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What Are Forces of Change?
What Are Forces of Change?
The Southwestern Pennsylvania Commission (SPC) is creating a new regional plan in which it will consider major Forces of Change and how we can best take advantage of opportunities they may create and mitigate the disruptions they may cause. Forces of Change are high level external forces (global, national, regional) that could have significant regional impacts (both positive and/or negative) now and in the future.

A Force of Change Scenario Report for each category has been developed by SPC. The reports will be used, along with input from the public, to establish a range of potential strategies related to each Force of Change. These strategies were reviewed and discussed at a Regional Plan Workshop held in September 2018. The resulting list of strategies will be used to gather further public input and ultimately to update the long range plan for the Southwestern Pennsylvania region.

SPC has identified forces that have effects on transportation and development in five broad categories: Demographics, Technology, Economy, Environment, and Funding.

Why and How Were Forces of Change Identified?
Every four years, SPC is required by federal law to update the region’s long range transportation plan. This plan lays out the vision and strategies for transportation investments in the Southwestern Pennsylvania region over the next 25 years. The current plan was adopted in June 2015.

In 2017, SPC staff began working with the region’s planning directors to develop a Task Force to help develop a process for the new long range plan.

SPC began by reviewing publications from the National Cooperative Highway Research Program on “Dynamic Forces of Change.” Next, peer Metropolitan Planning Organizations (MPOs) along with national and regional thought leaders were interviewed to get different perspectives. Common themes emerged, which drove the formation of Expert Resource Panels for each of the five categories to identify the Forces of Change that will impact them.
Expert Resource Panels and Exploratory Scenarios

Expert Resource Panels were formed to provide expertise on the potential effects of Forces of Change on the region. The Expert Resource Panels identified the Forces of Change within each category that are likely to impact the region. Panelists discussed potential opportunities and challenges, the relative probability of occurrence, and whether the impacts will be positive or negative.

The panel activities were designed to help answer the following questions:

What significant trends or disruptions are occurring now, or are foreseen to occur, with potential impact for the region?

Will the impacts be positive or negative for the region?

What specific challenges and opportunities for the region are generated by these occurrences?

What is the anticipated magnitude of the identified challenges and opportunities?

Participants were asked to focus on events, trends, and factors within each category and to identify possible impacts, potential challenges, and opportunities for each Force of Change.

Based on that discussion, exploratory scenarios were developed. Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. These were developed to aid in discussions related to impacts and strategies for moving forward successfully.

Below are some of the topics that were explored by the Expert Resource Panels. Panelists considered the regional impacts of the topics and identified additional avenues for investigation.

Demographics
Aging Population and Labor Force; Immigration (regional); Urban and Suburban Development Patterns; National/Regional Shifts; Household Size; Diversity; Education; and, Opioid Addiction.

Technology
Connected & Autonomous Vehicles; Mobility as a Service; Automation; Additive Manufacturing; Modal Impacts; Broadband; and, Artificial Intelligence.

Economy
Emerging Industries; Housing Affordability; Economic Growth; Household Income; Employment Types; Shared Economy; Online Economy vs. Brick and Mortar Retail; and, Decaying Infrastructure.

Environment
Energy Supply and Demand; Fossil Fuel/Renewable Balance; Security; Environmental Attitudes; Climate Change and Resilience; and, Water Quality.

Funding
Role of Public & Private Sectors; Investment Levels; National/State/Local Government Roles; and, Finance (how to pay).
What Are The Economy Forces of Change?
Economy Forces of Change

Workforce

As occupations change, there is a need to match skills with expected job demand. While technology is impacting every sector of the regional economy, its rapid development is also leading to new jobs in emerging fields. The demand for technical workers is expected to grow 2.6 times faster than the market overall. This increased need for technical skills across all industries will impact the type of education and skills required in the future.

Pittsburgh is home to the Carnegie Mellon University, which holds the highest-ranked graduate program for artificial intelligence in the U.S., according to U.S. News & World Report. Also, Pittsburgh was named one of four tech hubs in the U.S. to watch in 2018 via VentureBeat.

Investment in building a local, diverse workforce to meet this demand for highly skilled talent across sectors is critical. Employers must invest in training and career pathways so that all employees can keep pace with skill demand. Collaboration between employers and local and regional educators to develop a workforce with the knowledge and skills needed to support future jobs is vital to the future of the region.

### Employment by Occupation, Projected Growth Rate, 2014-2024

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales, Administrative</td>
<td>3%</td>
</tr>
<tr>
<td>Blue-Collar</td>
<td>4%</td>
</tr>
<tr>
<td>Overall Employment</td>
<td>7%</td>
</tr>
<tr>
<td>Other Professional</td>
<td>7%</td>
</tr>
<tr>
<td>Food, Personal Services</td>
<td>9%</td>
</tr>
<tr>
<td>Computer, Math, Science</td>
<td>9%</td>
</tr>
<tr>
<td>Health Care</td>
<td>19%</td>
</tr>
</tbody>
</table>

SOURCE: Bureau of Labor Statistics
**Infrastructure**

If neglected, the region’s aging public infrastructure could affect the region’s ability to retain existing and attract new businesses and people. Investments during Pittsburgh’s industrial peak created a large base of roadways and bridges, rail lines, waterways, locks and dams, building stock and housing across the region, but much of it requires substantial reinvestment.

Pittsburgh has enough physical infrastructure to support a population twice its current size. Strategic coordination and planning can help transform the aging infrastructure into an asset rather than a risk is critical. The region not only needs to smartly invest in maintaining its infrastructure, it also needs to find ways to invest in additional projects that strengthen our communities.

Keeping the region’s aging public infrastructure in a state of good repair is necessary to support growth in the region. By making infrastructure improvements a top priority in the face of declining funding, public infrastructure will be more reliable, safer, and more efficient, and can support growth in the region.

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**Relevant Charts**

- **Revenue Sources for SPC TIP Highway Program**
  - Annual for 2010-2020
  - Source: SPC

- **Revenue Sources for SPC TIP Public Transit Program**
  - Annual for 2010-2020
  - Source: SPC

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**Economy** Forces of Change

Southwestern Pennsylvania Commission Forces of Change Exploratory Scenario Reports
Technology

Rapidly advancing technologies are affecting all aspects of the economy, from infrastructure and mobility to healthcare, retail and the service industry. Technology is reshaping virtually every occupation at a rapid rate, changing the skills future employees must be equipped with and driving the need for continuous up-skilling of the incumbent workforce.

There is fast paced technology adoption in all facets of the economy that may impact business models in the areas of manufacturing, services and retail. Institutions could struggle to keep up with the education and training needs associated with these industry changes.

With these changes, there will be an increased need in the region for digital infrastructure investments. Without greater investment, rural areas may continue to fall further behind as technology advances.

An Allegheny Conference on Community Development study examined the risk automation poses to various fields, and is illustrated in the chart to the right. Positions such as registered nurses, nursing assistants, and software developers face little risk of automation, while occupations such as retail salespersons and pharmacy technicians, among others, are at the greatest risk of automation.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Risk of Automation</th>
<th>Total Employment in Pittsburgh MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurses</td>
<td>Low</td>
<td>30,810</td>
</tr>
<tr>
<td>Nursing Assistants</td>
<td>Low</td>
<td>13,590</td>
</tr>
<tr>
<td>Software Developers, Applications</td>
<td>Low</td>
<td>7,920</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>Low</td>
<td>6,130</td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td>Low</td>
<td>5,790</td>
</tr>
<tr>
<td>Management Analysts</td>
<td>Low</td>
<td>4,880</td>
</tr>
<tr>
<td>First-Line Supervisors of Construction Trades and Extraction Workers</td>
<td>Low</td>
<td>4,380</td>
</tr>
<tr>
<td>Electricians</td>
<td>Low</td>
<td>4,060</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>Low</td>
<td>3,420</td>
</tr>
<tr>
<td>First-Line Supervisors of Mechanics, Installers, and Repairers</td>
<td>Low</td>
<td>3,310</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>Medium</td>
<td>23,310</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers</td>
<td>Medium</td>
<td>13,360</td>
</tr>
<tr>
<td>Maintenance and Repair Workers, General</td>
<td>Medium</td>
<td>10,810</td>
</tr>
<tr>
<td>Carpenters</td>
<td>Medium</td>
<td>7,340</td>
</tr>
<tr>
<td>Automotive Service Technicians and Mechanics</td>
<td>Medium</td>
<td>6,220</td>
</tr>
<tr>
<td>Computer User Support Specialists</td>
<td>Medium</td>
<td>5,950</td>
</tr>
<tr>
<td>Market Research Analysts and Marketing Specialists</td>
<td>Medium</td>
<td>4,990</td>
</tr>
<tr>
<td>Machinists</td>
<td>Medium</td>
<td>3,920</td>
</tr>
<tr>
<td>Industrial Machinery Mechanics</td>
<td>Medium</td>
<td>2,340</td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>Medium</td>
<td>2,130</td>
</tr>
<tr>
<td>Retail Salespersons</td>
<td>High</td>
<td>35,970</td>
</tr>
<tr>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>High</td>
<td>18,100</td>
</tr>
<tr>
<td>Construction Laborers</td>
<td>High</td>
<td>9,460</td>
</tr>
<tr>
<td>Operating Engineers and Other Construction Equipment Operators</td>
<td>High</td>
<td>5,220</td>
</tr>
<tr>
<td>Team Assemblers</td>
<td>High</td>
<td>4,380</td>
</tr>
<tr>
<td>Loan Officers</td>
<td>High</td>
<td>3,670</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td>High</td>
<td>3,250</td>
</tr>
<tr>
<td>Welders, Cutters, Solderers, and Brazers</td>
<td>High</td>
<td>3,160</td>
</tr>
<tr>
<td>Electrical and Electronic Equipment Assemblers</td>
<td>High</td>
<td>2,950</td>
</tr>
<tr>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>High</td>
<td>2,760</td>
</tr>
</tbody>
</table>

SOURCE: Inflection Point 2016, Allegheny Conference on Community Development
Energy
The region’s abundance of natural gas reserves could affect the economy, business attraction, the environment, infrastructure, and jobs. The energy sector, buoyed by the shale gas investment, can become a driving force in the regional economy. This exacerbates an already tight labor market. Investment could be increased in sites and infrastructure needed to attract and grow related industries and businesses that could be drawn by ever decreasing energy costs.

While the region should continue promoting the energy sector, it must also work to minimize the environmental impacts of the industry and its associated development. Thus, while shale gas drilling and processing could affect business attraction, infrastructure, and jobs, efforts must be made to reduce the impact on the environment.

In order to educate and expand the available workforce, the National Science Foundation, the U.S. Department of Labor, and the U.S. Department of Energy provide funding for workforce training opportunities. An example of this workforce training in Southwestern Pennsylvania is the Solar Training Network, which is funded by the U.S. Department of Energy SunShot Initiative. Led by The Solar Foundation, the Solar Training Network seeks to meet the needs of the growing solar industry by providing solar training and strategic employment partnerships to build the network of solar training providers, job seekers, and employers.
Vacant Properties

Vacant properties can affect crime, the tax base, and population loss. They can also be used to spur community revitalization. While vacant properties have plagued many industrial cities, they pose a unique opportunity for local government officials, community organizations, and residents to become assets in the community.

Local governments should work to return the property to its previous use (i.e. an owner-occupied residence or a business), but a number of factors can limit these options. Weak markets and population loss can limit the ability to return these uses, which require new strategies to stabilize and revitalize neighborhoods.

Vacant land plots in neighborhoods can be reimagined into urban farms, community gardens, and playgrounds, which can all prevent increases in crime and raise or maintain nearby property values. Local municipalities can take more control of this process through land trusts, land banks, municipal ordinances, and local beautification and stabilization programs.

Furthermore, the redevelopment of vacant brown field locations can increase available sites for business and industry, such as the growing natural gas field. Communities should identify new challenges and emerging opportunities in the future, while also being able to develop a system that can adapt to future changes.

NOTEWORTHY:
Pittsburgh markets its vacant lots through an online searchable database that was introduced in 2017.
How can we adapt to the Forces of Change underway and take full advantage of the opportunities they create?

**Workforce**
As occupations change, there is a need to match skills with expected job demand.

**Infrastructure**
Aging infrastructure could affect the region’s ability to retain and attract new businesses and people.

**Technology**
Advancing technologies are affecting all aspects of the economy.

**Energy**
Shale gas drilling and processing could affect business attraction, the environment, infrastructure and jobs.

**Vacant Properties**
Vacant properties can affect crime, tax base loss and population loss, but can also be redeveloped.
Creating Strategies
To Address Economy Forces of Change

The Economic Resource Expert Panel identified strategies for each Force of Change to address potential impacts and mitigate risks. Panelists discussed the need to retain, attract, and train employees to maintain a competitive workforce and identified a number of ways to better prepare for growth in future economic sectors:

• By increasing training and awareness to match local workers with the jobs that are available and retain a strong regional workforce.
• By prioritizing funding for critical infrastructure and improving efficiency in the development, design, construction, operation, and maintenance of infrastructure.
• By promoting investment and training in the growing technology and energy fields.
• By encouraging the repurposing of vacant and underutilized properties to maintain and/or increase property values.

Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. These were developed to aid in developing strategies to address impacts and mitigate risks.
Exploratory Scenario*

What If... it is a tight labor market, where workforce demands exceed the available workforce. This leads to increased employee compensation and company cost to retain, attract, and train employees. An increased need for tech skills across all industries will impact the type of education and skills required, along with necessary retraining of existing workforce. Additional productivity investments will be needed as well. All things considered, business attraction efforts become more difficult.

*Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. It is not suggested that these scenarios will occur, only that a region may consider them as a “What If...” scenario.
Strategy 1: Raise the Profile of Skilled Labor Blue Collar Careers

In order to fill the increasing number of jobs in skilled trade industries, efforts must be made to break the stigma attached to available jobs in blue collar jobs (such as heavy machinery, etc.). Partner with local workforce boards to implement training that emphasizes problem solving and leadership skills to show that these jobs have opportunities for advancement.

Implement a public education strategy showing that skilled labor is a viable path to success. Encourage training in schools from early ages to both increase awareness of these trades and encourage hands-on work experience such as apprenticeships. Build partnerships with educators and employers to understand employer needs and post-secondary employment options. Place as much emphasis on skilled labor tracks as academic tracks.

Partners for Implementation
Employers, workforce investment boards, trade associations, universities, K-12 schools, chambers of commerce, trade schools

Strategy 2: Focus on Soft Skill Training

Encourage training programs to focus on soft skills. Local schools and universities can develop programs that focus on soft skills and industry specific training. Schools and training programs can incorporate transition plans with employment goals into graduation requirements.

Regional partners can help expose students to a greater range of jobs to increase their awareness of career opportunities. Network with universities to secure funding to support education and leadership training to help move employees up the ladder. Provide or arrange for flexible and easy to use on-the-job training funds for companies to train employees and promote awareness of existing resources to aid with these goals.

Partners for Implementation
Employers, workforce investment boards, trade associations, universities, K-12 schools, chambers of commerce, local governments
Strategy 3: Increase the Candidate Market

Increase the candidate market or “end size” to meet future workforce demands. Encourage universities to train and match workers with the jobs currently available. Employers must better align their requirements with national standards to be more competitive and attract workers. Discourage employers to require experience for entry-level positions.

Retain local talent by encouraging businesses to offer better employment packages, pay rates, and other benefits (relocation assistance, child care support, etc.). Invest in public transit to connect people to jobs to make them both more desirable and affordable. Develop programs that change the perspective on once “undesirable” candidates, such as workers with minor criminal records or previous drug use.

Partners for Implementation
Allegheny Conference on Community Development, chambers of commerce, young professional groups, universities, school superintendents, employers, alumni associations, workforce investment boards, career services at universities, trade associations

NOTEWORTHY:
Allegheny Conference on Community Development has an ongoing focus on workforce development in the region. They will be a key partner in implementing these strategies.
Infrastructure Strategies That Impact the Economy

Exploratory Scenario*

What If...after struggling for years to maintain aging infrastructure and build new to meet technology demands, the region is at a tipping point of an infrastructure crisis. Intermittent stoppages in water and sewer service, limited availability of locks and dams, and difficulty connecting people to jobs and services are exacerbating the population decline and hurting the region’s economy.

*Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. It is not suggested that these scenarios will occur, only that a region may consider them as a “What If...” scenario.
**Strategy 1: Increase Funding for Critical Infrastructure**

Funding streams and buying power for infrastructure improvements and maintenance have declined and general public understanding of the costs of critical infrastructure are often understated. Support strategies that increase funding and educate the general public on the true cost of infrastructure.

**Partners for Implementation**

SPC, PennDOT, counties, municipalities, nonprofit organizations

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**Strategy 2: Improve Efficiency in Infrastructure Development, Design, Construction, Operation, and Maintenance**

More efficient use of funding will be needed as revenue streams are reduced in the coming years. Work to build public/private partnerships between infrastructure owners through collaboration and cooperation to develop cost savings. Work with local and county governments to establish requirements for developers to pay for public infrastructure improvements associated with private sector projects. For example, the costs to provide sewer line access to a new housing development could be the responsibility of the private developer.

Identify private sector opportunities. Promote a public education campaign to educate the public and local businesses on the importance of infrastructure for business attraction, quality of life, tourism economy, and competitive advantages for both public and private sectors. Embrace emerging technologies, including new materials and processes to improve efficiency.

**Partners for Implementation**

SPC, PennDOT, counties, municipalities
Strategy 3: Prioritize Projects With Economic Impact
Consider the economic impact of infrastructure investment on land use patterns and tax revenues from potential commercial or industrial development, residential investment, and other types of land development. Coordinated investments often yield the greatest impact and should be prioritized. Focusing on these types of projects can also help to support the kind of public/private partnerships that could lead to efficiencies and reduced overall cost for infrastructure.

Partners for Implementation
SPC, chambers of commerce, counties, municipalities

Strategy 4: Develop and Provide Tools That Allow for Local Funding of Projects
Promote collaboration of planning efforts and bundling of projects and programs to reduce costs and develop cohesive communities/local governments. SPC could serve as a conduit and clearinghouse for plans and information about projects – connecting potential partners and helping to ensure that connections are made while projects are in the planning and design phases.

Expand the leverage of state and federal funds with local funds in bundling programs. Use available tools and provide flexibility through legislation to local governments to create new revenue opportunities.

Possible programs/funding include regional cooperation (multi-municipal purchasing), TIF, LERTA, Enterprise Zones (state and federal), LSA –Technical and educational assistance to communities and business community (regional).

Conversations with other public and private sector entities with public-private partnership experience could expand this list or generate innovative ideas. Surveys, national legislation, and planning efforts to identify regional initiatives could help to move this effort forward. Incentivize public sector participation with tax credits, funding, etc.

Partners for Implementation
SPC, PennDOT, counties, municipalities
Technology Strategies
That Impact the Economy

Exploratory Scenario*
What If...there is fast-paced technology adoption in all facets of the economy that will cause business model shifts in areas of manufacturing, services, and retail. Institutions struggle to keep up with the education and training needs associated with these changes. There is an increased need in the region for digital infrastructure investment however it is apparent that rural areas of the region continue to fall further behind as technology advances.

*Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. It is not suggested that these scenarios will occur, only that a region may consider them as a “What If...” scenario.
Strategy 1: Promote Access to High Speed Internet Connectivity and Availability Everywhere
Push high speed deployment either through funding or incentives (the carrot) and/or regulatory (the stick). As private sector development typically focuses on areas of high demand, public entities may need to step in to ensure areas outside of urban centers are not left behind.

Partners for Implementation
SPC, PennDOT (including Design and Permit Divisions), telecommunication companies, municipalities

Strategy 2: Track and Promote New Technology and Train or Retrain Employees for Emerging Technologies
Organized and coordinated efforts to stay informed on developing technologies and options for technology deployment are needed to keep pace with changing technology.

Work with schools and other partners to provide flexible and easy to use funding for an on-the-job training geared to emerging and new technologies. Teach/promote new computer skills to help aging populations enhance productivity and relativity in the job market.

Expose students to a greater range of jobs to increase their awareness of career opportunities. Conduct an awareness campaign in schools to guide students to the many available jobs (such as skilled trades). Partner with project management training programs to emphasize problem solving and leadership training. This will help to demonstrate that these jobs have opportunities for advancement. Incorporate transition plans with employment goals into graduation requirements.

Partners for Implementation
Employers, workforce investment boards, trade associations, universities, K-12 schools, chambers of commerce, local governments
Energy Strategies
That Impact the Economy

Exploratory Scenario*

What If...the energy sector, buoyed by the shale gas investment, becomes a driving force in the regional economy. This exacerbates an already tight labor market. There is inadequate investment in sites and infrastructure needed to attract and grow related industries and businesses that could be drawn by ever-decreasing energy costs. At the same time, the region continues to struggle to minimize the environmental impacts of the industry and the associated development.

*Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. It is not suggested that these scenarios will occur, only that a region may consider them as a “What If...” scenario.
Strategy 1: Support Development of an “Appalachian Storage Hub”

According to the American Chemistry Council (ACC), the Appalachian region has the potential to become a major petrochemical and plastic resin-producing region. The Appalachian region is an ideal location for the emergence of a second major petrochemical manufacturing hub in the country, with close proximity to abundant natural gas liquid (NGL) resources and manufacturing markets.

Support growth of the energy sector through the identification and development of a storage hub for NGLs and petrochemical products as well as supporting a pipeline distribution network and other petrochemical, plastics, and other energy infrastructure and manufacturing throughout the quad-state area (Pennsylvania, Ohio, Kentucky, West Virginia).

Reduce the uncertainty of future energy infrastructure needs by encouraging its partners to apply existing private-public financing programs to Appalachian energy infrastructure projects and continuing to promote investment in the energy sector.

Partners for Implementation

U.S. Department of Energy, Pennsylvania Department of Environmental Projection’s Energy Programs Office (EPO), chambers of commerce, industry groups, Allegheny Conference on Community Development

Strategy 2: Promote Common Sense Regulations

Promote common sense regulations that protect the environment but allow the energy industry to prosper. Ensure basic steps are taken to protect the environment from obvious point sources of pollution. The region’s natural resource assets must be protected to both preserve a sustainable ecosystem and maintain the economic and environmental value they pose.

Partners for Implementation

Pennsylvania Department of Environmental Protection
**Strategy 3: Provide Flexible Funding for “On the Job Training”**

Over the next decade our workforce will be characterized by large scale retirements, slow population growth, and increasing skill demand across all occupations. At the same time, many of our traditional industries will continue to be disrupted by technological advances, requiring that employers and talent keep pace with this change to remain competitive.

Provide or arrange for flexible and easy to use on-the-job training funds for companies to train employees and promote awareness of existing resources to aid with these goals (opportunities to lobby the government for funding to train, grants, etc.). Funding for on-the-job training and development will assist workers retool their skills and reestablish themselves in viable career paths.

**Partners for Implementation**

Employers, workforce investment boards, trade associations, universities, K-12 schools, chambers of commerce, local governments

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**Strategy 4: Promote Local Utilization of Energy and Industry Output**

The region can promote or undertake public education efforts to better inform the public of the local impacts of being an energy exporter. The region should focus on NGL and downstream users, while developing information on basic site requirements. Quasi-public development organizations will need to take the lead in site development. Focus on the attraction of high energy users, as well as point of source users.

**Partners for Implementation**

Pennsylvania Department of Environmental Protection
Vacant Properties Strategies
That Impact the Economy

Exploratory Scenario*
What If...there are blighted homes, along with brick and mortar retail locations throughout the region becoming vacant and abandoned. This lowers the tax base and increases crime rates.

*Each exploratory scenario describes uncertain, but comprehensible, potential futures that may occur. It is not suggested that these scenarios will occur, only that a region may consider them as a “What If...” scenario.
Strategy 1: Prioritize: Repurposing Rather Than Demolition
While vacant properties offer communities opportunities to repurpose land for community benefit, such as community gardens, playgrounds, and open space, efforts should be expended to repurpose the building(s) in question. Maintaining a neighborhood’s character and preventing too much demolition from occurring should be a priority when dealing with vacant dilapidated structures.

Partners for Implementation
SPC, land banks, counties, municipalities, nonprofits, economic development agencies

Strategy 2: Promote Institutional Investment in Older Communities
Older communities tend to lose population, employment, and a tax base to support needed public services and infrastructure improvements. Promoting investment in older, underserved communities helps counteract these forces and encourage stability in the region’s existing older communities. Weak markets and population loss can limit private investment in these markets.

Partners for Implementation
Economic development organizations, colleges, universities, hospitals
Strategy 3: Use Regulation and Incentives to Promote Property Maintenance

Public policy incentives and/or regulations can help to ensure private property owners maintain their homes/buildings. Incentives may include zoning variances, tax abatements, and fee waivers among others. Regulations can also ensure properties are maintained, either through zoning requirements and/or local laws.

Partners for Implementation
Municipalities, planning commissions, zoning hearing boards

Strategy 4: Develop, Promote, and Duplicate Best Practice Models

Communities should share best practices in the handling of vacant land. Options include land trusts (nonprofits that hold land in trust to provide affordable housing and other community assets), land banks (public entity that converts vacant, abandoned, and foreclosed properties into productive uses), municipal ordinances, beautification programs, and local stabilization programs.

The best practices for addressing vacant land will vary based on the community's desires, land values, incentive programs, preservation efforts, and the local economy. Understanding best practices and how to apply them in each unique situation will ensure that the region can take advantage of the opportunities presented by the region's vacant properties.

Partners for Implementation
Allegheny County Vacant Property Program, land trusts, land banks, municipal ordinances, local beautification and stabilization programs
During the Regional Plan Workshop, participants were asked to discuss potential draft strategies for the Forces of Change and identify investment levels for each of the draft strategies. This exercise helped to create a framework that could be used to evaluate and drive future evaluation of projects and investments.

Below are the investment strategy results for the Economy Forces of Change.

<table>
<thead>
<tr>
<th>Economy Forces of Change</th>
<th>Percent Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workforce Strategies</strong></td>
<td>13.1%</td>
</tr>
<tr>
<td>Break the negative stigma of skilled labor “blue collar” versus college.</td>
<td>3.6%</td>
</tr>
<tr>
<td>Change training curriculum and delivery paradigm to focus on soft skills, while also providing industry specific training funding to the employers.</td>
<td>7.5%</td>
</tr>
<tr>
<td>Increase the candidate market or “end size.”</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Infrastructure Strategies</strong></td>
<td>33.8%</td>
</tr>
<tr>
<td>Increase funding for critical infrastructure.</td>
<td>13.8%</td>
</tr>
<tr>
<td>Improve efficiency in development, design, construction, operation and maintenance.</td>
<td>7.5%</td>
</tr>
<tr>
<td>Prioritize projects with economic impact.</td>
<td>7.5%</td>
</tr>
<tr>
<td>Develop and provide tools that allow for local funding of projects.</td>
<td>5.0%</td>
</tr>
<tr>
<td><strong>Technology Strategies</strong></td>
<td>18.8%</td>
</tr>
<tr>
<td>Provide high speed internet connectivity and availability everywhere.</td>
<td>8.8%</td>
</tr>
<tr>
<td>Push high speed deployment through public policy, either funding or incentives (the carrot) and/or regulatory (the stick).</td>
<td>5.0%</td>
</tr>
<tr>
<td>Track and promote new technology development and deployment through Public-Private Partnerships.</td>
<td>2.5%</td>
</tr>
<tr>
<td>Train and/or retrain employees for emerging technologies.</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Energy Strategies</strong></td>
<td>11.9%</td>
</tr>
<tr>
<td>Support the identification and development of an “Appalachian Storage Hub”.</td>
<td>1.9%</td>
</tr>
<tr>
<td>Promote common sense regulations that protect the environment but allow the energy industry to prosper.</td>
<td>5.0%</td>
</tr>
<tr>
<td>Provide flexible and easy to use funding for “on the job training” approach geared to emerging and new technologies.</td>
<td>3.8%</td>
</tr>
<tr>
<td>Retain the region’s economic value by promoting local utilization of energy and industry output.</td>
<td>1.3%</td>
</tr>
<tr>
<td><strong>Vacant Properties Strategies</strong></td>
<td>22.5%</td>
</tr>
<tr>
<td>Prioritize: Repurpose versus Demolition.</td>
<td>6.3%</td>
</tr>
<tr>
<td>Promote institutional investment in older communities.</td>
<td>3.8%</td>
</tr>
<tr>
<td>Entice property owner action through public policy, either funding or incentives (the carrot) and/or regulatory (the stick).</td>
<td>3.8%</td>
</tr>
<tr>
<td>Develop, promote and duplicate best practice models (such as: land trusts, land banks, municipal ordinances, beautification and stabilization programs, etc.).</td>
<td>8.8%</td>
</tr>
</tbody>
</table>
Building the Vision

Economy
Building the Vision

As discussed in this report, in developing Smart Moves for a Changing Region, SPC convened a series of Expert Resource Panel meetings to identify Forces of Change, weigh their potential impacts, and develop strategies to mitigate and/or optimize the forces. This information, coupled with public and partner input and feedback from SPC leadership, was organized into a set of three emerging themes that capture the most positive aspects of each strategy and focus them in a way that will result in a holistic long range plan for the region.

SPC is developing a plan that both provides a framework and makes significant investment to advance the most critical issues and projects facing the region. The emerging themes will be used in conjunction with performance metrics and other public input to evaluate the program of proposed projects and programs to be contained in the plan. This will ensure the projects and programs contained in the plan will work in concert to assist the Southwestern Pennsylvania region achieve its desired vision for the future.

The emerging regional vision is a world-class, well maintained, integrated transportation system that provides connected mobility for all, enables resilient communities and supports a globally competitive economy. 

This vision means taking advantage of our considerable existing assets and developing, supporting and implementing projects that advance our progress. It means investing in regionally connected seamless public transportation that includes new transit investments in key corridors and networks. It means developing modern support infrastructure that prepares the region not just for current technological advances, but also strives to put the region years and decades ahead, by developing the next technology here in this region because we have the expertise in the region to make this happen. It means tackling climate change and taking care of our air and our water. This will allow us to work with many partners and dovetail this plan with other related plans and regional efforts of both public and private sector to advance the region.

The vision means working with partners in identifying and using the types of proven funding and financing arrangements that we will need to make that happen.

The vision will focus on the workforce needs of the region. It means attracting and growing our population by making the region a place where people want to come and stay. It means training our population not just for the jobs that exist but for the jobs we create through innovation and entrepreneurship, and making this region a leader in technology and innovation.

Technology and innovation can be much more than self-driving cars and artificial intelligence and it can work in rural as well as urban parts of the region. It will include innovative new farming techniques and technology deployment that will connect our entire region with high speed access to the internet to afford all our residents the opportunity to work from anywhere and connecting them to the global economic opportunities. The vision will recognize our assets and putting them to the best use for this region, and our residents.

The vision also means taking stewardship and care of the communities that are the foundation of this region, and environment that sustains us. This plan will focus community investment that both sustains our past and protects our future, while elevating the status of our communities throughout the region as desirable places to live and work.
Acknowledgements

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Ephraim Zimmerman, Western Pennsylvania Conservancy