traffic that uses the Carson Street ramps via the West End Bridge, the Fort Duquesne Bridge, and the new direct I-376 access along Fort Pitt Blvd;
- Reconstructing the Banksville Road interchange:
  - to allow channelization of Banksville traffic to and from the tunnels in a manner consistent with the I-279 / I-376 split described above; and
  - to provide "flyover" direct connection to SR 51 north and south from Banksville Road.

- Capital Cost Estimate - $370,150,000 with $10,000,000 in ROW costs (when added to the Parkway West Widening, as described in Section 5.1.1, the Capital Cost associated with the Widening becomes $770,600,000).

A schematic of the proposed bridge and tunnel movements is provided in Figure 6-1. Figure 6-2, Figure 6-3, and Figure 6-4 are plans that illustrate these concepts. Figure 6-5 is a rendering of the north end of the Fort Pitt Tunnels with two additional tubes.

Figure 6-1: Schematic of Traffic Movements through the Fort Pitt Tunnels

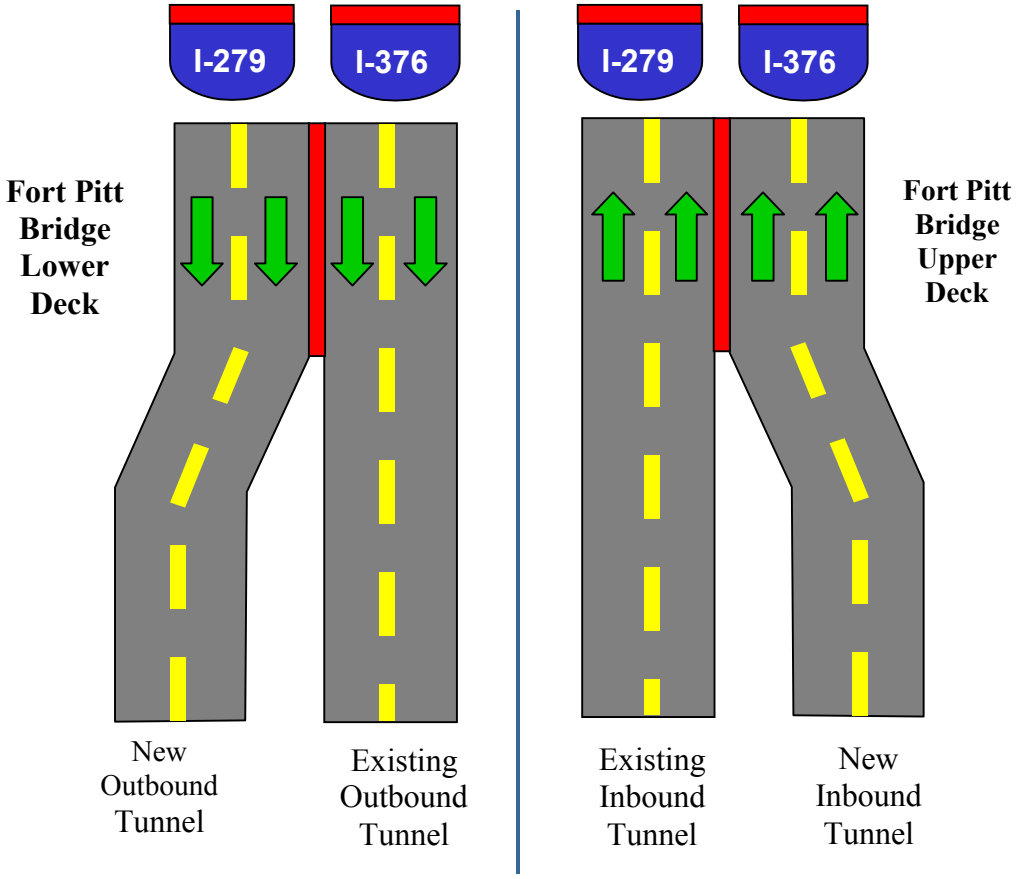


Figure 6-2: Plan View of North End of Fort Pitt Tunnels - Inbound

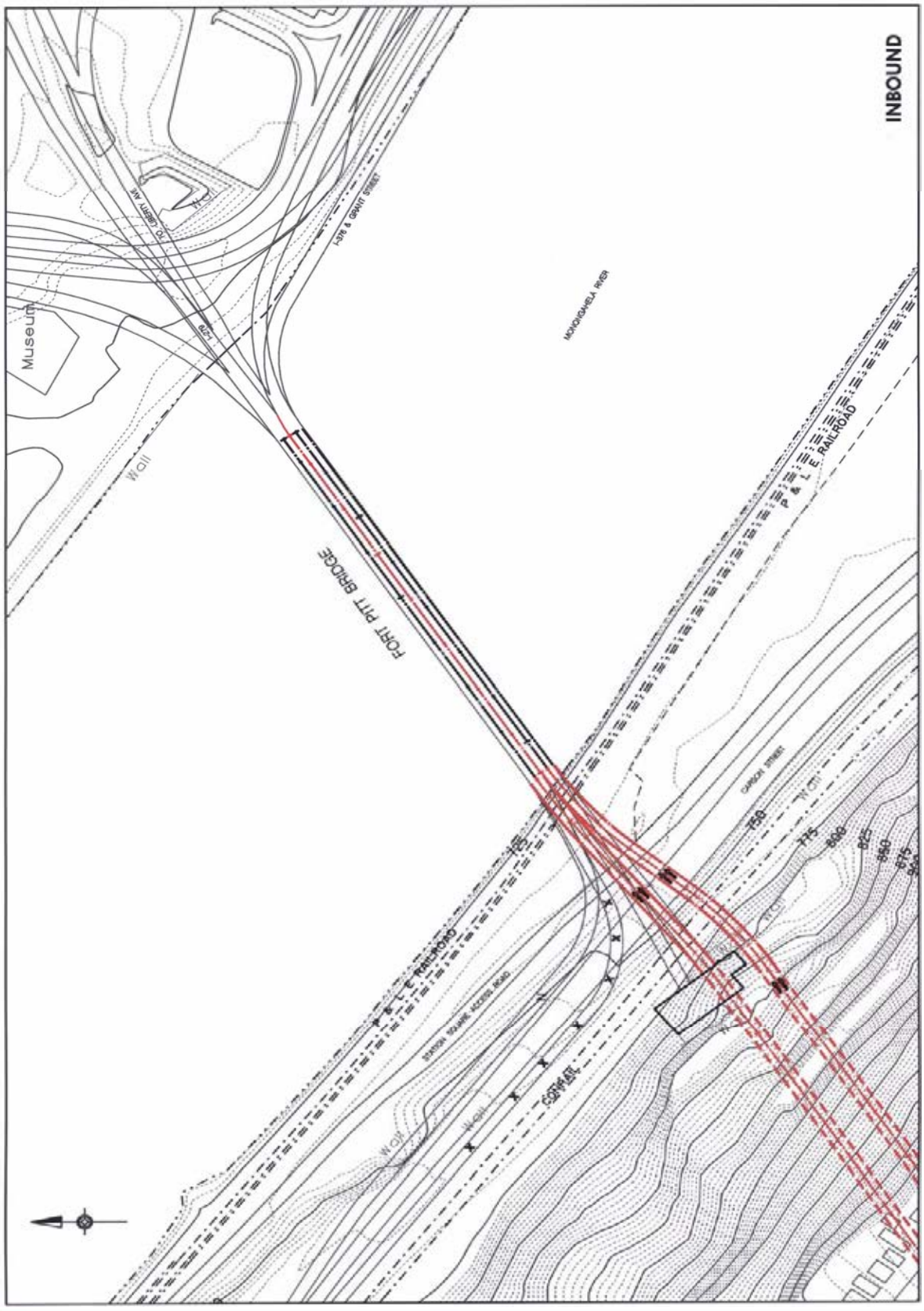


Figure 6-3: Plan View of Banksville Interchange

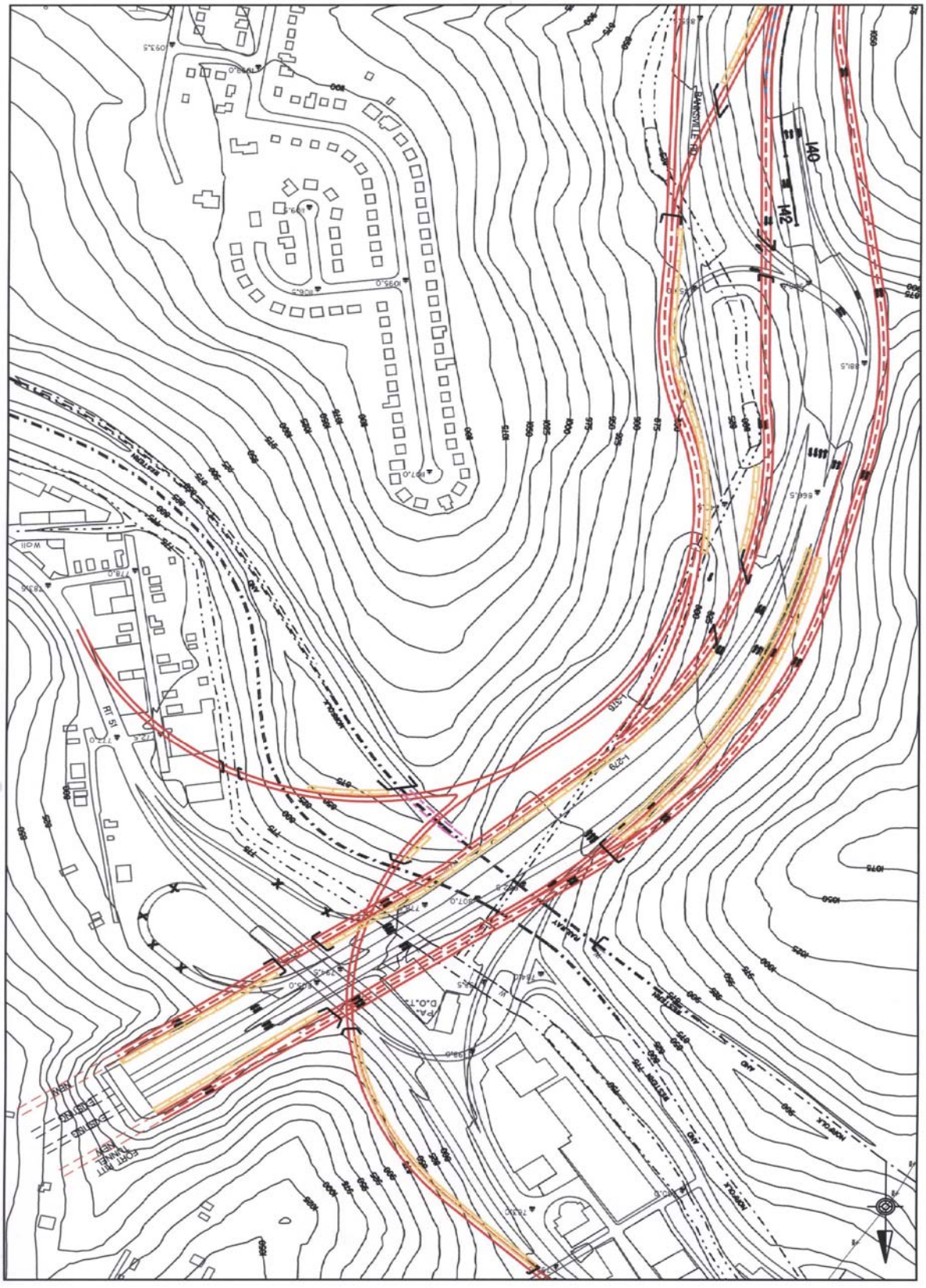


Figure 6-4: Plan View of South End of Fort Pitt Tunnels - Outbound

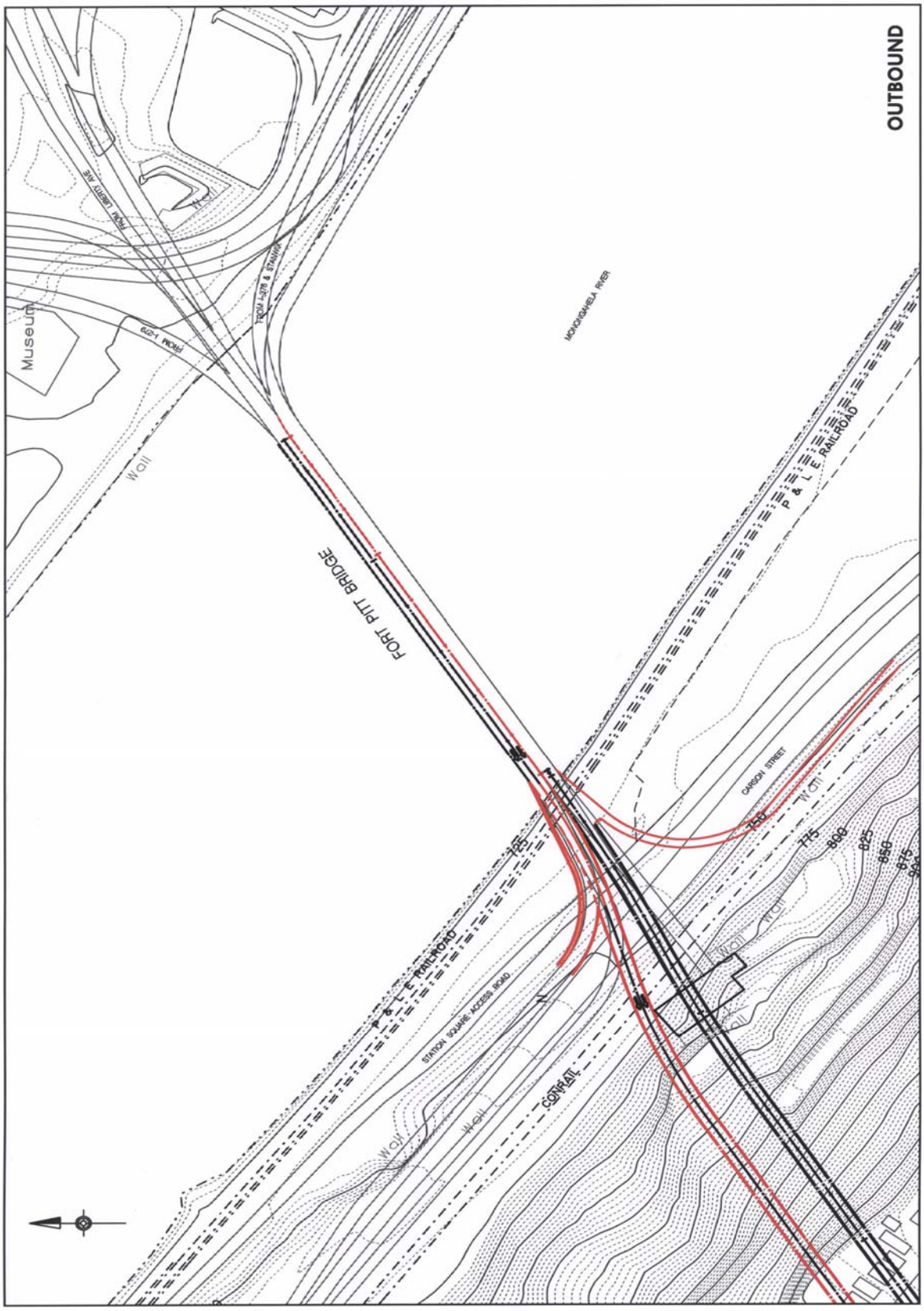


Figure 6-5: Rendering of the Fort Pitt Tunnels

6.1.2 Core Area Improvements Recap

The "Two Additional Tunnels and Ramp Realignment at Fort Pitt" and the Core Area Improvements cited previously in Section 5.1.1, differ in their ability to address the transportation and community needs in the corridor. The following Table 6-1 identifies (with a check mark) those provisions, which are directly addressed by each of the three Core Area options examined during this Study. Each of the core area improvements includes (and, thus, provides the benefits associated with) the Banksville Connector concept.

Table 6-1: Core Area Improvements – Comparison

Evaluation Criteria	W&LE Corridor	Citizen's Alternative	Added Tunnels and Ramp Realignment - per 6.1.2 and Dr. Schorr
Added capacity in both directions throughout the day		✓	✓
Direct high capacity connection into the Parkway East, the Fort Duquesne Bridge, and Downtown		✓	✓
Minimizing impacts	✓	✓	✓
Maintaining existing highway traffic connections west of the Fort Pitt Tunnels	✓	✓	✓
No significant design exceptions required	✓		✓
Estimated cost	Not yet estimated by PENNDOT's Study	$650 million	$370 million

As indicated by the checks, each of the Core Area Improvements examined by the Study provides benefits. In addition, although the W&LE Corridor study has not yet determined either feasibility or cost, PENNDOT representatives involved with both the W&LE Study and this Study have indicated that they anticipate the cost to be similar to the cost for the added tunnels. Thus, the table shows that the "Added Tunnels and Ramp Realignment" provides the best performance relative to the Evaluation Criteria cited and does this for a lower cost than Citizen's Alternative.

Additionally, in order to take maximum advantage of W&LE Corridor opportunities (and also the proposed Mon River Bridge), two suggestions were offered to PENNDOT's feasibility study team, based on public input:

- Construct a peak direction High Occupancy Vehicle facility, which provides a bypass around the Greentree Hill area, or
- Construct a "trucks only" bypass around the Greentree Hill area.

6.2 Refined Transit Short List of Alternatives

The Robinson and Ohio Valley – Neville Island LRT Corridors were similar in terms of cost, number of boardings, and performance in regard to the MOE's. Subsequent to the July 25, 2002 Steering Committee meeting, both of the LRT transit corridor alternatives were modified to enhance service, add stations, and expand park and ride opportunities. SPC made model runs for the Refined Transit Short List Alternatives. After the refinements and model runs, the following key differences and modifications were identified:

1. The Robinson Corridor offered a faster trip between the Airport and Downtown. (The County and the Airport Authority favored this faster trip as an important component of the airport's service to passengers and airport employees). However, the difference in travel time between the Robinson and Ohio Valley – Neville Island LRT corridors and the airport is not considerable enough to "tip the scale" for one alternative over another to make this a differentiating point for corridor selection.

2. Both corridors offered similar service to the City and McKees Rocks. And, both corridors were compatible with a wide range of connection options through Downtown to provide a "west to east" connection to Oakland.

3. The Ohio Valley Corridor offered greater potential to integrate transit with community land use plans. The Ohio Valley corridor communities of McKees Rocks, Coraopolis, and Moon Township each provided official endorsements of the corridor and the associated land use opportunities.

4. Transit and Highway TSM improvements (as described in Section 5.3) and

their associated costs, should be considered for implementation, either with or without major investments.

5. The Transit TSM alternative (which is described further in Section 6.2.1 as Parkway West BRT) includes the following elements:

   - Improved Bus Service and West Busway Extension
   - ITS improvements
   - Park and Ride Facilities

6.2.1 Parkway West BRT

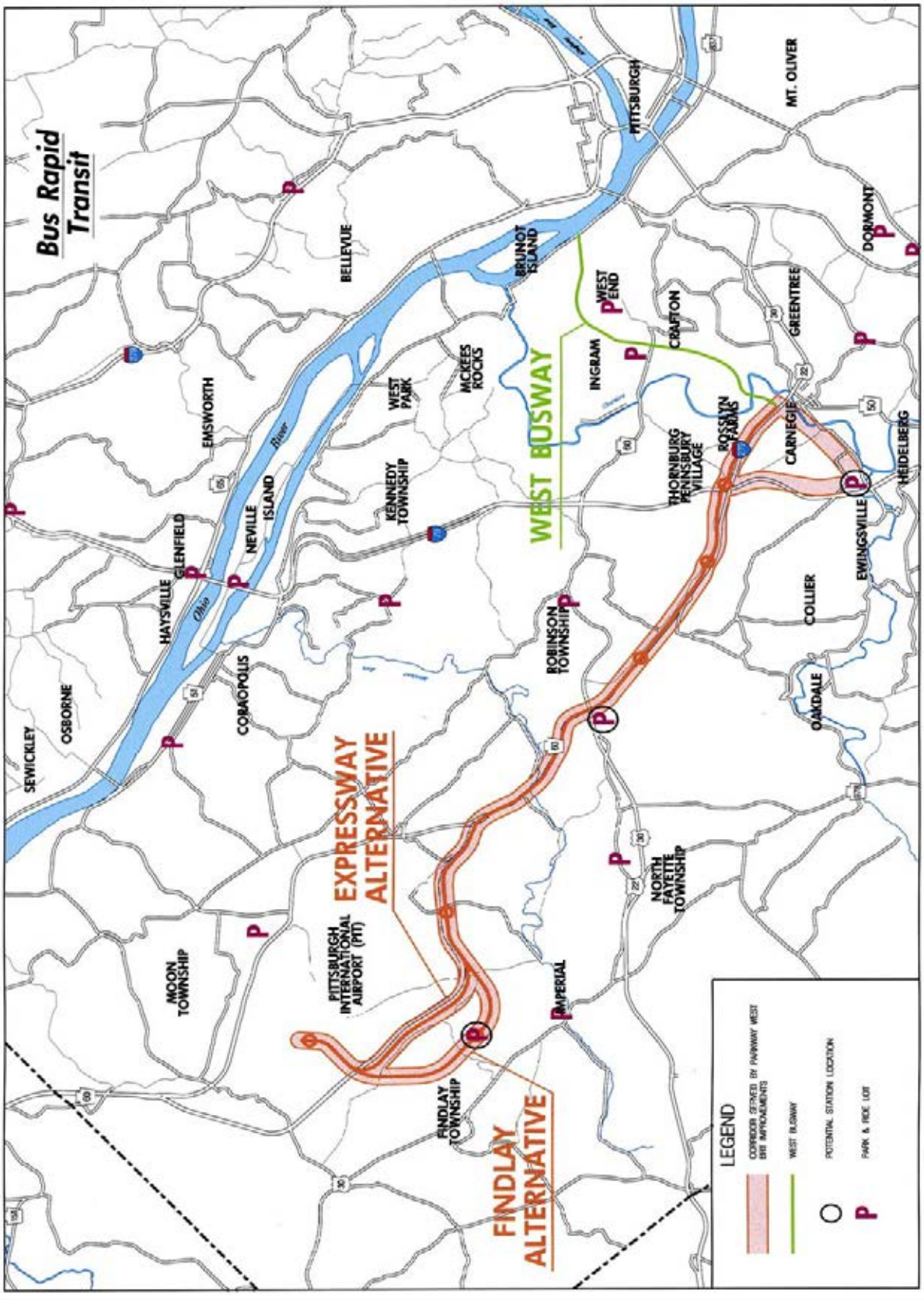
BRT Fixed Guideway Improvements / Extensions:

The existing West Busway operates successfully via its connection to the Parkway West at Carnegie. Implementing the Parkway West Widening will allow this connection to continue to operate at a satisfactory level of service throughout the planning horizon. In addition, the widening will allow buses to operate regular, predictable service on the Parkway West without the need for dedicated, fixed guideway between Carnegie and the Airport. The selection of the Parkway West Widening and Transit TSM alternatives incorporates a set of transit improvements, which include station amenities, short bus access roads, and signal priority improvements that can be implemented as the Parkway West BRT. Figure 6-6 contains the BRT Fixed Guideway Improvements / Extensions map.

The BRT concept provides a short extension of the West Busway from its current terminus in the Borough of Carnegie to a connection with Interstate 79, approximately 1.5 miles. Further, the concept provides a new higher capacity (200 – 500 spaces) park and ride facility near I-79 that will help alleviate the pressures now being experienced in Carnegie where parking is limited.

The availability of high value service and fare information is an important factor in a traveler's decision. Thus, the BRT concept includes provisions for ITS improvements to expand traveler information. Real-time alerts of congestion delays ahead, provided in concert with transit service and price information, will allow a traveler to choose BRT in order to save time and money. The key is to provide the right information at the right place in the travel system. The transit system ITS improvements should be connected into the current PENNDOT Traffic Management Center.

Figure 6-6: BRT Fixed Guideway Improvements / Extensions



Ridership – 5,500 additional boardings per average weekday.
Running Time – 30 minutes skip stop (express) BRT, 35 minutes for all stops.

Cost Estimate:

The capital cost associated with implementing the Parkway BRT is $84,100,000. The anticipated ROW cost is $5,300,000. The estimated operating cost of the Parkway BRT is approximately $3,300,000 (current year dollars).

6.2.2 Airport to Oakland (West to East) LRT Connection

The Study needs and goals emphasize the importance of connecting the region via transit to the Airport, Downtown, and Oakland, from within the area of potential investment as well as regional connections:

- Westward to and from Beaver County
- Northward through Allegheny County toward Butler County
- Eastward through the City of Pittsburgh and Allegheny County to Westmoreland County
- Southward through Allegheny County toward Washington County
- Connection to the proposed High-speed Maglev system

Achieving these regional connections in an LRT operation involves many decisions affecting the Downtown LRT and bus systems and operations. This Study, the on-going Eastern Corridor Transit Study, and the on-going Strategic Regional Transit Visioning Study are working individually and collectively to address this issue. This Study's specific considerations include providing the ability to complete the Airport Connector LRT connection through Downtown Pittsburgh to Oakland in accordance with the Study needs and goals utilizing the North Shore Connector and the Downtown "T" tunnel plus a future connection to Oakland.

In summary, the Airport Connector LRT is compatible with the current long range plan for Downtown connections via the North Shore Connector. In addition, the estimate includes sufficient amounts in the capital and right of way cost categories to allow for the development of alternative Downtown connections that would not require either tunneling or more than one river crossing (of either the Ohio River or the Monongahela River).

6.3 Public Input – Round 4

Study outcomes, including the Preliminary Locally Preferred Investment Strategy, were presented to public officials, community groups, major employers at one meeting and the general public at a second meeting, on September 19, 2002. Both meetings consisted of a presentation followed by a question and answer period.

After providing a brief history of the study and its process, the following outcomes were presented:

1. Highway - Parkway West Widening and Core Area Improvements
2. Transit:
   - LRT to the Airport
   - BRT Extension and Enhancements – Carnegie to Airport

Overall, the outcomes were well received. Many public participants who attended the meetings emphasized the importance of transit. There were also many questions concerning how these projects would be accomplished and their environmental and community impacts. Study leaders explained that this was an initial study to identify viable corridors and the details of their feasibility would be examined in the subsequent environmental study, with further technical and engineering evaluation to address impacts and to further refine alternatives.

6.4 Capital Cost Summary

The following Table 6-2 summarizes the capital and ROW costs associated with the Parkway West Widening with BRT and Core Area Improvements Alternative. This estimate incorporates the costs associated with the TSM enhancements and the core area improvements.

Table 6-2: Cost Summary for the Parkway West Widening with BRT and Core Area Improvements Alternative

Cost Description	Parkway West Widening with BRT and Core Area Improvements (with TSM enhancements)
Parkway West Widening Capital Cost	$400,450,000
Highway TSM Capital Cost	$84,140,000
Transit TSM Capital Cost	$56,579,000
Two Additional Tunnels (Schorr) Capital Cost	$370,150,000
TOTAL CAPITAL COST	**$911,319,000**
Parkway Widening ROW Cost	$40,000,000
TSM ROW Cost	$5,300,000
Two Additional Tunnels (Schorr) ROW Cost	$10,000,000
TOTAL ROW COST	**$55,300,000**

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Proposed Locally Preferred Investment Strategy

Proposed Locally Preferred Investment Strategy

7.0

The Study has provided two answers to the question, "what is the best way to spend transportation dollars to improve the Airport Corridor?" The evaluation process has identified a Proposed Locally Preferred Investment Strategy (LPIS), consisting of two major program elements that address both Transportation *Need* and Regional *Vision* and *Goals*. These two program elements focus on updating the existing transportation network into a regional asset and establishing a mechanism for regional growth in Southwestern Pennsylvania. The two major program elements are:

1) The Parkway West Widening with BRT and Core Area Improvements, which includes:
   a) Parkway West widening by one lane in each direction and interchange improvements from the Fort Pitt Tunnels to Beaver County,
   b) Improvements to the "Core Area" between the Banksville Road interchange and Downtown Pittsburgh, which may include two new two-lane tunnels, in addition to the existing Fort Pitt Tunnels, as well as interchange improvements at both ends of the tunnels,
   c) Bus Rapid Transit (BRT) system expansion beyond the current West Busway,
   d) Transportation system enhancements including roadway, trail, safety, Intelligent Transportation System (ITS), interchange improvements, and access improvements to facilitate movement throughout the corridor, and
   e) If feasible (based on PENNDOT's ongoing Wheeling and Lake Erie (W&LE) study), using the W&LE alignment and tunnel to bypass Greentree Hill and the Fort Pitt Tunnels and Bridge. This route would connect to the Wabash Tunnel, West End Bypass, and Route 51 North.

2) The Airport Connector Light Rail project that will:
   a) Provide a rapid transit link between Pittsburgh and the Airport,
   b) Provide a link to the downtown subway, North Shore and South Hills LRT via the North Shore Connector currently under design.
   c) Serve local communities by providing reliable and frequent service to jobs, residences, and commercial activity centers for the City of Pittsburgh, McKees Rocks, Stowe Township, Kennedy Township, Robinson Township, North Fayette Township, Moon Township, and

Findlay Township,
d) Enhance transit oriented land uses in those communities, and
e) Provide opportunities to connect to Oakland and other corridors if light rail is selected in those corridors.

7.1 Summary of Benefits of the Proposed Locally Preferred Investment Strategy (LPIS)

Several key benefits from the selected LPIS have been identified throughout the process of choosing the Parkway West Widening with a BRT component and Core Area Improvements highway alternative and the Robinson and Ohio Valley – Neville Island Alternative LRT corridors. These benefits include the following:

1. Parkway West Widening with BRT Expansion/Enhancement and Core Area Improvements

   - Reduces the traffic queue at the Fort Pitt Tunnels and Bridge.
   - Reduces regional travel times to the Airport, Downtown, and Oakland.
   - Enhances economic development potential for the region, the corridor, and for airport property
   - Increases Parkway West capacity, thereby reducing "cut through" traffic on local and neighborhood roadways.
   - Directly addresses the 50-year-old Parkway West's need for updated design.
   - Reinforces long-term investments that have been made in the Parkway West Corridor, including infrastructure and community facilities.
   - Reinforces investment in the West Busway.
   - Allows the expansion of BRT further west in the corridor.
   - Reinforces community land use plans.
   - Minimizes environmental impacts due to extensive use of existing right of way.
   - Lowest cost of all highway alternatives.

2. Airport Connector LRT (Robinson and Ohio Valley – Neville Island LRT corridors)

   - Provides a new transit alternative to the Parkway.
   - Reduces regional travel times to the Airport, Downtown, and with potential future extensions to Oakland and other corridors.
   - Provides a rail connection to the Airport from Downtown and from South Hills and future rail corridors.
   - Provides approximately 19,000 additional transit boardings per day in the corridor.
   - Reinforces community land use plans.

- Compliments the BRT component by adding LRT to the corridor options. This is similar to the South Hills and North corridors, which have both BRT and LRT.

The selection of these corridors and modes incorporate transportation enhancements (the TSM alternative) into the Proposed LPIS. Thus, safety enhancements, trail expansion, ITS improvements, park and ride expansion, BRT application, and improved system connectivity become added benefits.

7.2 Costs for the Locally Preferred Alternatives

The costs associated with the Locally Preferred Alternatives are presented in Table 7-1.

Table 7-1: Costs for the Locally Preferred Alternatives (in Thousands)

Cost Description	Parkway West Widening with BRT and Core Area Improvements	Airport Connector LRT (via one of the following two corridors)	
		Robinson Transit Alternative	Ohio Valley - Neville Island Transit
Capital Cost of Alternative	$911,300	$1,238,100	$1,180,600
ROW Cost for Alternative	$55,300	$115,000	$94,000
Total Capital Cost	$966,600	$1,353,100	$1,274,600

Appendix A

Appendix A

Definitions

Alternatives Development Work Group – a task oriented sub group including agency representatives and members of the Study Team that reviews Consultant Team work products regarding alternatives and alternative screening.

Land Use Work Group – a task oriented sub group including agency representatives and members of the Study Team that reviews Consultant Team work products regarding environmental and land use issues and community development concepts. The Land Use Work Group provides input to the Alternatives Development Work Group to assist with alternative development and screening.

Locally Preferred Investment Strategy (LPIS) – the study outcomes selected by the Study Steering Committee for further development and implementation through environmental clearance, preliminary and final design, and construction.

Long List of Alternatives – a listing of potential transportation improvements intended to meet the Study goals and objectives. These alternatives were developed based on prior studies, Public input, and Study team analysis.

Maglev – the Pennsylvania High-Speed Maglev Project, which is part of the Federal Railroad Administration's Maglev Deployment Program and which Port Authority and PENNDOT are evaluating via a National Environmental Policy Act (NEPA) environmental impact study. All alternatives analyzed during this Study are evaluated with and without Maglev.

Measures of Effectiveness – the quantitative and qualitative criteria developed by the Study Team to compare alternatives and to allow the Study Steering Committee to recommend alternatives for further development during this study, as well as for future study.

Public – the residents of the counties comprising the SPC metropolitan planning region.

Regional Stakeholders – Collectively, other participating parties invited to participate in the Study by the Study Steering Committee.

Short List of Alternatives – a listing of transportation improvements derived from the Long List of Alternatives based on the evaluation methodology described

herein. Short List Alternatives are described more thoroughly using quantitative, as well as qualitative, descriptors including:

- mode (e.g., highway, transit, rail, pedestrian, trail, or combination)
- physical attributes – conceptual engineering plans, typical sections, and typical details to define the magnitude and extent of the proposed alternative
- traffic, interchange, and design factors (for highway alternatives)
- ridership, service, and operational factors (for transit alternatives)
- land use and community factors
- capital cost – cost estimates based upon the conceptual engineering and current cost information
- operating cost – cost estimates based on the defined service and operational factors
- financial and institutional factors.

Study – the Airport Multimodal Major Investment Study (MIS), led by Port Authority and the SPC, and the other Study Partners.

Study Goals – the Study Steering Committee adopted the following goals for the Study:

- provide transportation enhancements and choices for the Airport / Parkway West Corridor,
- make the Study Corridor "Area of Potential Investment" highly accessible to all of Southwestern PA,
- reduce travel times between major population centers, the Airport, and key points in the region,
- reduce congestion and improve travel time reliability between major population centers and the Airport, allowing better, more predictable, movement and trip times,
- improve the safety characteristics and reduce the potential for accident related traffic events along the Parkway and the other major transportation facilities in the Airport Corridor,
- improve access to employment and development opportunities in the corridor & throughout the region,
- minimize adverse environmental impacts, and
- provide cost-effective and efficient transportation alternatives that are compatible with other regional priorities, including planned development and land uses and other transportation projects, such as Route 28, Findlay Connector, and high speed Maglev.

Study Partners – Port Authority, SPC, PENNDOT, Allegheny County, the City of

Pittsburgh, and the Airport Authority.

Study Steering Committee – a decision making group led by the SPC and Port Authority that includes representatives from PENNDOT, Allegheny County, the Allegheny County Airport Authority, the City of Pittsburgh, Federal Highway Administration, and Federal Transit Administration.

Study Team – Michael Baker Jr., Inc. and its sub-consultants - STV Incorporated, Advanced Technology Systems Inc., Olszak Management Consulting Inc., AECOM Consulting Transportation Group, DMJM+HARRIS, Inc., Maguire Group Inc., BRW/URS - working under contract with Port Authority and SPC.

Travel Demand Work Group – a task oriented sub group including agency representatives and members of the Study Team that reviews Consultant Team work products and (via SPC) provides travel demand model inputs for the Study regarding traffic and transit ridership. The Travel Demand Work Group provides input to the Alternatives Development Work Group to assist with alternative development and screening.

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Appendix B

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Transit and Highway Alternatives Identified for Further Study

Imagine many new transportation options within the Pittsburgh International Airport corridor that will help ease traffic congestion, improve commuting times, address future transportation needs and offer various multimodal transportation connections to destinations throughout the corridor.

A toll road from the Ohio River Valley to Route 60, widening of the Parkway West, a light rail line along the Ohio River communities to the Pittsburgh International Airport, and an extension of the West Busway to the airport are some of the proposals being considered in the $1.5 million Airport Multimodal Corridor Study. This study effort is addressing several transportation needs in one of Pittsburgh's fastest growing corridors for employment, business and recreation.

Previous studies of the corridor, public comments obtained from public meetings, comment forms and Web site correspondence have resulted in the development of several potential public transit and highway improvements to address the transportation concerns within the airport corridor.

Representatives from the study's sponsoring agencies, Port Authority of Allegheny County, Southwestern Pennsylvania Commission, Pennsylvania Department of Transportation, Allegheny County, City of Pittsburgh and the Allegheny County Airport Authority, have begun a detailed examination of several highway and public transit alternatives. The project team will carefully analyze capital costs, access to employment centers and the alternatives' potential to ease traffic congestion and improve travel times. In addition to recommending major capital improvements for this corridor, traffic light improvements, low-cost roadway enhancements, construction of new park and ride lots, and new or enhanced bus routes are all also being considered.

"It will take a diverse mix of highway and public transit measures to alleviate the growing transportation needs and travel dilemmas that are affecting not only the airport corridor, but the entire Southwestern Pennsylvania region," said Henry Nutbrown, Port Authority's Assistant General Manager of Engineering and Construction. "This study is being conducted with significant public input, thus allowing us to study and recommend improvements that address concerns and mobility issues brought to us by community residents, business owners and leaders."

At the conclusion of the Airport Multimodal Corridor Study in October 2002, a combination of public transportation and highway improvements may be recommended for further study. The recommended projects will have undergone an extensive process that evaluates the mode's effectiveness, recommends financing plans, estimates construction costs and develops procedures to spur sustainable Transit Oriented Development opportunities within the corridor for each of the proposed projects.

The photo above illustrates the use of an at-grade light rail transit line to serve a community's commercial district.

Project Schedule

What's Been Done? January – May 2002

- Held six public meetings to gain ideas and feedback
- Conducted 50 community, agency and elected official meetings to gain ideas and feedback
- Developed a preliminary list of alternatives
- Developed measures to effectively analyze each transportation alternative
- Refined the preliminary list of alternatives

What's Next? June – October 2002

- Develop a service plan, ridership estimates, and operating and maintenance costs
- Hold four public meetings
- Conduct additional community meetings
- Develop the preferred set of transportation alternatives
- Conduct environmental overview of the preferred set of transportation alternatives
- Complete the Airport Multimodal Corridor Study
- Conduct a public meeting to discuss study findings and gain feedback
- Initiate environmental impact studies for the recommended transportation improvements

Study Goals

- Improve public transportation by enhancing multimodal accessibility, options and connections within the study area
- Reduce travel times, improve travel reliability and decrease congestion between downtown Pittsburgh, the Pittsburgh International Airport and various key destinations within the western corridor of the region
- Improve safety and reduce the potential for traffic accidents along the Parkway West and other major transportation arteries in the airport corridor
- Enhance transportation connections and options to employment destinations and development opportunities within the airport corridor and throughout the region
- Improve the accessibility of the airport corridor from destinations throughout the region

Did You Know?

- If no improvements are made within the corridor before the year 2025, travel times would increase to 63 minutes from Downtown to the airport—nearly twice the time that it takes to travel that distance today.
- Existing roadway conditions in the airport corridor impede the efficient movement of people, goods and services throughout the region.
- Improvements to the transportation infrastructure in the airport corridor will enhance economic development initiatives and land use priorities.
- Characteristics of traditional fixed route or fixed schedule public transit service (such as many Port Authority bus routes): provides a basic framework for a transit network for the entire region; operates regularly on community streets and highways; frequently stops on a fixed schedule; uses traditional and non-traditional buses of various sizes.
- Characteristics of rapid transit: high-speed, high frequency service primarily on dedicated transit rights-of-way; intermodal transfer centers and stations with park and ride lots; linkage of dense residential areas to activity centers along urban corridors; includes bus rapid transit, light rail transit and commuter rail modes of public transportation.

Save These Dates- Public Meetings Scheduled For July 2002

As part of continuous outreach efforts, the public is invited to participate in four public information sessions that will provide a venue to ask questions and offer comments concerning several proposed highway and public transit initiatives. The study team has also convened separate information sessions with elected officials, senior managers from transportation planning and environmental resource agencies and representatives from public transportation groups, among others, to gain additional input and feedback.

The Airport Multimodal Corridor Study is being closely coordinated with the public analysis obtained from other Port Authority studies currently underway, which include: the Pennsylvania High-Speed Maglev Environmental Impact Statement (EIS) Project, Strategic Regional Transit Visioning Study (20/20 Vision) and the Eastern Corridor Transit Study.

July 22, 2002 Moon Township

5:00 - 8:00 p.m.

Wyndham Hotel

Montour Run Road Exit

Public Transit: Port Authority

bus route 28E (via RIDC West)

(Return to Downtown via the

25A and 28X)

July 24, 2002 Green Tree

5:00 - 8:00 p.m.

Radisson Hotel Pittsburgh

101 Radisson Drive

Public Transit: Port Authority

bus routes 31D or 31E

July 25, 2002 Downtown Pittsburgh

11:30 a.m. - 1:30 p.m.

Two Gateway Center, 4th Floor

Penn Avenue at Stanwix Street

Public Transit: All Downtown

bus routes and the T

July 25, 2002 North Side

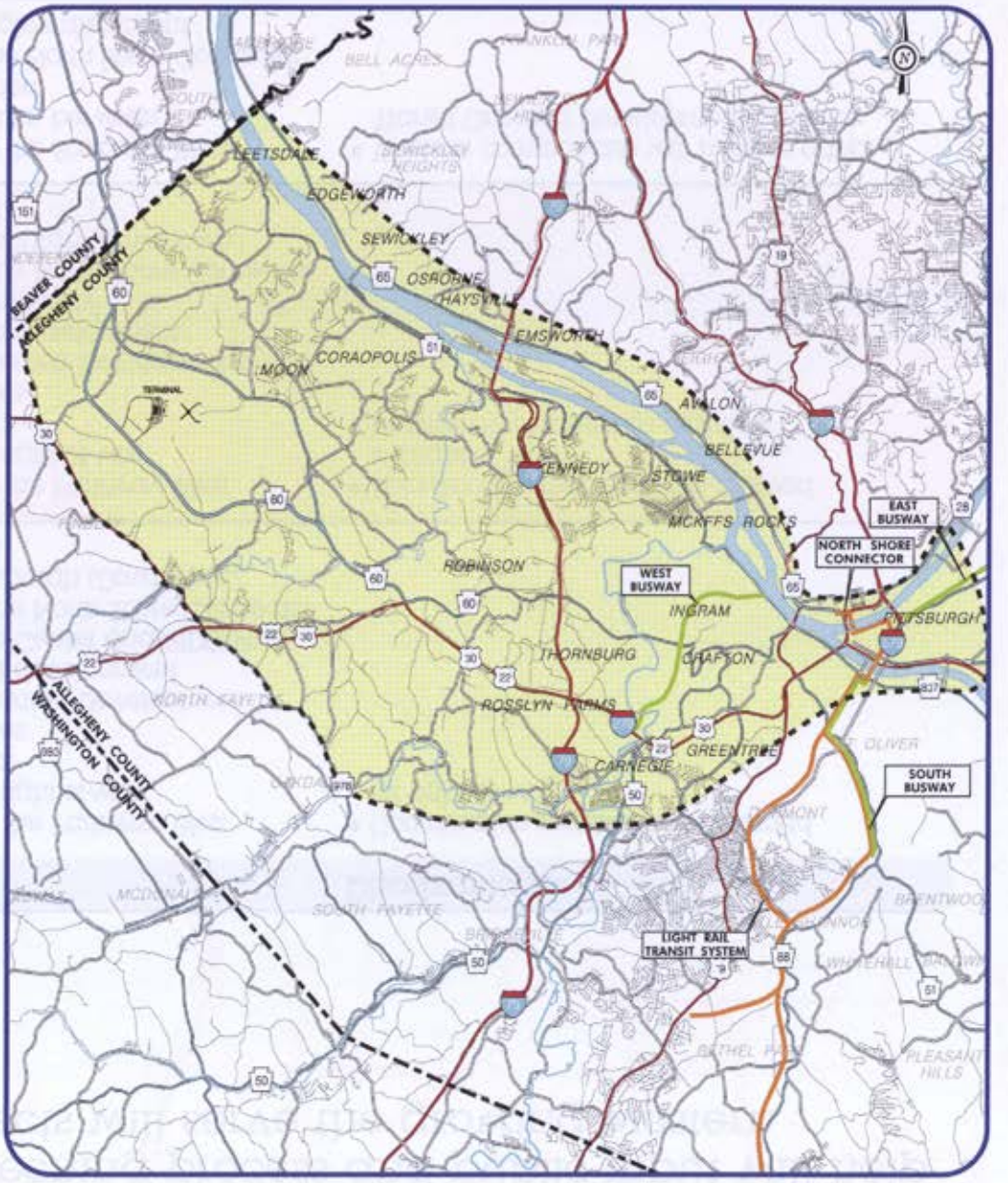
5:00 - 8:00 p.m.

Manchester Citizens Center

1319 Allegheny Avenue

Public Transit: Port Authority

bus route 16D or 501



The area under study, known as the Airport/Parkway West Corridor (Airport corridor), includes: downtown Pittsburgh; communities west of the Downtown to the Beaver County line; the Pittsburgh International Airport; Parkway West (Interstate 279); Ohio River Boulevard (Route 65); Route 60; and Route 51.

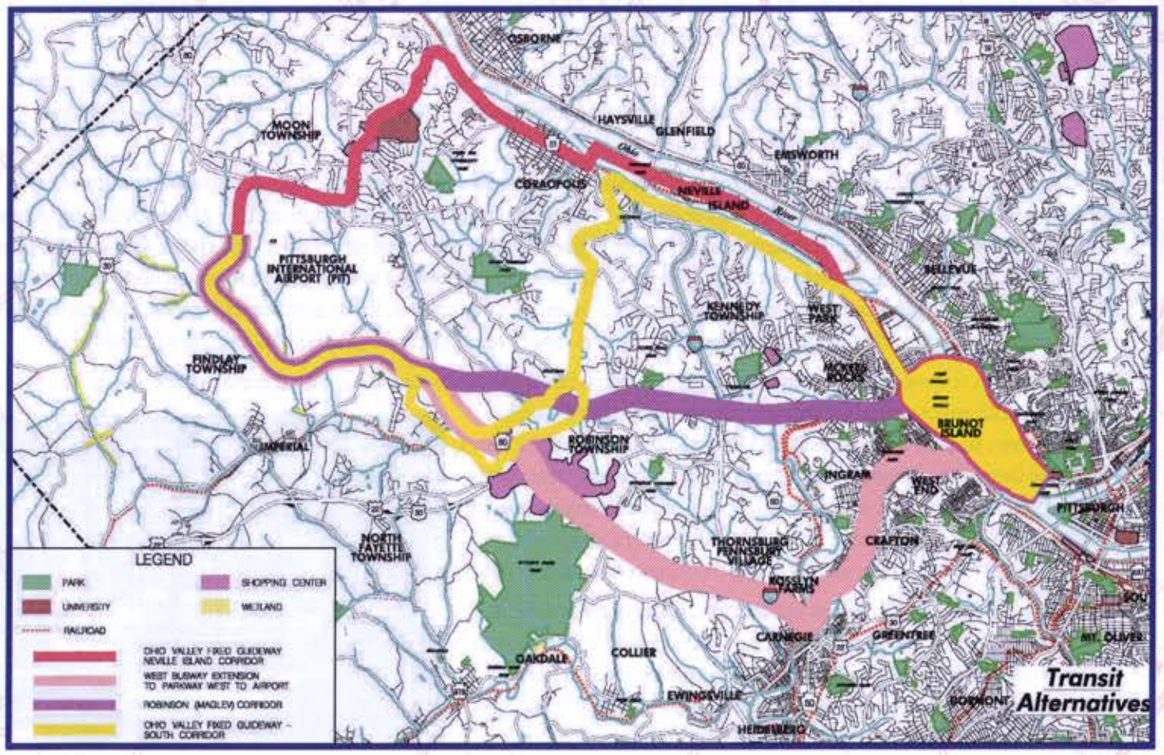
Highway and Public Transit Alternatives

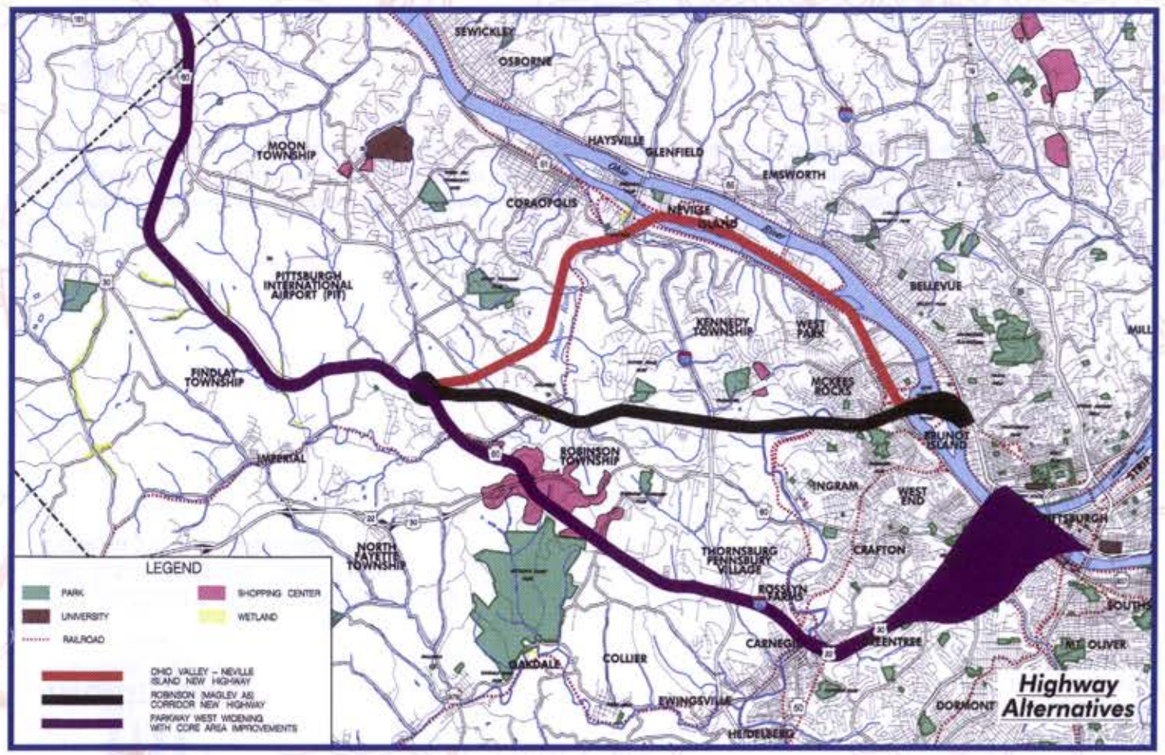
The following matrix and maps identify the highway and public transit alternatives currently under consideration as proposed transportation projects for the Airport corridor. From the list below, a comprehensive screening process and public input will help determine the best projects to move forward into further study. All of the proposed projects will serve the growing western communities as well as existing and planned development.

Transit and Highway Alternatives

Alternative	Mode	Project Description	Advantages	Disadvantages
Ohio River Valley Transit-Only Guideway South Corridor	Light Rail or Bus Rapid Transit	Airport to Downtown along SR 60 to Robinson Town Center; Montour Run to Ohio Valley; CSX Railroad to Stowe Township and – McKees Rocks; and crossing Ohio River to Manchester, North Shore Connector (future LRT extension) and Downtown	▪ Provides alternative to the Parkway West ▪ Existing transportation right-of-way ▪ Good ridership potential ▪ Serves river communities ▪ Potential for Transit Oriented Development ▪ Potential for brownfield development ▪ Serves Robinson Towne Center and RIDC Park ▪ Allows connection to the North Shore Connector ▪ Offers service from Pittsburgh (Downtown/ Oakland) to the airport	▪ Coordination required with railroad for right-of-way
Ohio River Valley Transit-Only Guideway – Neville Island Corridor	Light Rail or Bus Rapid Transit	Airport to Downtown along SR 60 Business, Beers School and Narrows Run Roads, SR 51 to Coraopolis, via Neville Island to Stowe Township, McKees Rocks, and crossing Ohio River to Manchester, North Shore Connector, and Downtown	▪ Provides alternative to the Parkway West ▪ Existing transportation right-of-way ▪ Good ridership potential ▪ Serves river communities ▪ Potential for Transit Oriented Development ▪ Potential for brownfield development ▪ Serves Robert Morris University ▪ Allows connection to the North Shore Connector ▪ Offers service from Pittsburgh (Downtown/ Oakland) to the airport	▪ Coordination required with railroad for right-of-way ▪ Multiple river crossings required
Robinson Corridor	Light Rail or Bus Rapid Transit	Airport to Downtown along SR 60 and Maglev Alignment through Robinson Township to McKees Rocks; crossing Ohio River to Manchester, North Shore Connector, and Downtown	▪ Provides alternative to the Parkway West ▪ Shortest transit connection between Pittsburgh and the airport ▪ Allows connection to the North Shore Connector ▪ Compatibility with Maglev alignment	▪ Western communities will need to adopt Transit Oriented Development patterns
West Busway Extension via the Parkway West to the Airport	Light Rail or Bus Rapid Transit	Airport to Downtown along SR 60 and Parkway West to Carnegie and continuing on West Busway to Downtown	▪ Extends the West Busway ▪ Compatible with existing transportation corridor ▪ Offers service from Pittsburgh (Downtown/ Oakland) to the airport ▪ Good ridership potential	▪ Difficult river connection to the North Shore Connector ▪ Western communities will need to adopt Transit Oriented Development patterns
Parkway West Widening with Additional Improvements	Highway	Interchange improvements and widening from four all-purpose lanes to six or more all-purpose lanes of the Parkway West (Route 60, Route 22/30, I-279) from Route 151 in Beaver County to Downtown. The Core Area (from Carnegie to Downtown Pittsburgh) includes interchange improvements and alternative projects near the Fort Pitt Tunnel/Banksville Interchange end of the project, including PENNDOT's W&LE/Banksville Connector project.	▪ Uses existing right-of-way ▪ Serves existing and planned development ▪ Offers service from Pittsburgh (Downtown/ Oakland) to the airport ▪ Addresses Parkway West physical and safety deficiencies	▪ Does not provide alternative to the Parkway West ▪ Minimal improvement to travel time ▪ Right-of-way expansion near Pittsburgh terminus will impact residences and businesses

Robinson - New Highway	Highway Potential Toll Road	A new highway beginning at Route 65 in the Manchester section of the City of Pittsburgh, crossing the Ohio River at Brunots Island and crossing I-79 north of I-79 Parkway West Interchange and connecting to Route 60 at the Route 60/Business Route 60 split.	▪ Provides alternative to the Parkway West ▪ Provides shortest connection between Pittsburgh and the airport ▪ Compatible with Maglev Alignment ▪ Serves Pittsburgh (Downtown/ Oakland) and the Airport	▪ Requires new right-of-way
Ohio River Valley/ Neville Island - New Highway	Highway Potential Toll Road	A new highway beginning at Route 65 in the Manchester section of the City of Pittsburgh, crossing the Ohio River at Brunots Island then proceeding north through McKees Rocks on railroad right-of-way to Neville Island to I-79; then from I-79 across Montour Run and connecting to Route 60 at the Route 60/Business Route 60 split.	▪ Provides alternative to the Parkway West ▪ Uses existing transportation right-of-way in the Ohio Valley ▪ Serves river communities with potential for brownfield development	▪ Coordination required with railroad for right-of-way ▪ Multiple river crossings ▪ New right-of-way required west of I-79
Transportation System Management (TSM) Improvements	Multimodal Transportation System Management	Park and ride lots Improved bus service Park and ride lot at I-79 Carnegie exit with a service connection to the West Busway I-376 designation for the entire Parkway West Completion of interchange at Route 51 & I -79 Trail extensions and pedestrian improvements Route 65 improvements McKees Rocks/ Stowe Township Truck Route McKees Rocks truck route through rail corridor Sewickley Bridge improvements Intelligent Transportation System (ITS) improvements		





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Call the toll-free hotline: 1.866.864.5774

- Link directly to project information from the home page of Port Authority's Web site: www.RideGold.com.
- Receive newsletters about the study. The project newsletters summarize your feedback and inform you of what's to come. Please call 412.566.5137 to add or update your name in our database.
- Request a speaker for your group or organization. A member of the project team can attend your organization's meeting with display boards, presentation materials and various informational handouts pertaining to the study. Call the toll-free information number, 1.866.864.5774, to request a speaker.

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The Airport Multimodal newsletter is distributed by mail and at libraries and other community facilities. To receive additional information about the Airport Multimodal Study or any one of Port Authority's major capital projects, please contact Carmen Bray at (412) 566-5137. Also call if you would like to be placed on the mailing list.

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FALL 2002

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Airport Corridor Study Concluding

After a year of analyzing a wide range of transportation options and obtaining significant public input, a comprehensive package of public transit and highway improvements is being recommended that will best address the growing transportation needs in the corridor between downtown Pittsburgh and the Pittsburgh International Airport.

The Airport Multimodal Corridor Major Investment Study (MIS) is being advanced by the Port Authority of Allegheny County, Southwestern Pennsylvania Commission (SPC), Pennsylvania Department of Transportation (PENNDOT), Allegheny County, City of Pittsburgh and the Allegheny County Airport Authority. The Project Team solicited input from the public and analyzed previous studies to determine a variety of transportation improvements to increase mobility, foster economic development opportunities and enhance transportation connections in and around the airport corridor. The airport corridor includes downtown Pittsburgh, Oakland, Pittsburgh International Airport, communities west of Downtown to the Beaver County border, and the corridor's major roadways such as the Parkway West (I-279), Ohio River Boulevard (Route 65), Route 60, the West Busway and Route 51.

"The public played a vital role in developing a range of projects that will address the transportation and mobility issues facing persons who live, work and travel in this corridor," said Paul P. Skoutelas, Port Authority's Chief Executive Officer. "In concert with public input, the project team analyzed how well these projects will serve existing and planned development, utilize existing rights-of-way, connect communities and enhance the existing transportation network."

Two light rail transit alternatives that would originate in Downtown and extend the existing light rail system from the North Shore to the Pittsburgh International Airport are the major public transit investments being proposed to address the corridor's transportation needs. Also, as the primary highway connection between the airport and Downtown, the study is recommending widening the Parkway West (I-279) to improve efficiency, enhance connections to Downtown and Oakland and reduce the potential for traffic accidents. The Parkway West proposal also includes a bus rapid transit option that provides enhanced service, new park and rides and improved passenger information.

Continued on back page

Public Involvement

The Key To Success

The public involvement effort focused on informing the public of project developments, getting the word out about the study's progress and gaining ideas and input about the transportation needs of the airport corridor. Through this extensive public involvement program, more than 100 meetings were held throughout the study area and convenient methods of accessing project information were provided.

As part of these continuous outreach efforts, three rounds of public meetings and community group meetings offered a venue for the public to ask questions of and offer comments to the project team. Numerous information exchanges with business leaders, elected officials, transportation agencies and groups, and environmental resource agencies were also held.

A web site was established that offered up-to-date study news and information, a venue to ask questions and send comments, and an area to view maps. Meeting notifications and project newsletters were placed on the web site and mailed to more than 4,450 residences, community centers and businesses. The Moon Cable Access Channel was also utilized to announce public meetings and to broadcast several community meetings within the corridor. In addition, a toll-free project hotline was established, which was well utilized by the public.

The public process was closely coordinated with public input from several other regional planning studies currently underway, such as the 20/20 Vision, Eastern Corridor Transit Study and the Pennsylvania High-Speed Maglev Project.

TSM Improvements

Transportation System Management (TSM) Improvements	Description of Improvement
Park and ride facilities	Identify additional park and ride locations within the corridor that can support Transit Oriented Development initiatives and that can provide convenient access to the existing transportation network.
Park and ride facility at the I-79 Carnegie exit with a transit service to the West Busway	Construction of a new lot to offer additional park and ride options for commuters in the airport corridor. This park and ride location may potentially encourage new riders to use the West Busway facility.
Improved bus service	Enhance Bus Rapid Transit (BRT) service in the corridor by providing an integrated set of improvements that could improve transit travel time, make public transit service more convenient and efficient. Improvements may include: implementing a variety of types and styles of buses, off-board fare collection and technology-based customer information upgrades. In conjunction with other study components and outcomes, a 1.5 mile extension of the West Busway from its current terminus in the Borough of Carnegie to a connection with Interstate 79 at the Carnegie exit is under consideration.
Completion of interchange at Route 51 & I –79	Construction of a ramp at the Groveton Interchange to connect Interstate 79 and Route 51. This ramp will improve access to Route 51 from Interstate 79 southbound and access to Interstate 79 northbound from Route 51.
Route 65 improvements	This improvement is a continuation of PENNDOT's initiative to construct left turn lanes along the roadway's major intersections, install traffic signal improvements and reconstruct portions of the roadway with improved lane widths.
Sewickley Bridge improvements	These improvements may include: the construction of an additional travel lane on the eastbound approach to the bridge from Ohio River Blvd.; the creation of separate left, through, and right lanes; and the installation of overhead control signals to create dual left turning lanes from Ohio River Blvd onto the bridge.
Trail extensions and pedestrian improvements	Improve connections to trails from key points in the area. These improvements may include, for example, a bicycle route from the Montour Run Trail in Coraopolis to downtown Pittsburgh via the Ohio Valley Fixed Guideway – Neville Island Corridor. Also, safety improvements to intersections for bicycle and pedestrian traffic are under consideration.
Intelligent Transportation System (ITS) improvements	Install real-time alerts of congestion delays, park and ride space availability, transit service availability, and customer service information to offer incentives to use and show the convenience of public transit. Also includes off-board fare collection at each BRT station.

Highway and Public Transit Alternatives Selected

The Airport Multimodal Corridor MIS has recommended two public transit projects and a set of highway improvements for detailed environmental study.

"The public input that we received throughout the study was very clear in its desires," said Chuck DiPietro, SPC's Transportation Planning Director. "Improving the Parkway West and expanding public transportation options and facilities were the two themes we repeatedly heard from residents, business owners and community leaders alike."

The next study phase in advancing any or all of the projects to construction would include a thorough environmental analysis. During this phase, feedback, input and ideas from the general public, business community, elected officials, environmental and transportation resource agencies, and special interest groups would continue to be solicited.

Following the environmental studies, comprehensive public input process and mandatory federal review and approval to proceed, detailed design and engineering work would have to be completed before proceeding to construction. Finally, in order for any of these projects to be undertaken, federal, state and local funding would have to be secured.

The projects listed below have met the transportation and development needs summarized in the study's goals.

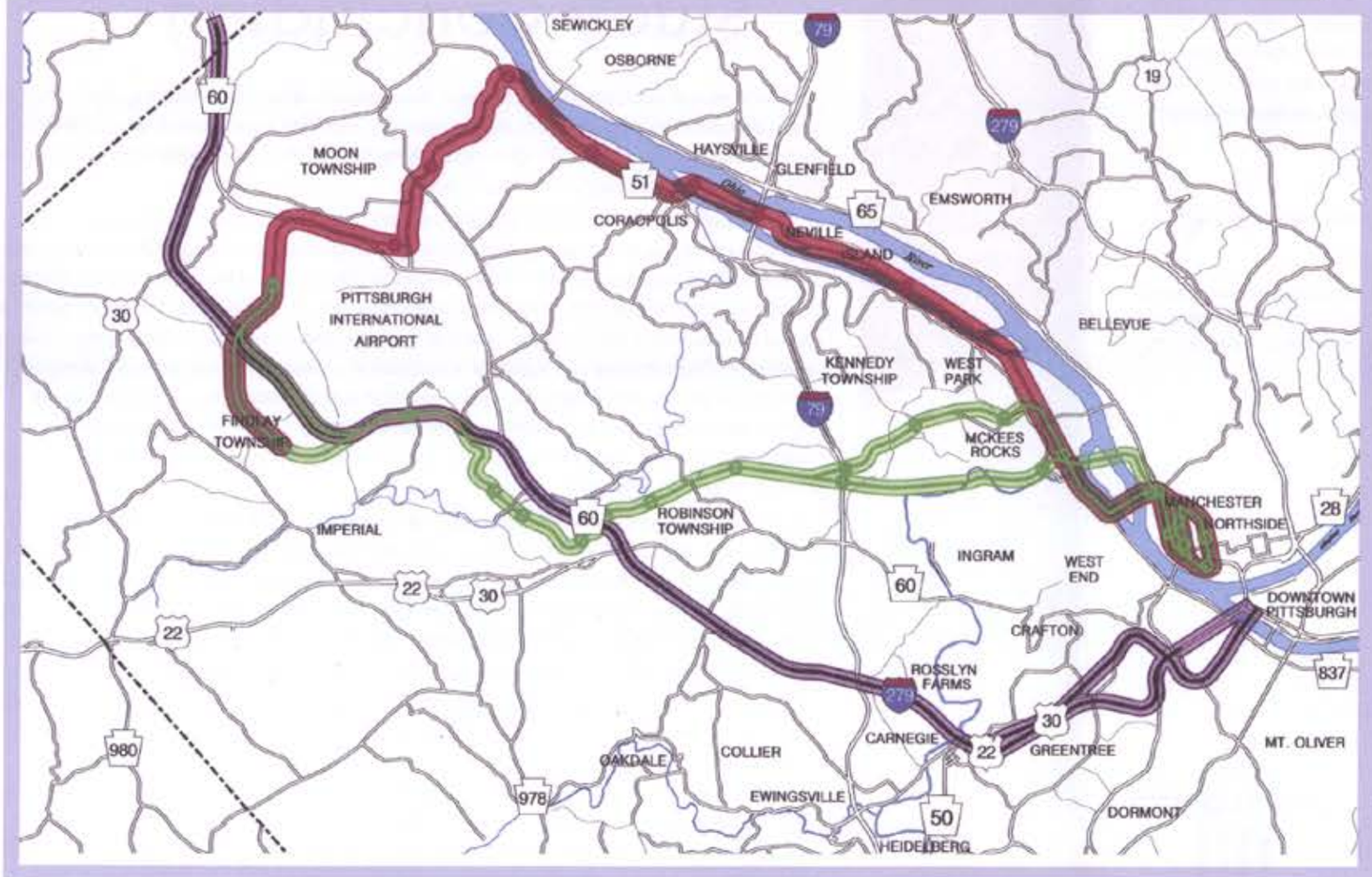
Recommended Transit and Highway Alternatives

Alternative	Mode	Alignment Description	Benefits
Ohio River Valley – Neville Island Corridor	Light Rail Transit	Airport to downtown Pittsburgh (Downtown) along Route 60, Beers School and Narrows Run Roads; Route 51 to Coraopolis, via Neville Island to Stowe Township, McKees Rocks, and then crossing the Ohio River to Manchester. The alignment would then connect to the North Shore Connector alignment (future LRT extension) into Downtown.	▪ Provides an alternative to the Parkway West ▪ Existing transportation right-of-way ▪ Good ridership potential – 15,000 to 20,000 boardings per day ▪ Serves older and river communities ▪ Potential for Transit Oriented Development ▪ Potential for brownfield development ▪ Serves Robert Morris University ▪ Offers service from Downtown and Oakland to the airport
Robinson Corridor	Light Rail Transit	Airport to Downtown along Route 60 through Robinson Township to McKees Rocks. The alignment would then cross the Ohio River to Manchester and would use the North Shore Connector alignment into Downtown.	▪ Provides an alternative to the Parkway West ▪ Serves older communities and major attractions in the corridor ▪ Some transit-oriented development potential ▪ Good ridership potential – 15,000 to 20,000 boardings per day ▪ Shortest transit connection between Downtown and the airport ▪ Serves Robinson Township, North Fayette, and Findlay Township commercial and employment areas ▪ Offers service from Downtown and Oakland to the airport
Parkway West Widening with Additional Improvements	Highway and Bus Rapid Transit	Interchange improvements and widening from the existing four all-purpose lanes to six or more lanes of the Parkway West (Route 60, Route 22/30 and I-279) from Route 151 in Beaver County to Downtown. Other improvements could include: advancing PENNDOT's study of the W&LE/Banksville Connector, widening the Fort Pitt Tunnels, making improvements to bus service, extending the West Busway, adding park and rides, adding stations and providing new vehicles.	▪ Uses existing right-of-way ▪ Serves existing and planned development ▪ Improves connections from Downtown and Oakland tothe airport ▪ Provides Parkway West physical and safety improvements ▪ Enhances BRT options within the corridor ▪ Good ridership potential – 15,000 to 20,000 boardings per day

Lower Cost, Short Term Planning Projects Also Recommended

While some of the projects being proposed will take several years and millions of dollars to plan and construct, there are immediate transportation needs in the airport corridor that can be addressed relatively quickly. In order to offer the public transportation improvements in the near future, the study has recommended a comprehensive mix of lower cost projects, known as Transportation System Management improvements (TSM), that will enhance the mobility in the corridor.

An advantage of this type of improvement is that planning can move forward on the more complex transportation projects while the community can realize the benefits of park and ride facilities or pedestrian and traffic signal improvements. Depending upon available funding for implementation, many of these TSM projects can take less than five years to plan and implement.



LEGEND

- OHIO VALLEY FIXED GUIDEWAY-NEVILLE ISLAND CORRIDOR (TRANSIT)
- ROBINSON CORRIDOR (TRANSIT)
- PARKWAY WEST WIDENING WITH ADDITIONAL IMPROVEMENTS (HIGHWAY)
- POTENTIAL STATION LOCATION

Study Goals

- Improve public transportation by enhancing multimodal accessibility, options and connections within the study area
- Reduce travel times, improve travel reliability and decrease congestion between downtown Pittsburgh, the Pittsburgh International Airport and various key destinations within the western corridor of the region
- Improve safety and reduce the potential for traffic accidents along the Parkway West and other major transportation arteries in the airport corridor
- Enhance transportation connections and options to employment destinations and development opportunities within the airport corridor and throughout the region
- Improve the accessibility of the airport corridor from destinations throughout the region

How Will These Projects Be Funded?

Financial plans for the recommended alternatives have not yet been determined. As these projects advance through the planning process, the preferred alignments will be determined. This factor, among others, is important in developing more accurate project costs and funding options.

These options could include a myriad of funding combinations that could include local, state, federal and even private funding. Future funding for these projects is largely contingent upon public support in order to advance the projects to construction and development.

Continued from Front Page

In addition to the major transit and highway capital investments, which may take more than eight years from planning to construction, several lower cost transportation enhancements are recommended. These enhancements - new park and ride facilities, pedestrian improvements and improvements to the existing bus service - could be implemented in less than five years if funding can be secured.

The Airport Multimodal Corridor Study's outcomes and the results from other planning efforts currently underway, such as the Eastern Corridor Transit Study, 20/20 Vision (Strategic Regional Transit Visioning Study) and the Pennsylvania High-Speed Maglev Project will need to be analyzed as part of a comprehensive public transportation improvement strategy for the region. This strategy would help assess which transportation projects are priorities for the region, aggressively advance those projects forward into the next phase, secure financial support and continue ongoing dialogues with stakeholders, elected officials and community residents.

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WINTER 2002

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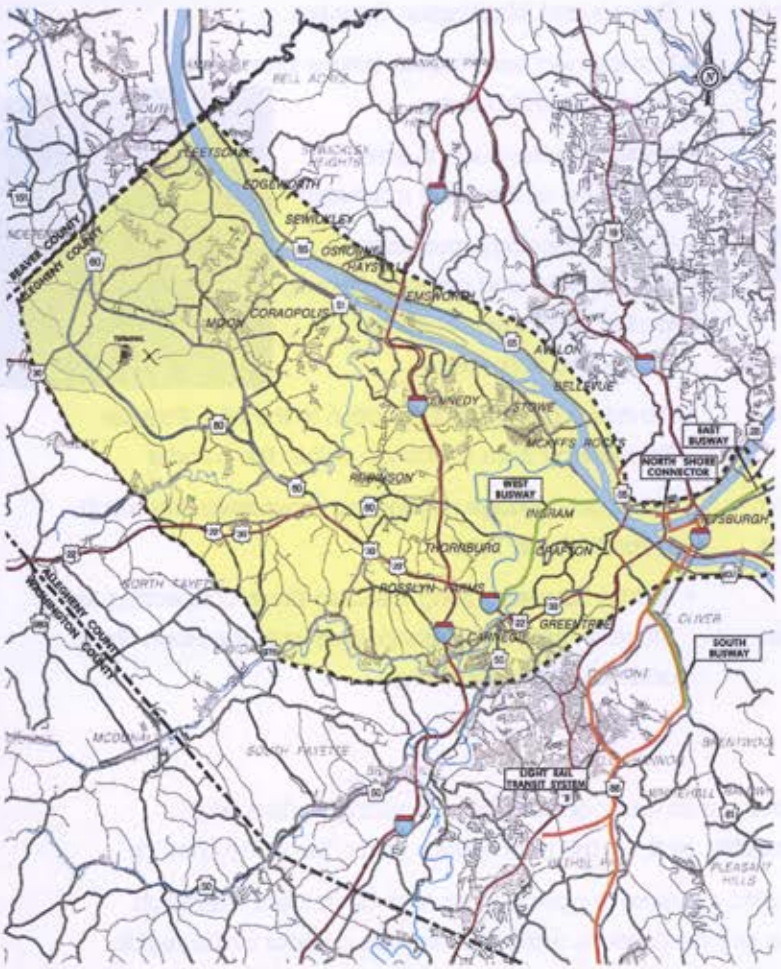
Major Investment Study for Airport Corridor Underway



The area under study, known as the Airport/Parkway West Corridor, includes: downtown Pittsburgh; communities west of Downtown to the Beaver County line; the Pittsburgh International Airport; Parkway West (Interstate 279); Ohio River Boulevard (Route 65); Route 60; and Route 51.

A team of representatives from the Port Authority of Allegheny County, Southwestern Pennsylvania Commission, Pennsylvania Department of Transportation, Allegheny County, City of Pittsburgh and the Allegheny County Airport Authority is investigating the transportation needs and concerns of thousands of area residents who live, work and commute in the corridor between downtown Pittsburgh and the Pittsburgh International Airport.

A detailed analysis of public input regarding these needs and concerns is a key element in a $1.5 million effort called the Airport Multimodal Corridor Major Investment Study (MIS).

Building on the foundation of previous studies of the Airport/Parkway West Corridor, this year-long multi-agency initiative is designed to evaluate a variety of transportation options within the corridor that will ultimately lead to investments to improve travel times, ease congestion and enhance multimodal connections.

"The study includes a comprehensive public involvement and comment process, which will enable the project team to thoroughly study, identify, analyze and recommend appropriate transportation improvements," said Port Authority Chief Executive Officer Paul P. Skoutelas. "The Airport Multimodal Corridor study will also evaluate the effectiveness of the various public transportation modes and highway improvements, provide an estimate of costs for the alternatives and investigate methods to spur sustainable transit-oriented development opportunities within the corridor."

Continued Page 2

Continued From Page 1

As part of continuous outreach efforts, the public was recently invited to participate in three public information sessions that provided a venue to ask questions of and offer comments to the project staff. Elected officials, senior managers from transportation planning and environmental resource agencies, representatives from public transportation groups and other organized interests were also convened in separate information sessions. Comments obtained from this first round of public meetings are summarized within this newsletter.

In addition to a variety of other methods to obtain information and offer comments, several more public meetings will be scheduled as the study progresses.

The Airport Corridor Multimodal Study is scheduled to be completed in October 2002.

What's On Your Mind?

A thorough public involvement process is essential in order to identify, analyze and recommend transportation improvements for the Airport/Parkway West Corridor. The following is a summary of public feedback, ideas and suggestions resulting from the first round of public meetings and from information obtained via the project comment forms, Web site and information hotline.

- Expand and/or extend vital roadways and transit facilities within the corridor, such as the West Busway and Parkway West (I-279)
- Develop a rapid transit system from downtown Pittsburgh to the Pittsburgh International Airport, possibly light rail or bus rapid transit
- Provide additional routes and more frequent transit service throughout the corridor, including more park and ride lots
- Improve highway interchanges along the Parkway West
- Refine secondary roadways to provide quicker and more convenient access to the primary roadways
- Improve connections and provide easier access from the Airport Corridor to the South Hills, North Hills and Monroeville areas
- Explore transportation options that promote interconnectivity between highways and transit
- Improve inter-county highway connections to Beaver, Greene and Washington Counties
- Provide additional travel options to and from downtown Pittsburgh
- Implement measures to ease congestion on the major roadways
- Utilize technology measures, such as overhead message boards, to alert commuters of traffic congestion and delays

- Provide a highway connection to the Mon-Fayette Expressway from a location within the corridor
- Construct a bridge connecting downtown Pittsburgh to the Wabash Tunnel
- Build a bikeway along the Ohio River, connecting the Montour Trail and Coraopolis area to the North Shore and downtown Pittsburgh

Study Goals

- Improve public transportation by enhancing multi-modal accessibility, options and connections within the study corridor
- Reduce travel times, improve travel reliability and decrease congestion between downtown Pittsburgh, the Pittsburgh International Airport and various key destinations within the western corridor of the region
- Improve the safety and reduce the potential for traffic accidents along the Parkway West and the other major transportation arteries in the Airport Corridor
- Enhance transportation connections and options to employment and development opportunities within the Airport Corridor and throughout the region
- Improve the accessibility of the Airport Corridor from destinations throughout the region

Previous Studies Being Utilized

Previous studies of the corridor have identified several transportation needs within the corridor. As part of the Airport Multimodal Corridor Study, travel times, efficient land use and public transit enhancements are just some of the interests to be further investigated.

For example, increasing travel delays and traffic congestion between northeast and southwest segments of the region will ultimately hinder efficient accessibility to jobs in the vicinity of the Pittsburgh International Airport and in nearby Washington and Beaver Counties, as well as adversely impact freight movement and economic development opportunities. This study will closely examine this growing trend and recommend transportation enhancements to address these travel needs. Measures will then be taken to begin planning and ultimately constructing transportation improvements within the corridor.

The last major study of the Airport Corridor, the Parkway West Multimodal Corridor Study, was undertaken by the Southwestern Pennsylvania Commission and completed in 1989. Recommendations from the study produced many improvements, such as the Airport Expressway, West Busway, West End Improvements and the Liberty Tunnel Interchange. Previous planning studies of the corridor have also identified various other public transportation improvements and highway alternatives that may become a reality for the corridor.

Potential Public Transportation Alternatives

- *Build a Light Rail Transit or Bus Rapid Transit system from downtown Pittsburgh to Pittsburgh International Airport*
- *Provide direct transit connections to growing employment centers within the corridor*
- *Improve connections to the existing Light Rail Transit System, proposed North Shore Connector and to the Bus Rapid Transit Network*
- *Expand and construct additional park and ride facilities*
- *Provide efficient transportation connections to potential High-Speed Maglev MAGport™ Stations at the Airport and in downtown Pittsburgh*

Potential Highway Alternatives

- *Widen the Parkway West*
- *Construct a new four to six lane limited access highway*
- *Build connections to Routes 60, I-79, Route 51 and Route 65*
- *Construct a river crossing at Brunots Island*
- *Construct interchanges to enhance potential development opportunities*
- *Incorporate tolls to offset operating and capital costs*

Other Potential Options

- *Develop the High-Speed Maglev Transportation Facility – currently undergoing environmental studies*
- *Investigate the Wheeling and Lake Erie Railroad Corridor/ Banksville Connector for public transit or highway improvements*

According to the Southwestern Pennsylvania Commission's transportation models, it is likely that increases in travel delays during peak travel times will occur if transportation improvements within the corridor are not developed and implemented.

	Peak Period Travel Time (2002)	Peak Period Travel Time (2025)
Pittsburgh to Airport	40 minutes	58 minutes
Washington to Pittsburgh	47 minutes	54 minutes
Cranberry to Airport Area	53 minutes	72 minutes
Greensburg to Airport Area	1 hour & 37 minutes	2 hours & 9 minutes
Kittanning to Airport Area	1 hour & 41 minutes	2 hours & 6 minutes

Timeline

January - February 2002

- Define the Purpose and Need -

Define the transportation issues of the corridor and develop a needs analysis for potential improvements

- Consensus on Purpose and Need -

Developing agreement and consent from the public, elected officials and regional stakeholders on the corridor's transportation issues and needs

- First Round of Public Meetings
- Preliminary List of Alternatives -

Begin investigating and analyzing a variety of transportation alignments and modes resulting from public feedback

- Develop Measures of Effectiveness -

Begin investigating and analyzing the effectiveness of each transportation option

March - April 2002

- Initial Qualitative Alternative Screening -

A refinement of transportation options based on public input, project need, and environmental, technical and operational feasibility

- Further Refine Alternatives
- Second Round of Public Meetings

May - June 2002

- Conceptual Engineering -

With input and feedback from the public, conceptual designs of the alignments and stations locations will be drafted

- Develop Service Plan, Ridership Estimates, and Operating and Maintenance Cost
- Environmental Overview

July - August 2002

- Development of the preferred set of transportation solutions -

Based on public input and detail analysis, the study would recommend preferred transportation options for the Airport Corridor

- Third Round of Public Meetings

September 2002

- Present transportation investment alternatives to the Southwestern Pennsylvania Commission to be placed on the regional priority list

October 2002

- The completion of the Airport Multimodal Corridor Study
- Public meeting to report study findings
- Initiate the Draft Environmental Impact Statement (DEIS) for the recommended transportation improvements

Frequently Asked Questions

What is a Major Investment Study (MIS)?

A Major Investment Study (MIS) is the first level of the planning process for considering federally funded transportation infrastructure investments within a specific corridor of a metropolitan area. Crafted with significant public input, this study produces preliminary costs, project benefits and potential environmental impacts of various alternatives and transportation modes. The MIS will also identify all reasonable alternative strategies for addressing mobility and accessibility needs and concerns in the Airport Corridor.

What are the next steps after this MIS study?

Among other tasks, the project team will begin a Draft Environmental Impact Statement (DEIS for the selected transportation modes and alignments. A DEIS is a federally mandated document that outlines the transportation needs of the study area and analyzes and describes a range of alternatives for meeting those needs. The DEIS further identifies in detail any environmental or community impacts and mitigation measures. The DEIS also produces more accurate estimates for ridership, revenue and capital costs.

Continued Page 5

Continued From 4

Port Authority and SPC, among others, are undertaking the Strategic Regional Transit Visioning Study. How will the outcomes of the Airport Multi-Modal study affect this effort?

The Strategic Regional Transit Visioning Study, or 20/20 Vision Study, is focused on determining, with significant public input, the next round of potential public transportation investments for the nine counties of southwestern Pennsylvania. Results of previous transportation studies indicated a great deal of public support for transportation improvements within the Airport Corridor.

Although the Airport Corridor has already been identified as an area in vital need of transportation improvements, additional public feedback and analysis gained will be shared with and incorporated into both study efforts.

What happens to the transportation recommendations from the Airport Multi-Modal Corridor Project if High-Speed Maglev becomes a reality for the Pittsburgh region?

A project team consisting of Port Authority, Pennsylvania Department of Transportation and Maglev, Inc., in cooperation with the Federal Railroad Administration (FRA), is currently undertaking the Environmental Impact Statement for the Pennsylvania (High-Speed Maglev Project.) This project is a 47-mile high-speed magnetic levitation facility connecting Pittsburgh International Airport, downtown Pittsburgh, Monroeville and Greensburg. FRA will select either the Pennsylvania Project or a competing project connecting Baltimore and Washington D.C. to be the first high-speed maglev system in the United States. The FRA selection is expected in the spring of 2003.

The Airport Multimodal Corridor MIS will evaluate alternatives prior to the FRA's Maglev selection. Accordingly, the project team will develop and assess alternatives under two scenarios. The first scenario will develop alternatives anticipating that the Pennsylvania High-Speed Maglev Project will be constructed. Under the second scenario, alternatives will be developed without Maglev.

What is the Southwestern Pennsylvania Commission (SPC)?

SPC is the federally designated Metropolitan Planning Organization (MPO) for southwestern Pennsylvania. SPC's role is to undertake comprehensive regional transportation planning and is responsible for how federal transportation funds are spent in the region. SPC provides a forum for regional collaboration, planning and public decision-making.

Need more information, have questions or want to offer comments and suggestions?

Call the toll free hotline:

1.866.864.5774

Link directly to project information from the home page of Port Authority's Web site: www.RideGold.com

Taking It To The Streets

In an effort to continue fostering information exchange, members of the study team are meeting directly with community groups and organizations that have expressed an interest in the study.

The project staff participating in this community involvement initiative, called the Airport Multimodal Speakers Bureau, have attended various community meetings throughout the corridor, including meetings hosted by the Airport Corridor Transportation Association, Char-West Council of Governments, Airport Area Development Corporation, Montour Trail Council and Moon Township's Cable Access Show.

At the request of the group or organization, a presenter attends the organization's meeting with display boards, presentation materials and various informational handouts pertaining to the study. A presentation can last from five minutes to one hour, depending upon the time allocated by the organization.

At these meetings, organizations are given an opportunity to ask questions and offer comments that will ultimately be used to help develop alternatives and identify specific community transportation concerns.

Organizations can request a Speakers Bureau presentation by calling the project's toll-free information number - **1.866.864.5774.**

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