

a regional

strategic vision

for public transportation serving
southwestern pennsylvania

March 2006



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a regional
strategic vision
for public transportation serving
southwestern pennsylvania



Prepared for

Southwestern Pennsylvania Commission
The Heinz Endowments

Regional Transit Operators:

- >>> Port Authority of Allegheny County
- >>> Beaver County Transit Authority
- >>> Butler Township City
Joint Municipal Transit Authority
- >>> Fayette Area Coordinated Transit
- >>> Indiana County Transit Authority
- >>> Mid-County Transit Authority
- >>> Mid-Mon Valley Transit Authority
- >>> New Castle Area Transit Authority
- >>> City of Washington (GG&C Bus Co, Inc)
- >>> Westmoreland County Transit Authority

City of Pittsburgh

Steel Industry Heritage Corporation

Port of Pittsburgh Commission

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foreword

A Regional Strategic Vision for Public Transportation Serving Southwestern Pennsylvania sets forth a framework for public transportation decisionmaking for southwestern Pennsylvania for the future. It is the result of an intense planning process involving hundreds of citizens as well as business persons, government officials, community leaders, and transportation agencies.



This report describes a regional strategic transit vision (*20/20 Transit Vision*) for public transportation in southwestern Pennsylvania. As such, the report addresses not only transportation but also the land use and development patterns that can maximize the effectiveness of public transportation in the region. The land use and development patterns of the future will fundamentally affect the public transportation vision for the region.

One of the elements of the study was to review the goals of the region's Long Range Transportation and Development Plan, adopted by the Southwestern Pennsylvania Commission (SPC), as a starting point for formulating a public transportation vision for the region. A number of the Plan's goals address public transportation. In particular, one goal, which states that the "region will assure equity and opportunity, including the provision of...affordable housing, safe clean neighborhoods, and an equitable distribution of jobs, public transportation, services and amenities throughout the region and among all residents" is consistent with the input received from the public during the the study. A theme of the report is that development which lessens the burden on the region and promotes economic growth is in the best interest of the region and its citizens.

The following was identified as a goal for the Strategic Regional Transit Visioning effort:

To preserve existing transportation and land use investment while making future investment decisions that enhance the quality of life and the economic viability of southwestern Pennsylvania.

The report contains six sections:

- A Executive Summary
- B Our Region
- C Our Challenges
- D Outreach and Collaboration: A Public Process
- E Developing The Public Transportation Vision
- F The Public Transportation Vision and Next Steps

The regional strategic vision for public transportation proposed in this report addresses a fundamental question: What kind of region do we aspire to be? The answer to that question is key, because the land use and development patterns of the future will fundamentally affect the public transportation vision for the region. The report presents and analyzes two alternative land use and development scenarios and then develops a regional public transportation vision for each.

Section B (Our Region) describes the economic and political context of the ten-county Southwestern Pennsylvania region. Section C (Our Challenges) examines the historic land use and transportation patterns of the region and assesses two alternative directions for the future: Trend and Focused Growth. Section D (Outreach and Collaboration: A Public Process) describes the ways in which the public has participated in the development of the public transportation vision, including two community design charrettes, one in Cranberry (a fast-growing suburb), the other in Clairton (an established industrial town).

Section E (Developing the Public Transportation Vision) compares and contrasts the two land use scenarios described in Section C and, based upon the analysis and public input, then concentrates on developing the public transportation vision for the Focused Growth Scenario.

Section F (The Public Transportation Vision and Next Steps) presents implementation tools as well as a financing and management structure to implement a regional public transportation vision for the Focused Growth scenario. A public transportation vision that supports focused growth is described in detail for the ten county region.

This is an ambitious and bold public transportation vision that suggests new ways of thinking about public transportation, land use, and the political and financial mechanisms that exist in Southwestern Pennsylvania. To fulfill the public transportation vision, new approaches to decisionmaking are identified. This report is the beginning, not the end of a public policy discussion of how the region will develop and of how public transportation services can best serve that future region.

The work of this study was kicked off at the SPC Policy Conference held in February 2001. A draft of the report was completed and reviewed by the two lead agencies and the region's public transportation service providers covering work through June 2002. Final completion of the study report was delayed in part due to the funding crisis that was affecting the near-term future of transit in the region as well as transit agencies throughout the Commonwealth. In addition, the sponsoring agencies, along with other study partners such as Allegheny County, City of Pittsburgh and PennDOT, initiated two major sub-regional studies which analyzed public transportation in the western and eastern portions of the region. The Eastern Corridor Transit Study was completed in 2003 and the Airport Multi-modal Corridor Study in 2004. The results of these two efforts have been incorporated into the Strategic Regional Transit Vision.

Concurrent with these activities, SPC's current Long-Range Transportation and Development plan was adopted in 2003. A number of the elements of the Transit Vision were incorporated into the adopted regional plan.

section a: executive summary

The choices presented in this report regarding public transportation and land use are complex. We are a geographically large region consisting of established urban areas, small towns, rural areas and new growth communities. While the core of the region benefits from successful public transportation plans developed in the 1960s, the overall region needs to be better connected by public transportation. Much of the regional investment in public transportation since the 1960s has been project-oriented and not necessarily tied to a comprehensive regional transportation or land use vision. Regional public transportation studies have focused on transit corridors and transit technology, rather than on the underlying issues of land use and life style. In addition, we are now faced with a number of challenges including maintaining and operating aging infrastructure, securing maintenance and operating assistance, providing service to areas that did not receive improvements in prior planning/implementation efforts, serving new areas of regional growth as well as redeveloping areas, maximizing existing funding sources, and finding new funding sources.



Regional civic, business and transit agency leaders now desire to build on the transit infrastructure that exists and develop a strategy for regional economic and community development that responds to changing demographics and transportation demands. These same regional leaders have recognized the importance that transportation, most specifically transit, plays in the area's economic and land use development. Decisions about land use and transportation service are made within each county or locality, but travel demand goes beyond any single jurisdiction's boundaries. Development of a shared vision for transit has become increasingly important.

Working together, we have a unique opportunity to chart a new direction for more effective, efficient and sustainable use of our land and environment and provide for significant regional mobility improvements necessary to support our future. This Strategic Regional Transit Vision serves as a catalyst for citizens, transit providers, agencies and local and state governments to work cooperatively in creating a coordinated program that maximizes the utilization of economic, transportation and land resources. The Public Transit Vision sets a course to preserve and leverage existing transportation and land use investments while encouraging future investment decisions that enhance the quality of life and economic viability of Southwestern Pennsylvania. The driving force behind this Strategic Transit Vision can be best expressed by two questions:

- >>> What is our vision for public transportation in our region?
- >>> How can we realize that vision?

This document serves to answer these questions and initiate a regional dialogue regarding public transportation and land use.

This Executive Summary describes the conclusions of the Strategic Regional Transit Vision as follows:

- >>> Reflecting on Our Assets
- >>> Imagining the Possibilities
- >>> The Transit Vision
- >>> Making the Most of Our Assets
- >>> Focusing on Our Future
- >>> Next Steps, Immediate Challenges

The Strategic Regional Transit Vision is presented in terms of both the character of the regional development pattern and the transit elements that can help support this distribution of land use.

Reflecting On Our Assets

During the last three decades, the ten counties of Southwestern Pennsylvania have undergone significant changes in the nature and distribution of population and employment, as well as in the growth of the regional highway network. While Downtown Pittsburgh has remained an important destination and activity center, the educational/medical complexes of Oakland have grown in importance to the entire region and the development of important new activity centers has taken place in outlying areas. These areas include: the development of the modern, expanded Pittsburgh International Airport; Robinson Town Center; Cranberry Township; office parks such as Southpointe and Northpoint; significant suburban residential and commercial growth in Butler, Beaver, Washington and Westmoreland counties; and changes around Washington, Beaver, Butler, Kittanning, Uniontown, New Castle, Indiana, Waynesburg, and Greensburg.

“How do we enjoy the benefits of the past, while shaping smart choices for the future? How do we correct the damage to urban harmony and balance that resulted from the era of categorical zoning and highway system development? How do we craft an urban whole that is as harmonious, rich and varied as we need to be successful?”

MAXWELL KING

EXECUTIVE DIRECTOR, THE HEINZ ENDOWMENTS

Our region's variety of communities and neighborhoods are among our greatest strengths. These diverse communities offer an endless variety of cherished and authentic places, each with a history of its own. Unlike many faster growing regions of the country whose sense of identity has been eroded by explosive growth, our "slow growth" has preserved a rich diversity of communities with unique personalities and strongly defined identities. It is this variety and individuality that makes our region so unique and so strong. However, it is also these same qualities which have resulted in a complex governmental structure and a lifestyle characterized by a myriad of trips to multiple, scattered destinations.

Imagining the Possibilities

The Strategic Regional Transit Visioning Study was undertaken to explore how we can build on our existing assets while creating more sustainable development patterns and infrastructure investment. The study was jointly sponsored by the Port Authority of Allegheny County (Port Authority) and the Southwestern Pennsylvania Commission (SPC), with the support and participation of the public transit operators in the region, and with additional funding from The Heinz Endowments, Steel Industry Heritage Corporation, City of Pittsburgh, Port of Pittsburgh Commission, and the National Association of Industrial and Office Properties. Participation by the public was a fundamental element of the study process and provided the direction for the community design, transportation planning, financial analysis, and implementation strategies at the core of the transit vision developed for our region.

The strategic visioning process was undertaken in three phases:

Phase I Understanding

Base data was collected and mapped. Technical meetings with transportation and planning agencies were held. Citizen focus groups and public meetings were held throughout the multi-county region.



Our hundreds of unique communities are among our greatest strengths.

“The transit system was there for the community, not the community for the transit system.”

LEE AUSPITZ

MEMBER OF THE DAVIS SQUARE TASK FORCE,
SOMERVILLE, MASSACHUSETTS

Phase II Exploring

Public transportation alternatives along with corresponding land use scenarios were developed and analyzed. The regional transit operators were surveyed regarding potential transit services, financing and organization. A key feature of Phase II was the two community design charrettes, one conducted in a fast-growing suburban community (Cranberry) and one in an established industrial town (Clairton), which explored the potential role of public transportation in two very different land use and economic settings.

Phase III Vision Development

Phase III featured the development of a draft report based on the comprehensive public input received during Phases I and II. Phase III identified suggested locations, modes, financing, and implementation of future investments in public transportation, including bus, bus rapid transit, busways, light rail transit, commuter rail, and water. After review and comment by the study sponsors, this final Regional Strategic Vision for Public Transportation Serving Southwestern Pennsylvania was published.

Basic Principles That Emerged

During the visioning process, a number of basic public transportation principles emerged and were confirmed by both the technical analysis and citizen input:

- 1 The primary role of public transportation is to connect people to jobs and opportunities.
- 2 Public transportation provides accessibility for all people.
- 3 Public transportation and land use are inextricably linked.
- 4 Public transportation can facilitate and support growth.
- 5 Public transportation is environmentally friendly and contributes to sustainability.
- 6 Public transportation is an efficient and productive use of limited transportation resources.
- 7 Public transportation can support county and regional economic development initiatives.
- 8 Implementation of a stronger public transportation system can make our region competitive in attracting talent and investment when compared with other world-class regions that have strong public transportation systems.

The goal which emerged from this study is to preserve existing transportation and land-use investments while making future investment decisions that enhance the quality of life and economic viability of southwestern Pennsylvania.

“At Pleasant Hill, one disembarks the train to find an entirely new suburban community: one with a mix of housing, offices and shops, all huddled around the transit station with a street configuration and landscaping that encourage people to walk.”

ROBERT CERVERO

UNIVERSITY OF CALIFORNIA AT BERKELEY



What kind of region do we want?

It became clear during the planning process that land use would be a key to the public transportation vision. State planning law and the region’s configuration of local government into over 500 separate municipal governments (each with primary responsibility for land use and zoning), combined with the continuing expansion of the regional highway and utility infrastructure, have created a regional development pattern that has promoted spread-out development at the expense of older, established communities, and at the expense of public transportation.

Despite our slow growth, Southwestern Pennsylvania exhibits the development pattern known in most metropolitan areas of the United States as suburban sprawl. In our region, significant land has been consumed for development while overall regional population has changed very little.

There are two alternative development patterns that the study reviewed – Trend Scenario and Focused Growth Scenario.

The Trend Scenario:

>>>>>> Reflects the status quo, “business-as-usual” development pattern, with more land being consumed in low-density residential development in outward-growing suburban and exurban rings supported by expanding the highway and road infrastructure (along with utilities, schools, water, sewer, and municipal services such as fire and police) with a relatively stable or declining role for public transportation;

>>>>>> Is estimated to develop 169,000 additional acres of land by 2025; and

>>>>>> Leads to an estimated \$5.8 billion (2002 dollars) in new non-transportation public infrastructure costs (sewer, water, etc.) to support this regional land use development pattern.

The Focused Growth Scenario:

>>>>>> Features land use policies such as infill development and higher density housing. Encourages mixed-use, walkable communities, is transit-oriented, and pairs greenfield development with investment in public transportation to support those policies;

>>>>>> Is estimated to develop 29,000 additional acres of land by 2025 or 140,000 fewer acres than the Trend Scenario; and

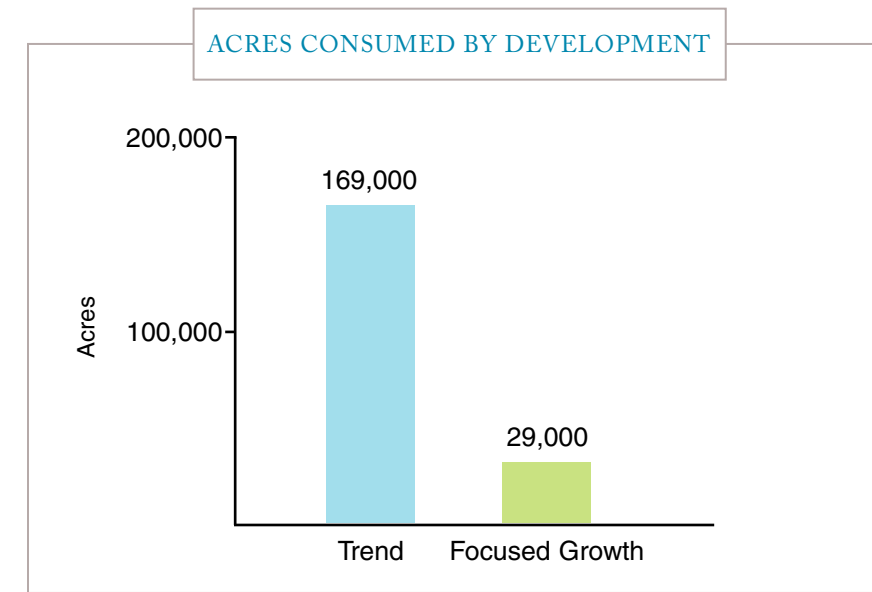
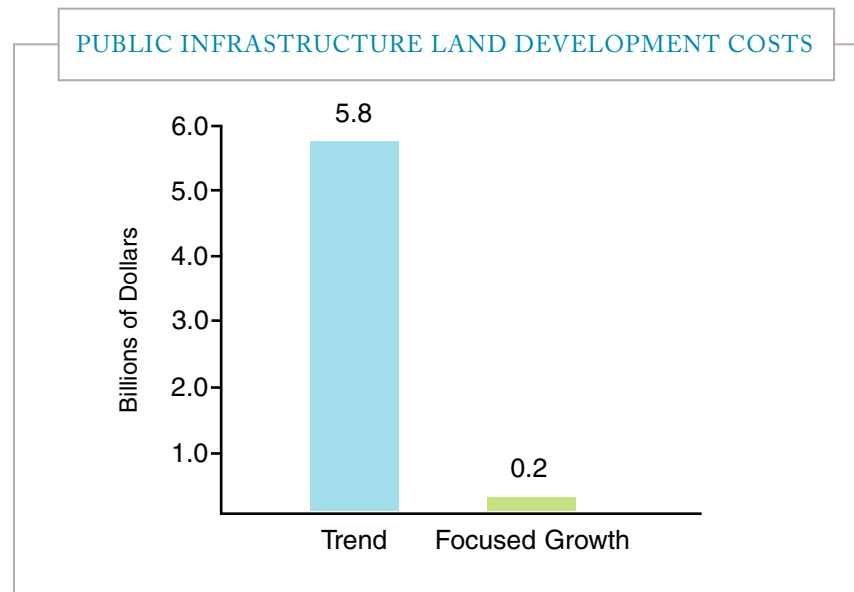
>>>>>> Leads to much lower new non-transportation public infrastructure costs (sewer, water) to support the Focused Growth Scenario – estimated at \$0.2 billion (2002 dollars), or \$5.6 billion less than the Trend Scenario.

The two land use scenarios were evaluated quantitatively (acreage preserved, transit travel times, transit ridership, miles of rapid transit, and infrastructure costs) and qualitatively (land use/development, community design, mobility, investment, environment, community coordination, and transit service quality).

“Smart Growth is pro-growth. We know that developers, banks and the entire community rely on growth to fuel the economy. The goal is not to limit growth, but to channel it to areas where infrastructure allows growth to be sustained over the long term.”

HUGH L. MCCOLL, JR.
FORMER CHAIRMAN AND CEO, BANK OF AMERICA

The Strategic Regional Transit Vision presented in this report is based on extensive public outreach and technical analysis. It reflects the region’s aspirations as heard from the public, and strongly supports a regional, collaborative effort to pursue development policies that promote those aspirations and facilitate transit investments to support those development policies.



“An important part of Smart Growth is using the land more efficiently and preserving environmentally sensitive land.”

NATIONAL ASSOCIATION OF HOME BUILDERS,
SMART GROWTH: BUILDING BETTER PLACES TO LIVE WORK AND PLAY

The Public Transportation Scenarios

During the public participation process, a general consensus emerged among citizens throughout the region on what the core functions of public transportation systems in southwestern Pennsylvania should be:

- >>>>> To connect people to jobs.
- >>>>> To connect people to major activity centers such as Downtown Pittsburgh, Oakland, and the Pittsburgh International Airport.
- >>>>> To connect people to local activity centers within each county.

Public transportation scenarios that accomplish these core functions were developed for both the Trend and Focused Growth land

use scenarios including rapid transit, buses, and paratransit. Water transportation, rail corridor re-use, and High-speed Maglev were also examined.

In the Trend Scenario, additional fixed guideway facilities, other than rapid transit service in the Oakland to Downtown corridor and short light rail transit and busway extensions, would not be very cost effective. Due to the “spread out” land use patterns of the Trend Scenario, the best public transportation investments would be in park-and-ride facilities and minor enhancements to the existing bus system, including transit centers and express bus service. Average daily ridership for 2025 was forecasted to increase by about 20%, from the current 262,000 daily riders to 317,000 daily riders. Approximately five miles of additional rapid transit was identified.

Conversely, the Focused Growth Scenario:

- >>>>> Can support connections among all the counties in the region with regularly scheduled fixed-route bus service;
- >>>>> Provides residents who do not have automobiles better access to jobs, shopping, recreation facilities, and other basic needs. The Focused Growth Scenario provides rapid transit service to 40,000 more households with no auto access than the Trend-based Scenario;
- >>>>> Is more environmentally friendly. The Focused Growth Scenario requires only 29,000 additional acres of development, whereas the Trend-based Scenario requires 169,000 additional acres of development;

>>>>> Provides for faster commuting times to major destinations in the region such as Downtown Pittsburgh, Oakland and the Airport; and

>>>>> Meets the goals and aspirations of the broad spectrum of stakeholders who participated in the public involvement process better than the Trend Scenario.

For these reasons the Focused Growth Scenario was selected as the proposed land use framework for developing the regional public transportation vision.

“Trying to cure traffic congestion with more capacity is like trying to cure obesity by loosening your belt.”

GLEN HEIMSTRA
FUTURIST

The Vision: A Comprehensive Transit Concept for the Ten-County Region

The Transit Vision contains two primary elements: rapid transit facilities and other supporting services and facilities. Each is described below.

Rapid Transit Services and Facilities

The Vision includes:

>>>>> Light Rail Transit. Over 40 miles of new light rail transit (locally known as the **T**) which connects regional activity centers with the urban core are included in the Transit Vision;

>>>>> Bus Rapid Transit. The Transit Vision identifies several Bus Rapid Transit facilities, busways (bus-only roadways), and bus lanes and preferential treatments for buses on arterial highways to serve high-volume corridors within the region.

>>>>> Commuter Rail Service. The Transit Vision suggests four commuter rail routes using existing railroad lines that will provide rail service between Downtown Pittsburgh and outlying communities.

The specific proposals for light rail transit in the western corridor and commuter rail, busway and light rail transit in the eastern corridor are recommendations from the Airport Multi-Modal Corridor and Eastern Corridor Transit studies. They have been incorporated into the list of transit facilities in the regional Transit Vision.

It is recognized that other rapid transit modes will be considered in the future when specific corridors in the region are studied. The list of facilities and modes in the Transit Vision is not intended to recommend a specific mode or alignment for each corridor. Rather, it is intended to identify corridors and locations where investments in rapid transit facilities may be appropriate.

Other Services and Facilities

>>>>> Expanded Regional Bus System. In addition to the assumed yearly increases in regular transit service that corresponds with projected population growth, the Transit Vision contains over 50 new suburban local and cross-jurisdictional bus routes.

>>>>> Circulator Transit Systems. Within the region's mixed-use centers, the Transit Vision includes circulator bus systems connecting residential areas with commercial areas, as well as providing connections to the regional bus system.

>>>>> Intermodal Facilities and Customer Amenities. The Transit Vision contains over 160 transit-related facilities ranging from major intermodal facilities to primary customer facilities.

The Focused Growth Transit Vision includes transit services and facilities that have good potential to be cost-effective with a Focused Growth land use pattern. Many of the corridors and facilities have been analyzed in various prior studies. In addition, several have more recently undergone technical and public review in the Airport Multimodal Corridor and Eastern Corridor Transit studies.

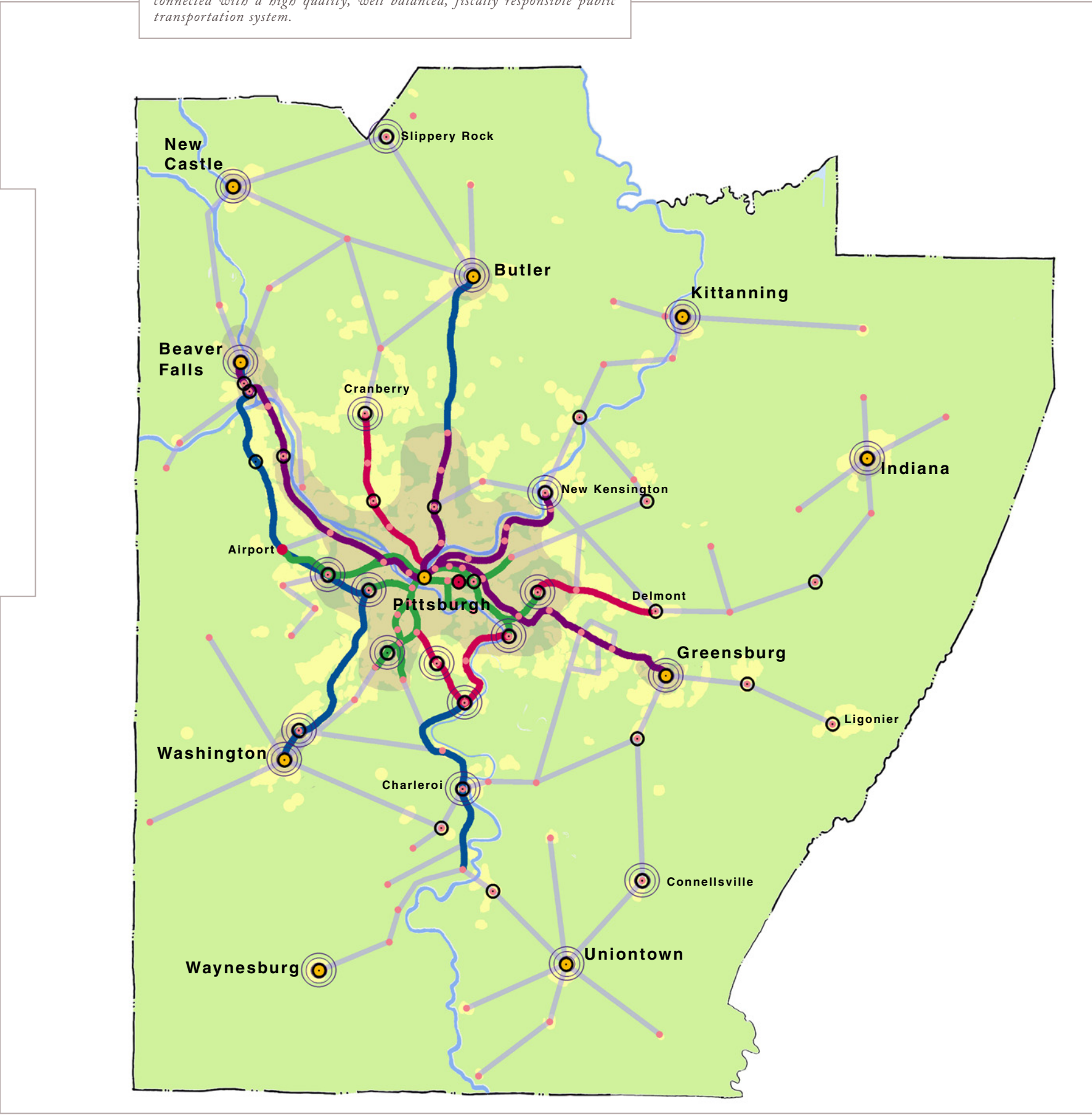
“Transit can best service our new community and our region by putting on more service to get to the stores and get our teenagers to employment opportunities.”

LANETTE M. KELLY

CITIZEN, ALLEGHENY COUNTY,
SURVEY RESPONSE

The Transit Vision is estimated to cost \$9.5 billion in 2002 dollars to implement. An investment of this magnitude would have to be implemented over an extended period of time. SPC's fiscally constrained 2003 Long Range Transportation and Development Plan outlines \$2.8 billion that could be made available for transit capital projects over a 27-year period. While additional funding above the \$2.8 billion might be possible, it is unlikely that every facility identified in the Transit Vision could be implemented in the 25-30 year duration of a typical transportation plan. As such, the \$9.5 billion program is being presented as a menu of projects that could be considered for implementation as funding becomes available and as corridors with appropriate land use potential are identified.

FOCUSED GROWTH TRANSIT VISION: *The region will become connected with a high quality, well balanced, fiscally responsible public transportation system.*



*“What are the challenges to this region? ...not thinking regionally.
We deal with many small communities, not in a regional focus.
Counties compete against each other which produces
no net gain for the region.”*

LANETTE M. KELLY

CITIZEN, ALLEGHENY COUNTY,
SURVEY RESPONSE

In addition to capital costs, implementing the Transit Vision would require an average yearly operating and maintenance cost of approximately \$410 million in 2002 dollars, or about 39% more than the current \$294 million. This includes operating the existing transit service and increased service in accordance with increased ridership, plus the new facilities included with the Transit Vision.

Transit ridership with full implementation of the Transit Vision is projected to grow by over 55%; increasing the customer base from the current 262,000 daily riders to 408,000 daily riders.

As part of the evaluation conducted in the study, performance measures such as operating and maintenance cost per hour of service, and riders carried per hour of service were calculated. The data indicated that the Transit Vision system performed well in comparison with the current system.

As a result, the Strategic Regional Transit Vision presented in this report was judged to be a reasonable means of providing a significant improvement in public transit service in the ten-county region under a Focused Growth Land Use Scenario.

Making the Most of Our Assets

One focus of implementing the Regional Transit Vision is its integration with other initiatives and opportunities in the region. Two such opportunities incorporated into the Transit Vision study are:

>>> Railroad Corridor Re-use; and

>>> Water Transportation.

Railroad Corridor Re-use

In the 1800s and 1900s a number of railroad companies constructed rail lines in Southwestern Pennsylvania to support the growing industries and population of the region and nation. Since the 1950s, local rail traffic has decreased as demand changed and as freight was redistributed to other transportation modes. Consequently, lightly used railroad corridors represent an opportunity to the region for potential re-use as rapid transit corridors, trails and development. The facilities of the two major railroads operating in the region, Norfolk Southern (NS) and CSX Transportation (CSXT), were assessed to determine if any of their main lines might be candidates for consolidation, leaving available a potential linear right-of-way for other uses.

The assessment found that of the three lines in the Pittsburgh area owned by NS (the Pittsburgh line, the Mon line and the Conemaugh line), only two may be needed to accommodate current freight rail traffic. With significant capital investment to improve operating capacity and to remove physical limitations such as height restrictions, one of the three lines could be made available for other uses. In regard to CSXT, the assessment showed that CSXT could consolidate its current freight traffic in the region onto its Pittsburgh Subdivision and discontinue service on the P&W Subdivision between the Glenwood Yard and New Castle. P&W Subdivision right-of-way could then be made available for other uses.

*“How will you evaluate the
Regional Transit Vision?
There are no pretty pictures
of buses, but pictures of
beautiful communities.”*

CITIZEN RESPONSE,
PITTSBURGH PUBLIC MEETING, AUGUST, 2001

Water Transportation

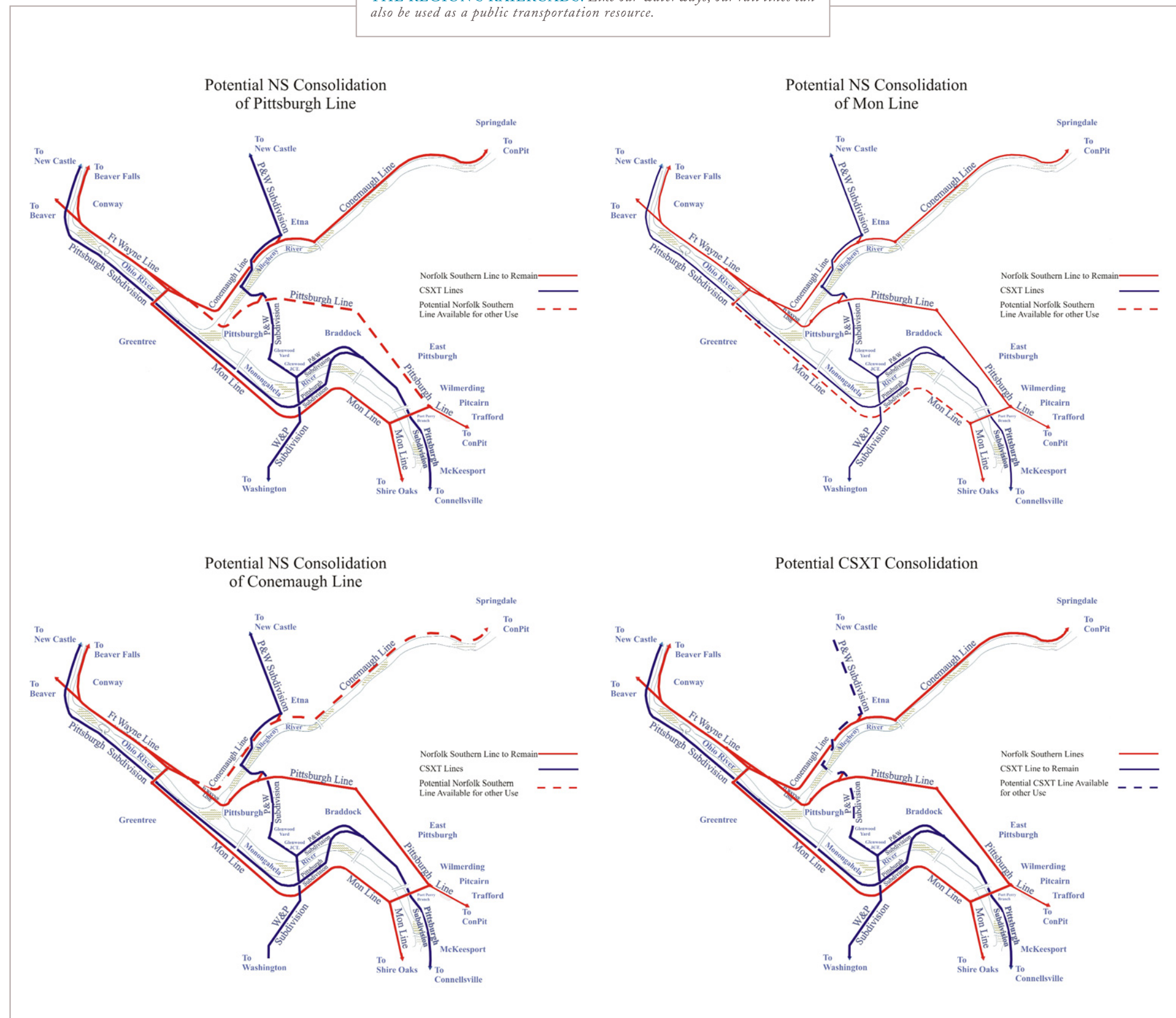
Interest in the region's waterways as a means of transporting passengers (in addition to their traditional role as carriers of freight) led to an evaluation of the potential for commuter ferries, water taxis, and excursion services. The three major rivers (Allegheny, Monongahela, and Ohio) were examined to determine if commuter ferries, water taxis, and excursion services could be cost-effective regional transportation options. The examination produced the following findings:

The examination produced the following findings:

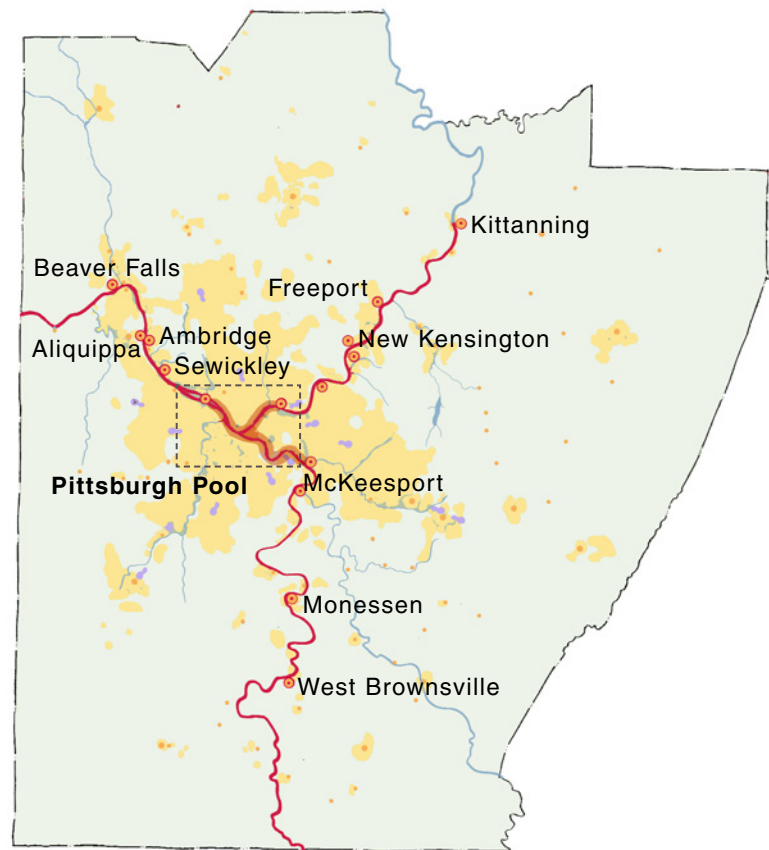
>>>>> **Commuter Ferry Service.** While important to maintaining river freight traffic and for flood control, the lock and dam system limits the ability to provide regional waterway passenger service. The lengthy time needed to pass through a lock renders waterborne public transportation uncompetitive when compared to highway and transit for time-sensitive travel such as commuting. Modifications to the locks and dams to improve travel time and service reliability would be cost-prohibitive. Potential commuter ferry service would be limited to the area between Downtown Pittsburgh and the first lock and dam on each of the three rivers (known as the "Pittsburgh Pool"). In order to support a commuter ferry service, feeder transit services, park-and-ride lots and river-front development would be needed.

>>>>> **Water Taxis.** Water taxis are effective in other cities in serving waterfront attractions. Within the Southwestern Pennsylvania region, the area that has the highest concentration of landside uses, and therefore the most potential for water taxi service, is found within the Pittsburgh Pool.

THE REGION'S RAILROADS: Like our waterways, our rail lines can also be used as a public transportation resource.



WATERWAYS: Historically used only for industry and commerce, our region's waterways are now a valuable transportation and quality-of-life resource.



Excursions



Commuter ferries



Water taxis

>>>>> Excursion Service. Excursion services are not as time-sensitive as other water transportation services. Rather, the focus of the trip is the experience of being on the water itself, of passing through a lock, or the entertainment onboard. As a result, excursion service could be considered in the region anywhere along the navigable waterways.

Conceptual Finance Plan

In addition to appropriate land use decisions, public transportation funding continues to be a critical issue. A service plan was created for each rapid transit facility considered for the Transit Vision in order to compare the daily trips, travel times, capital costs, and operating costs of each alternative. Implementing the Transit Vision would entail capital costs of \$9.5 billion from 2003 to 2025. Operating and maintenance costs averaging about \$410 million per year would be required, or about a 39% increase from the current \$294 million per year. A financing plan was then developed. (All costs are in 2002 dollars.)

The study examined all existing or projected public transportation financing programs, both government (federal, state and local) and private. A review of current data indicates that approximately 5% of the transit capital funds expended regionally come from local sources. State funding amounts to approximately 22% of the capital funds expended and approximately 73% of the capital funds come from the federal government.

Capital Funding

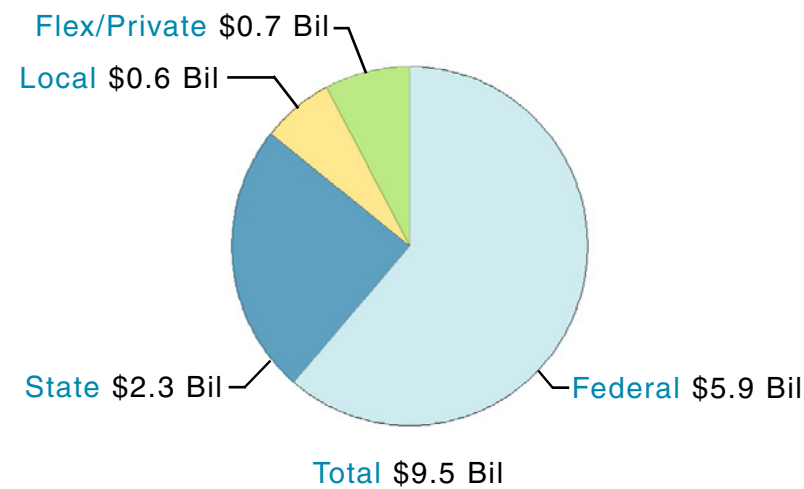
The capital funding concept for the Transit Vision assumes 2002 federal guidelines for funding of major projects and bus purchases.

For fixed guideway projects such as light rail transit, busway/bus rapid transit and commuter rail, the federal share is assumed to be 60%; for bus purchases, it is 80%. Transit amenities and facilities are often viewed as a more local responsibility, thus, 50% federal share was assumed. The total federal share for the Transit Vision is 61.3%, which is less than the composite 73% currently being experienced regionally. This decrease is consistent with what is occurring nationwide. On the state side, a 25% share was assigned to light rail transit and busway/bus rapid transit, while 20% was assigned to commuter rail, bus purchases and customer amenities. Under those assumptions, the total state share is 24.4%, which is up 2.1% from the current state share of regional transit capital spending of 22.3%. The local share of the capital program is estimated at 6.5%, which is 1.6% higher than currently experienced regionally. Finally, the conceptual finance alternative considers flex funding, as well as private funding. Flex funding is the utilization of traditional federal highway funds for transit capital projects. Flex funding and private sector participation are assumed to be available for funding the remaining 7.7% of the capital finance program.

Operating Funding

Regionally, 25% of the current operating revenues come from the farebox. With regard to local funding, approximately 10.5% to 16% comes from local sources. The state contributes approximately 49% to 62% of the operating funds, depending on the transit agency. Other revenues, such as advertising, generate approximately 2% of the income. With the federal focus on transit funding shifting away from operating assistance, the

CAPITAL FINANCING: *Funding the Transit Vision will be a shared responsibility.*



state and local agencies have been required to significantly increase funding. The percentages suggested in the Transit Vision are consistent with what is currently being experienced regionally in funding transit operations.

Management Structure

A better coordinated approach to planning, financing, constructing, and operating the region’s public transportation system is needed.

The study examined several national examples of regional operations and presents three potential approaches in this study. The first is continuation of the current approach of several independent transit operators cooperatively serving the region’s transit needs. The second is a regional authority, wherein one agency would operate or manage a consolidated public transit system across the region. The third could apply in cases where cross-regional service such as commuter rail is established which crosses multiple counties, in which case a regional Joint Powers Board, Intergovernmental Cooperation Agreement, or similar entity could operate that service for the region’s transit operators.

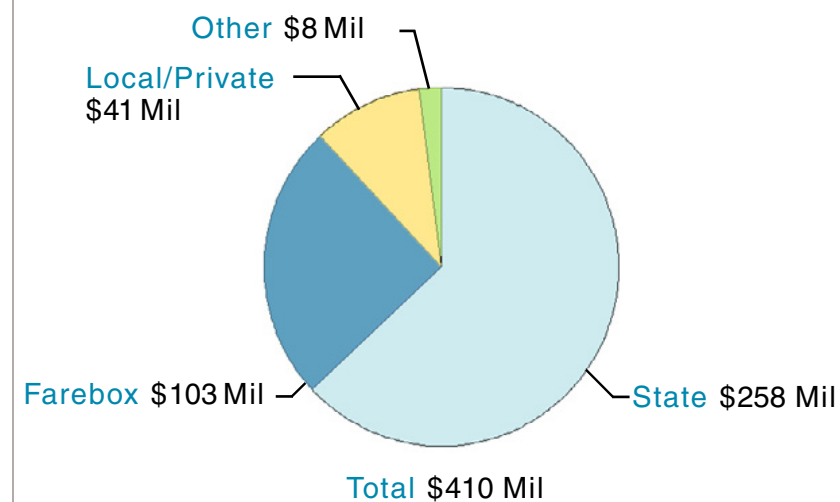
Enhancing the authority of SPC’s Transit Operators Committee (TOC) might be an appropriate organizational alternative. The TOC has been extremely effective in allocating federal dollars to the region’s transportation systems and in providing a regular forum for the transit agencies to meet and address common issues. The TOC provides an opportunity for regional transit service providers to meet to discuss funding and the regulatory environment. It also

provides an opportunity to keep abreast of the transit services and capital improvements within the region. Currently there is no interface as a committee with highways and little interface with other SPC committees (although the individual transit operators interact with county and municipal governments, and other transportation modes in their service areas). As such, little opportunity currently exists for the committee to impact regional highway and land use decisions.

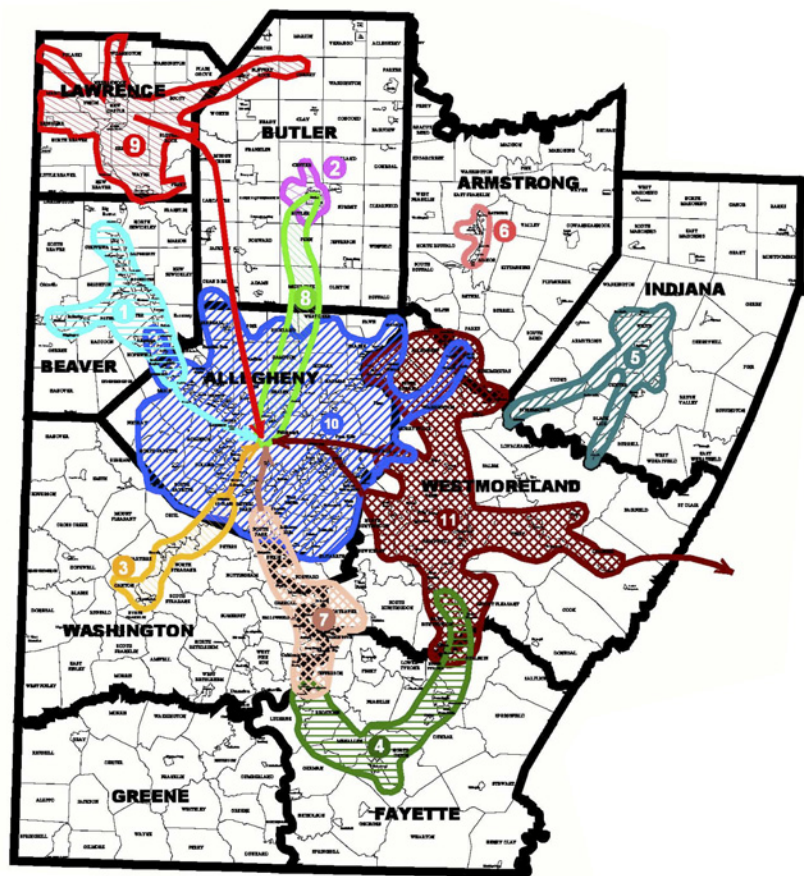
The analysis concluded that the TOC could become the transit planning forum for the region. Eventually, this committee could serve as a Joint Powers Board, or Intergovernmental Cooperation Agreement for any cross-jurisdictional guideway transit services that may be established within the region. The current committee could evolve into a group of varied stakeholders with equal representation. Initially, the TOC could begin to function as a regional coordinating council with some limited cross-jurisdictional powers. The organization would need a staff that can enhance transit planning, transit development planning, capital programming, funding, and operations planning, and begin closer coordination with highway planning and land use decisionmaking. This approach would require funding for committee staff, a clear delineation of its role relative to that of the individual transit operators, and identification of any cross-jurisdictional transit service that it would manage.

As a first step, the TOC could function as the transportation planning entity for the region and coordinate regional service planning, fare media/policy issues, funding, and project/program develop-

FINANCING OF ANNUAL OPERATING AND MAINTENANCE COSTS



TRANSIT OPERATORS COMMITTEE: *The role of the existing transit operators committee should be expanded to plan and implement enhanced services such as park and ride, alternative fuels, intelligent transportation systems, etc. The TOC should advance the role of transit and land use coordination throughout the region. When cross-jurisdictional services such as commuter rail are advanced, a new entity such as a Joint Powers Board or Intergovernmental Cooperation Agreement should be considered by the TOC to plan and operate the service.*



Shaded areas are fixed-route transit service areas in the region

ment. Given time and adequate resources, this group could, with proper agreements regarding representation, operations and funding, effectively manage cross-jurisdictional transit services in Southwestern Pennsylvania.

Focusing on Our Future

The Regional Transit Vision:

>>>>> *Achieves Community Aspirations.* The recommendations of the Strategic Regional Transit Vision are derived from input received at citizen forums, public meetings, civic leader interviews, design charrettes, and community survey responses.

>>>>> *Supports Regional Plans.* The land use and transportation recommendations contained in the Transit Vision generally support the goals, objectives, and anticipated outcomes of the SPC regional plan.

>>>>> *Integrates Current and Proposed Land Use and Transit Initiatives.* The Transit Vision incorporates local initiatives such as the Airport Corridor, Eastern Corridor, High-speed Maglev, Cranberry Area Transit Study, Westmoreland Smart Growth, Riverlife Task Force, Airport Area Land Use, and other regional land use and transportation initiatives.

>>>>> *Protects the Environment and Promotes Sustainability.* Implementing the regional Transit Vision will help to preserve existing neighborhoods, influence the design of newly developed areas, and preserve open space. It will enhance sustained economic growth by providing improved mobility and accessibility.

>>>>> *Is Achievable and Attainable.* The approach outlined in the Transit Vision is achievable due to the economic return that will occur on the investment and attainable due to the anticipated increases in federal, state, and local/private transit investment.

>>>>> *Is Timely.* Transit not only serves the community, but is also an investment strategy that assists in forming how the community looks and feels and how future urban, suburban, and exurban development is ultimately designed.

>>>>> *Is Essential.* The Strategic Regional Transit Vision provides an immediate opportunity to better understand what the public, civic and business leaders, and policy boards envision regarding land use and development within the region and the supporting transit system. Southwestern Pennsylvania is poised at a time of unique opportunity to chart a direction for significant regional mobility and development. An assessment of existing service and unmet demand demonstrates a growing need for improved regional mobility alternatives. The Strategic Regional Transit Vision serves as an incentive for citizens, transit providers, agencies, and local and state governments to work cooperatively in creating a coordinated program that maximizes the effective utilization of economic, facility, and land resources. The goal is to preserve existing transportation and land use investments while making future investment decisions that enhance the quality of life and economic viability in Southwestern Pennsylvania.

Next Steps/Immediate Challenges

As the area grows over the next several decades, transportation and land use will play vital roles in maintaining and increasing the quality of life within the region. However, several challenges must be met. These challenges include, but are not limited to:

>>>>> *Long Range Regional Planning Involvement.* Transit agencies must have a larger role in regional planning, from both a transportation and land use standpoint. This includes working with SPC to continue to incorporate elements of the Strategic Regional Transit Vision into the Regional Transportation Plan updates and the Transportation Improvement Program.

>>>>> *Local Planning and Development Involvement.* Transit must play a greater role in the comprehensive planning, zoning, land development, and master planning activities at the local government level. Transit agencies should work closely with their appropriate jurisdictional planning bodies to ensure that transit improvements are consistent with adopted county and municipal comprehensive plans. This includes working with the region's counties, cities, townships, and boroughs to better integrate transit and land use in their respective comprehensive plans and land development/zoning codes.

>>>>> *Allocation of Available and Potential Financial Resources to Meet the Transportation Needs of the Region.* This includes utilizing existing and future funding sources for cross-jurisdictional projects, fixed guideway projects, and a transit amenities program.

>>>>> *Cooperation in Setting Priorities.* This Transit Vision contains a significant investment in transit infrastructure throughout the region. Given the current and anticipated federal, state, and local funding outlook, the governmental entities and the transit agencies within the region must work together to prioritize improvements based in part upon project need, anticipated impact, area-wide benefit, local funding, and logical project extensions.

>>>>> *Private Sector Participation.* Transit service providers must actively pursue joint development at transit facility locations, as well as actively pursue capital and operating joint ventures with private developers;

>>>>> *Regional Cooperation.* The transit agencies within Southwestern Pennsylvania must continue to cooperatively address issues such as fare policy, fare media, fare collection technology, coordination and cooperation on route planning, route structure, and system operations.

TRANSIT-ORIENTED CENTERS



Transit-Oriented Centers are created using four important principles: Provide a compact and complementary mix of transit-supportive uses; provide pedestrian-friendly blocks, streets, sidewalks, and properties; reduce automobile use and lower parking requirements; and design transit to be at the core of the community.

>>>>> *Utilization of Technology.* The region's transit service providers must accelerate their efforts to utilize technological advances in the Intelligent Transportation Systems arena such as Automatic Vehicle Location devices for real-time travel information, travel planning centers, electronic fare payment systems, automated vehicle maintenance programs, and CCTV for congestion management.

>>>>> *Commitment to the Environment.* Transit-friendly development practices will lower the impact of the transportation system on the environment. Use of clean fuel buses will help improve air quality, while re-use of existing transportation corridors for future improvements will lessen the impact on vacant or undeveloped land.

>>>>> *Development of a Transit Amenity Program.* The transit agencies should set aside resources to improve customer amenities including investments in park-and-ride facilities and intermodal transit centers, more attractive and comfortable vehicles, and improvements to local bus stops and customer waiting areas.

section b: our region

Although comprised of ten counties with more than 500 municipalities, southwestern Pennsylvania is one region, home to 2.7 million residents and employing over 1.5 million people. The region's neighborhoods, with their individual and unique qualities endow the cities, villages, and towns in our region with great and highly prized diversity. Anchoring these neighborhoods is a strong core of international renown: downtown Pittsburgh and Oakland.

Our landscape is equally varied. Rivers, valleys, and mountains shape the multitude of ecosystems within the region, providing healthy habitats of many types. The diversity of habitat and landscape creates a regional biosystem that is second to none in the nation. The landscape clearly defines the bounds of our urbanized areas, provides recreational opportunities, access to natural areas, and a strong agricultural economy.

The complexity and health of our natural and human habitats represent the region's greatest strength: a strong sense of place. Unlike many fast-growing regions around the country that have become *generica*, southwestern Pennsylvania has retained its heritage, its authenticity, its identity, and its uniqueness. These are the qualities and resources that must be nurtured as the base on which the region grows.



overview: the southwestern pennsylvania region

This section of the report further describes the region's strengths and opportunities, compares this public transportation visioning effort to that of other regions, and concludes with a summary of themes common to activities throughout our region. The highlights of this discussion are:

>>>>> Our economic transformation from 'Steel Town' to 'Knowledge Town' is ongoing and our economy is positioned for growth and competitiveness in the global economy, driven by the region's growing base of information technology, health-related and biotechnology enterprises;

>>>>> Maintaining and improving the quality of life in our region requires us to both honor and preserve the unique qualities of each of the communities that make up our region at the same time that we participate as members of a regional community. Public transportation facilitates regional unity by improving access between important places throughout the region and to neighborhoods and jobs, recreational opportunities, medical and other services, and cultural/leisure activities;

>>>>> Public transportation helps support the health of our natural environment by consolidating travelers from single-occupant automobiles onto public transit modes;

>>>>> Public transportation facilitates access to the many colleges and universities in our region, ensuring that these institutions are connected to urban centers, other research institutions, employment opportunities, and government centers;

>>>>> To maximize the potential of both Oakland and downtown Pittsburgh as our region's primary economic generators, increased public transportation is essential. Without such investment, the development potential of Downtown and Oakland will be stunted;

>>>>> Public transportation can assist the county seats in becoming stronger regional urban centers;

>>>>> Public transportation can support riverfront development and revitalization, especially in brownfield locations, by ensuring that these sites and communities have access to the entire region;

>>>>> This Regional Strategic Transit Vision complements an array of ongoing projects throughout the region that are focused on addressing quality of life issues for southwestern Pennsylvania. The Transit Vision is also consonant with many similar undertakings across the nation whose purpose is to encourage local conversation and dialog among the region's citizens about the future form of the region and the transportation investments that will support the creation of that form;

>>>>> Mobility, access, and economic development are inextricably linked and are the common themes of all these planning efforts and the hallmarks of this Regional Strategic Transit Vision for southwestern Pennsylvania; and

>>>>> While our region's existing public transportation system is relatively strong, it must be both maintained and further strengthened in order to support a strong regional economy. In addition, underserved communities and employment centers require new public transportation service to provide connectivity, access, and opportunity for area residents and businesses.

from steel town to knowledge town

Our region has emerged from its economic transformation and is well poised to increase its competitiveness in the global economy.

Southwestern Pennsylvania was the Silicon Valley of 100 years ago with enormous wealth created by young entrepreneurs such as Andrew Carnegie and George Westinghouse. But the prosperity was accompanied by a heavy environmental price. Pittsburgh indeed became “hell with the lid taken off,” but it was also the “arsenal of democracy” in the Second World War. At the end of the war in 1945, air pollution was so bad that the corporations themselves were threatening to leave and citizens were protesting the dangers of smoke. Two unlikely allies emerged to lead Pittsburgh into its famed Renaissance I – Democratic Mayor David L. Lawrence and Republican business magnate Richard King Mellon. Together they forged a strategy that included smoke control, flood control, redevelopment of downtown Pittsburgh, a new airport, new highways, housing, and cultural amenities. It was an unprecedented 20-year transformation, and a model copied by the rest of the world.

In the 1970s and ‘80s, Mayor Richard Caliguiri, again in partnership with Pittsburgh’s corporate leadership, took up the challenge with Renaissance II which included light rail transit and busways, major downtown corporate buildings, cultural facilities, and neighborhood housing. The regional economy was rocked by the loss of 150,000 jobs in the 1980s with the restructuring of the American steel industry. As employment shifted to other industries and occupations such as banking, healthcare, and high technology sectors, the regional economy regained its strength.

The region is now in a third renaissance which has seen major public investments in two stadiums and a new convention center in the center of the City of Pittsburgh, brownfield redevelopment and new housing throughout the region. But regional rejuvenation really extends to a larger vision – that of continuing to expand and diversify the region’s economy through an ever-growing base of information technology, health-related and biotechnology enterprises. One of the engines of this economic evolution is the emergence of a robust medical sector and two great research institutions, Carnegie Mellon University and the University of Pittsburgh. President George W. Bush, in a talk in Pittsburgh in February 2002 noted that, “...while Pittsburgh used to be called *Steel Town*, they need to call it *Knowledge Town*.”



Southwestern Pennsylvania has a legacy of proactively addressing regional issues of economic development, transportation, housing, and the environment.

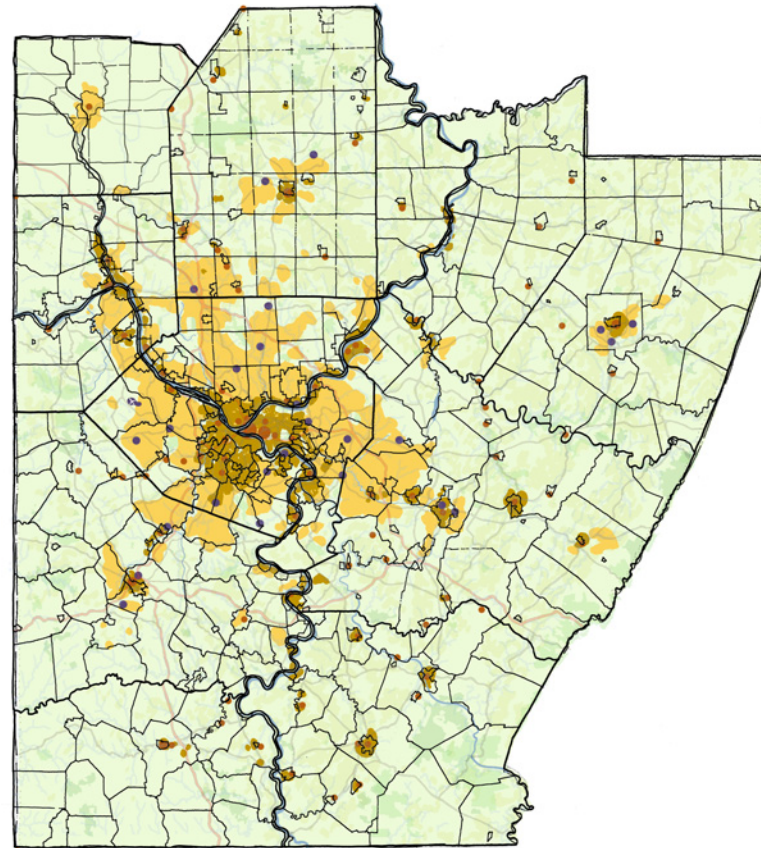
our region, one region

Our regional diversity is a positive quality, but diversity of communities and neighborhoods provides challenges in effecting change. For the region to continue to grow and prosper these individual and unique communities must speak with a single voice on matters that transcend individual communities like natural resources, the environment, and transportation infrastructure investments.

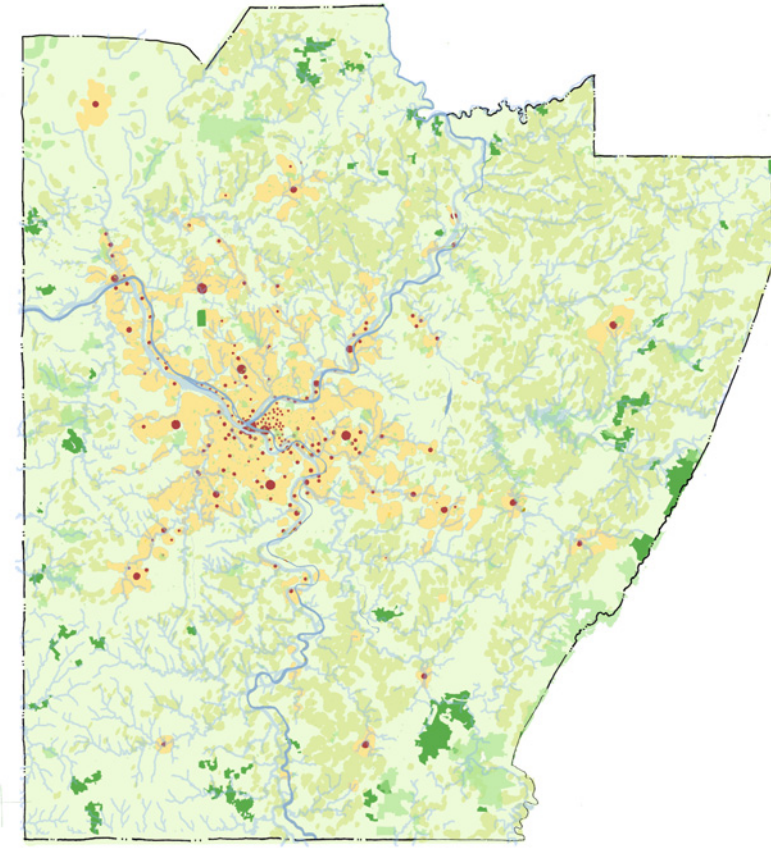
Our daily patterns of life require us to constantly cross municipal and political boundaries. The operations of every store, office, factory, and institution we visit on a daily basis rely on a network of vendors, resources, and capital located throughout the region and beyond. Access to, not competition for, these networks is the critical ingredient for economic development. Because we share resources throughout the region, we have, undeniably, a shared future. The actions of one individual, one borough, one township, or one county inevitably affect all the others.

In order for the region to flourish as a cohesive unit, the functional and operational divisions between city and suburb, valley and upland should be addressed while taking into account the individual identities of the region's towns, cities, villages, and neighborhoods. Maintaining and improving the region's quality of life depends not only on effectively maintaining the unique identity of each of our individual communities, but also on their active participation in the regional community.

COMPLEX REGION: *Our individuality must be harnessed to promote regional cooperation.*



ONE REGION: *In order to maximize our region's global competitiveness, we must operate as a single unit, in which citizens and municipal units work together to foster regional growth and quality of life.*



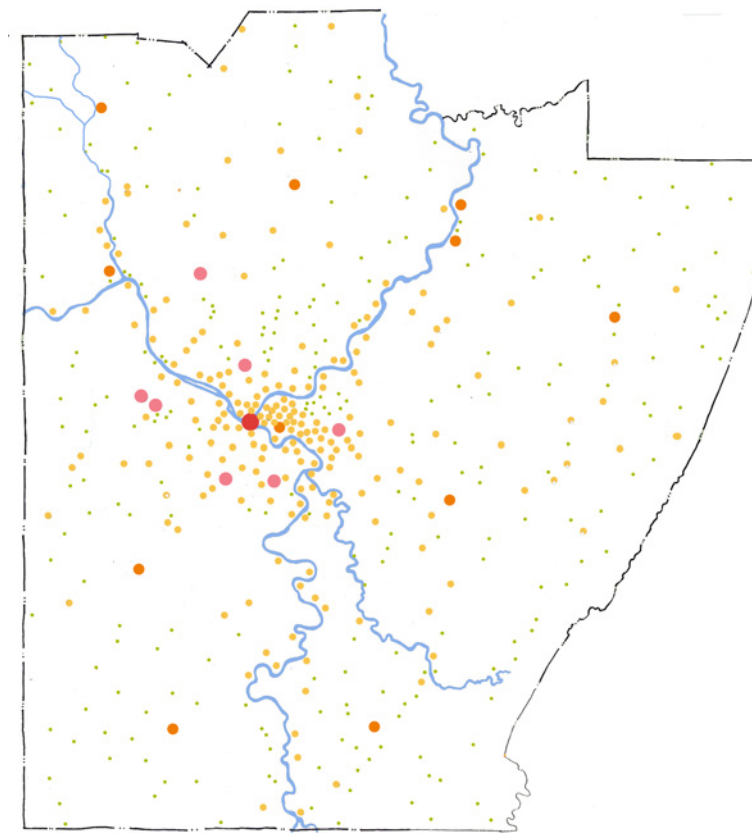
THE ROLE OF PUBLIC TRANSPORTATION Public transportation can help the region function as a singular unit by providing an additional network of movement between important places in the region. Public transportation helps improve access between neighborhoods and jobs, recreational opportunities, medical services, as well as cultural and leisure activities.

Our Region, Our Communities

Southwestern Pennsylvania's strength is its physical and ecological diversity. Unlike most of the faster growing regions of the country whose sense of identity has been eroded by explosive growth, southwestern Pennsylvania presents a rich variety of communities – places, cities, towns, and villages – each with an individual identity. Our relatively slow growth has preserved a rich diversity of communities with unique personalities and strongly defined identities.

The myriad of communities that make up the region offer an endless variety of cherished and authentic places, each with a history and traditions of its own. These places take the form of villages, towns, downtowns, hamlets, and neighborhoods of all scales. It is the variety and the individuality of them that makes southwestern Pennsylvania unique.

CITIES, TOWNS & VILLAGES: *Our hundreds of unique communities are one of our greatest strengths.*



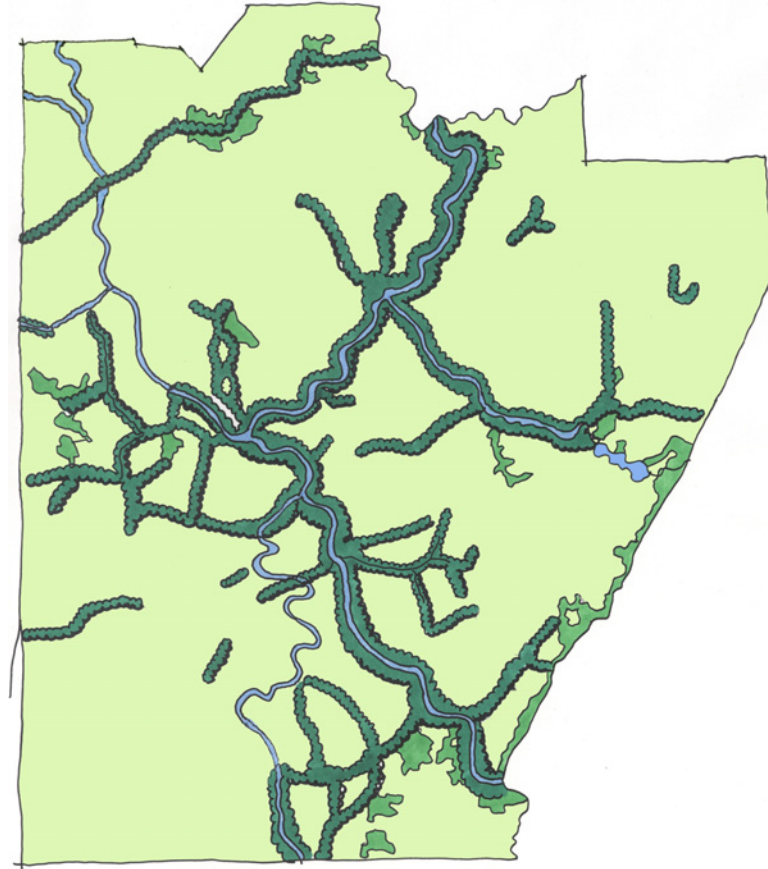
THE ROLE OF PUBLIC TRANSPORTATION Public transportation can provide fast and convenient access. Public transportation can help retain the human scale of streets and buildings in our region's communities, towns, and villages.

Our Region, Our Natural Environment

Overall, the region's ecology is healthy and diverse. Our ecosystem and wildlife habitats are thriving and vital. Industrial activities of the past took their toll on natural habitats along riverbanks and streams and on groundwater and air quality. Regional and local efforts have worked together admirably to mitigate problems and restore nature's balance. The air and water are noticeably cleaner. The region's rivers and streams, once heavily polluted and nearly devoid of life, have been transformed into a regional asset lined in many areas with trails and parks and offering boating, fishing and other water-related recreation opportunities.

The region is now endowed with a renowned trail and parkway system that links together many of our neighborhoods, heritage sites, and parks into a single connected system. The region's many waterways, the three rivers and their related tributaries, have become the primary components of this system. In particular, the Youghiogheny River Trail has established itself as one of the premier trail and recreational systems in the country as it connects southwestern Pennsylvania to Washington, D.C. with continuous hike/bike trails. These developments are critical investments in the region's quality of life.

REGIONAL PARKS AND CORRIDORS: *Maintaining the health of our natural environment is an essential component of increasing our quality of life.*



THE ROLE OF PUBLIC TRANSPORTATION Public transportation can help support our region's natural environment by consolidating trips. A bus full of people represents about 50 cars that are parked at home and not traveling on the road. Transit centers in villages and towns can become trailheads to the regional trail system.

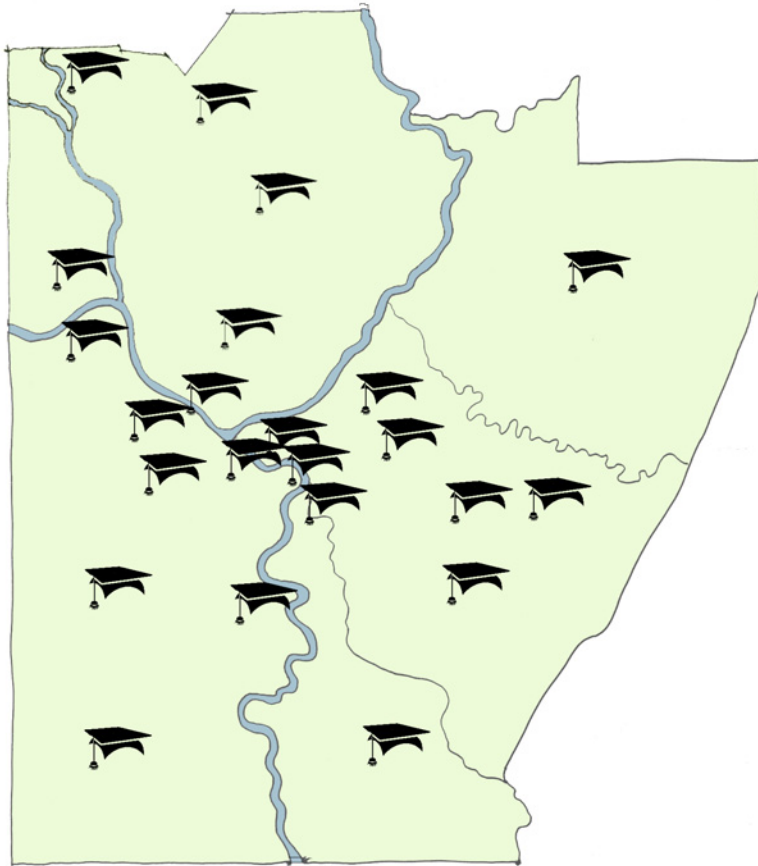


Our Region, Our Institutions

We are now in a knowledge-based economy. Healthy economic development is based on a region's ability to provide high levels of talent, knowledge, and innovation. Southwestern Pennsylvania is endowed with dozens of universities, colleges, and institutions of higher learning. Many of these institutions are respected worldwide for their teaching and research. Our universities and colleges are the breeding ground for talent, entrepreneurial spirit, and technology that will be the fuel for a new competitive regional economy.

The increased importance of universities and colleges in the regional economy demands that they be connected to more than just their immediate students, faculty, and staff. Universities and colleges must be connected to urban centers, to other research institutions, to employment opportunities, and to government centers in order for these educational institutions to flourish.

HIGHER EDUCATION: *Our region is blessed with numerous world-class institutions specializing in technologies valued by the global economy.*



THE ROLE OF PUBLIC TRANSPORTATION Most campuses are both pedestrian-friendly and transit-friendly. Public transportation can help the region connect primary institutions. In addition, public transportation can play a role in connecting job opportunities to research institutions, thereby improving 'work study' and internship opportunities. The cross-fertilization taking place between the private sector and academia will fuel entrepreneurial activity in the region.

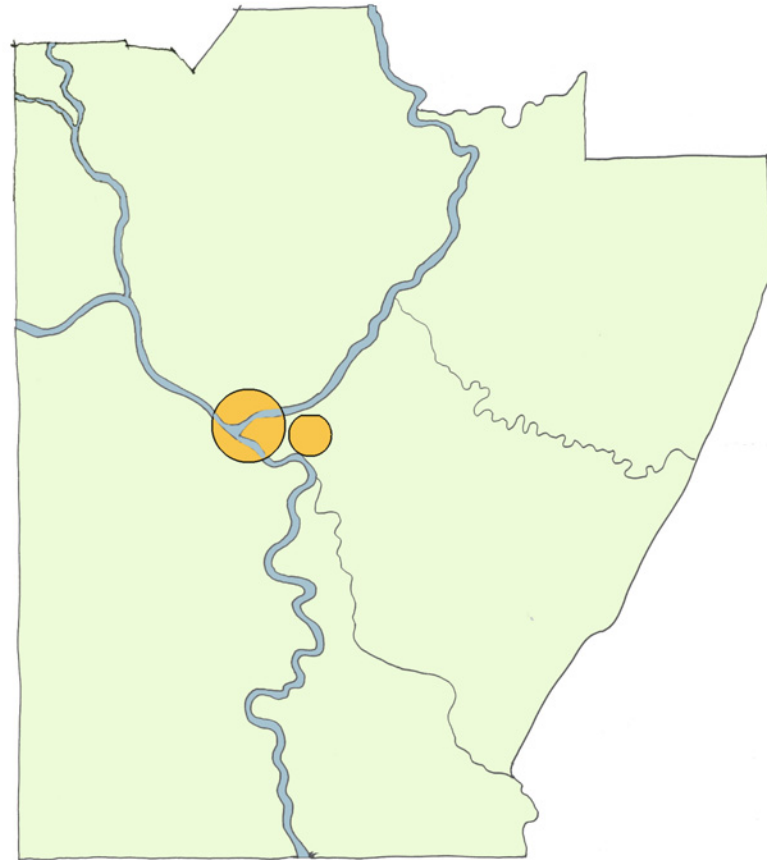
Our Region, The Primary Economic Generators

Downtown Pittsburgh's Golden Triangle and Oakland are, and will continue to be, the primary economic generators of the region. Together, Oakland and downtown Pittsburgh are home to over 200,000 jobs, nearly 30,000 residents, and dozens of cultural destinations. They are the region's largest center of commerce, education, entertainment, culture, and real estate. In recent years, Downtown Pittsburgh has begun to diversify by encouraging residential development. Currently over 5,000 people live in Downtown Pittsburgh and, if Oakland were a city unto itself, its daytime population would be the third largest in the Commonwealth.

If the Golden Triangle is the financial center of the region, then Oakland is its intellectual and entrepreneurial center. Both the University of Pittsburgh and Carnegie Mellon University have spun off hundreds of private sector, homegrown companies. Both universities bring hundreds of millions of dollars into the region via research grants and endowments each year. Together, Oakland and downtown Pittsburgh have over \$1 billion in planned private investments underway. These investments are expanding these districts' borders to the North Shore, Strip District, South Shore, Shadyside, Hazelwood and South Side, among others, and are bringing tens of thousands more employees and visitors to these areas daily.

Accessing these investments is critical. Highway investments alone will not provide adequate accessibility to these areas in the future. Public transportation is needed to expand the 'core capacity' of both Oakland and Downtown.

THE CORE: *Our core is strong; transit investments are necessary to keep it that way.*



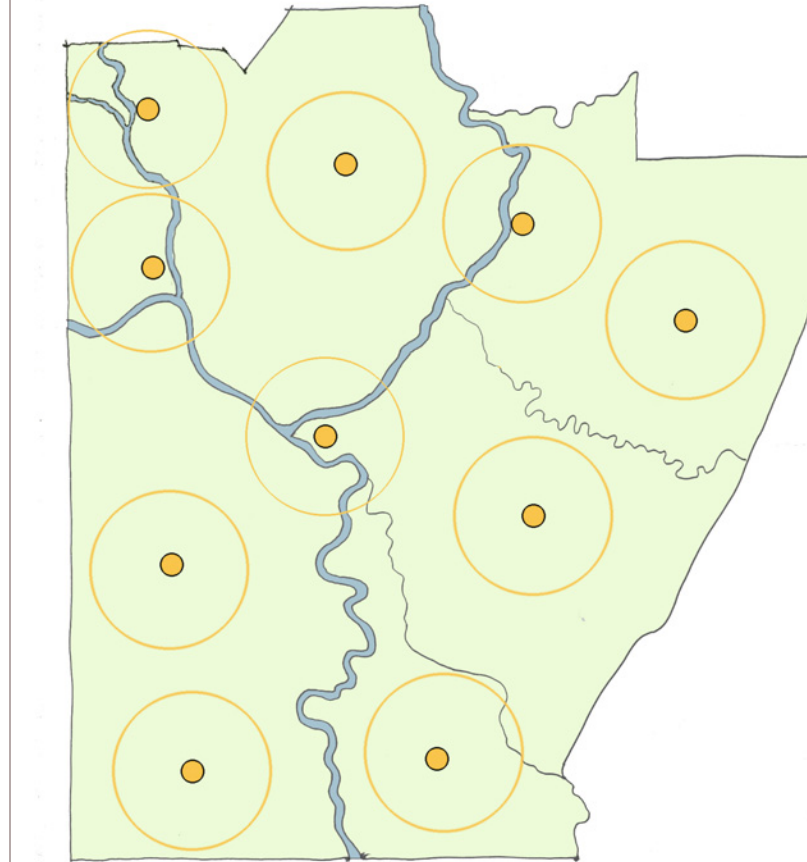
THE ROLE OF PUBLIC TRANSPORTATION Public transportation will enhance the growth potential of Oakland and Downtown Pittsburgh. Transit investments serving Downtown and Oakland will encourage the type of high density transit-oriented development desired by a knowledge-based economy.



Our Community, County Seats

While Pittsburgh is the largest city in the region, the region's nine other county seats offer a healthy diversity of urban environments. These 'self-contained' or satellite cities offer accessible, affordable urban amenities. Each is a center for government, culture, and business for its respective surrounding rural and suburban areas.

COUNTY SEATS: *The county seats represent a unique opportunity to create strong urban centers in the region.*



THE ROLE OF PUBLIC TRANSPORTATION Public transportation can be used as a tool to encourage higher density development. County seats can become stronger transit markets with high levels of transit service. County seats can also become employment, cultural and civic centers supported by strong urban neighborhoods. Transit can expand the potential employment base of the downtowns by connecting them with neighborhoods around the region.

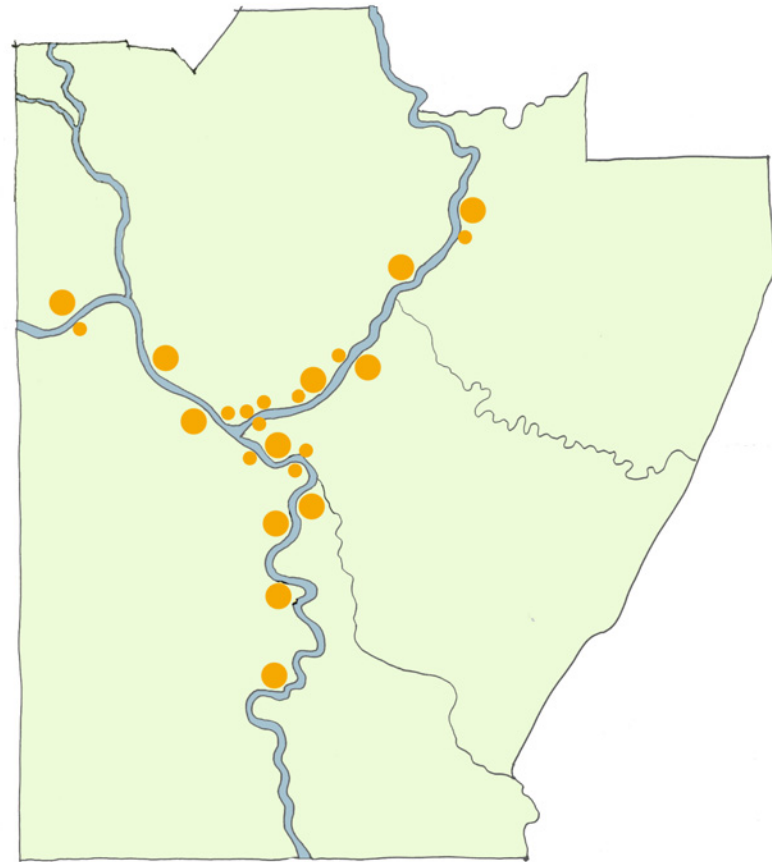


Our Community, Riverfront Development

In recent years, the region has rediscovered the value of our waterways and riverfronts. Once the region's primary means of moving resources for industry, our rivers are now recognized as the 'front doors' to our communities. Where steel mills and coke plants once stood, commercial development, high tech offices, neighborhoods, and parks are now being planned and built. Billions of dollars have been invested in public and private developments along the region's three rivers. The Waterfront in Homestead, West Homestead, and Munhall has become the region's largest commercial district with over four million square feet of retail, and is a major generator of traffic in the Mon Valley.

From a riverfront park in Kittanning, to the Aquatorium in Monongahela, to a commercial district and marina in Bridgewater, riverfront development is proving to be a key ingredient to valley town revitalization. It can increase the local tax base and provide employment for local residents. Our rivers are becoming a critical component of the region's investments in quality of life amenities as they become the place where we celebrate our heritage and enjoy our environment.

RIVERFRONT OPPORTUNITIES: Riverfront sites throughout the region can be redeveloped with unique amenities such as access to water, recreational trails, and spectacular views.



THE ROLE OF PUBLIC TRANSPORTATION Transit can become the main driver in the revitalization of our region's brownfields. Public transportation can help connect these sites and communities to the entire region.

our region, a work in progress

Our region is moving forward. Listed below is a sampling of projects notable for the broad, ‘big picture’ approach they take to an otherwise specific effort. Each of these efforts demonstrates an ecological approach to regional problem solving – that is, they take an approach that understands how the interconnectedness of multiple regional systems (transportation, water quality, recreation, economic, etc.) is the real key to creating a healthy and sustainable region.

County Comprehensive Plans

All of the counties in the region have completed or are in the process of updating their Comprehensive Plans. Such plans, in addition to providing a basis for advancing a county’s goals, are also a requirement called for in state law governing county planning activities. The following highlights some of the recent efforts in the region:

>>> The Westmoreland County Comprehensive Plan incorporates the results of the Eastern Corridor Transit Study, including commuter rail and busway expansion, and includes ideas such as transit service expansion and Bus Rapid Transit. Consideration of high-speed Maglev in the future is addressed. Transit oriented development is recommended, and improved pedestrian and bicycle accessibility is also stressed.

>>> Washington County’s draft Comprehensive Plan calls for improved transportation and land use coordination, and consistency of transportation plans with economic development initiatives. Transit-oriented development is encouraged, and improved transit service and park-and-ride facilities are recommended. The Plan is supportive of ideas to extend the regional light rail system into the

county, and development of a demonstration low-speed Maglev system in the county.

>>> The Comprehensive Plan for Armstrong County calls for improved/increased public transportation within the County, and investigation of providing transit connections to other counties. It also suggests pursuing concentrated development to enhance the feasibility of transit improvements.

>>> In Beaver County, the Comprehensive Plan supports provision by BCTA of various types of fixed-route and demand-responsive transit in the County. In addition, it suggests investigation of potential for a commuter rail system to the City of Pittsburgh, promoting higher density residential, employment, shopping and activity centers around transit service, and encouraging land developments adjacent to existing and future transit corridors, and that all new public arterial and major collector road designs should be transit compatible.

Regional Transit Operators Committee

The committee consists of the ten public transit operators in the region, the region’s ridesharing partnership (CommuteInfo), and the region’s three transportation management associations. The committee allocates and programs federal transit funds coming to the region, programs transit projects, coordinates planning activities, and addresses other common transit issues of regional interest.

The committee is a co-sponsor of the Regional Strategic Transit Visioning Study. It serves as a forum for pursuing regional transit studies of joint interest, such as the recently completed Eastern

Corridor Transit Study and the Regional Joint Transit Marketing Study conducted in the mid-1990s.

Cranberry Area Transit Study

This study was another joint study of the Transit Operators Committee, in particular the Butler Township City Joint Municipal Transit Authority (BTCJMTA), the Port Authority of Allegheny County (PAAC) and SPC. Cranberry Township in southwestern Butler County and neighboring municipalities in Butler, Beaver, and Allegheny counties are located at the crossroads of four major regional highways; Route 19, Interstate 79, Route 228, and the Pennsylvania Turnpike. This area is experiencing one of the highest growth rates in the region. Although only limited transit service is currently provided, park and ride lots in this area are at capacity. The study dimensioned the potential market for transit service, looked at ways to integrate transit service into new developments, and reviewed organizational aspects of expanding transit in Butler and Allegheny Counties.

Riverlife Task Force: A Vision Plan for Pittsburgh’s Waterfront

In October 2001, the Riverlife Task Force released *A Vision Plan for Pittsburgh’s Waterfront*. The Plan articulates an exciting, far-reaching, visionary, and bold strategy for transforming the region’s rivers from an “industrial wasteland” to its new front door. However, the plan is much more than simply an idea for “greening the river.” Three Rivers Park will become a critical element to the overall desirability and quality of life of the region. The confluence of three rivers will become the cen-

terpiece of the region's community life by serving the commercial, residential, recreational, transportation, and aesthetic needs of the region.

Rivers of Steel

The *Rivers of Steel Program*, produced in 1997 by the Steel Industry Heritage Corporation, builds on the inspiring vision presented by the *Steel Industry Concept Plan* in 1993. The program preserves and celebrates the story of Big Steel and its related industries and teaches us the legacy of southwestern Pennsylvania as a powerful hub, a world leader, and an industrial giant. The Rivers of Steel Program is more than merely a history lesson. The program is implemented through multi-faceted initiatives in transportation, recreation, redevelopment, and the preservation of natural resources. Its implementation will have a major affect on the regional economy by promoting tourism, economic development, and higher quality of life.

Route 8 Corridor Economic Development Plan

The Route 8 corridor in Allegheny County between the Borough of Etna along the Allegheny River, north to the Township of Richland bordering Butler County, is one of the region's oldest and fastest growing corridors. Historically, the corridor's transformation from a two-lane creekside road to a four-lane commuter route has been uncoordinated and unplanned. The Route 8 Corridor Economic Development Plan is a long-range strategic plan developed by the four Route 8 municipalities in Allegheny County. The study is designed to transform Route 8 from a high-speed transportation route (with disinvestment and environmental degradation along the way) into an asset to the community. The study answers the questions:

>>> What should the Route 8 corridor look like in 2020?

>>> What should the four communities do to strengthen their position in the regional marketplace?

>>> What activities, amenities, and ambiance are needed to stimulate private sector investment?

The answers to these questions include recommendations for a transit-friendly mix of uses, restoration of the natural landscape, redevelopment of vacant industrial and commercial sites, creation of trails and paths, transit amenities, and traffic improvements.

Westmoreland Smart Growth

Westmoreland County has experienced both the benefits and the problems associated with economic development and growth. The County's established urban centers and neighborhoods have stagnated while its suburban areas adjoining Allegheny County have grown rapidly. The Smart Growth Partnership of Westmoreland County is a private community land-use advocacy group headquartered at the University of Pittsburgh at Greensburg. Through educational outreach and project advocacy, the Partnership works to promote the development and implementation of cooperative land use strategies to protect the quality of life in Westmoreland County while sustaining economic growth.

Eastern Corridor Transit Study

Southwestern Pennsylvania Commission, Port Authority of Allegheny County, and Westmoreland County Transit Authority conducted a yearlong study to identify transportation needs and potential public transit improvements in a large corridor encompassing downtown Pittsburgh, eastern neighborhoods, and extending into western Westmoreland County. This study examined the

transportation needs of residents and employers in the study area and identified a series of public transit improvements that address those needs and encourage mobility and economic development. Among other ideas, the study explored the possibility of extending the East Busway, potential commuter rail service, light-rail options in Oakland, Allegheny Valley and Mon Valley, and overall improvements and extensions of the bus system.

Airport Multimodal Corridor Study

This study was also a joint effort of SPC and Port Authority, along with PennDOT, Allegheny County, the county Airport Authority, and City of Pittsburgh. With the completion of the Pittsburgh International Airport's new terminal building and access roadways, the airport corridor has become one of the region's fastest growing and most congested areas. Much of this congestion is created by the new development along the corridor, including one of the region's largest shopping areas in Robinson and North Fayette townships. The *Airport Multimodal Corridor Study* focused on the transportation needs of residents, visitors, and employers using the Parkway West and other roads between Downtown, Oakland and the Airport. The study examined ways in which transportation options in the corridor can both relieve congestion and create development opportunities. The study explored possibilities of commuter rail along the Ohio River Valley, extension of the West Busway, light rail and rapid transit service between Downtown and the Airport, additional and improved freeway interchanges, widening of the Parkway West and additional tunnels at the Fort Pitt Tunnel.

Both the eastern and multimodal corridor studies included transit/community vision concepts focused around existing and future transit stations.

regional visions from around the country

Our region will continue to be in competition with other regions across the country for limited federal funding for transportation investments. Continued progress in advancing regional transit priorities is essential to our success in obtaining these funds.

Several regions around the country are currently engaged in similar visioning studies designed to encourage local discussion about the future form of these regions and supporting transportation investments. Each of these regions has adopted an approach similar to this study, one in which transportation investments are seen as one of many interdependent components for improving the quality of life in the region. In order to secure adequate funding for our own public transportation needs, we must demonstrate that our region's transit system is doing all it can to support, enable, and sustain regional growth.

Charlotte/Mecklenburg

Background

>>> Projected 237,000 additional residents and 230,000 additional jobs by 2015.

Main Policies of the Vision

>>> Regional coordination is the primary goal of the vision.

>>> Implement a multimodal system of transit to increase mobility, economic growth, and prosperity.

>>> Employ a 'corridors and centers' land-use strategy to maximize existing transportation usage and infrastructure.

Portland Oregon: Metro 2040

Background

>>> Groundwork set in 1979 with voter-approved Urban Growth Boundary (UGB).

>>> Projected 720,000 additional residents and 350,000 additional jobs in 50 years.

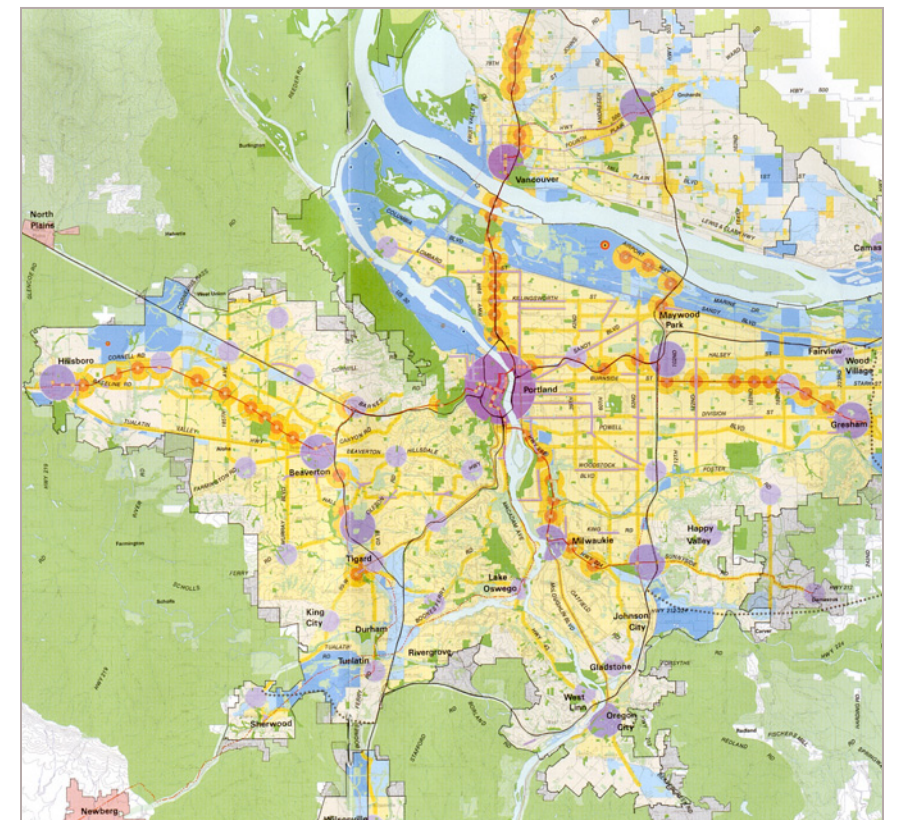
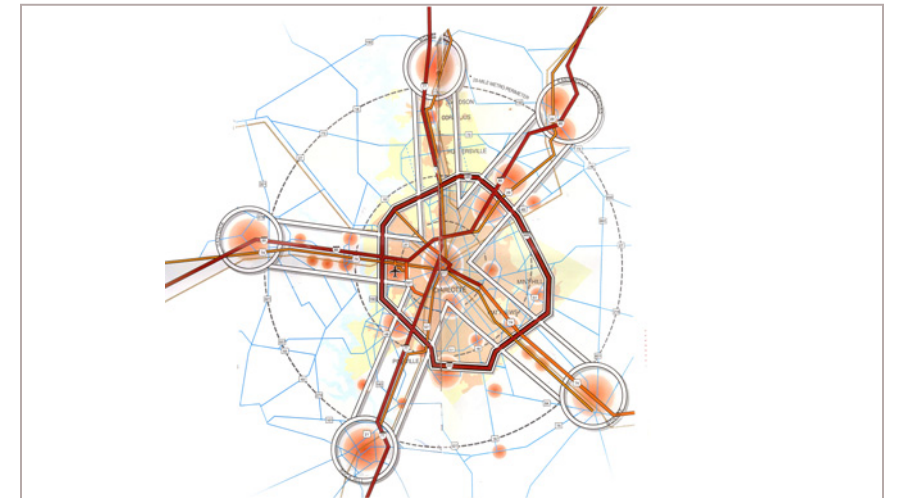
Main Policies of the Vision

>>> Encourage growth in centers and corridors through increased emphasis on redevelopment within the UGB.

>>> Protect natural areas, parks, streams, and farmland both inside and outside the UGB.

>>> Promote diverse housing options throughout all parts of the region.

>>> Work with neighboring cities just outside the UGB to keep separation between communities.



The Charlotte Mecklenburg Region (top) emphasizes corridor development.
The Portland Region (bottom) establishes an urban growth boundary that contains sprawl.

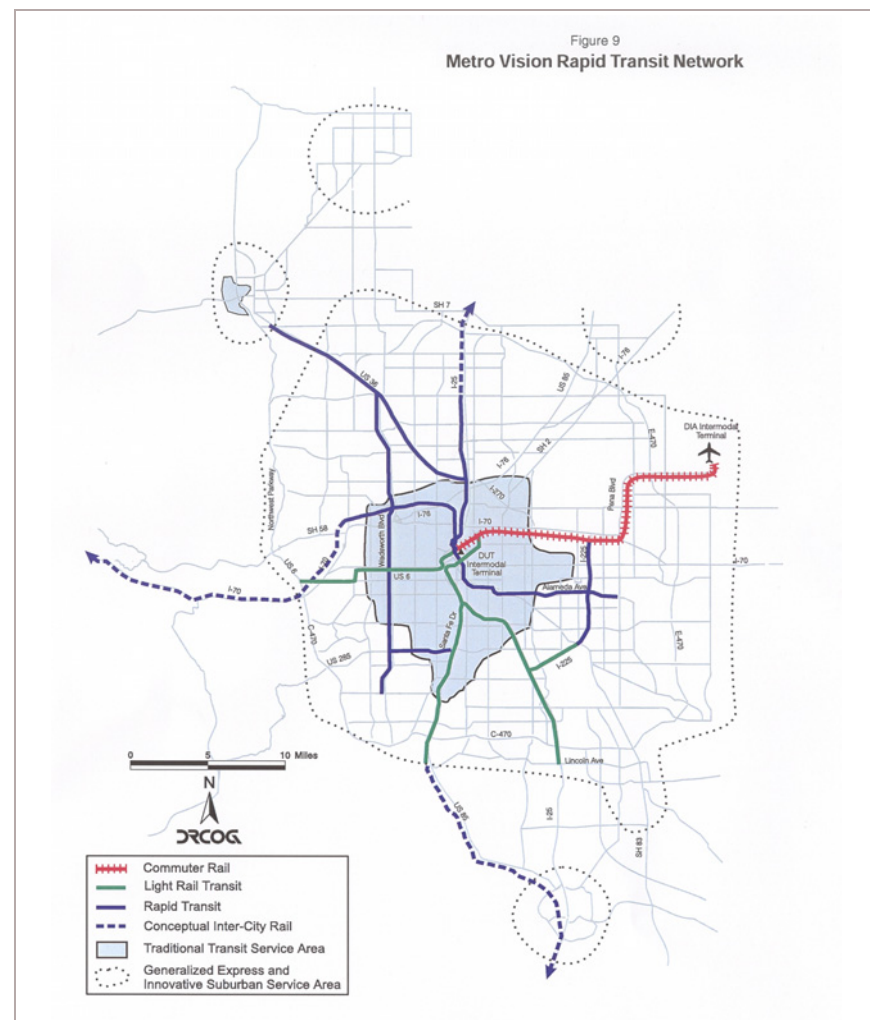
Denver, Colorado Region: Metro Vision 2020 – Denver Regional Council of Government

Background

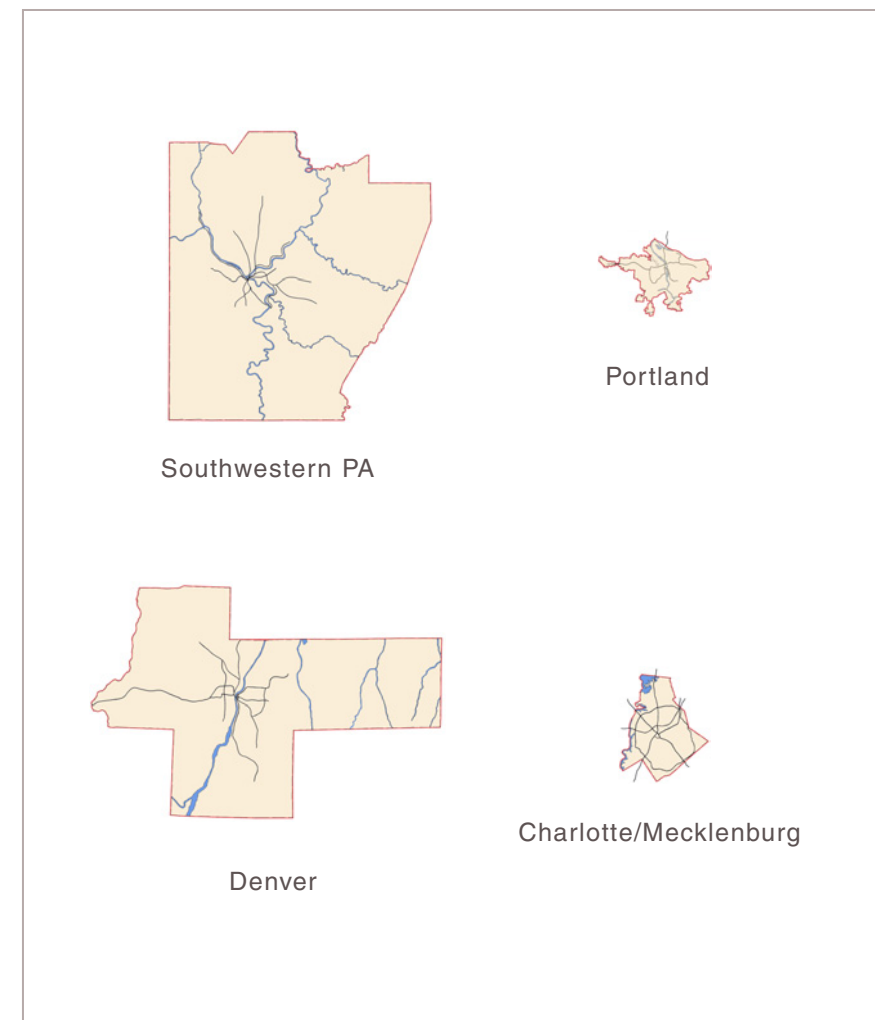
>>> Projected growth of 900,000 additional residents by 2020.

Main Policies of the Vision

- >>> Establish an Urban Growth Boundary that defines the extent of development permitted in the region.
- >>> Establish a regional open space system, protecting recreational resources and critical habitat.
- >>> Encourage preservation of freestanding communities by retaining their visual and physical separation from the Metro Area.
- >>> Create a balanced multimodal transportation system.
- >>> Establish urban centers of various scales as primary concentrations of development.



The Denver Regional Vision protects natural environments by providing rapid transit service to self-contained cities beyond the core.



Comparison of Regions: The four regions compared vary in approach to their regional issues. However, they all compete equally for scarce federal transportation dollars.

common themes

Sustainability, connectivity, access, and economic development are central themes of each of the national, regional and local visioning efforts presented on the previous pages. Each of these themes has a direct relationship to an important goal of the region's citizens: to have a high quality of life.

Sustainability

A sustainable region is one that makes decisions and compromises in order to assure long-term livability and vitality. Each of the visioning studies presented on the previous pages seeks to achieve a sustainable region.

A sustainable region will offer its residents a broad range of choices in employment, housing, and lifestyle, including transportation. Each national and local visioning effort has attempted, in part, to accommodate different types of homes, neighborhoods, employment, recreational activities, transportation, and social interactions in order to enhance its citizens' quality of life. As evident by the multitude of national and local transportation study efforts, accessibility is a cornerstone of a region's sustainability.

A sustainable region will assure equity and opportunity, including the provision of an adequate supply of convenient and affordable housing; safe, clean neighborhoods; and an equitable distribution of jobs, public transportation, services, and amenities throughout the region and among all residents. Finally, sustainability is about community and the preservation of a strong sense of place through preservation and implementation of safe, strong, and stable neighborhoods and communities.

Connectivity and Access

More important than the typical measures of 'capacity' and 'mobility,' a regional transportation system must provide superior 'connectivity' and 'access' between important places in the region.

Southwestern Pennsylvania is blessed with hundreds of compact mixed-use communities with employment, entertainment, health care, shopping, and housing all within walking distance of each other. These are the places in the region to which access is desired and connectivity is required. The regional transportation system must serve these communities by balancing the needs of transit, automobiles, bicycles, and pedestrians. Transit can best connect places where there are walkable and mixed-use nodes along with park and ride and connecting regional and local buses. When walking, bicycling and transit are considered viable transportation options, the result is fewer vehicle trips, less traffic congestion and improved air quality.

About 135,000 more cars would be on the road if every transit commuter in the region drove to work. By providing transit services that connect major regional mixed-use centers, transit can provide for more effective linkages to important places, providing for worker access to jobs, business access to markets and resident access to services.

Economic Development

Transit can be a tool to address environmental concerns as well as part of an infrastructure investment strategy for a region. Transit can also be a determining factor in land use and development deci-

\$10 million in transit capital investment	=	\$30 million in increased sales	+	300 in new jobs
\$10 million in transit operating investment	=	\$32 million in increased sales		

sions. Transit not only can serve the community, but it also can assist in forming how the community looks and feels and how future urban, suburban, and exurban development is ultimately designed.

Land use and economic development are two of the criteria used by the Federal Transit Administration (FTA) in determining which major transit projects will receive federal funding. Within the overall land use criterion, FTA considers the following parameters: existing land use, transit supportive plans and policies, and performance and impacts of land use policies. In FTA's review, regional as well as local land use planning and results are considered.

Transit, particularly fixed guideway transit, has the potential to influence land development patterns. This occurs directly by presenting joint development opportunities, and by enhancing land values around transit centers and fixed guideway stations. For example, between 1983 and 2004, more than \$500 million of new retail, residential, and commercial development took place along and near the 6.8-mile Martin Luther King, Jr. East Busway.

The economic impact of transit has been extensively documented. Overall, it is estimated that every dollar taxpayers invest in public transportation generates \$6 or more in economic returns. Furthermore, every \$10 million in capital investment in public transportation yields \$30 million in increased sales, and creates 300 new permanent jobs (Source: Cambridge Systematics, Inc., *Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact*, Washington, D.C., October 1999).

Following are some examples. The Expressway Travel Center in Beaver County, a \$14 million project, has a direct economic impact of \$42 million.

With the completion of the West Busway, East Busway extension, Stage II T improvements, and Stage I T enhancements, the total amount of major capital investment in transit facilities has been approximately \$900 million. The North Shore Connector T project will increase that number to approximately \$1.3 billion. This means the economic impact of the Port Authority's fixed guideway program over 10 years could be as high as \$3.9 billion dollars.

Finally, it is estimated that every \$10 million in operating investment yields \$32 million in increased sales. In the year 2000, the combined operating budget for the region's five largest transit agencies was approximately \$233 million, which can translate into an economic benefit of over \$746 million. Completion of a regionwide Transit Vision could offer the region significant economic return.



“The Portland story is more about community building than light rail building.”

G.B. ARRINGTON
FORMERLY TRI-MET,
PORTLAND, OREGON



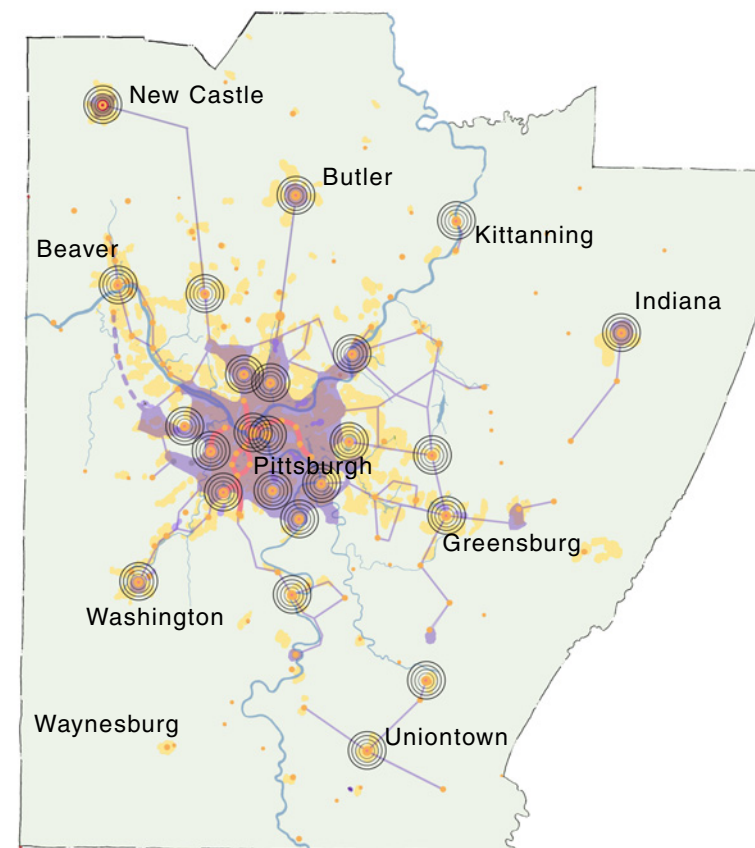
transit now

Compared to other regions in the country, public transportation in southwestern Pennsylvania provides more transit rides per capita than areas of comparable size. After a precipitous drop after World War II, ridership increased during energy crises in the 1970s and in times of rising gasoline prices, but decreased when fares were raised or service reduced. In 2000, over 78 million transit trips were taken in Southwestern Pennsylvania by residents and visitors. Approximately half of Downtown Pittsburgh employees travel to work on public transportation.

More important, however, than the volume of transit trips taken in any given corridor, is the quality of the overall system and the degree to which it supports the region by connecting people to opportunities. The region's transit systems connect many communities to the largest employment centers. Given more resources, more could be done to serve employment needs, shopping needs, recreational needs and cultural needs.

Some of the region's county seats, small cities, and towns are connected to major employment centers in the region. Some are also served internally with transit service, but many are not. As dense communities with the potential to grow their population and employment base, the region's small towns also present tremendous transit potential.

EXISTING TRANSIT: *Our region has a strong public transportation system supporting the core. The region's transit systems must be both maintained and expanded in order to support a strong regional economy.*



section c: our challenges

The factors that determine regional competitiveness have changed greatly in the past 20 years. While access to natural resources and financial capital was once primary to the success of the region, those are no longer sufficient in the highly competitive global economy. Our ongoing and future success rests on other factors – most notably a high quality of life – the single greatest determinant of regional competitiveness.

We have emerged from an economic transformation, poised to compete in the global economy. We have abundant resources – natural, human, and physical. These resources endow us with opportunities to maintain and strengthen the region’s high quality of life.

Together as a region, we must consciously decide what form we want regional growth to take. This is the essential first step in successfully providing leadership for our region and stewardship of our resources.



overview: managing growth, providing transportation

This section of the report presents a discussion of the principal transportation and regional form challenges that confront our region and which set the context for the transit decisions we must make. The highlights of this discussion are:

>>>>> The Southwestern Pennsylvania Commission in 2000 projected the region will grow by 430,000 residents and 240,000 new jobs over the next 25 years. Managing this growth in a way that will protect and enhance the quality of life for everyone in the region requires a proactive strategy predicated on the entire ten-county region functioning as a single, aligned, and competitive unit;

>>>>> As is true of established urban areas across the country, our region is faced with balancing development with the preservation of open space and environmentally sensitive lands, with providing a jobs-to-housing balance that minimizes stress on infrastructure, and with encouraging growth in areas with adequate infrastructure;

>>>>> Juxtaposed alongside our land-use issues are the concomitant challenges of providing public transportation that serves both current and projected development, provides access to basic necessities for a broad spectrum of the population, and maintains our aging infrastructure while accommodating growth;

>>>>> Creating synergies among land-use and transportation systems is critical to successfully dealing with these challenges;

>>>>> Our historic land-use/transportation patterns have resulted in increased mobility and capacity, but not necessarily access and connectivity. Over the past 40 years, we have developed more land while our population has not grown, contributing to growth in the suburbs and to growth in automobile use;

>>>>> Increased access to Downtown, Oakland, Pittsburgh International Airport, and other centers in the region is required to meet the needs of residents, employees, and shoppers;

>>>>> Two distinct scenarios have been developed for this study. Each is comprised of a Regional Form Component and a Public Transportation Component. The *Trend Scenario* reflects the development pattern typical of the past 50 years, that of outward growing low-density suburban and exurban rings supported by investments in new roads, utilities, and municipal services. The *Focused Growth Scenario* assumes the same quantitative growth within each county, but manages and shapes it by directing development to areas of each county with sufficient infrastructure already in place;

>>>>> What's at stake? Our region has experienced growth in vehicle miles traveled at a rate much higher than the modest growth rates in our population and employment. Highway travel times and congestion from many points in the region to the Golden Triangle, Oakland and the Airport, as well as suburb-to-suburb travel times throughout the region are forecast to increase in the future. Low-skill employment opportunities are increasing outside the core area of the region, while low-cost housing opportunities remain concentrated in the core areas creating both transportation and equity issues. New travel patterns – such as suburb-to-suburb travel for all trip purposes, reverse commuting from the central city to suburban employment centers, and longer distance commuting from outlying suburbs – are not well served by our current range of public transportation services;

>>>>> At present, the region's public transportation services are provided by several independent transit operators cooperatively serving the region's transit needs; and

>>>>> The challenge for the region is to preserve existing transportation and land-use investments while making future investment decisions that enhance the quality of life and economic viability of southwestern Pennsylvania.

	employment centers
	educational centers
	planned major highway improvements and potential suburban growth
	river communities

projections and assumptions

In 2000, the Southwestern Pennsylvania Commission (SPC) projected the region would grow by 430,000 residents (16.7%) and 240,000 jobs (17.4%) over the next 25 years. This overall projected growth rate is less than 1% per year. A challenge for the region is to develop a proactive strategy that accommodates, organizes, and manages this growth and its related ‘ripple effects.’ A coordinated growth strategy is needed to avoid an environment where infrastructure and development policies are not in sync.

Our region will be shaped by both internal and external forces. For example, the global economy will profoundly affect the region. We must address the global economy, and develop the resources to capitalize on its opportunities. This is one of many important projections and assumptions regarding the development of the region over the next 25 years that form the foundation on which this Regional Strategic Transit Vision was constructed. Others are:

>>>>> On issues affecting the entire region, the ten-counties will act as a single competitive unit. The region’s future and fate will be shared;

>>>>> Continued importance of the Golden Triangle and Oakland as major centers will put pressure on the existing transportation systems. Public transportation systems will be required to serve these and other concentrated centers of employment and housing;

>>>>> Oakland will be the ‘brain’ of the region; its universities will be one of the drivers of entrepreneurial growth in southwestern Pennsylvania;

>>>>> Other regional ‘college towns’ will also contribute to the region’s growth;

>>>>> Redevelopment of brownfields along the region’s rivers will provide access to recreational networks;

>>>>> The Mon Fayette Expressway and Southern Beltway, when completed, will fuel suburban growth in nearby communities in Allegheny, Washington, and Fayette counties;

>>>>> The region’s rich tapestry of landscape and habitat will be both cherished and threatened by development. Open space and farmland will continue to be developed;

>>>>> Revitalization of distressed river valley towns will continue to require a concerted regional effort;

>>>>> Greater attention will be required to maintain the air and water quality of the region;

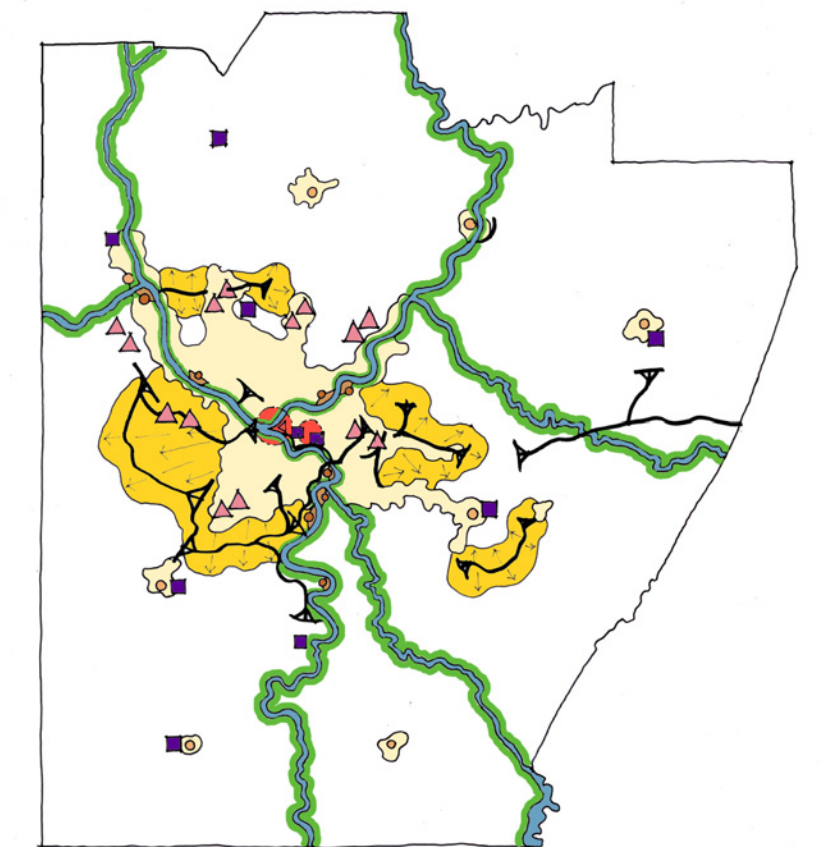
>>>>> The region’s rivers will emerge as the primary recreational corridors;

>>>>> New highway construction projects will compete with highway maintenance projects for available federal funds;

>>>>> The least expensive, most plentiful land in the region will continue to be located on the fringes of the metropolitan area; and

>>>>> Competition with other regions for federal transportation funding for both roadways and transit projects will increase as regions around the country intensify their efforts to pursue transportation improvements.

THE NEXT 25 YEARS: *Our region will be shaped by external forces and internal decisions. We must manage and leverage our resources to capitalize on opportunities.*



the primary challenges

Regional Form/Development Challenges

Southwestern Pennsylvania is faced with regional development challenges typical of other urban areas. These challenges include:

- >>> Preserving open space and environmentally-sensitive lands;
- >>> Providing a jobs-to-housing balance that minimizes stress on local and regional infrastructure; and
- >>> Encouraging growth in areas with adequate infrastructure.

Public Transportation Challenges

Our region is also encountering public transportation challenges typical of regions around the country. These challenges include:

- >>> Successfully serving both current and projected development, especially Downtown Pittsburgh, Oakland, and the Pittsburgh International Airport but also high-growth areas around the region;

>>> Providing access to basic necessities for a broad spectrum of the population; and

>>> Maintaining our aging infrastructure while accommodating growth.

These challenges are discussed in more detail on the pages which follow. However, addressing our region's development and public transportation challenges is not simply the burden of public transportation officials and agencies – it is all of ours to share. Correlating development and public transportation decisions is needed to address the challenges listed above. Creating synergies between the two systems is critical.

historic development of land use and transportation

Land-use policies and transportation investments are two primary factors affecting how our region looks and operates. These two factors are virtually inseparable, one inevitably affecting the other. Land-use patterns establish the need for different degrees of mobility; some land-use patterns require a high degree of travel, others require shorter travel. Likewise, transportation investments that provide mobility inevitably play an influential role in land development patterns.

To a large degree, the physical shape of our region, our daily patterns of life, and our quality of life are affected by the relationship between land-use and transportation policies – past, present, and future. In our region over the past 45 years, the land use/transportation relationship can be summarized as follows:

>>> The public transportation system has expanded in some areas and been reduced in others, but overall level of service has not kept pace with growth in travel;

>>> New highways have been built in many areas of the region but the amount of travel has also grown and congestion remains an issue; and

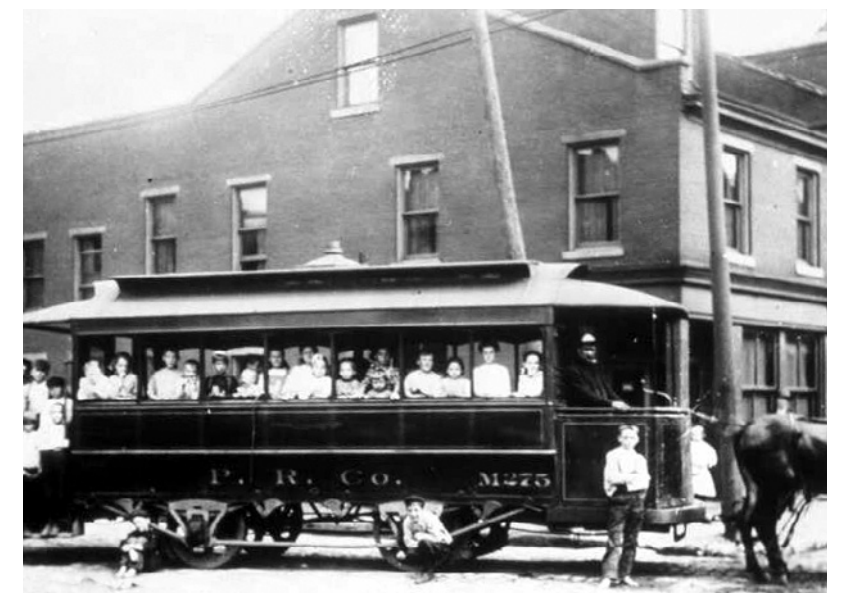
>>> Human settlement and land development has moved from the river valleys and older cities to suburbs and townships located on the uplands.

1940

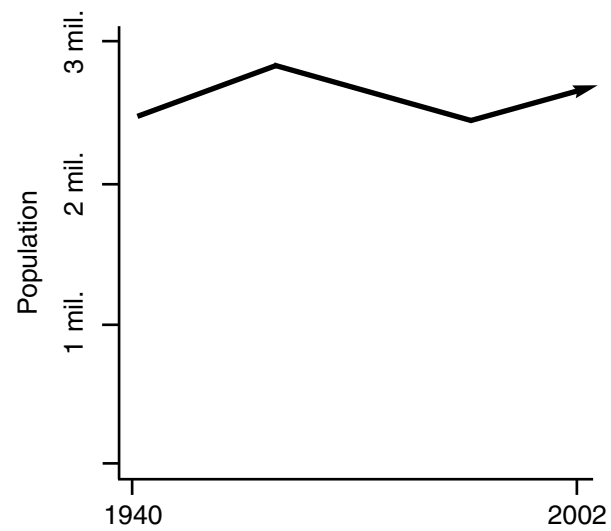
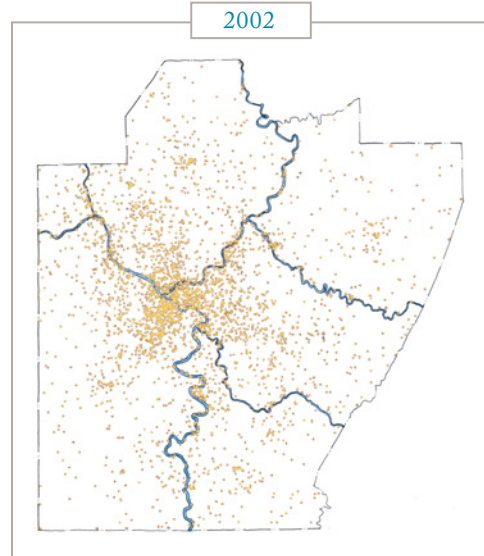
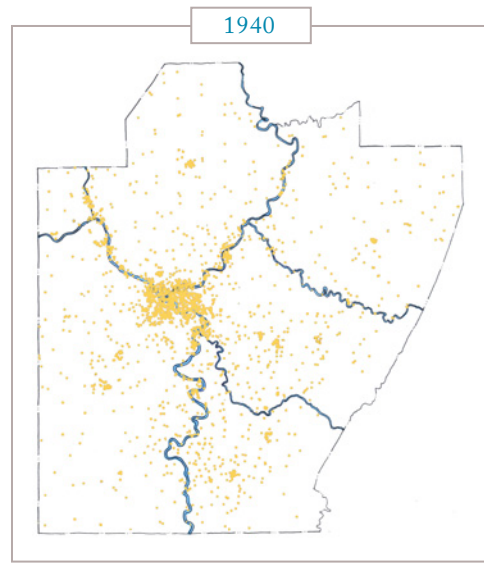
Prior to 1940, most people in the region traveled either by foot or by transit. Automobiles were unaffordable for many people and many roads were not paved. The region's hilly and steeply sloped terrain was an obstacle to movement and settlement. As a result, many of the cities and towns that developed around the region were mostly self sufficient, that is, residents were able to find most of the goods and services they needed without traveling to other areas. These towns provided a wide variety of housing stock, retail, and commercial uses for the residents and employees, and civic gathering places for celebrations and festivals. Many such towns were located along the region's rivers where the town's major employer could use the river, and the railroads along the riverbanks, to bring in raw materials and transport their finished products. Employees typically lived within walking distance of their workplace and other daily functions.

A significant portion of travel between towns occurred on the region's extensive interurban rail network. In larger cities such as Washington, Greensburg and Pittsburgh, residents and visitors utilized trolley and streetcar systems for shopping, commuting, and socializing.

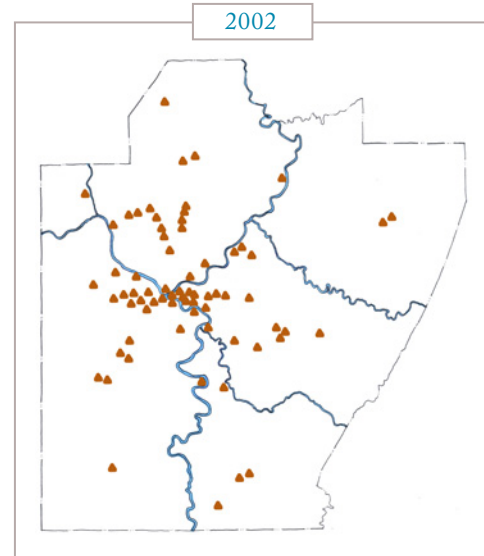
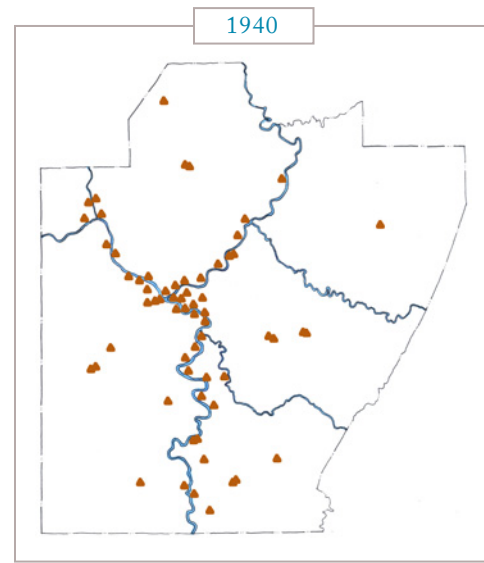
The land use/transportation relationship consisted of small towns and cities supporting (and supported by) investments in local road networks, passenger rail lines, interurban lines, local trolleys, and buses. Residents had access to the goods and services that fulfilled their needs; they were connected.



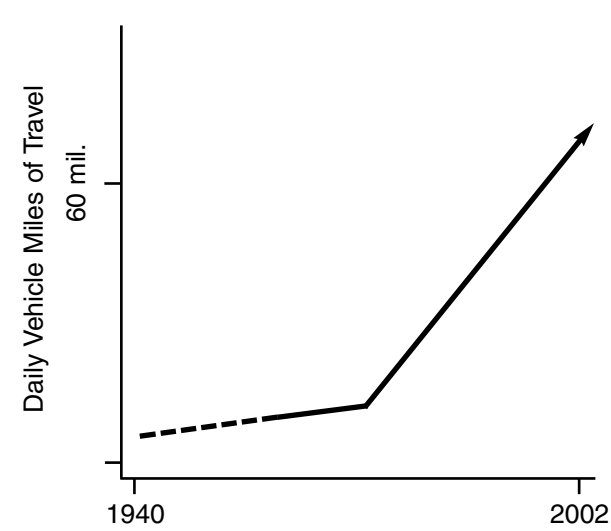
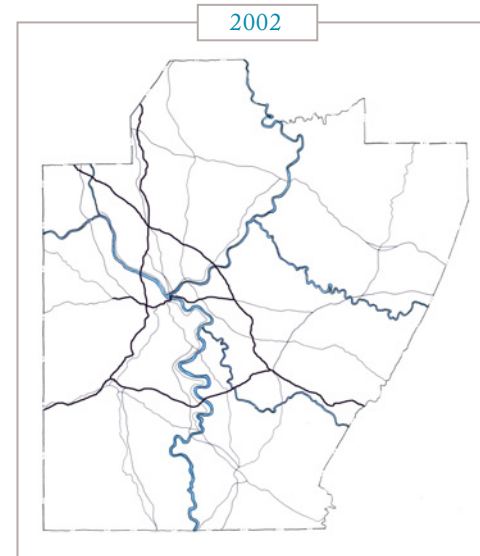
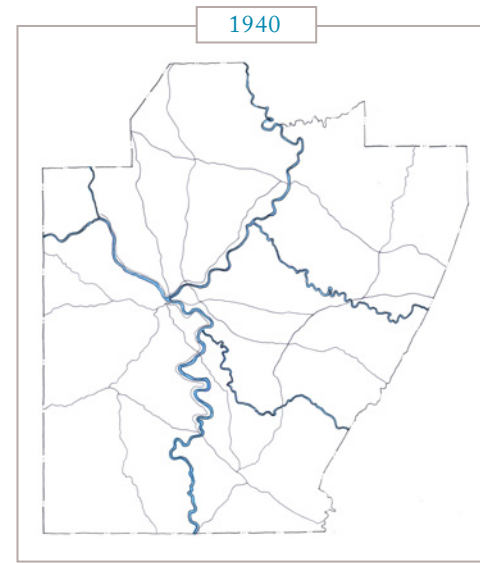
Population



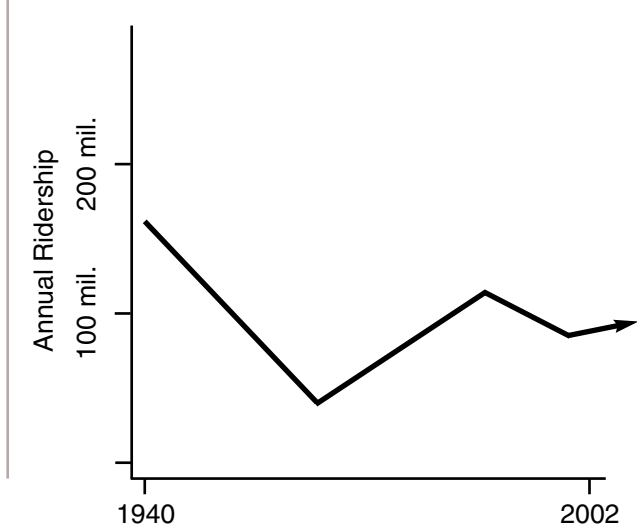
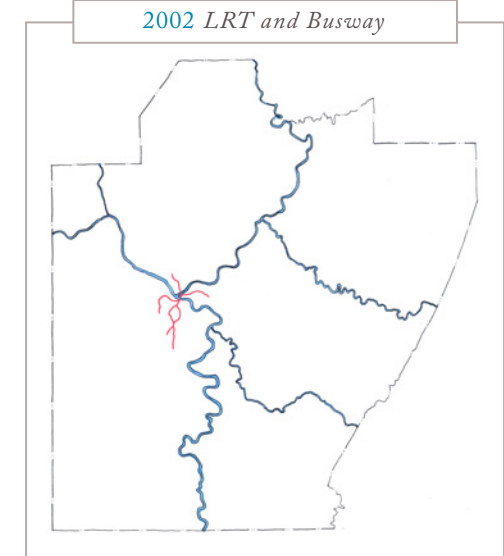
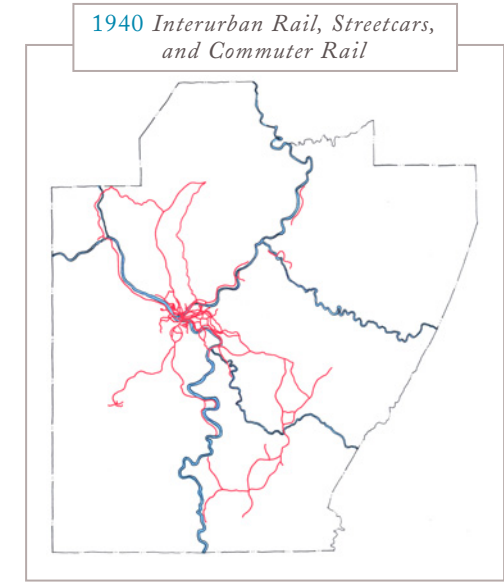
Employment Centers



Highways



Fixed Transit

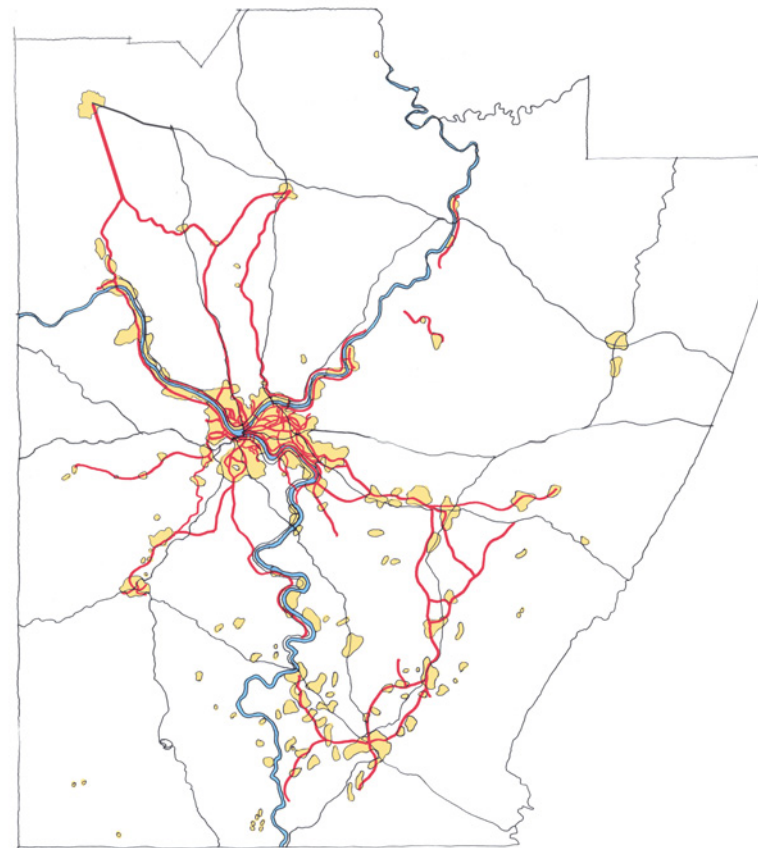


Today

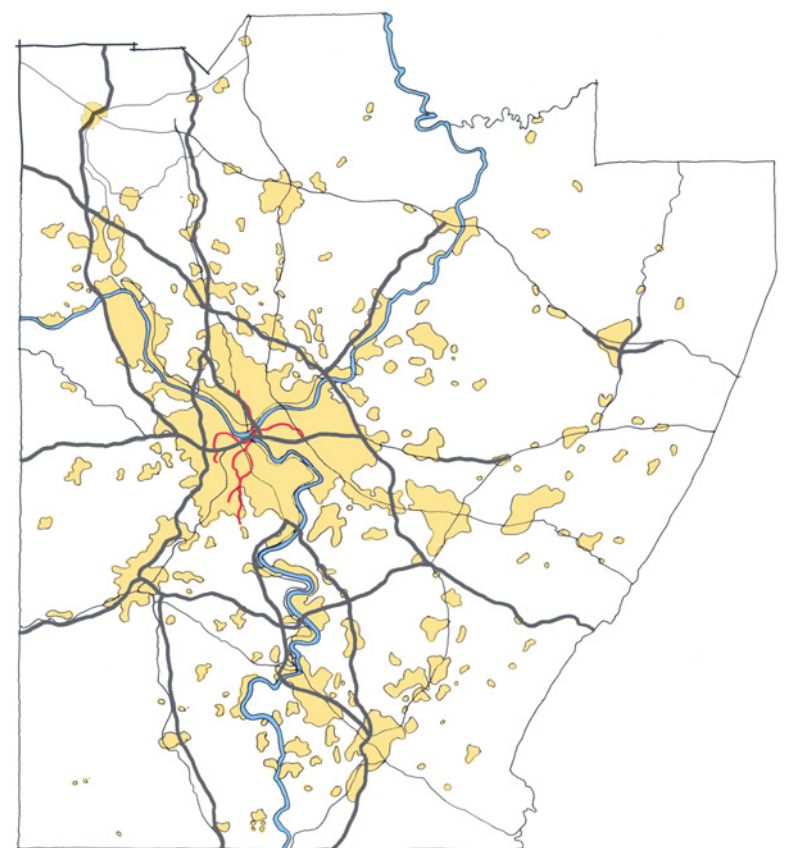
By the end of the twentieth century, southwestern Pennsylvania had evolved a service-based, high tech, regional economy. Downtown Pittsburgh and Oakland established themselves as centers of job growth and entrepreneurial capital. Declines in industrial employment were offset by increases in service sector jobs. People are taking more leisure/recreational trips. Quality of life issues are increasingly important in today's society. The completion of the new passenger terminal at Pittsburgh International Airport in 1992 stimulated employment growth along both the Parkway West and Interstate 79 between Cranberry and Washington. To a lesser degree, industrial parks and new commercial areas began to emerge on brownfields created by the loss of steel production. New office and industrial parks dot the landscape in all ten counties.

While the region's population has been relatively stable, settlement has shifted away from the established cities and towns and into newer, lower-density suburban and rural areas. For example, in the 1940s the City of Pittsburgh had a population of over 600,000. Now it is just over 300,000. Many once rural areas of Allegheny, southern Butler, western Westmoreland, southern Beaver, central Lawrence, and northern Washington counties are now established residential and commercial centers.

1940: The land use-transportation relationship was closely related. Most people lived near their work. Transit played an important role.



TODAY: The land use-transportation relationship is dominated by roadways. The region is now served more by highway than by transit.



An expansive freeway system and a contracted transit system has encouraged our region to develop land and resources without an increasing population.

regional form/ development challenges

Preserving Open Space and Environmentally Sensitive Lands

What were once scenic drives through the countryside are now drives through commercial development and residential subdivisions. Washington and Greensburg are self-contained cities that used to be separated from Pittsburgh by wide bands of open space. These open spaces between cities have been greatly reduced, which can have an appearance of being a continuous urbanized area instead of distinct entities. The same is happening in other parts of the region (Indiana, Butler, New Castle, and Uniontown, for example) where outward growth impacts the small-town identities.

Land use and development policies can help the region preserve open space and other environmentally sensitive land by directing growth to established neighborhoods, villages, and towns. That development pattern can be reinforced by concentrating transportation and other infrastructure investments in those established centers. These places would eventually have sufficient density to support high quality public transportation, minimizing the need to build more housing and employment areas on greenfields.

Geographically Balancing Our Jobs and Housing

The region's growth in automobile use is partially attributable to the physical separation of jobs and housing. We have not been encouraging employment opportunities proximate to neighborhoods. The opposite is also true – we have not built neighborhoods adjacent to employment opportunities. Contemporary zoning in many places prohibits mixed uses. Some municipalities are addressing this in their zoning codes.

The past 20 years has seen employment gains in downtown

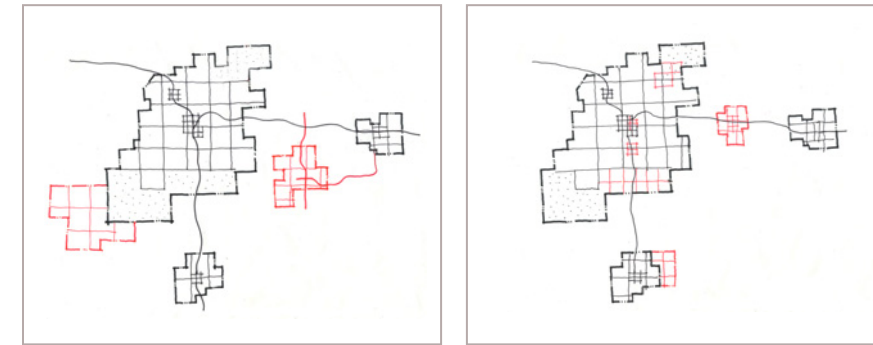
Pittsburgh, but the population within two miles of the Golden Triangle has decreased. The near North Hills and South Hills have seen population gains, but employment losses. SPC's forecast projects employment gains in the Ohio Valley, but stable population. Conversely, the population of the North Hills is projected to increase by 40,000, with little change in employment.

This jobs-to-housing relationship results in long travel distances to and from work, increased wear and tear on roadways, and dispersed travel patterns that are difficult to serve by public transit. It also affects air quality and congestion.

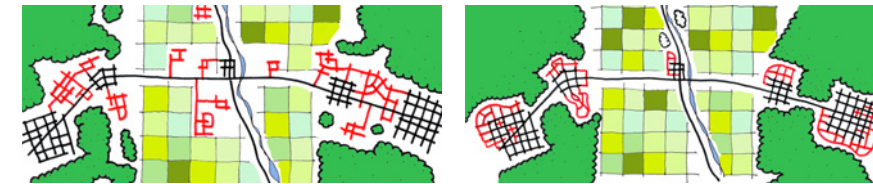
Utilizing Our Existing Infrastructure

Substantial public investments have been made to provide public services (water, sewers, schools, police and other municipal services) to our region's rapidly developing areas such as southern Butler County and northern Westmoreland County. At the same time, past investments are under-utilized in areas such as McKeesport, Monessen, and Ford City. With the regional shifts in population and employment, those communities that have lost population are now over-served with infrastructure. In some cases, this infrastructure is deteriorating due to lack of funds for maintenance/replacement.

Future growth should leverage past public investments. Growth should be encouraged in areas of the region that currently have capacity for growth.



UTILIZING EXISTING INFRASTRUCTURE Growth that minimizes the expansion of infrastructure will reduce public expenditures.



PRESERVING OPEN SPACE Careful expansion of infrastructure will help the region preserve open space, habitat, and agriculture.



BALANCING JOBS AND HOUSING Regional development should balance the distribution of jobs and housing. If one sector of the region contains most of the region's job growth and another most of the residential growth, it will result in more people traveling longer distances on congested roadways. Conversely, if jobs and housing are co-located, fewer public investments in roadways will be required.

transportation challenges

Serving Current and Projected Development

Our transportation system has not kept pace with recent shifts in settlement patterns and, unless improvements are made, probably will not be able to effectively serve many of these areas in the future. Consider the following:

>>>>> Downtown Pittsburgh will continue to be the economic hub of the region. SPC's 2000 forecast projected that employment within the City of Pittsburgh would increase by over 50,000 jobs by the Year 2025. However, limited transportation improvements are proposed in the Long Range Plan to serve downtown Pittsburgh;

>>>>> Oakland has seen over \$1 billion in new investment in the last 25 years, yet the transportation network serving Oakland is basically the same as it was in the 1950s. Access to Oakland is by means of local streets over which thousands of cars and hundreds of buses operate daily. Because of traffic congestion and the lack of available parking for employees, employers have resorted to providing parking in remote areas and using shuttle buses to transport employees from the parking areas to the Oakland work sites. With some exceptions, buses serving Oakland generally follow the same routes and schedules as the streetcars operated by Pittsburgh Railways Co. did in the 1950s;

>>>>> The Pittsburgh International Airport area has emerged as a major economic generator in the region. The Long Range Plan includes a new highway (the Findlay Connector). The Airport Multimodal Corridor Study proposed a new transit facility and widening the Parkway West in the Downtown Pittsburgh to

Airport Corridor. Without this level of investment, it will be difficult to accommodate the planned growth; and

>>>>> The fast-growing suburbs such as Cranberry Township or areas around the Airport are difficult to serve by public transportation. Yet, as these areas continue to grow and diversify, the need for public transportation to meet the needs of residents, employees, and shoppers will increase.

Providing Access to Basic Necessities for a Broad Spectrum of the Population

Investment in the highway system has created a very mobile region: we drive more than ever. However, increased mobility does not translate into increased access. The low-density pattern of development has had the effect of decreasing access to basic goods, services, and employment opportunities for many in the region. Many new suburban employment districts have difficulty filling entry-level jobs because their potential work force cannot afford either the time to take public transit (if it exists), or the cost of a car. A similar situation occurs with other daily needs such as shopping or trips to the doctor. As our region has spread out, many residents are having difficulty accessing their basic needs.

The region cannot continue to grow and prosper without a transportation system that serves the needs of all residents. The transportation system should provide good access to jobs, services, and activities by car and by public transportation.

Maintaining Our Aging Transit Infrastructure While Accommodating Growth

The region, like many other areas in the United States, struggles with providing sufficient funding to maintain and operate existing transit infrastructure while financing needed improvements. As an example, accommodating projected employment growth in Downtown Pittsburgh will require funding to maintain the current system while also developing new facilities that feed workers and visitors to Downtown Pittsburgh.

Currently, the region does not have enough funding to maintain its existing transportation system, and it is difficult to get financing to expand. Adequate funding will be required to help support needed expansion of the public transportation system in other areas of the region.

our choices, decisions and options: trend or focused

Conceptualizing the Future of the Region

At the core of effective regional design is the understanding that individuals and communities within a region have shared interests and, ultimately, a shared fate. This is an especially potent issue in our region where our hundreds of municipalities have a legacy of independence and autonomy.

Over 60 years ago, air pollution was a major regional problem. Neighborhood locations were dictated in part by exposure to air pollutants emanating from industrial smokestacks and residential coal-burning furnaces. Air pollution had a negative impact on quality of life and the image of the region. The City of Pittsburgh's 1941 Smoke Control ordinance was one of the first attempts nationally to legislate cleaner air. Although not apparent at the time, successful smoke control was a first step toward Pittsburgh's Renaissance. It would not have happened without the elimination of smoke.

The issue of air pollution in our region illustrates the essence of regional design: the interconnectedness of regional systems. Decisions and actions that affect one system (in this case air quality) will invariably affect another system (in this case, economic development). The actions and choices that we, as a region, make have ripple effects, both good and bad. To design the region is to understand the interconnectedness of systems and to understand the ripple effects of our decisions. Regional form impacts our quality of life.

The region's transit operators, in planning for future service and facilities, must take into consideration how the region will grow and

change. The future development pattern will shape the future transit system.

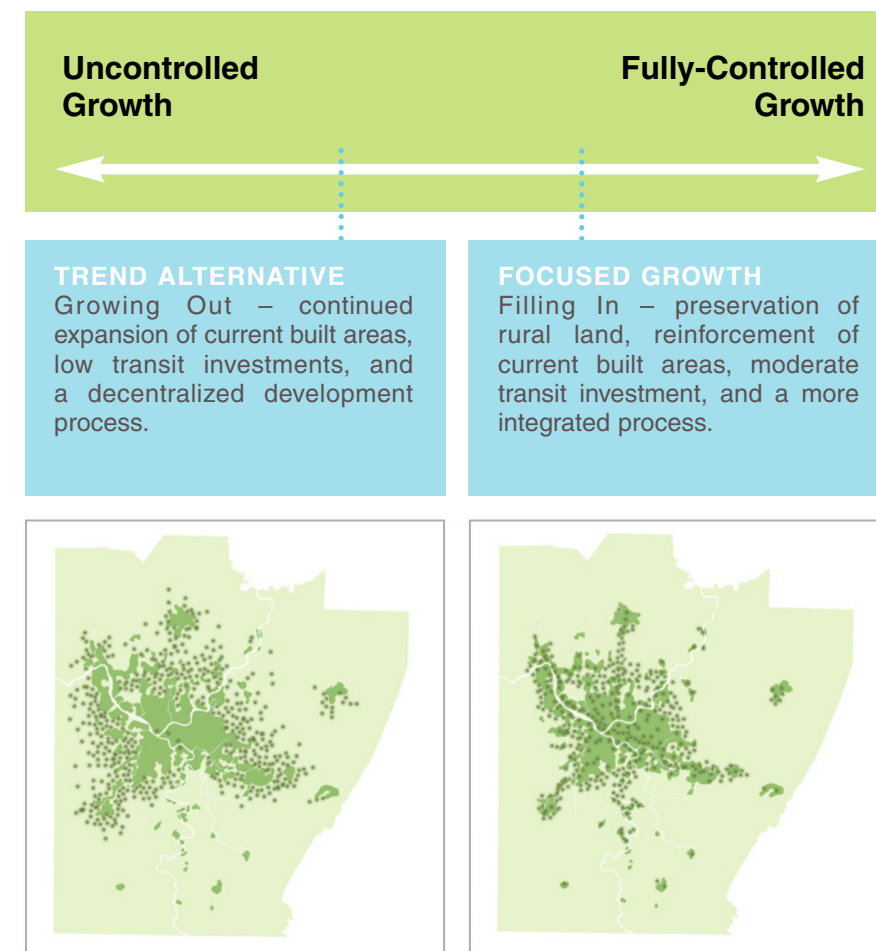
Preparing Two Alternatives for Consideration

This report poses two separate scenarios: a *Trend Scenario* and a *Focused Growth Scenario*. Each is comprised of a Regional Form Component and a Public Transportation Component. The alternatives are internally coordinated; components within each alternative logically support each other. However, the two scenarios are significantly different in that they represent two distinct visions of the future.

The Trend Scenario assumes continuation of the development pattern typical of the past 50 years, that of outward growing low-density suburban and exurban rings. The Trend Scenario illustrates a vision of 'growing out.'

The other scenario, Focused Growth, assumes the same quantitative growth within each county; however, it manages and shapes it significantly differently. Instead of growing out, the Focused Growth Scenario encourages development in areas of the region with sufficient infrastructure already in place.

The two scenarios were developed to provide perspective and guidance to the transit operators and to the region in understanding the linkages between regional form and the type of transit service that can be supported. They also illustrate in a general sense, should the region choose to alter its development policies, how public transportation investments might support that policy change.



why these decisions are critical

Over the past several years, many communities and regions across the nation, recognizing the critical interaction between land use, development patterns, urban design, and transportation have completed transportation-oriented visioning studies. In addition, there has been a national recognition that transit contributes heavily to the economy in terms of jobs, construction dollars, economic development, and service. Mobility and access are also key factors in business location/relocation decisions. Local plans within southwestern Pennsylvania address these items from a global and conceptual standpoint. These items are addressed to some extent in SPC's regional long-range transportation and development plan.

Demographics

During the last five decades, the ten counties of southwestern Pennsylvania have undergone major changes in the nature and distribution of population and employment. Our region has become more dispersed. This settlement pattern is difficult to serve with conventional public transit. The pattern of population and employment has had a significant economic and social effect as low-skill employment opportunities are growing outside of established cities, towns, and villages, while low-cost housing opportunities remain concentrated in the established communities throughout the region. These transportation and equity issues need to be addressed in a regional context.

Civic, business, and transportation leaders in the region desire to plan for economic development in the region that responds to these changed needs and demographics. Regional leaders have recognized the importance of transit and transportation in the area's economic and land-use development. Decisions about transit service are made within each county or locality, but travel needs go beyond any single jurisdiction's boundaries. Development of a shared vision for transit and development has become increasingly important to the overall attainment of the region's aspirations.

Ability to Travel

The largest regional travel destinations – Downtown Pittsburgh and Oakland – have retained their strength even with the recent regional trends, in part because of the availability of transit services to and between these areas. Because of recent development trends, the Pittsburgh International Airport area has become a major regional destination. It is served in part by recently established transit routes.

The new travel patterns that have emerged are less concentrated in both space and time than the former manufacturing-based river valley destinations and traditional central-city-focused destinations. These include significant suburb-to-suburb travel for all trip

purposes (the fastest growing travel markets) and an increase in travel to work from the central city to the expanding suburban employment centers. Traditional suburb-to-central city travel has been extended beyond the reach of the core transit service area. These new travel patterns are more difficult to serve with traditional transit services. All of these development and economic factors have contributed to an increase in Vehicle Miles of Travel (VMT) at a rate much higher than the growth rates in population and employment. Peak period highway travel times to the Golden Triangle and to Oakland are also forecast to increase in the future. Suburb-to-suburb travel times are forecast to increase significantly. The geographic location of the increases in travel and delay has also changed dramatically. Historically, these increases occurred adjacent to and within urban areas of the region. However, the increase in vehicle trips, travel time, delay, and vehicle miles traveled far exceeds the increase in population and employment. Congestion is occurring farther outside the urban core than in the past, and for longer periods of time. Land-use and development decisions affect transportation system performance. Similarly, transportation decisions influence land-use and development. Land-use and development can do as much to change travel patterns and congestion as adding highway and transit improvements. It is critical to find a balance between transit and highway investment, as well as between urban, suburban, and rural growth and development.

Governance/Funding

At present, scheduled fixed-route public transportation services are provided in the 10-county southwestern Pennsylvania region by ten separate transit agencies. To accommodate increasing demand and changing travel patterns, transit services in the counties outside Allegheny have been established or have expanded over the past 30 years to attempt to partially address and serve the above-mentioned new travel patterns. Service increases have been constrained by limited financial resources available to the transit systems. Within Allegheny County, services have been adjusted to accommodate changing travel patterns, but the impact on ridership levels has been limited because of fare increases and overall service reductions that have been required in order to match available funding. Increases in ridership have resulted from implementing transit fixed guideway improvements.

To account for the new travel patterns that require travel in multiple counties, the transit systems have cooperated in areas such as common downtown Pittsburgh transfer and layover locations, bus stop signage, acceptance of transfers on multiple transit systems, and establishing park and ride facilities to accommodate multiple-county travel. The transit systems have identified additional areas for cooperation, but these initiatives have not been fully implemented due to limited resources.

The number of jurisdictions having total or partial regulatory control over land use and zoning are numerous. In addition to the ten counties and over 500 townships, boroughs, and cities, there are scores of regional, state, and federal agencies that require various permits and approvals prior to land development. Governance will continue to be an important issue in the region for both land use and transportation.

Another issue is federal, state and local funding for transit. While Pennsylvania secured 5.5% of federal transit formula funding available nationally between 1992 and 1999, its share of national discretionary funds is about one-half this proportion, at about 2.35%. Portland, Oregon and the state of New Jersey secured five times as much discretionary funding as Pennsylvania, while the City of Los Angeles secured seven times as much. Since the late 1990s the rate of growth of state funding provided by Pennsylvania for transit has not kept pace with the rate of inflation. This has led to transit fare increases and service reductions.

A factor affecting Pennsylvania's ability to compete for federal transit funding is the requirement that federal investments be 'matched' by local or state sources. The Federal Transit Administration has determined that the maximum federal share of 'New Starts' funds

for new projects is 60%, though funding of up to 80% is permitted by statute. As an increasing proportion of the Commonwealth's capital resources are required to match Federal formula allocations, less money is available to match discretionary federal transit funds. In order for the region to better compete for federal transit funding, regional consensus on projects, creative financing plans, as well as an increase in state and local funding are required.

Conclusion

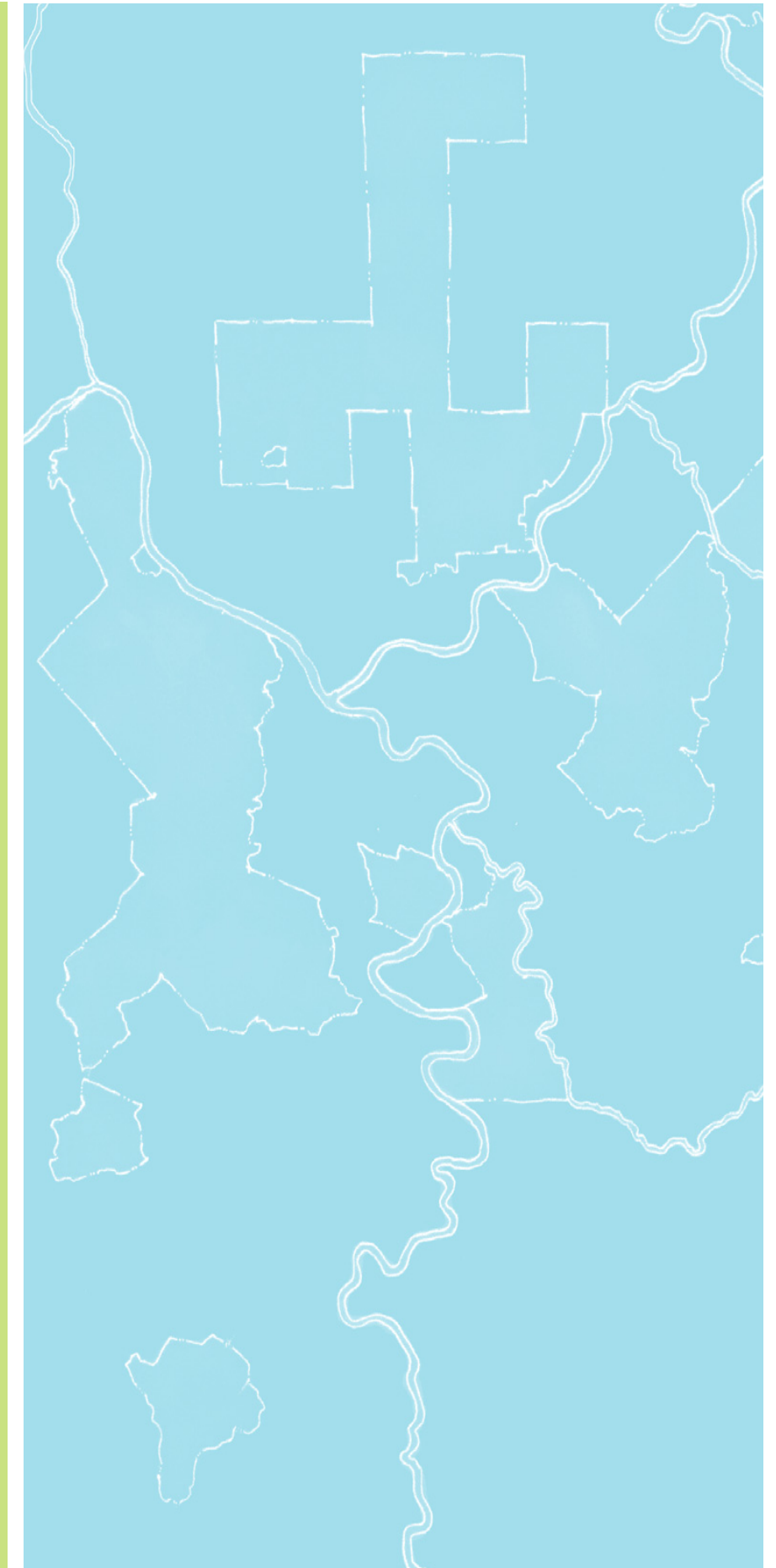
This Regional Strategic Vision for public transportation in southwestern Pennsylvania provides an immediate opportunity for the public, civic and business leaders, and policy boards to better understand the policy choices regarding transit investment, and land use and development within the region. An assessment of existing service and unmet demand demonstrates a growing need for improved regional mobility alternatives. The Transit Vision can serve as one incentive for citizens, transit providers, agencies, and local and state governments to work cooperatively in creating a coordinated program that maximizes the effective utilization of economic, physical, and land resources. The goal of the Transit Vision is to preserve existing transportation and land use investments while making future investment decisions that enhance the quality of life and economic viability of southwestern Pennsylvania.

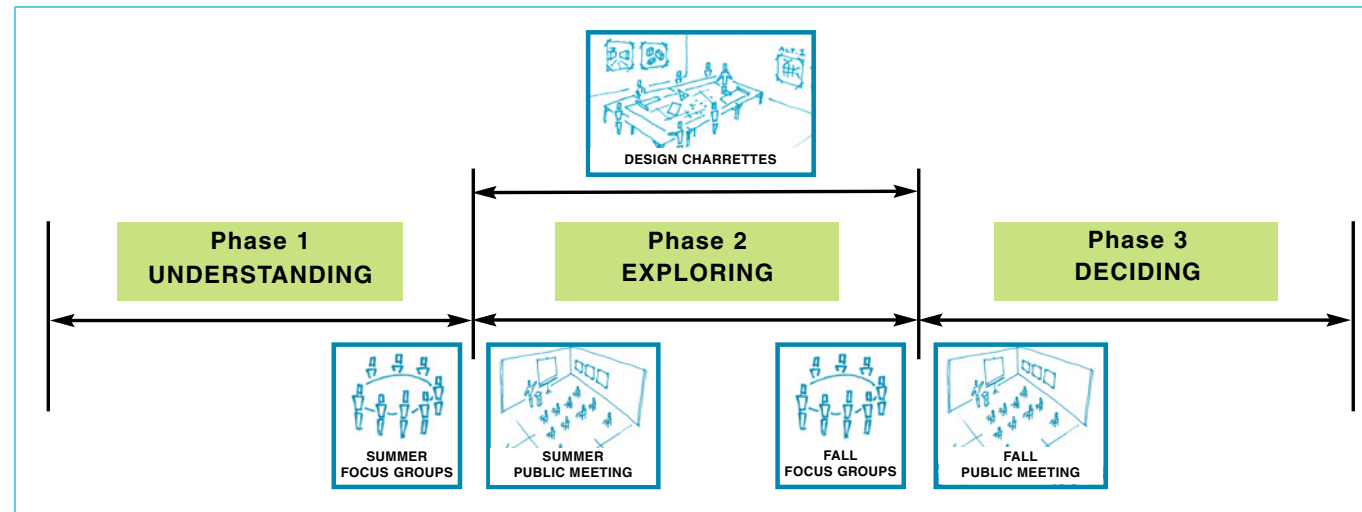
section d: outreach and collaboration – a public process

overview:
understanding and exploring through a public process

Residents and leaders throughout the region were actively involved in the development of this Regional Strategic Transit Vision, contributing a wide range of insights and ideas that have been incorporated into the two public transportation scenarios detailed in Section E.

A number of outreach techniques were employed to understand existing opportunities and challenges, to develop potential solutions, and to foster collaboration for the future implementation of the Transit Vision. These techniques were tailored to the specific type of information, ideas, or decisions needed to advance the development of the Transit Vision and to ensure that it responds to community aspirations.





The outreach and collaboration activities focused on three major phases:

Phase I Understanding;

Phase II Exploring; and

Phase III Deciding.

During all three phases, outreach and collaboration activities were focused on answering the following questions:

>>> What is our vision for public transportation in our region?

>>> How can we realize that vision?

During Phase I – *Understanding the Context* – a variety of information gathering techniques were used to generate ideas on what is working well in our region and in our communities in terms of our development patterns, the transportation system that serves them, and the challenges and opportunities for improvement. Insights were generated through interviews, small group meetings, surveys of citizens, and meetings with representatives of governing agencies and elected officials.

The public discussion during Phase II – *Exploring the Options* – was focused on testing different goals and possibilities for the development of alternative Transit Visions for the region in terms of future land-use patterns and transportation systems. During this phase, the predominant outreach activities consisted of large-scale public outreach meetings combined with focus groups and design charrettes.

The final of these three phases – *Deciding* – enlisted the assistance of key community leaders, SPC and Port Authority websites and other information distribution techniques to solicit opinions on the conclusions of the previous phases and the alternative scenarios generated for the Transit Vision.

This section provides an overview of the public outreach process and a summary of the key themes that influenced the development of this Regional Strategic Vision for public transportation in southwestern Pennsylvania. Highlights include:

>>>>> Nine key themes emerged; all focused on planning based on our aspirations for the future. People clearly want more travel choices to enhance connectivity among housing, employment, and the basic needs of daily life, and to serve the broadest possible range of people. Residents of all parts of the region emphasized the need for transit connections to downtown Pittsburgh, Oakland, and Pittsburgh International Airport, as well as connections to local activity centers within each county;

>>>>> Public transportation decision-making and land use should be strongly linked;

>>>>> Public transportation should be viewed as a contributor to the vitality of our region’s economy, particularly in connecting people to jobs, and in revitalizing mature communities;

>>>>> During the process, it was determined that the Regional Strategic Transit Vision Study should include consideration of land use/development, community design, mobility and connectivity,

transit service quality, investment, the environment, and community collaboration;

>>>>> Considerable effort was made to reach as broad a base of stakeholders as possible for their input. Input was gathered via policy conferences, public participation panels, surveys and questionnaires, interviews, focus groups, public meetings and community presentations, two design charrettes, and progress on the study was reported back through the *20/20 Transit Vision Newsletter*, the web sites, and through media releases and interviews;

>>>>> Two design charrettes were conducted – one in Cranberry Township in Butler County, the other in Clairton City in Allegheny County. These communities were chosen because they are emblematic of the issues and challenges faced by a fast-growing suburban community on one hand and an industrial river town impacted by the decline of the domestic steel industry on the other. The charrettes were most valuable in defining the issues and aspirations of these communities and exploring solutions built on a land use/public transportation relationship paradigm; and

>>>>> The charrettes taught us that no one solution will work for all communities throughout southwestern Pennsylvania, though many of the charrettes’ recommendations and insights are applicable to other communities. The diversity of communities throughout the region require a range of strategies to address their needs.

themes and goals

The insights and recommendations contributed by a wide range of citizens and stakeholders provided a point of departure for, and the foundation of, the development of this Transit Vision for southwestern Pennsylvania. The opportunities for public discussion and collaboration for citizens, community leaders, and government agency representatives were many:

- >>> Southwestern Pennsylvania Commission 2001 Policy Conference;
- >>> Southwestern Pennsylvania Commission Public Participation Panels;
- >>> Tell Us What You See Survey;
- >>> Choices for the Future Questionnaire;
- >>> Paratransit Outreach;
- >>> Focus Groups;
- >>> Public Meetings;
- >>> Transit Operator Survey, Interviews, and Committee;
- >>> Design Charrettes;

- >>> Community Presentations;
- >>> *20/20 TransitVision Newsletter*;
- >>> Web Sites; and
- >>> Media Releases and Interviews.

Key Themes

These activities generated a rich set of opinions and recommendations regarding the quality of our region, what works and what needs to be changed, and the role that public transportation can have. Key themes emerged from the collaborative outreach program and were used to drive the development of the Transit Vision. These themes are:

- >>>>> Focus the Transit Vision on aspirations for the future;
- >>>>> Provide more travel choices to enhance mobility, accessibility, and connectivity throughout the region;
- >>>>> Make alternative transportation modes frequent, reliable, fast, comfortable, clean, and safe;

- >>>>> Include circumferential and cross-county transportation connections to provide needed, seamless, efficient travel opportunities;
- >>>>> Strengthen transit connections from all parts of the region to downtown Pittsburgh, Oakland, and Pittsburgh International Airport;
- >>>>> Recognize that transit plays a major role in our region's economic vitality, particularly in connecting people to jobs, and in revitalizing mature communities and serving growing communities;
- >>>>> Ensure that a wide range of people and communities have the opportunity to receive the benefits of a comprehensive transit system;
- >>>>> Make certain that land use and transportation decision-making are linked; and
- >>>>> Use investment in public transportation to encourage the concentration of new development and the re-use of previously developed areas.

Goals

These nine themes were combined with a review of regional and local agency plans and programs to generate the following goals for the Transit Vision:

Land Use/Development

Interactively plan and implement land use and transportation to provide a range of mobility options and development patterns that foster a variety of travel options and reduce the need for vehicular travel, particularly by single-occupant automobile.

Community Design

Plan and implement transportation corridors and services that increase the community's mobility options, satisfy the customer's travel needs, integrate with the local community, and create interesting places to live, work, shop, and play.

Mobility and Connectivity

Introduce diversified high quality public transit services that, combined with the highway system, provide a balanced regional transportation network with a full range of travel choices and connections.

Transit Service Quality

Provide a high quality of public transit service to the region, consisting of faster travel times, more convenience, better customer satisfaction, improved customer amenities, and environmental compatibility.

Investment

Support a regional transit system that is efficient, effective, and equitable, that is widely regarded as a sound and good investment, and enhances the region's competitiveness.

Environment

Sustain and enhance the existing environmental assets of the region and minimize adverse social and environmental impacts.

Community Collaboration

Provide a clear, comprehensive, inclusive, and leading vision of a regional public transportation system that is incorporated into regional and local transportation and land use plans and programs for implementation.



outreach activities: additional details

The outreach activities provided numerous, valuable opportunities to obtain input from a diverse cross-section of regional stakeholders from both the public and private sectors – average citizens and civic leaders alike. In addition to the themes and goals already presented, additional details from these events are summarized below.

Regional Transit Operators

The Transit Visioning Study was jointly led by SPC and Port Authority with strong support and participation by the region's transit operators, who were major study sponsors. The transit operators led the development of the transit facility recommendations in their respective service areas. The respective county planning departments were involved as appropriate.

Southwestern Pennsylvania Commission 2001 Policy Conference

The Southwestern Pennsylvania Commission 2001 Policy Conference was the kick-off event for the Regional Strategic Transit Vision Study. The theme of this two-day conference was *Transit Visions: Imagine the Possibilities*. Over 100 participants including the region's transit operators and leaders from throughout the region convened to discuss:

- >>> What public transportation means to the region's residents, businesses and visitors; and
- >>> How they envision transit service making a difference in their community, their county, and the region.

Ellsworth Brown, then President and CEO of the Carnegie Museums of Pittsburgh, captured the essence of the transit visioning challenge when he called for “aspiration-based planning – considering what type of community we want to be – rather than trend-based planning, grounded largely in market and demographic analysis.” He articulated three key questions that ultimately guided the development of this Strategic Transit Vision:

- >>> How do we assure that communities' aspirations have the dominant voice?
- >>> How do we accommodate the region's personality?
- >>> How do we create a system that works for all users and for all needs?

Heinz Endowments President Max King, a primary funder of the study, spoke about the role of transportation in shaping the character of a region. He stressed the obligation of the region's leaders to envision the future – not just to meet the pressing needs of the moment – but to use their powers and the power of their organizations to look ahead, to conceive as best they are able what is optimal for the special character of this place, and to act on that conception. He described the change in character and the damage to urban harmony and balance nationally that resulted from categorical zoning which segregated living from working land uses and from highway development which promoted sprawl at the expense of existing communities. He challenged the assembled leaders to craft an urban whole that is as harmonious, rich and varied as we

need and to correct the balance between uses that sprawl has negatively impacted. And he stressed that transportation systems can shape, link, and provide the choices that make a region work.

Paul Skoutelas, then CEO of study co-lead Port Authority of Allegheny County, stressed that the study must begin by asking what kind of communities does southwestern Pennsylvania want to establish. Only then can the region develop the transit plans and services that fit the community. Chuck DiPietro, then acting Executive Director of co-lead agency SPC, reinforced the importance of this critical visioning effort and called for broad participation, charging conference participants to become ambassadors who bring others into the process.

The recommendations generated by the conference with respect to the management of the transit visioning effort were as follows:

- >>>>> The leadership must act early and energetically to involve the public in as many ways as possible. The public involvement component must be thorough, educational, and relevant to each audience;
- >>>>> The transit visioning effort must address what types of communities we want to have, and the kind of region we want to become, because only after we answer that question can we develop a Transit Vision that meets the expectations of our communities;
- >>>>> The visioning effort should build effectively on existing work such as marketing studies, previously proposed transit service

improvements, and the comprehensive vision and goal statements contained in the Long Range Transportation and Development Plan for Southwestern Pennsylvania prepared by SPC;

>>>>>> The region should explore various institutional approaches to regional coordination that fit the character of the region and the Transit Vision;

>>>>>> The future of transit cannot be addressed independently of the region’s land-use policy decisions; and

>>>>>> A key to success will be to remain focused on the customer and find innovative financing options to meet customer needs.

**Southwestern Pennsylvania Commission
Public Participation Panels**

SPC, through elected officials of the counties and the City of Pittsburgh, selects a cross-section of leaders and citizens from each of the counties in the region and constitutes them into Public Participation Panels (PPP) charged with regularly gathering input from the public in the county they represent. PPP leadership meets regularly to discuss strategy and issues requiring input. The public involvement process included public meetings sponsored by the panels in each of the counties. A main goal of this effort was to develop the use of panel participants as ‘transit ambassadors’ so that different communities could benefit from more localized, personalized information about the study. At these meetings, discussions focused on how to better use existing resources to provide public transportation that is responsive to diverse community needs. Discussion also centered on how to realign existing service to maximize our return on investment (not only in terms of transporta-

tion, but also in terms of economic development, community vitality, and environmental sustainability).

Tell-Us-What-You-See Survey

The Tell Us What You See survey was developed to solicit answers to the following questions:

>>> Is transportation working well for your community and for the region? Why or why not?

>>> If you could make changes to the transportation system in your community and/or the region, what would it be?

>>> How can transit best serve your community and the region in the future?

The survey was distributed by the region’s transit operators and appeared on buses, the **T** and in a variety of public places. Responses were received from more than 300 people. Key findings from the survey include the following:

>>> Transit is important to link people to jobs;

>>> In general, while the existing transit service is working well, people want more frequent and comprehensive transit service, especially in evening hours and on weekends;

>>> Additional transit service is needed to serve trips to destinations other than to and from downtown Pittsburgh;

>>> More park-and-ride facilities are needed; and

>>> Rail or other fixed guideway transit should be available to more people.

Gaze into the future and

Tell Us What You See.

Everyone has a vision of the future and we want to know yours – especially your thoughts about transportation.

During the next year of the 20/20 Vision Study, the Southwestern Pennsylvania Commission, Port Authority of Allegheny County and the region’s eight other public transportation operators are

asking you to help identify the region’s future public transportation needs.

It’s your turn to tell us what you think, so please take a moment and complete this brief survey. Then mail it to: 20/20 Vision, Southwestern Pennsylvania Commission, 425 Sixth Avenue, Suite 2500, Pittsburgh, PA 15219-1819.

1. Is transportation working well for your community and for the region? Why or why not?

2. If you could make a change to the transportation system in your community and/or in the region, what would it be?

3. How can transit best serve your community and the region in the future?

County _____ Zip Code _____

Yes, Please add me to the 20/20 Vision mailing list:

Name: _____

Address: _____

City: _____ Zip: _____

Phone #: _____ E-Mail: _____

www.spcregion.org/2020vision (412) 391-5590

Regional Public Transit Operators

- Beaver County Transit Authority
- Butler Township City Joint Municipal Transit Authority
- City of Washington (GG&C Bus Company)
- Fayette County Coordinated Transit

- Indiana County Transit Authority
- Mid-County Transit Authority
- Mid-Mon Valley Transit Authority
- Port Authority of Allegheny County
- Westmoreland County Transit Authority

Choices-for-the-Future Questionnaire

Almost 150 responses were received as a result of a nine-question survey on community and transportation quality of life. Key findings of this survey include:

>>>>> Accessible transit service and well-maintained roads are essential to quality communities, as is good environmental quality;

>>>>> For many people, although the quality of the transportation system has improved over the last five years, congestion has gotten worse;

>>>>> A high percentage of people believe that the current transportation system is adequate to meet their current needs, but most people believe that the existing transportation system is not adequate to meet their needs in the future; and

>>>>> Many people favored expansion of some combination of roads and public transportation, additional park-and-ride lots, and more bikeways and sidewalks.

Paratransit Outreach

Because those relying on paratransit service have unique needs, an intense effort was made from the beginning of the study to engage the paratransit community. Interviews with paratransit managers, along with small group meetings of paratransit customers including Allegheny County's Committee for Accessible Transportation, were helpful in identifying paratransit issues, how they should be incorporated into the transit visioning process, and how all members of the region can benefit from improved transit service.

Focus Groups

Because of the size and diversity of the region, 18 focus groups were held, involving 237 participants. Some were convened by organizations in order to tap a specific constituent group; others were invited to represent a cross-section of a group or a geographic area.

The groups included:

>>> Transit operators, convened by SPC;

>>> Pittsburgh/Allegheny County employers, convened by the Greater Pittsburgh Chamber of Commerce;

>>> Northern Allegheny County employers, convened by the North Allegheny Chamber of Commerce;

>>> Minority employers, convened by the African American Chamber of Commerce;

>>> Monroeville and eastern suburban employers, convened by the Monroeville Chamber of Commerce;

>>> Beaver County employers, convened by the Beaver County Chamber of Commerce;

>>> Washington County employers, convened by the Washington County Chamber of Commerce;

>>> Destination/Hospitality/Cultural attraction representatives, convened by the Greater Pittsburgh Convention and Visitors Bureau;

>>> Urban planning, government officials, and civic leaders: Pittsburgh, Allegheny County;

>>> Urban planning and government officials: Armstrong, Beaver, and Butler Counties;

>>> Urban planning and government officials: Washington, Greene and Fayette Counties;

>>> Mon Valley civic leaders, convened by the Mon Valley Initiative and the Steel Industry Heritage Task Force;

>>> Allegheny County Transit Council members;

>>> Educators;

>>> Pittsburgh City Neighborhood Organizations;

>>> Leadership and Young Leader Group representatives, convened by Leadership Pittsburgh;

>>> Workforce Development professionals, convened by the Three Rivers Workforce Investment Board; and

>>> Union and labor organization representatives.

The agenda for each focus group meeting was similar:

>>> Opening by one of the program sponsor representatives;

>>> Overview of project timetable, the public involvement process and the expectations for the focus group session;

>>> Brief presentation on why planning as a region matters and how transit decisions can affect regional form; and

>>> Facilitated discussion.

Although some questions were specific to a group because of its particular composition, all groups were asked to discuss:

>>> What do you value and want to protect in our region?

>>> What are you concerned about or want to prevent?

>>> What role should transportation play in shaping our region?

>>> What are our transportation challenges?

>>> What would get people out of their cars?

>>> What can we learn from other regions?

>>> What will you look for in a Regional Transit Vision?

Public Meetings

Three general public meetings were held to provide for wider participation in the identification of issues and the development of recommendations that would supplement the information obtained through the focus groups and design charrettes. The public meetings were held in: the Airport corridor, downtown Pittsburgh, and Greensburg. More than 50 people attended the three public meetings. The same questions addressed during the focus group meetings were used to lead discussions at the general public meetings about the region and public transportation.

Transit Operator Survey, Interviews, and Committee

As part of the Transit Vision data collection effort, a comprehensive survey was sent to the transit agency managers. This survey had several questions regarding organizational and institutional issues, as well as operations and finance data. This information was used as input to the financial analysis and the study's review of organizational and institutional alternatives for implementing the Transit Vision.

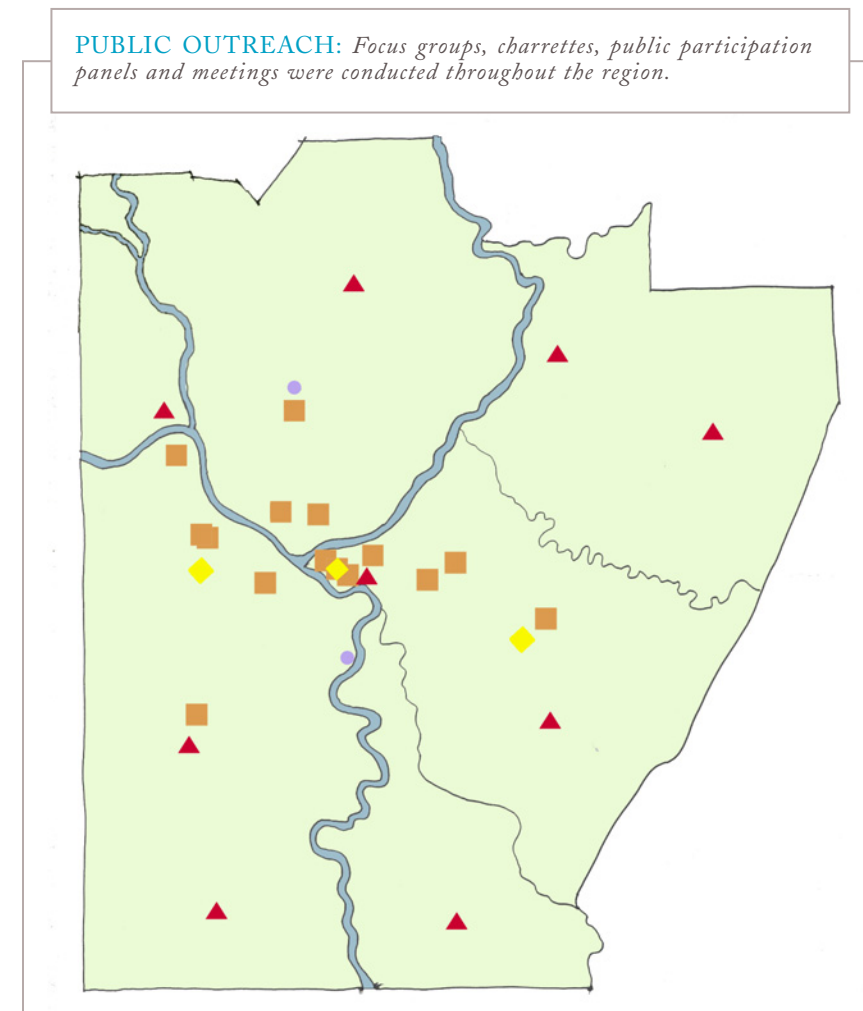
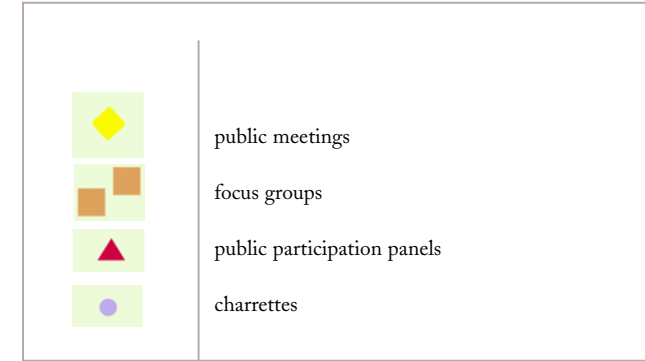
In addition, interviews with the transit agency managers were conducted over several months during the study. During the interviews, ideas and information regarding general and specific transit service improvements and transit capital projects were exchanged with the study team. This information was instrumental in the development of the trend and focused growth transit programs.

Finally, the Transit Operators Committee, which is comprised of the general managers and executive directors of the region's transit agencies, was consulted regularly throughout the Transit Vision process. Their input was sought on a range of issues including project funding, public participation, study organization, scope, regional organization, and identification of potential transit projects.

Community Presentations

Presentations were made to a variety of organizations in the community and at conferences in the region, including:

>>> National Association of Industrial and Office Properties;



>>> University of Pittsburgh Graduate School of Public & International Affairs;

>>> Bus Rapid Transit Conference of the Transportation Research Board;

>>> Pennsylvania Young Professionals Conference; and

>>> Sustainable Pittsburgh's 2001 Regional Smart Growth Conference.

20/20 Transit Vision Newsletter

Three newsletters describing the progress of the study were prepared and widely distributed during the course of the study.

Web Site

A Regional Strategic Transit Vision web site was designed as part of the SPC web site. The site can be accessed at www.spcregion.org/2020vision and from Port Authority's web site (www.ridegold.com).

Media Releases and Interviews

Port Authority organized the media outreach program and the issuance of news releases. Releases to announce meetings were also disseminated through PR Newswire. Several of these releases resulted in print and broadcast news media stories that increased awareness about the project. The media covered several focus groups and public meetings, and also the two design charrettes.

Design Charrettes

Two design charrettes were held, one in the Cranberry area of Butler County, which is an example of rapid residential and commercial growth around major highways; the other in Clairton, a river town in southeastern Allegheny County whose identity is linked to the steel industry. The charrettes were undertaken to illustrate the range of issues to be addressed and potential solutions in two 'typical' contexts, an older town and a rapidly developing suburb.

REGIONAL OPERATORS: *The region's transit operators provide management of the study.*



charrette results: clairton

The Situation

Clairton is a typical, industrial river town impacted by the economic upheaval and downturn in domestic steel employment over the past 30 years. Located in the Monongahela River Valley, 15 miles southeast of downtown Pittsburgh, the city's growth has been directly tied to and affected by both the rise and fall of the steel industry. Clairton is part of a constellation of similar towns connected by transportation and transit routes generally aligned through the river valleys. The form of Clairton is dictated by the extreme topography that characterizes much of the Monongahela Valley. Clairton is a struggling, relatively secluded town composed of highly distinct, compact neighborhoods located high above the river on the adjacent hills. Clairton is a town with a center, but poor connections to the region at large.

In its heyday, most trips by Clairton residents were local. Most home to work trips were short – many were achieved within the city itself. Quite a number were made on foot, simply by walking from home to downtown Clairton or to the nearby coke works and steel mill. Other trips were handled by public transportation. Clairton was once served by passenger trains as well as an extensive bus network to other Mon Valley towns and other areas including downtown Pittsburgh.

The Challenge

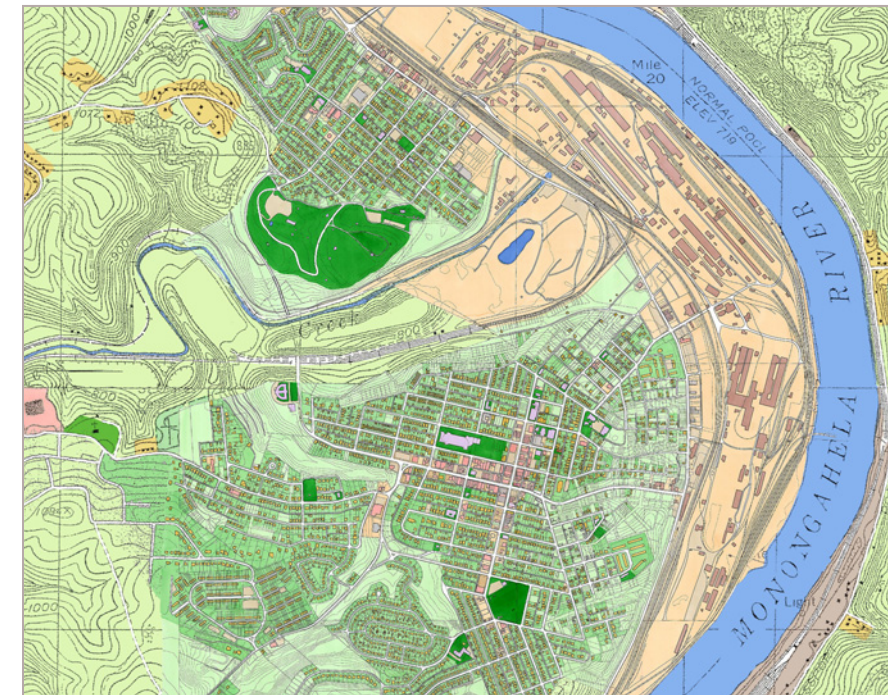
Today, there are many fewer employment opportunities in Clairton. The population is a third of what it was in 1950. Clairton continues to be served by bus connections to other Mon Valley towns and downtown Pittsburgh, although service coverage and frequency have been reduced. Nonetheless, the dense and compact development of Clairton makes it relatively easy to serve by transit. The



REGIONAL X-RAYS : Highways (top), Employment (bottom)



SITE X-RAYS : Roads (left), Industry and Rail (right)

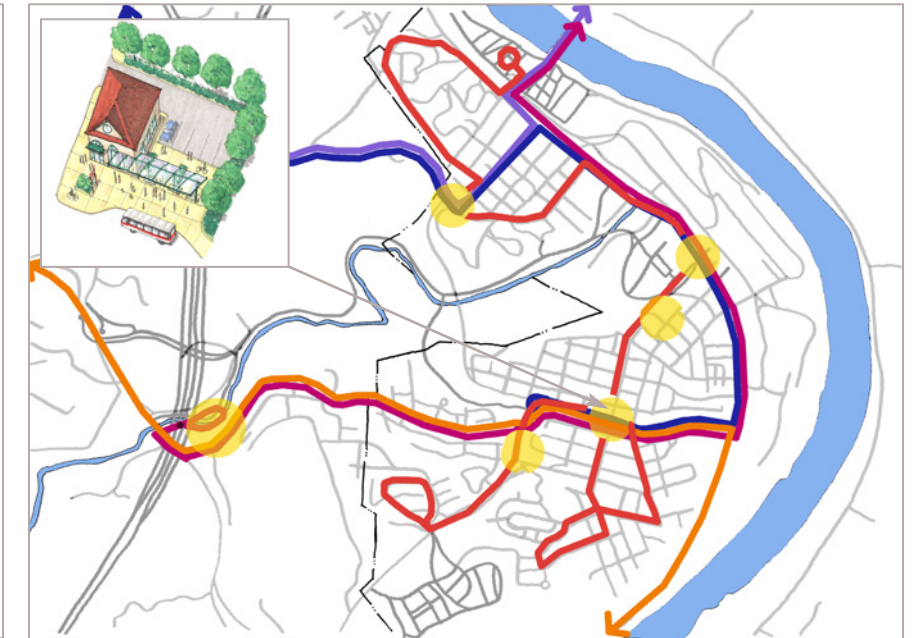
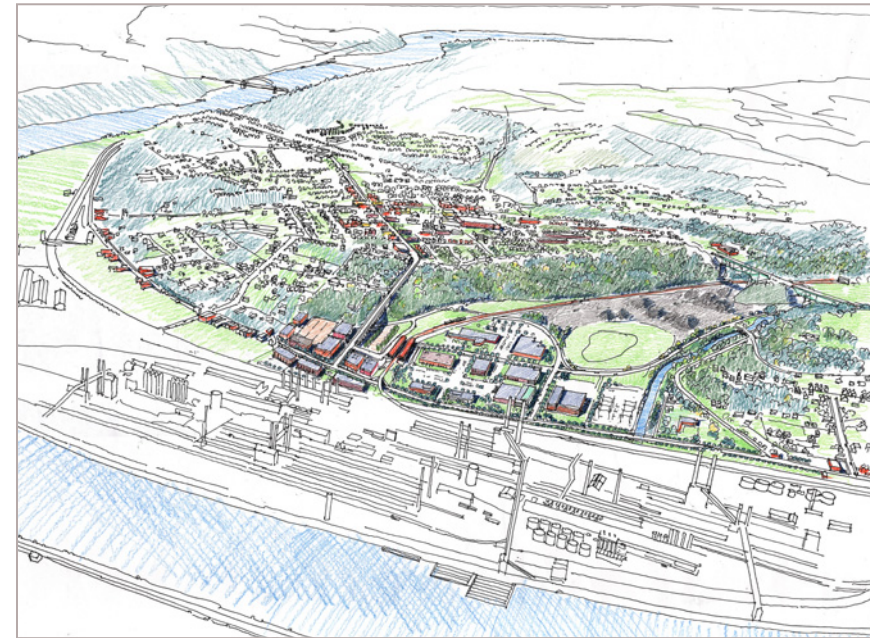


Clairton is set in the valley along a bend in the Monongahela River. It is separated from surrounding development by steep slopes and forests. It is connected to surrounding communities by older arterials in need of upgrading.



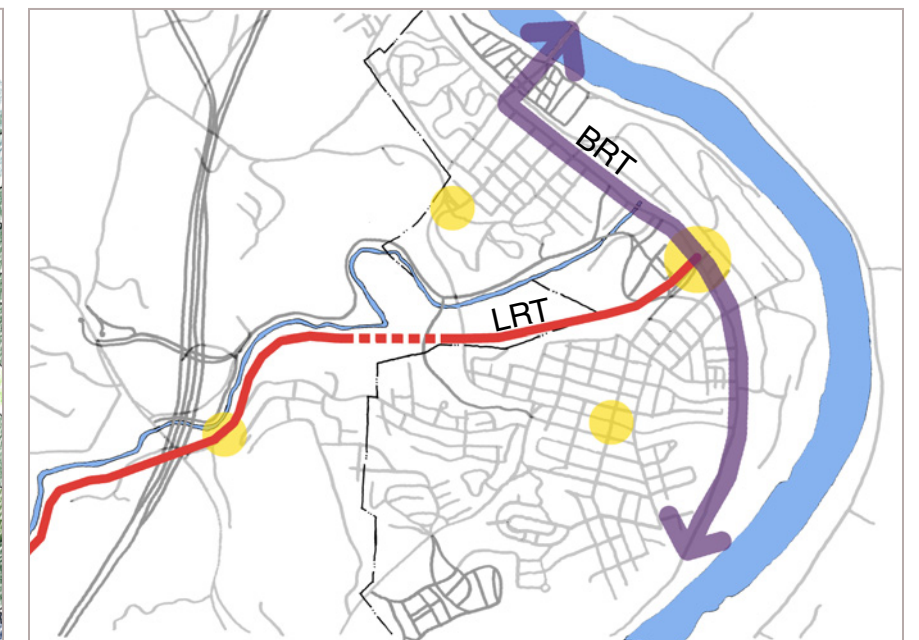
challenge of the charrette was twofold: (1) to seek development opportunities for employment in Clairton; and (2) to connect Clairton's compact neighborhoods to the regional employment base and other amenities no longer located in town.

The charrette produced several ideas designed to improve Clairton's connections to the region. Large employment sites were identified along regional corridors. Local, sub-regional, and regional transportation networks were conceptualized to better connect Clairton to the region and revitalize its main street and neighborhoods.



AN INTERMODAL TRANSIT FACILITY will anchor new mixed-use development in Peters Creek Valley.

IMPROVED LOCAL BUS ROUTES will connect to employment, shopping and recreational opportunities.



Clairton is a compact river town with a strong transit market.

EXTENDING TRANSIT through the Peter's Creek Valley will help revitalize brownfields and provide employment opportunities.

REGIONAL RAPID TRANSIT will connect residents of Clairton to employment opportunities in Downtown Pittsburgh and Oakland.

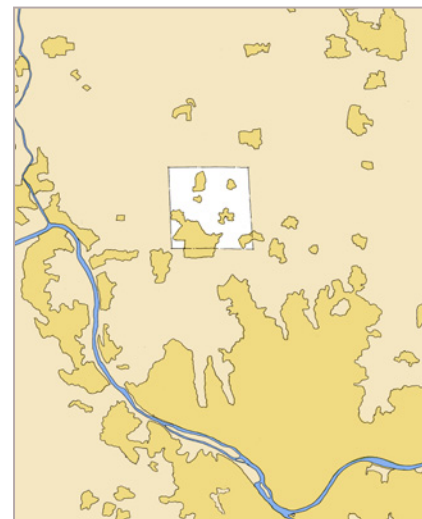
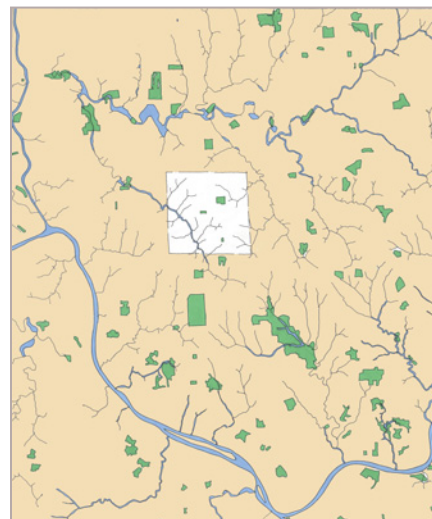
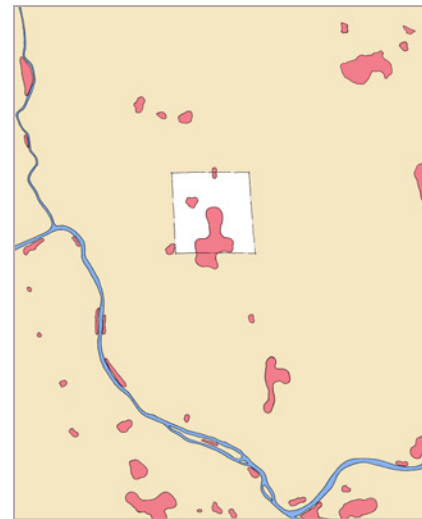
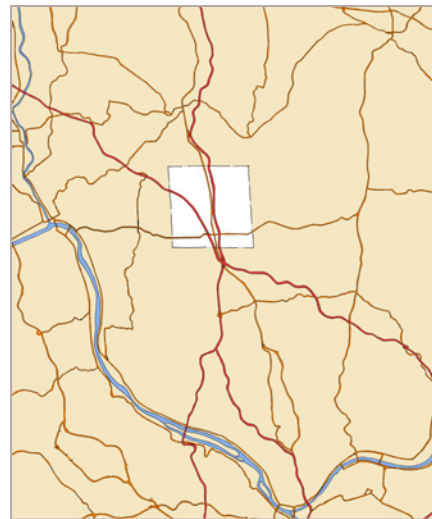
charrette results: cranberry township

The Situation

Cranberry Township is a typical, fast-growing suburban community. Located approximately 25 miles north of Pittsburgh, Cranberry's rapid growth is a direct result of the construction of Interstate 79, as well as its proximity to the Pennsylvania Turnpike (Interstate 76), Route 19, and Route 228. The shift of employment to northern Allegheny County and Butler and Beaver counties also contributes to its ongoing development. The relatively flat land, and lower taxes of Butler County, make Cranberry a desirable place for employment and residential development. The Township's rapid, yet low-density development has resulted in a community with superior automobile connections to most parts of the region, but no identifiable town center.

The Challenge

The challenge of the charrette was to identify strategies that focus future growth to create a community with an identifiable center that is both an origin as well as a destination for transit. Currently, Cranberry is neither.

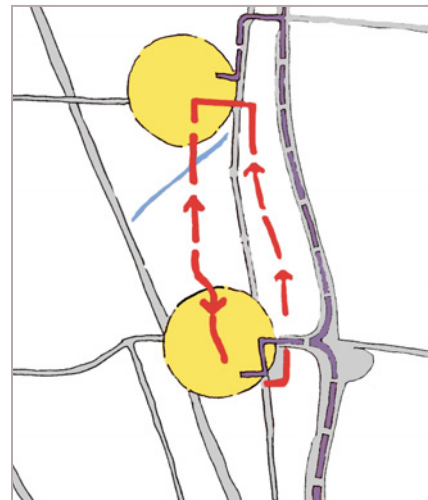
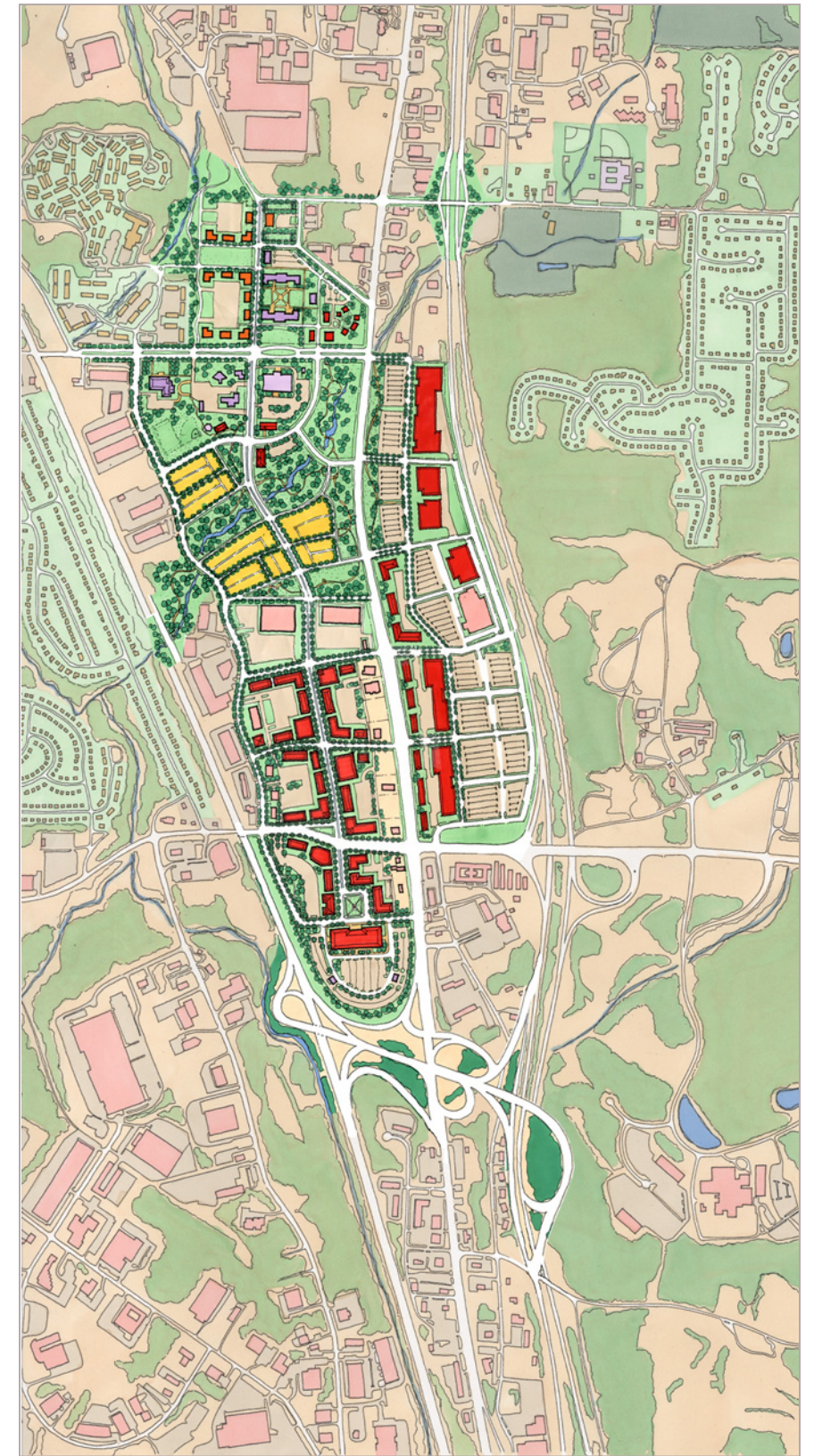


REGIONAL X-RAYS Highways (top left), Commercial (top right), Parks (bottom left), Residential Patterns (bottom right)

CRANBERRY TODAY is currently a series of auto-oriented single-use districts. New land use patterns and public transportation will help the districts transform into a mixed-use center.

By refocusing growth to pedestrian-friendly neighborhoods with local services or encouraging large, mixed-use districts with good connections to denser neighborhoods, there would be less reliance on the regional road system for local trips. A connective street system would handle local traffic, as well as encourage alternative modes of transportation, such as public transit.

This could promote more mixed-use activity within the commercial district and provide a pedestrian – and transit-friendly ‘Main Street’ for the Township.



REGIONAL PUBLIC TRANSPORTATION will connect Cranberry to the region. A circulator will connect commercial nodes in Cranberry’s new downtown.

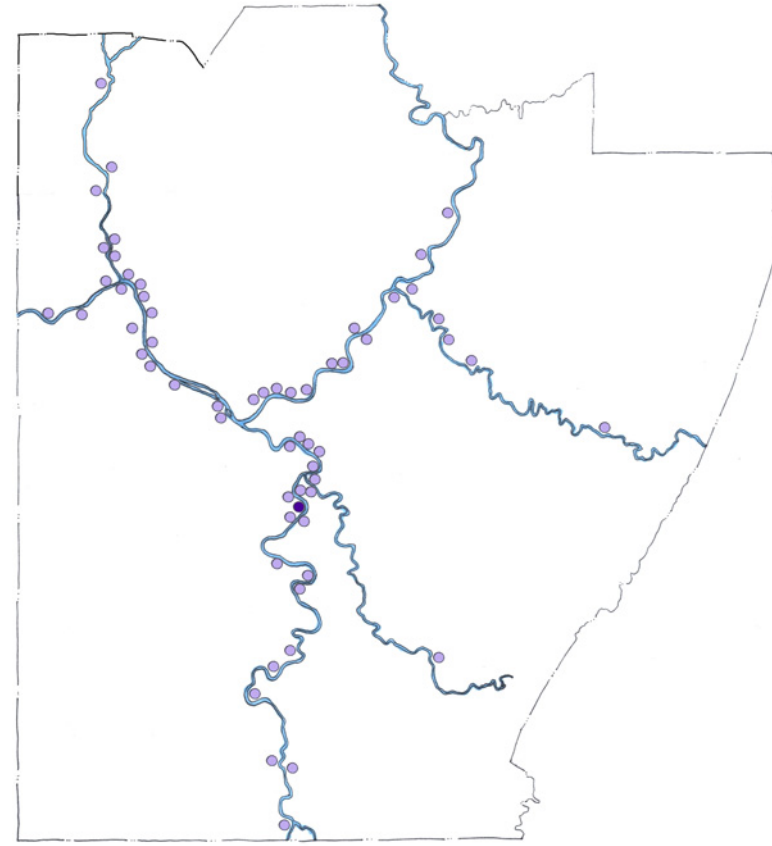
A NEW CIRCULATOR will be used to create a pedestrian-friendly main street.

CRANBERRY TOMORROW is currently a series of auto-oriented single-use districts. New land use patterns and public transportation will help the districts transform into a mixed-use district.

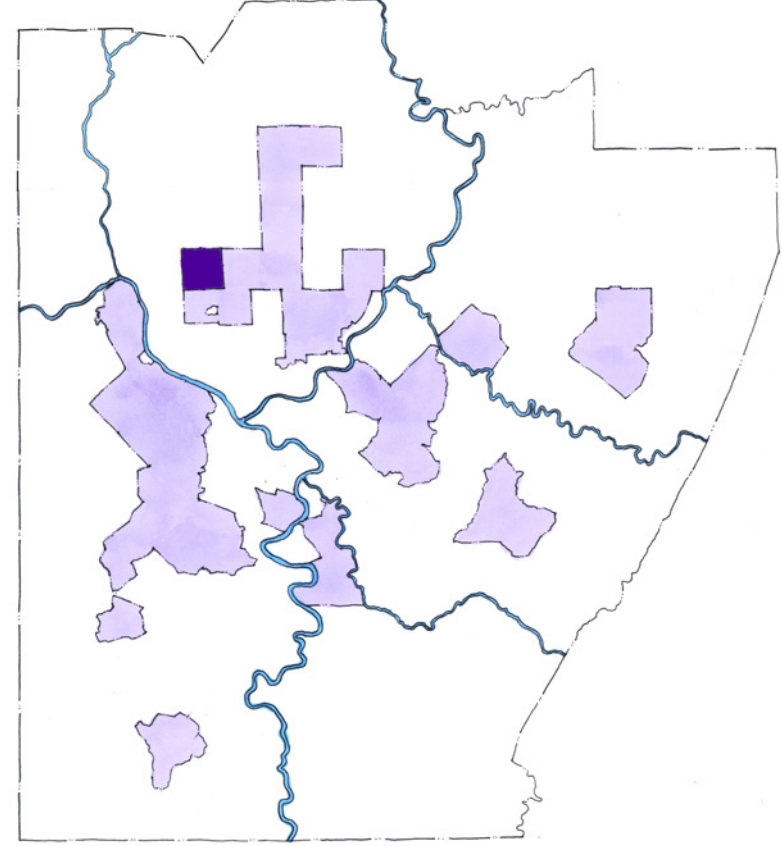
lessons learned, themes, and application to the region

The charrettes in Cranberry and Clairton suggested that there is no one solution for all communities throughout southwestern Pennsylvania. The diversity of community types throughout the region requires an equal range of strategies to address their needs.

VALLEY TOWNS: *Clairton and other valley towns have established centers, but may have limited regional connections.*



FAST-GROWING SUBURBS: *Cranberry and other fast-growing communities throughout the region*



CLAIRTON AND CRANBERRY were chosen for demonstration charrettes because they represent two types of communities in the region. Lessons learned from these communities can be applied to similar communities.

Community Needs	Rapidly Developing Suburb		Older Town	
	Diagnosis	Suggested Approach	Diagnosis	Suggested Approach
Internal Connections	All auto dependent, large blocks and few sidewalks	Circulators, more street connections, sidewalks, bike paths	Strong because of small blocks and prevalence of sidewalks	Small bus circulators to enhance mobility and access
Regional Connections	Strong, however all dependent on freeways and narrow arterials	Selectively upgraded arterials and rapid transit connections	Weak because of topographic challenges and narrow winding arterials	Selectively upgraded arterials and rapid transit connections. Rehab existing infrastructure
Parks and Recreational Facilities	Will need to continue to develop open spaces and recreational opportunities as community grows	Cluster development, transfer of development rights, land trusts, legacy programs	Established municipal parks in need of maintenance and updating	Increased tax base, private public partnerships
Access to Employment Opportunities	Proximate to large office and industrial parks via freeways and arterials – lack of transit access to downtown Pittsburgh and Oakland	Commuter connections to downtown Pittsburgh and Oakland; maximize development of existing office and industrial parks	Minimal due to vacant industrial sites and poor access to downtown Pittsburgh and Oakland – most proximate employment opportunities typically five or more miles away at suburban strip district	Redevelop brownfields with job generating mixed use developments – Provide fast and reliable connections to pedestrian friendly job centers
Housing Opportunity	Narrow range of house types and narrow range of price points and rents	Provide different housing types in order to achieve housing options for all phases of life and income levels	Wide range of housing types but narrow range of price points and rents; some housing stock needs renovation	Provide new construction housing options as well as encourage renovation of existing housing units
Community Center	Possible municipal building or park	In need of mixed uses and critical mass	Main Street	In need of revitalization
Valuable Open Space	Prime Agricultural Land not protected, likely to be subdivided and developed	Cluster development, transfer of development rights, land trusts, legacy programs	Inaccessible river corridors and green ways	Easements, redevelopment of vacant industrial lands

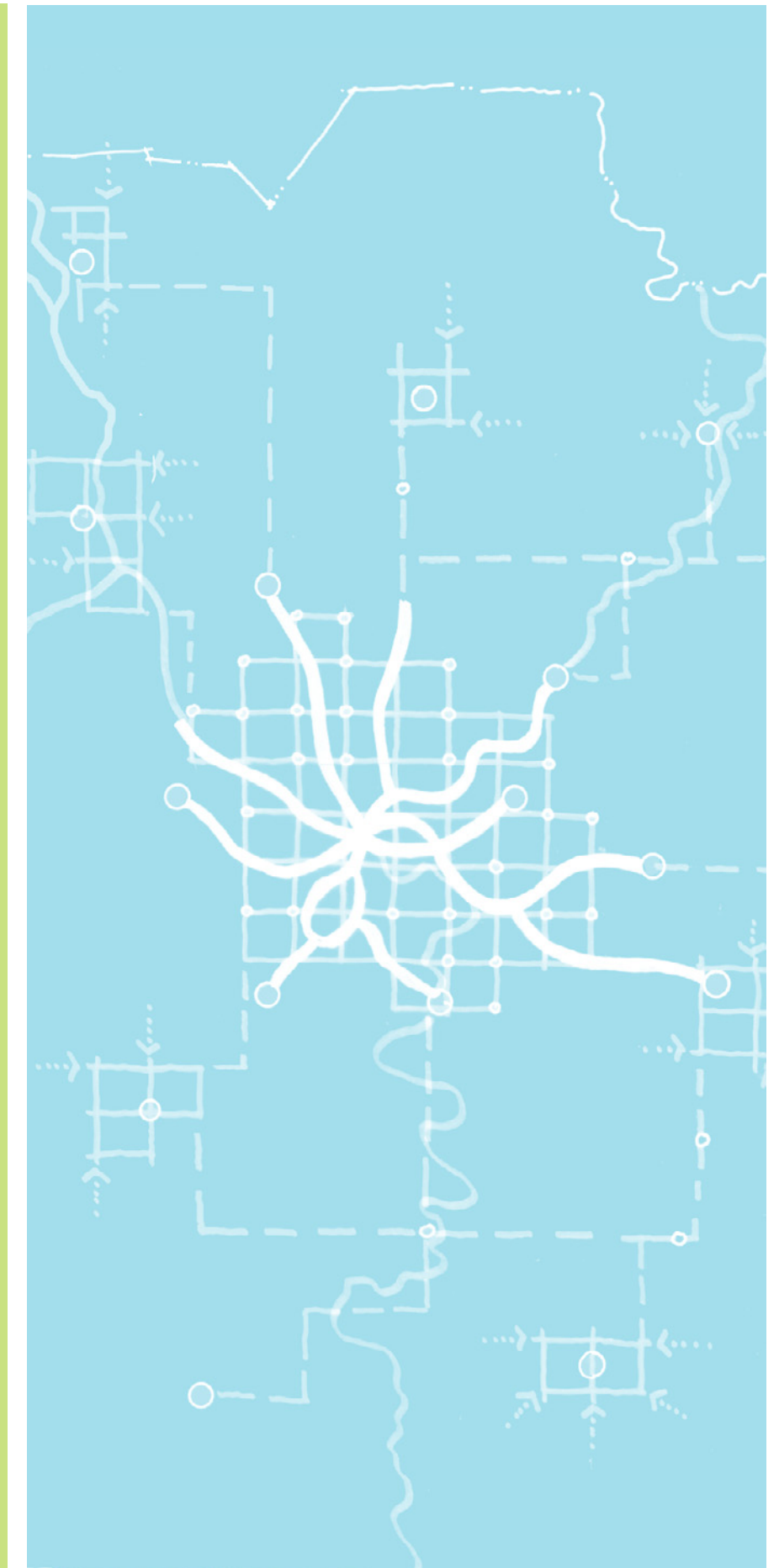
LESSONS AND THEMES This table summarizes the lessons and themes identified by the charrettes.

section e: developing the public transportation vision

overview: two possible visions

This section of the study presents the investigation of two potential land development scenarios for the region. One, the Trend Scenario, depicts the future form of the region, assuming that current land development trends will continue. The other, the Focused Growth Scenario, assumes that a deliberate attempt will be made by the region's citizens and local and regional officials to encourage growth in areas already developed and to institute site design principles and standards that support a more traditional type of development.

Following the presentation of these two scenarios – the 'building blocks' of regional form – two transit scenarios are presented, each dovetailed with one of the land development scenarios. Because land development patterns strongly affect the form of public transportation that will be effective within them, the transit scenarios presented for the two land development scenarios in this study are markedly different.



The Trend Scenario assumes that the transportation system will need to support low-density development. Accordingly, that scenario assumes that limited investment in new public transit infrastructure would be needed, as highways and moderate levels of bus service on local roads can generally support low-density development.

The Focused Growth Scenario assumes that the transportation system will need to support higher-density mixed-use development. Accordingly, that scenario assumes the public transportation system would have a larger role in satisfying the region's travel demand. To achieve that role, the local bus service would need to be supplemented with appropriate investments in high capacity transit fixed-guideway facilities.

Considerable discussion is devoted to comparing and contrasting these two land-use scenarios and their paired public transportation scenarios in order to help the region's citizens and elected officials evaluate the options, make the most of our assets, and view the Transit Vision in relationship to other regionally significant initiatives. Based on analysis and public outreach the Focused Growth Scenario is selected as the proposed land use framework for developing the regional Transit Vision. The highlights of the discussion are:

>>>>> The Trend Scenario reflects the development pattern typical of the past 50 years, that of outward growing low-density suburban and exurban rings supported by investments in new roads, utilities, and municipal services.

>>>>> Under the Trend Scenario, most new growth will be automobile-oriented, dependent on highway investments and generally occur outside of currently developed areas;

>>>>> The Focused Growth Scenario, one of 'filling in,' assumes the same quantitative growth within each county. However, with Focused Growth, the growth will be more concentrated, balancing new growth in suburban areas with infill development in the denser urban areas. Mixed-use development will become walkable focal points for these districts and neighborhoods throughout our region;

>>>>> Under the Focused Growth Scenario, brownfield and greyfield sites will be priority sites for mixed-use redevelopment, with special emphasis on those sites along the rivers and adjacent to older river valley communities and other established communities. Greenfield development will be targeted to areas where adequate infrastructure is already in place to serve new mixed-use developments. Considerable effort will be made to locate jobs and housing in relatively close proximity to encourage convenient access;

>>>>> The Focused Growth Scenario can support a higher level of transit service due to a more transit-friendly development pattern;

>>>>> This study used data and projections from the Southwestern Pennsylvania Commission's *2025 Transportation and Development Plan for Southwestern Pennsylvania* (SPC, June 2000) as well as information gathered by the study team, as the foundation for the analysis and conclusions;

>>>>> The analysis considered a range of transit services and modes. The service categories include intercity transportation, rapid transit, commuter express, traditional fixed-route fixed sched-

ule service, paratransit, and circulator/feeder services. The transportation modes investigated to provide the transit service include over-the-road coaches, standard city buses, commuter rail coaches, light rail transit, busways, bus rapid transit, commuter rail, electric trolley buses, small buses, shuttle vans, high-speed maglev, ferries, and water taxis (other modes such as monorail, low-speed maglev and automated guideway transit, may be considered when future studies are performed in specific corridors of the region).

>>>>> Qualitative and quantitative measures were used to evaluate and compare the Trend and Focused Growth Scenarios;

>>>>> Quantitative measures included: acreage developed, transit travel times, transit ridership, miles of rapid transit, and infrastructure costs (local roads, schools, water and sewer);

>>>>> Qualitative measures included: land-use/development, community design, mobility, investment, environment, community coordination, and transit service quality;

>>>>> Careful coordinated planning across multiple jurisdictions will be required to successfully implement the Transit Vision. As part of this coordination, ongoing refinement of the selected Transit Vision concept will need to occur as project development and implementation proceeds; and

>>>>> The selected Transit Vision will also need to be integrated with other ongoing initiatives throughout the region in order to make the best overall use of regional assets. Potential system refinements predicated on developments such as high-speed maglev, waterborne transportation, and opportunities for railroad corridor re-use are addressed in the final segment of this section of the report.

understanding the dynamics of the region

Land-use patterns clearly drive the need for transportation services and investments. Consequently, integrating our land-use choices with our transportation choices is the best approach to addressing the region's challenges and to promoting healthy, sustainable regional economic development and quality communities.

Development in southwestern Pennsylvania, like many other population centers throughout the United States since World War II, has been strongly affected by policy decisions and infrastructure investments at the local, regional, state, and federal levels. These investments have fostered low-density development patterns characterized by segregation of different land-uses and continued outward expansion from the urban cores and town centers. The resulting landscape is served by a ubiquitous roadway network with public transportation service less common, with a focus in areas with high intensities of use. Familiarity, individual lifestyle choices, inertia, and market forces have continued to reinforce these patterns of disconnected residential subdivisions, retail malls, and office parks. Ever-increasing automobile use – and the associated need to develop and maintain a roadway network that supports this land development pattern – has constrained the resources available for alternative transportation systems and choices for those who choose not to, or are unable to because of physical or financial reasons, travel by automobile.

While the advantages enjoyed as a result of this development pattern and infrastructure investment have contributed to the vitality of our region through economic opportunities, more 'private' space per capita, and 'travel on demand' provided by private automobiles,

these benefits have not come without costs. Those who moved to the suburbs in search of spacious, tranquil living at a reduced cost are, instead, confronted with traffic congestion, rising tax assessments to fund schools and other public improvements, and diminishing open space and natural amenities. For the residents of traditional urban and community centers and maturing suburbs, declining population and employment opportunities, aging infrastructure and the ensuing instability in property values present new challenges that threaten neighborhood integrity and quality of life.

In the long run, dispersal of population and jobs from established centers while overall growth is relatively stagnant or declining will result in economic and social challenges. The slow growth in economic activity will not be able to efficiently maintain services in an ever larger area.

A fundamental question facing us now is whether our diverse urban, suburban, exurban and rural communities will develop in a manner that meets the aspirations of all southwestern Pennsylvanians. In southwestern Pennsylvania, development is not being driven by population growth pressures, but rather by changes in demographic characteristics and the changing regional economy. Even though our overall regional rate of growth has been slow, as people and jobs relocate from the urban core and community centers to the surrounding landscape, southwestern Pennsylvania is developing more land to 'grow out.'

In 2000, about 2.56 million people lived in southwestern Pennsylvania, down by 11% from the peak of 2.88 million in 1960.

While the number of residents in the region has declined over the past 40 years, more land is being used for residential and commercial development.

Nevertheless, there is greater demand today for walkable communities, where homes and shopping are located in relatively close proximity, where there are sidewalks and transit that connect origins and destinations, and where the destinations include mixed-use communities which are easily accessible by foot. This interest is fueled by smaller household sizes with fewer children per household, higher household discretionary income resulting in greater interest in lifestyle issues, and reaction to increased traffic congestion and the cost of driving.

Examples of this type of development are occurring nationwide as well as in many areas throughout the region. For example major redevelopment projects in the downtown areas of Greensburg, Uniontown and Washington, Phase II of Southpointe in Washington County, a new development at the Hempfield/Greensburg border, and the newly developed Southside Works in the City of Pittsburgh include design features and infrastructure intended to encourage walking.

We have a spectrum of choices available to us for the future of our region. These choices can be bracketed by the two land use scenarios presented in this Study: the Trend Scenario and the Focused Growth Scenario, both developed through a comprehensive public outreach program (as discussed in Section D) and coordination with local planning agencies.

Under the Trend Scenario, recent development patterns are assumed to continue. The Trend Scenario is characterized by:

- >>> Continued population and employment shifts outward from established urban and community centers;
- >>> Limited use of land use and zoning tools allowing mixed-use communities;
- >>> Low-density development;
- >>> Spatially segregated land-uses; and
- >>> Limited choices for mobility and accessibility other than the automobile.

The Focused Growth Scenario assumes that future development would be concentrated in established outlying areas, as well as in the urban core and town centers. The Focused Growth Scenario is characterized by:

- >>> Infill development;
- >>> Greenfield and greyfield development;
- >>> Compact suburban development models;
- >>> Mixed-use town centers;
- >>> Transit friendly community design;

- >>> Population and employment growth encouraged to urban cores and community centers;
- >>> Moderate outward expansion;
- >>> Where necessary, modification of currently used land use and zoning tools and design standards to facilitate pedestrian and transit-oriented development;
- >>> Increased density of development;
- >>> Opportunities for mixed-use development; and

>>> A variety of transportation choices in addition to the automobile.

In order to understand the implications of these two development scenarios for the region, it is important to first understand the existing land-uses and public transportation systems that form the ‘building blocks’ of southwestern Pennsylvania. These are described next, first land-use, then public transportation, followed by detailed descriptions of the Trend and Focused Growth Scenarios.



TWO SCENARIOS OF REGIONAL GROWTH: This study poses two alternatives for the future of our region. The trend alternative disperses development by ‘growing out.’ The other alternative, the focused alternative, reinforces existing communities and corridors by ‘filling in.’



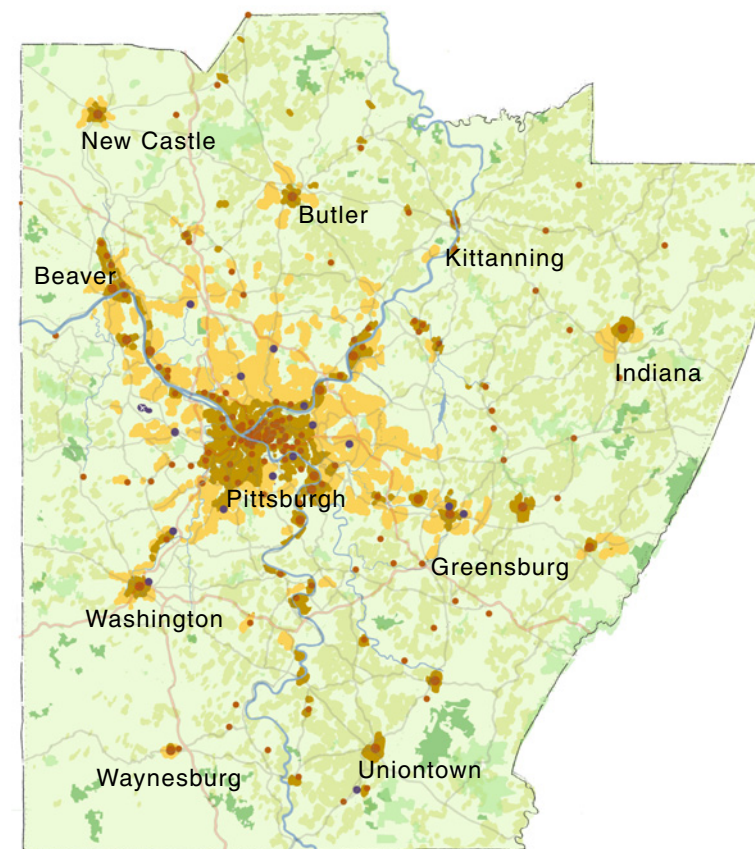
building blocks of regional form

Land-Use Building Blocks

A critical step in developing the Transit Vision for southwestern Pennsylvania has been understanding the nature of the individual places or ‘building blocks’ that comprise the region and the role that public transportation can play in serving them. Each building block can be understood in terms of its contribution to the region, its development character, and its transportation needs, including opportunities for transit. The regional building blocks addressed in this study are:

- >>> Urban Neighborhoods;
- >>> Suburban Neighborhoods;
- >>> Downtowns, Regional Centers, and Town Centers;
- >>> Villages;
- >>> Districts; and
- >>> Open Space.

REGIONAL FORM TODAY: *Our region is made up of complex settlement patterns amidst an equally complex landscape pattern.*



URBAN NEIGHBORHOODS create strong transit markets because they are dense and walkable.

Urban Neighborhoods

Urban neighborhoods are pedestrian-friendly, dense, mixed-use areas with a combination of housing, civic uses, and employment uses. Examples of urban neighborhoods are Squirrel Hill in Pittsburgh, College Hill in Beaver Falls, Mt. Vernon in New Kensington, and Mount Lebanon and Dormont in southern Allegheny County. Urban neighborhoods typically are characterized by a wide range of transportation choices, facilitated by a grid pattern of intensely developed streets that promote a pedestrian environment easily served by public transportation.



SUBURBAN NEIGHBORHOODS create weak transit markets because they are not dense and their street patterns tend to not be pedestrian friendly.

Suburban Neighborhoods

Suburban neighborhoods are low density, single-use areas that are primarily residential. Small pockets of higher density housing or commercial uses may occur in suburban neighborhoods. Suburban neighborhoods tend to be automobile-oriented and separate from retail and other commercial areas. Because these neighborhoods are generally not well connected to adjacent land-uses, and are characterized by curvilinear street patterns and large blocks, opportunities for pedestrian connectivity are limited. Servicing these areas with public transportation tends to be difficult because of the street patterns, low density, and lack of pedestrian amenities. Bethel Park, Plum, Hampton, Murrysville, Cranberry, Hopewell, and Peters Township are examples of suburban neighborhoods.

Centers: Downtowns, Regional Centers, and Town Centers

Centers are pedestrian-scaled concentrations of residential and/or commercial development. Centers vary in scale across a region. They can be as large as downtown Pittsburgh or as small as Zelienople's business district. Centers are retail, civic, and workplace dominated, with residential uses mixed in. There are three types of Centers: Downtowns, Regional Centers, and Town Centers. Centers of all scales have neighborhoods directly related to them, separate from other defined neighborhoods.

Downtowns and Town Centers provide strong public transportation markets because they have high concentrations of population

and employment, and typically combine complementary uses within walking distance of each other. The pedestrian-friendly atmosphere typical of these areas facilitates the provision of public transportation service. Higher public transportation service levels can be sustained in the larger downtowns and town centers because the intensity and mix of uses generates off-peak demands.

Downtowns

The southwestern Pennsylvania region contains several 'downtowns.' Pittsburgh's Golden Triangle is the central downtown of the region; however, the surrounding county seats of Washington, New Castle, Butler, Indiana, Kittanning, Waynesburg, Uniontown, Greensburg, and Beaver are also regionally significant downtowns. Other towns in the region, such as Charleroi, Latrobe, Connellsville, Ambridge, and Canonsburg also have well-established downtowns.

Regional Centers

Regional Centers are the suburban centers of commerce serving a market of several communities. Regional Centers have grown because of their location on major highways. Examples of areas exhibiting the characteristics of Regional Centers are Cranberry, South Hills Village, Monroeville, the Westmoreland Mall area, Beaver Valley Mall, Clearview Mall, the Century III Mall area, and the new Pittsburgh Mills development in Frazer Township.



TOWN CENTERS provide localized services to a market area within a one or two mile radius. Town centers create strong transit markets because they have a mix of households and employment.

Town Centers

Town centers provide localized services to thousands of people within a two-mile radius. Town centers tend to contain the most basic and necessary functions of daily life: a pharmacy, a hardware store, a small grocery store, a post office, etc. Examples of Town Centers around the region include Mt. Lebanon, Zelienople, Ellwood City, Mount Pleasant, Apollo, and Oakmont.



VILLAGES – while remote and not dense – can create strong transit markets because they can be served by a single transit location.

Villages

Villages are self-contained small, dense settlements outside the general urbanized area of Pittsburgh, Washington, Butler and other downtowns. Villages typically contain every-day services and conveniences as well as local service jobs. Villages tend to be surrounded with open space, and connected to the region via highways, trails, and paths. Ligonier, Ohio, Slippery Rock, New Wilmington, Donegal, Clymer, and Saxonburg are typical examples of villages in the region.



DISTRICTS are areas dominated by a single use, typically employment. Districts can create strong markets if they are pedestrian friendly.

Districts

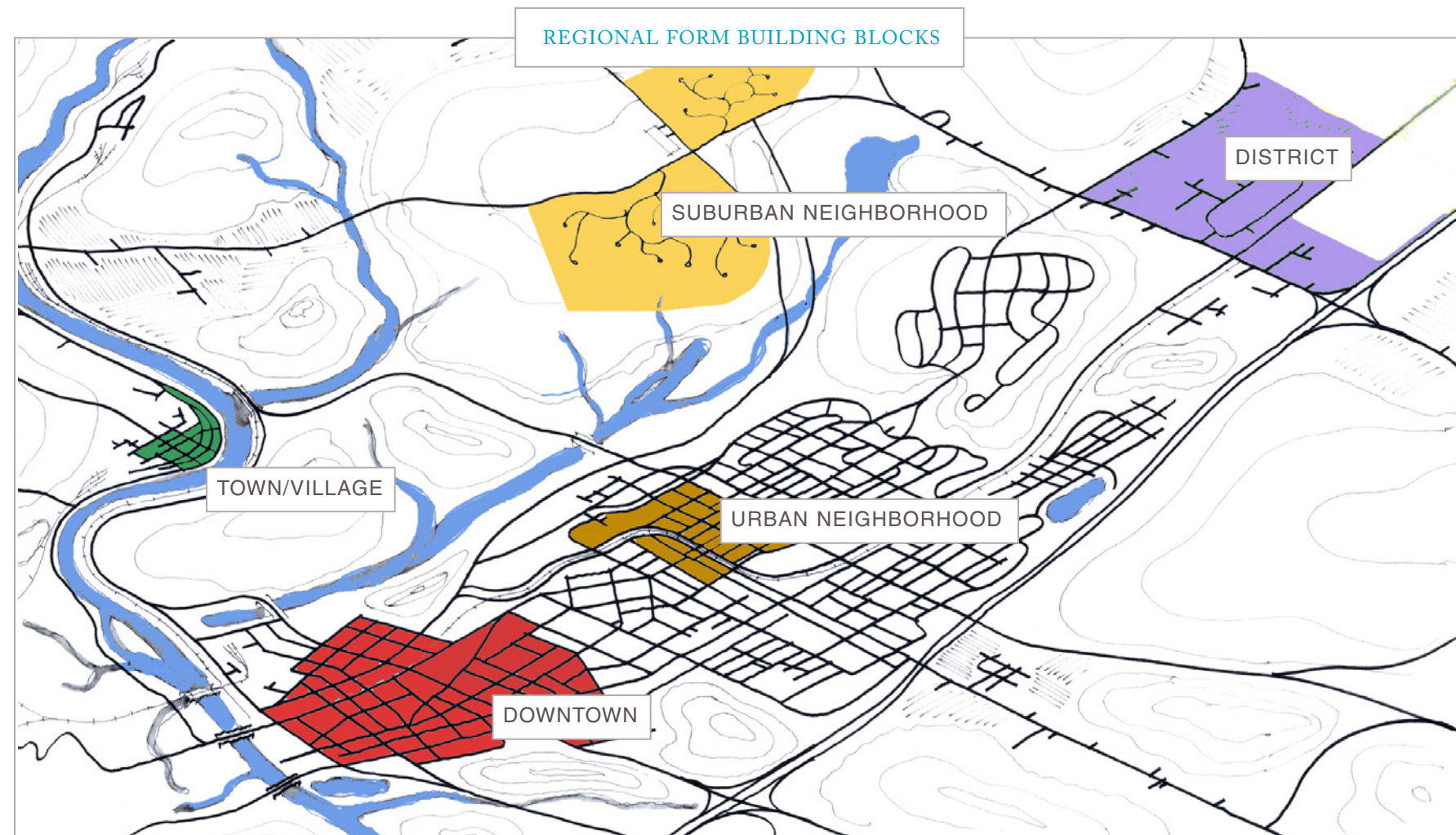
Districts are special-use areas dominated by a single use. Examples of districts include office parks, industrial parks, airports, some university campuses, and regional distribution centers. These uses are critical to the economic livelihood of a region. They tend to be of such a scale that they are separated from neighborhoods and centers. Districts tend to be regional attractions and significant trip generators. However, because they are separated from neighborhoods and centers, and are generally of such a scale that they are not walkable. Examples of districts are the Airport area, Robinson Town Centre, Thorn Hill Industrial Park, Southpointe Phase 1, and Westmoreland Industrial Park.



OPEN SPACE, natural areas, and sensitive environments should be protected. They can define the edges of urban development.

Open Space

Open space consists of rural, agricultural, natural, and park spaces. Open space is important because it defines the edges of urbanized areas, provides ecological balance, and recreational opportunities. Critical wildlife habitats and landscapes typically require healthy open space to thrive. Examples of open space in the region include farms; the Laurel Highlands; river corridors; State Game Lands; and state, county, and municipal parks.



building blocks of public transportation

The building blocks of public transportation present a menu of choices for the region's Transit Vision. The various transportation modes, types of service and regional travel characteristics are described below.

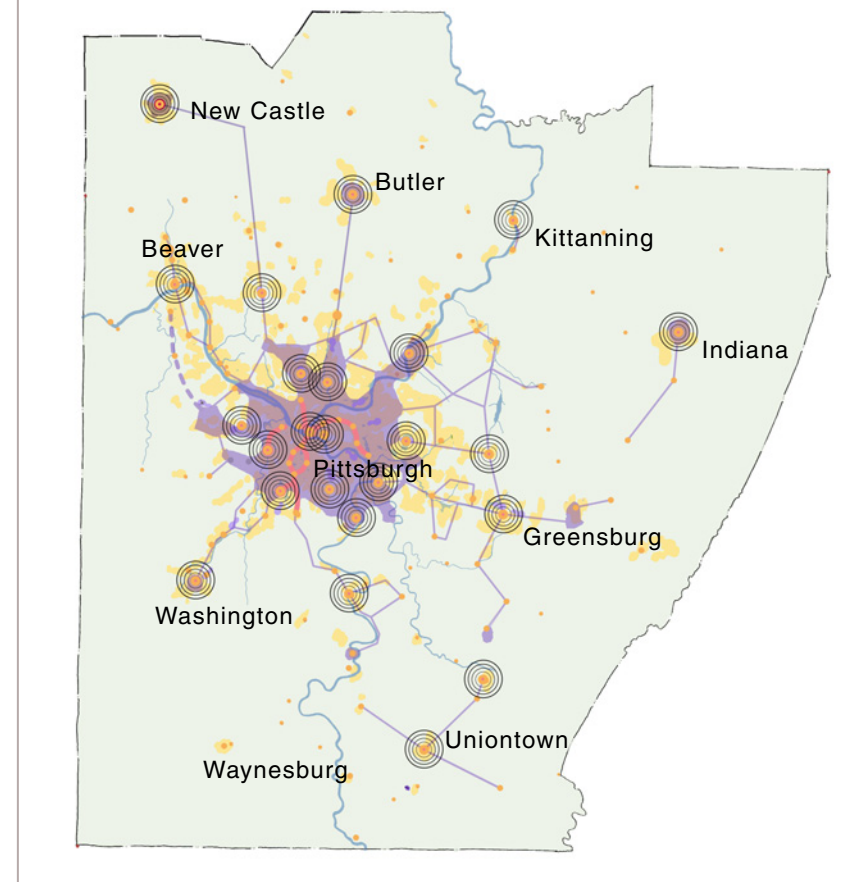
Public Transportation Family of Services

A wide range of public transportation modes and service levels are available to meet the needs of the diverse areas that comprise the region. These public transportation building blocks can be understood as a 'family of services,' as summarized in the table on the next page. These building blocks can be used either alone or in combination with each other to address the specific mobility and accessibility requirements of a particular area, depending upon the level of travel demand and the character of the community.

Intercity

Intercity services are typically inter-regional in nature and are generally not designed to provide transportation service within a particular region. However, there are instances where intercity services do overlap with local transit services, such as Amtrak rail service between Greensburg and Pittsburgh, and Fullington Trailways bus service connecting Indiana, Vandergrift, and Pittsburgh. These services are very limited in nature (e.g., Amtrak operates two trains daily in each direction between Greensburg and Pittsburgh) and are not scheduled to meet peak travel demands within the region. Thus, they generally have little effect on regional transit service.

TRANSIT TODAY: Ten separate transit operators serve the region with transit service.



However, a proposal to build a high-speed magnetic levitation (maglev) system between the Pittsburgh International Airport, Downtown Pittsburgh, Monroeville, and Greensburg could have an effect if service levels are sufficient to complement the regional transit system. The potential effect of high-speed maglev is presented later in Section E.

Rapid Transit

Rapid Transit is not a mode of transportation in and of itself. Rather it is a classification of modes that exhibit similar characteristics, the most prominent being higher operating speeds. The Regional Strategic Transit Visioning Study investigated three potential modes that are included within the rapid transit category: Light Rail Transit (LRT), Bus Rapid Transit (BRT) and Commuter Rail. Each is described in more detail.

Light Rail Transit (LRT)

LRT is a class of urban public transportation used to serve both high-density areas and lower-density environments where frequent stops are required to serve dispersed activity centers. Light Rail Vehicles (LRVs) operate on rail tracks, are controlled by an on-board operator and are designed to operate on exclusive rights-of-way and on public streets. The characteristic that separates LRT from other rail transit modes is its ability to operate mixed in with other traffic, particularly at grade crossings. LRVs can operate as either single vehicles or multiple car trains, typically of two to three vehicles. Port Authority's **T** system is an example of LRT.

Bus Rapid Transit (BRT)

BRT consists of a spectrum of bus transportation investments that include low-cost investments such as traffic signal pre-emption at intersections to higher-cost investments such as busways on exclusive rights-of-way. The magnitude of the investment is generally matched to the conditions of the transportation system – higher demand corridors typically warrant exclusive rights-of-way whereas localized operational problems can generally be solved with signal improvements and bus priority strategies on existing streets. Conceived as an integrated, well-defined system, BRT can provide high operating speeds, reliable and convenient service, and customer amenities that can match the quality of rail transit when implemented in appropriate settings. Examples of BRT investments and their features follow.

>>>>> *Busways* – Busways are roadways designed for use exclusively by buses. Local examples include Port Authority’s South Busway, Martin Luther King, Jr. East Busway, and West Busway.

>>>>> *Bus lanes* – A lane on an urban arterial or city street is reserved for the exclusive or near-exclusive use of buses. An example is the exclusive bus lane on Smithfield Street in downtown Pittsburgh.

>>>>> *Bus signal priority* – Preferential treatment of buses at intersections can involve the extension of green time or actuation of the green signal at signalized intersections upon detection of an approaching bus. Intersection priority can be particularly helpful when implemented in conjunction with bus lanes. As an example this technique is used extensively on Wilshire Boulevard and other main routes in Los Angeles.

Commuter Rail

Commuter Rail is a transit mode that is an electric or diesel propelled railway for urban passenger train service consisting of local short distance travel generally operating between a central city and adjacent suburbs. Service is usually oriented toward peak periods and is provided for the purpose of transporting passengers within urbanized areas, or between urbanized areas and outlying areas. Such rail service, using either locomotive hauled or self-propelled railroad passenger cars, is generally characterized by longer station spacing than either LRT or BRT and usually only one or two stations in a central business district. Examples of commuter rail include MARC service in the Baltimore and Washington metropolitan area, METRA trains in Chicago, SEPTA’s regional rail system in the Philadelphia area, and Metro North trains in New York

Automated Guideway Transit

Automated Guideway Transit consists of exclusive transit guideway with computer controlled vehicles offering relatively frequent, all-day service. Examples of automated guideway transit include the underground transit at Pittsburgh International Airport, the Morgantown, West Virginia personal rapid transit, Detroit’s people mover, Disney monorail, Las Vegas Monorail, and the low-speed maglev operating in Nagoya, Japan.

Commuter Express

Commuter express is a special type of fixed-route bus service that provides commuters with a fast, limited stop trip from a suburban location to the central city of a metropolitan area. Services are generally operated using ‘over-the-road’ type coaches with seating and

FAMILY OF SERVICES				
Type of Service	Description of Service	Type of Right-of-Way	Transit Facilities	Vehicles and Modes
Intercity	High speed, low frequency, generally connects one region with another	Dedicated right-of-way, high speed, limited access regional freeways	Intermodal transit facilities (terminals)	Over-the-road coaches (e.g., Greyhound), Passenger rail coaches (e.g., Amtrak), Magnetic Levitation (experimental)
Rapid Transit	High speed, high frequency service connecting dense urban neighborhoods	Dedicated right-of-way, occasionally mixed with traffic	Intermodal transit facilities located at the core of transit-oriented neighborhoods or developments	Light Rail Transit (LRT), Busways, Bus Rapid Transit (on major arterials), Commuter Rail, Automated Guideway Transit (AGT)
Commuter Express	Limited stop services, frequent peak hour services connecting outlying population centers to the largest employment centers	Dedicated right-of-way, high-speed, limited-access regional freeways	Transit stations located in outlying towns and cities or park and ride lots located adjacent to freeways	Over-the-road coaches
Traditional Fixed-Route, Fixed-Schedule	Basic capillary, network or trunk service of a region connecting all urbanized parts	Mixed with general traffic on arterials or local streets, occasional exclusive lanes	Ranges from simple signs and benches in residential areas to intermodal facilities in mixed-use centers	Standard city bus, electric trolley bus
Circulator/Feeder	Fixed-route service connecting surrounding neighborhoods to mixed-use centers with other public transportation options or to provide internal circulation within downtowns and districts	Mixed with general traffic on arterials or local streets, occasionally operated on exclusive lanes/facilities	Ranges from simple signs and benches in residential areas to intermodal facilities in mixed-use centers	Small buses and shuttle vans
Paratransit	Point-to-point transportation, demand responsive, flexible routes and schedules	Public streets	Generally none	Taxis, automobiles, vans
Waterways	Excursion, water taxi, or commuter ferry	Major navigable rivers	Docks and ports	Range from small water taxis to high-speed catamarans

customer amenities designed for longer trips. Service is oriented toward the commuter market, therefore it is generally provided during peak commuting periods. Examples of commuter express bus service include Beaver County Transit Authority's Fast Forward service such as Express 60 and Mid-Mon Valley Transit Authority Route A.

Fixed-Route, Fixed-Schedule Bus System

Fixed-route bus service is provided on a fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers to specific locations. Each fixed-route trip serves the same origins and destinations each day of operation. The vehicle type is typically a 30- to 40-foot bus that operates in mixed traffic on city streets and regional highways. Stops are frequent and operating speeds tend to be slower than those associated with rapid transit modes. Traditional fixed-route bus service provides much of the transit service in nearly every metropolitan area in the United States. Each of the transit operators in the southwestern Pennsylvania region provides some level of fixed-route bus service within their respective service area.

Circulator

Circulators and feeders are specialized services that serve specific geographic areas. Circulators, as implied by the name, circulate through a specific area, providing access to attractions (job sites, retail areas, etc.) within that area and also can provide connections

to other routes. Examples of circulator service include Port Authority's 84-series routes connecting Oakland with surrounding neighborhoods, Fayette Area Coordinated Transit's Uniontown Local Service, Indiana County Transit Authority's Indiana University Campus Loop, and Mid Mon Valley Transit Authority's Blue Line which links Donora with the Mon Valley Hospital and local grocery stores. Feeders typically are designed specifically to collect transit riders through local areas and carry them to a higher-type transit facility (including rapid transit) for continuation of their journey.

Paratransit

Paratransit typically is not provided on fixed-routes and fixed-schedules. Rather, it is a demand responsive service designed to meet the trip-making needs of residents unable to use a fixed-route system due to either mental or physical disability or lack of a nearby fixed route. Paratransit is typically used by riders that are elderly, those who need to make medical trips, and for commuting. Trips are generally arranged through reservations made in advance (usually 24 hours). In some counties of the region, paratransit service is open to all persons, with reductions in fares for certain types of trips (senior citizens, medical assistance, etc.). In other counties, trips may be taken only if the rider meets certain eligibility requirements. Paratransit offers the most flexible service of all the services described – but with this flexibility comes a relatively high cost per rider for providing the service.

CUSTOMER AMENITIES AND TRANSIT FACILITIES					
	Local Stop	Primary Stop	Super Stop	Inter-Modal	Park and Ride
Transit Amenities					
transit sign					
specialty paving					
passenger shelter					
system map / fare info					
route map / schedule					
benches					
trash receptacle					
newspaper stand					
landscaping					
public telephone					
courtesy telephone					
lighting					
bicycle storage					
information kiosk					
bus bays					
reader board					
computer bulletin					
bathrooms					
auto parking					
Vendor Amenities					
cash machine					
post office vending					
retail kiosk					
day care center					
joint development					
on site management					
taxi stand					

regional travel

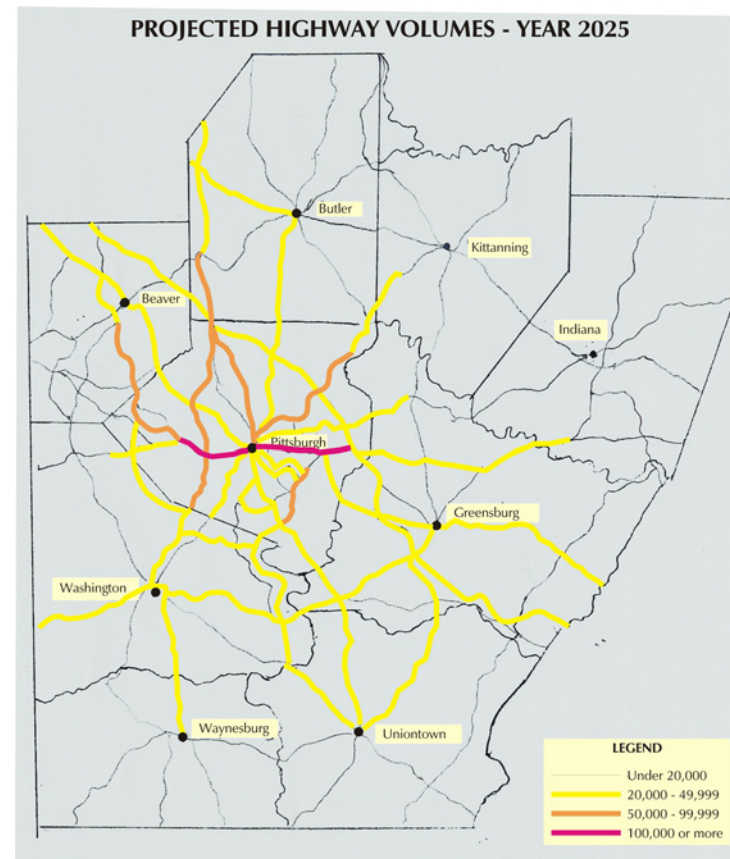
Public transportation is most effective and efficient when there is a critical mass of people who make frequent trips over relatively common paths or routes. Future travel demand estimates maintained by the Southwestern Pennsylvania Commission (SPC) indicate where these high volume corridors are projected to be located in the region.

SPC, as the federally designated Metropolitan Planning Organization (MPO) for southwestern Pennsylvania, prepares a long-range transportation plan every three years. SPC's current effort at the time this study was completed, *2025 Transportation and Development Plan for Southwestern Pennsylvania* (SPC, June 2000), presents planned highway and transit improvements based upon estimated population and employment growth and future travel demand in the region.

The 2025 Plan identified travel corridors with high travel demand. Corridors that exhibit high demand are considered candidates for a major transit investment. Those corridors with lower demand are considered for improved bus service on existing highway arterials and freeways.

The most heavily travelled roads occur within the core of the region. The Parkway East (I-376) and the Parkway West (I-279) are the highest volume roadways in the region, and are projected to

HIGHWAY VOLUMES: *Many of the region's most traveled corridors radiate from downtown Pittsburgh.*



carry in excess of 100,000 vehicles per day in 2025. Other high volume roadways (i.e., those that are projected to carry between 50,000 and 100,000 cars per day in 2025) include I-279 North/I-79 North to the Cranberry/Zelienople area, Route 28 North toward Freeport, and Route 60 north past the Pittsburgh International Airport and into Beaver County.

The next tier of higher-volume roadways are those carrying 20,000–50,000 vehicles per day. Most of these roads extend radially from Downtown Pittsburgh and link many of the region's cities and towns. In addition to these radial highways, other roads are anticipated to carry between 20,000 and 50,000 vehicles in 2025. However, they provide a circumferential function (such as the Pennsylvania Turnpike and I-70) and were not considered for a major transit investment.

The major corridors were then selected for an analysis of potential travel demand. For analytical purposes, the six-county region (not including Fayette, Greene, Indiana, and Lawrence counties) for which SPC has travel demand forecasts was divided into 58 districts. Linking the districts was a schematic network representing, to the greatest degree possible, the high volume roadway network. This network formed the basis for developing the two transit network alternatives presented in the Trend and Focused Growth Scenarios.

trend or focused growth: our choices, our future

Two alternative regional transit scenarios were formulated and assessed in this study: the Trend Scenario and the Focused Growth Scenario. Each consists of a regional land-use development component and a transit network designed to service that regional form. On the next ten pages, the two scenarios are presented. The presentation includes five sets of facing pages, in which one page discusses the Trend Scenario and the facing page provides information on the Focused Growth Scenario.

In the discussion, each scenario is described first in terms of its development pattern and then its associated public transportation network. Two factors are considered in analyzing the distinctly different development patterns for the Trend and Focused Growth Scenarios:

- >>> Areas of development; and
- >>> Jobs/housing balance (defined in the following pages).

Discussion of the proposed public transportation network paired with each development scenario includes a set of suggested actions for that scenario by:

- >>> Region;
- >>> Corridor; and
- >>> County.

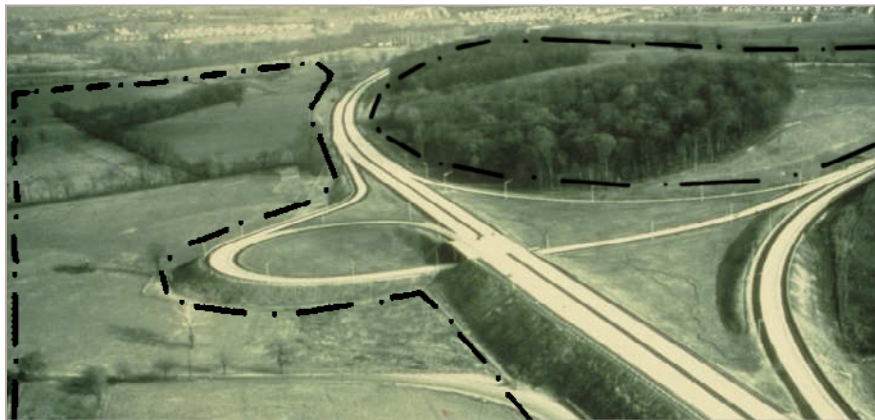
These ten pages are followed by three pages where three case studies are presented to provide visualization for the relationship of development and transit. The communities that are illustrated in the case studies are the Washington-Canonsburg area, the Rt. 19/McKnight Road area of the North Hills, and the Cranberry area in Butler, Allegheny and Beaver counties.

The two scenarios are then evaluated using six quantitative and seven qualitative measures of effectiveness.

trend

the trend scenario: growing out

The Trend Scenario is predicated upon the population and employment growth assumptions in the 2025 Plan. The 2025 Plan assumes future development characterized by low-density residential uses, highway-oriented commercial strip development, single-use office developments, and segregated land-uses that the region has experienced over the past 50 years. Most new growth would be automobile-oriented, dependent on highway investments and would generally occur outside of currently developed areas.

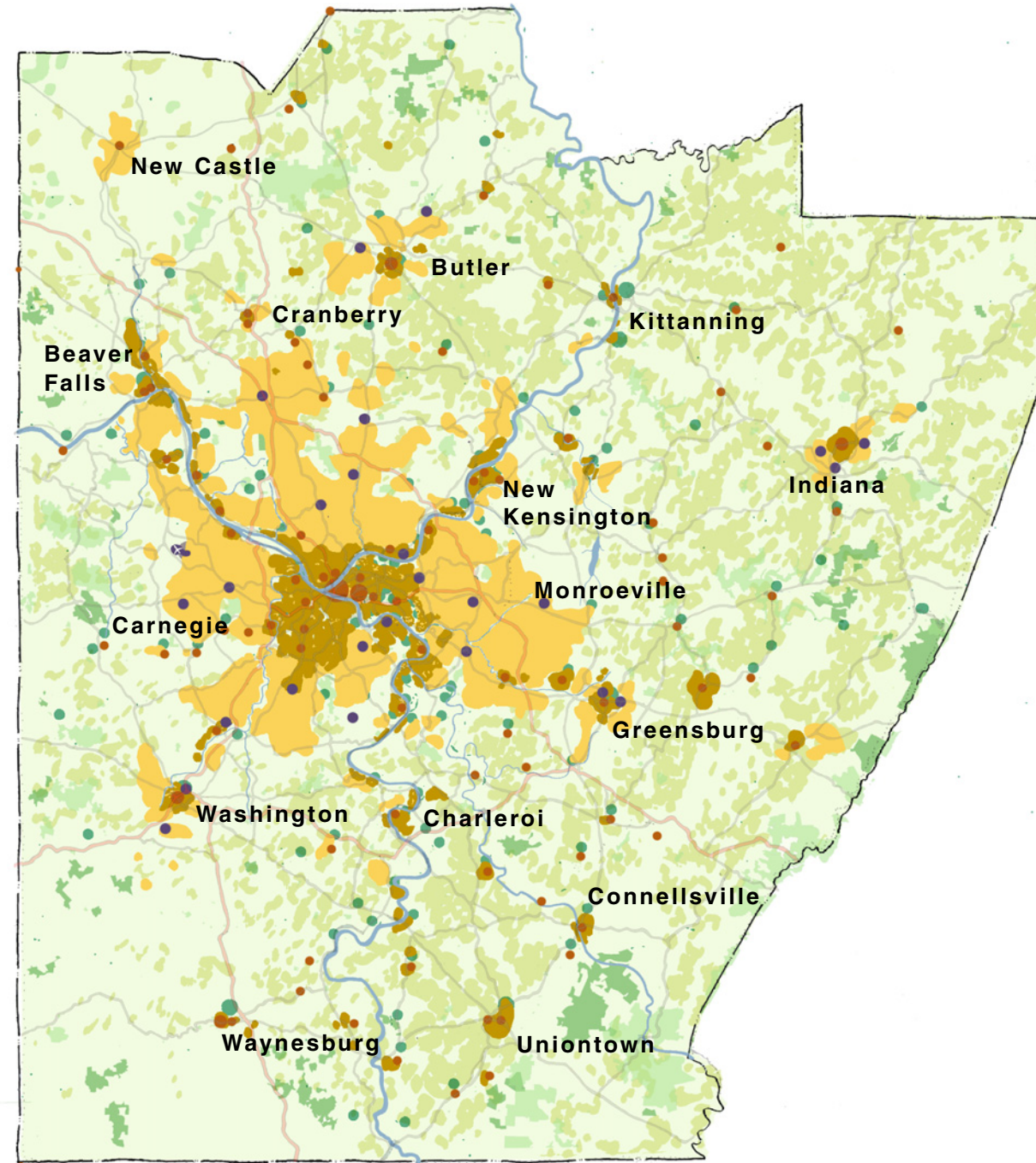


TREND SCENARIO priority development site.








TREND SCENARIO typical corridor development.

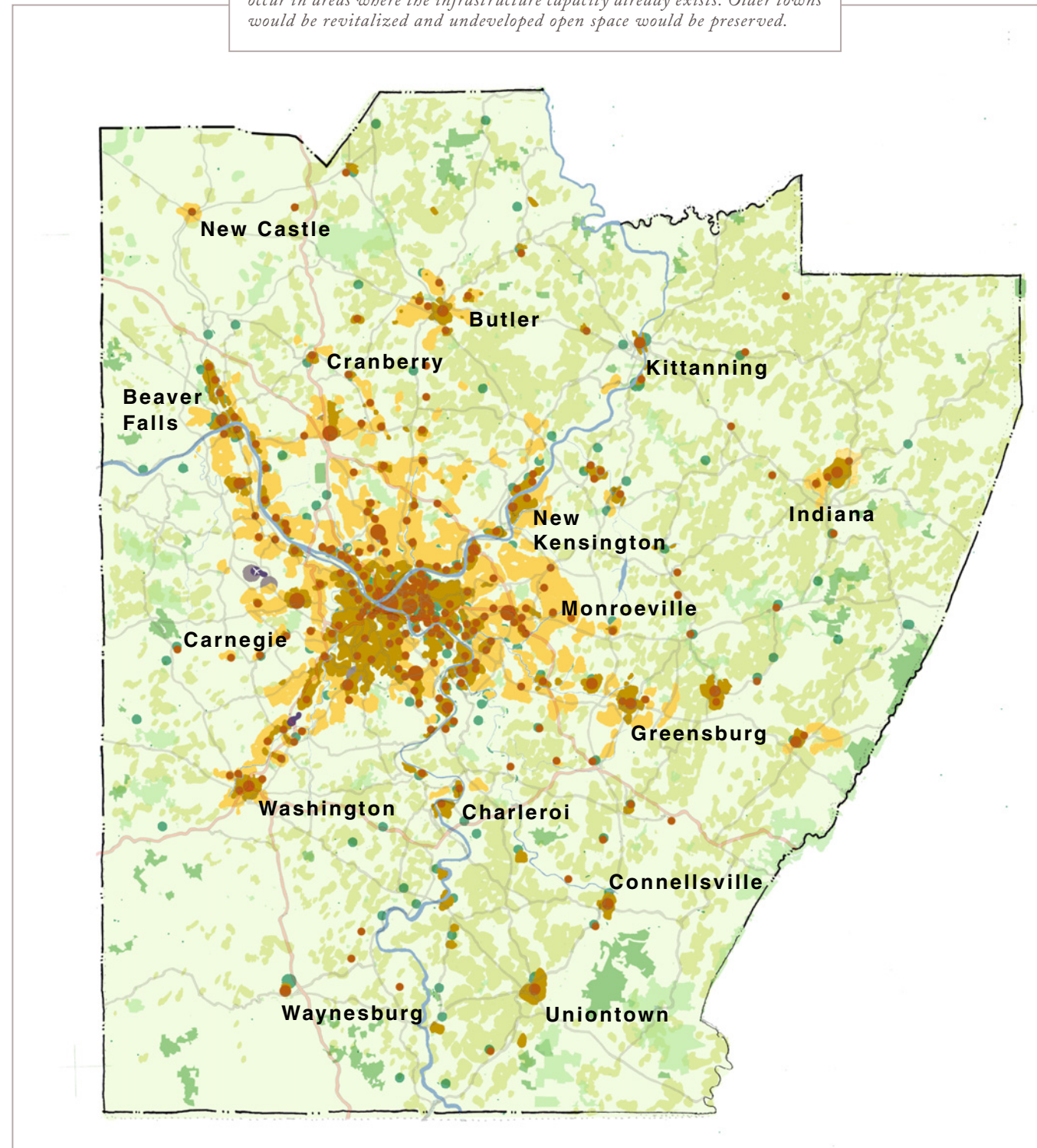
TREND SCENARIO REGIONAL FORM: *Most new growth would occur on the edges of developed areas. The development would tend to be auto-oriented.*



focused

-  urban neighborhoods
-  suburban neighborhoods
-  centers (downtowns, town centers, villages, regional centers)
-  districts
-  open space

FOCUSED GROWTH REGIONAL FORM: *Most growth would occur in areas where the infrastructure capacity already exists. Older towns would be revitalized and undeveloped open space would be preserved.*



the focused growth scenario: filling in

The Focused Growth Scenario assumes that the region would grow by the same amount as in the Trend Scenario. Although the amount of growth in each county would be the same as the Trend Scenario, there will be a significant difference in the character of the growth and the type of development pattern. The Focused Growth Scenario will balance new growth in suburban areas with infill development in the denser urban areas.



FOCUSED GROWTH SCENARIO priority development site.



FOCUSED GROWTH SCENARIO typical corridor development.

trend

The Trend-Based Regional Development Scenario

Areas of Development

Under the Trend Scenario, most of the regional development will occur in the following locations:

- >>> Downtown Pittsburgh and Oakland;
- >>> Communities located along the inner edges of the 'collar' counties (the counties adjacent to Allegheny County);
- >>> The outer edges of Allegheny County; and
- >>> Suburban fringes of cities and towns throughout the region.

The Trend Scenario will result in job growth in the Golden Triangle and Oakland. Downtown Pittsburgh will expand to include the North Shore, the Lower Hill, and Station Square. The population of the City of Pittsburgh will stabilize.

Many of the surrounding older communities such as Bridgeville, Wilkinsburg, and McKees Rocks will continue to lose population. With the exception of a few communities such as Homestead, Oakmont and Aspinwall, most river towns will continue to lose

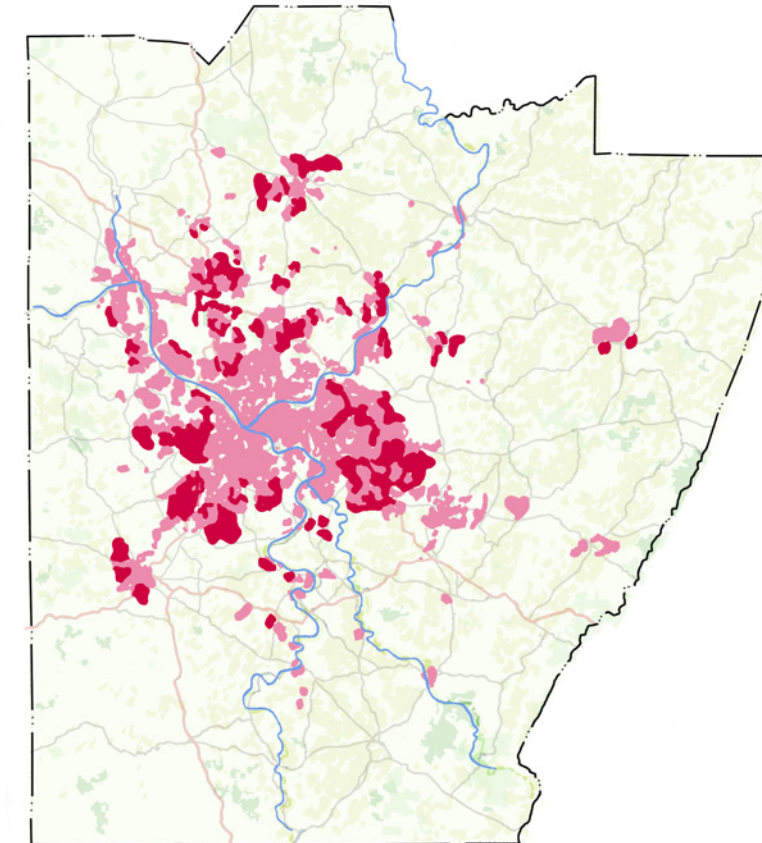
population and jobs. Once stable suburbs may also experience population and employment declines. The South Hills was projected to stabilize.

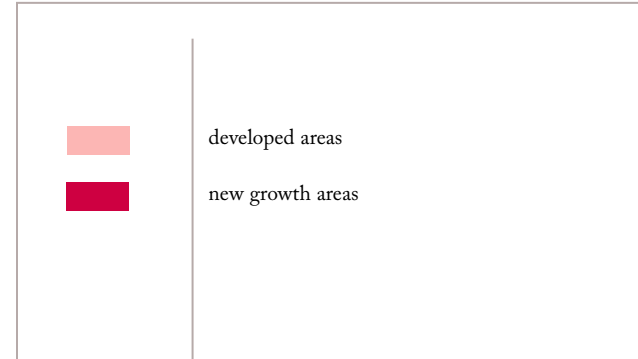
Areas on the inner edges of the collar counties will be the primary growth areas of the region. Communities such as Murrysville, Findlay Township, Adams Township, Penn Township, and Peters Township will continue to grow, doubling, and in some cases, tripling their population in 25 years.

The suburban fringes of many of the towns and cities throughout the region will also experience growth.

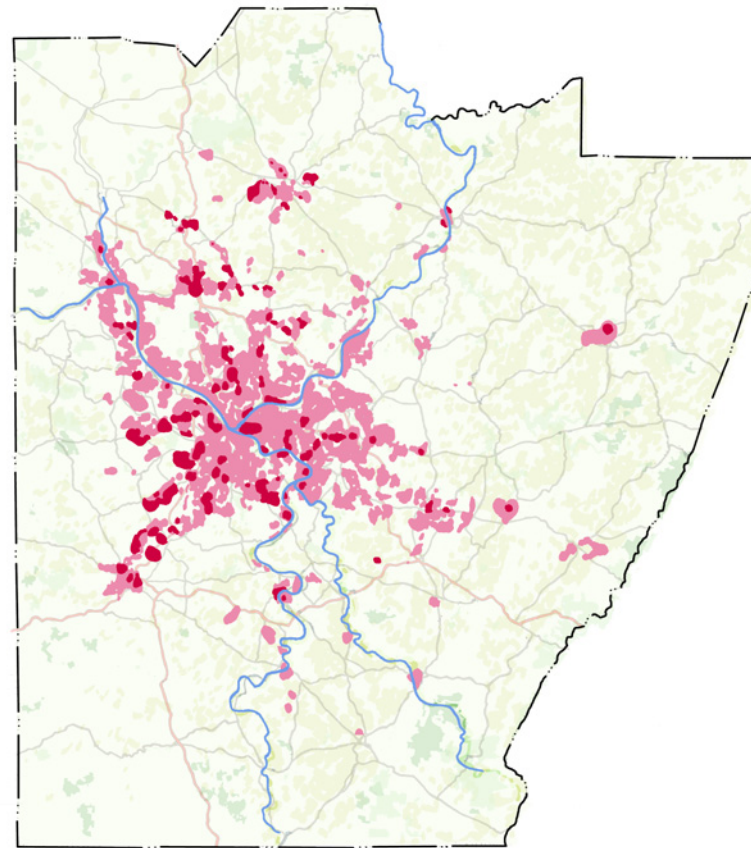
In order to accommodate suburban growth in the Trend Scenario, general infrastructure and urban services will have to be extended. Water and sewer lines will have to be built and filtration plants and water towers will have to be sited. Dozens of new schools will be built in emerging suburbs such as Adams and Murrysville. Retail corridors such as Rt. 22 in Monroeville and Rt. 19 McKnight Road will be leapfrogged by newer retail districts farther out.

AREAS OF DEVELOPMENT: *Most development in the trend scenario will occur in greenfields spread throughout the region.*





AREAS OF DEVELOPMENT: *New development will be targeted to infill sites and brownfields. Greenfield development will occur where minimal infrastructure is required.*



The Focused Growth Regional Development Scenario

Areas of Development

Under the Focused Growth Scenario, most of the regional development will occur in the following locations:

- >>> Downtowns;
- >>> Brownfields adjacent to river valley towns;
- >>> Urban corridors;
- >>> Regional centers; and
- >>> Greenfields with transit access and urban services.

Significant redevelopment will occur in all of the region's downtowns. Greensburg, Kittanning, Indiana, Butler, Waynesburg, and Uniontown (among others) will become the prime recipients of growth. Downtowns will be bolstered with new office buildings, retail, and housing. In addition to some low-density development along freeway corridors, significant development will occur within the denser urban areas throughout the region.

Brownfield and greyfield sites along river valleys and the regional cities and towns will be identified as priority sites for redevelopment. The largest brownfield sites along the rivers and adjacent to older river valley communities will be redeveloped with a mix of uses, including housing and employment. Sites in Hazelwood, Swissvale, Aliquippa, Monessen and others along the rivers will be prepared for redevelopment. They will become new front doors to the communities as well as new access points to the river. As employment centers they will be walkable and accessible by the neighboring community

Smaller sites along existing urban corridors will also be redeveloped in the Focused Growth Scenario. Corridors such as Lebanon Church Road, Frankstown Road, and Perry Highway will be

redesigned as multimodal roadways with improved bus service and facilities, pedestrian connections, and mobility. Development along these corridors will tend to be well-planned and well-designed transit-oriented infill developments occurring every half mile.

The Focused Growth Scenario will direct considerable growth to new regional centers. These regional centers will emerge through the transformation of several single-use districts, such as the Century III Mall area in West Mifflin, Rt. 22 in Monroeville, Route 19 in southwestern Butler County, and Route 30 in Westmoreland County, into multi-use regional centers. Improvements to local roads and investments in transit will make these districts walkable, accessible and able to absorb considerable density without impacting the surrounding neighborhoods. Strip commercial areas will become walkable Main Streets, and with reduced need for parking, some parking lots will become neighborhoods.

Greenfield development will also be strategically targeted to new areas with adequate public services (roads, schools, water, and sewer). For example, such sites exist in the North Hills where development has leapfrogged to Cranberry and beyond and also outside several of the county seats where the city has pushed outward, but has left 'holes' in the process.

Lower priority greenfield sites that require new investments in public services will be identified and targeted for new development. These sites will occur along potential transit corridors and in places where urban services can be efficiently created. Such corridors include Route 8 in Butler County, Route 19 in Washington County, and Route 22 in Westmoreland County.

Greenfield development will be primarily compact and pedestrian friendly. New residential developments in the suburbs will provide a range of housing, thereby broadening the overall range of housing choices for the region. Doing so will provide affordable housing that is close to employment opportunities throughout the region.

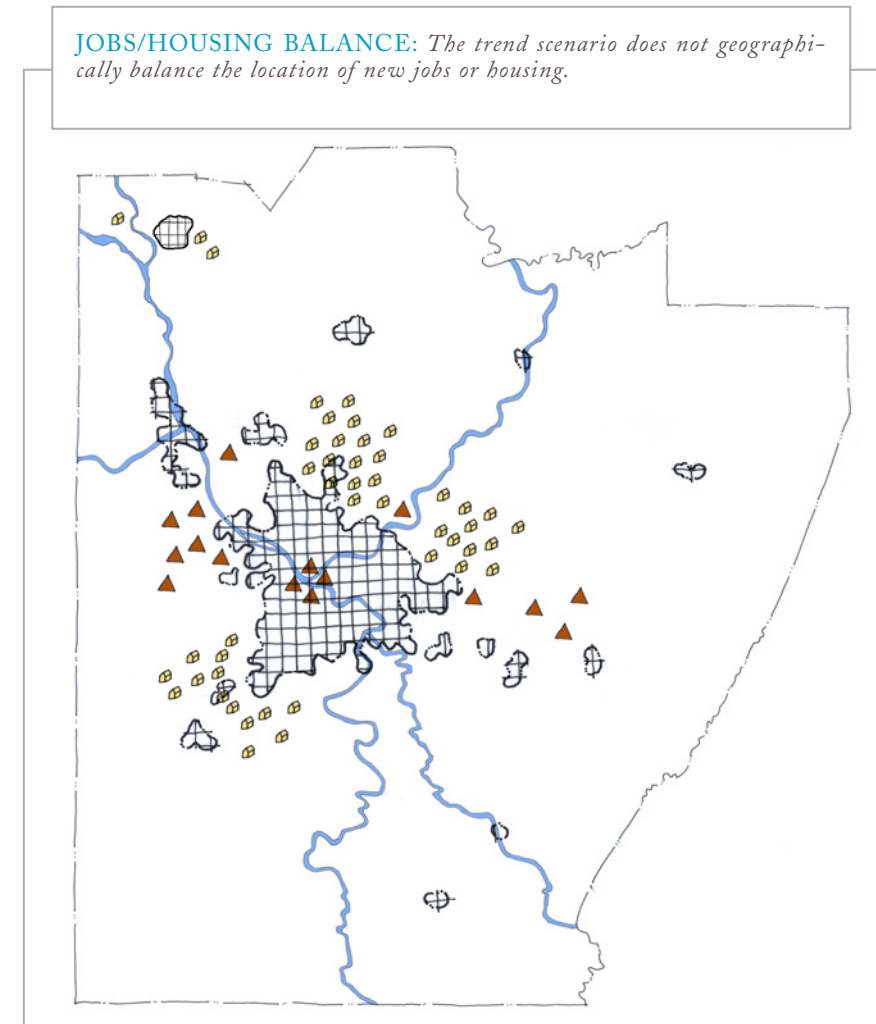
trend

Jobs/Housing Balance

Under the Trend Scenario the North Hills and Southern Butler County will grow by over 100,000 residents, but this same area is expected to grow by only 30,000 additional jobs. Conversely, the Allegheny River valley will increase by approximately 10,000 jobs, but only by 5,000 residents. City of Pittsburgh employment is projected to increase significantly in Oakland and Downtown, but population is projected to remain steady. This jobs and housing relationship will affect both the regional travel patterns as well as the character of the region's neighborhoods. Jobs and housing will be farther apart than currently. More people will be required to travel longer distances to and from work. Circumferential travel between suburban areas – across the North Hills, South Hills, and across the rivers – will also increase.

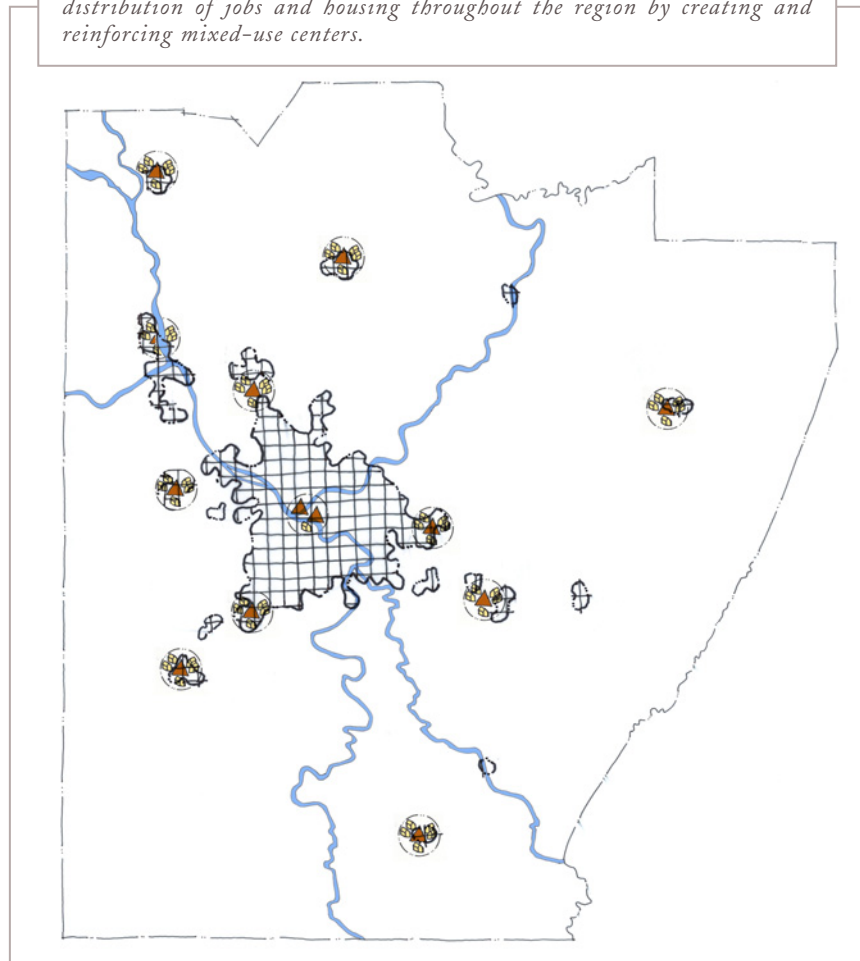
Trend: Growing Out

Primary growth areas	Occurring in clusters beyond existing developed areas
Employment growth	In suburban office parks, industrial parks, downtown Pittsburgh, and Oakland
Primary development corridors	Near major highways and freeway interchanges
Natural areas	Open space preservation is driven by individual community needs, not coordinated across municipal boundaries and secondary to development pressures
New housing	Low density and leapfrog growth at the edges of the urbanized areas of the region
Jobs/housing balance	Employment centers and major new residential growth areas occur where land is inexpensive and readily available, resulting in longer trips for many workers
Traditional valley towns	Continued decline or possible stabilization due to affordable housing and access to the riverfront
Brownfields	Some not prioritized for remediation
Commercial and office districts (i.e., Monroeville and Cranberry)	Incremental redevelopment competing with new 'power centers' located outside of the urban service area
Cities and towns	Downtown stabilized; most job growth occurs on the edge of the town
Inner ring of suburban communities	Become bedroom communities, reliant on outer suburbs and inner city for employment, commercial and retail services





JOB HOUSING BALANCE: *The focused-growth scenario balances the distribution of jobs and housing throughout the region by creating and reinforcing mixed-use centers.*



Focused Growth: Filling In

Primary growth areas	In areas of the region with existing infrastructure capacity. Extensions of the urban service areas occur only when required
Employment growth	In Centers (downtown, villages, regional centers, and town centers) of all sizes throughout the region
Primary development corridors	Along high-capacity highways and fixed-guideway transit
Natural areas	Critical habitat and natural corridors are designated and preserved through cluster developments, density bonuses, and other proactive measures
New housing	New housing sites are focused in areas within two miles of employment centers and to existing towns and communities
Jobs/housing balance	Housing is focused in areas within two miles of existing and planned job centers
Traditional valley towns	Revitalized by infusion of private and public investments, including new job-generating development on former industrial sites, transit connections to the region, and river-oriented amenities
Brownfields	Targeted for redevelopment as mixed-use job centers
Commercial and office districts (i.e., Monroeville and Cranberry)	Transformed into regional mixed-use centers. New housing, higher density employment opportunities, civic functions, redesigned multi-modal streets, and regional transit connections create subregional destinations
Cities and towns	New office development and housing opportunities
Inner ring of suburban communities	Increased residential and employment opportunities located along primary transit corridors

focused

Jobs/Housing Balance

The Focused Growth Scenario geographically balances and co-locates job growth with residential growth. Employment centers will be located near areas where residential land uses dominate and housing developments will be placed in areas where employment uses dominate.

To balance the regional housing and employment mix will require strengthening the downtown districts, regional centers, town centers, and villages and encouraging mixed-use neighborhoods.

trend

The Trend-Based Transportation Network

The lower-density land development pattern characterized by the Trend Scenario will make it difficult to provide public transportation to many areas of the region. Many trips will not be able to be well served by public transportation.

Under the Trend Scenario, the objectives for public transportation are to:

- >>> Provide public transportation service that reinforces relatively dense development patterns where they exist;
- >>> As low density areas expand, provide a minimum level of public transportation service in as cost-effective manner as possible; and
- >>> Use public transit as a tool to facilitate Transit Oriented Development.

Fixed guideway and premium transit service will be expanded slightly to areas of the region where higher density redevelopment is expected. For example, the continued growth of Pittsburgh's Downtown and Oakland sections could support significant investment in rapid transit (i.e., construction of what has long been referred to as the 'Spine Line'). Additionally, new compact growth forecast in the Strip District and the North Side could also support a rapid transit investment to connect those areas with the existing rapid transit system. Express bus services from other cities and towns in the region to downtown Pittsburgh and Oakland will be enhanced where demand warrants, and will maximize use of the busways.

To the extent that Transit Oriented Developments will occur in the Trend Scenario, transit can be expanded and adjusted to serve these developments. However, because the majority of new development will be auto-oriented, the extent of transit service expansion will be limited. Some rapid transit improvements would be warranted under the Trend Scenario, but would be limited due to development patterns (lower densities and auto-oriented site designs).

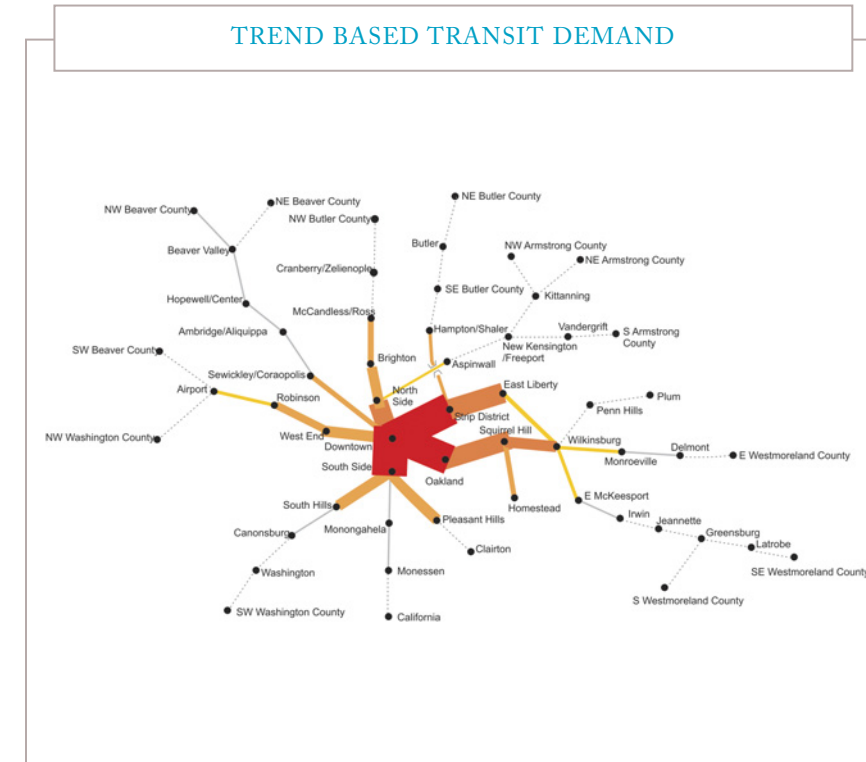
The backbone of the public transportation network – the fixed route bus system – is assumed to remain at current (Year 2002) service levels overall for the region. Some areas would have increased service, but this would be offset by reductions in service in areas which are experiencing declining or stable population. While trunk line service will remain, the ability to augment with feeder, circulator, or network services will be limited. Service levels on trunk lines may be reduced if demand for the service is insufficient. In lieu of fixed-route bus service, ridesharing, paratransit, deviated-route, or demand-responsive services may be used. Park-and-ride strategies can also be used to increase the reach of the transit system.

Connectivity with outlying areas will be difficult; the Trend-based regional form will not provide enough of a critical mass to support significant levels of transit service. The highway corridors that provide for bus access will be more congested than today, reducing transit service quality.

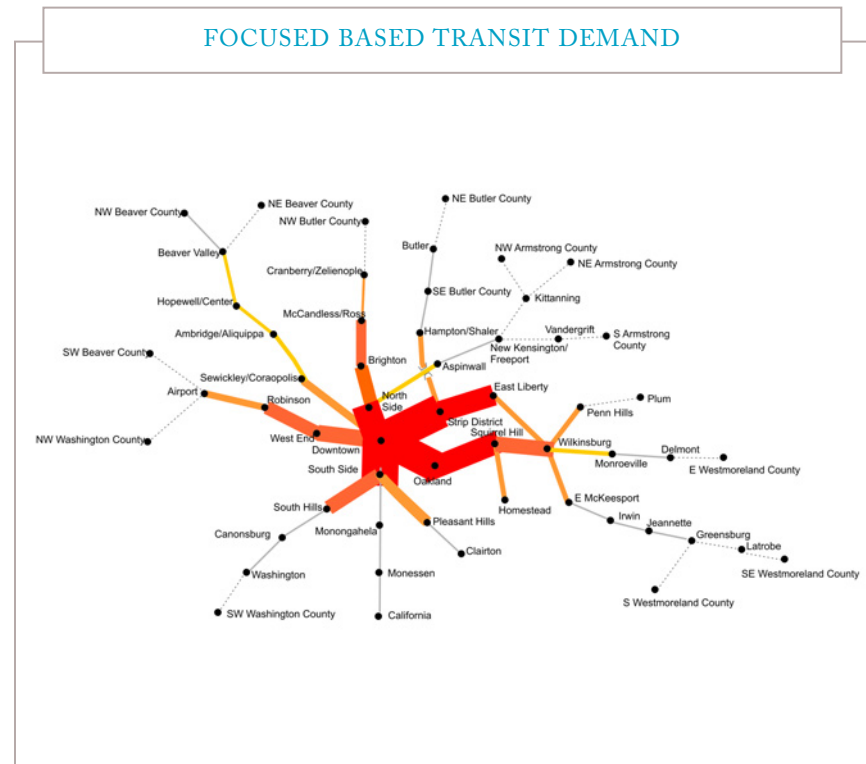
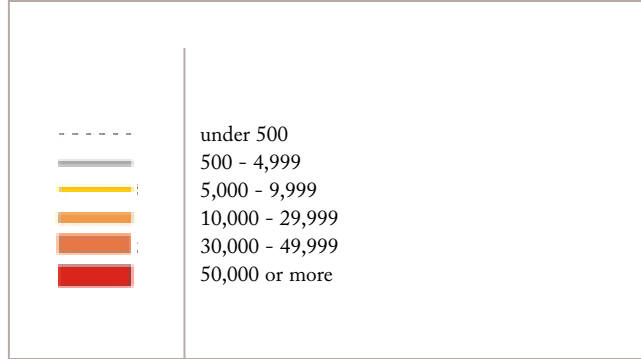
Although there would be limited expansion of public transportation services under the Trend Scenario, cooperation among the region's transit providers will increase wherever systems interface. In addition, use of Intelligent Transportation System (ITS) applications such as electronic fare payment will assist in providing a more seamless connection between the services provided by different transit systems in a cost-effective manner.

An analysis of demand for public transportation associated with the Trend Scenario was performed. The analysis forecast that 317,000 daily transit trips would result; an increase of about 22% over the current level of 260,000 daily riders. The following summarizes the geographic distribution of future demand.

The heaviest transit demand in the region centers on downtown Pittsburgh. Given the high population and employment density of



Downtown and adjacent areas such as Oakland, the Strip District, Squirrel Hill, Station Square, and the South Side, such demand is not surprising. In the traditional commuting travel corridors – such as those from Greensburg to Pittsburgh, the Mon Valley (California) to Pittsburgh and from the Beaver Valley to Pittsburgh – demand for public transportation is less. Away from the regional core and the traditional corridors in areas of more recent lower density growth, demand for public transportation is significantly lower, though park-and-ride facilities provide an effective way to address the lower level of demand. Examples include the McKnight Road Corridor between McCandless/Ross and Cranberry/Zelienople and the Route 8 corridor between Hampton/Shaler and Butler.



The Focused Growth Transportation Network

This public transportation network assumes the regional development form of the Focused Growth Scenario. In this scenario, the transit mode share for these areas of growth reflects the higher transit demand that will result from a more transit-friendly, higher density development pattern. To arrive at these estimates, mode shares in existing areas with comparable development patterns were applied to the areas of enhanced growth.

The objectives of the Focused Growth Scenario for public transportation are to:

- >>>>> Provide rapid transit service to downtown Pittsburgh, Oakland and the Pittsburgh International Airport as well as to other corridors with relatively dense housing and employment, such as regional downtowns;
- >>>>> Use public transit investments as a means to focus new growth and to promote sustainable development practices;
- >>>>> Make public transit investments that will help maintain and preserve existing towns, town centers and travel corridors; and
- >>>>> Expand the use of circulators in suburban areas and coordinate their systems with transit centers and park-and-ride facilities located along rapid transit corridors.

The Focused Growth Scenario for public transportation will offer greater connectivity and access to goods, services, information, and jobs by transit than is available today. Several river valley and upland corridors throughout the region with adequate density will receive expanded fixed guideway, rapid transit service from downtown Pittsburgh. In particular, downtown Pittsburgh, Oakland and Pittsburgh International Airport (the three destinations mentioned most often by the public), will be connected with high quality rapid transit service. Transit centers located along the proposed rapid transit system will become portals to the rapid transit services throughout the region. Residential areas around larger job centers

outside Pittsburgh will be connected to redeveloped suburban mixed-use centers via circulators. Park-and-ride facilities will be carefully located along major arterials.

Many suburban areas not served by rapid transit will be covered by an expanded fixed-route bus system that will provide both local service to neighborhoods and town centers as well as connections to the expanded rapid transit system. As a result, most of Allegheny County – and many of the villages and towns in the surrounding collar counties – will be connected to each other, to Pittsburgh, and to their county seats via an improved fixed-route bus service.

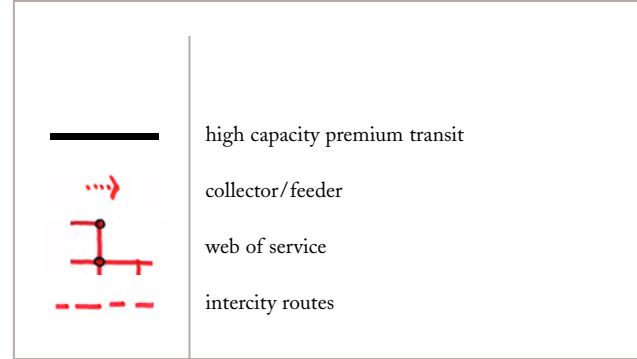
Many of the towns and villages located along the region’s non-radial or lateral corridors will be able to be connected by transit by virtue of their relatively dense traditional town form that will support a moderate level of public transportation service.

Focusing growth also would make possible the addition of transit routes that link the region’s counties together. Examples include a new route from Waynesburg to Brownsville, Kittanning to Freeport and from Blairsville to Delmont.

An analysis of transit demand associated with the Focused Growth Scenario was performed. The analysis forecast that 408,000 daily transit trips would result; a 57% increase over current levels.

As in the Trend Scenario, the heaviest transit demand in the region centers on downtown Pittsburgh. However, the volumes are higher in this scenario due to the assumption that land development in the region will be more transit-friendly and higher density. Examples of corridors where stronger demand for public transportation will occur are along the Downtown Pittsburgh–Pittsburgh International Airport Corridor, the Downtown Pittsburgh–Oakland–Wilkinsburg Corridor, Rt. 30 in Westmoreland County, and Rt. 19 in Washington County, and in the McKnight Road/ Rt. 19 Corridor from Downtown Pittsburgh to the Cranberry/Zelenople area.

trend



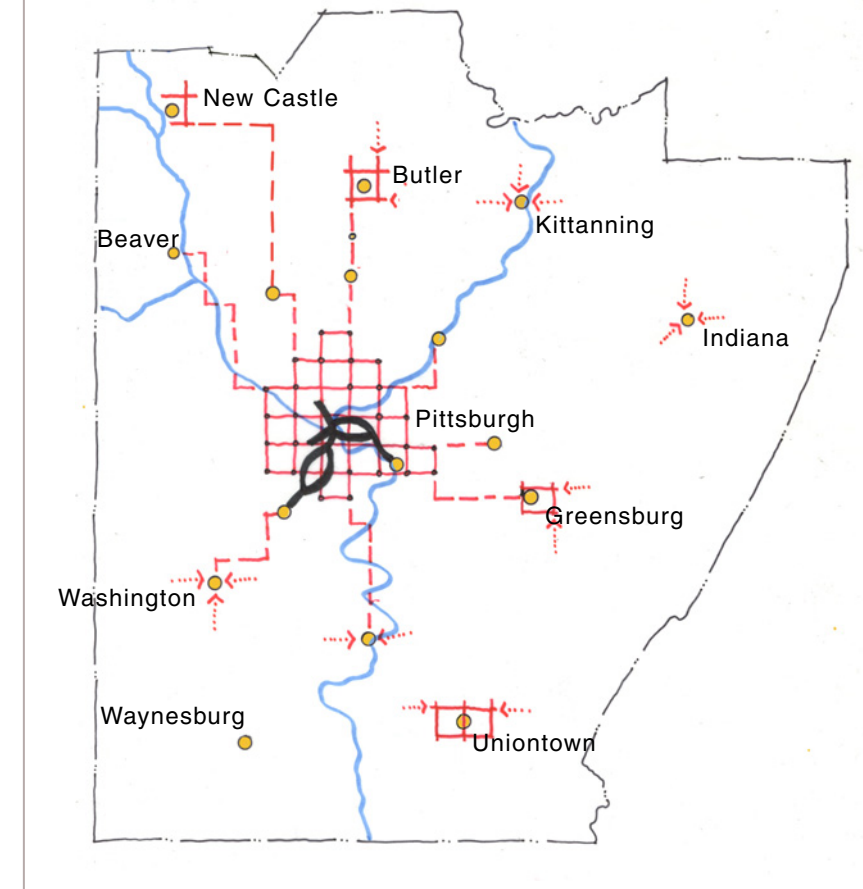
Regional Actions

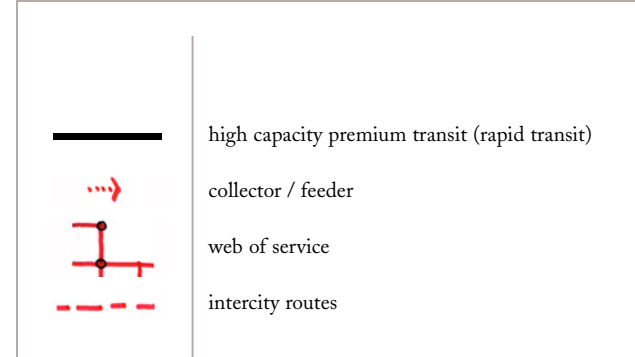
- >>> Establish cooperative agreements between transit operators in the region to coordinate schedules and fares so that riders who must utilize multiple transit systems may do so effortlessly (e.g., one fare payment for the entire trip);
- >>> Implement Intelligent Transportation System (ITS) applications such as electronic fare payment (“smart card”), and real-time traveler information throughout the region. (Use of ITS will assist in cost-effectively providing a more seamless connection between services provided by different transit systems); and
- >>> Implement clean-fuel transit vehicles, such as hybrid-electric buses, and potentially, fuel cell powered buses.

Corridor Actions

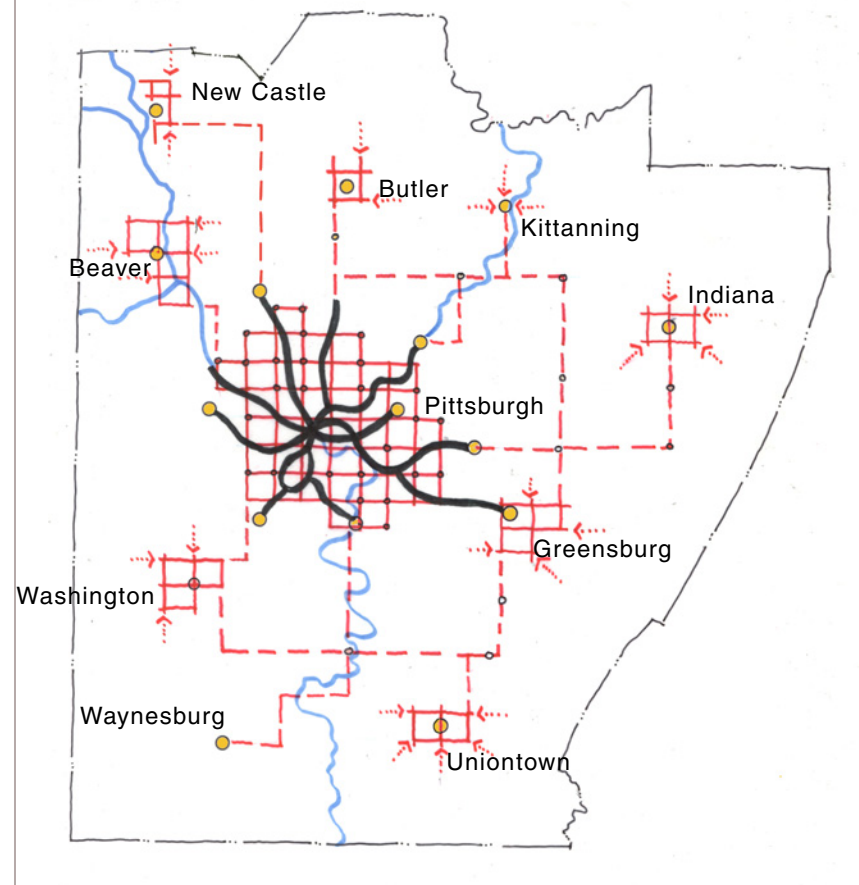
- >>> Rapid transit from downtown Pittsburgh to Oakland;
- >>> Extension of the **T** to the Strip District;
- >>> Extension of the **T** beyond the North Shore to the North Side;
- >>> Other short fixed guideway extensions may be possible, but are not assumed in the analysis; and
- >>> Locate park-and-ride facilities along major roads.

TREND BASED TRANSIT NETWORK: *Connectivity of the core improves slightly due to minor rapid transit investments. Service levels remain relatively low in low-density areas.*





FOCUSED GROWTH TRANSIT FRAMEWORK: *Regional connectivity is improved by expanding both the rapid transit and the bus system.*



Regional Actions

- >>> Promote transit-friendly site design guidelines for new developments to accommodate current and future transit service.
- >>> Establish cooperative agreements between transit operators in the region to coordinate schedules and fares so that riders who must utilize multiple transit systems may do so effortlessly (e.g., one fare payment for the entire trip).
- >>> Implement Intelligent Transportation System (ITS) applications such as electronic fare payment ('smart card'), and real-time traveler information throughout the region. (Use of ITS will assist in cost-effectively providing a more seamless connection between services provided by different transit systems).
- >>> Implement clean-fuel transit vehicles, such as hybrid-electric buses, and potentially, fuel cell powered buses.

Corridor Actions

(Asterisks denote improvements that are also included in the Trend Scenario.)

- >>> Locate park-and-ride facilities along major roads;*
- >>> Rapid transit from downtown Pittsburgh to Penn Hills;*
- >>> Extension of the **T** to the Strip District;*
- >>> Extension of the **T** beyond the North Shore to the North Side;*

- >>> Commuter Rail from Pittsburgh to southern Butler County (with commuter express bus service continuing to Butler);
- >>> Commuter Rail from Pittsburgh to New Kensington-Arnold (with fixed-route bus service continuing to Kittanning);
- >>> Bus Rapid Transit from Pittsburgh to Delmont (with fixed-route bus connections to Blairsville and Indiana);
- >>> Commuter Rail from Pittsburgh to Greensburg (with fixed-route bus connections to eastern Westmoreland County);
- >>> Bus Rapid Transit from Pittsburgh to Clairton via McKeesport;
- >>> Light Rail or Bus Rapid Transit from Pittsburgh to Clairton via Pleasant Hills;
- >>> Extension of the **T** from South Hills Village to McMurray;
- >>> Commuter express bus service from Pittsburgh to Washington;
- >>> Light Rail Transit from Pittsburgh to Pittsburgh International Airport (with commuter express bus service to Beaver County);
- >>> Commuter Rail from Pittsburgh to Beaver Falls; and
- >>> Bus Rapid Transit from Pittsburgh to Cranberry via McKnight Road.

the choices illustrated: selected examples

In an effort to help readers of this study better understand how each of the two alternative land-use scenarios and their supporting Transit Visions might affect various parts of the region, three case studies have been prepared. These illustrate the different outcomes that might result from the Trend and the Focused Growth scenarios in three sample areas: central Washington County including the City of Washington, McKnight Road/North Hills, and the Cranberry area.

Washington

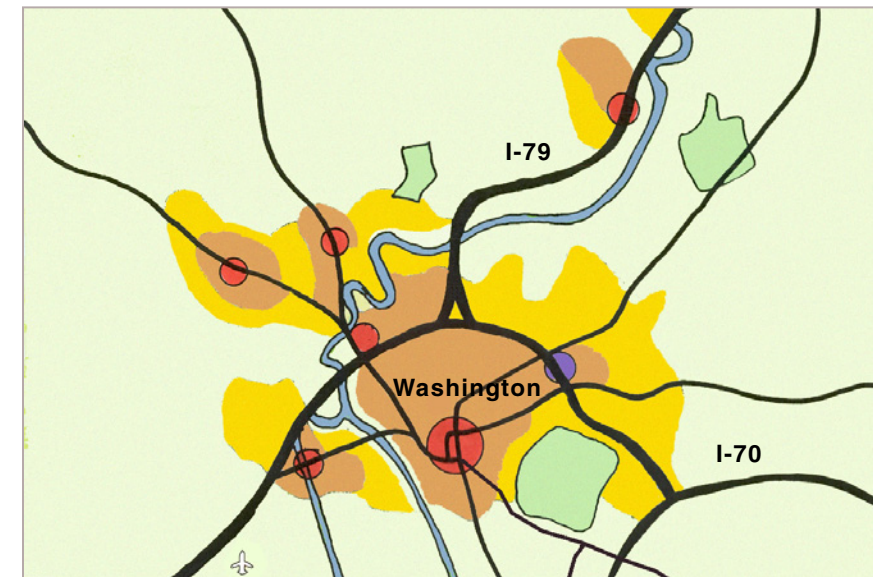
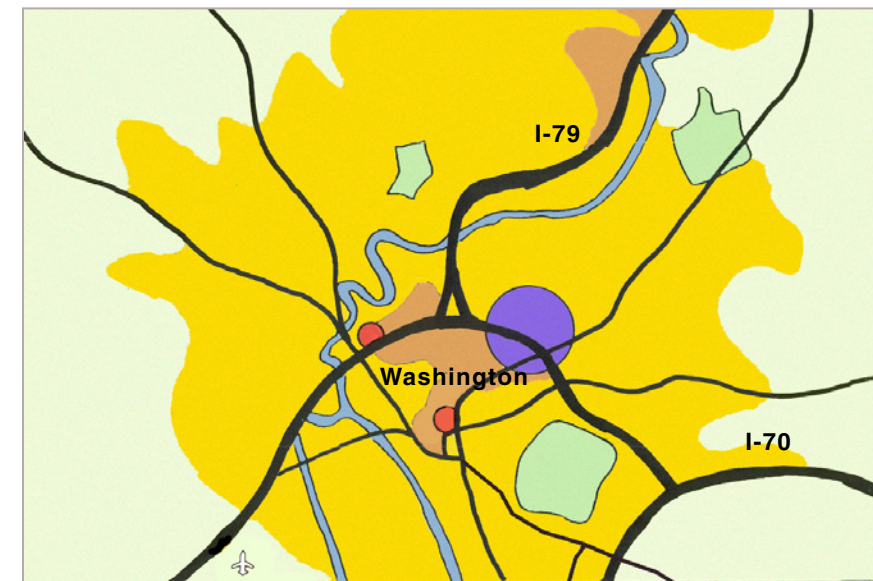
The Trend Scenario

Most employment growth in and near the City of Washington will occur along the city's edges toward I-70 and I-79 in lower density office parks and industrial parks. Because of the geographic spread of population and employment, the medium density housing located adjacent to downtown may become less competitive. Under the Trend Scenario, it is assumed that development of new suburban housing on larger lots will continue, at a moderate pace, north of the City of Washington (in the direction of Southpointe) and towards the southwest (in the direction of the Washington County Airport). As a result of these trends, very little open space will remain by 2025 between Pittsburgh and Washington.

Public transportation will consist of fixed-route buses traveling between Pittsburgh and Washington along the Route 19/Canonsburg corridor, similar to the service provided today by GG&C Bus Company. The existing transit center in Washington will be refurbished, but it is unlikely that transit service will be significantly expanded. Instead, with the expected continuation of low-density development, park-and-ride facilities will be expanded to attract automobile drivers to the transit routes.

The Focused Growth Scenario

Downtown Washington will become the primary urban center for the county. The City will be revitalized with new office buildings, new medium-density housing and cultural facilities. The desirability of living close to downtown Washington and Washington and Jefferson College will stabilize the adjacent neighborhoods. New nodes of development will occur along primary corridors. Substantial green space is retained between Washington and the growth to the north. In addition to the public transportation services described under the Trend Scenario, new commuter express bus service would be provided from Washington to Pittsburgh via I-79 to Carnegie, where the bus would get onto an expanded West Busway to continue to downtown Pittsburgh. In addition, fixed-route bus service would be provided between Washington and Charleroi, connecting the Mon Valley with Washington.



Trend Scenario (top)
Focused Growth Scenario (bottom)



McKnight Road/North Hills

The Trend Scenario

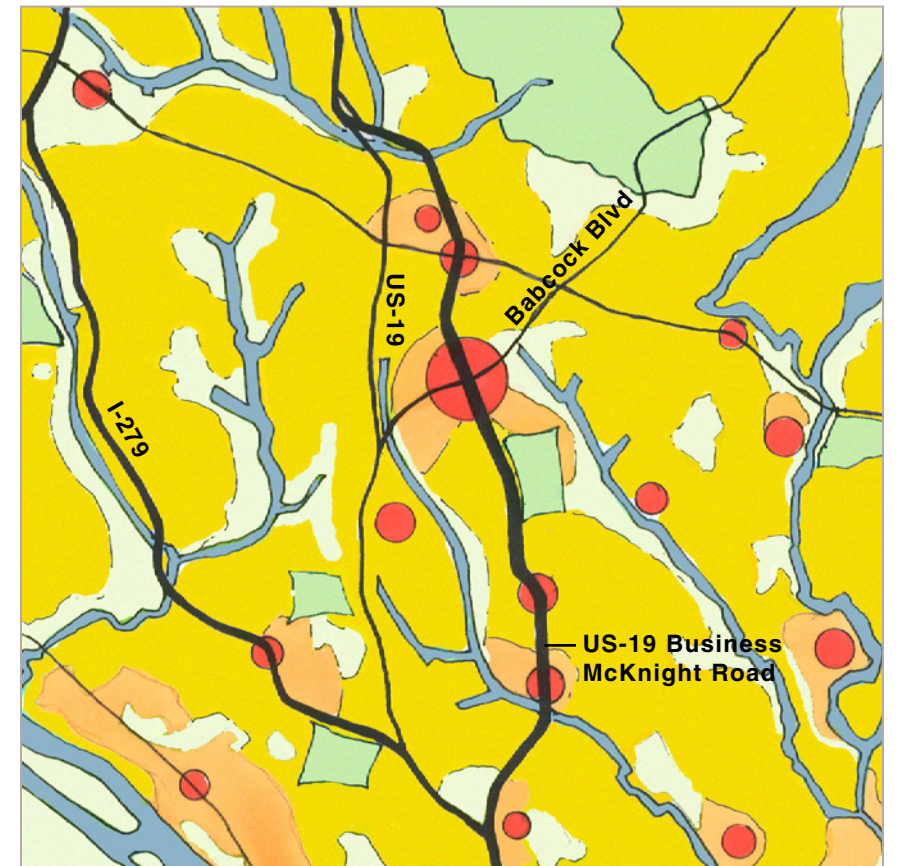
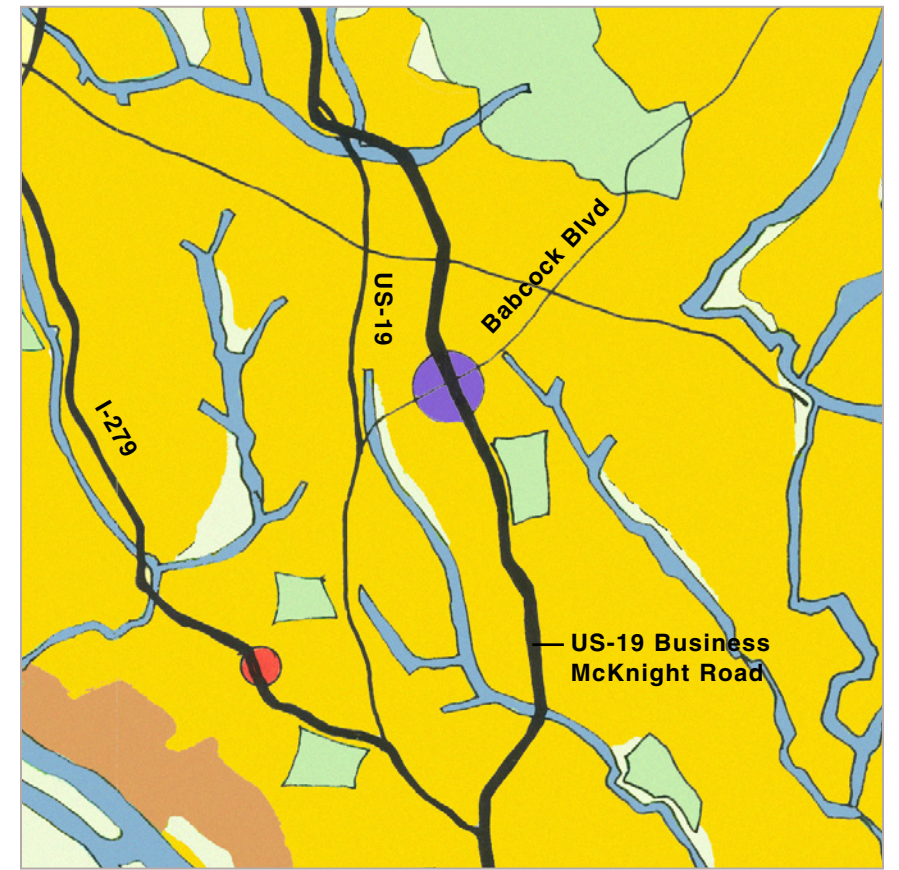
Continued growth of currently undeveloped areas in the North Hills will increase traffic volumes and congestion levels along I-79, Route 19 and McKnight Road. The commercial corridor will face increased competition from sites further to the north as well as in other areas.

Transit service in the North Hills will be largely unchanged from today. Fixed-route bus service will continue to operate on McKnight Road and Route 19. However, the nature of the development (i.e., large developments with deep building setbacks and expansive parking lots) will impair the effectiveness of transit. Additionally, with more highway-oriented development, traffic congestion is expected to worsen, which, in turn, will create longer transit travel times. As a result, transit market share will not increase over current levels.

The Focused Growth Scenario

Route 19 will transform itself from a single-use commercial corridor to a mixed-use avenue with 'pulses' of development. Strategic intersections along Route 19 will become pedestrian-friendly, mixed-use nodes. The largest, Ross Park Mall, will be redeveloped into a major, mixed-use center with retail, offices, housing, and civic uses. Neighborhoods in the North Hills will use these nodes for their daily conveniences and employment.

Focusing development in the corridor will allow for the implementation of rapid transit, linking Cranberry with downtown Pittsburgh. This high-speed rapid transit line will include several stations along McKnight Road and will provide frequent service. Focused development will be encouraged around the rapid transit stations. These factors are likely to create a larger transit market share.



Trend Scenario (top)
 Focused Growth Scenario (bottom)

The Cranberry Area

The Trend Scenario

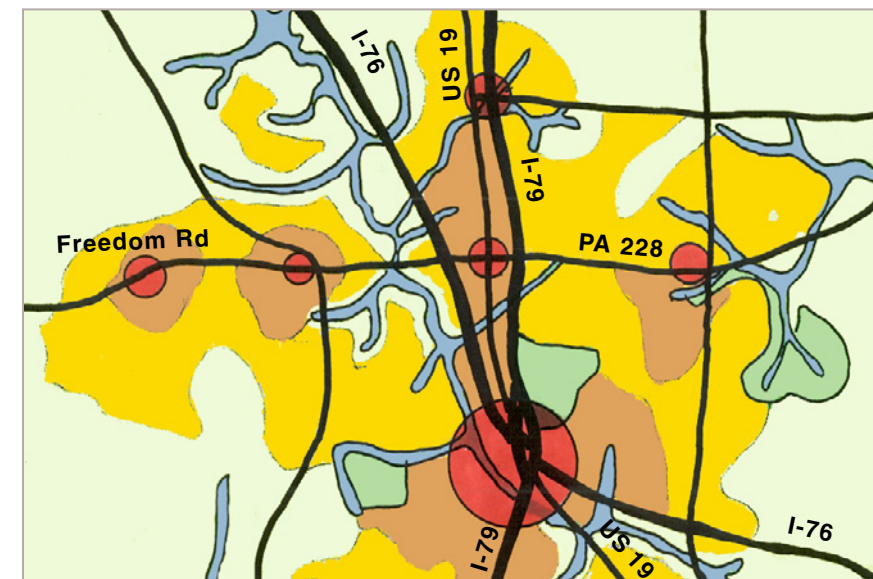
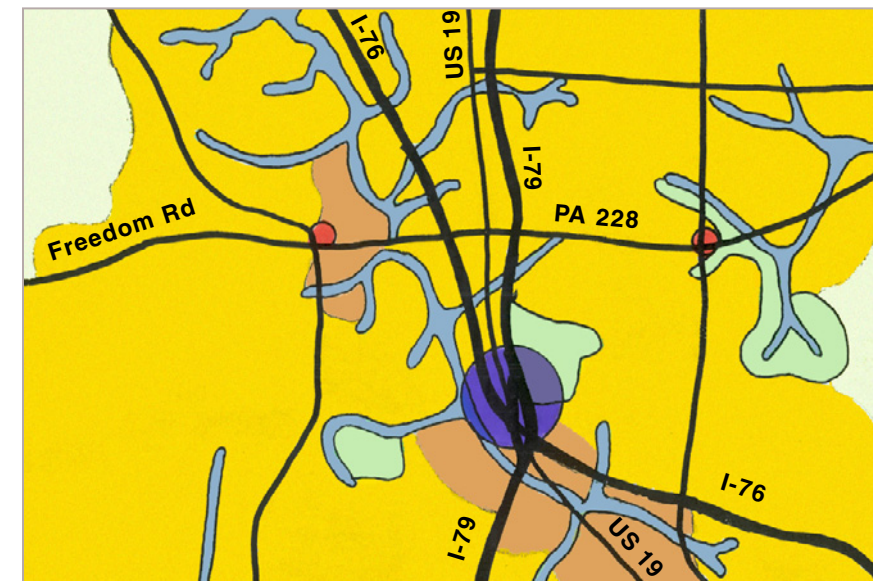
The Cranberry area will continue to be one of the fastest growing areas in the region. The commercial development along Route 19 and Route 228 will continue to stretch north to Jackson Township. Freedom Road and Route 228 will become a primary development corridor between the Ohio River and Route 8. Open space and farmland will be developed as housing construction takes advantage of the relatively flat land throughout southern Butler County. New construction will leapfrog over itself, creating clusters of new housing along the edges of urbanized areas. This leapfrog development will, in turn, create holes of undeveloped open space.

Fixed-route bus service will be provided between Cranberry and downtown Pittsburgh via I-79/I-279, Route 19, and McKnight Road; between Cranberry and Butler (via Zelienople); and from Butler to downtown Pittsburgh via Route 8. However, it is likely that transit travel will be relatively slow as buses will compete with traffic on the highway system. Service will likely be concentrated in the morning and afternoon peak periods with little midday service. Effectiveness of local services, such as circulators in Cranberry, may be limited due to the nature of the street system with numerous cul-de-sacs and limited through streets.

The Focused Growth Scenario

In the Focused Growth Scenario, the Cranberry area is transformed from a single-use commercial district to a pedestrian-friendly, mixed-use center. Redevelopment will include new housing, civic uses, employment uses, and the creation of a “main street.” Freedom Road and Route 228 will become the primary lateral connection between the Ohio River and Route 8. Transit-oriented neighborhoods will be developed along the corridor, reinforcing the towns of Seven Fields and Mars. Open space will be preserved.

Rapid transit service with high speeds and high frequencies will be provided between Cranberry and downtown Pittsburgh via Route 19 and McKnight Road. Additionally, commuter express bus service will be provided from Butler to the Allegheny County line along Route 8, where patrons will transfer to rapid transit service to continue their journey. Fixed-route bus service will be provided between Cranberry and Butler (via Zelienople) and local services, such as circulators in Cranberry, will be provided as the street system will be deliberately designed to facilitate such services.



Trend Scenario (top)
Focused Growth Scenario (bottom)

making the right choice: evaluation

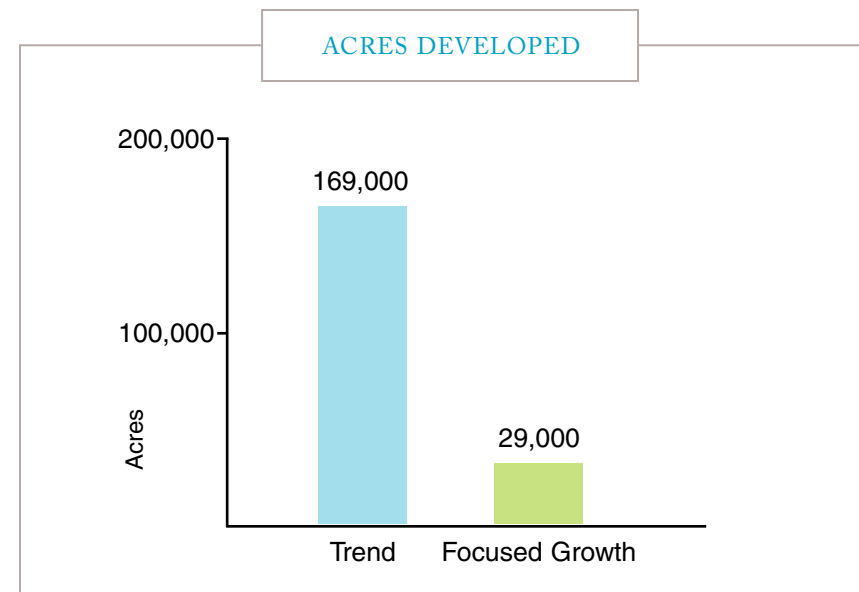
This section compares the effects of both the Trend Scenario and the Focused Growth Scenario. These scenarios were evaluated from a quantitative and qualitative standpoint. The following quantitative indicators were used in the evaluation:

- >>> Acres Developed;
- >>> Population and Employment Served by Transit;
- >>> Transit Ridership;
- >>> Miles of Rapid Transit;
- >>> Infrastructure Costs; and
- >>> Access for Households without an Automobile.

In addition, the following qualitative measures were utilized to compare the two scenarios:

- >>> Land-use/Development;
- >>> Community Design;
- >>> Mobility;
- >>> Investment;
- >>> Environment;
- >>> Community Coordination; and
- >>> Transit Service Quality.

The first part of this section discusses the six quantitative measures.



Acres Developed

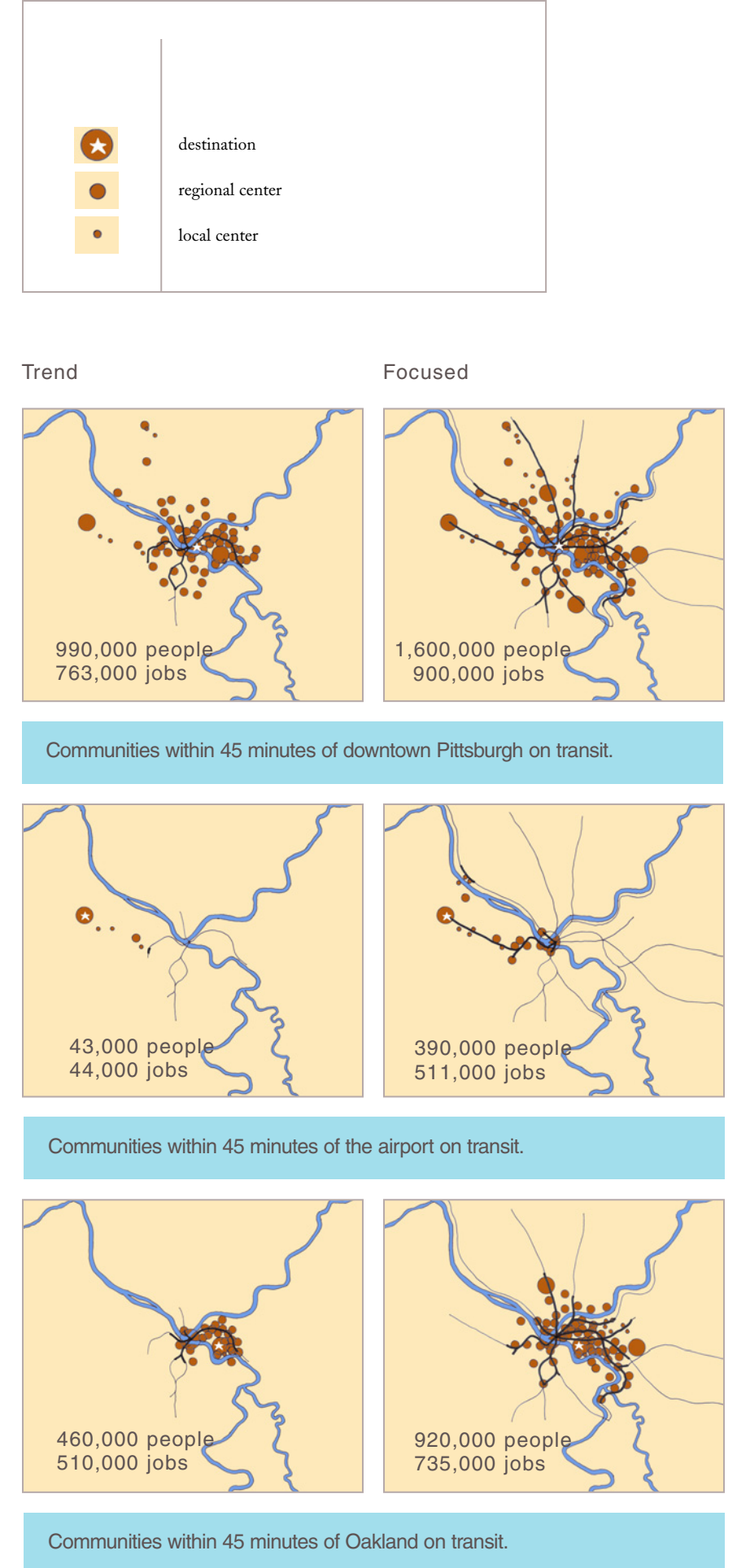
This indicator measures the amount of land that would be developed to support the population and employment density assumed in both the Trend and Focused Growth scenarios. Even though both scenarios assume the same overall regional growth by county, as described earlier in Section E, an additional 169,000 acres in the region would be developed under the Trend Scenario, while the Focused Growth Scenario would require only an additional 29,000 acres. The Focused Growth Scenario develops 140,000 fewer acres.

By considering growth differently, the Focused Growth Scenario preserves more open space than does the Trend Scenario. This is accomplished through more compact, mixed-use developments and through reuse of existing developed areas (i.e., brownfields) rather than development of vacant land (i.e., greenfields).

Population and Employment Served by Transit

An assessment was undertaken to determine the amount of population and employment served by the transit systems contained in the Trend and Focused Growth Scenarios. This information is contained in the table and associated maps.

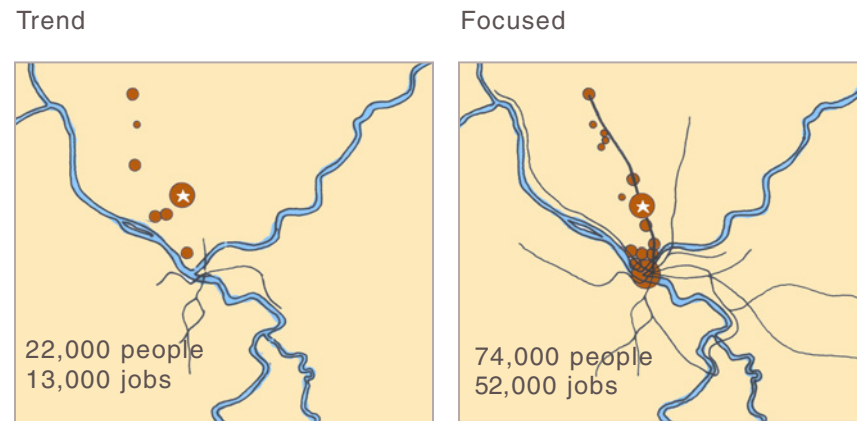
The Focused Growth Scenario with its denser development and more extensive rapid transit system is able to reach more people and employees than the Trend Scenario. Whereas the Trend Scenario and its less dense development will be better served by a system of fixed-route buses on streets and highways. The Focused Growth Scenario is able to support rapid transit facilities on their own rights-of-way. This allows for faster service between activity centers,





more efficient use of buses for feeder type services, and allows transit to better compete with the automobile in terms of travel times.

For example, the 990,000 people and 763,000 jobs accessible within 45 minutes of downtown Pittsburgh under the Trend Scenario would increase to 1,600,000 people and 900,000 jobs under the Focused Growth Scenario. As other examples, the increase in accessibility to the Airport area is on the order of ten-fold, and the improvement to Cranberry is by a factor of greater than three.



Communities within 45 minutes of Cranberry by transit



Communities within 45 minutes of Greensburg by transit

Population and Employment Served by Transit
Within 30 and 45 minutes of selected destinations

	Trend	Focused	Difference
DOWNTOWN PITTSBURGH			
Population within 30 minutes	669,000	878,000	209,000
Population within 45 minutes	990,000	1,595,000	605,000
Employment within 30 minutes	616,000	717,000	101,000
Employment within 45 minutes	763,000	898,000	135,000
OAKLAND			
Population within 30 minutes	288,000	550,000	262,000
Population within 45 minutes	436,000	920,000	484,000
Employment within 30 minutes	429,000	555,000	126,000
Employment within 45 minutes	510,000	735,000	225,000
PITTSBURGH INTERNATIONAL AIRPORT			
Population within 30 minutes	20,000	99,000	79,000
Population within 45 minutes	43,000	390,000	347,000
Employment within 30 minutes	24,000	199,000	175,000
Employment within 45 minutes	44,000	511,000	467,000
GREENSBURG			
Population within 30 minutes	31,000	37,000	6,000
Population within 45 minutes	54,000	63,000	9,000
Employment within 30 minutes	24,000	27,000	3,000
Employment within 45 minutes	35,000	40,000	5,000
CRANBERRY			
Population within 30 minutes	12,000	44,000	32,000
Population within 45 minutes	22,000	74,000	52,000
Employment within 30 minutes	4,000	25,000	21,000
Employment within 45 minutes	13,000	52,000	39,000

Transit Ridership

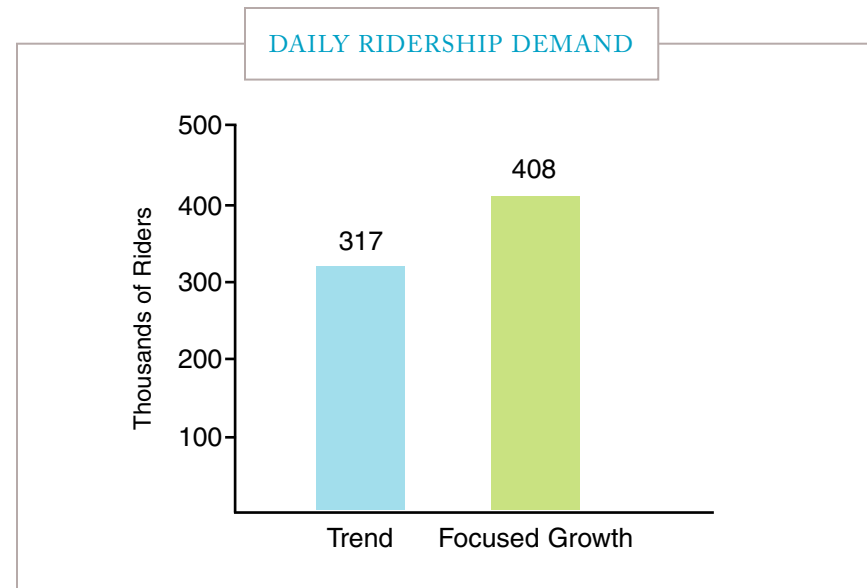
The Trend Scenario

The heaviest transit demand in the region centers on downtown Pittsburgh. Given the high population and employment density of downtown Pittsburgh and adjacent city neighborhoods such as Oakland, the Strip District, North Side, Station Square, and the South Side, such demand is not surprising. In the radial travel corridors – such as from Greensburg to Pittsburgh, the Mon Valley (California) to Pittsburgh and from the Beaver Valley to Pittsburgh – transit demand is more moderate. Away from the regional core and the radial corridors, in areas of more recent, lower density growth, transit demand is much lower. Examples include the McKnight Road corridor between McCandless/Ross and Cranberry/Zelienople and the Route 8 corridor between the Hampton/Shaler district and the Butler area.

The Focused Growth Scenario

The Focused Growth Scenario has higher transit demand than does the Trend Scenario. The higher demand is the result of focusing development in the region in a manner that is more transit-friendly. Significant increases in transit demand occur in nearly all corridors. For example:

>>>>> Each link on the Downtown Pittsburgh-Oakland-Squirrel Hill-Wilkinsburg route has about 9,000 more transit trips than under the Trend Scenario due to a general increase in transit usage for trips produced throughout the region and attracted to this corridor and from the fact that destinations in this corridor will become more accessible;



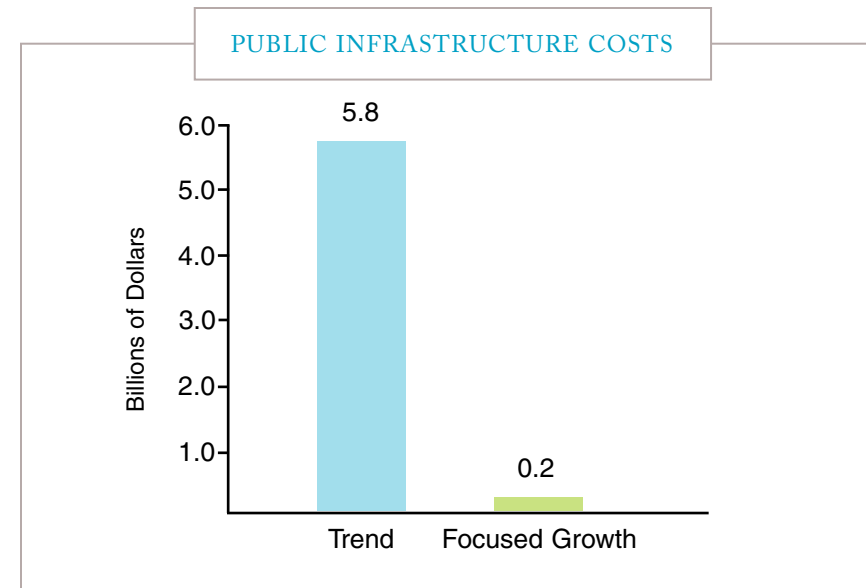
>>>>> The Downtown Pittsburgh-Pittsburgh International Airport Corridor has volumes from 8,700 to 13,400 higher than the Trend Scenario due to more people and jobs in the corridor and an increase in transit market share resulting from the more focused land development in this corridor and an increase in accessibility;

>>>>> The Ohio River Corridor from downtown Pittsburgh to the Beaver Valley has between 4,000 and 5,300 more transit trips resulting from the redevelopment of the industrial areas into transit-friendly neighborhoods and places of employment; and

>>>>> The McKnight Road-Route 19 Corridor stretching from downtown Pittsburgh to the Cranberry Township/Zelienople area has between 6,000 and 8,800 additional transit trips. This corridor, known for its large-scale, single-use developments with deep setbacks is presumed under the Focused Growth Scenario to evolve into a more multi-use corridor with transit-friendly design elements.

Infrastructure Costs

The following analysis is based on the report, *Costs of Sprawl – 2000*, Transit Cooperative Research Program Report No. 74. The costs of sprawl cited in that report are the costs of water, sewer, local roads and schools that occur as land is developed and municipal services are extended. The analysis does not cover police costs, the costs of traffic accidents or traffic congestion. In addition, any savings in construction and maintenance costs of the regional highway system that could potentially accrue from the Focused Growth Scenario are also not addressed in the following discussion. As such, both scenarios assume the highway system contained in SPC’s Long-Range Transportation and Development Plan.



According to the report, a suburban residential lot having one-half acre of ground requires \$17,000 more in public infrastructure investment than a residential lot having a lot area of one-eighth of an acre (i.e., having lot dimensions that approximate 55 feet by 100 feet).

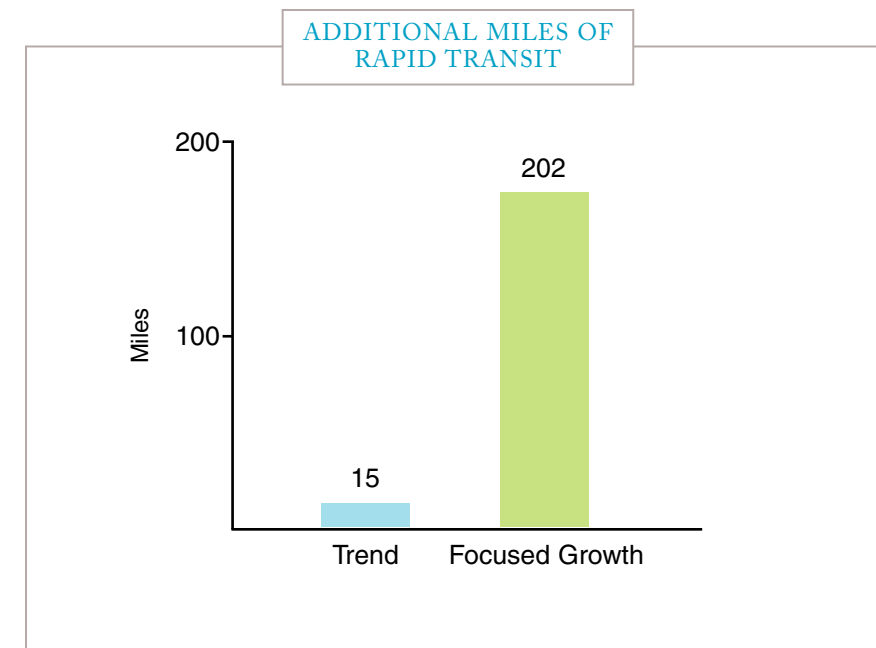
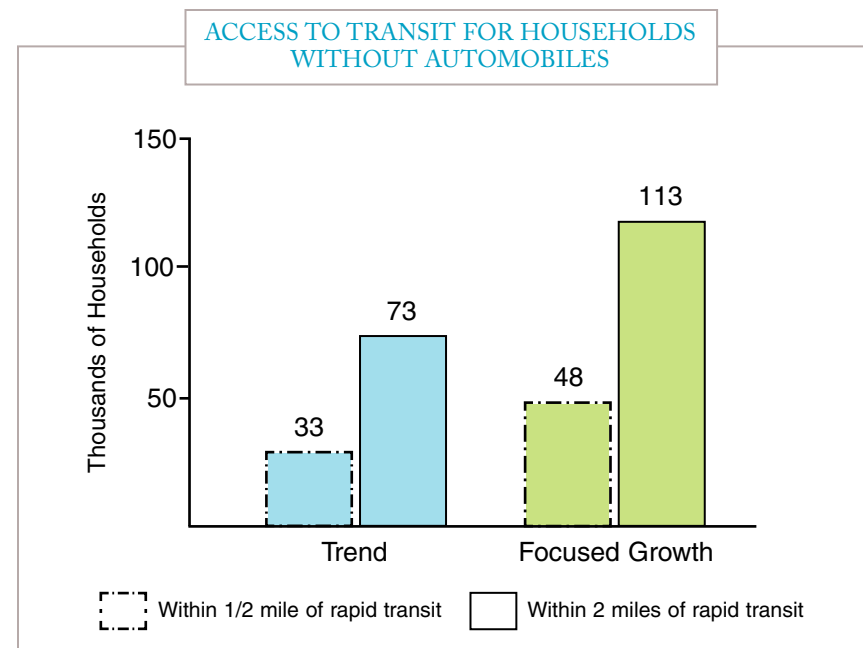
The Trend Scenario will require an additional public investment of \$5.8 billion to extend water lines, sewers and streets and to construct additional schools. The Focused Growth Scenario, by comparison, would require \$0.2 billion in public infrastructure investment.

The difference in the amount is due to the more compact, mixed-use developments and through reuse of existing developed areas (i.e., brownfields) under Focused Growth.

Access for Households without Automobiles

A high-quality public transportation system helps promote regional competitiveness. Those without access to an automobile are able to find employment and commute to their place of work more conveniently with an extensive transit system. More importantly, without public transportation, those who do not have a car cannot fully participate in the workforce. Other personal needs such as food shopping, medical needs, and recreation may go unmet because of lack of transportation.

The Trend Scenario will provide accessibility to rapid transit service (defined herein as commuter rail, light rail or Bus Rapid Transit/busway) to nearly 33,000 households without an automobile that live within one-half mile of a rapid transit facility and nearly 73,000 households without an automobile that live within



two miles of a rapid transit facility. By contrast, the Focused Growth Scenario will provide rapid transit service to 48,000 households without an automobile that live within one-half mile of a rapid transit facility and nearly 113,000 households without an automobile that live within two miles of a rapid transit facility.

Miles of Rapid Transit

Rapid transit provides higher quality of service than other forms of fixed-route transit. The Trend Scenario was assumed to add about three additional miles of rapid transit: two miles in the Downtown Pittsburgh-to-Oakland Corridor and about one-half mile each in the corridors to the Strip District and the North Side.

By comparison, the Focused Growth Scenario would add about 202 miles of rapid transit. This increase in mileage is made possible through coordinated land development/transit improvements. More compact land development increases the effectiveness of transit, which, in turn, can support the more compact development.

The 202 miles of rapid transit is a significant increase in transportation system capacity for the region. Studies have indicated that one track of light rail transit or one busway lane has the equivalent capacity of a six-lane freeway. Commuter rail typically has the capacity equivalent of a two-lane freeway.

The remainder of this section discusses the seven qualitative measures.

Land-Use/Development

Communities across the country – communities against which southwestern Pennsylvania must compete in the national economy – are attempting to plan land-use development and transportation interactively and to provide a range of mobility options. It has been demonstrated both nationally as well as locally that doing so can result in increased travel by transit. It can also result in higher quality and increased development at activity center locations.

From the land-use perspective, incorporating ‘livable communities’ strategies into local and regional government’s planning and zoning regulations is growing in popularity. These strategies include planning, zoning and development techniques that encourage activity center development, compact urban growth and transit-oriented development. From a transit standpoint, by providing service that connects major regional activity centers or compact urban growth locations, transit is compatible with and supportive of regional development that promotes trip concentrations at specified locations.

Across the United States, there is great interest on the part of many people to live in communities that provide walking and transit opportunities for their residents. These are communities that provide sidewalks for accessibility as well as healthy lifestyle, where there are destinations within walking distance of residences, and where the destinations can be a mixture of land uses such as retail, residential, office and entertainment. This interest in part results from demo-

graphic changes occurring nationally as well as in southwestern Pennsylvania, such as an aging population, smaller family sizes, more disposable income, and greater interest in healthy lifestyles.

In the region, there are a number of examples of community development occurring that is in response to these market changes. Over the years, redevelopment has occurred in all the county seats of the region. Recently, major redevelopment has taken place in the downtown areas of Greensburg, Washington and Uniontown. Sidewalks will be included in Phase II of Southpointe development in Washington County. Southside Works in Pittsburgh is a compact, walkable area built as an extension of the transit-oriented South Side neighborhood. In Summer of 2005, a major ‘new urbanist’ development for Hempfield Township in Westmoreland County was announced. Transit oriented developments are being planned and implemented along the South Hills LRT and the Martin Luther King, Jr. East Busway.

As stated previously in this report, a transit system consisting primarily of bus service on local streets and highways can support, and be supported by, the Trend Scenario. On the other hand, the transit service that can be supported by the Focused Growth Scenario provides for more effective linkages to important regional activity centers and major business development areas, provides for worker access to jobs, business access to markets, and resident access to services. In addition, the Focused Growth Scenario, and in particular, its fixed-guideway elements have the potential to influence

and support denser development patterns. This occurs directly by presenting joint development opportunities and indirectly by enhancing land values around transit centers and fixed-guideway stations.

Community Design

One of the goals of the Transit Vision is to identify transportation corridors and services that increase the community's mobility options, satisfy the customer's travel needs, integrate with the local community, and encourage communities to develop interesting places to live, work, shop, and play. This includes identifying corridors, technologies and services that can be integrated into the existing urban environments and that are consistent with the character of the local communities.

It also includes identifying corridors, technologies and services that will benefit areas that currently have, or are planning for, traditional development patterns and a transit-friendly and complementary mix of land-use. The alternatives should support a regional growth strategy that encourages major new development where transit access is available or planned, and encourages utilization of transit-oriented development techniques.

A transit network was developed for each of the two scenarios: Trend-based, and Focused Growth. Each transit network was integrated into the actual or anticipated urban environment for the scenario. That is, the Trend Scenario serves the character of the local communities as they are now and will continue to be under Trend conditions. Under the Trend Scenario, relatively dense, pedestrian oriented environments occur in existing urban areas and some addi-

tional areas, but the majority of the region will continue to be developed in a more spread out manner. By comparison, in the Focused Growth Scenario, transit and pedestrian oriented design would be much more prevalent across the region. The Focused Growth Scenario serves those areas that currently contain, or are planned to contain, traditional development with a well-connected, grid-based street network, appropriate building scale, and appropriate development orientation. In the Focused Growth Scenario, transit and land development can positively influence each other, and the quality of development can positively impact transit use.

Mobility

Another goal of the Transit Vision is to identify diversified high quality public transit services that, combined with the highway system, provide a balanced regional transportation network with a full range of travel choices and connections. Earlier, transit ridership was discussed as an evaluation measure. Transit ridership is one of the best indicators of the ability of a transit option to satisfy mobility needs. Also important, however, are the quality and reliability of transit service. The ability of public transportation to maintain scheduled service is impaired when transit must compete for space in congested traffic conditions. Where and when transit does not share highways, streets and roads with mixed traffic, service schedules are more consistently met. Due to the nature of the development pattern assumed for Trend Scenario, there will be fewer transit facilities on exclusive rights-of-way compared to the Focused Growth Scenario. The Focused Growth Scenario transit system will have a more reliable service, due, in part, to the additional miles of exclusive rights-of-way consistent with its more focused development pattern.

The transportation improvements identified in each scenario provide benefits to all regional travelers, whether transit customers or not. The Focused Growth Scenario includes a range of modes and travel options, including but not limited to bus, rail, paratransit, and river transportation service for residents, workers, and visitors. The major transit corridor improvements in the Focused Growth Scenario will assist in alleviating traffic congestion, either on a corridor wide, subregional or local basis. The congestion relief of the Trend Scenario is more limited.

Investment

It is the goal of many regions to produce a regional transportation system that is efficient, effective and equitable; that is widely regarded as a sound and good investment; and that enhances the region's competitiveness. This includes providing regional alternatives that are cost effective and efficient. Both land use scenarios support, and are supported by, a transit system suited to the scenario.

Ultimately, the alternatives and improvements identified in the Transit Vision will become important elements of the communities and developments they serve. It is very important, from a financing as well as a community 'buy-in' perspective, for the Transit Vision to attract local and private participation in funding. Such participation may include, but is not limited to, public and private contributions of land and rights-of-way, incorporating transit improvements into the development, assuming some or all of the cost of a transit station, sharing capital and operating costs, and assuming some or all of the maintenance of transit facilities and customer amenities. Because of the nature of the development assumed in the Focused

Growth Scenario there will be more opportunity for community and private investment to support transit improvements and facilities than in the Trend Scenario.

Environment

In order to sustain the existing environmental assets of the region, land use strategies and facility improvements that preserve existing transportation corridors should be encouraged. This will result in three benefits. First, the amount of residential and business displacements in existing and new transportation corridors can be reduced. Second, the amount of land needed for growth can be reduced by redevelopment in existing areas (including brownfield development), as well as through compact urban growth and activity center development. Finally, the development of environmentally sensitive land, including prime agricultural lands, wetlands, and steep slopes directly due to construction of transportation facilities can be minimized.

Air quality is a distinguishing attribute of a region's overall environmental quality. Transportation facilities are an especially important component of air quality management. Both the Trend and Focused Growth Scenarios will maintain vehicular emissions below levels needed to comply with federal air quality standards. This is due, in part, to federal requirements for cleaner burning fuels and more effective emission control equipment for both automobiles and transit vehicles.

Community Coordination

It is a goal of the Transit Vision to provide a clear, comprehensive, inclusive, and leading vision of a regional transit system that can be

incorporated into regional and local transportation and land use plans and programs for implementation. The Transit Vision must contain elements and recommendations that benefit communities throughout the region. The Focused Growth Scenario calls for coordinated development of transit and land use plans. By coordinating plans in this way, the benefits of transit in terms of transportation choice, congestion mitigation and economic development opportunities can be maximized. Under the Trend Scenario, transit and land use development are generally not well coordinated; accordingly, the Trend Scenario provides fewer benefits to transit riders and to the community.

Transit Service Quality

It is important to identify and pursue programs that improve transit service quality and effectiveness locally as well as regionally. Every individual within the region should have access to transit, if needed. This may mean access to fixed route bus services, rapid transit, or paratransit, service using small transit vehicles (STVs), or innovative services such as flexible-route transit. The Focused Growth Scenario provides more opportunities than the Trend Scenario for improved customer amenities, more frequent transit service, and better connections to many areas of the region.

Conclusion

Two development scenarios were presented. The Trend scenario assumes continuation of the development pattern typical of the past 50 years; that of outward growing low-density suburban and exurban rings. The Focused Growth scenario assumes land use policies that favor infill development and higher density housing, and that encourage mixed-use, walkable communities.

It may be that either scenario will not be fully realized. While many municipalities may embrace the principles of the Focused Growth scenario, others may find it advantageous to continue current development trends. Nevertheless, the two scenarios do provide a useful framework for understanding the linkages between regional form and the type of transit service that can be supported.

The study began with a charge to develop a Transit Vision that reflects the region's aspirations. Throughout the public outreach and collaboration process, participants were asked a series of questions that attempted to identify those aspirations. The questions included:

- >>> What do you value in the region that should be preserved;
- >>> What are you concerned about or want to prevent;
- >>> What would you like to improve in the region; and
- >>> What are the region's transportation challenges.

Whether the questions were asked in urban, suburban, or rural areas the answers invariably included the following observations:

- >>>> The region's small-town feel with big-city benefits is one of the region's strengths that should be preserved;
- >>>> Open space is a valuable asset. The region should work to prevent unnecessary loss of open space;

>>>> The abundance of recreational opportunities throughout the region (in the Laurel Highlands, along the rivers, in the state and county park systems) is a valuable asset that should be preserved and improved;

>>>> The region's transit system should connect people to jobs;

>>>> The region's transit system should provide access from all points of the region to Downtown Pittsburgh, Oakland, and the Pittsburgh International Airport; and

>>>> The region's transit system should connect people to local activity centers throughout the region.

Based on these insights from the public outreach process that captured the region's aspirations, the Focused Growth scenario and its supporting transit system address those aspirations better than the Trend scenario.

The Focused Growth development scenario was, therefore, selected as the land use framework for the region's Transit Vision.

QUALITATIVE MEASURES

MEASURE	TREND SCENARIO	FOCUSED GROWTH SCENARIO
Land use/development	Bus service on local streets and highways, little influence on development patterns	Provides for more effective linkages, access to jobs, can influence land development
Community Design	New development would be spread out, difficult to serve by transit	Transit and land development would be capable of positively influencing each other
Mobility	Provides limited congestion relief	A quality and reliable transit service can assist in congestion relief
Investment	May not attract a large amount of community and private investment due to smaller transit market	Includes improvements and facilities that can attract community and private investment
Environment	Characterized by development of vacant lands outside of existing urban areas	Focuses most new development in existing urban areas and brownfields (infill)
Community Coordination	High quality service only within the compact urban core of the ten counties	Increases the number of neighborhoods and communities served by transit
Transit Service Quality	Provides service to a limited amount of population and employment within 45 minutes of major destinations	Significantly increases population and employment served within 45 minutes of major destinations

enhancing the vision: making the most of our assets

Previously, rapid transit corridors were listed for the Focused Growth land use scenario. In this section, these corridors are further refined by incorporating the modal recommendations of the completed major investment studies: Airport Multimodal Corridor Study, and Eastern Corridor Transit Study. The modal alternatives are listed in the adjacent table.

In this section, these modal alternatives are quantitatively assessed, and the relationship of the Transit Vision to the following initiatives are addressed:

- >>> High-speed Maglev;
- >>> Water Transportation; and
- >>> Railroad Corridor Re-use.

Incorporating system optimization considerations, taking advantage of new opportunities and technologies, and incorporating the use of the rivers and railroad corridors ('recycling' currently underutilized assets) will help the Transit Vision to be achieved in a way that will support the transit-friendly development envisioned for the Focused Growth Scenario.

In the eastern and western corridors, the modes assumed in the Transit Vision are the transit alternatives recommended by those two studies. The northern and southern sections of the region were not studied in the two major investment studies, so for the north and south sectors, a further step was made to identify potential transit modes. Modal selection was based on macro level estimates of travel demand and system refinement factors.

The network of rapid transit in the Transit Vision provides high-capacity transit links which connect people to primary centers within the region. They feed and are fed by community circulators, bus routes, water taxis, and paratransit services that branch out and serve the ten-county region.

Currently there are 48 miles of light rail transit (LRT) and bus rapid transit (BRT) facilities in southwestern Pennsylvania. The Transit Vision expands that rapid transit system to a network of 250 miles of LRT, BRT and commuter rail lines.

In order to define the scope of the transit facilities assumed for the Focused Growth scenario and in the overall Transit Vision, the following factors were assessed for the current transit system and for the transit system of the Transit Vision.

POTENTIAL RAPID TRANSIT MODES BY CORRIDOR

CORRIDOR	POTENTIAL MODES
Downtown Pittsburgh to Penn Hills	Light Rail Transit (LRT)
Extension of the T to the Strip District	Light Rail Transit (LRT)
Extension of the T to the North Side	Light Rail Transit (LRT)
Dwtn. Pittsburgh to southern Butler County (Rt.8 Corridor)	Commuter Rail
Downtown Pittsburgh to New Kensington/Arnold	Commuter Rail along Allegheny Valley Railroad
Downtown Pittsburgh to Delmont	Extension of Martin Luther King, Jr. East Busway to East Pittsburgh and Monroeville, with BRT upgrades along US Route 22 to Delmont
Downtown Pittsburgh to Greensburg	Commuter Rail along the Norfolk Southern Pittsburgh line
Downtown Pittsburgh to McKeesport/Clairton	Extension of Martin Luther King, Jr. East Busway to McKeesport, with BRT upgrades along existing arterials to Clairton
Downtown Pittsburgh to Clairton via Pleasant Hills	Extension of South Busway to Century III Mall, with BRT upgrades along Route 51 and Millers Grove Road to Clairton
Extension of the T to McMurray	Light Rail Transit (LRT)
Downtown Pittsburgh to Washington	Commuter express bus
Downtown Pittsburgh to the Pittsburgh International Airport	Light Rail Transit (LRT) extending from Allegheny Station on the North Shore (to connect with North Shore Connector)
Downtown Pittsburgh to Beaver Falls	Commuter Rail along CSXT's Pittsburgh Subdivision
Downtown Pittsburgh to Cranberry	BRT upgrades along McKnight Road and Perry Highway (US19) from I-279 HOV lane (Ivory Avenue) to Cranberry

- >>> Infrastructure operations and maintenance facilities;
- >>> Capital cost;
- >>> Operating cost;
- >>> Connectivity; and
- >>> Performance Measures.

A service plan was developed for each rapid transit alternative to provide a basis for making comparisons. Year 2002 transit service levels for the region were used as base information. Current operating data and system requirements were increased to the Year 2025 to represent a future condition. Service plans were developed for each corridor and each rapid transit alternative for each weekday, Saturday and Sunday. The service plans were used to estimate daily and peak hour vehicle trips, annual miles and hours of service, and vehicle fleet requirements. This data was used to calculate annual operating costs of the new rapid transit facilities. Capital costs for each rapid transit alternative were estimated based on conceptual level costs for the various lengths of improvements, number of stations, number of park-and-ride facilities, and number of vehicles (or trains) required.

RAPID TRANSIT COMPONENTS

Length in Miles

	Current System			Transit Vision		
	BRT	LRT	Commuter Rail	BRT	LRT	Commuter Rail
South Hills Corridor						
South Hills LRT System: Downtown - South Hills Village, Drake, Library		26			26	
South Hills Village - McMurray					6	
Pleasant Hills Corridor						
South Hills Junction - Overbrook	4			4		
Overbrook - Clairton				11		
Airport Corridor						
Downtown - Airport	5					
Allegheny Station - Airport					19	
Ohio River Corridor to Beaver Falls						
Downtown - Beaver Falls						31
North Hills Corridor						
Downtown - Allegheny Station, North Ave.					2	
North Ave. - Ross (I-279 HOV lane)	4			4		
Ross - Cranberry				16		
Route 8 Corridor to South Butler						
Downtown - South Butler						21
Allegheny River Corridor to Arnold						
Downtown - Arnold						27
Downtown - 21st Street (Convention Center Line)					1	
Eastern Corridor to Delmont, Greensburg, & Clairton						
Downtown - Penn Hills (Spine Line)					12	
Downtown - Rankin	9			9		
Rankin - E. Pittsburgh				3		
E. Pittsburgh - Delmont				18		
E. Pittsburgh - Clairton				9		
E. Pittsburgh - Greensburg						
Downtown - Greensburg (Commuter Rail)						31
Subtotal	22	26	0	74	66	110
Total	48			250		

Supporting our Investment: Operations and Maintenance Facilities

Another system consideration is the availability of sufficient support facilities to operate and maintain (O&M) the vehicle fleets, rapid transit right-of-way, and stations. Currently there are 16 bus O&M facilities, one LRT operating facility and one right-of-way maintenance facility in the region.

It is estimated that the Year 2025 bus fleet for the Transit Vision will require four new bus O&M facilities.

The future system will require additional light rail O&M facilities. The Transit Vision will require one additional rail O&M facility and one new facility to maintain the rights-of-way of the increased miles of LRT and BRT lines.

There is potential that the commuter rail service alternatives contained in the Transit Vision would be operated by private companies and not require new support facilities. However, the capital cost estimate included funds for expansion of an existing facility.

Cost Considerations

Capital Costs

Implementation cost of the Transit Vision is estimated at \$9.5 billion in Year 2002 dollars. This is obviously a significant investment, but provides the region with an extensive network of reliable, high-

capacity transit links. These rapid transit links connect to local transit routes serving all ten counties, thereby expanding the benefits of the investments to the entire southwestern Pennsylvania region. The conceptual financial plan to achieve this level of funding is described later in this report. As explained in the financial plan, the \$9.5 billion Transit Vision represents a menu of projects which would be planned and implemented as funding became available and as the Focused Growth land use vision is achieved in specific corridors.

Operating Costs

The average annual operating and maintenance cost of the Transit Vision is approximately \$410 million. This would be an increase in 2002 dollars of \$116 million or 39% in the ten-county region. This includes operating the existing transit service, and increased service in accordance with the increased ridership, plus the new facilities included with the Transit Vision. This increase will require significant new funding.

Making the Right Connections

The New Merriam-Webster Dictionary defines connectivity as “connecting or functioning in connecting.” With respect to public transit, connectivity involves the analysis of how passenger trips are made between two points within a region. In some cases, a trip might simply require that a passenger ride only one vehicle to reach his or her destination. Other cases may require that passengers ride multiple vehicles, transferring from one vehicle to another.

Passenger trips that require few or no transfers are the most desirable. The nature of public transportation, however, does not accommodate zero transfers for all trips; some trips will inevitably require a transfer. When transfers are required, minimizing inconvenience is the goal. Ideal transfers include short walking distances between vehicles, short waiting times, a sheltered waiting environment with readily available information for trip making, fare sales, and a sense of personal security.

The Transit Vision was reviewed to determine the required number of transfers to travel on rapid transit services from various points within the region to three major destinations: downtown Pittsburgh, Pittsburgh International Airport, and Oakland. For the purpose of this assessment, the following assumptions were made:

>>>>> The Steel Plaza Station (a light rail station in downtown Pittsburgh) would be reconfigured into a grade separated (two-level) station. The existing line from the South Hills would be connected with the line from the Convention Center and the Strip District. The Gateway Center line (and its extensions to North Avenue and to the Pittsburgh International Airport) would be connected with the Spine Line LRT extension to Oakland, Wilkinsburg and Penn Hills.

>>>>> Some bus rapid transit services entering downtown Pittsburgh was assumed to be ‘through-routed’ to serve another corridor rather than terminate in downtown Pittsburgh as much of the service does today. For example, it was assumed that BRT serv-

ices on the Martin Luther King, Jr. East Busway would continue through downtown Pittsburgh and then serve the Airport Corridor, in a similar fashion to the current Route 28X Airport-Oakland service. Patrons in Wilksburg could travel to Robinson Town Centre without having to change buses in downtown Pittsburgh.

>>>>> New transfer locations would be designed to be as customer-friendly as possible, to offer amenities such as a sheltered waiting area, and to minimize inconvenience. However, it was also assumed that no new facilities would be constructed within the Golden Triangle to accommodate transfers to buses operating on the street. Transfers made between the LRT system in downtown Pittsburgh and BRT services would be made by walking from subway stations to bus stops at street level on city sidewalks. Likewise, transfers made between two BRT lines would be accomplished through walking on city sidewalks between bus stops.

One example of an enhanced transfer facility is Penn Park Station where the East Busway and the T interface, next to the Amtrak Station and The Pennsylvanian building. All of the region's transit operators that provide service to downtown Pittsburgh currently use this facility, allowing for convenient customer transfers between the region's transit systems.

System Consideration

The *System Summary* table provides information, for the current transit system and the transit system conceptualized for the Transit Vision, on quantitative measures such as capital cost, operating and maintenance cost, ridership, vehicle miles and vehicle hours.

As part of the evaluation conducted in the study, performance measures such as operating and maintenance cost per hour of service, and riders carried per hour of service were calculated. The data indicated that the Transit Vision system performed well in comparison with the current system.

As a result, the Regional Strategic Transit Vision presented in this report was judged to be a reasonable means of providing a significant improvement in public transit service in the ten-county region under a Focused Growth Land Use Scenario.

SYSTEM SUMMARY

		Current System	Transit Vision
Vehicle Fleets	Bus Fleet (# Buses)		
	Port Authority	1,082	1,280
	Circulators	0	22
	Area Providers	106	259
	BRT	0	86
	Total	1,188	1,647
	LRT Fleet (# LRV's)	83	164
	Commuter Rail Fleet (# Cars)	0	18
Infrastructure Facilities	Bus Garages		
	Port Authority	6	8
	Area Providers	9	11
	Total	15	19
	LRT Operating Garages	1	2
Maintenance of ROW Facilities	1	2	
Annual Miles of Service	Bus Miles		
	Port Authority	38,244,315	45,040,125
	Circulators	0	946,080
	Area Providers	2,745,969	8,529,532
	BRT	0	6,555,276
	Total	40,990,284	61,071,013
	LRT Car Miles	2,894,400	6,749,200
Commuter Rail Car Miles	0	1,783,992	
Annual Hours of Service	Bus Hours		
	Port Authority	2,682,358	3,223,828
	Circulators	0	78,840
	Area Providers	169,369	507,127
	BRT	0	266,260
	Total	2,851,727	4,076,055
	LRT Train Hours	167,380	349,220
Commuter Rail Train Hours	0	32,910	
Capital Cost (\$2002 millions)	Total	na	\$9,536
Annual Operating Cost (\$2002 millions)	Total	\$294	\$410

the transit vision and other regionally significant transportation initiatives

In addition to this Transit Vision, other regionally significant transportation initiatives are underway in southwestern Pennsylvania. One involves the demonstration of high-speed magnetic levitation technology (high-speed maglev) for intercity service. Another investigated the use of the region's navigable waterways as potential public transportation corridors. Yet a third assessed the opportunity of consolidating the region's investments in railroads for potential reuse as public transportation rights-of-way. Each is described below.

High-speed Maglev

Overview

Port Authority of Allegheny County, in cooperation with the Pennsylvania Department of Transportation and the Federal Railroad Administration (FRA), is preparing an environmental impact statement (EIS) for a proposed 54-mile, high-speed magnetic levitation (maglev) line to connect Pittsburgh International Airport, downtown Pittsburgh, Monroeville area and Greensburg area (with multimodal stations at each location). The project, known as the Pennsylvania High-speed Maglev Project, is competing with similar proposals in the Baltimore, MD/Washington, D.C. corridor, the Las Vegas to Primm, Nevada corridor, and potentially other corridors. In this national competition for federal funds, the project(s) selected by the FRA will receive funding to proceed with implementation of the first such system(s) in the United States to demonstrate the application of magnetic levitation technology to meet passenger transportation needs.

The project is being advanced under federal legislation called the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) which establishes the federal Maglev Deployment Program. Total project costs for the Pennsylvania Project have been estimated in excess of \$4.6 billion.

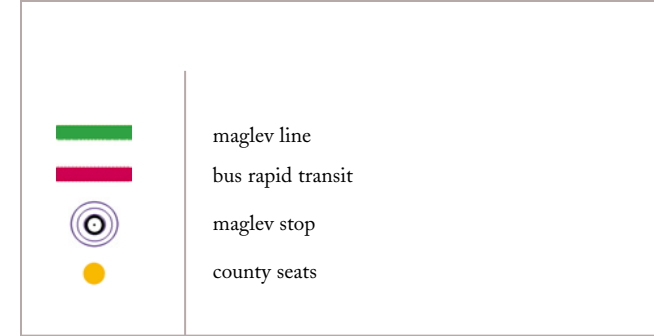
In addition to demonstrating the technology, the project is also evaluating fabrication and construction techniques to produce the maglev guideway.

If the demonstration proves successful, this initial line could serve as the starter system for a much larger maglev system that would connect Pittsburgh with Cleveland, Harrisburg, Philadelphia, and destinations in West Virginia and the Northeast Corridor. With the knowledge gained through the project about fabrication of the guideway, the potential would exist for Pittsburgh to serve as the manufacturing hub of the maglev technology, providing a new industry for the region.

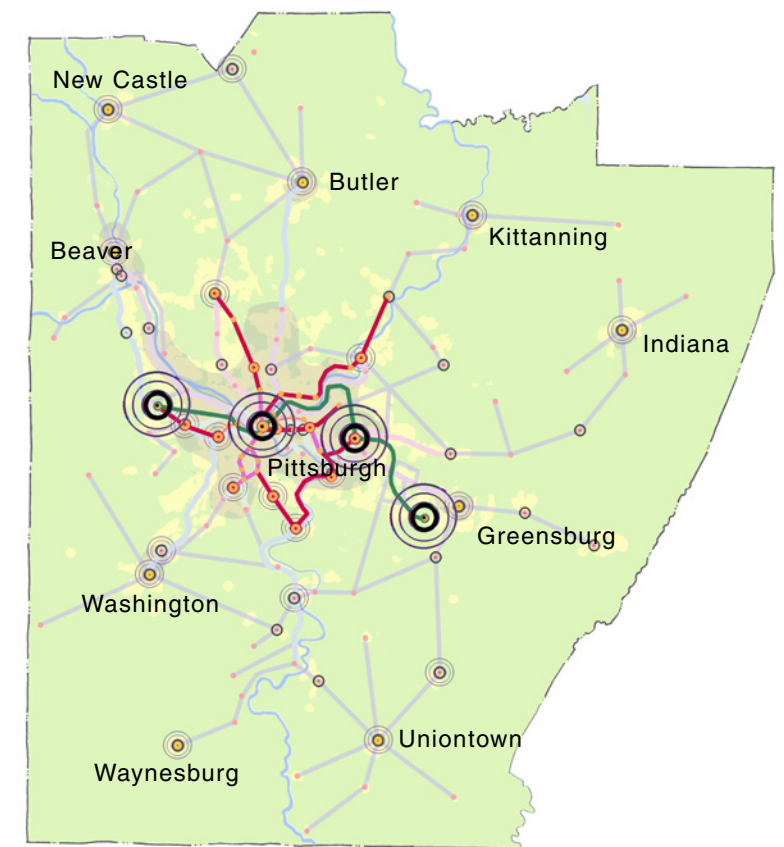
The Effect of Maglev on the Vision

The addition of the maglev project could potentially duplicate the service to the Pittsburgh International Airport from Downtown Pittsburgh provided by the rapid transit link. Consequently, the LRT rapid transit link to the Airport would be shortened so that it would not go all the way to the Airport but would terminate at some intermediate point, for example at Robinson Town Center.

Initially, it was thought that maglev would provide service redundant to the BRT improvements along Routes 22 and 30 in Westmoreland County. Upon further investigation, however, it was



MAGLEV: Maglev will provide high speed connections between Greensburg, Monroeville, Downtown Pittsburgh, and the Pittsburgh International Airport.



MAGLEV EFFECT ON THE VISION High-speed Maglev will augment the proposed rapid transit lines to the east and west. Rapid transit links and fixed route bus service would be connected to the Maglev stations at the Pittsburgh International Airport, Downtown Pittsburgh, Monroeville, and Greensburg.

determined that since maglev would have only one stop in Westmoreland County, the BRT improvements along Routes 22 and 30 would continue to benefit the communities along those arterials. Therefore, there would be no change to the Transit Vision along the eastern sections of the maglev route.




Water Transportation

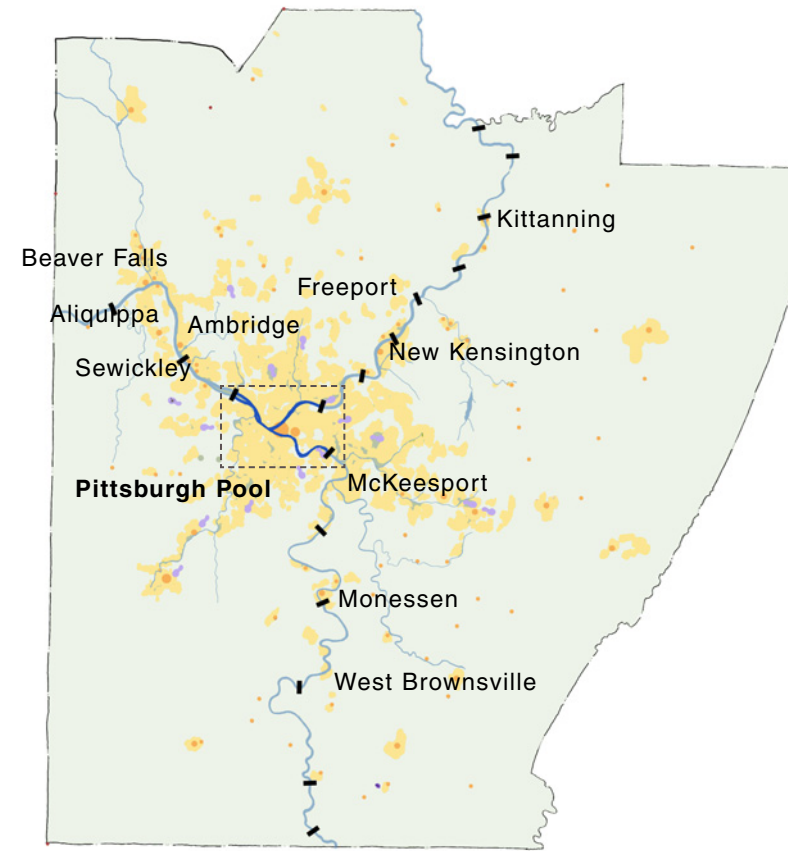
Waterways have played an important role in the settlement, growth and development of Pittsburgh and the region. The 200 miles of navigable rivers help make the Port of Pittsburgh the largest tonnage shallow draft port in the nation and connect people who live, work, and do business in southwestern Pennsylvania. The rivers and the riverbanks also serve as an important regional recreational asset. There is a strong movement through the work of organizations including the Riverlife Task Force and the Steel Industry Heritage Corporation to significantly enhance the relationship between land and water in the region and to provide an infrastructure that serves both.

In recent years, interest in waterway passenger transportation has been growing due to:

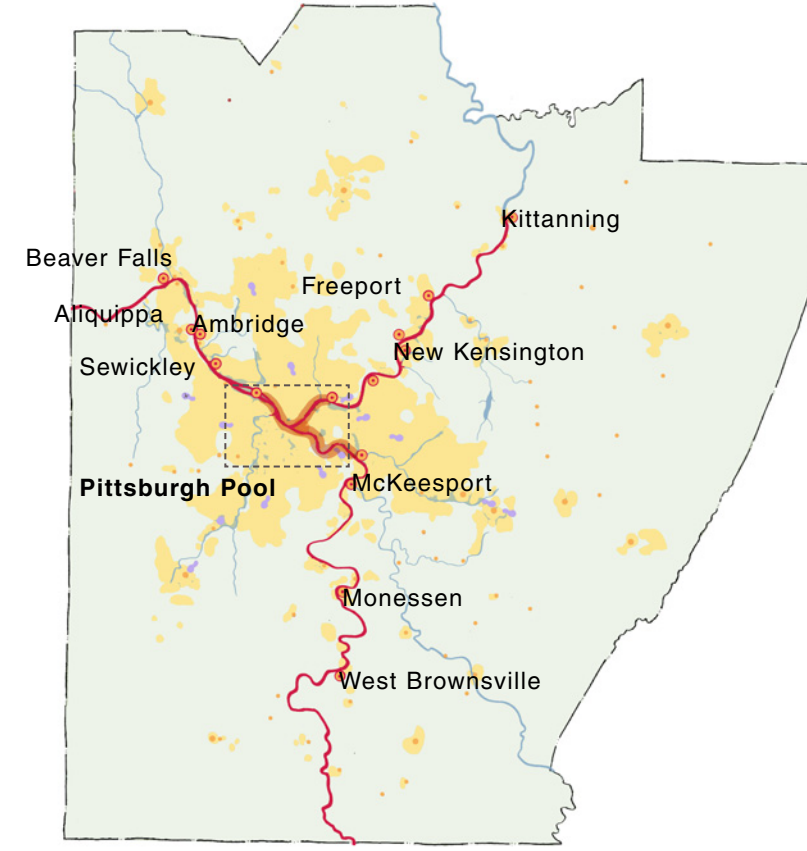
- >>> Significant improvements in water quality;
- >>> A growing number of waterside attractions;
- >>> New water-passenger vessel technologies;
- >>> Concerns about growing congestion on roadways; and
- >>> The availability of federal funding to assist with transit on the waterways and strategies to reduce congestion on area roadways.

THE REGION'S WATERWAYS: *Once used only for commerce, our rivers can become a resource for transportation and development.*

	commuter ferries
	water taxis
	excursions



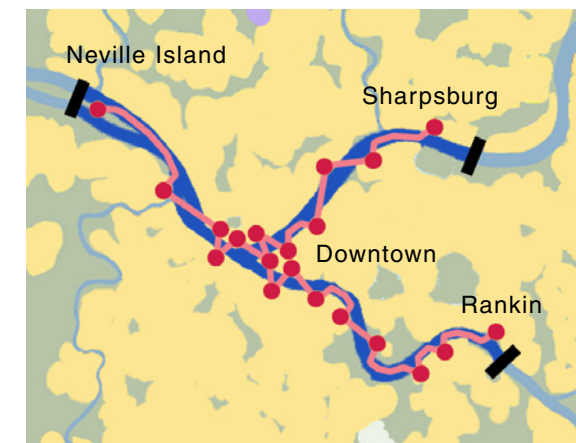
Locks and Dams



River Landings



Commuter ferries in the Pittsburgh pool with connections to public transit



Water taxis in the Pittsburgh pool with connections to public transportation

WATER TRANSPORTATION The Pittsburgh Pool, defined by a set of three locks and dams, can be utilized by water taxis and commuter ferries. Towns and redevelopment sites along the rivers can become

'river landings' with mixed-use communities served by several modes of transit. Outside the Pittsburgh Pool, excursions can connect the region to river towns and recreational opportunities.



Excursions and tour boats



Water taxi

The Strategic Transit Vision Study investigated use of the rivers as a means of transporting people throughout the region. The investigation focused on three primary categories of service: water taxi, excursions/tours, and commuter ferries.

Water Taxis

Water taxis are usually smaller vehicles traveling over relatively short distances. The service provided is a convenient method to access numerous locations in proximity that are separated by water. Within the southwestern Pennsylvania region, the Pittsburgh Pool (an area with the highest concentration of landside uses) is delimited by the Braddock Dam (Lock and Dam #2) on the Monongahela River, Lock and Dam #2 at Aspinwall on the Allegheny River, and Emsworth Dam on the Ohio River.

Some limited water taxi service currently operates within the Pittsburgh Pool, primarily to transport fans to and from PNC Park and Heinz Field. As noted previously, the Riverlife Task Force and Steel Industry Heritage Corporation along with the Port of Pittsburgh Commission have developed visions for water transportation within the region including water taxi service. A result has been implementation of limited water taxi service connecting points in downtown Pittsburgh, Station Square, North Shore, and the Strip District during warm weather months by Port of Pittsburgh Commission

Excursion/Tours

Excursion and tour service is not as time-sensitive as other water transportation services. Moreover, the focus of the trip is the experience of being on the water itself, passing through a lock, or enjoy-

ing entertainment onboard. The Gateway Clipper fleet currently provides excursion service. In addition to single loop trips, service is also provided between Pittsburgh and Kittanning, for example. The Steel Industry Heritage Corporation (SIHC) envisions more tour service that might include trips from downtown Pittsburgh to places like the future Steel Heritage Interpretive Center near the Carrie Furnace Site in Rankin. SIHC also envisions the possibility of an entire network of tour routes to culturally significant areas throughout the region including New Kensington, Tarentum, Aliquippa, Ambridge, Connellsville, and Brownsville.

Commuter Ferries

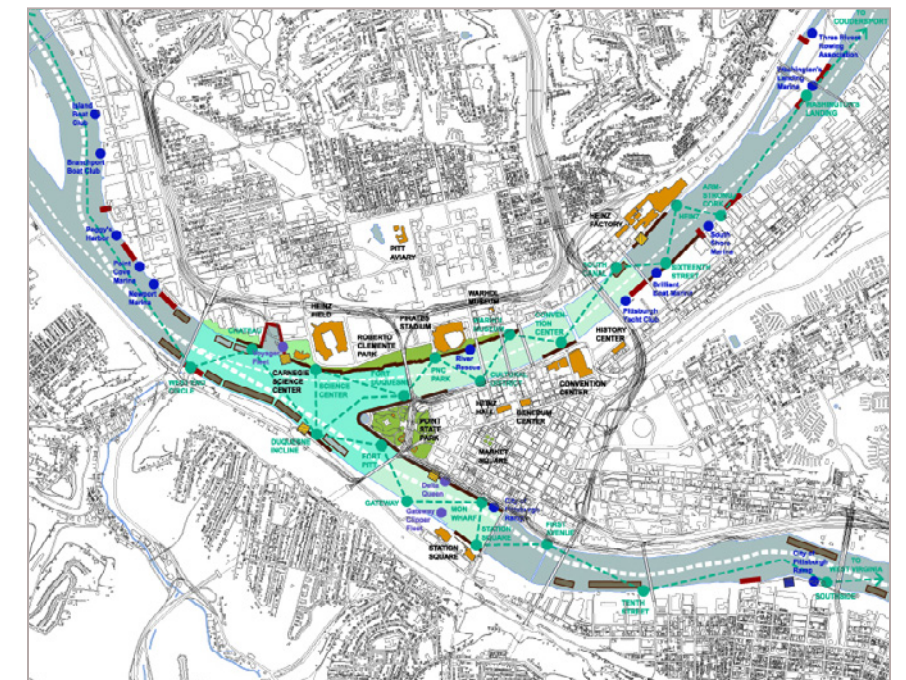
Commuter ferries would potentially link various parts of the region with water-borne transportation service that would operate much like a public transit route with regularly scheduled trips. They could provide an alternative to commuting by automobile by avoiding congestion on the highway network. Given the nature of the region's rivers (i.e., the presence of locks and dams) and population (highest densities within and near the City of Pittsburgh), the demand for commuter ferry service would be greatest within the Pittsburgh Pool. Service to other parts of the region would require significant capital investment to modify the locks and dams to accommodate the time-sensitive nature of commuter ferries. As part of the analysis, a hypothetical ferry service from Homestead to Pittsburgh was tested and is described in the next section.

Pittsburgh to Homestead Commuter Ferry Study

A separate analysis was performed of the feasibility of passenger-only ferry service on the Monongahela River from West Homestead to downtown Pittsburgh. This was done to identify information



Commuter ferry



Riverlife Task Force water taxi vision

necessary for evaluating the viability of introducing water transit to a specific segment of the Pittsburgh Pool.

The proposed service headway (i.e., time between trips) was 30 minutes, supported by a fleet of two ferries. As the service would primarily be for commuters, the schedule was designed around morning and late afternoon peak commute periods. A mid-day period where there are no commuter trips was recommended to provide economy of operations, fulfill refueling and light maintenance operations, and potentially supplement operational revenues with mid-day charters. The peak morning commute service schedule provided for six departures during the hours of 6:20 a.m. to 8:50 a.m., with nine total morning departures. The late afternoon peak commute schedule provided for six departures during the hours of 3:50 p.m. to 6:20 p.m. with 10 total late afternoon/early evening departures.

A survey of possible landing and terminal sites was conducted in the Homestead area and in downtown Pittsburgh. Sites were selected based on factors such as site availability, closeness to light rail and bus transit nodes, and existing ADA accessibility. The selected sites were in West Homestead just upstream of the Sandcastle entertainment center, and at the base of the Roberto Clemente Bridge on the Allegheny River.

Commuter ferries could offer intangible benefits to the commuting public. Onboard features could include spacious aisles, comfortable seating, and ability to walk about the boat either inside the cabin or out on deck. Amenities such as news broadcasts and space in which to perform business activities are also possible.

The analysis found the following:

The Pittsburgh to Homestead Commuter Ferry would require a subsidy of over \$1.5 million each year for operation. While the service would offer amenities that are not offered on other modes of transport, the analysis showed that, based on the current and committed future transportation network, other modes such as express bus service are competitive from a travel time perspective. Nevertheless, should conditions change (i.e., increased congestion on the highway system), the commuter ferry could emerge as a viable alternative. In addition, revenue from mid-day and other charters could potentially offset some of the costs.

Conclusion regarding Water Transportation

Currently, there is limited demand for water transportation. However, as more investment in riverfront development is made and intensifies (as is recommended in the Riverlife Task Force and Steel Industry Heritage reports), the potential for water transportation could be strengthened. New waterfront development and investment will create more demand and opportunities for water-dependent uses and connections. Clearly, a great resource exists in the rivers in the Pittsburgh region. If the need for capacity improvements within the existing transportation network cannot be easily met, alternative modes such as water transportation may become more attractive.

Pittsburgh Region Railroad Corridor Re-use

Introduction

An assessment of railroad corridors in southwestern Pennsylvania was conducted as part of the Transit Vision Study to determine if any of the major through rail lines might be candidates for consolidation, potentially leaving a linear right-of-way available for other uses.

Railroad rights-of-way in the Pittsburgh region have remained essentially unchanged since they were first established in the nineteenth century. Major railroad lines were constructed along stream and river valleys in order to take advantage of the gentle grades along the riverbanks. Heavy manufacturing facilities (primarily steel making and steel fabricating) were also located adjacent to the region's rivers and provided a major source of revenue for railroad companies. As a result, much of the land along the region's riverbanks was taken up by industrial and transportation uses; their presence cut off public access to the waterways in many locations.

With the closing of many of the region's manufacturing plants in the 1980s, public interest in riverfront access has increased. However, while the manufacturing plants are gone, the major railroad lines remain. This study undertook an assessment to determine if rail relocations and/or consolidations are feasible and desirable to allow for changes to the existing land uses, re-use of the lines for public transportation, and to reestablish public access to the riverfronts.

Today, there are five major freight railroad routes through the region owned by two railroad companies – Norfolk Southern (NS) and CSX Transportation (CSXT). Three routes are owned by NS (the Pittsburgh Line, the Mon Line and the Conemaugh Line) and two are owned by CSXT (the Pittsburgh Subdivision and the P&W Subdivision).

Railroad Assessment Details

The railroad corridor assessment included a regional evaluation of the various railroad networks in an attempt to identify options to consolidate through-freight rail traffic. This would effectively create opportunities for re-use of the existing freight rail lines within the region.

A series of options was investigated involving the NS and CSXT lines. A discussion of the options investigated and their associated findings is provided below for the serious reader interested in details. For the casual reader, a conclusions section containing a synopsis of the findings is provided immediately following this more detailed discussion.

Relocation of the CSXT Pittsburgh Subdivision Line to the NS Mon Line

The initial focus of the railroad corridor assessment was to determine the feasibility of relocating CSX Transportation’s (CSXT) Pittsburgh Subdivision (the line along the Monongahela River between Homestead and McKees Rocks) to the parallel right-of-way of the Norfolk Southern (NS) Mon Line (the shelf plateau near the base of Mt. Washington above East and West Carson Street). The Study team analyzed the feasibility of changing this

shelf area from its current two-track operation to a potential three or four-track operation utilized by both CSX Transportation and Norfolk Southern. Moving CSXT from its current location would open up a significant amount of riverfront along the Monongahela River for public access and redevelopment.

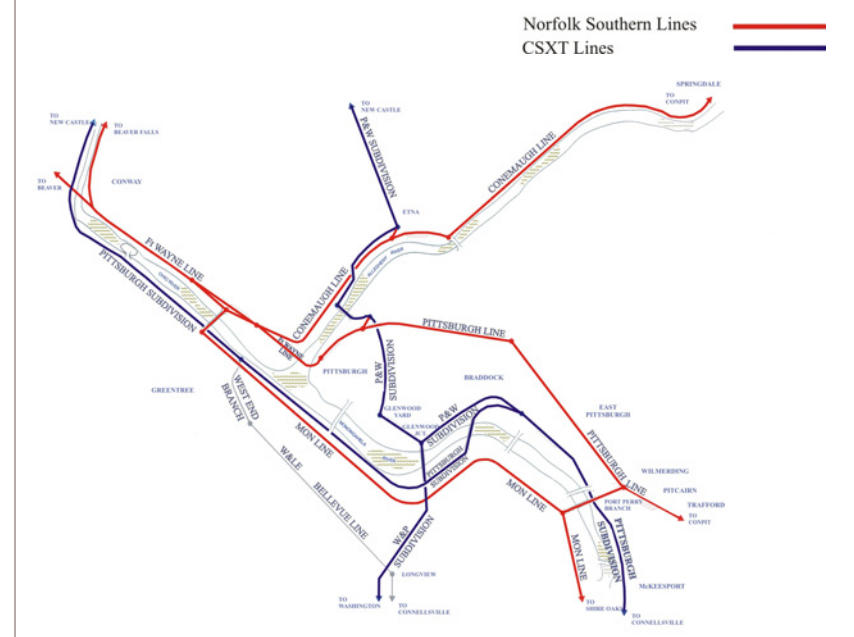
It is physically feasible to combine rail operations on the shelf area of Mt. Washington. However, the construction cost and impact to the adjacent properties make the alternative not economically justified for the benefit realized.

Lowering the CSXT Pittsburgh Subdivision

This option would lower CSXT’s Pittsburgh Subdivision alignment approximately 30 feet below the existing grade at key locations between Homestead and Brunot’s Island at Esplen. The CSXT’s Pittsburgh Subdivision follows the north side of the Monongahela River east of Homestead, and the south side west of Homestead. The purpose of this option is essentially to conceal the CSXT freight train movements along segments of the riverfront by depressing the line in a concrete trough or ‘bathtub.’ It is also intended to eliminate a series of grade crossings that restrict railroad speeds. Depressing a rail line has been successfully used before with the most notable example being the transportation link known as the Alameda Corridor recently completed in Los Angeles, California; a 2.1-mile trench is being advanced in Reno, Nevada. Depressing the CSXT’s Pittsburgh Subdivision could potentially enable the City of Pittsburgh to improve the Riverfront Districts by:

- >>> Creating a more visually pleasing presentation of the waters edge and corridor greenways;

RAIL LINES OF SOUTHWESTERN PENNSYLVANIA: Rail lines cross the region, converging at Pittsburgh.





NS Mon Line along Mt. Washington shelf



CSXT's P&W Subdivision to New Castle

>>> Enhancing connectivity between greenway development and residential neighborhoods; and

>>> Expanding existing perpendicular vehicular access to river-front commercial and industrial areas.

Analysis showed that this option has merit. Lowering the alignment throughout its entire length would be prohibitively expensive; selective lowering, however, might be possible.

Relocation of NS Operations from the Mon Line to the Pittsburgh Line

By relocating trains off the Mon Line, NS would lose its double stack container route through Pittsburgh and its ability for mineral trains from the lower Monongahela Valley to access the Conemaugh Line. This option would require increasing vertical clearance and capacity on the Pittsburgh Line. This option would also have to be restricted to retaining the Mon Line south of the City of Duquesne to maintain connections to the Monongahela Valley. Finally, the Allegheny Valley Railroad's Brilliant Branch would have to be upgraded to provide a connection for mineral trains traveling north from the Monongahela Valley to continue east on the Conemaugh Line.

If NS was shifted to the Pittsburgh Line, CSXT operations could then be relocated onto the Mon Line through the Station Square area. The purpose of this option is to remove the CSXT Pittsburgh Subdivision from its current location in the Station Square area. This would be accomplished by making major changes to existing NS and CSXT railroad operations in the Pittsburgh area. The end

result of these changes would relocate CSXT operations between Homestead and the Fort Pitt area onto the NS Mon Line. This would require moving all NS traffic from the Mon Line and onto the NS Pittsburgh Line. Relocating NS operations from the Mon Line to the Pittsburgh Line results in loss of NS's double stack container route (the Mon Line). Increasing vertical clearance and capacity on the Pittsburgh Line and capacity on the Conemaugh Line would be expensive, but possible, to provide this capability.

Relocation of CSXT Operations from the Pittsburgh Subdivision to the W&P Subdivision

This option involves relocating CSXT operations to the west side of Pittsburgh by utilizing the CSXT P&W Subdivision, the CSXT W&P Subdivision, and the Wheeling and Lake Erie's (W&LE) Bellevue Line and West End Branch. The purpose of this option is to remove the CSXT Pittsburgh Subdivision from its current location in the Station Square area. This would be accomplished by rerouting CSXT operations from the Station Square area to the CSXT P&W and W&P Subdivisions, and the W&LE Bellevue Line and West End Branches back to the CSXT Pittsburgh Subdivision in the Fort Pitt area.

Relocating CSXT operations to the W&P Subdivision would produce a circuitous route that would not only increase travel time, but also would require prohibitive expenditures to bring the W&P Subdivision up to acceptable operating standards.



CSXT's Pittsburgh Subdivision at Station Square

Relocation of CSXT Operations from the Pittsburgh Subdivision to the NS Pittsburgh Line

This option involves relocating all NS operations from the Pittsburgh Line west of Wilmerding to the Port Perry Branch and Mon Line. CSXT operations would then relocate from the Pittsburgh Subdivision at Braddock to the NS Pittsburgh Line transferring back to the Pittsburgh Subdivision near Brunot's Island at Bellevue. The purpose of this option is to remove the CSXT Pittsburgh Subdivision from its current location in the Station Square area. This could not be accomplished without constructing major new connections and making major changes to existing NS and CSXT railroad operations in the Pittsburgh area and, therefore, is judged not to be practical.

Transfer (and Consolidation) of CSXT's P&W Operations to the Pittsburgh Subdivision

An analysis was conducted of the CSXT operation in the Pittsburgh area. This analysis concentrated on alternative uses for the existing right-of-way and track of the Pittsburgh and Western (P&W) Subdivision of CSXT, which navigates over 50 miles from the Glenwood Yard and Oakland areas of Pittsburgh to New Castle, Pennsylvania, following State Route 8 in Allegheny County and passing through places such as Mars, Evans City, Zelienople and Ellwood City. CSXT's preferred route for train traffic through the Pittsburgh area is the Pittsburgh Subdivision (through the South Side and Station Square), as the P&W Subdivision contains

numerous curves and grades, as well as three tunnels. CSXT officials have stated that the P&W Subdivision is not necessary for operations. In 2003, CSXT leased the Glenwood to Glenshaw segment of the line to the Allegheny Valley Railroad, and the Glenshaw to New Castle segment to the Buffalo & Pittsburgh Railroad. Further consideration of the P&W for other uses would involve negotiations with one or both of these railroads in addition to CSXT. Implementing this option is possible, however it would require maintaining service on sections of the P&W Subdivision for Amtrak's Capitol Limited to serve the Amtrak station in downtown Pittsburgh, and for local rail customers along the P&W (east of Glenwood yard) and W&P Subdivisions to continue to be served.

Transfer (and Consolidation) of NS's Pittsburgh to the Mon Line

This option involves relocating all NS operations from the Pittsburgh Line west of Wilmerding to the Port Perry Branch and Mon Line. This transfer and consolidation would reduce NS's track maintenance requirements and permit NS to concentrate its resources on this high-quality, double stack container route. However, Amtrak's Pennsylvanian (New York to Pittsburgh) and Capitol Limited (Washington to Chicago) passenger trains currently use the Pittsburgh Line to reach Amtrak's downtown Pittsburgh station. Therefore, the Pittsburgh Line would either have to be kept in service between Wilmerding and downtown Pittsburgh or a new Amtrak station would have to be established. Implementing this option would also require an in-depth capacity

and network analysis of the NS operating system to determine what improvements would be required to existing NS facilities affected by closure of the Pittsburgh Line between Wilmerding and Bellevue.

Transfer (and Consolidation) of NS's Conemaugh Line to either the Pittsburgh Line or the Mon Line

The Conemaugh Line is a critical mineral hauling route for NS. In addition, the Conemaugh Line provides an important capacity reliever for NS's Pittsburgh line west of Johnstown. The Conemaugh Line is a fairly flat route extending from a connection to the Pittsburgh Line located 16 miles west of Johnstown to a connection with the Fort Wayne line in Pittsburgh. Trains traveling this route from east to west utilize the Conemaugh Line west to Pittsburgh, and either head west of Pittsburgh on the Fort Wayne Line, or turn south on the Mon Line. This is the preferred route east of Pittsburgh for heavy mineral trains traveling from the lower Monongahela Valley because of its low-grade profile versus the Pittsburgh Line's undulating profile. Implementing this option would require an in-depth capacity and network analysis of the NS operating system to determine what improvements would be required to existing NS facilities affected by closure of the Conemaugh Line.

Conclusions

The railroad assessment concluded that consolidation of selected major through railroads in the Pittsburgh area is potentially feasible.

- 1 For CSXT, the P&W Subdivision Line from Glenwood yard to New Castle could be consolidated with the Pittsburgh Subdivision.
- 2 For NS, it was concluded that its three lines could be consolidated to two.

>>> The Pittsburgh Line from Wilmerding to the North Side of Pittsburgh could be consolidated with the Mon Line; or the Mon Line from Duquesne to the Esplen area of Pittsburgh could be consolidated with the Pittsburgh Line. If the NS Mon Line was consolidated with the Pittsburgh Line, CSXT's Pittsburgh Subdivision Line could be relocated onto the shelf along the base of Mt. Washington currently occupied by NS's Mon Line; or

>>> The Conemaugh Line from west of Johnstown to Bellevue could be consolidated with either the Mon Line or the Pittsburgh Line.

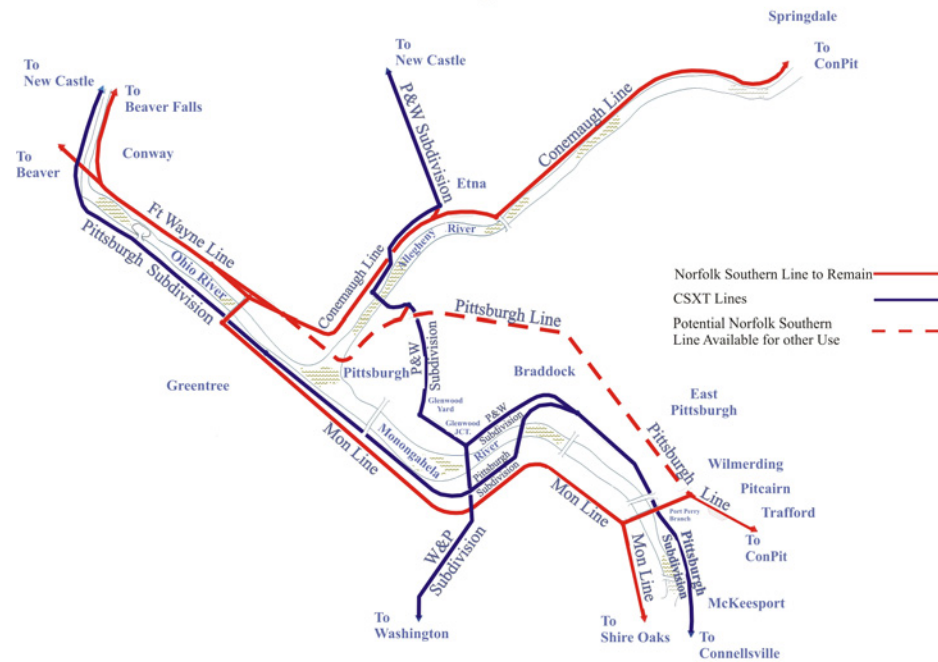
Consolidation could allow one or two of the existing freight rail lines through the region to be available for other uses such as a commuter rail service, a light rail line, a busway, a hiking/biking trail, or for other development.

Significant improvements would have to be made to accommodate the consolidations. For both CSXT and NS, connections to the Downtown Pittsburgh Amtrak station must be maintained or a replacement station built at a new location.

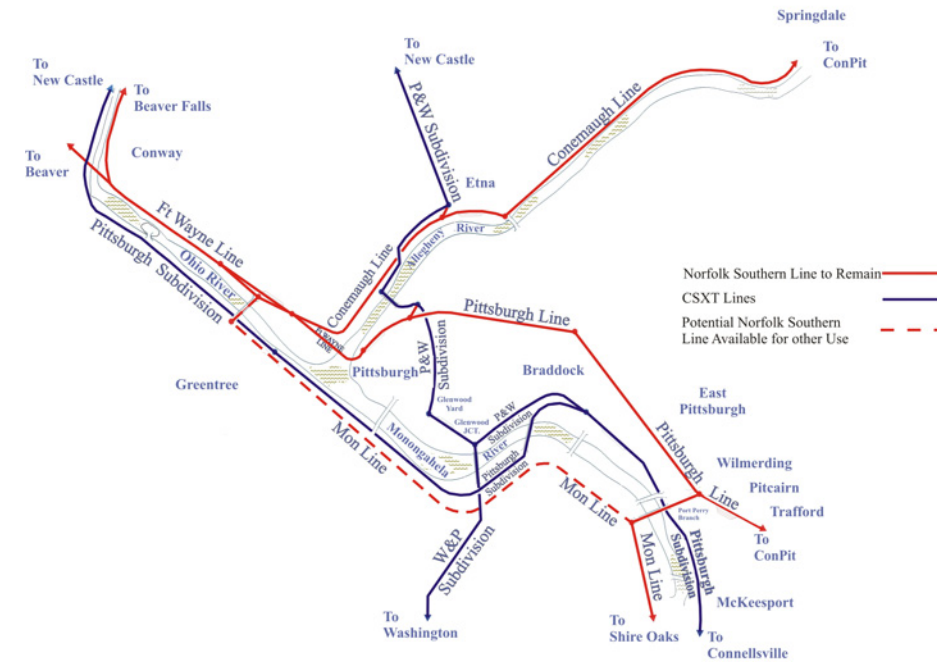
While it appears feasible to alter the railroad landscape in the region, it would be at a significant cost. The cooperation of public agencies and both railroads will be needed to achieve the long-term goal of route consolidation. Further, more detailed, analysis will be required to identify the needed improvements to the remaining lines, and their costs. In addition, railroad operations simulation, and/or modeling, should be performed to analyze the proposed rail network and projected rail traffic.

THE REGION'S RAILROADS: Like our waterways, our rail lines can also be used as a public transportation resource.

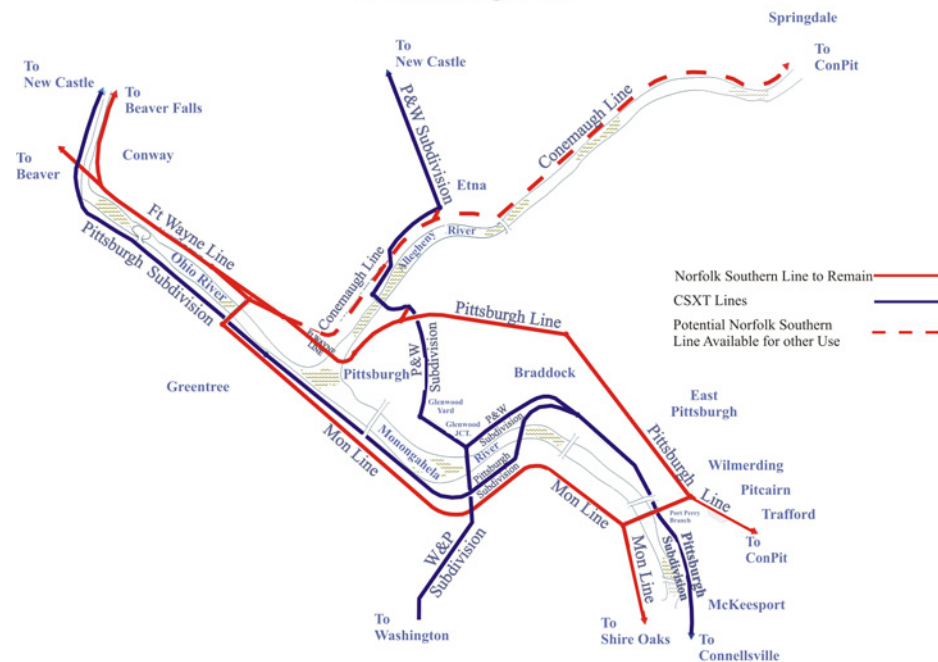
Potential NS Consolidation of Pittsburgh Line



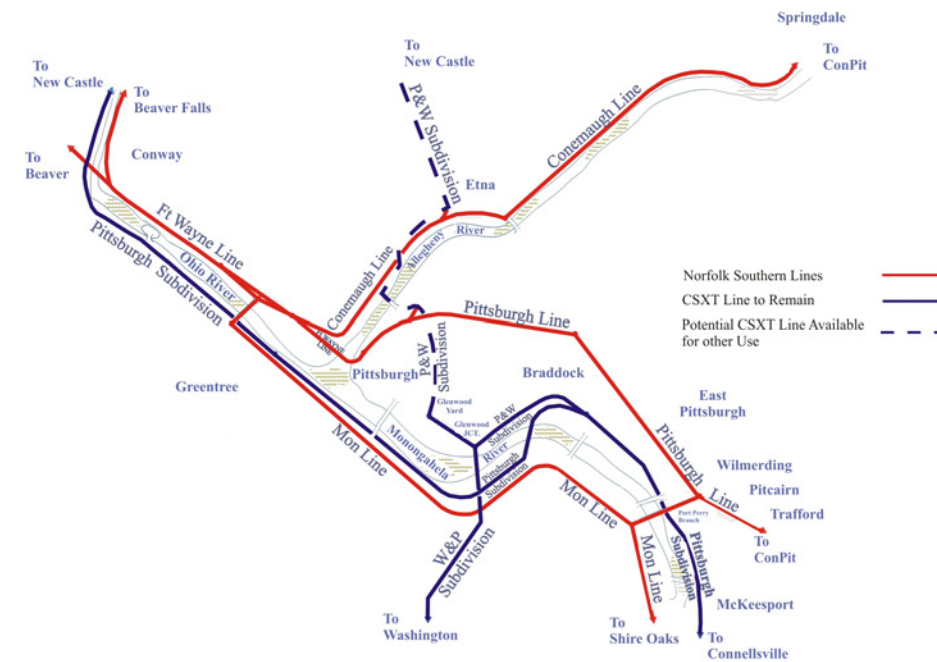
Potential NS Consolidation of Mon Line



Potential NS Consolidation of Conemaugh Line



Potential CSXT Consolidation



section f: the public transportation vision and next steps

overview:
the planning and project development process

The opportunities for growth in southwestern Pennsylvania are limitless. As the region grows over the next several decades, transportation and land use decisions will play a key part in maintaining and increasing the quality of life within the region.



In this section we:

>>>>> *Identify development tools* – Describe practical tools that local governments and developers can utilize to foster focused land development.

>>>>> *Identify transit strategies* – Identify strategies to improve customer convenience for transit users and to improve the effectiveness of transit, such as coordinating regional fares, establishing priority for transit vehicles on the region’s highways, use of Intelligent Transportation System (ITS) technology, and use of clean fuel vehicles.

>>>>> *Identify potential transit investments* – Identify the transit investments included in the ten-county Transit Vision.

>>>>> *Review financing of the Transit Vision* – Analyze potential funding sources to finance the Transit Vision.

>>>>> *Identify alternative organizational structures* – Look at alternative organizational approaches to oversee regional (inter-county) transit services that might be instituted.

>>>>> *Discuss how to advance transit investments* – Discuss the required process for advancing transit investments from concept through final design and construction.

As the transit operators of southwestern Pennsylvania consider how to move forward with the Transit Vision, there are several important initiatives that come into play and are discussed below.

>>>>> *Continued Involvement in Regional Planning.* Transit agencies should continue to enhance their role in regional planning processes, from both a transportation and land-use standpoint. This includes working with SPC to incorporate the Transit Vision into the Regional Transportation Plan and Transportation Improvement Program. During development of the current long range transportation and development plan adopted by SPC in 2003, the transit component of the Plan was drafted by the regional transit operators. The draft Transit Vision Report, which was available to them at that time, guided the transit operators as they developed the transit component of the Plan.

>>>>> *Local Planning and Development Involvement.* Transit agencies should play a role in the comprehensive planning, zoning, land development and master planning activities at the local government level. This includes working with the counties, cities, townships, and boroughs within the region to better integrate transit and land-use in their respective comprehensive plans and land development/zoning codes.

>>>>> *Private Sector Participation.* Transit agencies should actively pursue joint development at transit facility locations, as well as actively pursue joint ventures with private developers. This should include a real estate plan and program for advanced acquisition for future transportation corridors and station areas.

>>>>> *Regional Cooperation.* Incorporating technologies that are in use elsewhere, both nationally and internationally, the transit agencies within southwestern Pennsylvania should continue to work on issues such as fare policy, fare media, and fare collection technology. In addition, coordination and cooperation on route planning, route structure and system operations are necessary if we are to advance transit regionally. This includes working with PennDOT and local jurisdictions on developing opportunities for incorporating transit priority measures on major roads.

>>>>> *Utilization of Technology.* In addition to the aforementioned fare collection technology, the region’s transit service agencies should accelerate their efforts to utilize technological advances in the Intelligent Transportation Systems arena such as Automatic Vehicle Location devices for real-time travel, travel planning centers, automated vehicle maintenance programs, and video monitors for congestion management. The transit agencies should identify

near-term demonstration projects to showcase the region's Transit Vision, including but not limited to smart cards, regional fare policy/media, coordinated marketing, transit priority measures and other technological advances.

>>>>> *Commitment to the Environment.* Regional use of transit-friendly development practices will lower the impact of the transportation system on the environment by generating more travel by transit and walking. Implementation of clean fuel buses will assist in cleaning the air, while re-use of existing transportation corridors for future improvements will lessen the impact on vacant or undeveloped land.

>>>>> *Development of a Transit Amenity Program.* For existing and future corridors, the transit agencies should develop a comprehensive hierarchical transit amenity package, which includes facilities ranging from park-and-ride lots and intermodal transit centers, more attractive and comfortable vehicles, and improvements to local bus stops and customer waiting areas. This is critical to retaining existing customers as well as attracting future customers.

>>>>> *Cooperation in Setting Priorities.* This Transit Vision identifies several initiatives, programs and corridor projects that could cost several billion dollars to implement. Accordingly, as with any major initiative, it is important to consider prioritizing and phasing the improvements. Furthermore, the corridor projects included in the Transit Vision would be implemented in conjunction with implementation of the Focused Growth development in cooperation with the counties, local governments and private sector. The Transit Vision can only be implemented on a large scale as these cooperative efforts succeed.

>>>>> *Allocation of Available and Potential Financial Resources to Meet the Transportation Needs of the Region.* This includes utilizing existing and future funding sources for cross-jurisdictional projects, fixed guideway projects, and a transit amenities program. This could include the identification and establishment of a regional dedicated funding source or sources for the local match for transit projects.

development tools

An effective and efficient transportation system requires coordination with land use and development. In order for public transportation to be successful, transit and land-use planning and design must be coordinated. Local municipalities as well as private developers, landowners, and communities all play a role in assuring consistency of land-use decisions and transit investment decisions.

Currently most municipal plans, policies, and processes are not set up to create transit-oriented communities. Similarly, incentives do not exist to encourage developers and the private market to create mixed-use developments and strong transit markets. Instead, most municipal plans encourage low-density, automobile-dominated development patterns not conducive to encouraging transit investments. The private market follows public sector cues and creates low-density communities.

The regional form and Transit Vision embodied in the Focused Growth Scenario rely heavily on the participation of local municipalities to encourage private development in a manner more conducive to creating strong transit markets. The development pattern envisioned (mixed-use developments, walkable communities, compact growth and limited greenfield development) will require changes in zoning codes, development approval processes, subdivision ordinances and comprehensive plan policies. Transit investments should be encouraged in parts of the region, to corridors, and to municipalities, that demonstrate willingness to revise their land-use policies and process such that transit-oriented, mixed-use development is encouraged and enabled.

Municipalities that do not enable such developments will not achieve the densities and land use patterns that can justify major transit investments.

Transit-Oriented Centers

This study recommends a regional form consisting of ‘centers’ of varying scales to be both created and strengthened throughout the region. Centers are relatively dense, mixed-use areas of housing, employment, recreation, and civic uses.

Centers can be a new development, or an existing community or neighborhood. A Center is an area of approximately 1/2 mile in diameter or a five- to ten-minute walk from its core. The following paragraphs describe four important principles in creating transit-oriented centers.

Compact and Complementary Mix of Transit-Supportive Uses
Centers nearly always have a mix of uses. Within walking distance of a major transit stop or station (approximately 1/4 mile) there must be a sufficient density of both ‘origins’ (households) and ‘destinations’ (jobs). Higher densities of households and jobs result in stronger transit markets. Typically a Center contains high activity uses such as retail, day care, professional services, civic uses such as a library or community center, housing and employment uses all within 1/4 mile of the transit station. A mix of such uses allows residents and employees to accomplish several trips on foot. Centers generally do not contain auto-reliant uses or heavy industrial uses.

Pedestrian-Friendly Blocks, Streets, Sidewalks, and Properties

A fundamental component of transit is that users must walk between the transit stop or station and their origin or destination. This walk occurs along sidewalks, driveways, walkways, bridges, steps, hallways, and lobbies. If the walk is cumbersome, difficult, not well marked or uncomfortable, transit use will decline

TRANSIT-ORIENTED CENTERS



Transit-Oriented Centers are created using four important principles: Provide a compact and complementary mix of transit-supportive uses; provide pedestrian-friendly blocks, streets, sidewalks, and properties; reduce automobile use and lower parking requirements; and design transit to be at the core of the community.

significantly and users will opt to take their car. It is therefore critical that the site design for both public and private property accommodate pedestrians. In doing so, walking can become an attractive and preferred mode of travel.

Direct pedestrian connections make it easier for people to walk throughout a community as well as to and from a transit station. Sidewalks should be incorporated in the design of all sites; buildings should face the street and all entrances should be clearly marked. Blocks should be small; no greater than 1,400 feet in perimeter. Small blocks improve the connectivity and accessibility of an area by shortening the walks between uses.

Streets should be interconnected to avoid funneling high volumes of local traffic onto main roads. An interconnected system of streets and blocks augmented with well-designed sidewalks and bike paths provides multiple travel routes and options. More interconnected streets as opposed to fewer disconnected streets results in more narrow streets and a more pedestrian-friendly environment. Through traffic should remain on larger arterial streets located along the edges of the Centers.

Reduced Automobile Standards or Use

Since Centers capture many trips by foot and transit, they have lower automobile use. Lower automobile use helps to create a pedestrian-oriented environment with human-scaled streets and sidewalks. Shared parking, lower parking requirements, and design guidelines for parking lots are useful tools for reducing the land area dedicated to parking.

REPRESENTATIVE CHARACTERISTICS OF TRANSIT-ORIENTED CENTERS

	Villages Centers	Town Centers	Regional Centers	Downtowns
Percent of land dedicated to residential development	80% to 90%	70% to 90%	30% to 60%	10% to 40%
Net density of housing	6 to 8 units/acre	8 to 11 units/acre	10 to 15 units/acre	greater than 15 units/acre
Percent of land dedicated to commercial uses	10% to 15%	10% to 30%	40% to 70%	70% to 90%
Total square feet of commercial	50,000 sq.ft. to 100,000 sq.ft.	250,000 sq.ft. to 500,000 sq.ft.	750,000 sq.ft. to 2,000,000 sq.ft.	greater than 2,000,000 sq.ft.
Minimum Net Floor Area Ratio of Commercial	0.5	0.5	0.4	0.8
Density of Employees	30 employees/acre	30 employees/acre	50 employees/acre	100 employees/acre
Net parking ratio	3 pkg.spc/1000 sq.ft	3 pkg.spc/1000 sq.ft	3.5 pkg.spc/1000 sq.ft	2.5 pkg.spc/1000 sq.ft

A complementary mix of uses that shares parking can reduce the overall number of parking spaces by half while still providing adequate parking for all users. With less area devoted to parking, an area can become even more compact and pedestrian- and transit-friendly.

Transit at the Core of a Community

An important component to integrating land-use and transit is the design of transit-oriented Centers. Transit should be both functionally and physically at the core of a community. Transit should not be an afterthought, located at the periphery, or behind build-

RELATIONSHIP OF PLANNING ACTIVITIES

Plan	Required by	Purpose	Informed and updated by	Implemented through
Long Range Regional plan	Federal law to access federal funding	to organize regional investments by establishing -primary growth areas (centers) -primary development corridors -critical open space, preserves and environments	-public outreach -aspiration based planning -sector planning -visioning efforts	-functional plans such as transportation and mobility plans, economic development plans etc.
Corridor and Sector Planning	Regional Plans to access federal funding	-to establish sub regional partnerships -to determine boundaries of critical preserves -to determine capacities of growth area and locations of mixed use centers and districts	-public outreach -regional and municipal plans -municipal partnership -visioning efforts	-regional investments and municipal plans
Municipal Comprehensive Plans		-to determine local growth patterns -to establish neighborhood and district densities -to prioritize specific infrastructure needs -to establish site-specific guidelines	-public outreach -independent local and neighborhood planning efforts -station area master plans -visioning efforts	-zoning codes -design guidelines -capital improvement plans -regional investments -joint developments -incentives

ings. Physically, transit can be a focal point for a community by integrating it into a public gathering space, with an important building in the middle of the main street. The transit facility should be well designed, durable, and a symbol for the community. The transit facility should be more than a utilitarian structure; even if it is small, it should be a significant public structure.

Guidelines for Designing Centers

Centers occur at a range of scales. The table above shows the basic range of Centers and some representative uses, densities and parking requirements.

Planning Tools: Regional and Local

One of the primary challenges for southwestern Pennsylvania is to coordinate land use planning, which takes place for the most part on the local municipal level, with transportation plans that are developed on a statewide and regional basis. There are many actions that individual townships, boroughs and cities can take to facilitate implementation by the private marketplace of development that is transit-oriented. Transit-oriented development is defined as development that is well served by transit, where pedestrian access is facilitated by scale and design, which encourages mixed use, and where density is somewhat higher than would otherwise be planned. SPC and the region’s transit operators can work with counties and municipalities to encourage an environment wherein the region’s history and culture of independence and autonomy become more open to a system that prioritizes regional investments to assure that the individual and collective actions of individual townships, boroughs, and cities result in enhancing the region’s competitiveness.

County, and local governments have several tools at their disposal to help coordinate land-use investments with transit investments. The table on the following page offers a general overview of the interrelationship of several types of planning activities.

Incentives

There are two basic types of incentives available to government bodies to create transit-friendly communities: public investment incentives and public policy incentives.

Public Investments

Public investment incentives are perhaps the most valuable tool local governments have to shape the form of development in their community. Much of how our region looks and works has been formed by public investment decisions in infrastructure. How and where a municipality invests its resources in infrastructure (schools, parks, sewers, roads, etc.) informs future private development. A local government can invest in transit by building transit facilities, investing in areas already served with transit, building multimodal streets, creating a parking deck to encourage compact development, etc.

Public Policy Incentives

Local governments can create strong incentives for private sector investment by improving development approval processes and creating legally adopted plans that align community needs with private and public sector capabilities.

State law encourages Municipal Comprehensive Plans be prepared. These plans should take a strong position on the role of transit in a community. The comprehensive plan should establish the patterns of development by defining the community's development corridors, centers, and neighborhoods. If transit can play a significant role in the community, the comprehensive plan should direct development to identified centers along transit corridors.

All major transit stops and station areas should be planned by the local municipality in conjunction with the local transit operator. High quality and highly detailed master plans create investment confidence by articulating the consensus vision for an area. A Master Plan should establish the vision, create buy-in and build consensus for an area, thereby inviting the private sector to invest with lower associated risks. Carefully crafted Master Plans prescribe the needs of a community, but permit flexibility in the eventual realization. A Master Plan should also offer strong recommendations to the municipality concerning which existing regulations must be changed in order for the vision to be realized.

Local zoning codes should be used to implement and enable master plans and station area plans. Most municipal zoning codes do not permit the type of development required to support transit; the parking requirements, setback requirements, and density limits contained in many zoning codes create development patterns that weaken transit markets. However, in other municipalities, transit-

supportive development is permitted and encouraged. There should be a process established to encourage municipal zoning to be tailored to create stronger transit markets along designated corridors.

The following are tools that municipalities can and have used to promote transit-oriented development. The tools typically involve modifications to zoning or other ordinances, and generally do not involve significant cost to implement.

>>>>> *Zoning code* – Municipalities should review their zoning code to identify what can be changed to encourage walking and transit, higher density, and mixed use.

>>>>> *Mixed-use zoning districts* – These districts allow different zoning classifications to be located close together, such as residential and commercial. In many cases, existing zoning that allows only single zoning classifications would have to be changed.

>>>>> *Development standards and design guidelines* – Standards and guidelines governing lot sizes, floor area ratio, building setbacks, etc. can be modified to permit and encourage designing for pedestrians and transit users.

>>>>> *Bonus zoning* – In exchange for certain types of developments that incorporate pedestrian and transit oriented design, municipalities can allow developers zoning bonuses such as larger development size.

>>>>> *Transit overlay district* – This involves creating a zoning overlay that encourages certain types of uses, without changing the underlying zoning. It can be used as an intermediate step prior to addressing parcel-by-parcel zoning.

>>>>> *Planned residential development* – Clustering of single family and multi family development is permitted under a Planned Residential Development to accommodate flexibility in design, implementation and development. Involves higher residential density on one portion of a site in exchange for open space on the remainder.

>>>>> *Station area plans* – Include principles and concepts for development in the vicinity of a transit station or major stop. May be done more than once during the planning and design process of a transit project, in more detail as more is known about the project.

>>>>> *Transferable development rights* – TDR is a voluntary, market-based implementation tool that promotes the conservation of high-value agricultural land, environmentally sensitive areas, and strategic open space by shifting development to areas deemed appropriate for development by communities. TDR incorporates the ability to direct growth and development to identified appropriate growth areas to maximize infrastructure and services, and incentives for developers for profit opportunity in the designated areas.

other strategies

In addition to the land-use/transportation integration strategies outlined above, there are several other implementation strategies that are integral to the Transit Vision. These strategies range from regional fare integration and intelligent transportation systems, to transit priority measures on highway facilities and alternative fuel sources.

Regional Fare Integration

Since the 1970s, several suburban counties have implemented transit services that operate both within their counties and provide connections to the Port Authority of Allegheny County system in Downtown Pittsburgh, Oakland, the Pittsburgh International Airport, and other locations. Currently, the Port Authority and several of the suburban operators coordinate service schedules and allow joint use of Port Authority facilities. Although there are some fare agreements between the regional transit providers, in other cases there is little integration of passenger fares between transit operators. As a result, some service provided by the suburban operators is less efficient and is costly for passengers whose trips require use of more than one transit system. To remedy these concerns, the following is recommended as part of the Transit Vision:

>>>>>> The transit operators should jointly conduct a regional fare policy study comprised of the following four elements:

1 Identify how current transit operators' fare policies can be integrated in the next five years. The following issues should be addressed: fare strategy (general fare collection and pricing approach), fare structure (specification of fare levels), and fare payment technology (types of fare media and collection equipment).

2 Define the general fare strategy for other new regional transit services that may be implemented within the next five to ten years (e.g., any interregional service proposed as part of the Transit Vision). The general fare strategy should evaluate options such as flat fares, differential pricing (by distance traveled, time of day or type of service), market-based or discounted payment options, and transfer pricing.

3 Conduct case studies of comparable urban areas (e.g., Chicago, Washington D.C., San Francisco, Seattle) that have multiple transit operators and have implemented new fare technologies (e.g., smart cards). The case studies will provide an overview of the transit services provided and applicable institutional/jurisdictional arrangements, describe the adopted fare policy(s), and summarize their experiences to date (e.g., costs, impacts on ridership, implementation obstacles).

4 Identify potential issues and problems that will need to be addressed in order to implement a new fare structure technology. These issues and problems will include costs (order-of-magnitude), reliability, revenue sharing, and political/institutional concerns.

>>>>>> In the near-term, each of the operators should continue to jointly develop interagency agreements that provide for coordination of services, joint use of facilities, and reciprocal acceptance of 'out-of-system' transfers. For passengers, the agreement provides greatly expanded opportunities for travel throughout the region, which will result in increased regional transit ridership. Each operator will collect and retain fares as passengers board their vehicles. This could result in some loss of revenue for each system on a per passenger basis, but overall passenger revenues may increase due to higher ridership.

>>>>>> In the long-term, the transit operators should work to develop a regional fare system that enables seamless travel between all modes and operators. New technologies – such as smart cards – will allow passengers to travel on several vehicles and/or systems. The smart card technology deducts the appropriate fare each time a passenger boards or alights a vehicle. The transit operator, then, is compensated appropriately for the service that it provides.

Transit Priority Measures

Increased congestion on the region's major roadways translates to increased travel times for transit and a reduction in transit system reliability. On average, buses travel at 60 percent of the speeds of automobiles and other private vehicles, while using the same streets. This is due to traffic congestion, traffic signals, and passenger boarding. This, in turn, results in decreased ridership, and increased transit system operating costs to maintain service frequencies.

Measures can be taken by PennDOT and local jurisdictions to give priority to transit vehicles. In addition to creative and innovative land-use regulations encouraging transit-oriented development (outlined previously), low-cost investments in infrastructure, equipment, operational improvements, and technology can provide transit system improvements that substantially upgrade bus system performance. If designed as an integrated, well-defined system, application of transit priority techniques would provide for significantly faster operating speeds, greater service reliability, and increased convenience, when implemented in appropriate settings.

Ultimately, priority treatment to buses on major roadways would include the following features:

- >>> High Occupancy Vehicle (HOV) lanes on arterials;
- >>> Dedicated bus lanes;
- >>> Bus signal preference and priority; and
- >>> Traffic management improvements.

Intelligent Transportation Systems

New technologies will be an essential part of the Transit Vision, enhancing each project's efficiency, capacity, and overall benefit to the region. Intelligent Transportation Systems (ITS) is the name given to the use of computer and communications technologies to improve the management and operation of transportation systems and to enhance the information available to customers to facilitate their use of the transportation system. Examples of transit ITS applications include:

- >>> Customer information available in various electronic media including computers, kiosks, personal digital assistants, cellphones, etc.;
- >>> Stations, stops and shelters with real-time transit information;
- >>> Intermodal and multi-modal information;
- >>> Automated fare payment systems;

- >>> Automatic vehicle location systems;
- >>> Signal priority for transit vehicles; and
- >>> Coordination of information from different providers of transportation.

Development of a coordinated, cross-jurisdictional Travel Planning Center (TPC) should be pursued. A TPC would provide a single source of travel information for residents, initially focusing on the current transit services by providing schedule and route information for the current light rail, local bus, AMTRAK and intercity bus operations as well as providing ridesharing and paratransit service information.

When new buses are procured by the region's transit operators, they generally come equipped with Global Positioning Systems capability. Currently, the GPS capability is used to provide automated stop announcements in accordance with the requirements of the Americans with Disabilities Act. GPS can also be used as the backbone of an Automatic Vehicle Location (AVL) system that would afford the capability of real time customer information. GPS/AVL systems also provide information for better service monitoring and fleet management. Because of the expense of AVL systems, they have not been implemented to a great extent in the region, but costs have been decreasing. Beaver County Transit Authority is the only transit agency in the region with a GPS/AVL system.

The TPC would link eventually to traffic management centers in the area and incorporate current or real-time traffic conditions as

part of the total travel information services package. All transportation modes, including the previously mentioned transit modes, as well as private carriers such as charter buses and taxis, would be connected to the system. Transportation customers including residents, visitors, and employees of the region would have access to information about congestion, incidents, estimated travel times, and alternative routes or modes. This information would assist the customer in tailoring travel plans and selecting a mode of travel from a host of alternatives for a proposed trip to or from the different regional activity center areas. The point of customer contact will eventually include, but not be limited to, a major kiosk at the transit facilities; kiosks or interactive systems at major activity, employment, and tourism centers; electronic message boards; central computer systems accessed via telephone and Internet; and radio and dedicated cable TV channels.

In general, implementation of such a program assists in effective utilization of the region's existing and future roadway network as well as the various non-highway modes. Customers will be made aware of the various modal alternatives available to them, even prior to arriving in southwestern Pennsylvania, via computer systems, Internet, and phone. The ITS systems will assist in prearranging a trip, or assisting the arriving customer in choosing a package of travel options for their stay in the area. Eventually, this system could be connected to other systems throughout the country, allowing a departing customer to prearrange a trip at another national or international destination. Finally, the ITS system will allow regional residents to more effectively plan trips to and from the activity center and station area development.

Use of Alternative Fuels and Vehicles

The Clean Air Act Amendments of 1990 (CAAA) were signed into law with the intent of aggressively reducing air pollution. Because emissions from motor vehicles contribute to air pollution, the law requires substantial reductions from transportation sources. The CAAA establish criteria and standards for attaining and maintaining the National Ambient Air Quality Standards (NAAQS) which are developed by the U. S. Environmental Protection Agency (EPA). The NAAQS set allowable concentrations and exposure limits for various pollutants (ozone, carbon monoxide, and small particulate matter).

The CAAA did not mandate alternative fuel usage, but did establish emission standards by vehicle type. The EPA standards for urban transit buses are more stringent than heavy-duty trucks, and the EPA has progressively tightened emission standards for urban transit buses as heavy-duty engine technology has advanced. Since 1991, the regulations have resulted in substantial reductions in diesel particulates, hydrocarbons, and oxides of nitrogen emissions.

Currently, there are several alternative fuel technologies available to the transit industry. Clean diesel technology utilizes low sulfur diesel fuel, coupled with after-treatment, to comply with EPA fuel regulation standards. Clean diesel is more expensive than ordinary diesel fuel, but is more cost-effective than compressed natural gas (CNG). CNG buses have been available since the early 1990s, meet EPA standards, are popular and reliable, and can achieve long-term

economics. Alcohol-fueled buses, including those powered by pure methanol, pure ethanol, and ethanol blended with petroleum, have not been successful due to high engine wear caused by the fuel. Biodiesel is a blended fuel consisting of 80% to 90% diesel and 10% to 20% alcohol derived from vegetation (typically corn or soybean), which is more expensive than ordinary diesel and CNG. Hybrid-electric buses are configured to be powered by a wide variety of traditional or alternative fuels. They are in the early stages of deployment and are presently very costly, although they are quieter and can achieve significantly better fuel economy than other types of propulsion systems. Finally, fuel cell buses are powered by electricity produced in a fuel cell using purified hydrogen and oxygen, both of which are difficult and costly to provide. Fuel cell buses are not yet available commercially.

Diesel fuel and natural gas engines, which are the most common in the transit industry, have different emission properties. Diesel engines emit low levels of hydrocarbons and carbon monoxide, while producing comparatively higher amounts of particulate matter and nitrogen oxides. CNG engines produce lower emissions of particulate matter and nitrogen oxides than diesel engines, but greenhouse gas emissions are higher per vehicle mile with CNG engines.

Low sulfur diesel fuel, coupled with after treatment, provides comparable particulate emissions to compressed natural gas. With the recent and upcoming EPA stringent emission standards that 2007 diesel engines must comply with low sulfur diesel is on parity with

alternative fuels. The new rules will limit the sulfur content in on-highway diesel fuel. The cost of reducing the sulfur content will result in an increase of 5 to 15 cents per gallon. Ultra-low-sulfur diesel fuel has been introduced as a technology enabler to pave the way for advanced, sulfur-intolerant exhaust emission control technologies, such as catalytic diesel particulate filters, and nitrogen oxide catalysts, which will also be necessary to meet the 2007 emission standards. These filters will increase the per vehicle cost by \$1,200 to \$1,900 each.

Engine and emission control manufacturers indicate that the stringent requirements of the 2007 EPA emission standards will be met by the advances in existing technologies with the use of ultra low sulfur fuel. The vehicles utilized in the corridors and improvements listed in the Transit Vision must comply with the 2007 EPA emission standards. The local transit operators should match the appropriate technologies with the transit service provided and should consider reliability and maintainability, infrastructure needs, fuel storage/dispensing requirements, and capital, operating, and maintenance cost comparisons before selecting a new bus technology.

transit vision investments in the ten-county region

Based upon regional and corridor analysis, public input, interviews with transit agency personnel, and field research, the following improvements were developed as a representative list of transit improvements for the regional Transit Vision. This list contains the major investments for the region. In addition to this list, it is assumed that each individual transit operator will continue to grow service on existing or underserved markets in the future. The following is a county-by-county list of representative bus, service, facility, and rapid transit improvements for the Vision.

Allegheny County (Port Authority of Allegheny County)

Rapid Transit Improvements

LRT Service – Downtown Pittsburgh to Oakland;
LRT Service – Downtown Pittsburgh to Wilkinsburg;
LRT Service – Downtown Pittsburgh to Homestead;
LRT Service – Downtown Pittsburgh to Penn Hills;
LRT Service – Downtown Pittsburgh to Airport;
LRT Service – Downtown Pittsburgh to Strip, Lower Lawrenceville and Etna;
BRT Service – Downtown Pittsburgh to Monroeville (Extension from Rankin);
BRT Service – Downtown Pittsburgh to southwestern Allegheny County (extension of West Busway to I-79).

Armstrong County (Mid-County Transit Authority)

Bus Service

Freeport to Downtown Pittsburgh (Cross-jurisdictional);
Atwood to Kittanning to Freeport (via Rural Valley);
Worthington to Kittanning to Freeport;
North Apollo to Freeport.

Facilities

Transit Superstop at Freeport;
Transit Superstop at North Apollo.

Beaver County (Beaver County Transit Authority)

Bus Service

BCTA Travel Center/Aliquippa/Pittsburgh International Airport/
Downtown Pittsburgh;
Midland to Rochester;
Hookstown to BCTA Travel Center;
New Galilee to Beaver Falls;
Elwood City to Beaver Falls;
Community Circulators for Rochester/Aliquippa/Ambridge/
Monaca/Beaver Falls/New Brighton/Midland;
Coordination with NCATA from Beaver County to New
Castle/Youngstown/Grove City;
Rochester to Cranberry.

Rapid Transit Improvements

Commuter Rail Service – Beaver Falls to Downtown Pittsburgh;
BRT/ITS on Route 65 with connection to Northside Intermodal Center;
Extend Allegheny County BRT/Airport to Chippewa (possibly New Castle).

Facilities

New Intermodal Transit Center in Beaver Falls;
New Intermodal Transit Center in Vanport/Brighton;
New Intermodal Transit Center in Aliquippa;
Expanded BCTA Travel Center;
Expanded Intermodal Transit Center in Rochester;
Aggressive Park-and-Ride Program with Joint Development.

Butler County (Butler City Township Joint Municipal Transportation Authority)

Bus Service

Cranberry to Pittsburgh (Cross-jurisdictional);
Butler to Cranberry to Pittsburgh (Cross-jurisdictional);
Slippery Rock State College Circulator;
Grove City/Slippery Rock to Butler (Cross-jurisdictional);
Butler to Pittsburgh (Cross-jurisdictional);
Butler to South Butler County Commuter Rail Station;
Butler to Cranberry BRT Station;
Saxonburg to Cranberry;
Saxonburg to Downtown Pittsburgh.

Rapid Transit Improvements

BRT Service – Cranberry to Downtown Pittsburgh;
Commuter Rail Service – South Butler County to Downtown Pittsburgh.

Facilities

Improved Intermodal Transit Center in Butler;
Intermodal Transit Center in Cranberry;
Transit Superstop in Slippery Rock
Aggressive Park-and-Ride Program with Joint Development.

Fayette County (Fayette Area Coordinated Transit)

Bus Service

Brownsville to Uniontown;
Connellsville to Uniontown;
Waynesburg (Greene) to Brownsville (Fayette);
Point Marion to Uniontown;
Masontown to Uniontown;
Brownsville (Fayette) to Pittsburgh (Allegheny);
Perryopolis to Uniontown;
Uniontown (Fayette) to Pittsburgh (Allegheny).

Facilities

Transit Superstop in Brownsville;
Intermodal Transit Center in Connellsville;
Improved Intermodal Transit Center in Uniontown.

Greene County

Bus Service

Waynesburg Circulator;
Waynesburg (Greene) to Brownsville (Fayette);
Waynesburg (Greene) to Washington;
Waynesburg to Morgantown (W. Va.).

Facilities

Customer Amenities as service is initiated and expanded.

Indiana County (Indiana County Transit Authority)

Bus Service

Greensburg/Delmont (Westmoreland) to Blairsville/Indiana (Indiana);
Indiana to Clymer;
Saltsburg to Blairsville.

Facilities

Intermodal Transportation Center – near Indiana University of Pennsylvania;
Transit Superstop in Blairsville;
Travel Planning Center/Services in Indiana.

Lawrence County (New Castle Area Transportation Authority)

Bus Service

New Castle to Pittsburgh International Airport;
New Castle to Cranberry;
New Castle to Downtown Pittsburgh;
New Castle to Slippery Rock;
New Castle to Erie;
New Castle to Ohio (Youngstown).

Facilities

Pedestrian Connection – Existing Park-n-Ride to County Courthouse;
Aggressive Park-n-Ride Program with Joint Development;
Transit Village Concept for Two Sites;
Expanded Intermodal Transit Center at New Castle.

Mid-Mon Valley Transit Authority (includes parts of Washington, Westmoreland, and Fayette Counties)

Bus Service

Rostraver Township/Route 51 (Westmoreland) to Pittsburgh (coordinated with FACT-Uniontown to Pittsburgh);
Marianna/Centerville to California;
California (Washington) to Downtown Pittsburgh (Allegheny);
Cokeburg to Monongahela (Cross-jurisdictional);
Charleroi (Washington) to New Stanton (Westmoreland);
Beallsville to Charleroi.

Facilities

Bus Maintenance Facility;
Expanded Intermodal Transit Center at Charleroi;
Satellite Transit Center in Rostraver Township (Westmoreland);
Satellite Transit Center in California;
Satellite Transit Center in Bentleyville;
Satellite Transit Center in Monongahela;
Primary Local Stop in Beallsville;
Extensive Primary Local Stop and Superstop program along existing and new service.

Washington County (GG&C Bus Company, Inc.)

Bus Service

Washington to Downtown Pittsburgh (Cross-jurisdictional);
Canonsburg Circulator;
Washington Circulator;
Washington to Canonsburg;
Washington to Bentleyville/Charleroi;
Washington to West Alexander;
Washington to Burgettstown.

Rapid Transit Improvements

LRT Service – Extension from South Hills Village to McMurray.

Facilities

New Transit Center in Washington;
Transit Center in Canonsburg;
Transit Superstop in Donaldson's Crossroad;
Aggressive Park-and-Ride Program with joint development.

Westmoreland County (Westmoreland County Transit Authority)

Bus Service

Blairsville/Delmont to Downtown Pittsburgh (Cross-jurisdictional);
Monessen to Greensburg;
Charleroi (Washington) to New Stanton (Westmoreland).

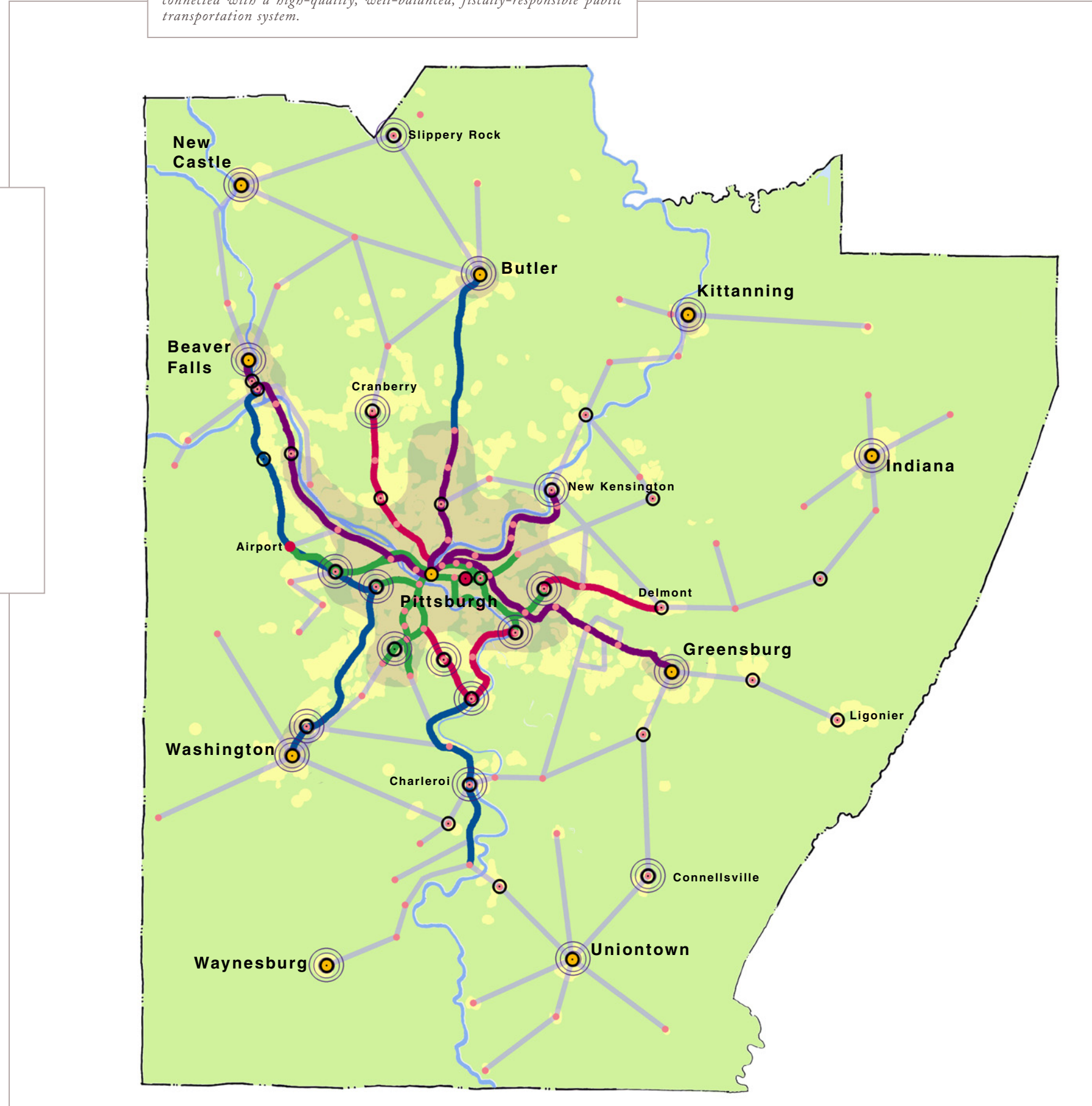
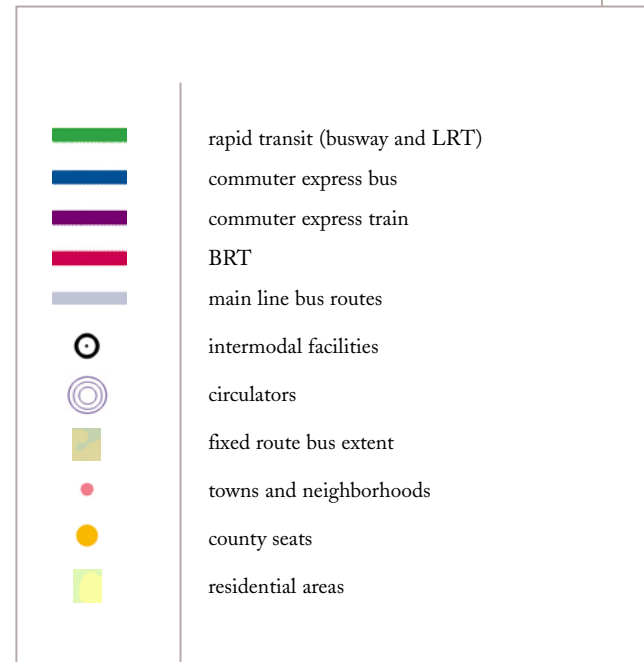
Rapid Transit Improvements

Commuter Rail Service – Latrobe to Downtown Pittsburgh;
Commuter Rail Service New Kensington/Arnold to Downtown Pittsburgh;
BRT Service – Mt. Pleasant/Youngwood/New Stanton to Pittsburgh;
BRT Service – Greensburg to Downtown Pittsburgh;
BRT Service – Latrobe/Delmont to Downtown Pittsburgh.

Facilities

Satellite Transit Center at Latrobe;
Satellite Transit Center at Murrysville, Export or Delmont;
Satellite Transit Center Mount Pleasant;
Satellite Transit Center North Huntingdon;
Intermodal Transit Center at New Kensington/Arnold;
Expanded Intermodal Transit Center at Greensburg;
Transit Superstop at New Stanton/Youngwood;
Transit Superstop at Delmont, Export, or Murrysville;
Transit Superstop at Irwin/North Huntingdon;
Transit Superstop at Jeannette;
Aggressive Park-and-Ride Program with Joint Development;
Extensive Primary Local Stop and Superstop program along existing and new service;
Vehicle Storage and Maintenance Facility.

FOCUSED GROWTH TRANSIT VISION: *The region will become connected with a high-quality, well-balanced, fiscally-responsible public transportation system.*



financing the transit vision

Funding is a very important factor that will affect the future success of the Transit Vision. Capital and operations funding define the extent to which transit can meet regional mobility needs. We first outline the capital and operating costs associated with the Transit Vision. Then, following that discussion, the potential funding sources are presented along with a brief analysis of those sources. Finally, we present a conceptual funding approach that encompasses all of the projects listed in the Transit Vision.

Capital Costs

Transit infrastructure identified in the Transit Vision, including but not limited to vehicles, rights-of-way, fixed guideway, storage and maintenance yards, stations, and park-and-ride lots will require funding at levels greater than have been historically provided in this region for public transportation infrastructure. The federal, state, and local funding levels will greatly influence how much of the regional Transit Vision can be implemented.

In order to arrive at a reasonable and achievable transit program, detailed analysis (previously presented in Section E) was conducted to ascertain not only the top travel corridors within the region, but the range of appropriate technologies within those corridors. If every potential fixed guideway facility identified in the Transit Vision was implemented as light rail transit, the cost in Year 2002 dollars would be approximately \$23.6 billion. A more reasonable program (i.e., the Representative Plan as presented in Section E)

was developed and analyzed to produce a finance plan for the Transit Vision. The capital cost of the Transit Vision is \$9.5 billion.

The Transit Vision adds to the current transit system 40 miles of light rail transit, 52 miles of busways/bus rapid transit, 110 miles of commuter rail, new vehicles, and customer amenity facilities ranging from major intermodal facilities to primary transit facilities. The buses and customer facilities are in addition to those needed for the LRT, busway/bus rapid transit and commuter rail fixed guideway corridor projects.

Operating and Maintenance Costs

A detailed operations and maintenance plan was developed for each of the improvements listed in the Transit Vision. This entailed developing detailed operating schedules, times and costs for each light rail transit, busway/bus rapid transit, commuter rail, and new bus transit services. In addition, growth of the existing regional transit service was also assumed in the analysis (at 1% per year over inflation).

The Financial Plan incorporates a year-by-year staging of the capital projects, as well as the estimated operations and maintenance costs per year. The annual operating and maintenance cost of the region's transit system was approximately \$294 million in 2002. That cost would increase, averaging \$410 million (in 2002 dollars) with implementation of the Transit Vision.

Current Transit Funding Sources

This section summarizes and analyzes the existing transit funding sources available for southwestern Pennsylvania. They consist of current federal and state funding sources available to the Transit Vision, as well as a summary of existing and potential local and private funding sources.

Federal Funding Sources

There are several potential federal funding sources for projects outlined in the Transit Vision.

>>>>> *National Highway System (NHS) Program* – Under certain circumstances, transit projects can be eligible for funding under the National Highway System Program.

>>>>> *Highway Project Earmarks* – Federal transportation legislation has earmarked funding for several highway and highway-oriented projects in the region. Improvements to those highway facilities could also benefit bus service in those corridors.

>>>>> *STP/CMAQ Funds* – The primary purpose of the Congestion Mitigation and Air Quality Improvement Program (CMAQ) is to fund projects and programs that will reduce transportation-related emissions in air quality non-attainment and maintenance areas for ozone, carbon monoxide, and fine particulate matter. The CMAQ Program also provides greater flexibility for public/private partnerships by allowing states to allocate CMAQ

funds to private and non-profit entities for land, facilities, vehicles, and project development activities.

>>>>> *5309 New Starts Program* – This Program provides transit capital assistance for new fixed guideway systems and extensions to existing fixed guideway systems (New Starts). This program is funded from both the Mass Transit Account of the Highway Trust Fund and the General Fund. Projects must compete nationally for funding using criteria that justify the major investment involved. Projects are evaluated by the Federal Transit Administration and rated as high, medium-high, medium, medium-low, and low. Historically the maximum federal contribution to a New Starts project was 80%, but in recent years most transit properties were submitting funding requests with finance plans containing 45% to 55% federal funds. In 2002, FTA established a policy that the maximum federal share of funding for New Starts project would be 60%, however, the statutory maximum remains at 80%. Similar to the New Starts Program, the newly-established 5309 Small Starts Program has somewhat different federal evaluation criteria, and is for projects up to \$250 million and a 5309 funding share of no more than \$75 million.

>>>>> *5309 Bus and Bus Facilities* – This Program provides transit capital assistance for new and replacement buses and bus-related facilities.

>>>>> *5307 Formula Funds* – The Urbanized Area Formula Grant Program provides transit capital and operating assistance to urbanized areas with populations of more than 50,000. Funding is provided to transit agencies nationwide for bus and rail vehicle

replacements and facility recapitalization. The apportionment formula for areas under 200,000 in population is based on population and population density. For areas over 200,000 in population, the formula is based on population, population density and transit data. The program is funded from both the Mass Transit Account and the General Fund. The program provides 90% federal share for the incremental costs of vehicle-related equipment needed to comply with the Clean Air Act Amendments and the Americans with Disabilities Act requirements, and 80% federal share for other eligible capital costs.

Commonwealth of Pennsylvania Funding Sources

The Commonwealth of Pennsylvania provides capital and operating assistance to local transit agencies from several funding programs.

>>>>> *Act 26 Public Transit Assistance Fund (PTAF I)* – The Act 26 Public Transit Assistance Fund (PTAF I) was initiated in 1991 and provided public transit operators in Pennsylvania a dedicated revenue stream for the first time. The fund is comprised of revenues derived from several different sources. PTAF revenues are comprised of: \$1.00 per new tire sold; a 3 percent tax on motor vehicle leases; a \$2.00 per day fee on rental car transactions; 0.53 percent of the Commonwealth's sales and use tax and hotel tax revenues; 7.6 mils on each dollar of "state taxable value" of public utility realty; and a 0.18 percent gross receipts tax on electricity sales in the Commonwealth. These sources have shown varying growth rates in recent years.

>>>>> *Pennsylvania Mass Transit Assistance* – The second major source of operating assistance under current statutes is Pennsylvania Mass Transit Assistance. State operating assistance is subject to annual appropriation by the Legislature and concurrence by the Governor. Historically, this revenue source has increased by about 1% per year on average. Pennsylvania Mass Transit Assistance is matched on a 1:3 basis by the respective county or municipal agency.

>>>>> *State Lottery Revenues* – The Commonwealth also reimburses transit providers in Pennsylvania for demand response trips and rides on fixed-route services taken by senior citizens. These reimbursements are derived from state lottery revenues, as well as general fund appropriations. Annual receipts vary according to the number of reported trips and the base fare charged by the respective transit operator.

>>>>> *Act 3* – Act 3 of 1997 was passed largely in response to the discontinuation of federal operating assistance. On a statewide basis, 1.22 percent of the Commonwealth's sales and use and hotel tax is provided to local transit agencies up to a maximum of \$75 million per year. These funds are generated under the Additional Supplemental Grant (ASG) and Base Supplemental Grant (BSG) programs. Often referred to as "PTAF II," these revenues are matched on a 1:29 basis by the respective county or agency.

>>>>> *Vehicle Overhaul (VOH) and Infrastructure Renewal (ISRP)* – The Vehicle Overhaul (VOH) and Infrastructure Renewal (ISRP) programs are funded as part of a \$30 million per year allo-

cation from an annual, \$125-million statewide pool for capital investment and depreciation-related rehabilitation. The ISRP and VOH funds are 100 percent state dollars and require no local match. State matching support for Section 5307 Urban Area Formula Assistance, Section 5309 Fixed Guideway Modernization, Section 5309 Discretionary Bus, and Section 5309 New Starts grants is drawn from the balance remaining under the \$30 million cap after provision for VOH and ISRP. When the State bond funds are applied to match federal capital grants, the requirement is generally for the Commonwealth to pay up to 16.67 percent of project costs and for local agencies to absorb 3.33 percent. In instances where special authorization exists, the state match can exceed 16.67 percent.

Current Local Funding Sources

A review of local information, transportation plans and other financial documents indicates that there are several local funding sources for Transit Vision projects.

>>>>> *General Revenue Contributions (Match) to Transit Agency Capital and Operating* – Local funding for the transit agencies is appropriated by each of the agency’s member jurisdictions on an annual basis and is allocated to the respective transit agency as part of each jurisdiction’s budget process. This funding is used to provide local match for capital expenditures such as buses and customer amenities, as well as to offset operating deficits after farebox recovery. Typically, this local funding is from general revenue fund resources of the local jurisdiction.

>>>>> *Right-of-Way* – The sponsoring agency could utilize the non-federal share of the purchase of land as a “local match” for the federal funding. The right-of-way, purchased or donated properly, can serve as a match to federal funds.

>>>>> *Joint Development* – Since 1974, joint development projects have been eligible for federal grant support. For years and for various reasons, the joint development program had limited success. In conjunction with the Livable Communities Initiative, FTA revisited its joint development policy, specifically targeting the demonstration and reinforcement of the link between transit and the community in the context of land-use and transit planning. Transit systems are permitted in 49 U.S.C. 5309 (a) (1)-(5) to use grant funds to also support “transportation projects which enhance the effectiveness of any mass transportation project and are physi-

cally or functionally related to such mass transportation projects or which create new or enhanced coordination between public transportation and other forms of transportation, either of which enhance urban economic development or incorporate private investments including commercial and residential development.”

>>>>> *Business Improvement Districts* – A business improvement district (BID) is a legal entity that is formed to carry out a business improvement plan in a defined business district. BIDs are typically formed by commercial business owners who agree to pay additional taxes to cover the expenses of the improvements. Many of the typical improvements implemented by a BID can aid in making the business district a more transit-friendly environment.

>>>>> *Transportation Development Districts* – In Pennsylvania, the Transportation Partnership Act of 1985 enables municipalities, acting separately or in cooperation with other municipalities, and the private sector to define a Transportation Partnership District and to levy fees on property owners and businesses within the District to provide transportation funding where facilities and the level of services are inadequate or have not kept pace with the development of the surrounding area. The Act permits the financing of an extensive array of new transportation facility projects, both capital and service, but does not include the maintenance or repair of existing facilities.

>>>>> *Tax Increment Financing* – Tax increment financing, also known as TIF, is a key tool for funding improvements that are necessary components of transit-oriented development projects (e.g., site preparation, demolition, land acquisition, and parking facilities, etc.). TIF is an alternative financing program that allows for the

SOURCES OF COMMONWEALTH OF PENNSYLVANIA OPERATING SUPPORT		
Program	Fund Source	Local Match
Mass Transit Operating Assistance	Annual PA general fund appropriation	1:03
Act 3 (PTAF II) – Includes Basic Supplemental Grant (BSG) and Additional Supplemental Grant (ASG)	1.22% state sales and use and hotel tax up to maximum of \$75 million	1:29
Act 26 - Public Transit Assistance Fund (PTAF I)	Various	1:29
Lottery Fund – Free Transit (Senior Reimbursement)	PA lottery proceeds	None
Fixed Route Transit (Senior Reimbursement)	Annual PA general fund appropriation	None
Lottery Shared Ride (ACCESS Reimbursement)	PA lottery proceeds	None
State Capital Grant	PA capital improvement bonds	None

diversion over a specified period of time of all or a part of the increase in property taxes, or the tax increment, generated by a development project to be used to assist in the financing of that project or to cover related public costs.

>>>>> *Transit Revitalization Investment Districts (TRID)* – Signed into law in December 2004, Pennsylvania House Bill 994 establishes the Transit Revitalization Investment District Act. The legislation allows public transportation agencies to partner with local municipalities to create TRIDs within an area around transit stations in order to foster Transit Oriented Developments, economic development, real estate development or redevelopment within the community and region, as well as promote public transportation improvements. Once a planning study has been completed by the municipality, the TRID may be established, and the area adjacent to it – called the “value capture area” – will incrementally share in the increased tax revenues from real estate development within the TRID.

Potential Funding Sources

While Pennsylvania secured 5.5% of federal transit formula funding available nationally between 1992 and 1999, its share of national discretionary funds is about one-half this proportion, at about 2.35%. Portland, Oregon, and New Jersey secured five times as much discretionary funding as Pennsylvania, while the City of Los Angeles has secured seven times as much as the Commonwealth of Pennsylvania. The Philadelphia area received less than \$2 million in federal discretionary funds over the eight years, with virtually all of Pennsylvania’s money coming to Southwestern Pennsylvania for the West Busway and Stage II Light Rail Transit projects.

Funding from the Commonwealth of Pennsylvania is used to match federal FTA Section 5309 New Starts funding for major capital projects. Based on a New Starts share of 80%, Pennsylvania funds 5/6 of the remaining 20%, with local sources covering the remaining 1/6. Net shares thus are 1/6 of the total project funded by the state, and 1/30 by local sources. A target share of 80% federal funding was continued in TEA-21 and SAFETEA-LU, the 1997 and 2005 federal transportation reauthorizations. However, it has been FTA’s policy in the past few years to fund no more than 60% using New Starts funds, thus requiring an ‘overmatch’ of 20%. With Pennsylvania’s share remaining at 16 2/3%, it has become very difficult to match federal funds for major transit projects in Pennsylvania. As an increasing proportion of the Commonwealth’s flat-lined capital resources are required to match growing federal formula allocations, less and less money is available to match, let alone over-match discretionary federal transit funds.

The historical relationship between the Commonwealth and its transit agencies demonstrates a pattern of ‘stepped’ funding increases every four to seven years to address growing deficits or to respond to special conditions, such as the elimination of federal operating assistance in 1997. Rather than increasing, Pennsylvania transit assistance has been increasing less than the rate of inflation. In order for the Transit Vision to be implemented from a capital and operating standpoint, the Commonwealth will be required to ‘step up’ transit funding. In addition, consideration is needed on a project by project basis of ‘flexing’ federal highway funds to transit projects.

Local jurisdictions can participate in advancing transit projects through participation in area planning in the vicinity of potential transit stations, in modifying zoning and other requirements to facilitate development along transit lines, and in providing incentives for transit oriented development. This type of approach makes sense from an economic standpoint, and is emphasized in federal, state and local policies. In addition, the private sector should be considered an active partner in the future of transportation in southwestern Pennsylvania, with advanced corridor purchase concessions, joint development at transportation facilities and developments that are transit-friendly.

Conceptual Capital Finance Alternative

Order of magnitude capital costs (in 2002 dollars) of \$9.5 billion were estimated for the program of projects assumed in the Transit Vision. These include major projects such as commuter rail, light rail and busway/bus rapid transit, but also smaller investments such as transit centers and transit stop and station improvements, procurement of buses and rail vehicles, and ITS and other systems.

Programming of federal and state funds for transit capital projects is included in the Long Range Transportation Plan (LRP) adopted by SPC. Covering approximately 30 years, the current Plan adopted in 2003 includes \$2.8 billion of capital costs for transit projects in the region. Though the financing plan included in the LRP used conservative assumptions, nevertheless it is clear that implementing the projects in the Transit Vision, particularly the major projects, would take more than 30 years. In effect, the projects of the Transit Vision comprise a menu of programs and projects that would be implemented as funding becomes available.

A review of data from 2003 indicates that, regionally, approximately 5% of the transit capital funds expended come from local sources. State funding amounts to approximately 22% of the capital funds expended. Approximately 73% of the capital funds come from the federal government.

The federal funding for bus and bus-related facilities is capped at 80%. An 80% maximum also applies to major fixed guideway capital investments (Transit New Starts). However, FTA has instituted a policy to finance up to 60% rather than 80%. Thus, in order to compete for FTA 5309 New Starts funding, the Transit Vision

projects are assumed to require 60% federal share to be competitive nationally. This requires creative financing plans, as well as an increase in state and local funding.

The percentages of federal contribution to capital costs identified above have been applied to the \$9.5 billion cost of the Transit Vision, as shown below left. For fixed guideway projects such as light rail transit, busway/bus rapid transit and commuter rail, the assumed federal share is 60%; for bus purchases, it is 80%. Transit amenities and facilities are often seen as more local, thus, 50% federal share was assumed. The total federal share for the Transit

Vision is 61.3%, which is down from the composite 73% currently experienced regionally. This decrease in federal percentage participation, with the associated need to increase non-federal funding share, is consistent with what is occurring nationwide. In fact, a review of the budgets of the thirty largest transit agencies indicate a current federal contribution of 40% for capital programs. On the state side, a 25% share was assigned to light rail transit and busway/bus rapid transit, while 20% was assigned to commuter rail, bus purchases, and customer amenities. The total state share is 24.4%, which is up 2.1% from the current state share of regional transit capital spending of 22.3%.

For local funding, a moderate increase is assumed in the financial analysis. In total, the local share of the capital program is estimated at 6.5%, which is 1.5% higher than currently experienced regionally.

Finally, the conceptual finance alternative considers flex funding, as well as private funding. Flex funding is the utilization of traditional federal highway funds for transit projects. For example, for the East Busway Extension, approximately \$23 million or 35% of the project cost, was from highway funding programs. Flex funding was assumed in the conceptual capital finance program, ranging from 7.5% to 10% on the fixed guideway projects. Private sector participation is important with preservation of right-of-way for transit alignments and station area improvements. With regard to transit amenities and facilities, it was assumed that joint development and private sector participation would have a critical stake in the project funding. Flex funding and private sector participation accounts for 7.7% of the capital finance program.

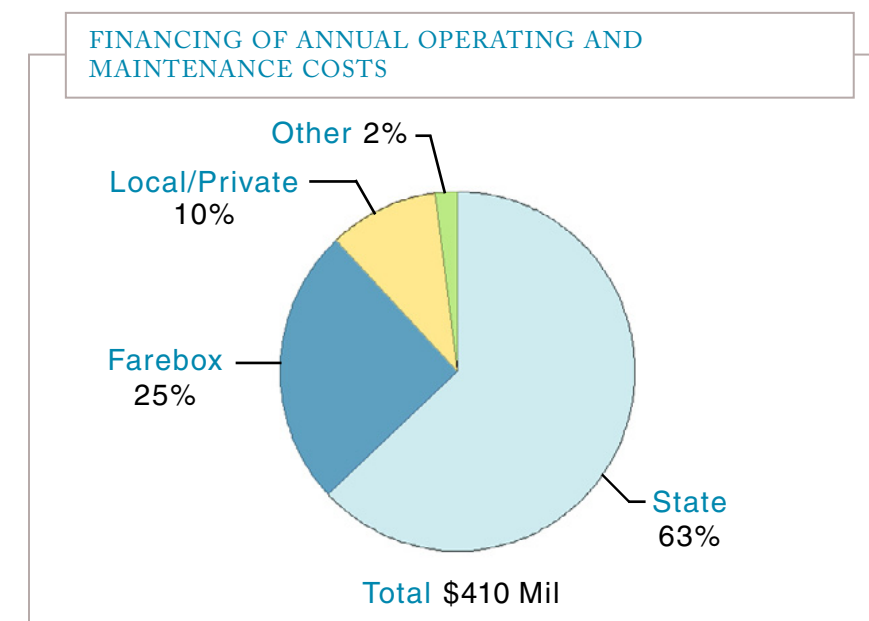
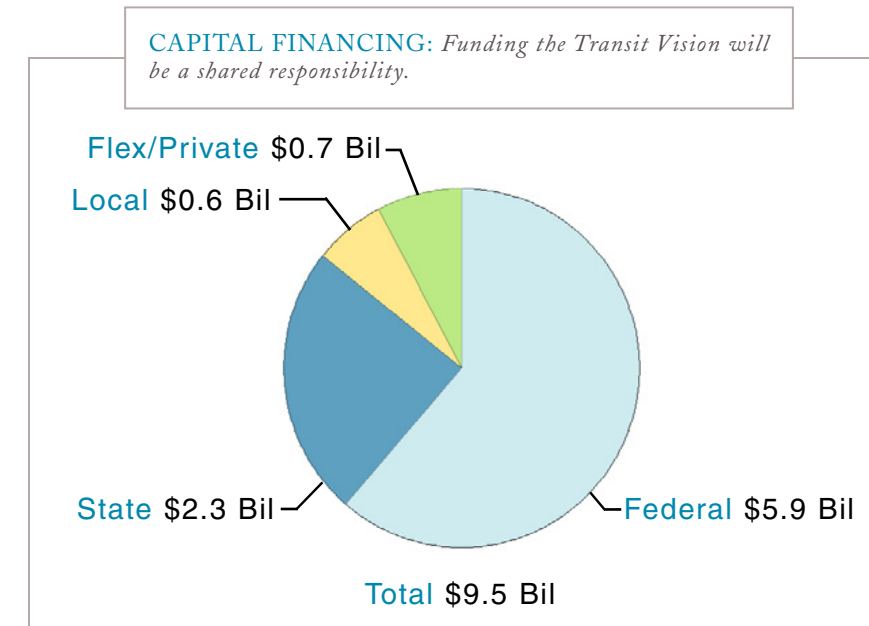
TRANSIT VISION CONCEPTUAL CAPITAL FINANCE PLAN					
Project Category	Estimated Costs	Federal Share	State Share**	Local Share	Additional Funds Needed***
Transit Guideway*	\$8,813,000,000	\$5,288,000,000 60%	\$2,185,000,000 25%	\$616,000,000 7.0%	\$724,000,000 8%
Bus Purchases	\$667,000,000	\$534,000,000 80%	\$133,000,000 20%	\$0 0%	\$0 0%
Customer Amenities and Facilities	\$56,000,000	\$28,000,000 50%	\$11,200,000 20%	\$5,600,000 10%	\$11,200,000 20%
Total	\$9,536,000,000	\$5,850,000,000 61.4%	\$2,329,200,000 24.4%	\$621,600,000 6.5%	\$735,200,000 7.7%
<p>* Transit guideway projects consist of commuter rail, light rail and busway/bus rapid transit</p> <p>** Currently the state provides 16 2/3% match for major transit fixed guideway transit projects. This scenario would require an increase in this matching amount.</p> <p>*** Additional funds could be derived from private sector participation, joint development, or flexible highway funds.</p> <p>Note – In 2002 Dollars</p>					

Conceptual Operations Finance Alternative

Regionally, 25% of the operating funds come from the farebox. With regard to local funding, approximately 10.5% to 16% comes from local sources. The state contributes approximately 49% to 62% of the operating funds, depending on the transit agency. Other revenues, such as advertising generate approximately 2% of the income. With the federal focus on transit funding shifting away from operating assistance, the state and local agencies have been

required to significantly increase funding. However, given the recent increase in the cost of motor fuel, wages, system security, and health benefits, increased funding will be required to maintain even the existing service levels. Not only will increased state funding be required, but local sources will need to increase as well. The conceptual operations finance alternative is shown below.

TRANSIT VISION CONCEPTUAL OPERATIONS FINANCE PLAN			
Funding Source	Percentage Contribution	Current Estimated Annual Amount	With Transit Vision Annual Amount
Farebox	25%	\$73,500,000	\$102,500,000
State	63%	\$185,200,000	\$258,300,000
Local/Private	10%	\$29,400,000	\$41,000,000
Other	2%	\$5,900,000	\$8,200,000
Total	100%	\$294,000,000	\$410,000,000
Note – In 2002 Dollars			



Conclusions of the Financial Analysis

The Focused Growth Scenario is the basis for the Transit Vision. The required investment is substantial, especially in relation to current transit capital spending in the region. However, when the entire Transit Vision is compared to capital investments being made on individual projects in other U.S. cities, the program does not appear unreasonable. Here are some examples:

- >>> New York Second Ave. Subway (8 miles): \$16 Billion
- >>> LA Red Line and Extensions (23 miles): \$7.3 Billion
- >>> Long Island Railroad East Side Access (4 miles): \$6.2 Billion
- >>> Seattle Central Link LRT (14 miles): \$2.4 Billion
- >>> Tren Urbano (San Juan, PR) Rail (12 miles): \$2.2 Billion
- >>> New Jersey Hudson Bergen LRT (14 miles): \$2.1 Billion

The Transit Vision is estimated to cost \$9.5 billion in 2002 dollars to implement. An investment of this magnitude would have to be implemented over an extended period of time. SPC's fiscally constrained 2003 Long Range Transportation and Development Plan outlines \$2.8 billion that could be made available for transit capital projects over a 27-year period. While additional funding above the \$2.8 billion might be possible, it is unlikely that every facility identified in the Transit Vision could be implemented in the 25-30 year duration of a typical transportation plan. As such, the \$9.5 billion program is being presented as a menu of projects that could be considered for implementation as funding becomes available and as corridors with appropriate land use potential are identified.

In addition to capital costs, implementing the Transit Vision would require an average yearly operating and maintenance cost of approximately \$410 million in 2002 dollars, or about 39% more than the current \$294 million. This includes operating the existing transit service and increased service in accordance with increased ridership, plus the new facilities included with the Transit Vision.

Alternative Management Structures

Partnerships among transportation and land-use agencies to provide coordinated transportation services and coordinated land-use regulation on a regional basis can take many forms. The type of organization developed depends on the needs and resources, as well as the existing policies, procedures, and relationships of the potential partners within the region. Each regional approach to transportation operations faces unique challenges. Departures from traditional transportation management approaches are new ways of thinking which change the processes through which transportation services are delivered. Any type of change requires strong leadership, vision, and creativity. Three basic forms of regional organizations were evaluated for their potential to lead the implementation of this Transit Vision for our region:

>>>>> *Voluntary Organization* – The most common form of regional organization is a voluntary organization or partnership. This organization is not a legal entity and relies on its member agencies for corporate functions such as procurement, project management, and staffing. These organizations are often governed by memoranda of understanding, which are contractual agreements that broadly specify responsibilities and the exchange of funds.

>>>>> *Private (or Public) Corporation* – A voluntary organization can be privatized or made into a public corporation, giving it independent legal status. This enables it to hire staff and perform corporate functions independent of its constituent agencies. Consequently, it can institute processes that are most favorable to the partnership. It must also be financially independent, supported through dues, contributions, or private revenue sources. Corporations are best suited for regional organizations that have a well-defined purpose and means of financial support.

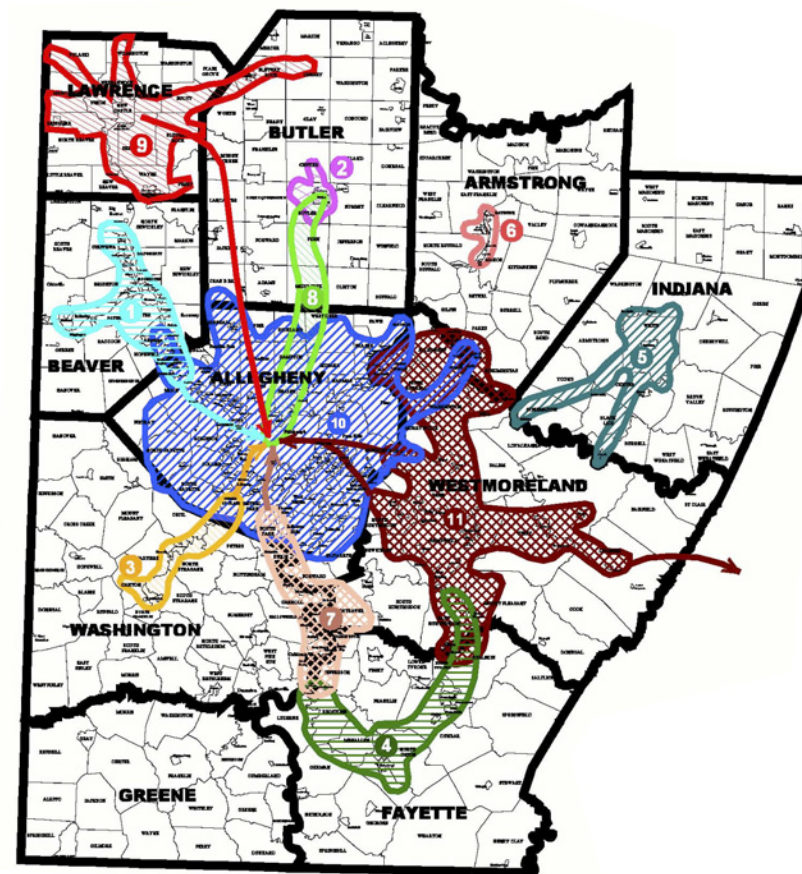
>>>>> *Regional Government or Authority* – A regional government or authority may be an effective means of managing transit services. An authority can be created by legislative mandate to perform specific functions. Alternatively, existing regional authorities or government agencies, such as MPOs or state departments of transportation, can take responsibility for the operation and management of regional transit services. Ability to manage operations projects may require legislative action to provide necessary authority and capabilities for MPOs in some regions. An existing regional agency can often facilitate inter-jurisdictional partnerships to provide regional operations services collectively. For example, the Metropolitan Transportation Commission is an MPO that has taken an active role in coordinating regional operations initiatives in the San Francisco Bay Area. In some cases, a new regional government to plan and operate a regional road and transit network is formed. This recently occurred in Vancouver, British Columbia, Canada.

As part of the Transit Vision process, the opinions of the transit professionals in the region regarding organizational and institutional alternatives were assessed through interviews and a survey. It was also determined that case studies might be helpful in assessing current transit organization structure in southwestern Pennsylvania, as well as present some alternative options for the future. Six agencies were selected for their general or specific applicability to southwestern Pennsylvania; their uniqueness in a given topic area (transportation, land-use, or both); their organizational, management, or financial uniqueness; and/or their overall regional approach. The agencies included the Georgia Regional Transportation Authority (Atlanta); Portland METRO (Oregon); Metropolitan Transportation Commission (San Francisco); Jacksonville Transportation Authority (Florida); Regional Transportation Authority (Chicago); and the Peninsula Corridor Joint Powers Board (Bay Area, California).

Currently, the processes available to the transit agencies within the region to advance transit programs and a transit agenda include the Transportation Improvement Program (TIP), PennDOT Twelve Year Program and the SPC Long Range Plan.

These processes are intimately tied together, as well as mandated in state and federal law. However, these processes are based on identifying unmet capacity needs, then recommending improvements to meet those needs. With regard to transit, existing conditions are evaluated, and unmet needs are identified for major capital projects (for example, large, fixed-guideway improvements and expansions).

TRANSIT OPERATORS COMMITTEE: *The role of the existing transit operators committee should be expanded to plan and implement enhanced services such as park-and-ride, alternative fuels, intelligent transportation systems, etc. The TOC should advance the role of transit and land use coordination throughout the region. When cross-jurisdictional services such as commuter rail are advanced, a new entity such as a Joint Powers Board or Intergovernmental Cooperation Agreement should be considered by the TOC to plan and operate the service.*



Shaded areas are fixed-route transit service areas in the region

Each transit operator plans and implements its service changes. However, it is recommended that there be an enhanced process by which transit can plan incrementally for everyday transit improvement items such as fare policy/media, marketing, special operations, circulators, express services, fixed route services, land-use coordination/joint development, and transit customer amenities. Furthermore, there should be additional opportunities for the region's transit operators to place customer amenities and facilities into the regional transportation plan and program. The existing process is adequate for defining unmet major transit capital program needs such as fixed-guideway projects. However, there should be a better process for the development of ideas, concepts, options, alternatives and preferred actions for everyday transit service and the advancing of major transit projects as part of the regional transportation programs that allow transportation projects to advance.

The regional planning process is designed to address this issue, as well as to allow for continuing realignment and monitoring of transit goals and objectives. However, a better coordinated approach to planning, financing, constructing, and operating the region's public transportation system is needed.

Enhancing the authority of SPC's Transit Operators Committee (TOC) might be an appropriate organizational alternative. The TOC has been extremely effective in allocating federal dollars to the region's transportation systems and in providing a regular forum for the transit agencies to meet and address common issues. The TOC provides an opportunity for regional transit service providers to meet to discuss funding and the regulatory environment. It also provides an opportunity to keep abreast of the transit services and capital improvements within the region. Currently there is no interface as a committee with highways and little interface with other SPC committees (although the individual transit authorities interact with county and municipal governments, and other transportation modes in their service areas). As such, little opportunity currently exists for the committee to impact regional highway and land use decisions.

The analysis concluded that the TOC could become the transit planning organization for the region. Eventually, this committee could serve as a Joint Powers Board or Intergovernmental Cooperation Agreement for any cross-jurisdictional guideway transit services that may be established within the region. The current

committee could evolve into a group of varied stakeholders with equal representation. Initially, the TOC could begin to function as a regional coordinating council with some limited cross-jurisdictional powers. The organization would need a staff that can enhance transit planning, transit development planning, capital programming, funding, and operations planning, and begin closer coordination with highway planning and land use decisionmaking. This approach would require funding for committee staff, a clear delineation of its role relative to that of the individual transit operators, and identification of any cross-jurisdictional transit service that it would manage.

As a first step, the TOC could function as the transportation planning entity for the region and coordinate regional service planning, fare media/policy issues, funding, and project/program development. Given time and adequate resources, this group could, with proper agreements regarding representation, operations and funding, effectively manage cross-jurisdictional transit services in Southwestern Pennsylvania.

next steps: advancing transit investments, setting local priorities, attracting partners

In order to implement the Transit Vision, several processes must be adhered to at the federal, state/regional, and local levels. The following paragraphs outline the project development processes for advancing the corridors and improvements contained in the Transit Vision. The existing federal project development process and a suggested local prioritization method is summarized, followed by a discussion on partnerships. All three of these items will have a significant impact on the realization of the Transit Vision.

Project Development Process for Federally-Aided Transit Projects

Federal transit funding is critical for the realization of the Transit Vision. A key part of the region's success in the federal process is to understand the planning process the federal government requires to develop transit projects. There are several decision points in that process that the region will have to successfully navigate before federal funding will be approved for implementing even one of the corridors listed in the Transit Vision.

Section 5309 of the Federal Transit Act authorizes the Secretary of the U.S. Department of Transportation to provide grants for the purpose of planning, designing and constructing fixed guideway transit facilities. The process begins with an evaluation of alternatives by the local sponsor (typically the local transit agency or MPO) that can potentially address the transportation problem under investigation. The set of alternatives considered in this Alternatives Analysis (AA) phase must include a "Do Nothing" alternative (also known as a "No Build" Alternative) in addition to one or more major investment alternatives. The environmental

impact analysis process may begin and public involvement activities become more important. cursory-level estimates of ridership, capital costs, operating and maintenance costs, and environmental impacts are prepared. Additionally, a concept-level financial plan is produced.

During the AA phase and subsequent phases, the Federal Transit Administration (FTA) – the agency within the U.S. Department of Transportation that manages the federal transit funding program – analyzes information submitted by project sponsors during each phase of implementation. Data pertaining to the amount of non-Section 5309 funding, the capital financing plan, and the operating finance plan comprise a set of criteria known as the Financial Rating Criteria. Information pertaining to mobility, the environment, operating efficiencies, cost-effectiveness, land-use, and user benefits make up the Project Justification Criteria. Based on the information provided by the local sponsor, FTA assigns a rating of high, medium-high, medium, low-medium, or low to both the Project Justification Criteria and the Financial Rating criteria. FTA then assigns an overall Project Recommendation based on the ratings of the Financial Rating Criteria and the Project Justification Criteria.

FTA then develops the overall project ratings to make the determinations required by federal statute to:

>>> Decide whether proposed projects may advance to the preliminary engineering or final design phases of project development;

>>> Assign ratings to proposed New Starts projects for the Annual Report on Funding Levels and Allocations of Funds (referred to as the Annual Report on New Starts);

>>> Develop funding recommendations for the Administration's annual budget request; and

>>> Determine the findings used to decide which projects are eligible for funding commitments under Full Funding Grant Agreements (this is an agreement signed with the federal government to receive federal funds).

Projects must be rated Recommended to be approved to advance to preliminary engineering or final design, or to be considered for federal funds.

At the conclusion of the AA, the local sponsor selects a locally preferred alternative (LPA) based on the technical analysis of the AA and public input. If so desired, a Draft Environmental Impact Statement (DEIS) may be prepared during the AA phase (the analysis herein assumes that a DEIS would be prepared as part of the AA). Circulation of a DEIS for public comment requires a 45-day public comment period and at least one public hearing. After the selection of the LPA, the local sponsor must request and receive permission from the FTA to enter into the Preliminary Engineering (PE) phase. FTA (according to the Guidance on Requests for New Starts Projects to Enter Preliminary Engineering and Final Design) will make a determination regarding the "readiness" of the project to advance. The FTA will base its determination on whether or not:

- >>> An alternatives analysis has been completed
- >>> An alternative has been selected for advancement
- >>> A project management plan has been developed and the local sponsor has shown that it has the technical capability to carry out the project.

If the project is determined to be ready, FTA will then review the results of the New Starts Criteria and decide to approve or disapprove the Request to Enter into Preliminary Engineering. During Preliminary Engineering, the local sponsor performs engineering analysis and prepares plans and profiles typically to the 30 percent level of engineering. As the information prepared during Preliminary Engineering unfolds, the level of detail is utilized to provide more refinement to the ridership and cost estimates and the identification of potential environmental impacts prepared during the AA. A more definitive financing plan is also produced during Preliminary Engineering.

A Final Environmental Impact Statement (FEIS) is prepared during Preliminary Engineering. This document responds to comments on the earlier completed environmental documents and provides more refined analysis on potential environmental impacts. At the conclusion of the FEIS, the public must be notified of its availability for review and allowed 30 days before a final decision

(known as a “Record of Decision” or ROD for short) on the FEIS can be rendered by the FTA.

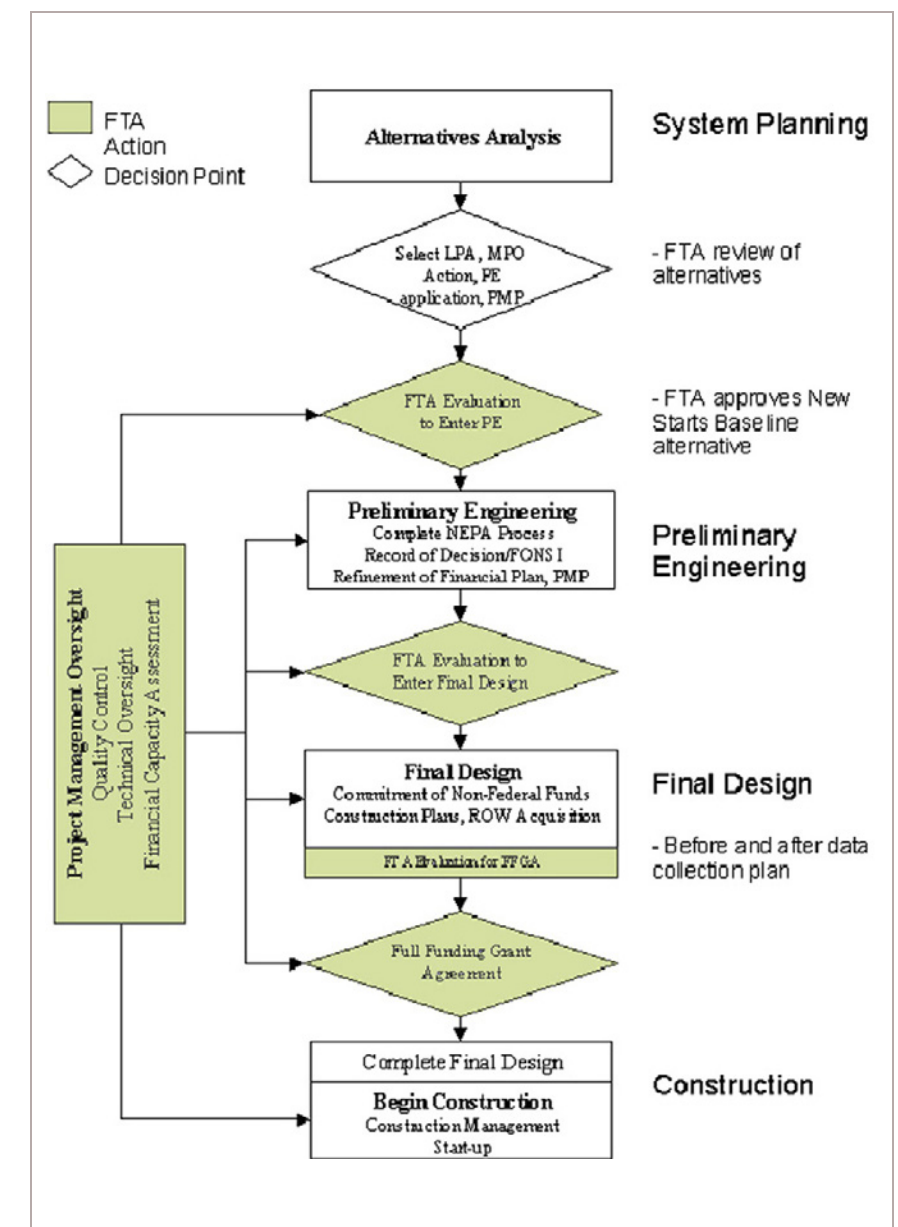
Once the FTA issues the ROD, the local sponsor may then request to enter into Final Design. The FTA will again make a readiness determination. That determination is based on:

- >>> The project receiving the ROD
- >>> Approval of the project management plan
- >>> Submission and review of the fleet management plan
- >>> Demonstration that all right-of-way and project scope issues have been identified and that a strategy addressing those issues has been developed.

If the FTA determines the project is ready for Final Design, it will again review the New Starts Criteria and then recommend whether or not to approve the request.

During Final Design, a “Full Funding Grant Agreement” (FFGA) is prepared that specifies the maximum amount of Federal Section 5309 funds that will be utilized for the project. Final Design would continue after the execution of a FFGA between the FTA and the local sponsor.

FTA'S NEW STARTS PROCESS



Setting Local Priorities

The Transit Vision refined, aligned, and incorporated the goals, objectives, and strategies of the SPC and the transit providers into a regional Transit Vision. The goal statement developed in the vision process, as well as the respective objectives should become the benchmark for subsequent regional transportation and development decisions and investments.

The Goal is to preserve existing transportation and land-use investments while making future investment decisions that enhance the quality of life and economic viability in southwestern Pennsylvania.

In the section discussing Alternative Management Structures, a suggested outline and process for advancing the Transit Vision was presented in concept. In order to advance the Focused Growth Development Scenario and the Transit Vision, changes are needed in the way local transportation project priorities are set. All land-use and transportation (both transit and highway) decisions should be thought of comprehensively.

The following are some suggested criteria to be considered when setting priorities for all transportation (highway and transit) projects, as well as the approval of land development projects.

Criterion 1 The transportation project must provide for a range of mobility options, eventually resulting in the reduced need for vehicular travel, particularly by the single-occupant automobile within a corridor or subregional area.

The purpose of this criterion is to introduce diversified, high-quality transportation projects that provide the region with a range of travel choices. By identifying and recommending transportation improvements that attempt to minimize travel delay for all travelers in the region through multiple modes, all projects will assist in alleviating traffic congestion. All regional projects would consider a range of modes and travel options, including but not limited to bus, rail, paratransit, and river transportation service for residents, workers and visitors, and would include a multimodal component.

Criterion 2 The subject transportation project should reinforce the region's positive pattern of activity center development, compact urban growth and transit-oriented development.

By providing service that connects major regional activity centers or compact urban growth locations, the transportation project would be compatible with, and supportive of, regional land development policy by promoting trip concentrations at specified locations. The regional transportation projects would provide for more effective linkages to important regional activity centers and major business development areas, providing for worker access to jobs, business access to markets and resident access to services.

Criterion 3 The subject transportation project or service should increase the community's mobility options, integrate with the local community and assist in the creation of interesting places to live, work, shop, and play.

The transportation corridors, technologies, and services that are part of the regional transportation plan should be ones that can be integrated into the existing urban environments and that are consistent with the character of the local communities. Furthermore, these corridors, technologies, and services should benefit areas that currently have, or are planning for, traditional development patterns and a transit-friendly and complementary mix of land-uses. The project should promote the safety and security of residents and the communities to which the improvements provide access.

Criterion 4 Each transportation project should enhance the existing environmental assets of the corridor and region, and minimize adverse social and environmental impacts.

Each transportation project should include strategies that minimize the land requirements for the transportation facilities and should include a land development component. The region should promote land-use strategies and implement transportation facility improvements that preserve existing transportation corridors. This results in three critical benefits. One, the amount of residential and business displacements in existing and new transportation corridors can be reduced, sustaining the existing environment. Two, the amount of vacant acreage used for new development can be reduced by redevelopment in existing areas (including brownfield development), as well as compact activity center development in the growth areas adjacent to the urban areas throughout the region. Finally, all transportation projects would minimize use of environmentally sensitive land (such as prime agricultural lands, wetlands, and steep slopes) for transportation facilities.

Criterion 5 Each individual project within the regional transportation system should be efficient, effective and equitable, technically regarded as a sound and good investment, and enhance the region's economic competitiveness.

Regional transportation projects should be cost-effective and efficient, minimize cost per user, and should be justified in part, by the relative cost per unit of new capacity. New capacity projects that are cost-effective, provide the greatest user benefits, and enhance economic development should be the ones contained in the Regional Transportation Plan. Careful attention shall be given to the respective project's attractiveness from a federal and state funding standpoint. Improvements and facilities that will attract community and private investment should be given high priority.

Attracting Partners

Ultimately, the alternatives and improvements recommended by the Transit Vision will be an important element of the communities and developments they serve. It is very important, from a financing as well as a community 'buy-in' perspective, for the Transit Vision to attract local and private participation in funding. Examples include, but are not limited to public and private contributions of land and rights-of-way, incorporation of transit improvements into specific development projects, assumption of some or all of the cost of a transit station, sharing of capital and operating costs, and assumption of some or all of the maintenance of transit facilities and customer amenities.