NEXTransit

PortAuthority

25-year Long-Range Transportation Plan

FINAL 9-16-2021

Letter from the CEO

Dear Friends,

NEXTransit, Port Authority's Long Range Transportation Plan, provides a roadmap for the policies, programs, and projects that are needed to move us toward a future Allegheny County that is accessible, efficient, environmentally sustainable, and equitable. The Covid-19 pandemic made planning for the future more challenging, but the fact remains that we need to have a shared vision in our region for how to get people where they need to go in a way that is fast, safe, and dignified. This is our chance to dream big and go after the environmentally and financially sustainable future we all want by demonstrating the value that transit brings to our communities.

NEXTransit details how Port Authority will strive for a more connected transit system that increases the quality of our services and the reach of our network by strategically investing in new infrastructure and when adapting what we already have. The benefits of improved transit and mobility are clear. When more of our region's people can access jobs, education, housing, and health care, and recreation, we all benefit.

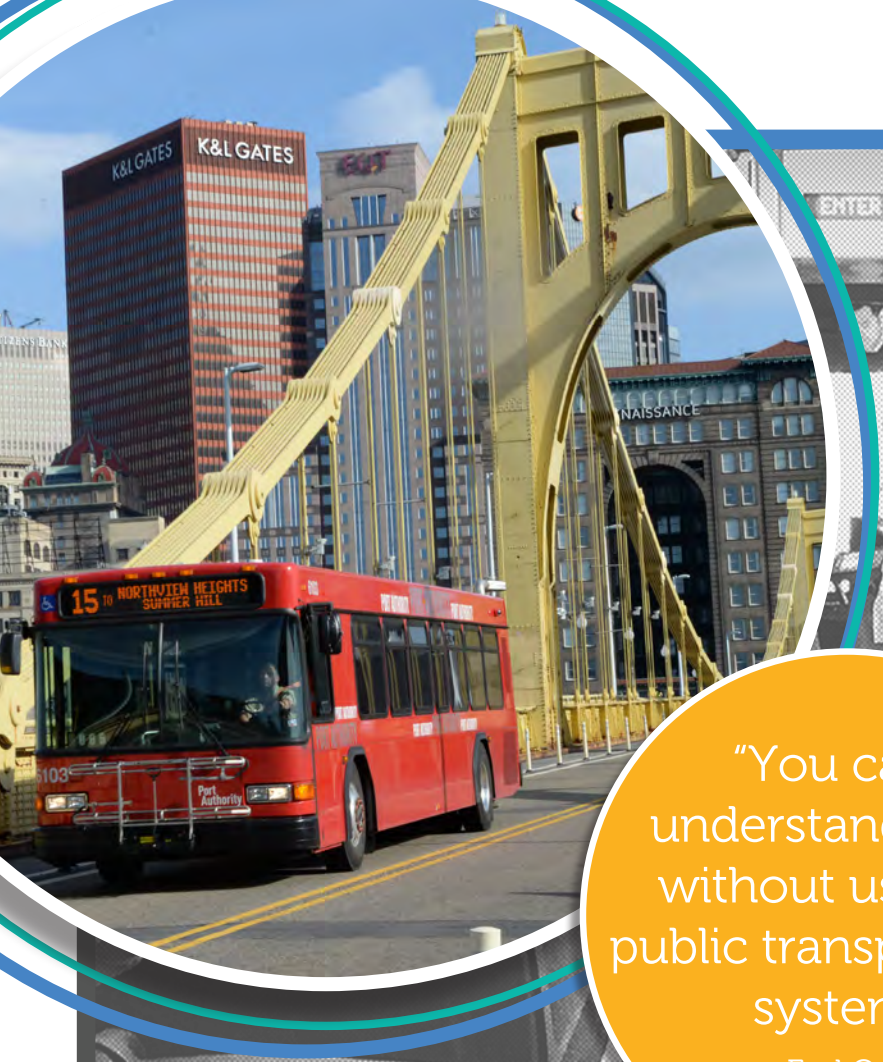
Port Authority developed NEXTransit by incorporating the great work being done by our partners at all levels of government, from local to regional. No plan is created in isolation, and NEXTransit in particular was very focused on transparency and inclusiveness. We heard from a broad cross-section of county residents and stakeholders about the need to improve the quality of our existing services and to grow our system for more reliable, convenient, and safe travel.

The future is changing, and this plan may change over time as we respond to the needs of that future. The projects and programs outlined in the following pages look at 2019 data through a 2020-21 lens to predict how our transit system should grow in the future. But, this may shift and adjust as we gain clarity on what our post-pandemic world will look like.

Port Authority's transit system belongs to this community—our employees just operate it. Thanks to your invaluable input over the past year and a half, our NEXTransit network can help drive these dreams closer to reality.

Sincerely,

Katharine Kelleman
CEO, Port Authority of Allegheny County



"You can't understand a city without using its public transportation system."

- Erol Ozan

Contents

Public Engagement Process

Port Authority's Goals

True to Port Authority's commitment to connecting people to life, public engagement and input were central to the NEXTransit long-range visioning process. Working with the region's stakeholders, leaders, elected officials and public, the mission was clear to develop an action-oriented plan that makes connecting to jobs, friends and family, education, medical services, recreation, and all of life's necessities more simple, efficient, and reliable—all by using transit!

People whose lives are affected by planning and investment decisions have a right to be involved in the decision-making process and to influence the choices that are made. Throughout the 16-month outreach effort, the project team directly engaged the community to hear from diverse voices and yield new ideas as well as give the public ownership in the developed solutions. The planning process was open and transparent, providing project updates, and gathering input at key intervals to ensure that the plan is reflective of the public's needs and desires.

The NEXTransit engagement process embodied the following principles:

- **Inform and educate the public**
  Create a comprehensive, equitable, and inclusive engagement plan that includes a wide variety of techniques for interested parties to become involved.
- **Use input to shape planning efforts and the final plan**
  Communicate how the public's contribution will influence decisions. Ensure that the public's contribution will influence decision-making.
- **Make and build connections**
  Identify opportunities and facilitate two-way conversations to build relationships between Port Authority and stakeholders (public, stakeholders, elected officials, and agencies) throughout the planning process.
- **Create support for implementation**
  Identify opportunities for Port Authority to leverage and expand public acceptance and ownership of the recommendations and projects outlined in the NEXTransit plan.

The "Who" in Public Engagement

Allegheny County's 1.2 million residents have diverse needs, perspectives, and opinions related to transportation. Through the NEXTransit process, the planning team sought the involvement and participation of a variety of stakeholders to understand what issues are of regional importance.

The audience included residents, riders, non-riders, local, regional, and state agencies, Port Authority staff and unions, other transportation organizations in the region, pedestrians, bicyclists, persons with disabilities, and representatives of major employers and institutions.

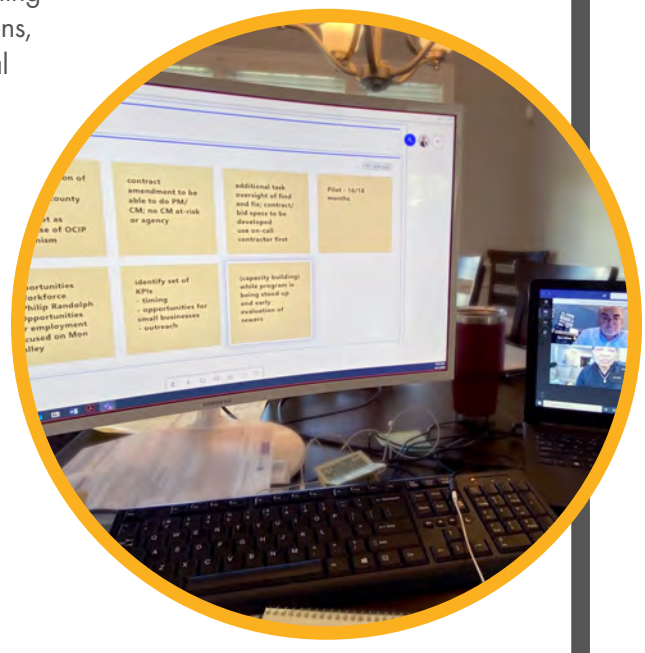
The approach to creating ongoing conversations with community stakeholders was to establish various levels of interaction: a Steering Committee to help oversee and guide the NEXTransit planning process, a Stakeholder Advisory Group (SAG) to ensure that the intended audience was reached, targeted stakeholder meetings to ensure that the team heard from community organizations, and the public to ensure that everyone within Allegheny County had an opportunity to provide their input.

Steering Committee

The Steering Committee was comprised of subject-matter experts and local and regional agency partners who advised the project team monthly throughout the planning process. The committee helped define the stakeholder groups to engage with during the outreach process, served as a liaison between staff and the agencies represented, and acted as an oversight and review group as the final plan evolved. Members of the committee represented a diversity of partners invested in the success of the Port Authority, such as the City of Pittsburgh's Department of Mobility and Infrastructure (DOMI) and the Department of City Planning (DCP), the Southwestern Pennsylvania Commission (SPC), and the Allegheny County Department of Economic Development (ACED). A full list of Steering Committee members and their respective organizations is included in Appendix A.

Stakeholder Advisory Group (SAG)

The SAG consisted of about 130 members, convened quarterly to represent their respective stakeholders and organizations. SAG members served as local experts and advocates to share information about how to involve their organizations and stakeholders in the process and provide valuable perspective and input during key planning milestones. The SAG helped advertise and promote public input opportunities (like meetings and surveys) throughout the planning process to ensure that the team was reaching as many people as possible. Membership of the SAG included organizations representing chambers of commerce, employers, civic groups, educational institutions, advocacy organizations, neighborhood and community groups, social service providers, and transportation organizations. Additionally, 12 stakeholder organizations invited the project team to present on the plan at their own meetings. A list of these meetings, as well as a full list of the SAG members and their respective organizations is included in Appendix B.



Elected Officials

The NEXTransit planning team kept state and local elected officials engaged by preparing legislative briefing packets that were specific to each local district once projects and programs had been identified.

Public Engagement By the Numbers

6 rounds of 45 public meetings with 1,425 participants
(combination of online + in person)

37 pop up tent events throughout Allegheny County
(summer + fall of 2020, spring + summer 2021) with 625 participants

1,700 survey responses
(online, paper, call-in + text)

17,000+ unique visits to the project website
(http://nextransit.network)

1,030 followers on social media accounts
(Facebook, Twitter, Instagram)

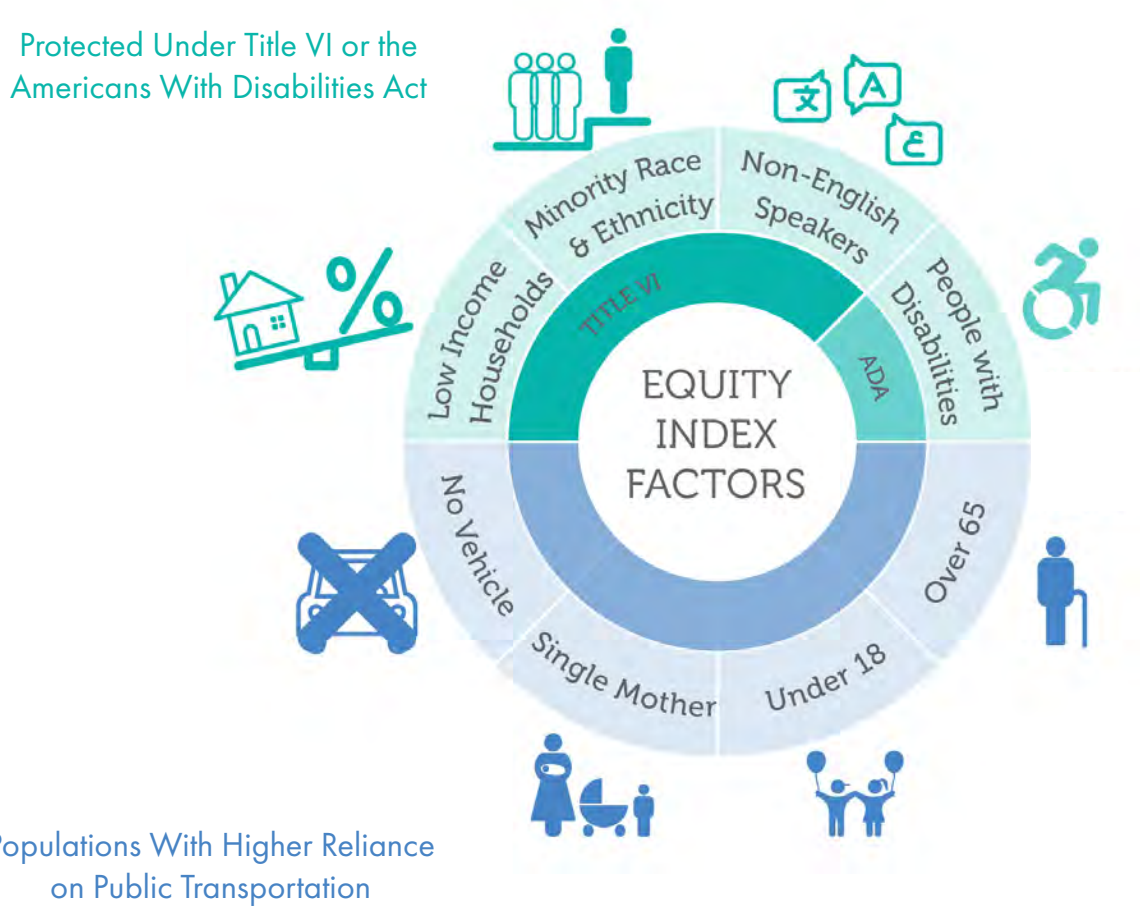
Ensuring Equity and Inclusion Within the Engagement Process

To ensure the NEXTransit plan was inclusive and responsive to traditionally underrepresented or marginalized groups, engagement methods and opportunities were designed to connect to these communities in ways that were meaningful and equitable. This included innovative ways of integrating feedback from paper surveys, SMS text questions, traditional phone surveys, and mobile-friendly surveys to inform the public as well as solicit participation and concerns from communities of color, low-income residents, and other disadvantaged communities. This consideration and proactive planning were extended to include other constituencies that are traditionally underserved, such as people with disabilities and people with limited English proficiency.

Obtaining Feedback from High Equity Need Communities

Port Authority strives to go above and beyond the Federal Transit Administration's Title VI requirements (prohibiting discrimination based on race, color, and national origin, including for limited English proficient persons) and has created an "Equity Index of Need" to help in planning and prioritizing system, asset, and infrastructure changes and projects based on impacts to these groups. The Index includes groups which have been shown through research to have higher need for public transportation services than the general population.

The NEXTransit planning team utilized this Index to ensure that these communities, along with the highest ridership transit stops, were prioritized for in-person engagements to supplement the online outreach.



Ensuring Equity During the COVID-19 Pandemic

Nearly all of the NEXTransit public engagement occurred during the COVID-19 pandemic which severely limited the ability to host traditional, in-person meetings. Not everyone has the same level of (or any) access to the internet or the ability to participate in online meetings, so the team had to be creative with how to engage people to ensure that the plan was inclusive.

Due to the restrictions on in-person gatherings, all meetings (Steering Committee, SAG, stakeholders, public) were held online until June 2021, with the exception of pop-up tents. Public meetings were held on a variety of days and times (mornings, lunchtime, afternoons, evenings) to maximize opportunities for participation. A variety of platforms were used, including Zoom, Facebook Live, and PublicInput.com, which have simple, toll-free call-in abilities for those using the phone. Meetings were recorded and made available afterwards for those who were unable to participate at the times the meetings were scheduled.

Understanding that many people do not have online access or are reluctant to participate in online meetings, the NEXTransit planning team also hosted small, pop-up engagements at three different points in the process. All COVID-19 safety protocols were followed to ensure public safety (masks, face shields, hand sanitizer, social distancing). These engagements were distributed geographically around the county and held in locations with high equity need and high current transit ridership. Hard copy surveys were also made available at different points in the project at senior centers, Port Authority's Downtown Service Center, bus shelters, and numerous pop-up events.

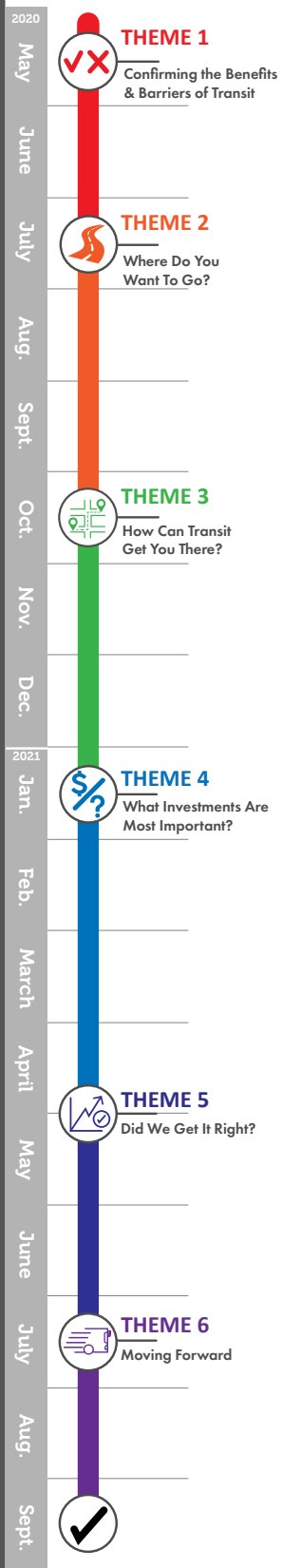
Accommodations for All Abilities

Sections 501 and 504 of the Rehabilitation Act of 1973, as well as Title III of the Americans with Disabilities Act of 1990 (ADA) stipulate that: owners of public facilities must make reasonable modifications to avoid discrimination in their policies, practices, and procedures, which includes ensuring that such facilities are physically accessible to people of all abilities. Planning meetings that are accessible to people with disabilities involves focusing on the accessibility of all aspects of the meeting from choosing a site through promotion, registration, presentations, and handouts.

The NEXTransit planning team worked to ensure access to both the physical environment as well as to the information which was presented. This ensured that any person with a disability had full and equal access to the facility and the engagement activities. Hearing impaired and language interpreters and Braille documents were provided for public meetings. For smaller stakeholder meetings, these resources were available upon advance request.

Involving Participants with Limited English Proficiency (LEP)

A concerted effort was made to engage individuals who do not speak English as their primary language or who have a limited ability to read, speak, write, or understand English. Meeting announcements, online survey materials, as well as paper surveys and materials were offered in Spanish, as the language with the most non-English speakers in the region. In addition, a meeting was conducted fully in Spanish, a first for Port Authority, in partnership with local Latinx community organizations to reach as many LEP persons as possible.



How Public Contributions Help to Influence Decisions

The NEXTransit Plan represents Allegheny County's transit future. The community engagement process was organized under a series of six themes. Each theme of public engagement throughout the project was designed to solicit and gather critical input and answer questions from stakeholders, elected officials, and the public to ensure creation of a plan that could be widely supported for implementation.

Theme 1: Benefits and Barriers to Transit

The first public engagement theme focused on hearing public transit stories from the public. It included questions such as: What are the benefits of using transit and having it in your neighborhood? What barriers make it difficult for you to get where you need to go?

These basic questions helped the project team to understand local transit challenges and prepared the conversation about where the public wants (and needs) to go.

Theme 1 Activities:

- **Launched the nextransit.network Website -** May 2020. The website featured a Virtual Bus, which allowed participants to navigate and learn in a fun way and featured clickable maps, survey links, and infographics.
- **Launched the "Benefits and Barriers to Transit" open input survey** - The team received 63 total comments, including 37 benefits and 26 barriers.

Theme 2: Where Do You Want to Go?

Building upon the benefits and barriers to transit in Theme 1, Theme 2 was about documenting destinations and identifying gaps in connectivity, accessibility, ridership experience, and efficiency in the transit network.

Theme 2 Activities:

- **Hosted Public Meeting Series #1** – July and August 2020. Meetings were hosted with about 170+ participants via Zoom, Facebook Live, and phone. The team launched the public transit gaps survey and map online via the project website, through which people could identify where transit gaps and barriers exist on the map and/or take the survey. A total of 760 responses to the survey were received. Over 500 printed surveys were mailed to Senior Centers throughout the service area, with over 100 returned (a 20% return rate).
- **Conducted Pop-Up Engagements** – The team held the first series of in-person pop-up engagements to talk to people about existing transit gaps. Pop-ups were held in 29 locations throughout the county, with more than 300 people and recording more than 330 comments.
- **Hosted "Talking Transit Tuesdays**" – Live via Zoom every Tuesday in September 2020, residents could call in or join the meeting to talk to transit experts about NEXTransit.
- **Continued Outreach via the Website and Social Media**:
  - Website engagement: 3,101 unique users and 3,803 sessions
  - 174 new social media followers for a total of 435 Facebook users, 257 Twitter users, and 135 Instagram users

Who did we hear from?

760 total survey responses

79% ride/have ridden transit

87% were 35 or younger

30% ride transit 4-5 times per week

42% depend somewhat on transit, but have other options

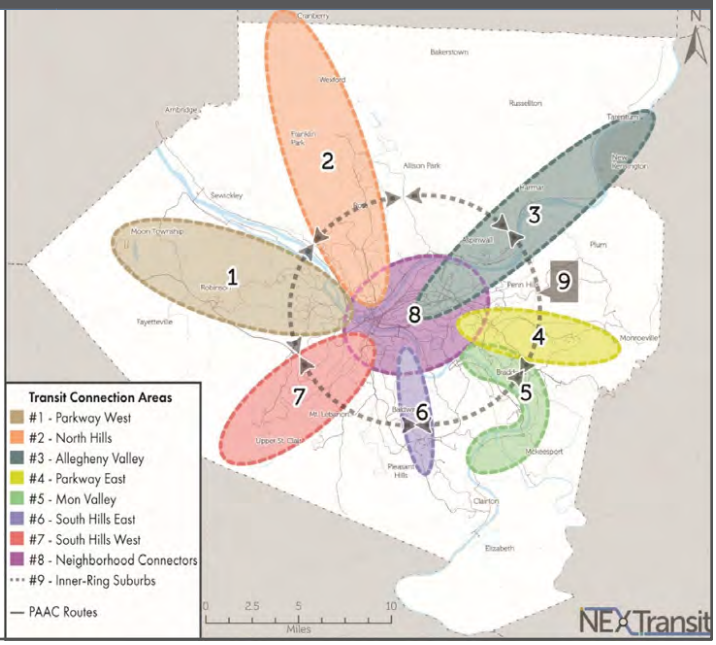
76% have been riding transit for 5 or more years

Top issues reported

1. Service is too infrequent
2. Public transit takes too long
3. I have to ride multiple vehicles and transfer

Target Areas Identified

Using data from the survey, in-person pop-up events, and the market + travel demand analysis, the NEXTransit team identified potential transit connection areas that require more detailed study and feedback.

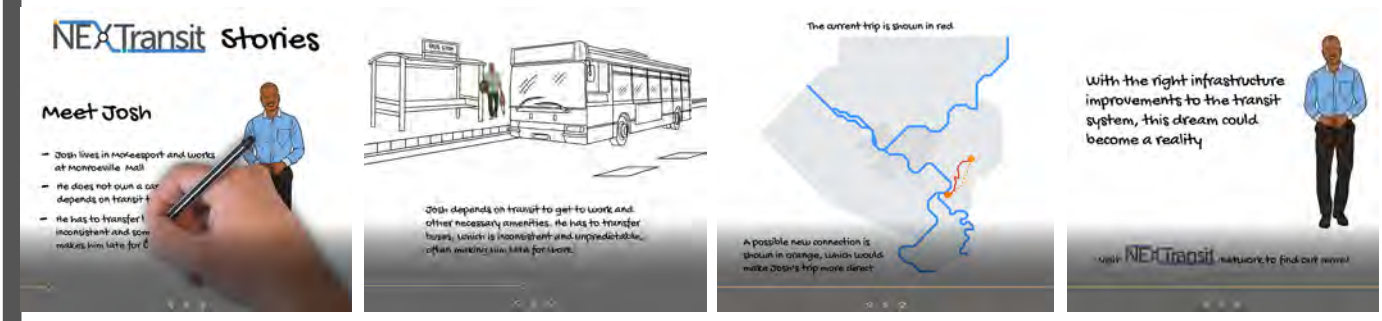


Theme 3: How Can Transit Get You There?

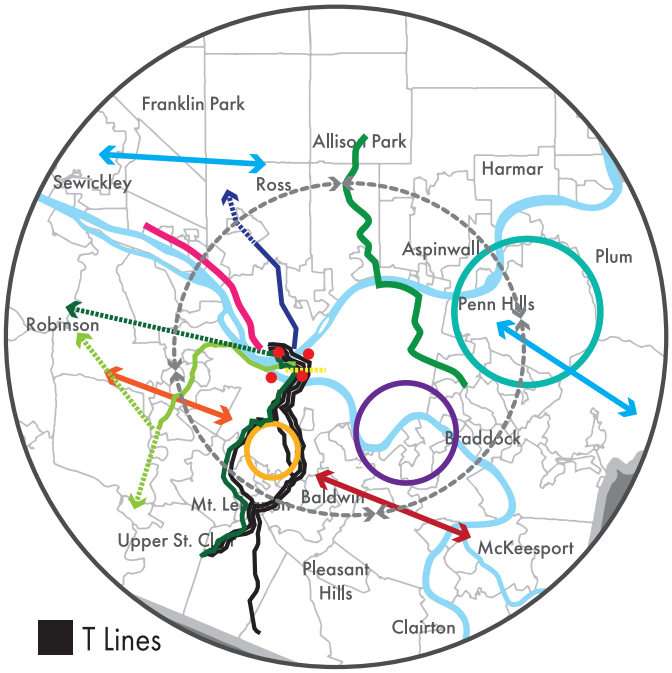
With the transit gaps identified by the public, the project team developed nine preliminary transit connection areas that would help to address these gaps. Some places could be better connected with more frequent service, better sidewalks and stops, or new lines. Also explored were major destinations within each connection area to lay the groundwork for the right mix of potential projects

Theme 3 Activities:

- **Created NEXTransit Stories** – This consisted of animated graphics to tell individual stories of current transit hardships, one for each of the nine identified missing connections; posted to the project website and shared on social media.
- **Hosted public meeting series #2** – November of 2020. The project team hosted meetings with approximately 60 attendees via Zoom, Facebook Live, and phone. Using the potential transit connections map, participants were asked: "Do you agree with the 9 transit connection areas? What areas are missing? Within each area, what points of interest or places for connections are important?"
- **Launched the "How can transit get you there?" Public Survey** – The survey was available from December 1, 2020 through January 30, 2021.



What the public said about transit connections:



Areas needing improved service

Brookline to LRT
Carnegie/West Busway to LRT
McKeesport to LRT/South Hills
Homestead/Hazelwood to surrounding areas

Most requested infrastructure

Extension of West Busway
Extension of LRT to Airport
Extension of HOV lanes on Parkway North
LRT from Downtown to Oakland
Gondola/cable car service in the City

Additional areas mentioned

Route 65 corridor
Route 8 corridor
Penn Hills area

Most Discussed

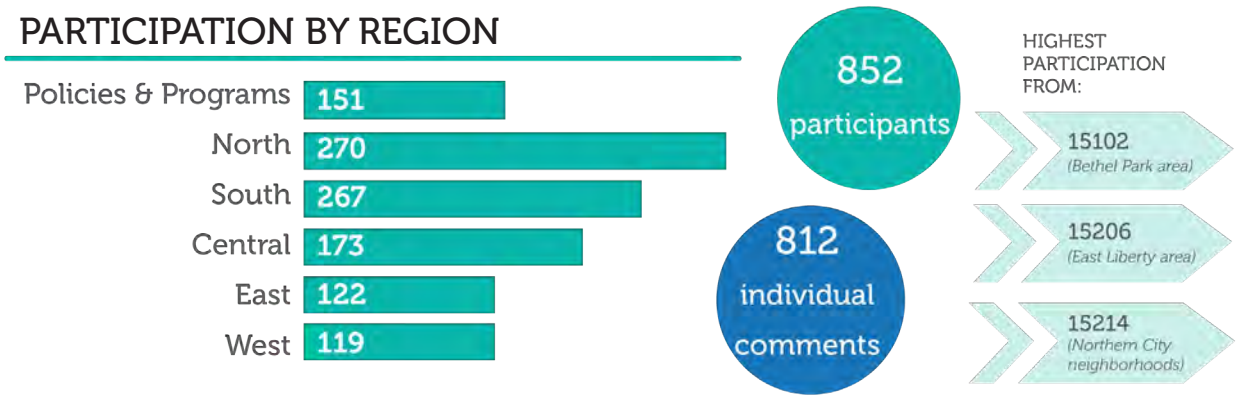
Inner-ring Suburb Connections
Routes between neighborhoods without going Downtown

Theme 4: What Investments Are Most Important?

The project team analyzed the data and public input to develop a preliminary set of projects, programs, and policies. This preliminary list of dozens of projects, policies, and programs was presented to the public to help narrow down what projects are most important based on several factors.

Theme 4 Activities:

- **Hosted Public Meeting Series #3** – February and March, 2021. This series hosted more than 250 participants via Zoom, Facebook Live, and phone. The meetings served to introduce the public to the online survey, designed to gather wide-ranging input on projects and policies/programs.
- **Launched the Projects, Policies, and Programs Survey** – This survey was open from February 25 to April 2. The survey was broken up into five project regions (North, South, East, West & Central) plus a separate section for the policies and programs for the public to select from. Hard copies were also made available at the Downtown Service Center and at various bus shelters throughout Allegheny County. The project phone line was also available to answer questions and assist those who needed it. 1,102 total surveys were received, 855 of these in the online version.
- **Conducted Pop-up Engagements** – These were held in eight locations around the county to promote the survey and allow people to provide their input.



Theme 5: Draft Priority Projects and Policies - Did We Get It Right?

Before the NEXTransit team began to consider costs, constraints, and other implementation realities, the project team asked the public: "Did we get the projects, policies, and programs right?" Many of the individual project segments shown previously were grouped together and organized logically to follow main corridors, provide logical linkages to each other, and to allow for a phased approach to design and funding. Public input was also utilized to categorize comments by project location, program, or policy and to develop a draft priority order for all proposed projects.

Theme 5 Activities:

- **Hosted Public Meeting Series #4** – May 2021. The team hosted 240 participants via Zoom, Facebook Live, and phone.
- **Collected Comments via the Project Website** – The top projects, programs, and policies were posted to the project website with open comment fields available for people to let the team know if Port Authority got it right. 110 comments on projects, policies, and programs were received.

What We Heard From You: Public Meeting Comments

We would like to take this chance, as we continue to collect your input on our top 10 projects list, to share with you what we heard at our public meetings.

Top Comment Themes:

The East Busway extension should increase in priority. Connections from Braddock to Monroeville are also important.

The Library Line provides many benefits, including a connection to the Montour Trail.

The bus network study is very important to riders, which would examine the potential for increase of frequency and service.

There is support for safety studies at the various "T" stations.

New buses should include new amenities such as larger bike racks. There is support for electric buses.

Learn more at NEXTransit.network

Theme 6: NEXTransit Plan – Moving Forward

The last public engagement theme served to present the draft plan to the public as well as offer a call to action for how to advance the vision and goals of NEXTransit. The project team used a combination of in-person and online events to present the proposed projects, policies, and programs that had been vetted by the public in the previous phases. The public was asked to review, provide comments, and express support for the draft plan.

Theme 6 Activities:

- **Hosted Public Meeting Series #5** – July and August 2021. The team hosted two online sessions and two in-person open houses (one each in Oakland and Downtown Pittsburgh). The online sessions were hosted via Zoom and phone with 156 participants. The in-person open houses had 150 total participants.
- **Conducted Pop-up Engagements** – The project team staffed 10 information stations to inform people about the draft plan, gather comments on the proposed projects, policies, and programs, and to solicit their support for the plan's implementation. There was a pop-up tent located in each of the top 10 project areas with information specific to that project as well as general information on the overall plan. Participants also had the opportunity to complete a written public comment card; 14 cards were returned.
- **Collected Comments** via the Project Website – The draft plan outlining all the projects, programs, and policies was posted to the project website with open comment fields available for people to let the team know if Port Authority got it right. 60 comments on projects, policies, and programs were received.

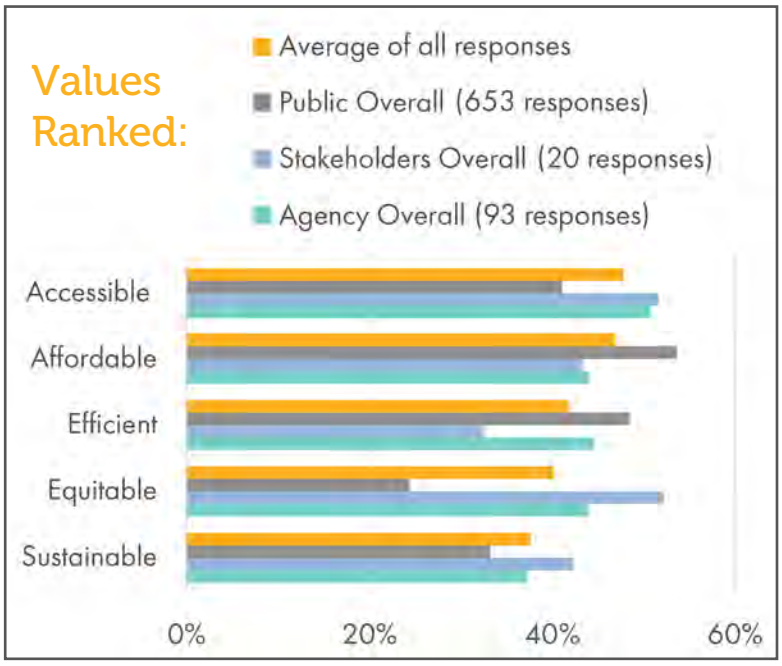
Media

For each of the six themes, team members worked with Port Authority staff to publicize NEXTransit through the local media and to promote the online public meetings that were held for each theme.

The team targeted specific news media outlets throughout, including the East End PRINT, KDKA Radio, New Pittsburgh Courier, Pittsburgh Business Times, Pittsburgh City Paper, Pittsburgh Post-Gazette, Tribune-Review, WESA-FM, WZUM-FM, and all three local network TV stations (KDKA, WTAE, WPXI). As a result, significant news media coverage was garnered as the project milestones were reached and online public meetings conducted. Appendix J contains links to NEXTransit news articles and/or segments that were published or aired.

Values Development

Determining how the region values transit (and defining how to articulate those values) will shape both current and future public transportation planning efforts, priorities, and decisions. To determine collective transit values, the project team utilized an online survey, detailed above as part of Theme 2 in July and August of 2020. This survey was given to the general public, NEXTransit Steering Committee, NEXTransit SAG, Port Authority staff, and the Port Authority Board.



The survey offered 15 values-based phrases for participants to rank in priority order. Through this process, the region on average said that it values the concepts shown in the chart at right. Once it was determined what the region values most about transit, this information then informed the development of policy and program ideas by assigning weights to various data sources when prioritizing projects in spring of 2021. The top five were described to participants as follows:

TRANSIT THAT IS ACCESSIBLE

"I value a transit system which ensures infrastructure is fully available in every way to those with specific needs, such as physical or mental disabilities, those traveling with infants or small children, those traveling with groceries or other goods, etc."

TRANSIT THAT IS AFFORDABLE

"I value a transit system that allows those of all means, including the underemployed and unemployed populations, to utilize transit without needing to sacrifice other life sustaining activity, such as buying food, medicine or heating, to do so."

TRANSIT THAT IS EFFICIENT

"I value a transit system that operates internally like a business and uses limited public dollars to the greatest extent possible to provide the most effective service possible."

TRANSIT THAT IS EQUITABLE

"I value a transit system that not only ensures the fair provision of services to those with limited means or higher risk, but which affirmatively acts to better the services offered to these groups in an effort to combat historical and environmental imbalances in the community."

TRANSIT THAT IS SUSTAINABLE

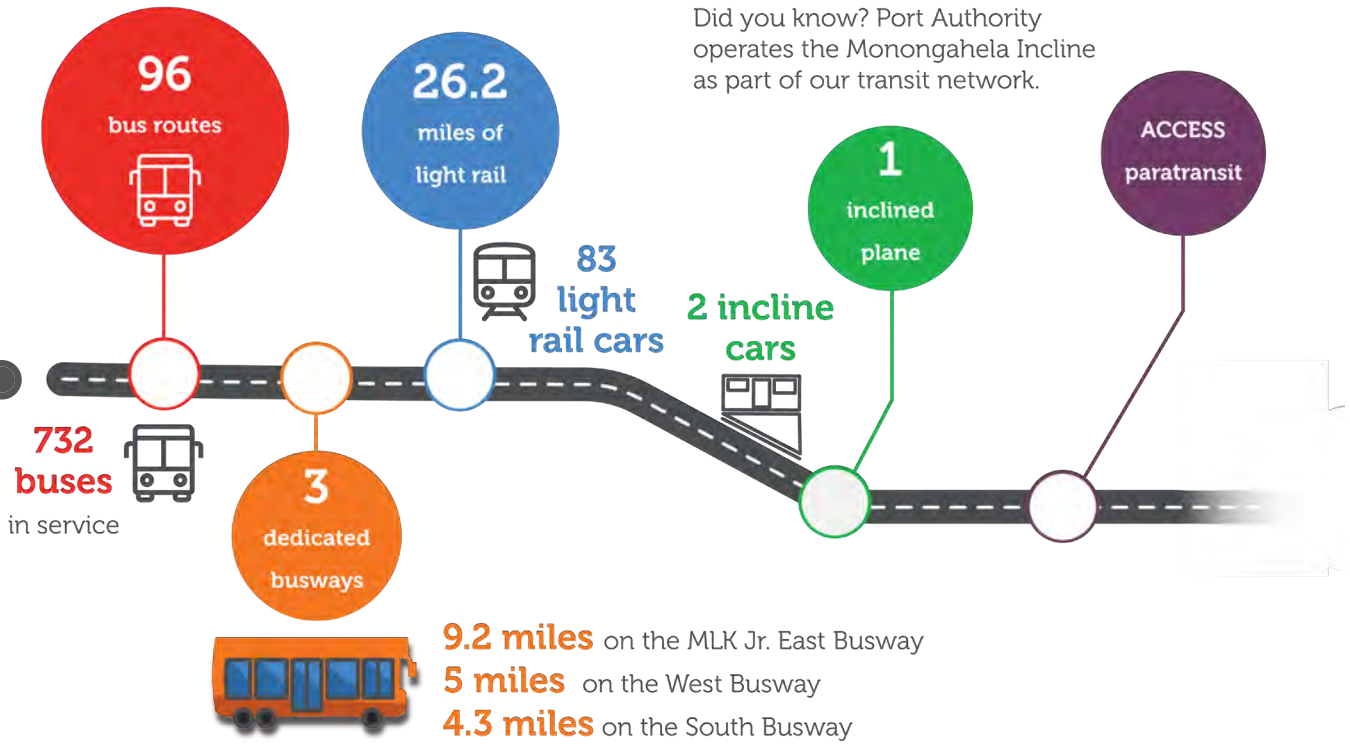
"I value a transit system that enhances the health of communities and the natural environment via its operations with regard to energy use, water use, raw material use, land use, and waste production."


88 PENN GARFIELD
IT'S ELECTRIC
7001
BUS STOP
JOBS VOTE

Port Authority Today

Port Authority of Allegheny County was the 27th largest public transportation agency (in terms of unlinked passenger trips) in 2018.* In addition to operating over 800 vehicles across multiple modes of transportation, Port Authority also operates seven maintenance and storage garages, has a program including 50 park and ride lots, and owns more than 80 bridges, four transit tunnels, and a high-occupancy vehicle tunnel (Wabash Tunnel).

Did you know? Port Authority operates the Monongahela Incline as part of our transit network.



Pittsburgh moves more people via transit than several of its peer cities.

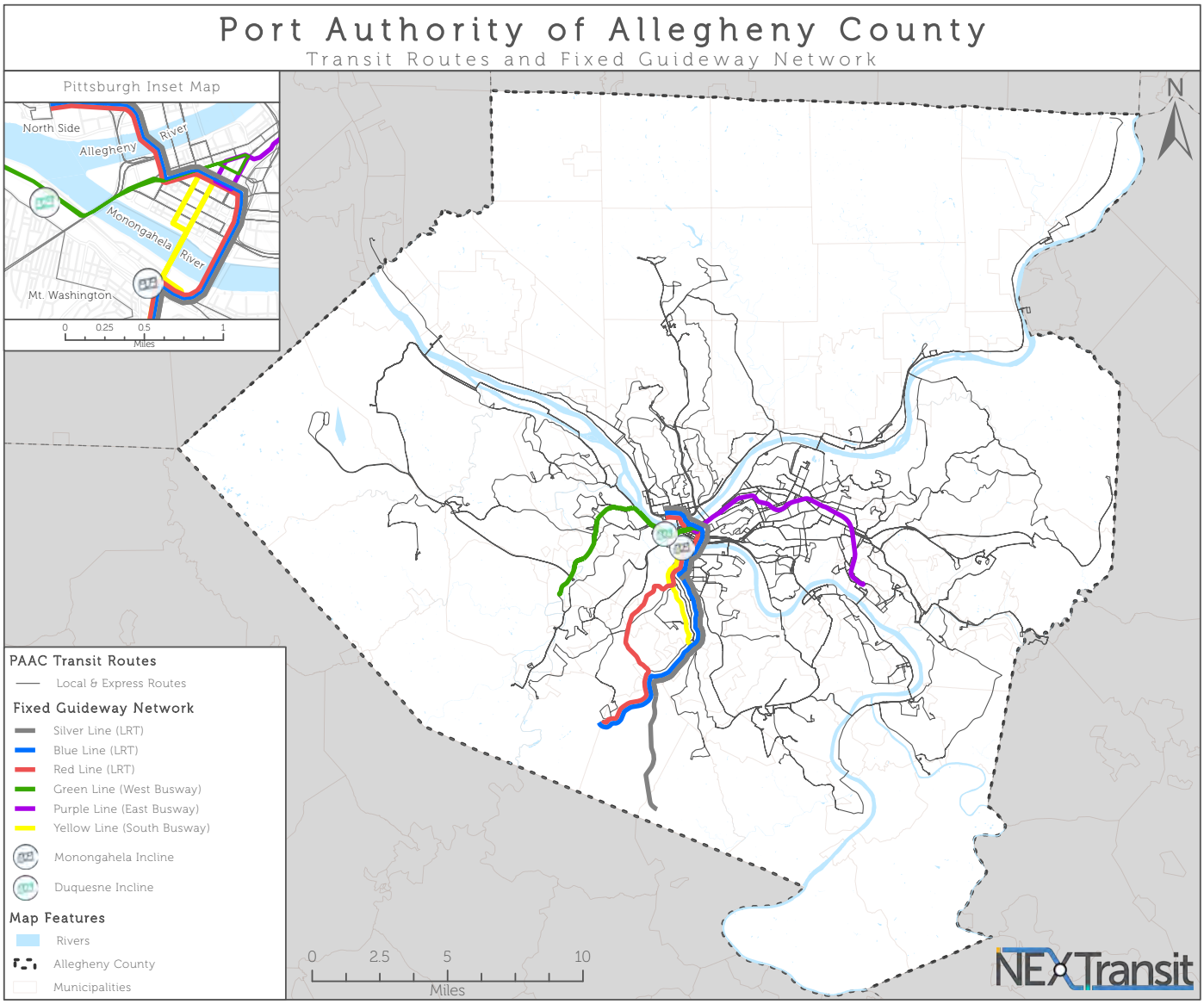
- 16th Highest Ridership per Capita
- 27th Largest Transit Agency by Unlinked Passenger Trips
- 93% Higher Transit Ridership than the U.S. Average

* APTA, 2018 APTA Public Transportation Fact Book

Ridership

Ridership in the Pittsburgh region as remained steady since 2015 (prior to the 2020-21 pandemic) and the demand for transit has put pressure on Port Authority to expand its transit network and frequencies. Port Authority has tended to outperform the national average regarding ridership.

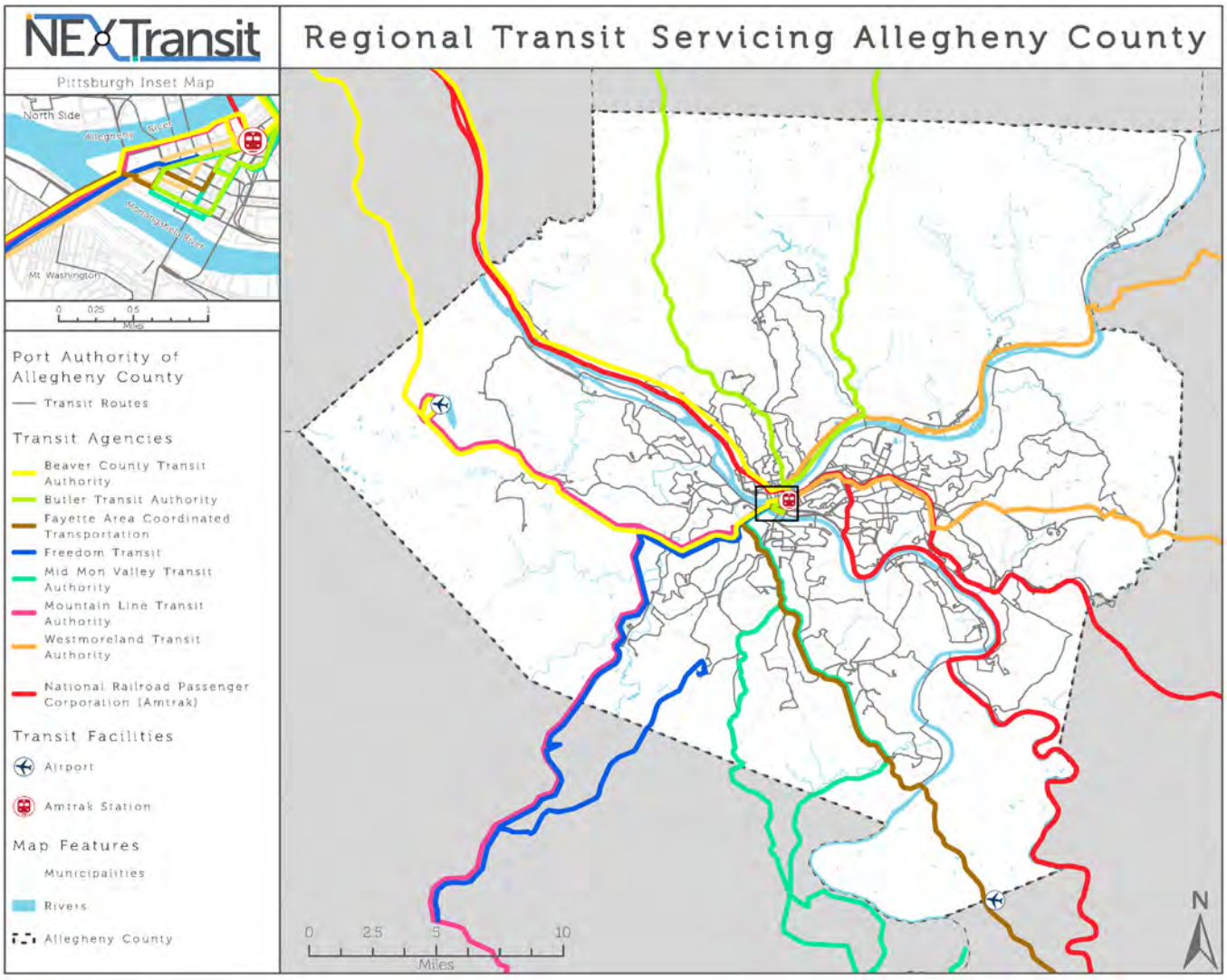
The system's overall ridership in fiscal year 2019 (the last complete year of data available prior to the pandemic) was approximately 64,000,000 rides across all modes. While FY 2020 saw a steep decline in ridership due to the pandemic, the approximately 51,800,000 rides that were provided still eclipsed the total FY 2019 ridership of several peer agencies, such as Cleveland's Regional Transit Authority (RTA) and Minneapolis's Metro Transit.



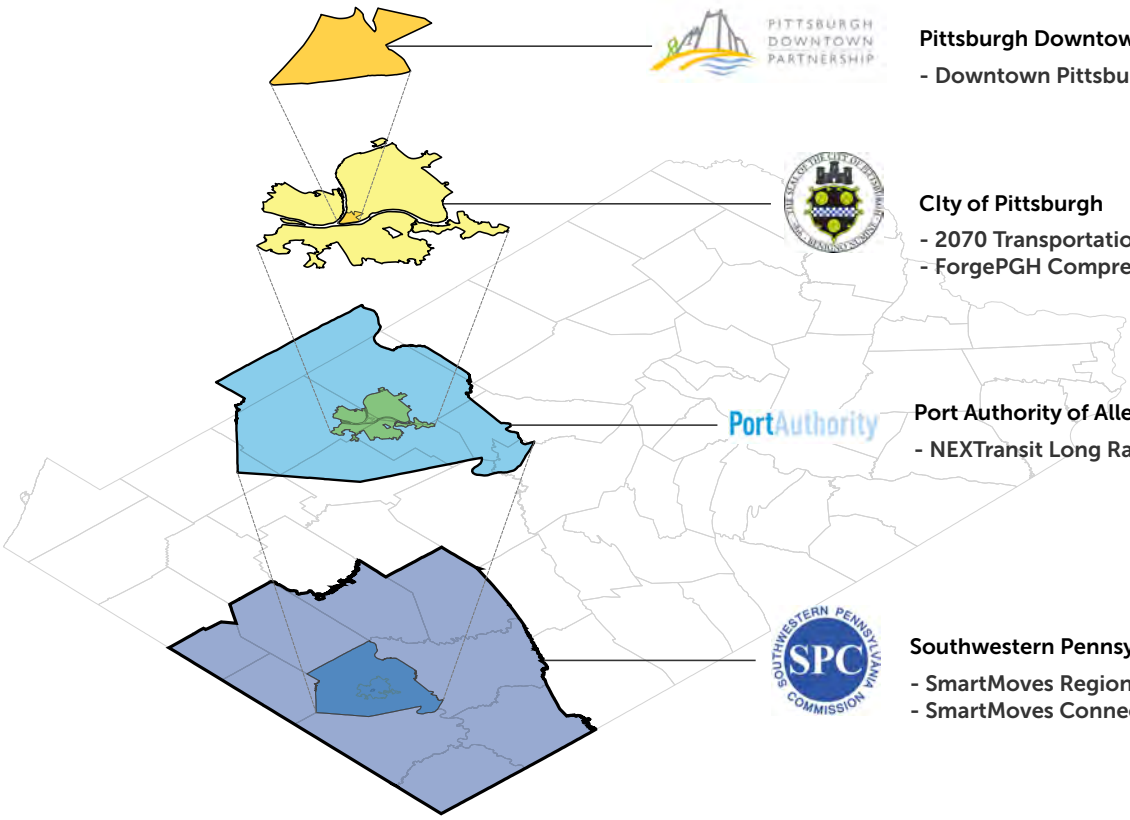
Regional Connections

Port Authority's services also have multiple connections to other transit agencies within Southwestern Pennsylvania. These include the following regional services, which can also be seen in the map below:

- Airport Corridor Transportation Association
- Beaver County Transit Authority
- Butler Transit Authority
- Fayette Area Coordinated Transportation
- Heritage Community Transportation
- Mid Mon Valley Transit Authority
- Rural Demand-Response
- Washington County Transit Authority / Freedom Transit
- Westmoreland County Transit Authority
- Intercity surface transportation (Amtrak, Greyhound, Megabus, Mountain Line Transit)



Port Authority is not alone in planning for the future during 2020-21. Its partners at the Southwestern Pennsylvania Commission's (SPC), City of Pittsburgh, and Pittsburgh Downtown Partnership (PDP) have also undertaken planning efforts that share data, common themes, and support each others' overall goals.



Pittsburgh Downtown Partnership
- Downtown Pittsburgh Mobility Plan

CIty of Pittsburgh
- 2070 Transportation Vision Plan
- ForgePGH Comprehensive Plan

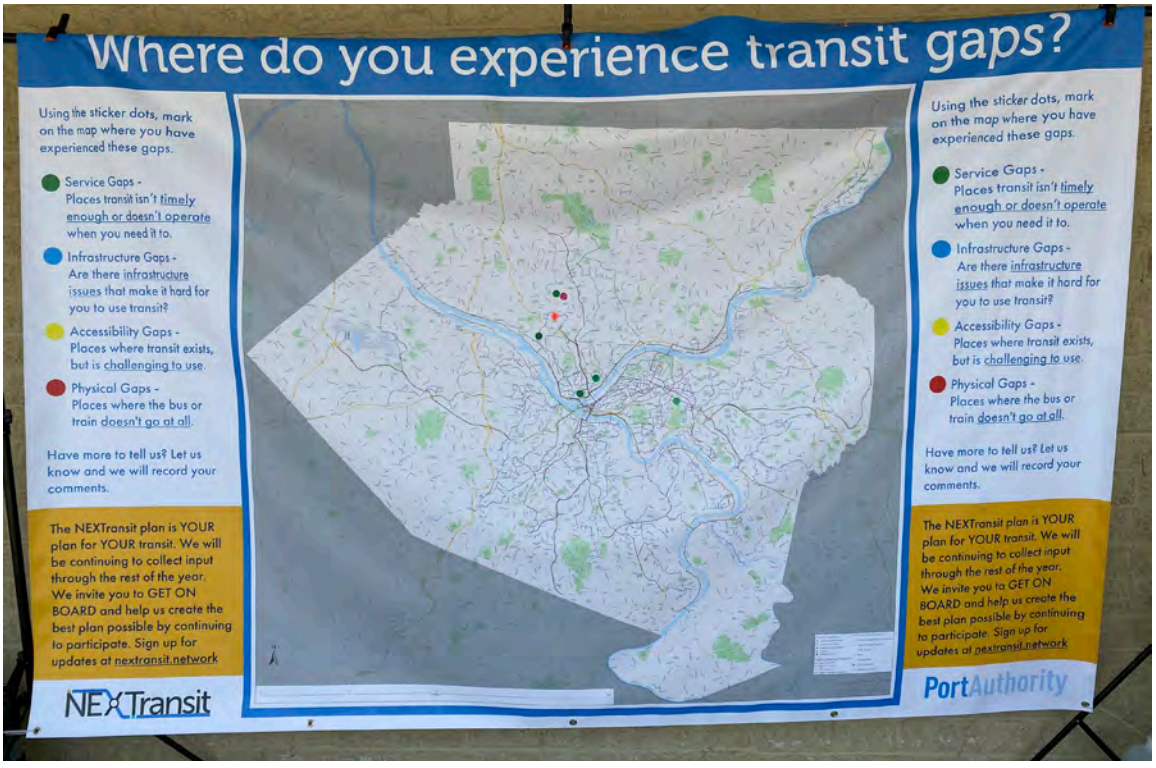
Port Authority of Allegheny County
- NEXTransit Long Range Plan

Southwestern Pennsylvania Commission
- SmartMoves Regional Long Range Plan
- SmartMoves Connections Regional Transit Plan

Market and Travel Demand Analysis Summary

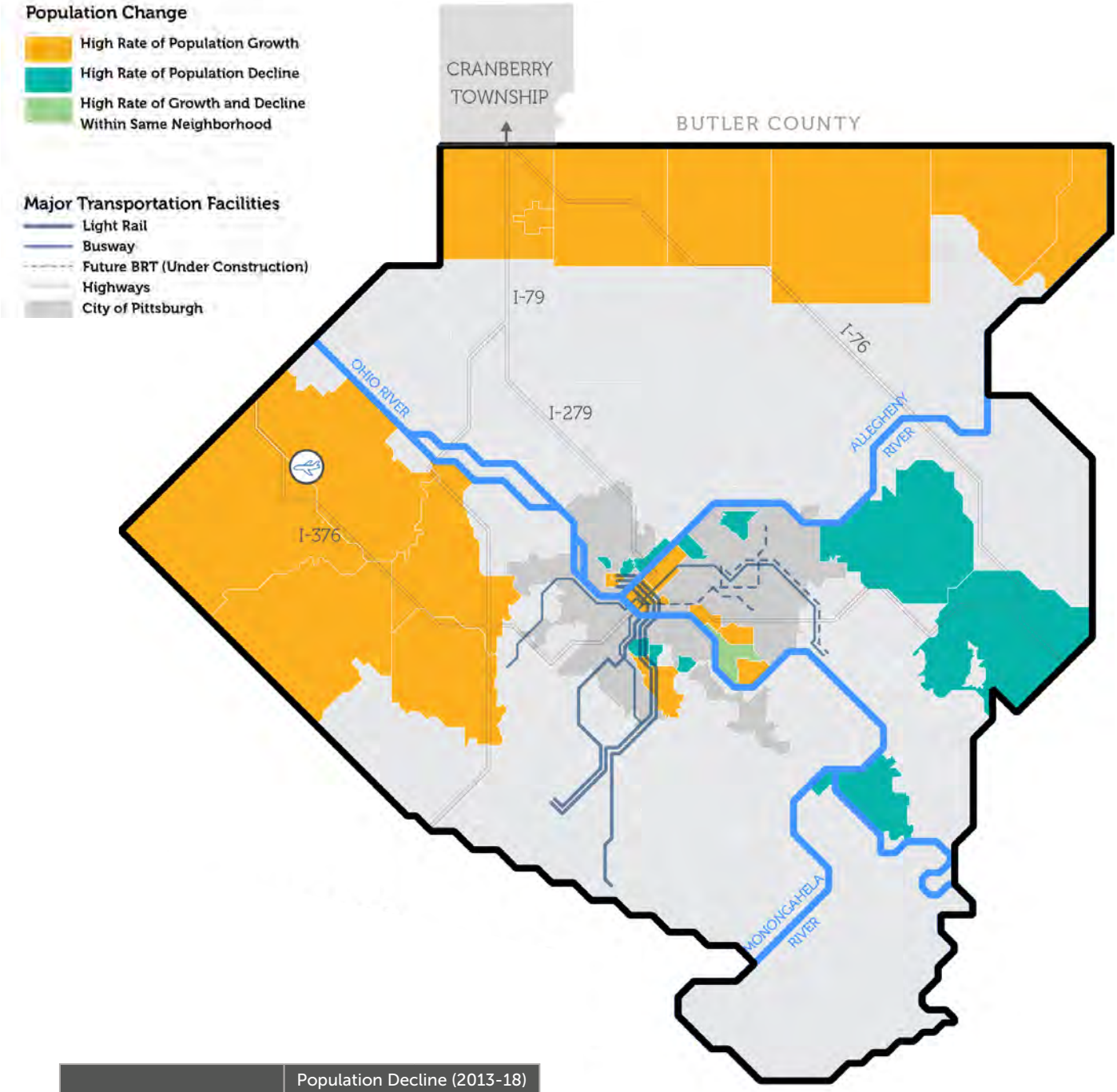
Public Engagement Process

Several forms of public outreach were conducted in order to obtain the crucial feedback needed to understand transit needs and identify gaps in the current system. Significant in-person engagement through pop-up events was possible in the summer and fall of 2020, and the project team used large maps at these events, on which participants placed dots to identify various types of transit gaps. This exercise was also available on the project website in a similar form.



Population Growth/Decline

Regions undergo constant demographic and economic changes. Even in the Pittsburgh metropolitan area where population has been stagnant or declining for decades, new development is occurring, populations are shifting, and the economy is evolving. Transit demand is impacted by these underlying changes, especially as residential and employment trends cause migration to areas with fewer transit options. Using Census data, areas that experienced the greatest population shifts across the past decade were examined to understand the reasons for the shift and external factors driving the loss or gain in population. Understanding those changes is critical to planning for transit infrastructure and anticipating regional changes that may impact future transit services and needs.



Neighborhood	Population Decline (2013-18)	
	Percentage	Number of individuals
Beltzhoover	-38.20%	-731
California-Kirkbride	-27.70%	-233
East Allegheny	-25.70%	-627
Hazelwood	-13.1%	-534
Knoxville	-20.50%	-958
Lower Lawrenceville	-15.5%	-410
McKeesport	-3.70%	-721
Monroeville	-3.40%	-965
Penn Hills	-3.70%	-1522
St. Clair	-51.60%	-241
Stanton Heights	-14.8%	-758
Troy Hill	-16.3%	-416

Neighborhood	Population Growth (2013-18)	
	Percentage	Number of individuals
Allegheny Center	50.50%	496
Allegheny West	62.60%	218
Bon Air	55.50%	482
Carrick	12.60%	1213
Central Business District	18.90%	1869
Cranberry (Butler County)	12.80%	3534
Glen Hazel	57.9%	392
Greenfield	10.1%	744
South Oakland	28.5%	756
Strip District	49.60%	338

Employment, Development Pressures, and Growth

Job growth in the Pittsburgh metropolitan area (including Allegheny, Armstrong, Beaver, Butler, Fayette, Washington, and Westmoreland Counties) from March 2019 to March 2020 was most robust in four main sectors, accounting for a net total of over 10,000 jobs. Those sectors include: construction (gained 4.2%), financial activities (gained 3.7%), professional and business services (gained 1.8%), and government (gained 1.5%).

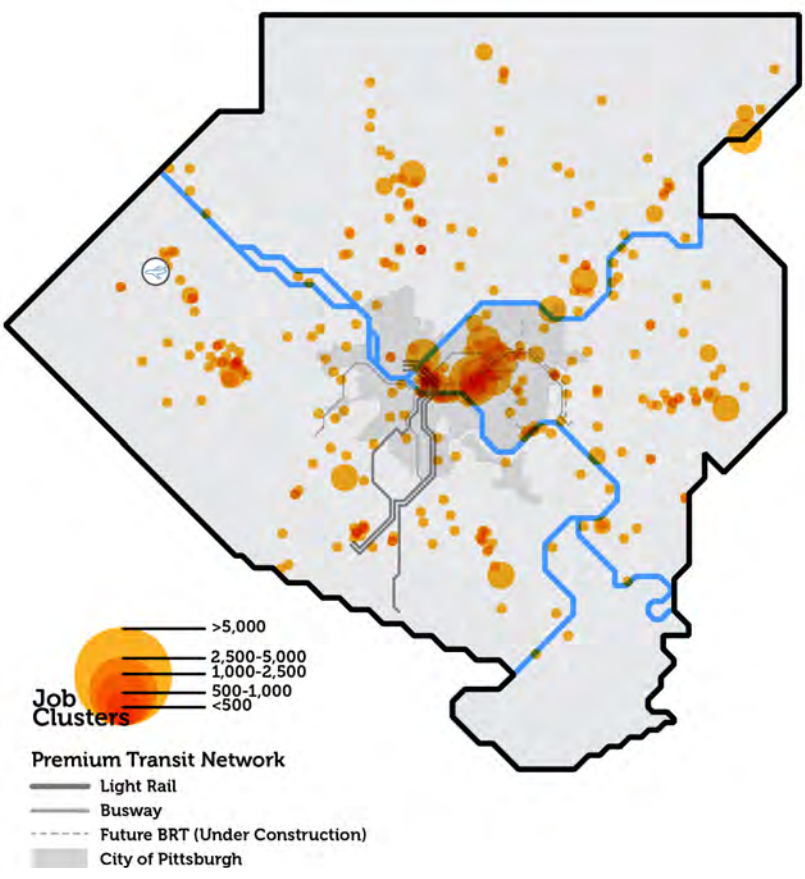
The NEXTransit team researched and documented current and proposed developments, opportunity areas, and market trends to assess how and where population concentration and employment centers are likely to change in the next decade and beyond.

Large technology companies are expanding their employment in Allegheny County. Amazon and other fulfillment, distribution, and customer service call centers continue to grow jobs in less well-connected places along highway corridors in the eastern and western areas of the county. Other industry leaders such as Google, Bosch, SAP, Facebook, Microsoft, Apple, Argo AI, Uber, and others have established offices in Pittsburgh, drawing from the talent pool offered by Carnegie Mellon University and the University of Pittsburgh, and other local colleges and universities.

Jobs in the hospitality industry are also on the rise. Several hotels were built in 2019 and more are planned for construction in future years, bringing hundreds of jobs to Pittsburgh area. The COVID-19 pandemic has had a significant impact on the hospitality industry, and it is uncertain as to when business will return to pre-pandemic demand levels, as the industry has struggled to cope with the rapid shift in travel, dining, and related patterns. NEXTransit mapped job clusters by quantity of employees to study and visualize not only where people live, but where they work and where the jobs are that they need to access during the day and the night. Most employment is located within the City of Pittsburgh, with concentrations in the inner-ring suburbs bordering the City and along key highway and busway corridors.

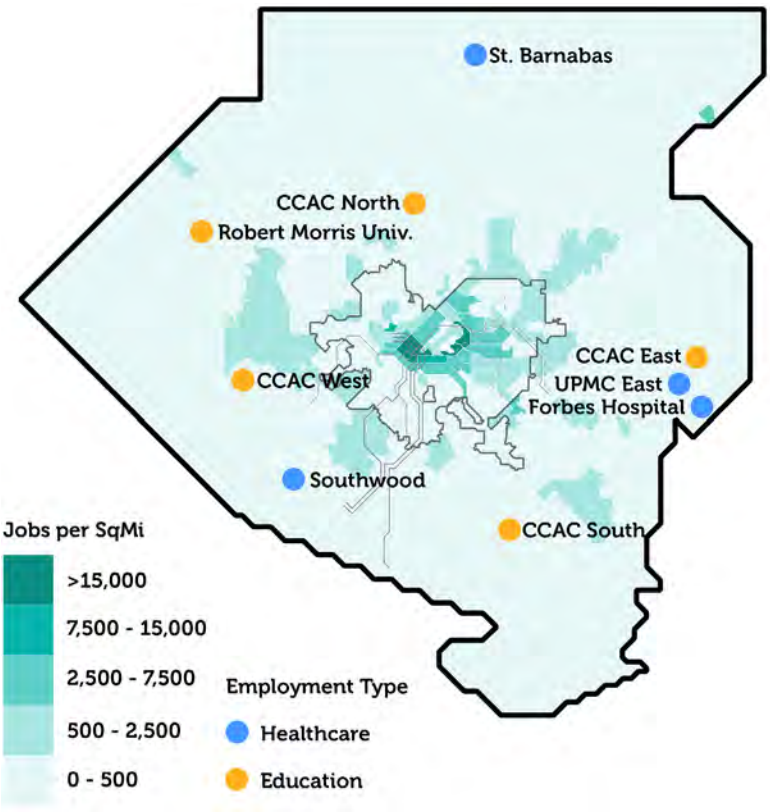
Some job sectors are more transit-oriented than others. Employment in single-use districts or in isolated areas outside the city such as warehousing, manufacturing, and large retail facilities often are not accessible to large proportions of transit riders. Conversely, the Central Business District and other dense, multi-use neighborhoods attract many riders from areas of high transit propensity.

Medical facilities are the most significant centers of high-density employment. In the first quarter of 2020, six of the top ten employment centers in the county were UPMC facilities and affiliates in the City of Pittsburgh. NEXTransit mapped all medical facilities around the county to understand accessibility of service for workers and patients. Medical institutions located in Oakland and other East End communities have high levels of transit access, but other medical centers such as the St. Barnabas

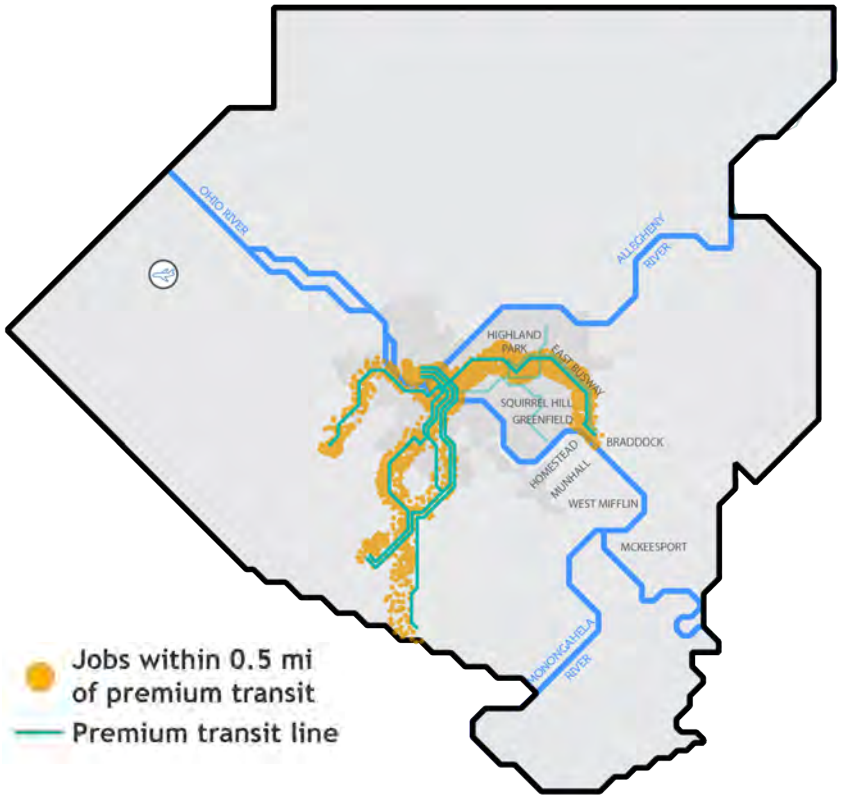


Health System in Gibsonia and the Southwood Psychiatric Hospital in Bridgeville are much less transit accessible. Given the 24-hour need for staff at hospitals, it is important that employees working late or early shifts can access transit over long service spans seven days a week.

Institutions of higher learning are also significant employment hubs—seven colleges and universities in the City of Pittsburgh (Community College of Allegheny County (CCAC), University of Pittsburgh, Carnegie Mellon, Duquesne, Carlow, Chatham, and Point Park Universities) employ over 7,000 people combined. Additional campuses are located throughout the county, including the main campuses of Robert Morris (in Moon Township) and La Roche (in the Town of McCandless) Universities and branch campuses of CCAC (in Plum, New Kensington, Robinson, and McKeesport) and Chatham University (Pine Township).



The map at the top right shows overall jobs per square mile in Allegheny County, where darker greens represent denser areas of employment. Most employment is located within the City of Pittsburgh, with key locations in inner suburbs as well. The area's dominant economic sectors, educational and medical services, while located largely within the dense employment areas of Pittsburgh, also have important standalone locations outside of employment centers that the project team is accounting for in its analysis.



The map at left shows the location and density of jobs within a half-mile of a rapid transit (light rail or busway) line. The clustering of employment around rapid transit facilities in Allegheny County represents around 55% of all jobs within the county. Significant employment hubs exist in other portions of the county that represent potential opportunities for the premium transit network to grow to serve them. While not shown on the map, residential clustering around the current rapid transit network is less significant--only 22% of Allegheny County's population lives within a half-mile of the rapid network. Analysis related to transit propensity, as summarized in the following section, sheds additional light on a key aspect of the creation of project proposals for NEXTransit.

Transit Demand and Propensity

Demand for transit is generally made up of derived demand – meaning that most people generally do not ride transit for the sake of riding transit, with the notable exceptions of the Monongahela and Duquesne Inclines, but instead do so to reach key employment, educational, health care and other essential service locations as well as entertainment and recreational destinations.

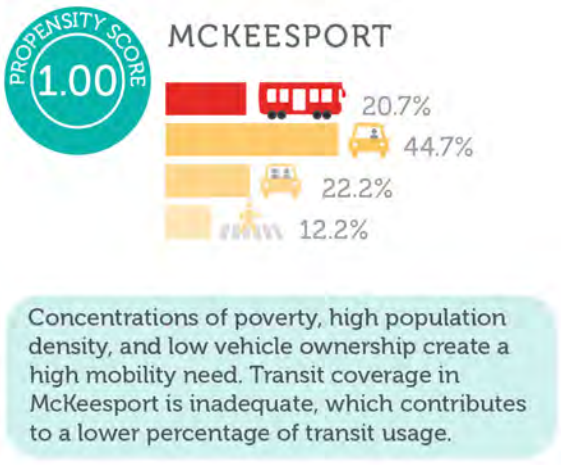
Population density and employment density are the primary drivers of transit demand and provide strong indications of underlying transit demand. The reach of transit is generally limited to within a one-quarter to one-half mile walk to a transit route, depending on the walking network, walking conditions, and topography. Transit routes that serve areas with higher population and employment densities are likely to have higher levels of ridership and cost recovery than areas with low population and employment densities.

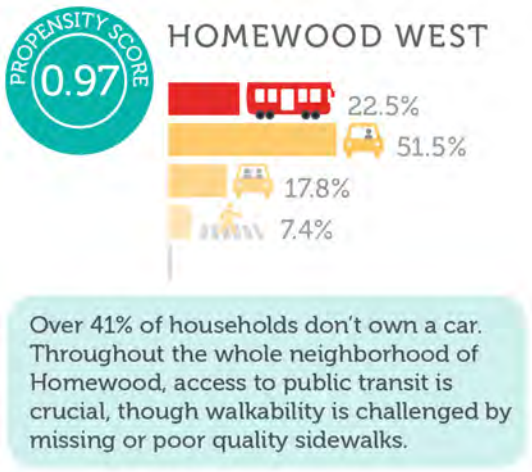
While population and employment density drive transit demand, other factors have an influence over the decision of a traveler to use transit, or someone's propensity to use transit. Those factors include the rate of car ownership, the price of gas, the price of parking, the frequency and reliability of transit, convenience and availability of first- and last-mile connections, the cost of the trip via transit, and the difference in travel time between transit and alternative modes of transportation.

The project team conducted a transit demand analysis, which gathered data on each of these factors and cross-referenced them to understand and anticipate their influence on potential transit riders. These factors were then summarized into a neighborhood-by-neighborhood assessment of transit propensity.

In addition to factors in the physical environment that influence transit demand, transit propensity is influenced by demographic factors. Groups that have higher propensity to use transit include women, seniors, adults under 25 years old, low-income residents, zero-vehicle households, persons with disabilities, ethnic and racial minorities, workers with a GED-equivalent degree or less, and foreign-born residents. NEXTransit calculated transit propensity on a scale of 0 to 1, with 1 representing individuals with the highest propensity to ride transit.

The transit propensity scores also revealed areas where transit propensity and transit usage are not aligned. For example, McKeesport and Homewood West had transit ridership below 25% but were among the highest scoring areas. This shows that there may be demand for transit which is not being met by the existing transit system; these are areas to focus on expanding access to transit to better meet the potential demand.

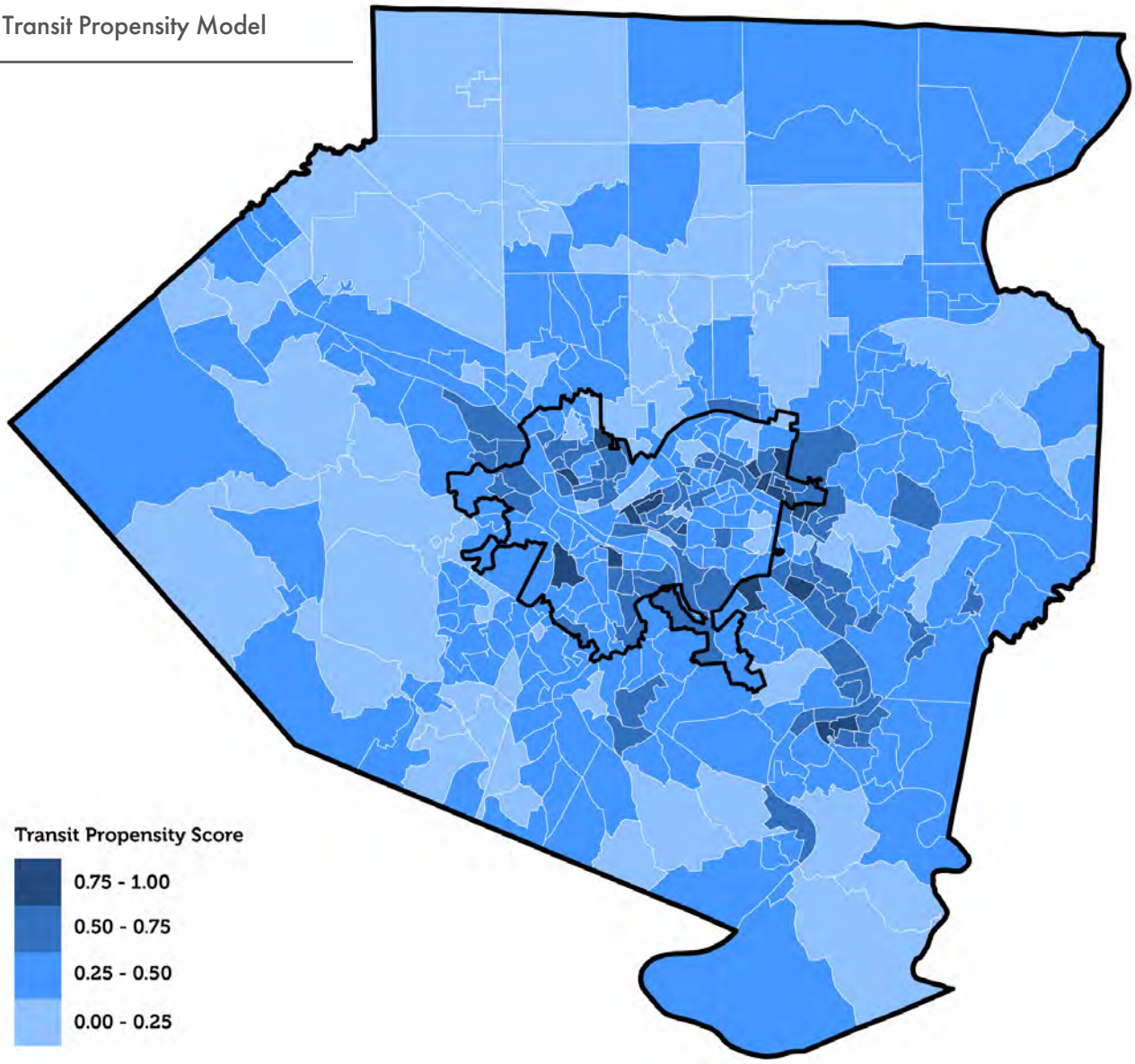




The NEXTransit transit propensity model, shown in the map below with darker areas having higher transit propensity, showed that:

- Transit propensity is high across all the City of Pittsburgh, with particularly high scores in central and northeastern sections of the city.
- Additional pockets of high transit propensity are in municipalities farther east and southeast along the Monongahela River.
- The northern and western portions of the county outside of the city have generally low transit propensity.

Map of Transit Propensity Model

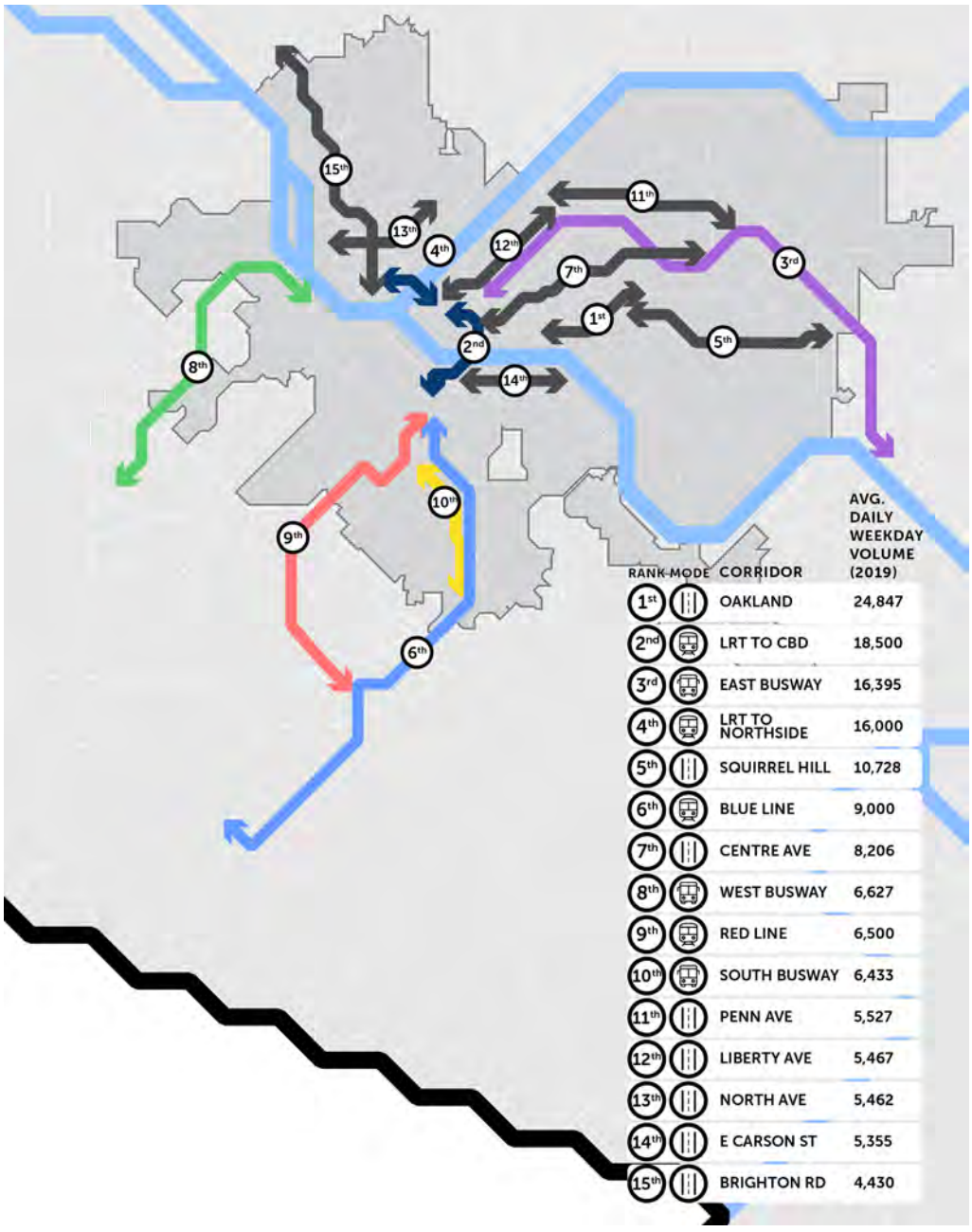


Data for this analysis were collected from the U.S. Census American Community Survey Five-Year Estimates for 2018.

Current Travel Patterns

Transit Ridership

The bulk of transit trips in Allegheny County are generally (though not exclusively) clustered around the fixed guideway network of busways and light rail lines as well as the major arterial streets within the City of Pittsburgh. The 15 most heavily utilized transit corridors in the existing network (using 2019 average weekday data) are shown in the map at right.



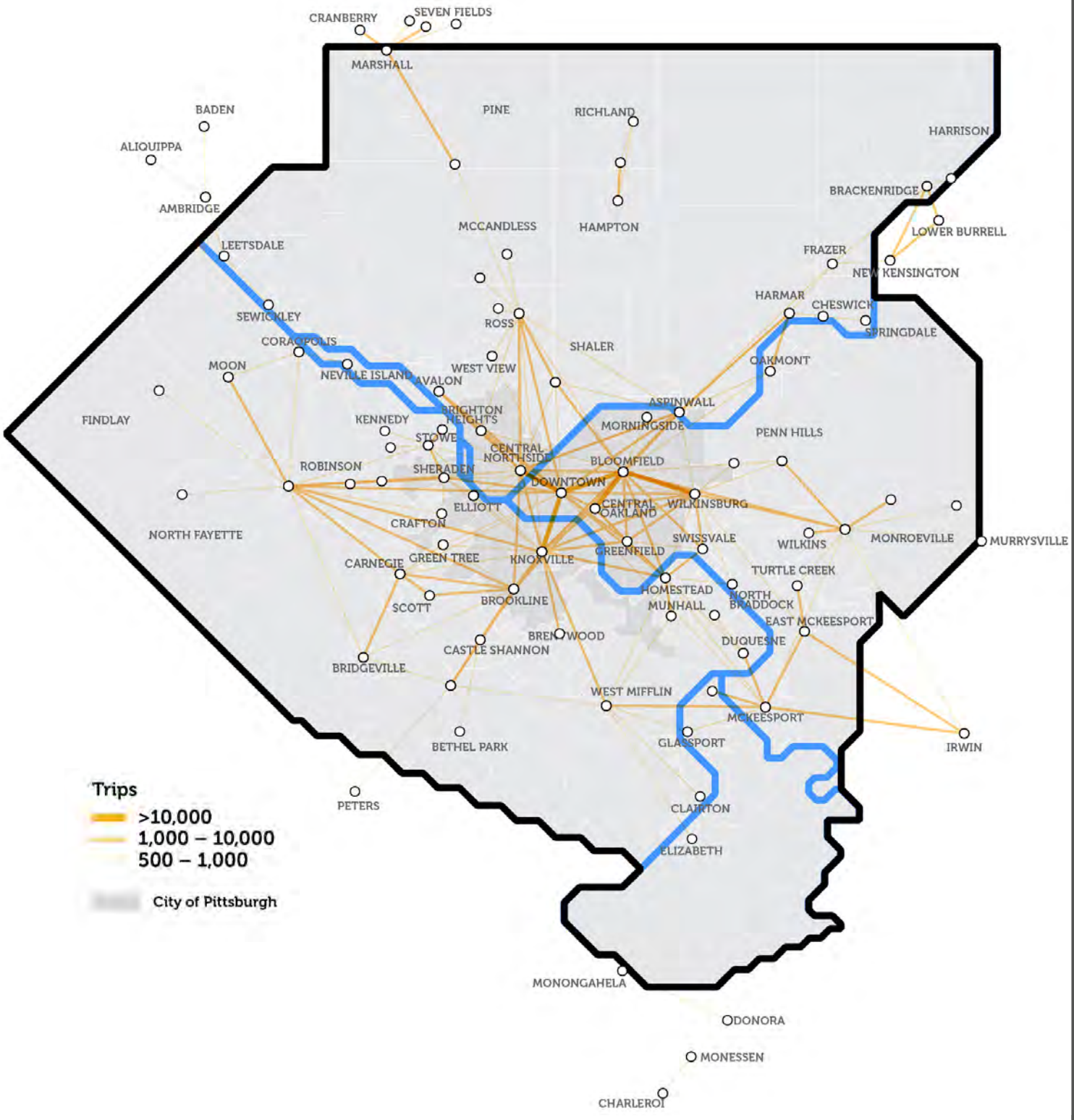
Overall Travel - Origins and Destinations

NEXTransit analyzed origin and destination (O/D) data to understand how people are moving around Allegheny County. Working with SPC, the regional metropolitan planning organization, O/D data was obtained from Streetlight Data, Inc. Streetlight aggregates and maps trip data from internet connected vehicles and smartphone location data (from users who have allowed applications to access their location).

Origins and destinations, regardless of mode of travel, depict where people go most frequently. Some of these trips are well provided for by the existing transit network, while others do not have substantial service. The data indicate that many travelers are starting and ending their trips outside of the Central Business District and show some significant clusters of trips taking place entirely within suburban communities.

Anecdotal evidence that most trips are under five miles is borne out of the data — while commute trips tend to be longer, they typically only happen twice per day (to work and back home). Other trips such as shopping, medical appointments, childcare, school, visiting friends, etc. tend to be clustered around a small radius around peoples' homes. The origin and destination data show where frequent trips are made, even in the absence of transit routes, and reveal latent demand for improved transit options connecting riders to these points.

The map below shows significant corridors for movement of people in Allegheny County where more than 500 trips per day occur between each origin and destination pair shown, regardless of mode. Corridors showing the highest volume of connections are mostly within the City of Pittsburgh, with patterns appearing along the East Busway and the Baum-Centre corridor. Many origin-destination pairs reflect either linked trips or significant commute patterns along major arterials, but some pairs show the pattern of short trips that occur within smaller regions within the county. Some areas of smaller trip clusters, like those in the Monongahela Valley, are served by transit today, though perhaps not in a way that prioritizes local trips. Some places, like in the upper North Hills, are not served by transit today. Overall, this data helped the NEXTransit team to identify high-level patterns of movement that could form the basis for the transit project segments that were ultimately stitched together to form the projects shown later in the plan.



Changes in Future Travel Patterns

Changes to travel mode choices over the next 25 years are likely to be heavily influenced by technological changes rather than demographic changes to Allegheny County. Despite subtle migrations of people from neighborhood to neighborhood, the overall population of the county has remained steady in recent decades, and in the 2020 Census showed a 3% increase in population. However, advancements in remote work capabilities, connected and autonomous vehicles, and advanced mobility services may change the method and frequency by which people move throughout the county. As such, the following trends are likely to continue:

Working from home will reduce the underlying demand for work travel.

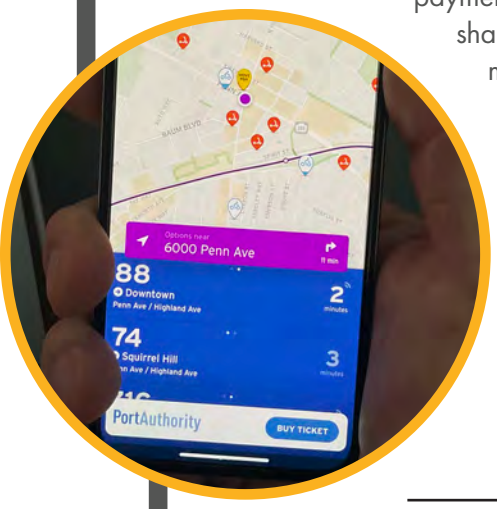
In 2017, 5.2% of Americans reported working from home. Technology has made working remotely feasible as employees may safely connect to their employers' information systems. The 2020-21 COVID-19 pandemic forced many organizations to close traditional office spaces and allow employees to work remotely. While many of those workers are expected to return to traditional offices when it is safe, the Pew Research Center's estimates indicate that 20% of Americans will continue to work from home full-time following the pandemic, substantially reducing the number of individuals driving alone to work.* A 2021 survey by Port Authority found that major employers in Allegheny County plan to have 85% of their workforce back in the office by 2022. According to SPC, work trips account for only 25% of the trips in the region, so it is unclear whether this will have a significant impact on transit ridership long-term.

Autonomous and connected vehicle technology will continue to change the transportation industry.

Autonomous vehicles can drive themselves without human intervention by sensing their environment, detecting, and classifying objects, and identifying a safe navigation pathway while obeying the PA motor vehicle code. Autonomous vehicles have the potential to reduce some costs of transportation and increase safety by removing human error in operation, though in order for these technological advances not to have a profoundly negative impact on congestion, vehicle sharing and multi-occupancy solutions must be promoted. Transportation Network Companies (TNCs) are investing heavily in autonomous advancement, and transit agencies must understand the network impacts that on-demand autonomy may have on fixed route services. Transit excels at moving large numbers of people at a time, especially when concentrated in existing or planned corridors of high population and job density, and this should continue to be the core focus of mass transit as this future transpires.

Mobility as a Service (MaaS) will continue to expand.

MaaS is the integration of various modes of transport services into a single platform which is accessible on demand. MaaS usually takes the form of a mobile application that facilitates travel schedules, transfer, and payment between multiple services. This lets riders seamlessly use public transit, car- or bike-sharing, taxi or car rental, or a combination of them all within their trip. Mobility as a service makes using transit more efficient and convenient for riders because it incorporates the payment method, organization, first and last mile options, and other vital information all in one user-friendly service. MaaS may increase demand for transit by encouraging discretionary riders to make trips they currently make by car, taxi, bike, or TNC.



The Transit app (shown at left) is the platform for Move PGH, which is a local consortium that brings several mobility providers (Port Authority, Spin scooters, HealthyRide bicycles, and TNCs) together into a single trip planning space. Port Authority fares are now available for purchase directly through the app.

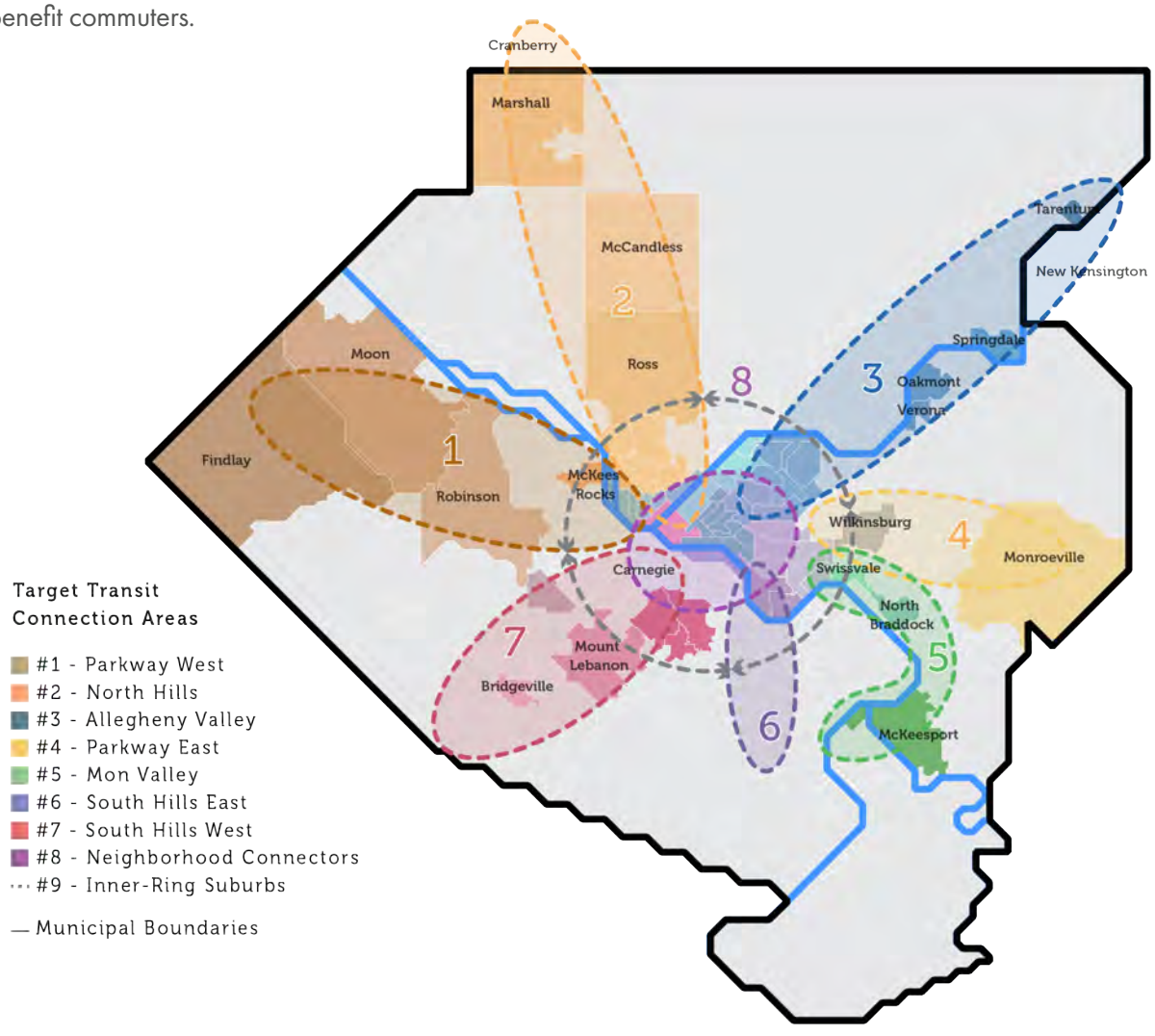
* https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/

Next Stop: Policies, Programs, and Projects

The market and travel analysis identified transit gaps that can be filled with future infrastructure projects. Transit gaps can include not only areas where transit service does not exist today, but also places where service doesn't meet local needs based on propensity, geography, or similar factors. Public input that classified transit gaps based on service, infrastructure, accessibility, and physical gaps that people experience was also gathered to further understand where there is unmet transit demand. The quantitative and qualitative information was aggregated to form a more complete picture of transit gaps in Allegheny County.

The resulting map served as a strategic baseline for moving to the next phase where corridors, projects, and policies emerged, and was paired with the results of the values survey conducted during the same phase. Throughout the NEXTransit planning process, each project or policy that was considered and prioritized was analyzed through the lens of the stated values of this plan. The map shown below identifies the target transit connection areas and highlights several municipalities within each where transit hubs could possibly be located based on population or job density, as well as key intersections with other transit infrastructure.

Some specific corridors and desired movement patterns became apparent through the analysis—areas such as the Mon Valley came into particular focus. North-south movement across the eastern portion of the City of Pittsburgh was highly desired per public input; trip origin and destination data support that these trips are occurring and could benefit from more transit options. Other portions of the county presented more as area-wide transit gaps. The Airport corridor, North Hills to city corridor (including along McKnight Road), and Allegheny Valley were each frequently mentioned by the public, and further supported by data, as areas with high traffic where increased transit would benefit commuters.



Policy and Program Recommendations

Process

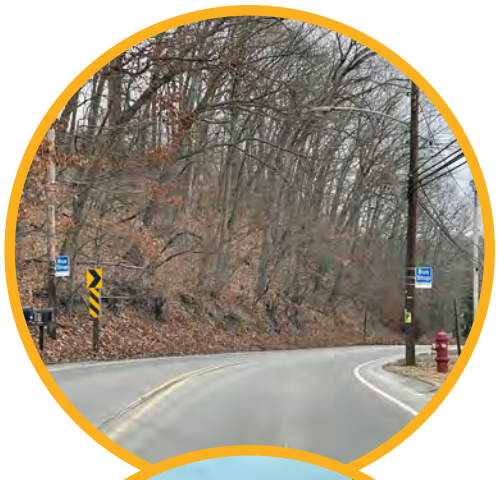
For the purposes of the NEXTransit planning process, ideas about future endeavors were broken up into two main groups. The first group, simply called "projects," was comprised of corridor and specific place-based planning projects that could be easily mapped and discussed as discrete geographic places. They will be covered in the following chapter. The remaining ideas were collectively categorized as "policies and programs" to be presented in this chapter. This group of ideas includes projects which are not specific to one location or corridor within Port Authority's service area, and programs and policies which Port Authority may choose to adopt which could be applied across the transit system. Providing riders with high quality public transit options requires more than providing roads, rails, and routes--quality of service, vehicle maintenance, station maintenance, first and last mile access, use of the best available technology, easy access to system information, and policies that support the communities' stated values are needed to ensure riders have a high-quality transit experience.

The public identified specific barriers to using the existing transit network, including the cost of fares, lack of sidewalks near bus stops, lack of shelters, difficulty of understanding the system, or other obstacles. The public identified overarching goals for the future of transit such as transitioning from diesel to electric buses or other alternative and cleaner fuels, encouraging transit-oriented development and affordable housing, and focusing on equity, as well as accessibility solutions like affordable fares and sidewalks near stops. As a result, several policies and programs are recommended that, when implemented, will narrow existing transit gaps and help Port Authority create a system that reflects its and the community's transit values. The values (accessible, affordable, efficient, equitable, and sustainable) derived from the first public engagement theme were used to help categorize program and policy ideas for public input.

NEXTransit Values:

- Accessibility
- Affordability
- Efficiency
- Equity
- Sustainability

Public Engagement



The following public input themes were used to gather input related to how people valued transit and what the gaps in the transit network were, which ultimately led to the development of the recommended policies and programs between June 2020 and December 2020:

- Theme 2: Where Do You Want to Go?
  (Public Meeting Series 1 & Pop-Up Events, Public survey, Port Authority staff survey)
- Theme 3: How Can Transit Get You There?
  (Public Meeting Series 2)

A list of possible policies and programs was created as a result of the input collected, which was vetted in subsequent themes. Theme 4 asked the public to prioritize ideas for future policies and programs to support these values and fill gaps in the transit system. A specific prioritization survey was placed on the website and widely distributed in paper format that received 151 responses, aiding Port Authority in prioritizing ideas for initial investment of time and resources.

The top five policies and programs are described in detail on the following pages, noting the following information:

- Public Input Score is the percentage of Theme 4 public survey respondents that rated a policy or program as either important or very important
- Values Met notes the transit values that the program or policy meets and advances
- Level of Effort for Implementation describes how much staff work time and/or cost is associated with roll out of a policy or program. "Low" indicates that a simple Port Authority decision or policy is needed, "Moderate" means that legislation and/or coordination with other agencies/entities is required, and "High" indicates a major construction project or other large-scale undertaking.
- Potential Capital Costs indicates the approximate up-front capital cost of implementation of a policy or program. "Low" indicates items that cost under $1 million, "Medium" means $1-10 million, and "High" means over $10 million.
- Potential Annual Operating Budget Impacts describes the approximate ongoing operations cost of a policy or program. "Low" indicates an annual expense of under $200,000, "Medium" means $200,000-$500,000, and "High" is over $500,000.
- Potential Funding Sources notes places where Port Authority might be able to pursue funds to begin policy or program development.
- Recommended Action notes what actions should be taken next by Port Authority to get the policy or program underway.

All of the originally identified policies and programs were generally supported by the public, and are therefore all included here as recommendations for Port Authority to begin working on over the coming years.

(Additional Note: White papers have been developed on many of the recommended policies and programs to provide more detailed information on each and what all should be addressed during implementation. These are available in the Appendices section and on the NEXTransit website, https://nextransit.network).

Top Ranked Policies and Programs

#1 Sidewalk Quality and Access Program

Sidewalk accessibility and pedestrian safety play a critical role in transit. Riders who walk to and from transit stops and stations need access to safe pedestrian connections, ideally on direct paths which maximize comfort for walkers. Unfortunately, not all streets leading to transit stops and stations have sidewalks, and many existing sidewalks are deteriorated, are too narrow, or are not usable for riders with disabilities.

The issue of missing and inadequate sidewalks is prevalent in suburban areas but is not exclusive to them—core urban areas also lack sidewalks in many locations. Since transit agencies typically do not own the streets and roads along which pedestrian paths are located, they must coordinate with municipalities, road owners, and private property owners to implement pedestrian improvements.

Port Authority should partner with agencies such as Allegheny County, SPC, PennDOT, and municipalities to form a sidewalk improvement program that prioritizes developing complete walkway networks to transit in areas of high transit propensity and equity-based mobility need. While the structure of such a program is still to be determined, it is important to realize economies of scale to maximize the mileage of sidewalk that can be constructed per year. PennDOT's Rapid Bridge Replacement Program could be a good example to follow, in which many different task items are bundled together and standardized for maximum efficiency.

ACTION: Advance this idea by integrating it with two existing Port Authority programs: The First-Last Mile Program that focuses on connections to and from rapid transit stations; and the Bus Stop Balancing Program that focuses on bus stop placement, design, and amenities. This will ensure that full corridors are evaluated for all amenities at one time to maximize efficiencies, opportunities, and partnerships. Funding these programs through the capital budget in an ongoing manner also gives more priority and equity to the majority of the system users, who are bus riders, as opposed to the current capital spending which outlays most funding to busway and light rail riders.

Public Input Score 80%

Values Met

- Equity
- Accessibility

Implementation Effort: Moderate - High

Construction would be required, partnerships with street owners and/or private property owners would be required.

Potential Capital Impacts: $ Low

Funding Sources:

- Congestion Mitigation Air Quality (Federal)
- Transportation Alternatives Set-Aside Funding (Federal)
- PA Department of Community & Economic Development Multimodal Transportation Fund
- PennDOT Multimodal Transportation Fund
- SPC Livability through Smart Transportation (SMART) program [SPC's allocation of Surface Transportation Program urban funding]
- PA Walk Works

Proposed Capital Contribution to combine with grant sources:
$1,000,000 annually

Potential Annual Operating Budget Impact: $$$ High

Top Ranked Policies and Programs

#2 Affordable Fares Policy

Public Input Score 79%

Values Met

- Affordability
- Accessibility
- Efficient

Implementation Effort: Moderate

Port Authority could implement a reduced fare or free transfer policy and an alternate fare structure for low-income riders. A high-level of coordination with Allegheny County and/or the Commonwealth of Pennsylvania will be required. An alternative revenue source would need to be identified to replace the lost revenue.

Potential Capital Impacts: $ Low - Moderate

Ticket vending machine costs are moderately high for the benefits provided, depending on location and usage (as much as $100,000 per machine). Retail costs are moderately low in comparison and are continuing to roll out.

Potential Annual Operating Budget Impact: $ Low - Medium

Annual operating costs for ticket vending, retail partnerships, and mobile ticketing services all vary, and cost efficiency depends on usage in many cases. An alternate fare structure for low-income riders may have a more significant impact on the annual operating budget if replacement revenue sources cannot be identified.

Creating an affordable fare policy that is tailored to the transit agency is crucial to increasing and maintaining ridership in balance with revenue. Some agencies have adopted affordable fare policies by making fares more affordable to low-income riders, implementing pay-as-you-go options for purchasing a monthly pass, or a distance-based transit fare instead of a flat fare.

Port Authority recently completed a study and public comment period on proposed fare structure changes, which have been approved by its Board and will tentatively roll out in early 2022. These include the elimination of the ConnectCard discount and the inclusion of free transfers within a three-hour period for ConnectCard, ConnecTix, and Ready2Ride or Transit app mobile ticket users from the time following an initial tap. These changes affect low-income riders more favorably as many low-income riders also use multiple vehicles to get to and from their destinations. The public input collected about the fare structure changes also included a broad, general push for continued and further efforts to support low-income riders.

Port Authority should continue to evaluate potential solutions for low-income riders as a follow-on project to the recently completed fare study. This could include nonprofit organizations with expertise in serving high equity populations or businesses in transit reliant areas with long walking distances to access fare vending locations.

ACTION: Advance this program to continue rolling out options for riders to purchase fare products through increased physical locations and to pursue further technological advancements that can increase access for low-income and unbanked riders. Port Authority is committed to providing a more affordable fare structure for its lowest-income riders, and is currently researching best practices at other agencies and using this to create a solution that works well for riders, the system, and the community overall.

Top Ranked Policies and Programs

#3 ADA System Access Program

Port Authority's goal is for all of its transit stops and stations to be fully accessible per the ADA. This would ensure that all users, regardless of ability or age, can access the system independently to their fullest extent, providing individuals with freedom in their daily lives. As the Authority strives to achieve full system accessibility, this program would evaluate, prioritize and program upgrades as capital dollars are identified for improvements where ADA compliance is achievable.

As per the ADA , both private and public transit must be equally accessible to everyone. This includes not only accessible equipment and features on transit buses such as lifts or ramps and kneeling features, but access to transit stops and stations must also be ADA-accessible. Pedestrian accessibility must be ADA-compliant and may include tactile features such as detectable warning surfaces at curb ramps, as well as braille plates, color differentiation, and audible announcements for persons with vision and hearing challenges. Other techniques for ensuring access include designing stops or stations to facilitate level boarding and with ramps so that riders can negotiate elevations changes, or elevators with ramps to station areas.

As much of Port Authority's fixed guideway system of busway and light rail was built prior to 1990, many stations and stops are not yet 100% ADA compliant. Upgrades to Port Authority's busway and light rail stations should be prioritized for physical accessibility. In coordination with local stakeholders, polices should be implemented to ensure the paths accessing transit are ADA-compliant.

When considering an alteration of existing transit facilities, Port Authority seeks to comply with ADA to the maximum extent feasible. This means Port Authority considers these types of project evaluations for technical feasibility or disproportionate cost at an early stage in the design process. A recent example of this was the decision in 2021 to close Pennant Stop on the Red Line. The project was evaluated in several categories including but not limited to pre-pandemic ridership, estimated project cost, proximity to adjacent stops, and site constraints outside the Authority's control that prevent the creation of an accessible route. Given these project challenges and other infrastructure needs, Authority management determined that a stop closure was the reasonable course of action.

ACTION: Advance Program; this is already a focus internally, but is not yet a specified separate program with all relevant staff tasked with concentrating on this program. Port Authority should develop an interdepartmental group, with a focus on the Planning and Engineering staff, to promote progress in this area. This program has high overlap with the following existing programs at Port Authority: Station Improvement Program, First and Last Mile Program, and Bus Stop Balancing Program. Opportunities to incorporate this as an arm of these existing programs should be pursued. At the time this report is being written, Federal transportation legislation includes the All Stations Accessibility Program (ASAP) which provides funding to make rail transit stations accessible. It is anticipated that the final version of the legislation will retain the ASAP measure.

Public Input Score 77%

Values Met

- Equity
- Accessibility

Implementation Effort: High

Design and Construction required on facilities, purchase of new technologies/ equipment.

Coordination with other entities to ensure access to transit stops and stations that are off Port Authority's property

Potential Capital Impacts: $$ Moderate

Station improvements and redesigns range in cost from $5-10 million. Specific attention should be paid to needed pathways and more challenging terrain in areas that are not currently ADA compliant.

Potential funding sources:

- Transportation Alternatives Set-Aside (TASA) (Federal)
- ASAP (Federal)
- PA Department of Community & Economic Development (DCED) Multimodal Transportation Fund (MTF)
- PennDOT MTF
- SPC Livability through Smart Transportation (SMART) program
- PA Walk Works

Potential Annual Operating Budget Impact: Low $

Enabling riders to use stations that they may not be able to today will not significantly impact the operating budget, although it certainly provides an environment that supports ridership growth, which could result in incremental operating cost increases over time.

Top Ranked Policies and Programs

#4 Bus Network Redesign

Public Input Score 74%

Values Met

- Affordability
- Accessibility
- Efficient

Implementation Effort: Moderate

A bus network study will require significant Port Authority staff effort, along with cooperation and coordination with local stakeholders.
A major public outreach effort will be required.

Potential Capital Impacts: $ Low - Moderate

A bus network redesign will cost around $1,000,000 as a one-time cost to assess the current network and ridership at a micro level, solicit public input, and model a new network plan that maximizes efficiency and coverage.

Potential Annual Operating Budget Impact: $ Zero to Low

Annual costs will be low to zero. The redesign could result in increased service in some areas, but will likely improve efficiency and may reduce operational costs. Routine evaluation of network ridership and service levels is expected as part of regular Port Authority functions and budget.

A bus network study entails evaluation of the existing bus route structure and planning an update which accommodates changes in travel and development patterns. It considers the entire bus route network as a whole rather than solely as a collection of routes. Many transit systems undergo this level of network review every 1-2 decades (Port Authority last undertook a redesign in 2009 but it was not fully implemented due to service cuts). A full analysis and redesign of the bus network would align resources based on a thorough public process that identifies community priorities that weigh the value of network coverage, frequency, and access distance to and from transit, origins, and destinations.

A focus on a high-frequency network based on transit propensity, origin and destination demand, and employment centers could increase ridership and improve conditions for those with the longest, least-direct commutes by providing less waiting time. However, this must be evaluated in conjunction with fare policies, as providing free transfers or other affordable options makes this type of service change equitable.

Port Authority's current system can generally be characterized as a radial system, providing most service into and out of the Downtown core. Although this provides robust service in terms of coverage and one-seat rides, it also increases the Authority's peak (rush hour) vehicle requirements and limits the ability to travel during off-peak periods, and travel between communities without transferring in Downtown Pittsburgh. A network study should be very intentional with how services are provided to those who need them most, in alignment with the values in this long-range plan. The bus network study should measure and quantify anticipated improvements from the redesign, which will help obtain support for the plan, and with making decisions between different network scenarios.

A network study should focus on how transit service is provided to the people who need them most. The team has already identified several gaps in the system from this process, as shown in the map at right.

ACTION: Initiate study process, including analysis and public outreach. The team has already identified several gaps in the current transit system from this long-range plan process that could be filled through a network redesign effort, as summarized in the map to the right.

Top Ranked Policies and Programs

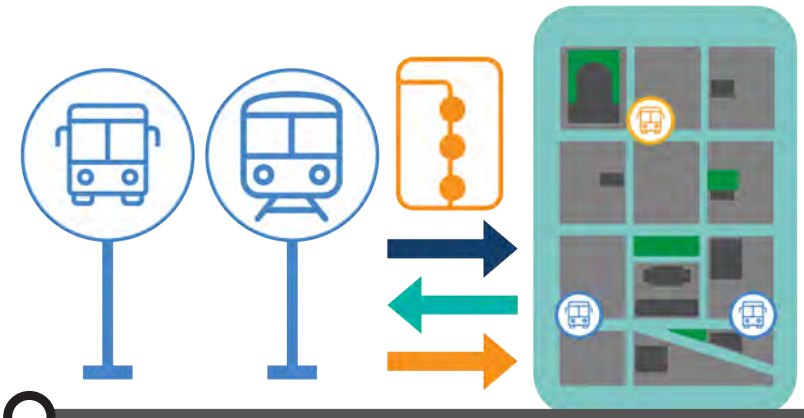
#5 System-Wide Signage & Wayfinding

Wayfinding describes the system of signs and tools that help people orient themselves. Effective wayfinding tools help people figure out where they are, where they want to go, and how to get there. It is important for a transit system to implement good wayfinding practices—signs, maps, visual symbols—since complicated or confusing information will discourage people from using transit. As the first and most common interaction riders have with the transit system, clear and consistent signage is important for network usability. This program will ensure that a broad system of consistent signage, including wayfinding elements, is implemented to make bus and light rail stops and stations easier to find and navigate, provide better route and schedule information, and help orient new riders and visitors.

In 2016, Port Authority implemented a wayfinding pilot that involved placing innovative tools at light rail stations and busway stations, including interactive kiosks and interactive bus stop displays, as well as non-digital signs at 85 bus stops showing maps and route frequency. While this wayfinding is effective, a full system rollout is not currently underway, leading to a piecemeal wayfinding system where some signage has been updated, but much has not.

Port Authority staff is currently overseeing the creation of wayfinding signage guidelines and a master plan for 69 fixed guideway stations. Beginning with a pilot at South Hills Junction Station, the goal of the plan is to create wayfinding standards for different station and stop typologies throughout the system. Deliverables of the project include systemwide wayfinding signage standards, guidelines for several station typologies, and detailed specs for in-house fabrication by Port Authority's Sign Shop. Additionally, in FY2022 the Authority will hire a Wayfinding Coordinator to oversee these programs to ensure that the agency continues to move towards an easier to understand system.

ACTION: Advance program, including eventual implementation of transit stop signage replacement to current agency sign standards. Implement comprehensive system wayfinding program, including a standardized system map.



Public Input Score **72%**

Values Met

- Equity
- Accessibility

Implementation Effort:
Low-Moderate

The greatest obstacle is scale as 7,000 transit stop signs would need replaced. This will take significant man hours. Additionally, maintenance of new signage needs to be considered as updates over time necessitate time consuming field changes by staff.

Potential Capital Impacts:
$ Low - Moderate

Capital cost will be mostly dependent on scale. It is recommended that this implementation occur in phases.

Potential funding sources:

- PA Department of Community and Economic Development (DCED)
- PA Keystone Communities Program
- U.S. Department of Housing and Urban Development's Community Development Block Grant
- PennDOT Multimodal Transportation Fund
- SPC Livability through Smart Transportation (SMART) Program

Potential Annual Operating Budget Impact:
$ Low - Medium

Annual maintenance would be required to ensure that the signs are well-maintained, cleaned, and replaced as needed. Simpler signage requires less maintenance, but more complex signage provides additional information to riders. These needs must be balanced.

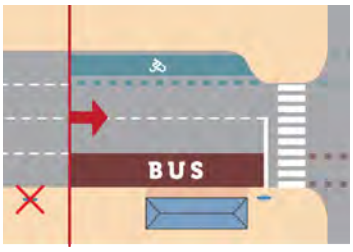
Remaining Policies and Programs

The other policies and programs on the following pages were not in the top five for community support, but still warrant continued rollout and application over the coming years by Authority staff. They have varying levels of investment and staff time needed to be successful. More information about each of these policies and/or programs can be found in the white papers referenced in Appendix K.

Affordable Joint Development Policies

As Port Authority's Transit Oriented Communities (TOC) program evolves, it should follow existing program guidelines and ensure that future developments are prioritized for impact on affordable housing in joint development efforts. Specifically, the Port Authority board should adopt a policy supporting affordable uses, to include both housing and other development types, of Port Authority property to support the overarching values of equity and affordability identified in this plan.

COST: A policy itself should not require any upfront investment, and joint development of Port Authority property should be revenue-producing to the extent feasible.



Bottleneck Bypass Lanes

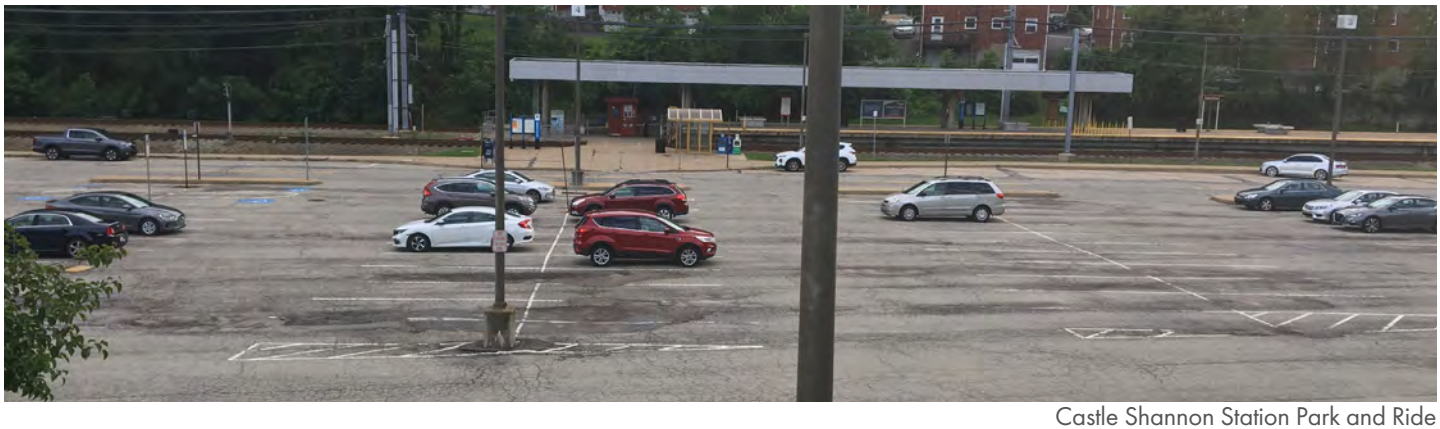
Areas of localized congestion may be good candidates for short sections of bus lanes and/or queue jump lanes that could help transit bypass bottlenecks. This tactic could be best utilized in high ridership areas that have limited right of way for longer and/or more intense transit-exclusive infrastructure.

COST: Moderate, but likely covered via capital planning grants and other grant sources as minor corridor plans are carried out. $120,000 annually for additional full-time staff.

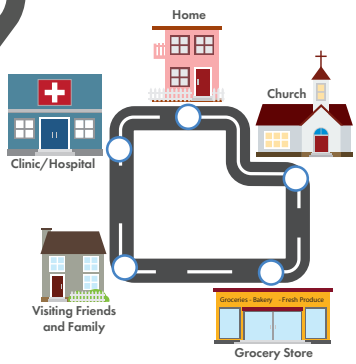
Parking Management Program

Parking is an inefficient and costly use of land, even when used for park and ride facilities. In the near term, parking facilities should be priced based on what the market will bear, and in the future, the facilities should be integrated into joint development sites that produce revenue and additional ridership by creating density and a variety of uses in addition to parking choices, especially in more urbanized areas.

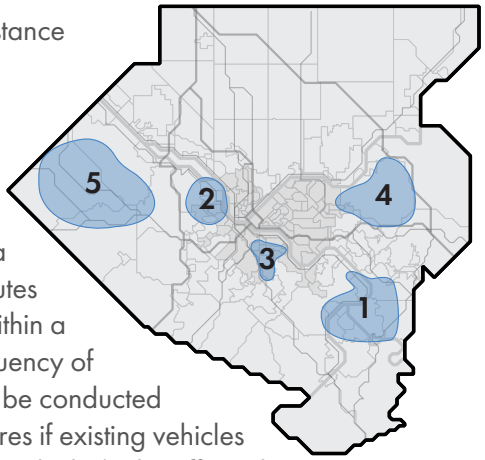
COST: $120,000 annually for additional full-time staff; the program should be revenue producing to the extent feasible, and at a minimum it should cover the maintenance costs of these facilities over time.



Castle Shannon Station Park and Ride



Community Circulators



Community circulators are targeted, shorter-distance local transit routes that connect residents with neighborhood shopping, educational and medical facilities, or transit stations within their community. They usually operate regularly-scheduled service within a closed loop or they provide an on-demand style of service where a ride is requested within a specific zone. The routes are usually three miles or shorter in length or within a defined zone, which facilitate a moderate frequency of approximately every 30 minutes. A pilot could be conducted for a limited duration with no capital expenditures if existing vehicles are used (just the operating costs of running the vehicles). The affected population would be limited to those traveling from or to the specific community in which the pilot is conducted. Based on public input received in Theme 4, any one of the following five areas (which can be seen in the map above) could be chosen for a pilot program, as shown in order of transit propensity:

1. McKeesport Area
2. McKees Rocks Area
3. Pittsburgh South/Hilltop Area
4. Penn Hills Area
5. Airport Area

COST: $120,000 annually for additional full-time staff and $1,000,000 annually for transit operating costs in each area (based on 30 minute frequency).

Agency-Wide Sustainability Program

Industrial emissions and the use of fossil fuels (including for transportation) contribute to local and regional air pollution, and to climate change. To support its value, Port Authority should reduce its carbon footprint as much as possible. This could include purchasing clean energy credits as a way to offset fuel and electricity use on site, or could include larger scale capital efforts to generate renewable electricity directly at Authority facilities.

The region experiences significant problems with stormwater runoff due to combined sewers, excess impervious surfaces, and challenging topography. Along with using and producing renewable energy, Port Authority should strive to minimize or eliminate excess stormwater runoff from its properties using industry best practices, and where on-site capture/storage is not possible/feasible, offset excess runoff via best management practices within the same sewershed where the runoff occurs.

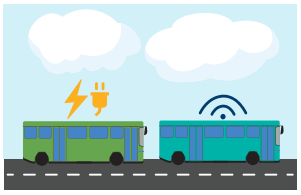
Proposed actions include adopting an agency-wide Sustainability Plan and hiring a Director-level position to oversee the program. Other related NEXTransit programs, including Vehicle Electrification/Fuel Diversification, which are directly related to environmental sustainability, should also be part of this program, though they may be shared programs with other departments such as Vehicle Maintenance and Fleet Management.

COST: $880K for capital costs of electric offsets or purchased credits. Operating costs will be $300,000 annually for program management (one director-level position and one support staff position).

HR Staffing Program

Like other transit systems in the United States, Port Authority encounters challenges in acquiring the needed talent to fill open positions for operators (drivers) and maintenance staff. In order to implement NEXTransit, it is essential that the Authority build upon its current Human Resources capacity in order to ensure that staff positions are filled as the system expands. Having new capacity to store and maintain transit vehicles will be unproductive without the talent to operate and maintain these vehicles over time. Port Authority should continue to pursue and strengthen institutional partnerships in order to create a reliable pipeline from educational and non-profit organizations to employment with the agency. Over the past five years, the Authority has functioned with 50-100 transit operators fewer than the system requires, highlighting the serious need for improving employee attraction and retention.

COST: $860K in annual costs for additional staff and increased HR budget.



Mobility Technology Innovation

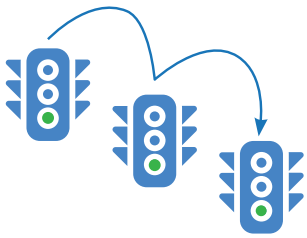
Technology advancements in mobility are developing quickly, and Port Authority could develop policies that address long-term operational and safety goals as new technologies are introduced. This could include advancements in vehicle communications, charging, signal prioritization, docking, platooning, and other computerization methods of the future.

COST: Upfront capital costs could be low-moderate with operational savings over time as technologies help improve safety and operations.

Bus Stop Balancing

This program encourages the continuation of Port Authority's efforts to consolidate bus stops on a route-by-route basis to achieve optimal spacing, add bus shelters and other amenities, improve accessibility by working with municipalities and PennDOT to prioritize pedestrian network improvements, and improve operational efficiency by placing stops in appropriate locations to minimize dwell time. This program should exist in direct collaboration with the Sidewalk Quality and Access Programs, and could also incorporate elements of the Bottleneck Bypass Lanes Program, in order to take advantage of efficiencies in planning coordination. This would ensure maximum benefit to riders accessing stops in the system.

COST: $120,000 annually for additional full-time staff, plus an annual $1,000,000 to support shelter placements and other adjustments to ensure system accessibility as stop locations are updated.



Transit Signal Priority

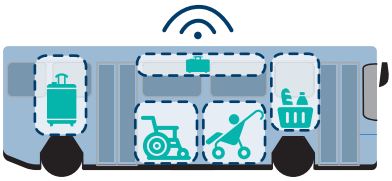
To facilitate system-wide, transit-supportive street upgrades, Port Authority could pursue a multi-agency (PennDOT, SPC, municipalities) strategy for standardizing and implementing a traffic signal priority system that allows for emergency services and transit vehicles to have inter-operable equipment.

COST: Moderate capital cost, but likely covered via corridor planning grants and other grant sources, or through coordination with municipalities and PennDOT as signals are updated.

Pilot Projects (Tactical Urbanism)

Many projects are difficult for the public to understand and visualize using traditional methods, so tactical urbanism is an approach that constructs some types of projects using low cost, temporary materials to demonstrate how an improvement will function in the real world before embarking upon a permanent construction project. For example, Port Authority may wish to demonstrate the impact of bus boarding islands—it can do this by purchasing rubber platform pieces and assembling them on-site for temporary deployment. The pieces can be moved to another site once the demo is complete.

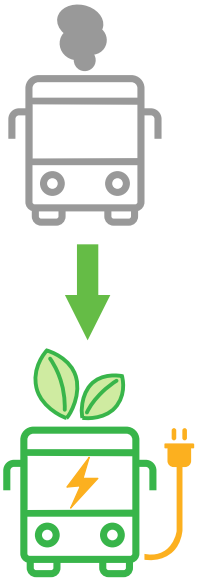
COST: $1,000,000 one-time capital cost to purchase enough materials to move from site to site to pilot improvements over time and for associated communication or other costs. Operating cost: Savings from faster or more reliable services.



Vehicle Design and Amenities

On-board amenities and vehicle layouts make transit more accessible, comfortable, and convenient while still maintaining rider safety, capacity, and ease of movement within the vehicle. Additions could include spaces that can be easily converted to make room for strollers or carts, more storage space for bags and luggage, or improved accommodations for wheelchairs and scooters.

COST: Low - As new vehicles are procured, their specifications can be written to address flexible or other vehicle space and accessibility needs.



Vehicle Electrification / Fuel Diversification

By the year 2045, Port Authority should plan for a completely zero-emission fleet of both revenue and non-revenue vehicles. Diverse transit and non-revenue fleets may use alternative (non-fossil) fuels as those technologies advance and become more affordable. These technologies have the benefits of reducing or eliminating vehicle-generated air pollution, reducing greenhouse gas emissions, and can help make communities near bus routes more livable via reduced noise and vibration.

As an example, battery electric bus (BEB) technology continues to advance, and the break-even cost compared to diesel buses is approximately 3 to 4 years.* Port Authority (as of 2021) has four BEBs, with four more on order, and 15 soon to be ordered as part of the Downtown-Oakland BRT project. Additional analysis customized to Port Authority's fleet of buses should be carried out relative to generally accepted variables such as BEB purchase price, operating range, maintenance costs, fuel costs, charging needs, and the price of electricity in the long term.

Cost: High—will need to be supported via Federal and other grant or incentive programs to offset initial vehicle purchase prices and infrastructure build-out. It is important to ensure broad service coverage so that the time spent driving to and from layover locations or charging facilities does not reduce system efficiency. The expected price difference for a standard 40-foot BEB vs. diesel is approximately $375,000, and Port Authority replaces, on average, about 60 buses annually.

The cost estimate shown in the table assumes a near-term (1-5 year) ramp up of 50% BEB annual purchases, and reflects only the additional cost vs. diesel. This cost will vary over time as prices change and as the percentage of BEBs purchased increases. The cost estimate also includes the purchase and installation of 2 slow and 4 fast chargers per BEB, as well as associated facility upgrades.

* https://afdc.energy.gov/files/u/publication/financial_analysis_be_transit_buses.pdf

What Will these Policies and Programs Cost to Implement?

Not every policy or program has a known cost (or even cost range) at this point in the planning process. Some will require new staff and ongoing resources to carry them out, some will require one-time capital expenditures, and some may require ongoing expenditures to maintain new assets in a state of good repair. Some may require all of these. The costs reflected in each individual description in the previous pages are rough estimates, which will change and get more detailed as each policy or program is advanced. The key is for Port Authority to be prepared for upcoming budgetary needs as it implements this slate of actions to improve transit for Allegheny County.

A summary of the relative costs (operating and capital) for each policy and program makes up the table below.

Policies and Programs	Proposed New Full-time Staff	Annual Operating Costs	One-time Capital Costs	Annual Capital Costs
Sidewalk Quality & Access	1	$120,000	N/A	$1,000,000
Affordable Fare Policy	-	$0	$50,000	$1,000,000
ADA System Access Program	1	$120,000	N/A	$2,000,000
System-Wide Signage & Wayfinding	1	$120,000	N/A	$100,000
Bus Network Redesign	-	$0	$1,000,000	N/A
Community Circulators	1	$5,000,000	$2,500,000	Needs further study
Affordable Housing	1	$120,000	N/A	N/A
Agency-Wide Sustainability Program	2	$300,000	N/A	$880,000
Transit Signal Priority	3	$360,000	N/A	N/A
Pilot Projects (Tactical Urbanism)	1	$120,000	N/A	$1,000,000
Bottleneck Bypass Lanes	1	$120,000	N/A	N/A
Vehicle Electrification / Fuel Diversification	1	$120,000	$80,000,000	$11,250,000 (years 1-5)
HR Staffing Program	3	$360,000	N/A	$500,000
Mobility Technology Innovation	1	$120,000	N/A	Needs further study
Vehicle Design and Amenities	1	$120,000	N/A	N/A
Parking Management	1	$120,000	N/A	N/A
Bus Stop Balancing	1	$120,000	N/A	Supported with Sidewalk Program
TOTAL	**20**	**$7,340,000**	**$83,550,000**	**$17,730,000**

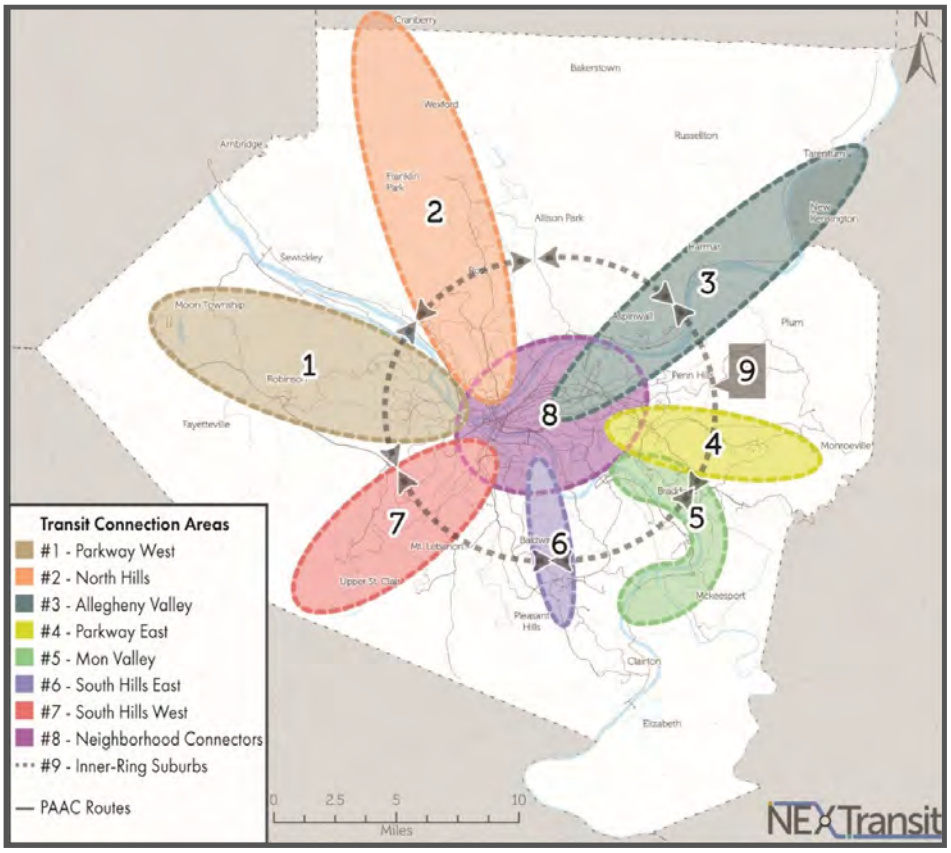
Project Recommendations

Process

Using the data inputs referenced in the existing conditions, market and travel demand analysis, and public input process, nine Transit Connection Areas, broad areas with large number of people were superimposed on a map of Allegheny County. Potential projects were recommended in these areas to address equity issues and transit needs, and to bridge transit gaps within the existing network. The public and stakeholder groups provided feedback on the project ideas within each Connection Area through a series of public engagement activities which included: online meetings, online and paper surveys, pop-up tents, stakeholder meetings, etc.

After analyzing the public feedback on each project, the project ideas within each of the nine Connection Areas were refined and packaged. Using values determined by the public, NEXTransit planners prioritized the projects into an implementable list. The scoring model weighed priorities based on public input from the entire plan to date along with implementation, impact, and opportunity factors such as right of way acquisition, street alterations, operational impacts, environmental and environmental justice impacts, ridership resilience, growth opportunities, and density of people and jobs.

The project packages were then grouped into four implementation phases to give the public a general sense for when project planning and development might be able to begin: NEXT, 1-5 years, 6-15 years, and 16-25 years.



Public Engagement

Goals

To get a better understanding of the projects people valued the most, it was necessary to seek project specific feedback from the public and from stakeholder groups. The main goal of these public and stakeholder engagement efforts was to understand what projects the public values (and why) so that the projects can be prioritized to meet everyone's needs. Public engagement was especially important when reviewing the project recommendations. Although public opinion is not the only factor used to set project priorities, it is critical that the public believes that its views have influenced the planning process in order for the public to feel ownership of the plan.

Tools Used

To strategically reach populations who would be directly impacted by a project, the project team used a hybrid approach for public engagement. Through online meetings, stakeholder meetings, online and paper surveys, and pop-up tents, feedback was gathered about which projects are most important. Online meetings were held with both the public and key stakeholder groups and gave people a chance to voice their support or concerns. Pop-up tents gave the team a chance to interact with transit users in the community one-on-one, getting a more in depth look at why these projects are important to them. Paper surveys were distributed in person, digital surveys were taken online, and both surveys were combined to provide a more holistic look at what projects people valued most. Input from the public helped shape the projects and their prioritization that were included in this plan.

Project Classifications

All projects fit within one of three classifications that help to describe their role in the future NEXTransit Network. This is not a ranked order list that divides projects into phases—it is simply a way of grouping each project thematically.

Efficiency

- **Bus Garage Location/Capacity Study**
  Promotes expansion of vehicles and personnel to enable network expansion.
- **Downtown Transit Center**
  Promotes efficiency in existing bus services.
- **Library Line Best Use Study**
  Promotes efficiency in existing LRT services
- **Allentown/Downtown LRT Best Use Study**
  Promotes efficiency in existing LRT services

Essential Expansion

- **Homestead to McKeesport Upgraded Transit**
  Expands faster, reliable service to dependent riders in the south.
- **McKnight Road Upgraded Transit**
  Expands faster, reliable service to employment opportunities in the north.
- **East Busway Phased Extensions**
  Expands faster, reliable service to employment opportunities in the east.
- **Brownsville Road and Route 51 Upgraded Transit**
  Expands faster, reliable service to employment opportunities in the south.
- **Freeport Road Corridor Upgraded Transit**
  Supports equitable and accessible transit through Allegheny River towns, and interconnectivity into Westmoreland County.

Opportunity Expansion

- **East/Central Pittsburgh River to River Connection**
  Promotes interconnectivity in existing/under construction BRT services.
- **East Busway to Monroeville Rapid Transit**
  Connects to employment and growth opportunities in the east.
- **Allegheny Valley Rapid Transit**
  Connects to employment and growth opportunities along the Allegheny River towns.
- **Airport Corridor Rapid Transit**
  Connects to employment/growth opportunities and supports tourism regionally.
- **Ohio River Light Rail Extension**
  Supports equitable and accessible transit throughout the Ohio River Valley towns and interconnectivity into Beaver County.
- **Northside Light Rail Extension**
  Connects to employment and growth opportunities in the north.
- **North Hills Rapid Transit**
  Supports equitable and accessible transit in the north towards Cranberry, and interconnectivity into Butler County.
- **Mon Valley to South Hills Upgraded Transit**
  Supports equitable and accessible transit in the south and to Mon Valley towns.
- **West Busway Extension to Bridgeville**
  Supports equitable and accessible transit through the western municipalities.

Scoring Criteria

To determine prioritization, transit projects were evaluated based on many factors including; demographics, projected growth, and other data gathered from the Census, Streetlight Cell Phone Data, Port Authority ridership, and other sources. These criteria measure how much return on investment a project would bring and help to prioritize which projects should be done first.

Growth: This shows an area predicted to have growth in population or jobs in the near future. By reviewing previous data showing where people are moving from and to, we can predict where they will reside in the future and focus resources in those areas.

People/Job Density: Areas which currently have large numbers of residents and/or workers are also prioritized in the scoring model. For example, areas with high population and job density include Oakland, Dormont, East Hills, Wilkinsburg, the southern hilltop neighborhoods in Pittsburgh, Downtown, the Strip District, Homestead and Lawrenceville.

Trip Density: These are areas or corridors that currently have high use by people who *do not* currently ride transit. This is primarily trips taken by people who travel by car (either individually or as part of a carpool). These data show where people are going and helps to determine where more transit options can be located to encourage these travelers to switch to public transit.

Current Ridership: This shows areas or corridors that currently have high public transit ridership. This type of data tells planners which current routes are most used or which areas people currently travel to on public transit. With these data Port Authority can make decisions like which routes might need more frequency or infrastructure upgrades, or where a new hub might be most effective.

Transit Propensity: These are areas that have a population with a high likelihood of using transit. There are many factors that determine transit propensity including the number of households without a car and low income households. It is important to consider these areas when prioritizing projects to ensure resources are allocated to areas that will use it.

Employment Center: This shows areas that have a high density of jobs. It is also important when determining what areas may need transit improvements to consider where people go on transit. The number one reason for using to transit is to commute to and from work. By researching which areas have a high number of jobs, planners can ensure people are able to use transit to get to work quickly and efficiently.

Equity Index: Port Authority has created an "Equity Index of Need" to meet the Federal Transit Administration's Title VI requirements and help in planning and prioritizing system, asset, and infrastructure changes and projects. The index includes populations that have been shown through research to have higher need for public transportation services.

Public Input: Through an extensive and continuous program of public engagement, public input was received and analyzed to determine support for each proposed project. Although outreach efforts were focused on higher need areas, final public input was not fully representative of community as a whole. Therefore, public input was used as a final check to ensure that the community support aligns with the previous analysis and values of accessibility, efficiency, equity, and sustainability.


ARRIOTT

How Did the Rankings Reflect Project Feasibility and Public Input?

Following the initial ranked order of projects based on public input, the NEXTransit team assessed each project's core metrics (equity, population density, job access, transit propensity, etc.) and calculated a weighted score to gauge where public input was aligned with the data. In many cases, the alignment matched, but for those which didn't, additional analysis was needed to determine how the projects would fit within the network. This additional analysis was more qualitative, in that it was based on overall feasibility—what are the barriers to implementation and what are the opportunities unlocked due to implementation? Also, if concurrent planning was underway to further support a project, additional credence was given to it.

The graphic below illustrates the process of arriving at the proposed NEXTransit project priority. With each step, you can follow a project's ranking and see the reason(s) why it moved up or down on the priority list.

Preliminary Projects

The NEXTransit team developed a preliminary list of projects where investments might have a big impact on connectivity then applied a weighted scoring system that considered individual metrics' applicability to prioritized values.

1. East/Central Pittsburgh River to River Connection
2. Allentown/Downtown/Strip District LRT Best Use Study
3. East Busway to Monroeville Rapid Transit
4. McKnight Road Upgraded Transit
5. Brownsville Road and Route 51 Upgraded Transit
6. Homestead to McKeesport Upgraded Transit
7. Ohio River Light Rail Extension
8. North Side Light Rail Extension
9. East Busway Phased Extensions
10. Allegheny Valley Rapid Transit
11. Downtown Transit Hub
12. Mon Valley to South Hills Upgraded Transit
13. Freeport Road Corridor Upgraded Transit
14. Airport Corridor Rapid Transit
15. North Hills Rapid Transit
16. Library Line Best Use Study
17. West Busway Extension to Bridgeville

Public input and advocacy for these five projects influenced their priority.

- ●●● Highest Public Input
- •••• High Public Input

+Public Input

The NEXTransit team solicited public input on the preliminary projects list to understand which investments are most valued and adjusted priority based on this input throughout the entire planning process.

1. East/Central Pittsburgh River to River Connection
2. Allentown/Downtown/Strip District LRT Best Use Study
3. East Busway to Monroeville Rapid Transit
4. McKnight Road Upgraded Transit
5. Brownsville Road and Route 51 Upgraded Transit
6. Homestead to McKeesport Upgraded Transit
7. Ohio River Light Rail Extension
8. North Side Light Rail Extension
9. Allegheny Valley Rapid Transit
10. Downtown Transit Hub
11. Airport Corridor Rapid Transit
12. North Hills Rapid Transit
13. Library Line Best Use Study
14. East Busway Phased Extensions
15. Mon Valley to South Hills Upgraded Transit
16. Freeport Road Corridor Upgraded Transit
17. West Busway Extension to Bridgeville

This study of a **Homestead to McKeesport transit upgrades** increased in priority to support concurrent project planning and construction of the Oakland Bus Rapid Transit (BRT) project.

This study of **rapid transit along Allegheny Valley corridor** increased in priority in response to concurrent property acquisition feasibility study for an alternative use.

This study of a **Downtown Transit Center (Hub)** increased in priority to support concurrent project planning and construction of the Oakland Bus Rapid Transit (BRT) project.

The best use study of the **Library Line** increased in priority due to its imminent need for $450 million worth of infrastructure upgrades.

This study of **phased extension of the East Busway** increased in priority because of its significance to the growing regional economy.

These five projects increased in priority due to feasibility factors.

+Feasibility

The NEXTransit team evaluated the implementation barriers or opportunities (i.e. other concurrent planning underway) to adjust the priority of projects.

NEXT

1. East/Central Pittsburgh River to River Connection
2. Downtown Transit Hub
3. Library Line Best Use Study
4. Homestead to McKeesport Upgraded Transit

0-5 Years

5. Allentown/Downtown/Strip District LRT Best Use Study
6. East Busway to Monroeville Rapid Transit
7. McKnight Road Upgraded Transit
8. Allegheny Valley Rapid Transit

5-15 Years

9. East Busway Phased Extensions
10. Airport Corridor Rapid Transit
11. Brownsville Road and Route 51 Upgraded Transit
12. Ohio River Light Rail Extension
13. North Side Light Rail Extension

15-25 Years

14. North Hills Rapid Transit
15. Mon Valley to South Hills Upgraded Transit
16. Freeport Road Corridor Upgraded Transit
17. West Busway Extension to Bridgeville

This study of **phased extension of the East Busway** increased in priority because it received very high public support during our priority input phase, triggering a shift in ranking

Public input and advocacy for this project influenced its priority.

+Public Input

The NEXTransit team solicited public input on the prioritization of projects to confirm the public's sense of which investments are most valued. The adjusted priority is based on this input.

NEXT

1. East/Central Pittsburgh River to River Connection
2. Downtown Transit Hub
3. Library Line Best Use Study
4. Homestead to McKeesport Upgraded Transit

0-5 Years

5. East Busway Phased Extensions
6. Allentown/Downtown/Strip District LRT Best Use Study
7. East Busway to Monroeville Rapid Transit
8. McKnight Road Upgraded Transit

5-15 Years

9. Allegheny Valley Rapid Transit
10. Airport Corridor Rapid Transit
11. Brownsville Road and Route 51 Upgraded Transit
12. Ohio River Light Rail Extension
13. North Side Light Rail Extension

15-25 Years

14. North Hills Rapid Transit
15. Mon Valley to South Hills Upgraded Transit
16. Freeport Road Corridor Upgraded Transit
17. West Busway Extension to Bridgeville

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About the Projects

The proceeding projects are presented and described in the order as ranked by the public. The final prioritization by phase as presented at the end of this section represents the timing of when Port Authority would begin work on the projects. In many cases, the first step is a planning study to determine feasibility, identify alternatives and conduct preliminary design, evaluate environmental issues and/or perform other early-stage actions to advance the project into further development. The phases are not meant to show when project construction would begin or be completed. Each project would begin with a planning study.

NEXTransit is itself a long-range plan, but individual projects require their own distinct planning and design process before they can become a reality. That includes things like: an alternatives analysis, where each mode (bus, rail, etc.) will be analyzed; a full cost/benefit analysis where more detailed costs will be weighed against the most current demographic and other data; an environmental study where impacts to people and the lands affected by the project will be analyzed. Most importantly, each project will include its own public engagement process, where everyone will have the opportunity to understand more details and voice their support and/or concerns. These individual plans are what is referenced when discussing the phasing and timing of projects in NEXTransit.

The following page describes the proposed buckets of time in which NEXTransit anticipates each project should start, as a way of helping the public understand when a project may be ready to move forward into the planning and design phase.

An example of a future transit corridor project as shown on the following pages — A potential transit hub at Ross connecting to North Hills Rapid Transit, McKnight Road Upgraded Transit, local transit, and other first-last mile connections.

What Do the Projects Look Like?

The following pages outline the proposed NEXTransit Projects in priority order, grouped by the phases shown above. Each project will have a brief explanation of why it's proposed, details about what elements it might include, a general description of the corridors and neighborhoods it could serve, a summary of the overall values it meets, and a high-level cost estimate. When each project is ready to begin, each will have its own detailed planning process beyond this document. The descriptions and images that follow here are meant to inspire discussion.

NEXT Projects

This list represents the projects Port Authority anticipates beginning work on immediately following the adoption of NEXTransit. Each of them would serve different markets in Port Authority's service area which is why this plan proposes that several projects could begin simultaneously. They include beginning an facilities master plan, planning for a new corridor project in which bus might not be the most logical mode, an operational study of service alternatives, a street infrastructure project supporting existing transit service, and the development of ideas around a transit hub. These highly ranked and important projects will set the stage for future phases and system growth, especially the facilities master plan, which will include a bus garage capacity expansion that will allow for additional service. These first projects share an overall theme of **efficiency**.

1-5 Year Phase

This phase represents projects that are still near-term but should be phased in following the most critical group of NEXT projects, most notably that bus expansion projects really aren't feasible to begin before plans for a new bus division are underway so that timelines for service expansion and change can be estimated. These corridors have higher levels of ridership today, and present strong cases to focus on providing better, more equitable access to opportunities. The main theme of this grouping is **essential expansion**.

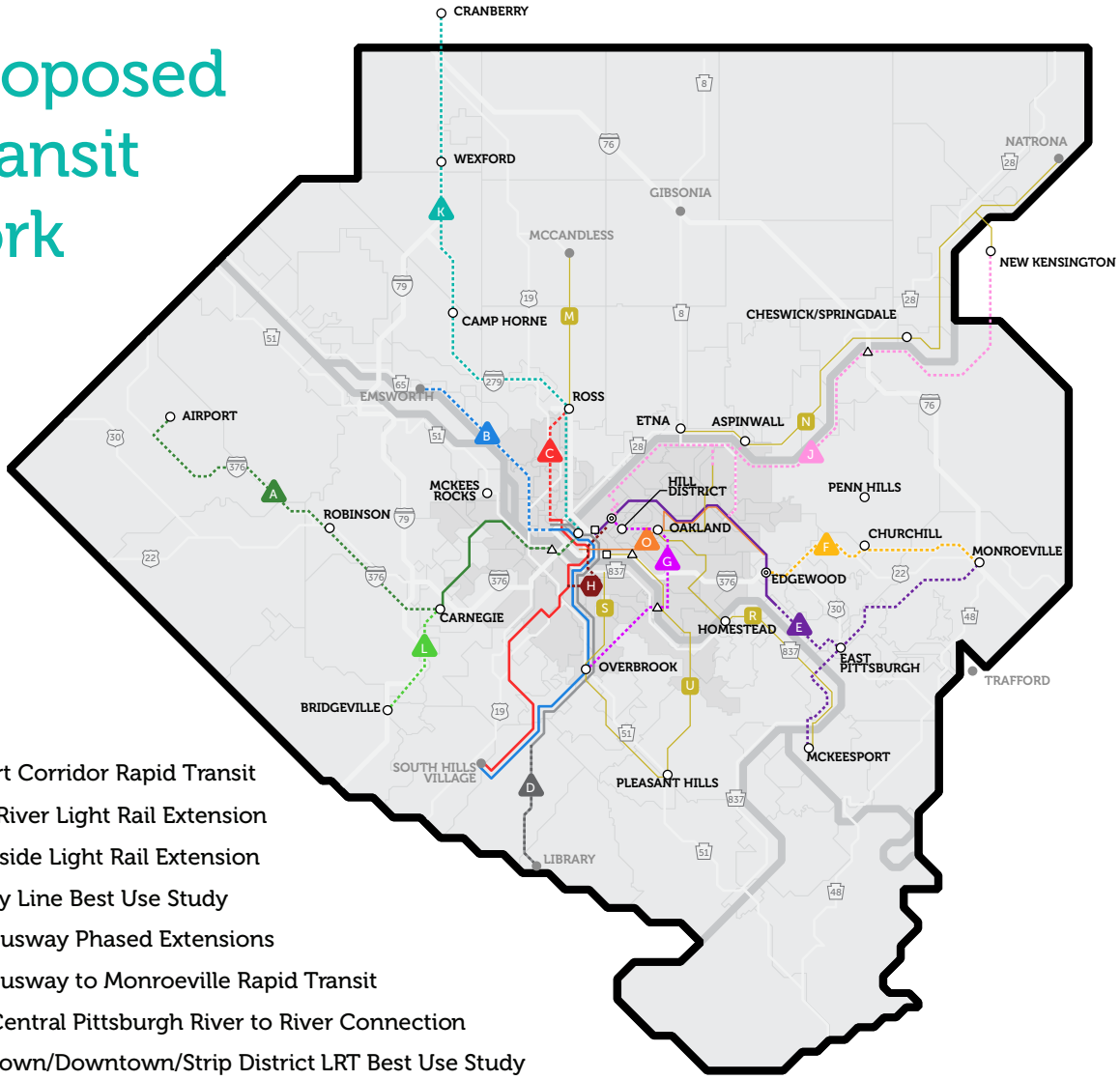
6-15 Year Phase

This phase includes projects that further expand the network based on growth opportunities, both for the transit system itself and for the communities served by the proposed projects. Thus, the general theme for this grouping is **opportunity expansion**.

16-25 Year Phase

The final phase of projects looks further out into the future and will serve as targets for development of transit-oriented community corridors and associated efforts going forward, especially in suburban communities where growth continues. While today's land uses may warrant on-street bus service, with long-range land use planning in alignment with these projects, rapid service can be factored into future growth. For this reason, these projects share the theme of **opportunity expansion**.

The Proposed NEXTransit Network



- A — Airport Corridor Rapid Transit
- B — Ohio River Light Rail Extension
- C — Northside Light Rail Extension
- D — Library Line Best Use Study
- E — East Busway Phased Extensions
- F — East Busway to Monroeville Rapid Transit
- G — East/Central Pittsburgh River to River Connection
- H — Allentown/Downtown/Strip District LRT Best Use Study
- J — Allegheny Valley Rapid Transit
- K — North Hills Rapid Transit
- L — West Busway Extension to Bridgeville
- M — McKnight Road Upgraded Transit
- N — Freeport Road Corridor Upgraded Transit
- R — Homestead to McKeesport Upgraded Transit
- S — Brownsville Road and Route 51 Upgraded Transit
- U — Mon Valley to South Hills Upgraded Transit

Proposed Neighborhood Connection

- Bridgeville to South Hills Village Transit Connection
- North Hills - Ohio River - Airport Transit Upgrades / Transit Connection
- Wilkinsburg - Penn Hills - Churchill - East Pittsburgh Connector
- East Pittsburgh to Trafford Transit Connection
- McKeesport - Pleasant Hills - Overbrook - Beechview - Carnegie Service Corridor
- Sheraden - McKees Rocks - Ross - Etna Transit Connection
- Route 8 Transit Connection
- Ross to Millvale to Lawrenceville Transit Connection
- Campbell's Run Road Transit Upgrades

- Community Circulation
- Transit Hub
- Standalone Project
- Topography Connector
- Multiple Projects

0. Facilities Master Plan and Expansion of Bus Facilities

0

NEXT

Classification:
Efficiency

WHY IT IS PROPOSED:

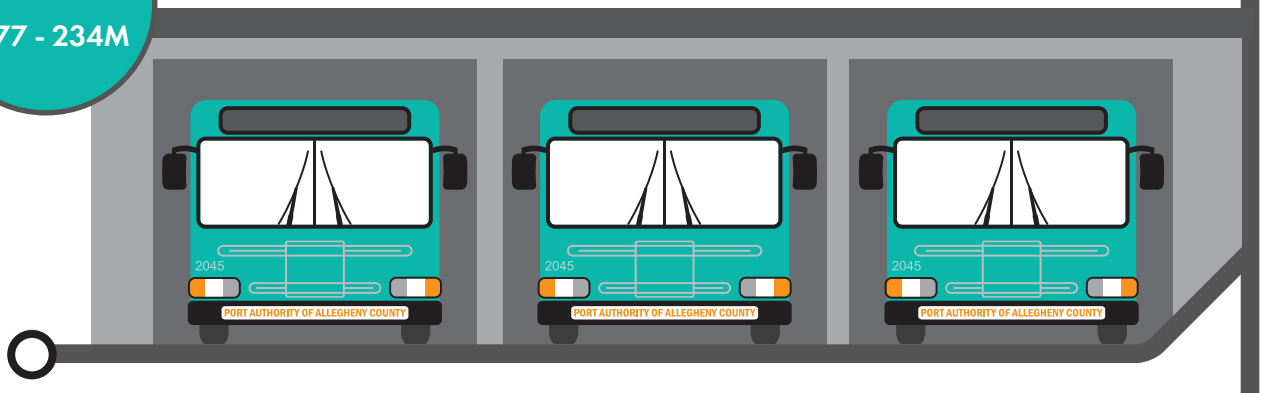
Before any of the overall network projects shown on the following pages can happen, Port Authority needs to expand its existing vehicle storage and maintenance capabilities. First, current facilities cannot accommodate further expansion of Port Authority's bus fleet, so adding significant service frequency to the existing network is not possible without garage capacity expansion, light rail equipment storage expansion and non-revenue vehicle maintenance expansion. Next, light rail equipment storage, and non-revenue vehicle maintenance expansion are general system needs that must be addressed before significant expansion can occur in the system.

A facilities master plan is proposed to look at all of these needs simultaneously, account for existing facilities that could be used differently, and propose needed expansions to the maintenance and operational facility system to support future growth. This includes ensuring that new facilities meet other needs specified in this plan, such as the rollout of alternative fuels for the fleet. Ideally, all Port Authority operations and maintenance facilities, including a new garage, would be located close to Port Authority routes or highways to prioritize efficient use of vehicle and staff time serving the community, however, a study to determine the best location to site these new facilities (or expand or re-purpose current facilities) is necessary.

This project meets the following plan values and data metrics:

- Accessibility
- Efficiency
- Sustainability
- Growth Support
- Population/Job Density Need
- Current Trip Density
- Propensity
- Current Ridership
- Employment Center Support
- This project received high public support
- This project received high feasibility recognition

COST:
$177 - 234M



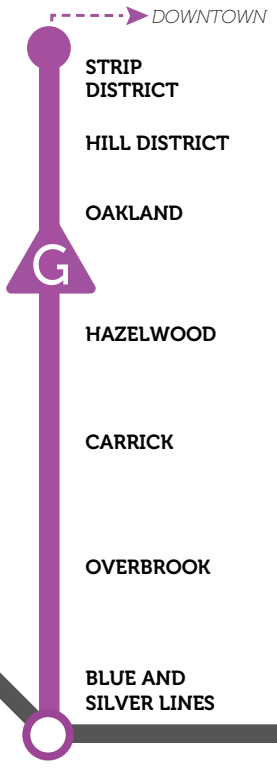
1

NEXT

Classification:
Opportunity Expansion

This project meets the following plan values and data metrics:

- Efficiency
- Sustainability
- Growth Support
- Population/Job Density Need
- Propensity
- Employment Center Support
- This project received high public support
- This project received high feasibility recognition



1. East/Central Pittsburgh River to River Connection

WHY IT IS PROPOSED:

Connections today are sparse between the growing and evolving neighborhoods along the north-south string of activity nodes from the Strip District to the Hill District, Oakland, Hazelwood, and Carrick and Overbrook areas. Gaps exist due to cliffs, valleys, and rivers, but the potential for physical, economic, and equitable mobility connections presents a compelling case for a dedicated transit corridor that would overcome the topographic barriers to connect communities in need with opportunity areas and major transit corridors. In particular, creating additional connections to and through the Hill District and Hazelwood can help to promote access to new opportunities and support disinvested communities through affordable, reliable transportation.

PROJECT DETAILS:

To connect these geographically separated places, a transit mode that connects people across topographies, such as an aerial gondola system, could provide better connections than on-street modes that cannot connect communities as directly. However, as it is difficult to identify one solution for the entire corridor, a combination of modes should be evaluated in a future alternatives analysis to determine the best transit option or options.

- A transit center in the Strip District at or near 21st Street could incorporate a new East Busway station and anchor a vertical connection to the Hill District.
- A Hill District transit center would tie together east-west bus routes and could offer micro-mobility connections to the rest of the neighborhood.
- In Oakland, connections to the Downtown-Uptown-Oakland-East End Bus Rapid Transit Project (currently in final design) and other transit lines will be critical to supporting connectivity and maximizing ridership.
- Linking with transit on Second Avenue and local connections in Hazelwood will support new development while enhancing access to employment, educational and training opportunities in the corridor.
- In Carrick and Overbrook, new direct connections will open new opportunities that have historically taken significant time to reach via transit. An Overbrook transit center could also eventually link to the Blue Line light rail and the overall South Hills transit network, providing additional connections to Oakland jobs for residents in the South Hills.

COST:
$168 - 218M

Potential transit hub at 21st Street in the Strip District

2. Downtown Transit Center

2

NEXT

Classification:
Efficiency Expansion

This project meets the following plan values and data metrics:

- Efficiency
- Sustainability
- Growth Support
- Population/Job Density Need
- Current Trip Density
- Propensity
- Current Ridership
- Employment Center Support
- This project received high public support
- This project received high feasibility recognition

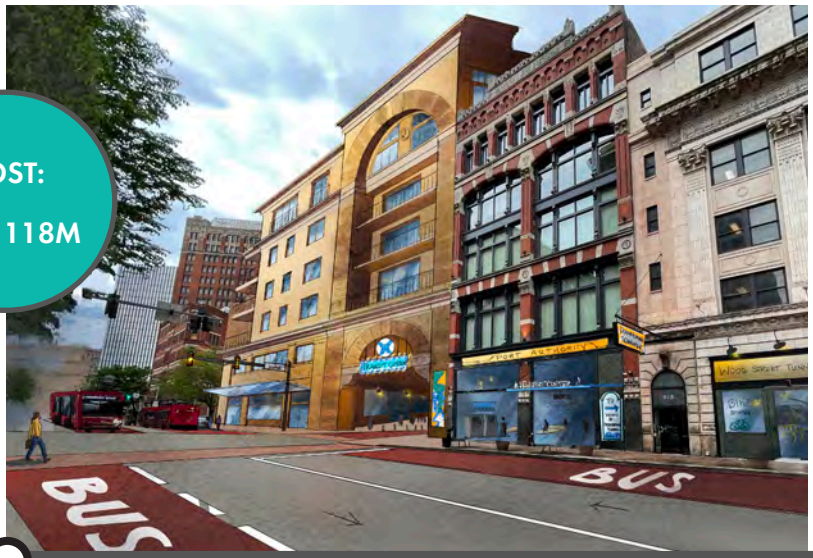
WHY IT IS PROPOSED:

Almost all of Port Authority's network of 96 bus routes converge in Downtown Pittsburgh. Existing Downtown infrastructure and stop locations do not currently meet the amenity and space needs of riders waiting at stops in Downtown Pittsburgh. Many routes experience reliability issues due to the lack of dedicated lanes and interference from general traffic. In order to tackle some of these challenges, and to potentially open up options for more cross-county movements, developing plans for more permanent and reliable infrastructure in the core is warranted. The core bus network currently terminates routes in or near Downtown, but a central transit facility that can provide flexible connections for those traveling through the Downtown core is necessary to not only make connections comfortable and consistent, but also easy to understand. Port Authority is preparing to begin a study of the Central Business District's bus network that will include a broad look at the inclusion of a transit center or centers into the Downtown core. This could include a larger, off-street space for transit, but given the density and size of Downtown, it could be that it becomes an informal center of sorts, with more amenities and better organization of services than exists today. While a location has not yet been selected, the following paragraph describes basic project elements for further discussion.

PROJECT DETAILS:

A Downtown transit center (or centers) would be situated to allow for easy connections to destinations in the core as well as between rapid transit lines. This proposed facility has the potential to be the epicenter for Port Authority's current and future rapid services, connecting the proposed Allegheny Valley Rapid Transit and North Hills Rapid Transit, as well as the existing East and West Busways and the Downtown-Uptown-Oakland-East End Bus Rapid Transit Project. Connections to the light rail system and regional transit providers should be nearby as well. Passenger amenities such as waiting areas, real-time connections screens, ticket and fare vending, bike storage, and rider assistance could also be included. Ideally, a central transit facility would be integrated within the existing fabric of Downtown buildings to minimize visual intrusion.

COST:
$60 - 118M



Conceptual Downtown transit center, Liberty Avenue

to all connections

DOWNTOWN PITTSBURGH

3

NEXT

Classification:
Efficiency Expansion

This project meets the following plan values and data metrics:

- Efficiency
- Population/Job Support
- Very high public input
- This project received high feasibility recognition

LRT

BETHEL PARK

LIBRARY

MONTOUR TRAIL

3. Library Line Best Use Study

WHY IT IS PROPOSED:

There is an imminent need for $450 million of infrastructure upgrades to ensure the safety and reliability of the Library Line (operating as a segment of the Silver Line), which extends from Washington Junction in Bethel Park to Library Station in South Park Township. As the line carries only around 3,000 riders (average pre-pandemic weekdays), the costs of state of good repair needs are high in relation to ridership. This is primarily due to the low density of development and severely limited street and pedestrian connections to the transit stations in this corridor. It is important that Port Authority identify substantive ways to increase ridership on the line (with commitment from local municipalities for implementation) or explore less expensive ways of maintaining service to these communities in order to continue to provide service while maintaining the fiscal health of the agency.

PROJECT DETAILS:

The goal of the study will be to evaluate the existing light rail infrastructure to determine if or how it can be better utilized. This could include changing service or mode of the line or focusing on the infrastructure in place and ways to partner with municipalities to improve its usage and overall connectivity.

Recommendations could include:

- Adjusting service hours
- Strategies to create and/or improve multimodal access to each station
- Utilizing the right of way in a different configuration or a different mode
- Strategies to promote transit-oriented development at stations
- Upgrades to and modernization of station facilities and amenities

COST:
TBD based on study

Existing conditions at Hillcrest Station, Library Line, Bethel Park

4. Homestead to McKeesport Upgraded Transit

4

NEXT

Classification:
Essential Expansion

This project meets the following plan values and data metrics:

- Equity
- Accessibility
- Efficiency
- Population/Job Density Need
- Current Trip Density
- Propensity
- Employment Center Support
- This project received high feasibility recognition

WHY IT IS PROPOSED:

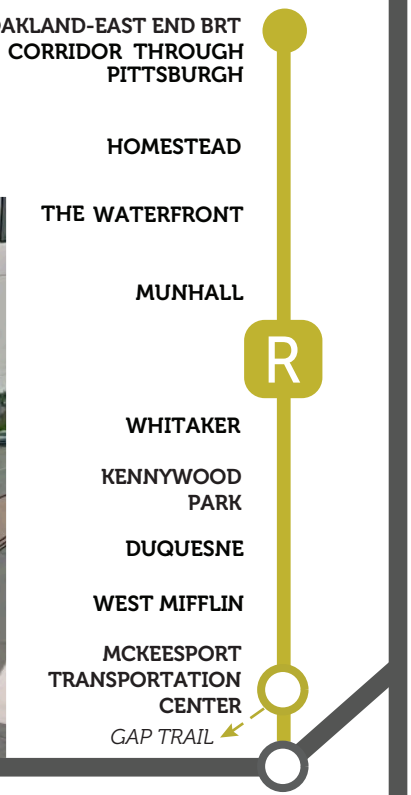
Pennsylvania State Route 837 (SR 837) is a busy arterial corridor that follows the southern-western shore of the Monongahela River from the City of Pittsburgh through the mid-Mon Valley. The 61C bus route operates along this corridor providing the only transit connection between Monongahela Valley communities and Oakland, and route is currently proposed to be incorporated into the core portion of the bus rapid transit project in Downtown, Uptown and Oakland. There are major seasonal attractions in the corridor with limited, non-prioritized transit service. There is the opportunity to both grow these destinations and reduce seasonal delay on the corridor with robust transit service. Park and ride lots are located in West Mifflin and McKeesport, though their future uses could include development of affordable housing, retail, and other services, based on community desires and market conditions. Potential challenges to upgrading this corridor include the adjacent Norfolk Southern Mon Line, one of Allegheny County's busiest railroad lines and route 837's four-lane configuration in the southern portion of the corridor. Both of these restrict access and increase the complexity of providing safe, convenient and appealing pedestrian access to transit stops or stations.

PROJECT DETAILS:

This project would prioritize the design of amenities and right-of-way solutions that support transit riders such as dedicated lanes, queue jumps, enhanced stations with shelters, passenger seating, signage, real-time information, bicycle racks, ticket vending machines, trash receptacles, traffic signal modifications or replacements, and upgrades to sidewalks and crosswalks to improve the first and last mile journey for riders. Homestead should be considered a major transit center location within this corridor in addition to the McKeesport Transportation Center, which is currently undergoing modernization, to facilitate usage of the complex local bus services that cross this corridor.

COST:
$47 - 58M

Conceptual station upgrade at Duquesne Boulevard (PA 837) and Library Place, City of Duquesne



5

1-5 years

Classification:
Efficiency Expansion

This project meets the following plan values and data metrics:

- Equity
- Accessibility
- Sustainability
- Population/Job Support
- Current Trip Density
- Propensity
- Current Ridership
- Employment Center Support
- Very high public support
- This project received high feasibility recognition

6. East Busway Phased Extensions

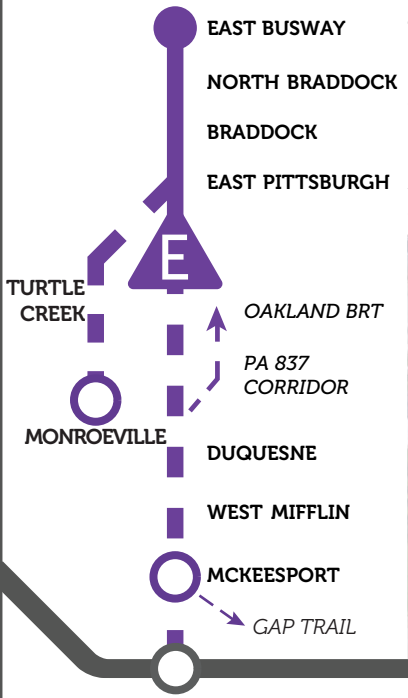
WHY IT IS PROPOSED:

The recently completed BEN 2030 FUTURES: Braddock, East Pittsburgh, and North Braddock Joint Comprehensive Plan calls for expansion of rapid transit in these communities beyond the East Busway. Additionally, Port Authority's 2017 East Busway Extension Feasibility Study recommended that its "red" alternative be studied further for possible implementation, which includes extending the East Busway one mile to Braddock on an exclusive right-of-way. As was done with the original 1983 East Busway and the 2003 extension, a future extension could utilize the existing railroad corridor. Extending the busway could also involve adding a new station (or stations) in Braddock. The studies mentioned here and in a recent FTA TOD Pilot Program application for planning funds call for stations in Braddock, and TOD near the station(s) could be explored if a recently submitted (June 2021) Federal grant for studying TOD in these areas is successful. Pre-2020 trip patterns show a high rate of travel between East Pittsburgh and McKeesport, which is approximately 10 minutes by car, but 40 minutes by transit. Long transit travel times between the City of Duquesne and East Pittsburgh inhibit residents of Duquesne from accessing jobs in the Turtle Creek Valley. Additional services at a transit center in East Pittsburgh, which is home to Keystone Commons, a major Mon Valley job center and key crossroads in several directions, are also proposed.

PROJECT DETAILS:

Planning this connection could consist of two key phases: the first involves revisiting and potentially revising the 2017 feasibility study of an extension of the East Busway between Swissvale and Braddock, and the second would involve the analysis of alternatives noted above. If the alternative to McKeesport is selected, this section could follow East Pittsburgh-McKeesport Blvd, or, in the future could use the Mon-Fayette Expressway river crossing if that project is fully built out, which could incorporate the City of Duquesne into the corridor.

Surveys were conducted in this region in 2019 by advocacy organizations which called for a need to better connect the Braddock area with Monroeville via East Pittsburgh and Turtle Creek. In reviewing pre-pandemic travel data, both general (all-modes) and transit-specific, it is unclear whether this busway extension would be best served with an extension to McKeesport, Monroeville, or both. Therefore, it is recommended that both alternatives be studied further during the alternatives analysis phase of planning for this project. Additionally, the type of infrastructure required will be studied, from on-street transit priority to fully-separated busway.



COST:
$121 - 151M

Conceptual East Busway station in Braddock, near 4th Street

5. Allentown/Downtown LRT Best Use Study

6

1-5 years

Classification:
Essential Expansion

This project meets the following plan values and data metrics:

- Accessibility
- Efficiency
- Sustainability
- Growth Support
- Population/Job Density Need

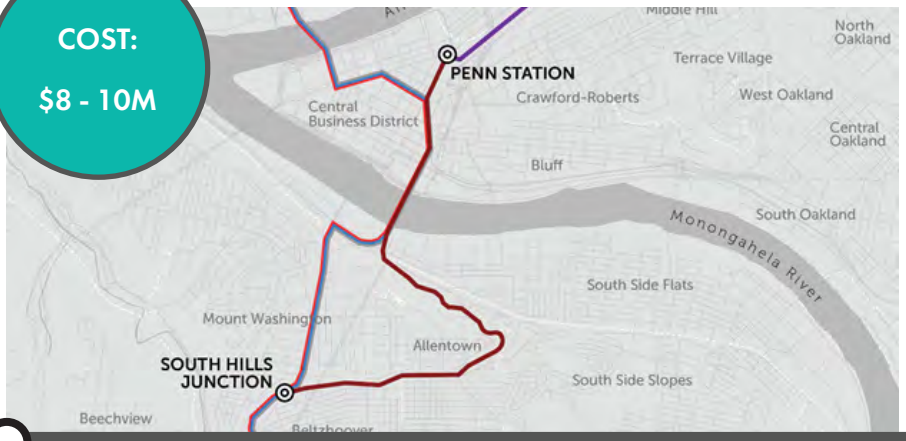
WHY IT IS PROPOSED:

The Allentown Line extends from South Hills Junction to the Panhandle Bridge, which facilitates light rail transit service connecting the city's southern hilltop neighborhoods with Downtown Pittsburgh. Since service for the line was discontinued in 2011, it has been used as a bypass for the Red, Blue, and Silver lines when the Mt. Washington Transit Tunnel is closed for maintenance. Currently, Allentown's transit service is primarily comprised of bus routes. Propensity studies indicate that people in the neighborhood are highly likely to use transit at higher levels if rapid and more frequent options were available. Increasing rapid transit service to Allentown would provide access to transit-dependent people and people with high mobility need, though access for people with disabilities must be improved. Providing safe, comfortable, and useful permanent transit amenities in this neighborhood could also help spur investment and activity and further the recent revitalization of the Allentown business district. If benefits outweigh costs, the line could provide local service between South Hills Junction, Allentown, and Downtown—with an ultimate destination at Penn Station, providing a connection to the East Busway. Regular service from Steel Plaza to Penn Station was discontinued in 1993 with the exception of two "Quick Getaway" trains during the evening peak.

PROJECT DETAILS:

The Port Authority will conduct a study to investigate the best uses for the existing Allentown light rail alignment and the rail spur from Steel Plaza to Penn Station, both of which are physically operational but do not currently operate regularly scheduled service. Both assets require further study to determine what configuration of service and infrastructure would best serve riders in a way that is financially viable for the Authority. There are several issues to address such as how or if it would change bus service in the area, and meet ADA law given that the system was built prior to passage of the Act and is currently inaccessible. These issues, along with adjacent design issues that would need to be addressed within the public right of way, all need to be studied further along with internal operational and financial constraints and opportunities. Finally, bringing rail service through the center of a community could bring significant change, and therefore it is critical that the Authority better understand how current residents, employees and property owners view different options

COST:
$8 - 10M



EAST BUSWAY - EAST END TRANSIT ROUTES

PENN STATION

DOWNTOWN

SOUTH BUSWAY ROUTES

POINTS SOUTH ALONG OTHER LRT LINES

ALLENTOWN

SOUTH HILLS JUNCTION

7

1-5 years

Classification:
Opportunity Expansion

This project meets the following plan values and data metrics:

- Accessibility
- Efficiency
- Sustainability
- Growth Support
- Employment Center Support
- Current Trip density
- Very high public support
- This project received high feasibility recognition

7. East Busway to Monroeville Rapid Transit

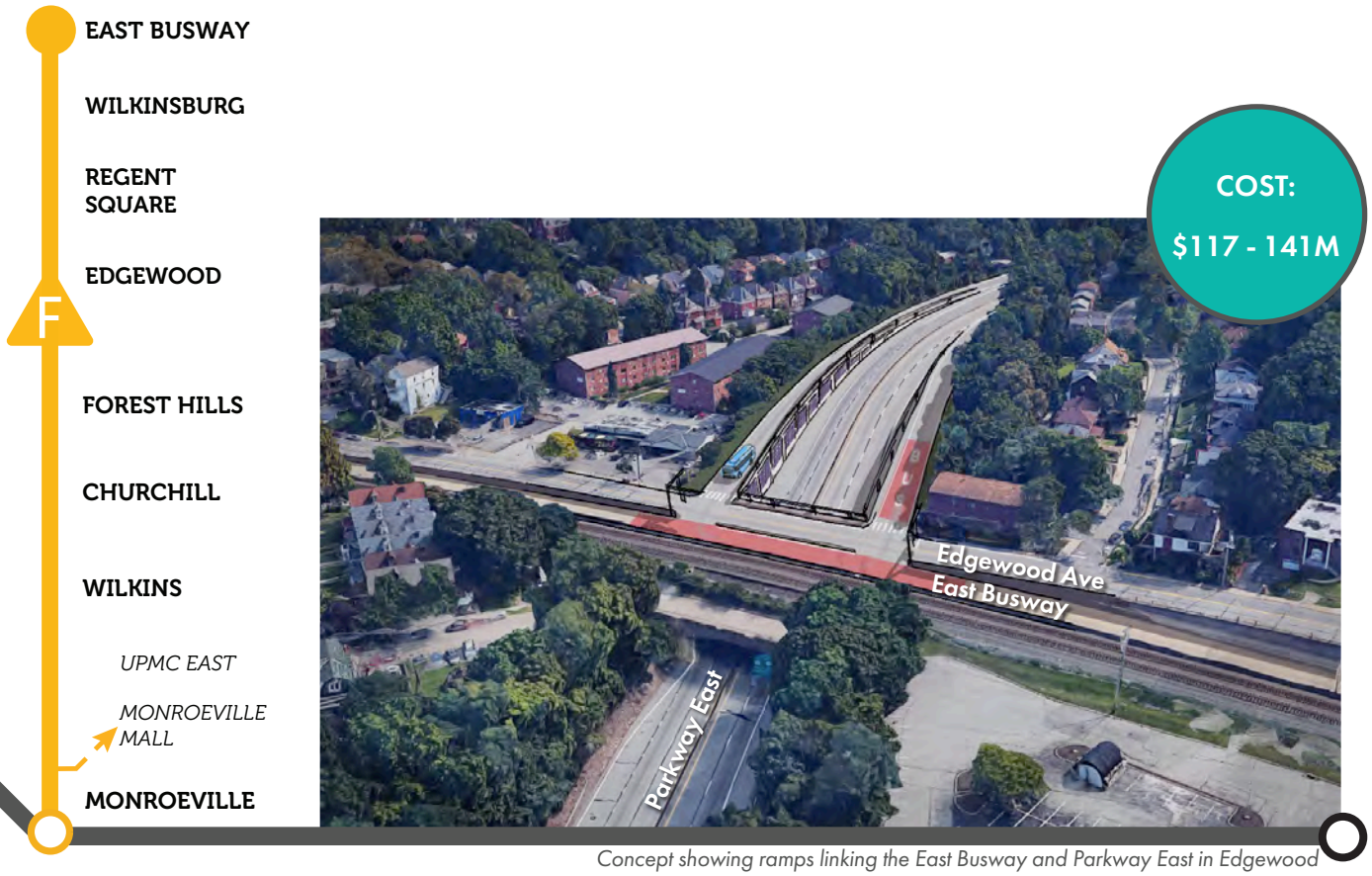
WHY IT IS PROPOSED:

As one of the most congested and least reliable highway corridors in the country, the Parkway East (I-376), has a need for a complementary rapid transit link to improve access to municipalities east of Pittsburgh. Transit riders in this corridor today are currently served infrequently by the 67 and P67 bus routes.

The alignment for an upgraded transit corridor is partly in place today. Port Authority's East Busway connects Downtown to the Borough of Edgewood in only 20 minutes and is a more reliable trip than driving this corridor due to the busway's exclusive right-of-way. A rapid transit link through the Parkway East corridor that connects to the East Busway could offer quick, direct links between the East End, Oakland, the Strip District, and Downtown.

PROJECT DETAILS:

Completing a rapid transit connection from Downtown further east to Monroeville could involve dedicated facilities directly connecting to the East Busway at or near the Parkway East. This connection would involve bus-only ramps or bridges rising from the highway to Edgewood Avenue, and a new entrance to the East Busway. Alternatively, a less infrastructure heavy solution could extend rapid bus on-street via Wilkinsburg to connect to the Parkway via the Ardmore Boulevard corridor. The form of rapid transit to be provided along the Parkway East itself requires further study, but alternatives could include shoulder-running Bus Rapid Transit or a center-running transitway separated from general traffic. Both Churchill and Monroeville should be included for study as locations for transit centers in this analysis, with local service tie-ins where feasible.



Concept showing ramps linking the East Busway and Parkway East in Edgewood

8. McKnight Road Upgraded Transit

8

1-5 years

Classification:
Essential Expansion

This project meets the following plan values and data metrics:

- Accessibility
- Efficiency
- Growth Support
- Population/Job Density Need
- Current Ridership
- Employment Center Support

WHY IT IS PROPOSED:

McKnight Road is a busy corridor primarily oriented towards shoppers and commuters traveling by car, but is also served by bus routes 12 and O12. The corridor currently operates as a high-speed arterial, and lacks even basic amenities for anyone not in a private vehicle. Businesses are spread out along the corridor and set far back from the road behind large parking lots, making destinations difficult to reach safely on foot. Transit service mostly brings riders to and from McKnight Road from other communities, but riders need more protection around the bus stops and the areas they access—few safe and comfortable sidewalks, curb ramps, crosswalks, and other amenities exist. Transit service currently mixes with general traffic in the curb lane, which is slowed down by high traffic volumes and frequent turning movements into parking lots. This can cause buses to be delayed and unreliable, especially as traffic signals are not linked to transit vehicles.

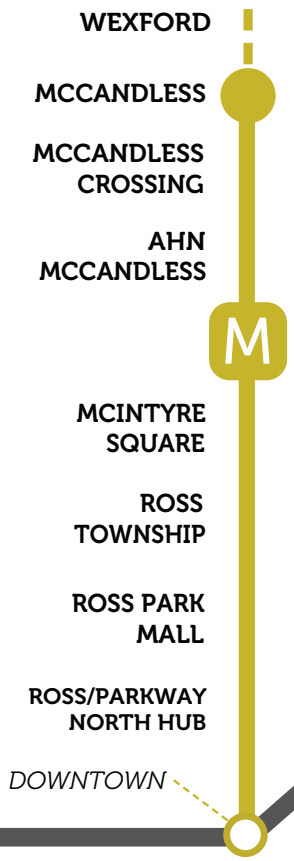
PROJECT DETAILS:

Transit upgrades to McKnight Road could include a kit of parts approach that addresses accessibility and safety as needed along the road and at each bus stop. Throughout the corridor, enhanced bus service can streamline travel times and reduce delays. Transit signal prioritization adjusts the timing of traffic signals to reduce time spent at red lights and to allow for optimal timing of loading and unloading passengers. Bus-only lanes would improve travel times and schedule reliability—further analysis will determine the most appropriate layout and enforcement of the lanes.

Upgrades to improve safety, accessibility, and visibility for transit vehicles and riders around stops can include upgraded shelters, real time information panels to keep riders informed about arrival times, improved sidewalks, and high visibility crosswalks to ensure riders can get to and from the bus safely. Additional cooperation with property owners will be necessary to allow for safe navigation from transit stops to business entrances on foot. Stop balancing along McKnight Road can further improve transit service by adjusting where bus stops are located, bringing riders directly to highly visited destinations and placing stops where there is space to disembark safely.

COST:
$57 - 68M

Conceptual station upgrade at McKnight Road and Patrick Place (near Ross Park Mall), Ross Township



9

6-15 years

Classification:
Opportunity Expansion

This project meets the following plan values and data metrics:

- Equity
- Accessibility
- Efficiency
- Sustainability
- Growth Support
- Population/Job Density Need
- Propensity
- Very high public support
- This project received moderate feasibility recognition

9. Allegheny Valley Rapid Transit

WHY IT IS PROPOSED:

As the areas surrounding the City of Pittsburgh grow in population, increased numbers of people are traveling into the city for work, education and entertainment. Route 28 currently experiences frequent delays and back-ups, and rapid transit is not available in the corridor as an alternative. Bus or rail rapid transit along the Allegheny River utilizing the Allegheny Valley Railroad (AVRR) right of way could help to alleviate this congestion and provide reliable transit that connects from New Kensington through the Allegheny Valley to Downtown Pittsburgh.

PROJECT DETAILS:

Key elements of this project would emphasize maximizing connections to job centers, neighborhood centers, and major transit routes. The new line could serve commercial centers through the Strip District and Lawrenceville, Morningside and the Pittsburgh Zoo, then continue on to the upper Allegheny Valley through Verona, Oakmont, and New Kensington. The Brilliant Branch line that begins in Aspinwall could directly link with the AVRR main line near Highland Park via the Brilliant Bridge and link to the East Busway in Larimer. This branch is currently undergoing other planning to investigate the feasibility of a trail connection. Port Authority should work with stakeholders leading this process to ensure the line's future compatibility with transit uses.

The project will begin planning with a proposal to utilize the current AVRR right of way as a transit-exclusive facility to minimize delays and traffic congestion between stations (freight rail operations could continue at off peak hours or overnight hours so as not to conflict with transit service). As the line currently carries very light industrial freight traffic, both light rail and bus modes can be further studied in this corridor to see which is warranted as the best solution. Cost estimates for the purposes of this high-level look have used busway-type cost ranges as a starting point. This plan could also look into the possibility of a transit-only connection to the Turnpike.

NATRONA HEIGHTS
TARENTUM
WESTMORELAND COUNTY
NEW KENSINGTON
OAKMONT
VERONA
PENN HILLS
LINCOLN- LEMINGTON
ASPINWALL
J
BRILLIANT BRIDGE
EAST BUSWAY
PITTSBURGH ZOO
STANTON HEIGHTS
LAWRENCEVILLE
STRIP DISTRICT HUB

COST:
$231 - 298M

Conceptual station at 43rd St and AVRR, Lawrenceville

10. Airport Corridor Rapid Transit

10

6-15 years

Classification:
Opportunity Expansion

This project meets the following plan values and data metrics:

- Accessibility
- Efficiency
- Sustainability
- Growth Support
- Employment Center Support
- Current Trip density
- Very high public support
- This project received high feasibility recognition

WHY IT IS PROPOSED:

The need for a faster and more efficient transit link between Downtown, western municipalities, and the Airport has been apparent for quite some time, and has been studied several times over the past few decades. The corridor is now experiencing growth that warrants a continued look at how to best provide this service. The 28X bus route currently serves the corridor and the Airport, but deviates from the main highway for several local stops within the Robinson Town Centre shopping complex. A rapid transit connection to the Airport would offer direct connections from Downtown to these communities and shopping, business, and education opportunities. This solution has the potential to significantly reduce traffic congestion along the I-376 corridor in this region as well, contributing to resiliency and sustainability goals for the county and region.

PROJECT DETAILS:

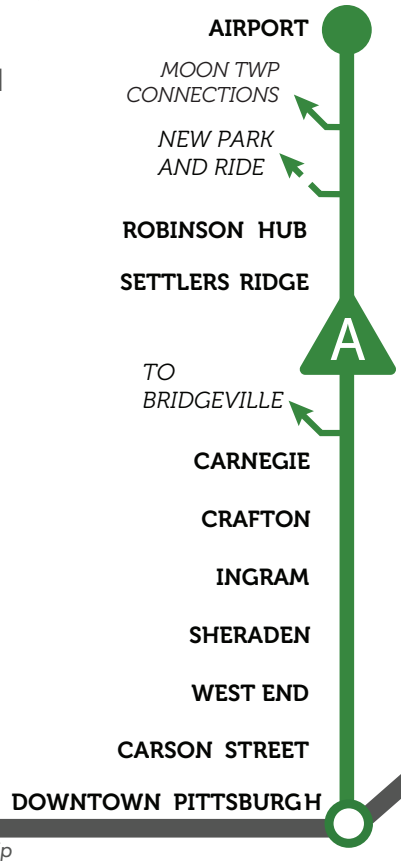
This proposed project will enable faster service to the airport by extending the rapid service currently serving the West Busway well beyond the current terminus in Carnegie Borough. It would extend Port Authority's West Busway (which connects riders Downtown to Carnegie via an exclusive transit right-of-way) in two places.

The first connection would connect Downtown to the current start of the West Busway in Esplen, through a fully grade-separated facility or dedicated bus lanes (or some combination of both). This path will generally follow the West Carson Street corridor. The second connection is a potentially longer addition, which entails exploring options for dedicated transit on the Parkway West from the current Port Authority ramp near Bell Station in Carnegie to Robinson Town Centre. Alternatives could include shoulder-running bus rapid transit or a center-running transitway separated from general traffic.

Open space, trail connections, and transit centers at key locations along the route would further facilitate multimodal connectivity, easier transfers, and greater transit network coverage.

COST:
$274 - 325M

Conceptual station at the Parkway West and Ridge Rd (near Settlers Ridge), Robinson Township



Summary of Remaining Projects

6-15 years

(6-15 Years Phase continued from previous section)

11: Brownsville Road and Route 51 Upgraded Transit (Corridor S)

Design transit and right-of-way solutions that support riders through bus stop balancing, shelters, accessible pedestrian pathways, transit reliability, and travel time improvements along a corridor that begins at Brownsville Road and S. 18th Street and proceeds south at SR-51 to the Century III area. Include study of a potential Overbrook transit hub with local service tie-ins.

Cost: $39 - 49M

NOTE: Projects 12 and 13 cost estimates use light rail due to existing infrastructure nearby, but *all* projects will have a mode analysis conducted in early planning stages.

12: Ohio River Light Rail Extension (Corridor B)

Study the potential for an extension of the light rail system or other rapid transit connection beyond the Allegheny Station terminus in the North Side of the City of Pittsburgh to the Manchester-Chateau area and further along the Ohio River Boulevard corridor to Emsworth.

Cost: $688 - 826M

13: Northside Light Rail Extension (Corridor C)

Study the potential of a light rail line or other rapid transit connection extending from the existing North Side station to the north through the City of Pittsburgh's lower North Side neighborhood and further north along the Perrysville Avenue corridor to Ross Township.

Cost: $710 - 852M

6-25 years

14: North Hills Rapid Transit (Corridor K)

Study the potential for a rapid transit connection between the Downtown-North Shore areas and Ross Township via an exclusive two-way transit facility using the I-279 HOV lanes as a center-running transit facility, and continued rapid or commuter-based transit service (depending on ridership projections) as far as north Cranberry Township in Butler County. Ross should be considered as a major transit hub in this study, with local service tie-ins.

Cost: $45 - 54M

15: Mon Valley to South Hills Upgraded Transit (Corridor U)

Supported by a recent SPC study, conduct a detailed alternatives analysis with service options for the implementation of transit upgrades for Second Avenue from Downtown to Hazelwood, with a strategic connection to the Downtown-Uptown-Oakland BRT at or near Birmingham Bridge. Additionally, consider the feasibility of extending this corridor into Pleasant Hills with a potential transit center at Century III Mall to connect with other local services.

COST: $35 - 44M

16: Freeport Road Corridor Upgraded Transit (Corridor N)

Design transit and right-of-way solutions along the north shore of the Allegheny River that support transit riders through stop optimization, shelter placement, accessible pedestrian pathways, transit reliability, and travel time improvements for transit vehicles. Explore connections between this project and the potential for rapid transit connections along the south shore of the Allegheny River.

COST: $44 - 54M

17: West Busway Extension to Bridgeville (Corridor L)

Study the potential for a rapid connection between the terminus of the West Busway rapid transit Line in Carnegie and the Municipality of Bridgeville along the Route 50 and Chartiers Creek corridor. Carnegie Station, which is currently in the design phase of a major station area redesign, will serve as a transportation hub in this study.

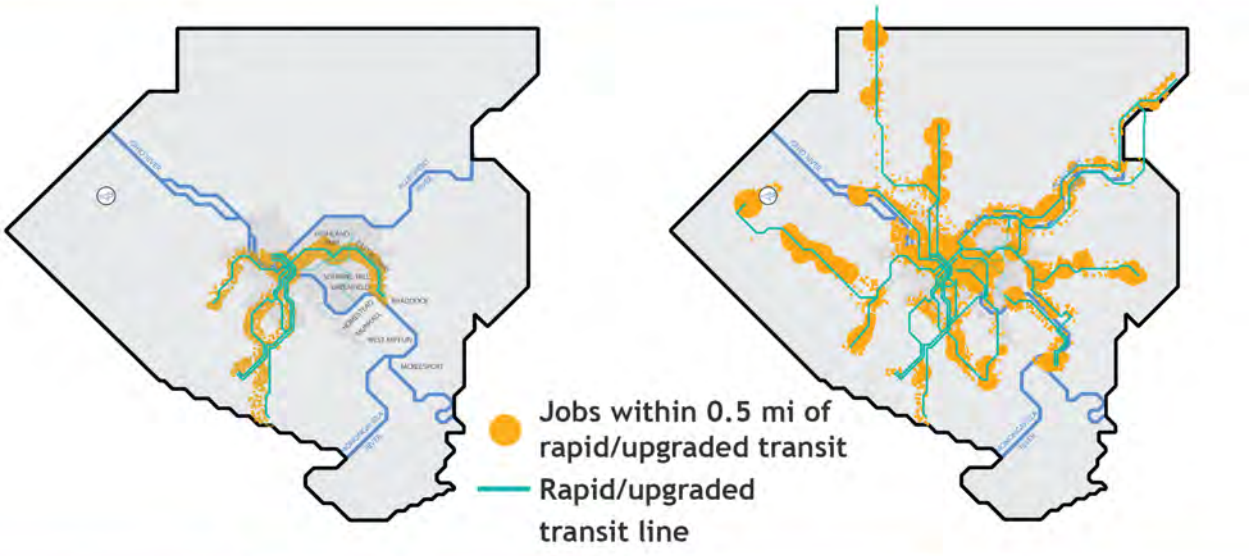
COST: $176 - 210M

Who the NEXTransit Network is For

The NEXTransit Network is for everyone in this region. With connections to more people, more jobs, and therefore more opportunity, Port Authority can serve Allegheny County more equitably and effectively. No region can build its way out of congestion using only highways, so transit must be an essential component of mobility moving forward if Western Pennsylvania is to grow and thrive.

Here's what Allegheny County gains by building the NEXTransit Network over the next 25 years:

Today	Future
Jobs accessible through current rapid transit network	Jobs accessible through future NEXTransit Network



271,016	People living near rapid transit	(22%) *of total population	731,033	People living near upgraded transit	(60%) *of total population
403,479	Jobs accessible by rapid transit	(55%) *of total jobs	472,521	Jobs accessible by upgraded transit	(64%) *of total jobs

If this proposed NEXTransit Network was in place *today*, the proposed transit improvements would provide upgraded transit access to roughly **460,000** more people and **70,000** more jobs.

What the NEXTransit Network Will Do

Over the coming 25 years, the NEXTransit projects will grow and strengthen the Port Authority network and bring more reliable transit connections and options to riders across the county. The projects reflect several main themes in the ways they address the gaps and opportunities in the current system and look ahead to the needs of the future. Greater choices in transit routes and destinations means greater opportunities for all and supports increased economic vitality and enhanced environmental sustainability.

Expand Existing Rapid Transit

Port Authority's busways and light rail lines are major assets to the region's transit system. They are well-used and carry riders to work, home, education, recreation, and other destinations quickly and efficiently. The topography and hills through and around the city create barriers between many neighborhoods, but the rapid lines help to bring them closer together. NEXTransit has identified numerous projects to expand and build upon these very effective routes and bring rapid connectivity to more communities, bringing more people within easy range of cross-county destinations via rapid and frequent services.

Connect to Growing Regional Corridors

Major growth areas around the county—and along its borders—are generating increased traffic and congestion, while offering expanded job and housing opportunities that not all can access. NEXTransit looks to expand the network by adding new and extended service along many of the key corridors identified throughout the planning process. From river towns along the Allegheny Valley, to the many northern towns reaching towards Cranberry, to the growth occurring in the west including around Pittsburgh International Airport, NEXTransit projects aim to bring connectivity to where people are now and where they will want to be as the county changes over the next 25 years. A major commonality among these corridors is that of state highways—Port Authority and PennDOT must work together toward common goals around safety, sustainability, and equity in order to implement the type of mobility network Southwestern Pennsylvania needs for growth.

Enhance Highly Used Routes

Southwestern Pennsylvania's history is revealed through its long-established development patterns. Many older communities in the region, having grown up along railroad, streetcar, and other transportation corridors, are now heavily developed with limited space for new infrastructure. Public transit must work in the space that's available, and serve downtowns and urban centers with increased efficiency and quality. Many projects plan substantial improvements to key transit routes, and the streets they run on, to ensure that they carry all modes of travel with improved safety. Transportation standards and best practices are always evolving, and technology allows greater innovation and efficiency. Many NEXTransit projects aim to invest in existing corridors and provide long-lasting infrastructure and high performing service in these locations.

Provide Transit Route Options

Port Authority's current network relies on many centralized connections through Downtown. Allegheny County as a whole also has a rich and vast series of spaces and places to navigate, though, and riders are often seeking journeys that neither start nor end Downtown. Throughout the county, NEXTransit projects connect more places and intersect in many more ways, providing a network with multiple options to get from one point to another. New connectivity provides new options for new job and housing locations easily accessible from locations from around the region. The pandemic has highlighted both the importance of essential workers and their mobility needs. As essential workers are more likely to be destined to locations throughout Allegheny County, making new transit connections linking city neighborhoods and suburban communities is necessary to accommodate essential workers' commute patterns.

Funding and Implementing the NEXTransit Network

Public transportation is a $74 billion industry that employs more than 435,000 people in the United States. Transit funding is complex and often confusing. Transit providers, including Port Authority, are typically funded through a combination of federal, state, and local sources along with revenues from passenger fares. To add to the complexity of transit funding, there is no consistent funding mix from state to state and agency to agency.

The American Public Transportation Association (APTA)[1] highlights the benefits of investing in transit as follows:

EVERY...

$1 invested in public transportation generates $4 in economic returns.

$1 billion invested in public transportation supports and creates more than 50,000 jobs.

$10 million in capital investment in public transportation yields $30 million in increased business sales.

$10 million in public transportation operating investment yields $32 million in increased business sales.

An estimated **$39 billion of transit expenditures flow into the private sector.**

The values of homes located near transit are 24% higher than homes located in other areas.

1 - APTA: *Economic Impact of Public Transportation Investment 2020 Update*

What Does Today's System Cost?

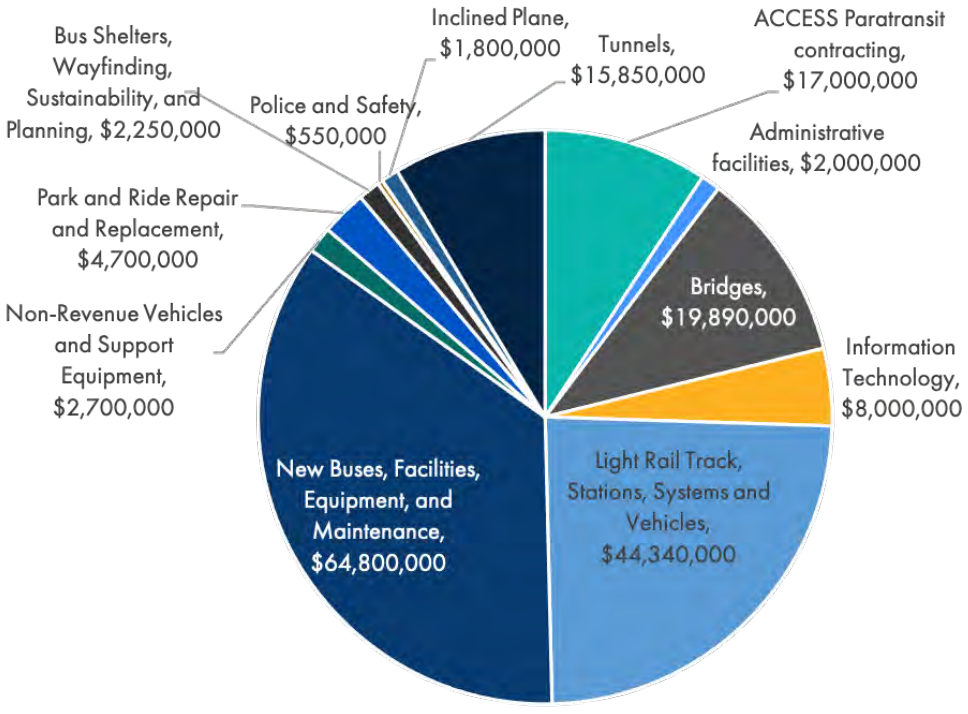
Port Authority's annual funding for its capital projects and operational and maintenance needs comes from multiple sources: federal, state, local, and direct revenue (from fares, advertising, and other revenue-generating activities). The agency has actively worked to contain short-term costs and has developed strategies to mitigate long-term costs. However, additional investment in the transit system is essential to maintaining the mobility, economic, and social benefits the Pittsburgh region is accustomed to. The projects outlined in this plan, in addition to existing system operating and capital necessities, will require a higher-level of investment than possible with available funding streams. Some projects which are programmed, but are not yet funded, are major items such as replacing 55 of the 83 light rail vehicles which are already beyond their useful lives.

Port Authority's Capital Needs

Port Authority requires adequate and reliable funding streams that allow it to budget for and perform the necessary work to keep its public transportation system in a state of good repair (SGR). Several factors, including a historic trend of underfunding, have caused Port Authority's backlog of SGR projects to balloon to billions of dollars' worth of need. The Southwestern Pennsylvania Commission's (SPC) 2015-2040 long-range plan identifies $4.6B dollars of capital maintenance needs for Port Authority alone. The agency's operating budget is further burdened by legacy costs impacting its operating budget, particularly debt service for past borrowing used to fund capital projects.

Approximately $185M is needed annually to support Port Authority's current system in a state of good repair, based on a look at the system's costs over the next 100 years, completed in winter 2020-21. This assumes no debt service and no capitalizing preventative maintenance, both of which currently take up $43M of the agency's annual capital budget (with those included, Port Authority needs $227M annually, but currently its capital budget allocates between $90-125M annually). This 100-year capital outlook includes revenue vehicle replacements, fixed guideway improvements, facility improvements, and support programs. The breakdown of these annual capital budget requirements, shown below in more detailed categories, clearly demonstrates that Port Authority's light rail transit system has intensive capital needs, which includes the direct light rail costs noted below as well as many of the tunnels and bridges that it owns. Light rail ridership only accounts for 15% of the Authority's system but over a third of its capital needs. As rail and other fixed guideway modes typically involve significant infrastructure costs, such costs should be noted as the Port Authority expands its infrastructure as such investments can add significant SGR needs to the agency.

Port Authority needs an additional $60-$90 million annually to support today's system in a state of good repair.

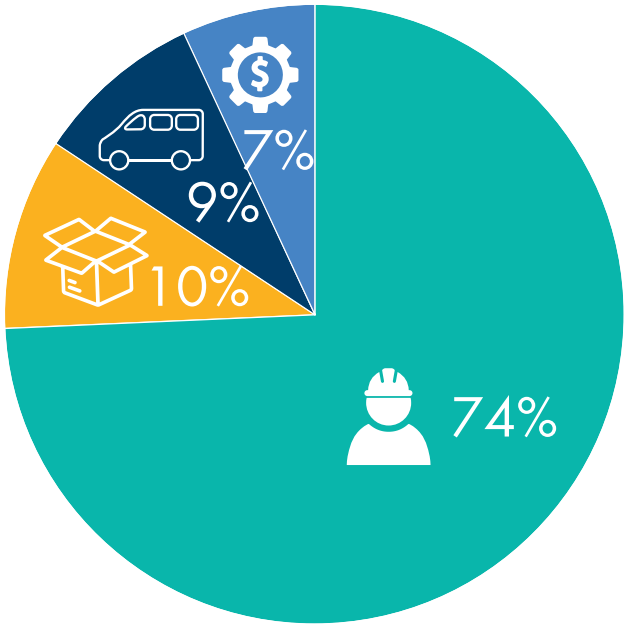


Port Authority's Operating Needs

Transit agencies are labor-intensive organizations, with the largest portion of operating expenses almost always being labor. At Port Authority, this accounts for 74% of the total operating budget, 10% going to materials and supplies (mostly fuel), and purchased transportation accounting for another 9% (paratransit services).

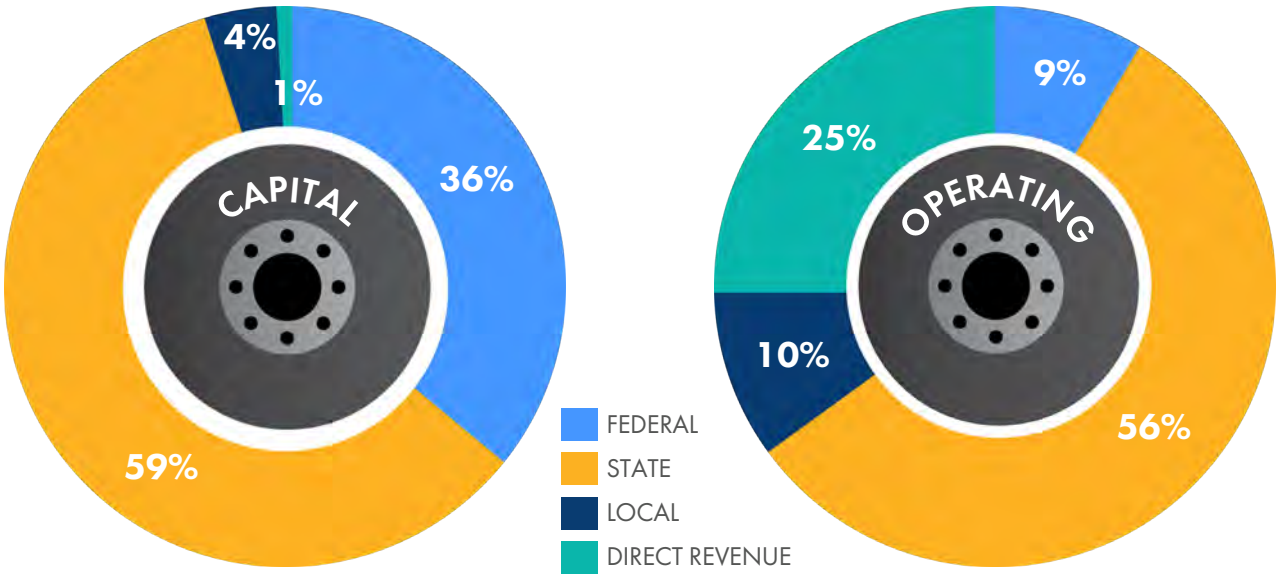
Reported Financial Information, National Transit Database				
	2016	2017	2018	2019
Labor	$290,000,710	$301,988,748	$309,131,760	$321,429,415
Materials & Supplies	$40,187,458	$37,906,916	$41,688,022	$44,565,012
Purchased Transportation	$34,989,456	$35,191,339	$37,475,393	$36,790,500
Other Operating Expenses	$32,465,226	$25,150,214	$25,429,449	$30,750,860
Total	**$397,642,850**	**$400,237,217**	**$413,724,624**	**$433,535,787**

Port Authority Average Breakdown of Operating Expenditures:



What Are the Sources of Transit Funding?

Transit agencies generally receive funding from a variety of sources, including federal, state, and local funds, as well as direct revenues from passenger fares and advertising. The below pie charts show how Port Authority's capital and operating budgets are generally broken out into their respective funding sources.



Federal Funding

At the federal level, transit agencies receive funds through the Federal Transit Administration (FTA). Each year new legislation is passed to appropriate general revenues that fund transit programs from the Mass Transit Account (MTA) of the Highway Trust Fund (HTF).

Agencies in urban areas, such as Port Authority, receive funding through FTA's Urbanized Area Formula Grants. These grants provide funding for capital and planning projects. These types of projects include purchases of buses, overhaul of buses, construction of passenger and maintenance facilities, and construction of guideway systems such as light rail and bus rapid transit. Urbanized Area Formula Grants also cover some expenses related to mobility management programs such as complementary paratransit services for persons with disabilities.

These grants are based on formulas which consider population density, transit vehicle revenue miles, and passenger miles. The grants usually cover up to 80% of project costs for capital projects and up to 90% of costs for vehicles and equipment attributable to compliance with the Clean Air Act and the American with Disabilities Act.

Port Authority also seeks funding from several FTA competitive grant programs including Capital Investment Grants (CIG) and the Grants for Buses and Bus Facilities Program. CIG provides funding for major capital transit investments including bus rapid transit and light rail. The Buses and Bus Facilities Program provides funding to purchase, replace, or rehabilitate buses or bus-related facilities that would not be achievable through formula grants such as the Urbanized Area Formula Grant. There is also a specific program under the Grants for Buses and Bus Facilities Program for low or no emission vehicles, which provides funding for the purchase or lease of low or no emission buses, related equipment, and facilities.

State Funding

In Pennsylvania, PennDOT's Bureau of Public Transportation (BPT) has primary responsibility for the development, improvement, and promotion of public transportation in Pennsylvania. BPT provides technical and financial assistance in support of urban public transit systems, rural public transportation services, intercity bus and rail passenger operations, and private nonprofit operators who provide mobility services for senior citizens and persons with disabilities. BPT is involved in all aspects of grant and program administration including planning, programming, auditing, legal, statistical functions, and oversight.

In July 2007, the Pennsylvania General Assembly passed Act 44, which required the Pennsylvania Turnpike Commission (PTC) to provide PennDOT with $450 million annually for highways, bridges, and public transit. Act 89 of 2013 modified Act 44 to dedicate the full amount to public transit. In 2022, PTC payments to PennDOT for transit will be reduced to $50 million and then $450 million will be provided from the state's General Fund. The distribution of Act 89 funds varies slightly annually, however Port Authority has consistently been awarded 20-25% of the total funds allocated. The Pennsylvania Lottery also provides funding for transit rides for older Pennsylvanians. Approximately 59% of Port Authority's annual capital budget and 56% of its annual operating budget comes from state sources.

Local and Direct Funding

Annually, Port Authority only receives 4% of its capital funding and 10% of its operating funding from local sources, or approximately $4 million and $40 million, respectively. Allegheny County and the Regional Asset District contribute funds to Port Authority as part of its local match funding requirements. The Alcoholic Beverage Tax was implemented in 2008 and currently provides revenues to the county through a 7% addition to the cost of alcohol purchased within Allegheny County. The entirety of the tax is dedicated to fund Port Authority's local funding match requirement for formula and competitive federal grants. Also implemented in 2008 was a $2-per day surcharge on rental vehicles within Allegheny County. Similar to the Alcoholic Beverage Tax, the funds provided serve as matching local funds.

Direct (operating) revenue accounts for approximately 20% of Port Authority's annual overall budget, most of which is applied to the operating budget. This revenue source includes passenger fares, advertising income, and other miscellaneous revenues.

How Does Port Authority Fare?

Port Authority's funding sources are somewhat outside of the norm compared to national averages. As can be seen in the below graphic, in which the Authority's Federal funding is generally aligned with the average, its share of state funding is much higher, while its state of local funding and direct revenues are lower.

Sources of Operating Funds: Port Authority vs. National Average*

Federal Funding:
Port Authority 9.1%
National 8.6%

State Funding:
Port Authority 59.4%
National 22.7%

Local Funding:
Port Authority 10.4%
National 32.6%

Directly Generated:
Port Authority 25.3%
National 36.0%

Pennsylvania consistently ranks as one of the highest states for percentages of transit funding due to lack of local revenue generation options for municipalities historically. Port Authority generally relies on over 55% of its operating funds and 58% of its capital funds from the Commonwealth, while nationally, transit agency averages are 23% and 15%, respectively.

Locally, however, the story is reversed. Port Authority only receives about 4% of its capital funds from local sources, whereas national averages for major transit agencies in the U.S. range from 35% to 73%.

* APTA Fact Book (2019) - https://www.apta.com/wp-content/uploads/APTA_Fact-Book-2019_FINAL.pdf

While not problematic for these imbalances to exist, they could create tension in that reliance on a broader, less localized level of government to support local needs could be riskier and provide less stability over time, as not all elected officials may be able to directly see the benefits that these more localized services provide.

Future Opportunities for Transit Funding

Transit agencies develop plans that guide investment long into the future and procure assets that are operational for decades. For example, an average transit bus is expected to last 12 years under normal circumstances and light rail vehicle is expected to last 31 years. These types of investments require sustainable, predictable funding.

As outlined earlier in this chapter, transit funding comes from multiple sources including federal, state, and local governments. The political nature of government makes it difficult to predict funding levels long-term and brings into the question the sustainability of those sources.

Federal Opportunities

Each federal funding bill provides the government with rules on how limited funds will be spent. Therefore, the rules to determine how much money will be allocated to transit can vary act to act. To add even more uncertainty, some federal acts have been granted short-term extensions to keep them from expiring. While these extensions prevent gaps in funding, they do not provide transit agencies with the predictability and guidance necessary for long-term planning. While the funds usually get appropriated, the delays create uncertainty for transit agencies.

The FTA has started to issue notice of funding opportunities (NOFO) for programs related to the new administration's priorities under President Biden. In February 2021, a NOFO for $180M in competitive grants were issued for low or no emission grant program to funding vehicles and related facilities. In April 2021, the FTA issued a NOFO for $10M in competitive grants for a pilot program for transit-oriented development projects. Also in April 2021, the USDOT issued a NOFO for $1B in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants. RAISE grants replaced the former BUILD and TIGER grants and feature some noticeable changes in criteria which are aligned with the President's priorities. The grants have an emphasis on job creation, improving safety, use of transformative technology, addressing climate change, and advancing racial equity. With the RAISE program's emphasis on equity and mitigation of negative climate change impacts, transit projects are likely to be prioritized when selecting projects for funding.

State and Local Opportunities

In early 2018, the Pennsylvania Turnpike Commission (PTC), Port Authority, and Allegheny County formed the Southwest Partnership for Mobility (Partnership) to address the challenges facing the region's transportation system. Working together with the Pennsylvania Department of Transportation (PennDOT), the Partnership formed a cross-sector advisory council which included regional stakeholders (Council) of major employers, civic leaders, local elected officials, and transportation agencies. A similar commission addressed the same challenges in the Southeast region of the Commonwealth with the Southeastern Pennsylvania Transportation Authority (SEPTA). The two studies, referred to as the Southeast and Southwest Partnership for Mobility reports, identified potential new revenue sources to fund transit in the Commonwealth including several modifications to taxes and fees. A major recommendation from both studies was the need for local jurisdictions to have the ability to generate additional resources for transportation priorities through ballot initiatives for funding. The reports highlight that over the past two decades, voters across the United States have supported transit funding measures 70% of the time. PA House Bill (HB) 2068 of the 2020 session aimed to amend Title 74 of the PA Consolidate Statues to allow counties to generate additional tax revenue to pay for mass transportation consistent with the recommendations of the mobility studies. The outcome

of this bill will likely be influenced by final recommendations of a new State committee formed to address this issue.

Within the Commonwealth, Act 44 as amended by Act 89 has perpetuated uncertainty in long-term transit funding. Act 89 reduces the PTC payments from $450M annually to $50M annually. The funds are to be replaced with revenue from the existing vehicle sales tax which currently is used by the general fund. This has the potential to reduce public transportation funding by $3.6B from FY2022-23 to FY 2029-30. To address this challenge, Governor Tom Wolf established the Transportation Revenue Options Commission (TROC) in March 2021 through an executive order. The Commission, chaired by PennDOT Secretary Yassmin Gramian, is comprised of elected officials and stakeholders from both the public and private sectors.

The public voted to increase local funding for transit in **30 out of the 36** ballot measures around the country in 2018.

The Commission released a report on its comprehensive funding recommendations for the Commonwealth's transportation system on July 30, 2021, and it contains numerous proposals based on core principles such as implementing fairer usage-based fees, more flexible uses of funding sources, and predictability and stability in revenue. This largely translates to transitioning from liquid fuel-based fees to mileage-based user fees, adjusting existing revenue sources to inflation, and redirecting existing funding to more appropriate programs. If enacted, the TROC recommendations could provide an additional $11.5B for transportation improvements in Pennsylvania annually five years following its implementation.

Looking Ahead - Taking Care of What We Have

With ongoing uncertainty over funding, Port Authority continues to actively manage its finances to ensure its fiscal sustainability. As previously discussed, labor accounts for the major of transit agency operational costs. Ensuring the size of the organization is appropriate as its operational and administrative requirements change over time is an essential task. For example, ensuring the vehicle maintenance department has an appropriate vehicle to mechanic ratio and the appropriate mechanical competencies to meet the evolving technologies is a difficult but necessary task. Recruiting operators is also challenging, and should be addressed through implementation of the HR staffing program outlined in this plan. Managing the administrative portion of the organization is just as essential to its long-term sustainability. Port Authority must continue to evaluate the administrative staff to ensure it is appropriately sized and has the requisite knowledge, skills, and abilities to meet its evolving challenges.

Cost containment can be accomplished through multiple approaches. Implementation of environmentally sustainable technologies can mitigate or reduce future expenses. For example, battery electric vehicles have the potential to reduce fuel and maintenance costs in the future. As these technologies increase in availability and reduce in cost, Port Authority should consider increasing its share of battery electric non-revenue vehicles, in addition to the revenue vehicles that are called for via NEXTransit projects, policies, and programs. Sustainability savings do not need to stop at vehicles. Renewable energy projects could offset the costs of operating building, facilities, and stations across the transit system. While renewable energy sources typically have higher upfront capital costs, they usually have long-term benefits which exceed those costs.

Port Authority continues to pursue all funding programs for which it is eligible. FTA and other US DOT competitive grants provide funding opportunities which complement formula grants. Port Authority actively monitors FTA and US DOT NOFOs for competitive grants which align with its long-term plans and programs to identify new opportunities to advance projects. Additionally, state, county, and philanthropic sources of funds continue to evolve and the agency should continue to be creative about how these sources could factor into the overall funding mix for projects. Pittsburgh's high level of transit ridership, transit-supportive development patterns and policies, Port Authority's initiatives to expand the system in an equitable manner, and the Authority's use of sustainable technologies should make the region competitive for most grant opportunities.

What Will the Plan Cost to *Build*?

In order to achieve the transit future the region wants, the system must grow to meet tomorrow's needs. The NEXTransit Network proposal aims to do that in a way that is logical and takes advantage of infrastructure opportunities that exist either today or in the near future. The high-level estimated capital costs shown here represent an informed estimate based upon what is known today.

The basis for these estimates is grounded in knowledge about similar projects that have been constructed around North America in recent years. The dollar values shown here should be seen as a guide for investment rather than a price tag—each dollar invested in transit yields benefits above and beyond the initial expenditure, and in most cases transit agencies do not bear the upfront costs of projects but acquire Federal grants to support build out. The local contribution is estimated to be 20% for all projects, though this could vary depending on the funding programs pursued in each case.

Map Code	Project Name	Top 10 Project?	Low Capital Cost Estimate	High Capital Cost Estimate	Estimated Local Capital Contribution*
	Facilities Master Plan and Expansion of Bus Facilities	Y	$177M	$234M	$41M
	Downtown Transit Center	Y	$60M	$118M	$18M
A	Airport Corridor Rapid Transit	Y	$274M	$325M	$60M
B	Ohio River LRT Extension		$688M	$826M	$151M
C	Northside LRT Extension (C)		$710M	$852M	$156M
D	Library Line Best Use Study		TBD	TBD	TBD
E	East Busway Phased Extensions	Y	$121M	$151M	$27M
F	East Busway to Monroeville Rapid Transit	Y	$117M	$141M	$26M
G	East/Central Pittsburgh River to River Connection	Y	$168M	$218M	$39M
H	Allentown Line Best Use Study	Y	$8M	$10M	$2M
J	Allegheny Valley Rapid Transit	Y	$231M	$298M	$53M
K	North Hills Rapid Transit		$45M	$54M	$10M
L	West Busway Extension to Bridgeville		$176M	$210M	$39M
M	McKnight Road Upgraded Transit	Y	$57M	$68M	$12M
N	Freeport Road Upgraded Transit		$44M	$54M	$10M
R	Homestead to McKeesport Upgraded Transit	Y	$47M	$58M	$11M
S	Brownsville Rd and Route 51 Upgraded Transit		$39M	$49M	$9M
U	Mon Valley to South Hills Upgraded Transit		$35M	$44M	$8M
	TOTAL		**$3.0B**	**$3.7B**	**$671M**

* The local contributions ranges from 18-22% depending if the low or high cost estimate is used. This is well above the current average local share, but below the national average of local funding for transit.

What Will the Plan Cost *Overall*?

The question about Southwestern Pennsylvania's future isn't about *if* it will change, but *how*. Building out the NEXTransit Network will be a significant undertaking, but the work doesn't end even when the whole system is built. The dollars required to keep today's system running will still be needed, as will an extra infusion of resources to keep Port Authority's expanded system operational and in a state of good repair. So, what will it take to build, operate, and maintain Allegheny County's transit future?

CAPITAL COST: *What will it take to build the NEXTransit Network?*

LOWEST ESTIMATE
$3.0 Billion

HIGHEST ESTIMATE
$3.75 Billion

In 25 years, if Port Authority can start building the top 10 projects, those capital costs could be **$1.2-1.6B.**

State of good repair to maintain these new assets should be programmed at an additional **5%** annually, or **$60-80M.**

NEXTransit capital needs:

$60-$90 million for *today*

+

$70-$95 million for *growth*

=

$130-$185 million more annually in capital.

What Will it Take to Build the Top 10 Projects?

$1.2 to 1.6 Billion
Total Project Costs

$240 to 320 Million
Port Authority Local Share

2045

OPERATIONAL COST: *What will it take to operate and maintain the NEXTransit Network?*

$105 Million
Operational Cost (Annual)

includes:
- Drivers and Labor
- Maintenance
- Services and Administration

To operate this system, growth in service hours and staffing is approximately an **additional 25%** on top of today's system.

Total annual capital and operating system need to build Allegheny County's transit future:

$235-290 million annually*, or nearly 50% growth beyond the current system

* in 2021 dollars

Moving Toward Implementation

The NEXTransit plan provides Port Authority with a framework for advancing future projects, policies, and programs. While this plan reflects a comprehensive planning process, its implementation is dependent on numerous internal and external factors. Transit is a complex service, and it is highly dependent on actions by other entities within its service area. For example, while Port Authority can design an effective bus network that addresses current demand, it cannot control location decisions by a future large employer which will have implications for the ability of workers to access the site by transit. Similarly, transit agencies cannot fully control the law and regulations that govern the industry.

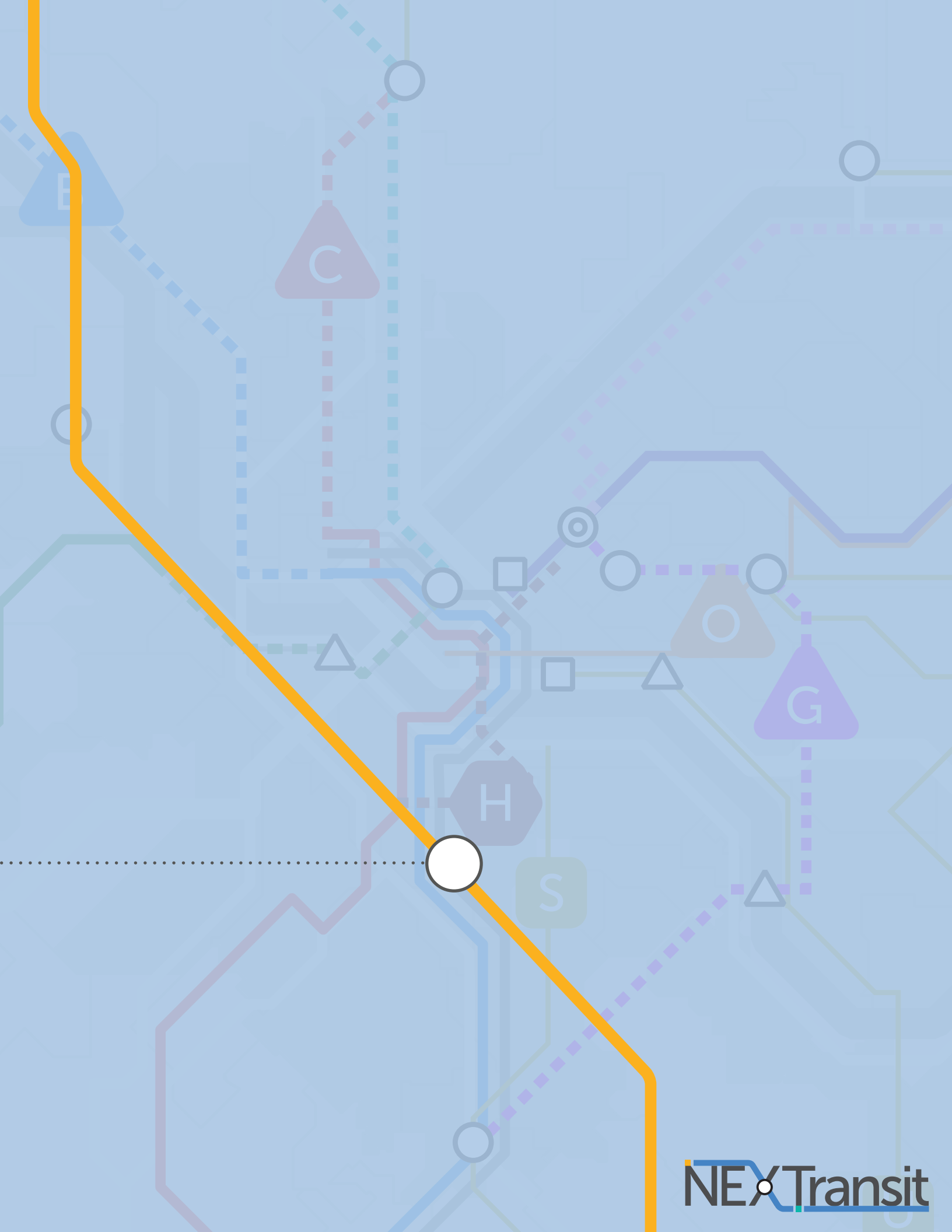
Port Authority oversees a number of planning processes. These include strategic planning, capital planning, asset management, and tactical-level planning initiatives such as service development. Integrating each of these planning efforts together is a critical factor to the successful implementation of NEXTransit. Strategic planning requires organizations to engage in comprehensive conversations about the long-term direction and strategic outcomes it wants to achieve, and NEXTransit provides the type of vision needed for future projects and policies beyond the day-to-day considerations of budgetary constraints.

As future planning initiatives unfold, it is essential for thorough and transparent stakeholder engagement to continue. While this plan reflects the needs of Allegheny County stakeholders today, these priorities will likely shift over time due to changes in the service area, local industry, developing technologies, and society as a whole. The futuristic concepts of today may become common over the next 25 years. The job centers of today may transform to become the residential areas of tomorrow. These changes require Port Authority to remain closely engaged with stakeholders to ensure each successive plan update is aligned with the overall direction of Allegheny County and the larger region.

Port Authority's long-range transportation plan should be updated on a recurring basis to ensure its alignment with the priorities of the county, region, and Commonwealth. To best align with regional project and funding priorities, NEXTransit should be updated in concert with SPC's long-range plan, with close coordination of efforts as was done through 2020-21 for the initial development of NEXTransit. With this update schedule, Port Authority could issue a major LRTP update every 10 years, with a minor refresh of its plan every five years. Also, PennDOT updates its 25-year LRTP every five to seven years, with the next plan to be published later in 2021. It would be ideal for Port Authority reference PennDOT's plan in the year following the publication of PennDOT's newest plan as an input into the update process. Cooperative dialogue between Port Authority and PennDOT will be critical in achieving the shared goals of sustainability, increased mobility, and equity that the public expects and deserves going forward.

The NEXTransit plan can facilitate future interactions with organizations responsible for land-use planning, economic development, and the development of legislation and policy. Organizations such as SPC, the Greater Pittsburgh Chamber of Commerce, Allegheny County, and municipalities across the county can utilize this plan for guidance on future investment and regulatory decisions. This coordination and ongoing engagement can assist in larger planning efforts across the county and the region, as well as maintain widespread support for the project outlined in this document.

This plan was created in large part by and for the community, and will serve for years to come as a public statement of how this community values transit as a force for not only personal mobility, but as a public good that everyone can be proud of, and which supports this region's values for accessibility, equity, efficiency, and environmental sustainability. Connecting people to life is something Port Authority does every day, and NEXTransit provides the vision needed to connect more people in ways they deserve to be connected, so that this future can be achieved and the Southwest Pennsylvania region can flourish.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