Southwestern Pennsylvania
PUBLIC TRANSIT • HUMAN SERVICES
Coordinated Transportation Plan

FY2019 – FY2022

Coordinated Transportation
Multimodal Transportation Network

Coordinated Transportation
Seamless Travel Chains

Coordinated Transportation
Urban, Suburban, and Rural Environments

Coordinated Transportation
Anyone, Regardless of Ability or Income

Prepared by
SOUTHWESTERN PENNSYLVANIA COMMISSION
With extensive input and support from the
ALLIANCE FOR TRANSPORTATION WORKING IN COMMUNITIES

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थप जानकारीको लागि SPC (412) 391-5590 मा फोन गर्नुहोस्।

Gujarati
આ દસ્તાવેજ વિનંતી પર વૈકલ્પિક ફોર્મેટ્સમાં ઉપલબ્ધ હોય છે. SPC કોઈપણ શુલ્ક લીધા વિના વિનંતી પર અનુવાદ અને અર્થઘટન સેવાઓ પૂરી પાડશે. વધુ માહિતી માટે કૃપા કરી (412) 391-5590 પર SPCને કૉલ કરો.

Oriya
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Sinhalese
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Sindhi
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درخواست جي صورت ۾ SPC ترجمي ۽ ترجماني جون مفت خدمتون فراهم ڪندي.
مهرباني ڪري وڌيڪ معلومات لاءِ 391-5590 (412) تي SPC کي ڪال ڪريو.

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INTRODUCTION

Southwestern Pennsylvania Commission

The Southwestern Pennsylvania Commission (SPC) is the federally-designated Metropolitan Planning Organization (MPO) for the region centered on the City of Pittsburgh and covering Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Westmoreland, and Washington counties. The agency is the forum for collaboration, planning, public decision-making, and the prioritization and programming of state and federal transportation funds allocated to this part of the Commonwealth.

In total, the Southwestern Pennsylvania region comprises 548 municipalities, 155 school districts, 362 special purpose governments and public authorities, as well as 1,078 distinct government entities. Throughout the ten counties, there are a mix of dense urban areas, less dense suburban communities, compact small towns, and sparsely-populated rural farmland. Like its geography, demographics in the region are fairly diverse, particularly in terms of age, education level achieved, and annual household income. Taken together, these characteristics make it challenging to develop and maintain a transportation network that adequately meets the needs of all residents, especially the elderly, those who live with a disability, and people with a limited income.

Multimodal Transportation Planning Group

Operating within SPC's transportation planning department is the Multimodal Transportation Planning Group, which is responsible for all planning associated with active transportation, public transit, human services transportation (HST), commuter options, and freight operations. This group's staff lends technical support to regional partners and other local area entities that aspire to create a multimodal system consisting of viable travel options for the region's residents, visitors, and industries. In 2012, SPC established the Alliance for Transportation Working in Communities (Alliance, for short) to specifically address access issues for Southwestern Pennsylvania's transportation-disadvantaged populations. The Alliance functions as an integral part of the agency's Multimodal Group.

Alliance for Transportation Working in Communities

The role of the Alliance is to address transportation barriers for the region's most vulnerable residents, including seniors, persons with disabilities, and the poor. This volunteer group is made up of human service agency representatives, public, private, and non-profit transportation providers, county and local government staff, and members of the public who utilize the area's transportation services. Alliance participants provide both professional and personal expertise, along with a collective motivation to bring about change in the regional transportation network, so that it can sufficiently meet the needs of everyone living, working and/or doing business in Southwestern Pennsylvania.

The Alliance and the Coordinated Transportation Plan

SPC is charged with developing the Southwestern Pennsylvania Public Transit · Human Services Coordinated Transportation Plan (CTP)[1], the focus of which is to enhance access for transportation-disadvantaged populations through the coordination of services across providers. Federal transit law requires that projects selected for funding under the Enhanced Mobility for Individuals and Individuals with Disabilities Program (49 U.S.C. 5310) be "included in a locally

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[1] Metropolitan Planning Organization (MPO), https://www.transit.dot.gov/regulations-and-guidance/transportation-planning/metropolitan-planning-organization-mpo

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developed, coordinated public transit-human services transportation plan." Additionally, the Federal Transit Administration (FTA) expects public transit systems funded under both the Urbanized Areas and Rural Areas Formula programs (49 U.S.C. 5307 and 49 U.S.C. 5311, respectively) to participate in the local CTP planning process.

SPC developed the region's initial Coordinated Transportation Plan in 2008 and updated it in 2011. Operating as a special program within SPC, the Alliance completed a full plan rewrite in 2015. In each case, the scheduled development of the CTP coincided with the update of the regional Long Range Transportation Plan (LRTP), which is also the responsibility of the MPO and occurs every four years. Given that the Southwestern Pennsylvania Public Transit · Human Services Coordinated Transportation Plan is a requisite component of the LRTP, the planning overlap is intentional.

With SPC's revision of the long range plan completed in FY2018-2019, the Alliance again assumed responsibility for reworking the Coordinated Transportation Plan and assuring its adoption by the Southwestern Pennsylvania Commission in the fall of FY2019-2020.

Purpose of Coordination

Coordinated Transportation is an integrated network of transportation services that, through successful collaboration and resource sharing, provides affordable, reliable, and accessible mobility for all. Generally speaking, the purpose of coordination is two-fold:

1) Enhance overall access, especially for transportation-disadvantaged populations, to public, private, and non-profit transportation services available in the region.
2) Improve the efficiencies of these services through smart integration and effective utilization of resources (i.e. vehicles, staff, and funding).

When imagining the ideal transportation system for the Southwestern Pennsylvania region, it's important to think about a comprehensive network that includes mobility-related services for all ages and levels of need. That means having infrastructure and policies in place to effectively support a broad range of mobility options, including:

· Walking
· Fixed Route Transit
· Non-Fixed Route Transportation

· Carpools/Vanpools
· Car-Sharing
· Ride-Hailing

· Micromobility
· Microtransit
· Personal Vehicle

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The Coordinated Transportation Plan envisions a transportation network for Southwestern Pennsylvania that meets the needs of everyone and pays particular attention to ensuring equitable access for seniors, persons with disabilities, and low-income individuals. In essence, the system will include multiple travel options that are not just available, affordable, and accessible, but also support the health, mobility, activity, and participation of people across their lifespan.

Coordinated Transportation Plan Requirements

Covering fiscal years 2019-2022, this latest Coordinated Transportation Plan complies with updated requirements and guidance contained in the 2015 transportation law, **Fixing America's Surface Transportation Act (FAST Act)**. The required elements, as outlined in the legislation, are as follows:

1) Assessment of available services that identifies current transportation providers (public, private, and nonprofit)

2) Assessment of transportation needs for seniors, persons with disabilities, and low-income individuals, which can be based on the experiences and perceptions of the planning partners or on more sophisticated data-collection efforts, and gaps in service

3) Strategies, activities, and/or projects to address the identified gaps between current services and needs, as well as opportunities to achieve efficiencies in service delivery

4) Priorities for implementation based on resources (from multiple program sources), time, and feasibility for implementing specific strategies and/or activities identified

A Shifting Transportation Paradigm

In terms of the overall transportation environment in Southwestern Pennsylvania's ten-county region, so much has changed and continues to change since the 2015 coordinated plan was written. Responding to these unprecedented shifts, SPC staff and the Alliance recognized the need to engage in new thinking about transportation alternatives, carefully considering emerging transportation options and their anticipated impact on people's access to jobs, social services, healthcare, and other daily living activities.

Especially with the proliferation over the past decade or so of smart phone and social media utilization by people of virtually all ages, races, abilities, and incomes, American society is experiencing a lifestyle transformation of dramatic proportions. And "as society changes, so does the role of transport within it."[2] The access improvement strategies included later in this CTP bear out this statement and are the result of careful study regarding not only changing human behavior relative to a person's preferences for getting from one place to another, but also the fast-paced growth of mobility technologies that support the behavioral shifts.

As written in a 2018 Transportation for America (T4A) blog post, "One of the most promising areas to capitalize on new mobility services is around increasing access for people most in need: people who live in areas that are currently underserved by transit, do not have bank accounts or cell phones, require wheelchair access, or commute during off-peak hours."[3] For all intents and purposes, this describes the transportation-disadvantaged populations for whom the CTP is predominantly developed.

What Exactly is Changing in Transportation?

- Growing recognition that all transportation is personal

- Shifts in people's attitudes toward obtaining a driver's license and/or personally owning a car

- Service models enhanced through technology

- Availability of and access to open data

- Service planning based on better data

- Means with which a person can access and pay for transportation

- Greater opportunity for taking multimodal trips

- Acknowledgement that equity must play a constructive role in the provision of transportation

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[2] Commission on Travel Demand (United Kingdom), All Change? The Future of Travel Demand and the Implications for Policy and Planning, http://www.demand.ac.uk/events/event/see-report-here/
[3] T4America BLOG, Robert Benner, Using new mobility models to increase access, http://t4america.org/2018/06/28/using-mobility-services-to-increase-access/

CORE BENEFICIARIES OF THE CTP

A locally developed, coordinated public transit-human services transportation plan identifies the transportation needs primarily of older adults, persons with disabilities, and people with limited incomes. While these specific populations have the same mobility needs as the general public, often times they're not able to transport themselves because of their age, physical or mental capabilities, and/or financial means.

When developing the CTP, the Alliance focused first and foremost on the expressed needs of people that fall outside the margins. The group's thinking was, if the transportation system is designed to adequately serve the more vulnerable populations, then by extension, the access needs of everyone in the middle should be met as well.

In order to appropriately plan for what are generally referred to as transportation-disadvantaged populations, it was important to clearly define each distinct group even though it's frequently the case there is overlap with regard to which group(s) one belongs. As examples, many older adults live with a disability and it's not uncommon for a person with a disability to have a limited income. For the sake of simplicity, the core beneficiaries of this particular planning effort are described as if implicitly discrete from one another.

Seniors

Much like in many regions across the country, Southwestern Pennsylvania's 65-plus or senior population is expected to grow significantly over the next several years. Between the 2008-2012 and 2013-2017 American Community Surveys (ACS), the number of regional residents in this age bracket increased four percent (from 446,465 to 464,636). This is despite a drop in population since the completion of the 2010 U.S. Census in all but one of the ten counties in the region.[4]

Seniors

Most developed world countries have accepted the chronological age of 65 years as the definition of an 'elderly' or older person. While this definition is somewhat arbitrary, it is frequently associated with the age at which one can begin to receive pension benefits in the U.S. Across the Commonwealth, including Southwestern Pennsylvania, being 60-65 years old is typically a requirement for becoming eligible for senior social programs.

By 2030, one out of every five people in the United States will be 65 or older. Perhaps even more astonishing is the projection by the U.S. Census Bureau indicating, only five years later in 2035, there will be 78 million people age 65 and over compared to 76.4 million under the age of 18. This will be the first time ever that the United States will be a country comprised of a greater number of older adults than children.

While turning 65 years old certainly doesn't preclude a person from owning and/or driving a car, it does open up opportunities for older adults, especially in the state of Pennsylvania, to take advantage of less expensive, car-free mobility options, including free or discounted fixed route transit services and subsidized non-fixed route, shared-ride transportation programs.

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[4] Butler County's population increased from 183,862 in 2010 to an estimated 187,108 in 2017.

CORE BENEFICIARIES OF THE CTP

Table 1 shows not only the number of 65-plus residents living in each of the region's ten counties, but also how many have a disability and/or are living below the poverty level.

Table 1. *What do we know about SW PA residents age 65 and older?*

SW PA County	Population by County	SENIORS IN SW PA		
		Ages 65+	Disability	Low Income
Allegheny	1,215,219	210,901	71,329	17,799
Armstrong	66,207	13,395	5,307	1,200
Beaver	166,757	32,908	11,095	2,566
Butler	183,979	31,144	10,355	1,785
Fayette	129,734	25,314	9,488	2,835
Greene	34,890	6,235	2,678	548
Indiana	85,107	14,817	5,318	1,042
Lawrence	87,203	17,582	6,194	1,430
Washington	205,980	38,893	13,402	2,858
Westmoreland	353,333	73,447	24,370	5,115
SPC Region	**2,541,799**	**464,636**	**159,536**	**37,178**

Source: 2013-2017 ACS Data

Based on American Community Survey (ACS) data, a little over 18 percent of Southwestern Pennsylvania's population is age 65 or older. And among this particular age group, 34 percent have some type of disability while 8 percent have incomes low enough to be deemed living below the poverty level.
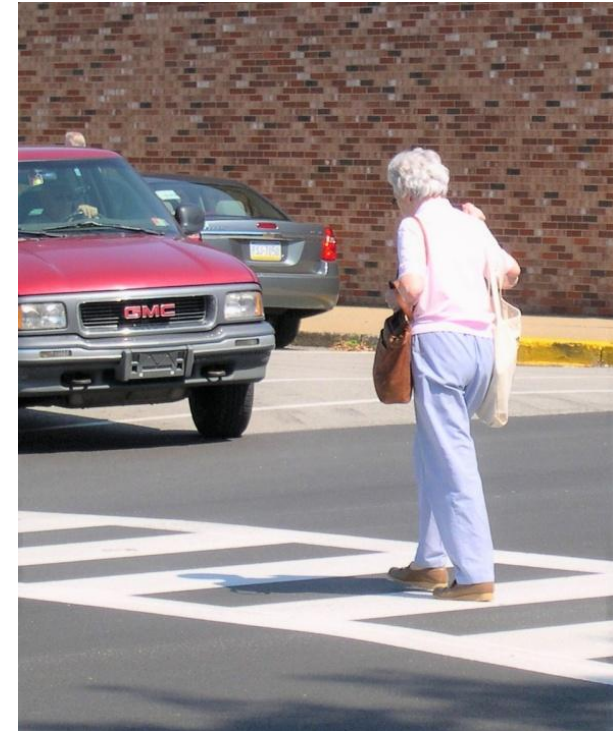
The vast majority of older adults – *nearly 90%, according to AARP* – choose to age in place in their homes and communities.

CORE BENEFICIARIES OF THE CTP

Persons with Disabilities

The American Disabilities Act (ADA) defines a person with a disability as a person with a physical or mental impairment that substantially limits one or more major life activity. And, according to ADA, having a disability in no way diminishes an individual's right to be treated equally and to benefit from public transit along with others in the community.

Persons with Disabilities

Looking at the entire region, which is estimated to have a population of 2.5 million, about 14 percent of its residents have been identified as having one or more physical and/or intellectual disabilities. This includes all persons regardless of age. Table 2 shows the number of disabled persons whose age either falls between 18 and 64 or is 65 years and older. It also indicates how many from these two age groups qualify as living below the poverty level based on their recorded incomes over a twelve-month period.

Table 2. *What do we know about SW PA adults who live with a disability?*

SW PA County	PwD Ages 18-64		PwD Age 65+	
	# PwD in Age Group	# w/ Income below poverty level	# PwD in Age Group	# w/ Income below poverty level
Allegheny	78,884	23,180	71,329	8,260
Armstrong	6,453	1,580	5,307	678
Beaver	12,361	3,038	11,095	1,190
Butler	10,210	2,670	10,355	809
Fayette	13,090	4,776	9,488	1,511
Greene	3,704	1,062	2,678	296
Indiana	6,680	1,953	5,318	535
Lawrence	7,516	2,416	6,194	629
Washington	14,588	3,824	13,402	1,156
Westmoreland	24,529	6,921	24,370	2,210
SPC Region	**178,015**	**51,420**	**159,536**	**17,274**

Source: 2013-2017 ACS Data

Based on American Community Survey data, close to 29 percent of persons with disabilities between the ages of 18 and 64 have had incomes over twelve months that qualify as below the poverty level. For those who are 65 years and above, 11 percent find themselves living below the poverty level.

CORE BENEFICIARIES OF THE CTP

Low-Income Individuals

States and local jurisdictions define low-income based on census information gathered by the federal government. The U.S. Department of Housing and Urban Development, or HUD, sets the parameters for low-income programs such as home financing and rental assistance, estimating median incomes and adjusting by household size in specific areas called Metropolitan Statistical Areas (MSAs). Table 3 outlines the low-income categories as defined by HUD.

Table 3. *Low income categories according to HUD*

Low Income	80% of MSA's median income
Very Low Income	50% of MSA's median income
Extremely Low Income	30% of MSA's median income

Additionally, the U.S. Census Bureau uses poverty thresholds in order to make overall calculations about the United States population. This would include estimating the number of people in poverty nationwide each year and classifying them by type of residence, race, and other social, economic, and demographic characteristics. The U.S. Department of Health and Human Services uses a simplified version of the poverty thresholds, called poverty guidelines, to determine whether families are eligible for federal entitlement programs, like nutritional assistance, cash assistance, and social security. Table 4 outlines the different poverty levels and Table 5 identifies by county the number of Southwestern Pennsylvanians with limited incomes.

Table 4. *2019 Federal Poverty Levels (FPL)*   Poverty   Medicaid   Low Income

Family Size	100%	133%	138%	200%	400%
1	$12,140	$16,146	$16,753	$24,280	$48,560
2	$16,460	$21,892	$22,715	$32,920	$65,840
3	$20,780	$27,637	$28,676	$41,560	$83,120
4	$25,100	$33,383	$34,638	$50,200	$100,400
5	$29,420	$39,129	$40,600	$58,840	$117,680
6	$33,470	$44,515	$46,189	$66,940	$133,880
7	$38,070	$50,633	$52,537	$76,140	$152,280
8	$42,380	$56,365	$58,484	$84,760	$169,520

Low Income Individuals

People living in families with incomes at 200 percent of the Federal Poverty Level (FPL) are considered to be low income whereas "poor" is defined as 100 percent of the Federal Poverty Level.

The parameters of the Federal Poverty Level (FPL) increase annually, based on the cost of living. It's important for people to understand where they fall on the FPL in order to determine their eligibility for a number of federal assistance programs.

For example, individuals (or families) making 138 percent of the FPL may be eligible for Medicaid and, consequently, the program's non-emergency medical transportation benefits.

CORE BENEFICIARIES OF THE CTP

Table 5. *What do we know about SW PA individuals with limited incomes?*

SW PA County	Total Pop	Below Poverty	% of Total Pop
Allegheny	1,223,048	149,568	12%
Armstrong	65,642	8,577	13%
Beaver	166,140	17,867	11%
Butler	187,108	15,194	8%
Fayette	131,504	24,348	19%
Greene	36,770	5,012	14%
Indiana	84,593	13,362	16%
Lawrence	87,069	12,051	14%
Washington	207,298	19,629	9%
Westmoreland	352,627	36,111	10%
SPC Region	**2,541,799**	**301,719**	**12%**

Source: 2013-2017 ACS Data

Based on American Community Survey data, 12 percent of Southwestern Pennsylvania residents are living below the poverty level, with the largest percentage residing in Fayette County and the lowest percentage in Butler County. If all those who qualify as low-income (between 100% and 200% of the FPL) were included, the number of people with limited incomes would increase significantly.

As expected, a family living in poverty is likely to qualify for more assistance than people who earn low incomes. Practically speaking, however, people who meet the technical measure of poverty and those who earn a little more income live similar lives. Like those living in poverty, low-income individuals struggle with meeting their basic needs, including access to medical care, social services, jobs, and daily living activities. That being said, this plan presumes that low, very low, and extremely low-income families experience the impact of transportation barriers in comparable ways.

Public Transportation Services

Fixed Route Transit in SW PA

Providing over sixty-five million[5] rides per year, fixed route transit services in Southwestern Pennsylvania form an integral part of the transportation network within the region. Port Authority of Allegheny County is the largest of the region's transit systems and, along with eight other counties, provides designated public transportation on vehicles operating along prescribed routes according to fixed schedules (i.e. fixed route). Because of its relatively large size when compared to the area's other fixed route providers, Port Authority of Allegheny County is allocated the greater portion of the region's transit dollars with the remaining agencies receiving their proportionate shares.

Greene County is the only county in the region that does not have fixed route services. Conversely, Mid Mon Valley Transit Authority's fixed routes are designed to serve portions of Fayette, Washington, and Westmoreland counties.

Non-Fixed Route Transportation in SW PA

Non-fixed route transportation is a form of travel where vehicles alter their routes based on particular transportation demand rather than using a predefined route or timetable. This type of service, sometimes referred to as on-demand, picks passengers up and drops them off in locations according to their specific needs. Available across the region, non-fixed route services can be provided by public, private, and non-profit entities and may or may not be publicly subsidized.

For example, one form of subsidized trips that are on-demand and operated by a public entity in Southwestern Pennsylvania is ADA Complementary Paratransit. This particular service provides origin to destination transportation for eligible people with disabilities who are unable to access and use the fixed route system. On the other hand, a ride hailed through a private Transportation Network Company (TNC) operating in the region is a non-fixed route trip and typically not publicly subsidized.

Human Services Transportation (HST), which is discussed in detail on the next page, describes public transportation services, which are eligible for subsidies and can be fixed route or non-fixed route.

Southwestern Pennsylvania's Fixed Route Transit Services by County

ALLEGHENY: Port Authority of Allegheny County (PAAC)

ARMSTRONG: Mid County Transit Authority (aka Town & Country Transit or TACT)

BEAVER: Beaver County Transit Authority (BCTA)

BUTLER: Butler Transit Authority (BTA)

FAYETTE: Fayette Area Coordinated Transportation (FACT)

INDIANA: Indiana County Transit Authority (IndiGO)

LAWRENCE: New Castle Area Transit Authority (NCATA)

WASHINGTON: Washington County Transportation Authority (aka Freedom Transit)

WESTMORELAND: Westmoreland County Transit Authority (WCTA)

FAYETTE, WASHINGTON, WESTMORELAND: Mid Mon Valley Transit Authority (MMVTA)

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[5] For fiscal year 2016-2017, the transit agencies in Southwestern Pennsylvania recorded 65,277,944 un-linked fixed route trips.

Human Services Transportation in SW PA

Human Services Transportation is a phrase used across the country to define publicly-subsidized transportation aimed at providing access to human services and other destinations for disadvantaged populations. HST is funded from federal programs, state and local funds, and private sources of revenue, the distribution of which is complex. In Southwestern Pennsylvania, human services transportation is a combination of different shared-ride programs overseen by the Pennsylvania Department of Transportation (PennDOT), but managed and coordinated by the individual counties. Barring a few exceptions, the region's subsidized HST trips are administered by the fixed route transit agencies. Each asterisked entity in the HST listing below identifies an exception.

Southwestern Pennsylvania's Human Services Transportation by County

ALLEGHENY: Transdev Services, Inc. (d.b.a. Access Transportation Systems) *

ARMSTRONG: Mid County Transit Authority

BEAVER: Beaver County Transit Authority (BCTA)

BUTLER: Butler Area Rural Transportation (BART)*

FAYETTE: Fayette Area Coordinated Transportation (FACT)

GREENE: Greene County Transportation*

INDIANA: Indiana County Transit Authority (IndiGO)

LAWRENCE: Allied Coordinated Transportation Services (ACTS)*

WASHINGTON: Washington County Transportation Authority (WCTA)

WESTMORELAND: GoWestmoreland

These HST services, which are called PennDOT Shared-Ride Programs (SRP), encompass a range of accessibility alternatives intended to transport individuals who have difficulties providing their own transportation due to age, disability, or income. As the name implies, ride-sharing is a requirement of all SRP trips. Carrying multiple passengers per trip even when their destinations may be different is intended to enhance efficiency and effectiveness. Shared-ride program offerings include the following:

- **SENIOR SHARED-RIDE PROGRAM (65+)**
  Exists in all 67 Pennsylvania counties, providing shared-ride services for people 65 years and older and operating on a non-fixed route basis within defined geographic areas, and funded through the Pennsylvania Lottery.
- **PERSONS WITH DISABILITIES PROGRAM (PwD)**
  Available in 63 of 67 Pennsylvania counties, providing shared-ride services where qualified recipients pay 15% of the general public transportation fare, with the Commonwealth reimbursing the provider for the remaining amount.
- **ADA COMPLEMENTARY PARATRANSIT SERVICE**
  Complementary paratransit offered in the 46 Pennsylvania counties where fixed route service is available, providing origin to destination transportation that is a complement to the fixed route system for eligible people with disabilities who are unable to access and use the fixed route system.
- **MEDICAL ASSISTANCE TRANSPORTATION PROGRAM (MATP)**
  Non-emergency medical transportation (NEMT) services provided in all 67 Pennsylvania counties and subsidized through the state's Department of Human Services via the federal Medicaid Program.

What is Non-Emergency Medical Transportation?

Three national health insurance programs for low-income people - Medicaid, Children's Health Insurance Program (CHIP), and Basic Health Program (BHP) – are collectively referred to as Medicaid, with each program administered at the state level. Operating as a joint federal and state program that provides health coverage for millions of individuals and families with limited incomes and resources, Medicaid and CHIP (Title XIX and Title XXI of the Social Security Act, respectively) currently provide health insurance for over 74 million of America's poorest people. In addition to the primary Federal requirements for Medicaid, which include statewide availability, comparability, and freedom of choice, Medicaid must also ensure eligible consumers can access the care they need. In Pennsylvania, this non-emergency medical transportation is provided through the Medical Assistance Transportation Program or MATP.

Handbook for Examining the Effects of NEMT Brokerages on Transportation Coordination, National Academies Press, 2018 National Academies of Sciences

According to ridership numbers included in a fiscal year 2016-2017 Pennsylvania Public Transportation Annual Performance Report, the number of trips taken in the region that year through the PennDOT Shared-Ride Programs was over 1.7 million.

Other Publicly-Supported Transportation in SW PA
CommuteInfo

Commuter transportation programs in the form of vanpools and carpools are an important component of the transportation network in the ten-county region. CommuteInfo, a special program within SPC, operates a customer-focused full service commuting options resource center, is a contract partner for the region's vanpool program, facilitates and tracks local area carpool arrangements, and oversees the forum for organizing regional access-to-work efforts. Currently, SPC has contracts with "Commute with Enterprise", whose responsibility is to provide vehicles and services to people going to and from work in vanpools.

Difference Between a Vanpool and a Carpool

According to the Federal Transit Administration, a vanpool is "a transit mode comprised of vans, small buses and other vehicles operating as a ride-sharing arrangement, providing transportation to a group of individuals traveling directly between their homes and a regular destination within the same geographical area. The vehicles shall have a minimum seating capacity of seven persons, including the volunteer driver." A carpool, on the other hand, comprises two or more people sharing a commute in a privately owned vehicle.

In 2018, there were 51 vanpools up and running in Southwestern Pennsylvania with 514 participants getting to and from work via the CommuteInfo vans. The average monthly cost per rider ranged from $90 to $120. There were 333 registered carpools serving 718 riders in the region as well.

Heritage Community Transportation

Heritage Community Initiatives (HCI) is a non-profit organization located just east of the City of Pittsburgh in the borough of Braddock. The agency serves individuals and families facing socioeconomic challenges in forty communities within Allegheny County. One of its programs - Heritage Community Transportation - provides transit services at a minimal cost in fifteen (15) mostly disadvantaged communities in the Mon Valley. Sixty percent of its riders have an average annual household income of less than $10,000.[6] The transportation service connects people to both local destinations not served by the county's fixed route system and Port Authority transit routes by facilitating first- and last-mile access. HCI's three fixed routes charge 25 cents a ride (ages 12-64), providing close to 7,500 trips a month. Children 6-11 years old and persons with disabilities pay only 10 cents per one-way trip. Children 5 years and younger and adults 65 years and older can ride for free.

RideACTA

The Airport Corridor Transportation Association (ACTA) is a non-profit transportation management association (TMA) located in Robinson Township in Pittsburgh's western suburbs. ACTA serves the business community located along the Parkway West – in particular, Findlay, Moon, North Fayette, and Robinson townships.

Serving Allegheny County's airport corridor, RideACTA is a shared-ride, flex-route shuttle service that transports people between the IKEA Super Stop in Robinson Town Centre and over 200 local businesses. RideACTA shuttles provided more than 83,000 job access rides in FY2017-2018.[7] The regular cash fare is 25 cents. Based on eligibility, discounts or free rides are available to children, persons with disabilities, and seniors.

"The key to social mobility is to get people where they need to go."
Paula McWilliams, President and CEO, Heritage Community Initiatives

84% of all RideACTA users say they could not get to work without the service.

[6] MacKenzie Carpenter, Critical Condition, https://www.heritageserves.org/news, June 1, 2017.
[7] This represents over 3,100 additional rides provided in FY2017-18 compared to FY2016-17.

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Public Transportation Services by the Numbers

Performance Data: Fixed Route Services

Every year, the Bureau of Public Transportation within Pennsylvania's Department of Transportation (PennDOT) compiles a report[8] that, among other things, shares annual performance data of agencies operating across the Commonwealth and providing fixed route and community transportation services.[9] Covering FY2016-2017, Table 6 includes the most recently available numbers for the fixed route transit services provided in Southwestern Pennsylvania. This table separates the data into two categories – Urban Systems and Rural Systems.

Table 6. *Fixed Route Transit Providers in the SPC Region (FY2016-2017)*

COUNTY	TRANSIT AGENCY	Total Unlinked Trips	Free Senior Citizen Trips	Fixed Route Base Fare	Service Area (sq mi)
URBAN SYSTEMS					
Allegheny	Heritage Community Initiatives (HCI)	75,109	4,606	$0.25	51
	Port Authority of Allegheny County (PAAC)	62,176,355	4,781,784	$2.75	775
Beaver	Beaver County Transit Authority (BCTA)	871,404	86,165	$2.50	440
Fayette	Fayette Area Coordinated Transportation (FACT)	155,603	30,101	$1.50	790
Washington	Washington County Transportation Authority	100,229	17,076	$1.50	33
Westmoreland	Westmoreland County Transit Authority (WCTA)	488,610	71,393	$2.00	668
Fayette / Wash. / West.	Mid Mon Valley Transit Authority (MMVTA)	299,827	35,845	$2.00	45
RURAL SYSTEMS					
Armstrong	Mid County Transit Authority (TACT)	38,147	10,616	$1.25	24
Butler	Butler Transit Authority (BTA)	198,271	38,612	$1.25	25
Indiana	Indiana County Transit Authority (IndiGO)	329,973	12,284	$1.35	504
Lawrence	New Castle Area Transit Authority (NCATA)	582,563	87,289	$1.00	178

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[8] Pennsylvania Public Transportation, Annual Performance Report, Fiscal Year 2016-17, https://www.penndot.gov/Doing-Business/Transit/InformationandReports/Documents/BPTAnnualReport2016-17.pdf

[9] The Annual Performance Report's "community transportation" data pertains to trips provided through the Commonwealth's Shared-Ride Programs.

FIXED ROUTE PASSENGER TRIP STATISTICS

All across the country, transportation pundits tout that the emergence of new mobility options is causing transit ridership to significantly decrease. Since the previous CTP, the number of fixed route passenger trips (including those for senior citizens) recorded by the region's ten agencies certainly indicates reductions in ridership overall. Charts 1, 2, and 3 depict the differences in trips provided by the fixed route transit agencies in Southwestern Pennsylvania between 2014 and 2017. The source for this information is also PennDOT's public transportation report for FY2016-17.

Chart 1. *Passenger Trip Statistics - PAAC Only*
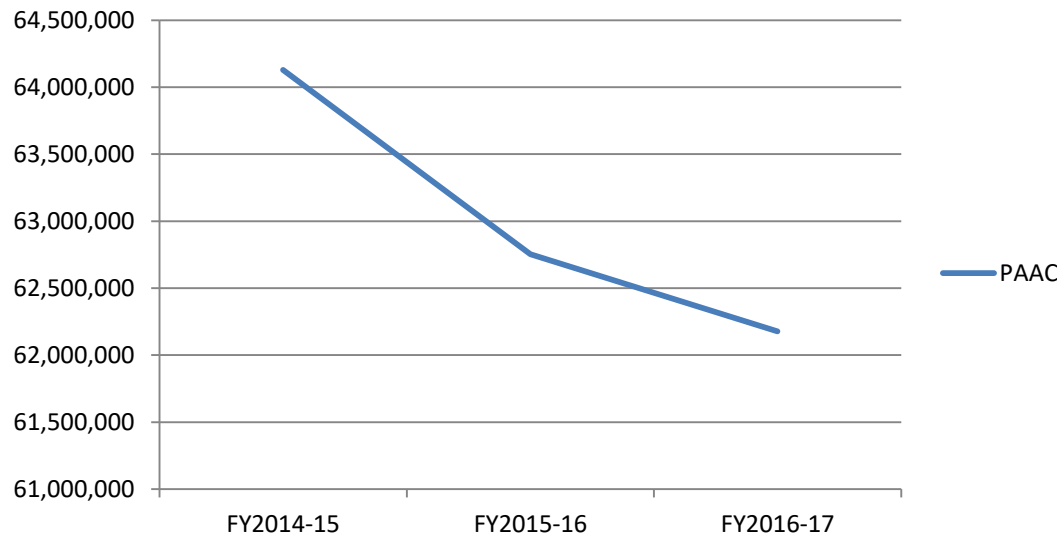
Changes in Port Authority's Passenger Trip Statistics over a three-year period show a 3% reduction in trips, which translates to close to two million fewer rides taken.

TRANSPORTATION TODAY

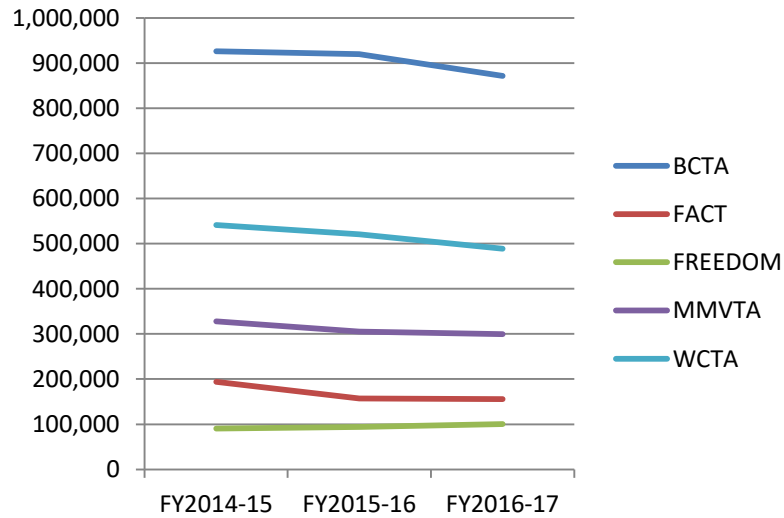**Chart 2.** *Passenger Trip Statistics - BCTA, FACT, Freedom Transit, MMVTA, and WCTA (SW PA's smaller Urban transit agencies)*

Chart 3. *Passenger Trip Statistics - BTA, IndiGO, Mid County, and NCATA (SW PA's Rural transit agencies)*

The transit agencies serving Beaver, Fayette, Washington, and Westmoreland counties, and select Mid Mon Valley communities individually carried somewhere between 90,000 and one million passengers per year. Chart 2 shows the decreases and/or increases in trips for each agency. Comparing FY2016-17 with FY2014-15, in particular, BCTA, FACT, WCTA, and MMVTA experienced decreases of 6%, 20%, 10%, and 9%, respectively, in the number of trips provided. Freedom Transit shows a 10% increase, which can be attributed to the 2015 consolidation of Washington County Transportation Authority and Washington City Transit.

The agencies providing fixed route transit services in Butler, Indiana, Armstrong, and Lawrence counties individually carried somewhere between 38,000 and 594,000 passengers per year. Chart 3 shows the decreases and/or increases in trips for each agency. Comparing FY2016-17 with FY2014-15, in particular, BTA, IndiGO, Mid County, and NCATA experienced decreases of 1%, 25%, 16%, and 2%, respectively, in the number of trips provided.

Despite these passenger trip statistics, it's too early to know what long-term impact new mobility options and ride-hailing services, in particular, will have on the future of public transit. Many in the transit industry contend that public transit will continue to be the backbone of local and regional transportation networks. Even in this overarching role, traditional transit agencies could benefit from partnering with other transportation-related entities, especially in places where transit doesn't work all that well – for example, in hard-to-reach urban neighborhoods, lower density suburbs, sparsely populated rural areas, and developments where making smart connections between land use and transportation were overlooked or ignored.

Performance Data: Non-Fixed Route Services and Human Services Transportation

Also found in PennDOT's FY2016-17 Annual Performance Report and shown in Table 7 are trip statistics for the region's shared-ride services that are part of the PennDOT Shared-Ride Programs. There are three categories shown in this table - Urban Systems, Rural Systems, and Community Transportation. Across the region, these trips are provided in three distinct ways: 1) directly by a county-based transit agency; 2) indirectly through a contract agreement that the transit agency has with a broker or private transportation provider(s); and 3) through a non-profit or government-supported community transportation entity. Also included in Table 7 are trip statistics for RideACTA, which is a subsidized non-fixed route, on-demand service operated by the non-profit ACTA.

Table 7. *Non-Fixed Route and Human Services Transportation Providers in the SPC Region (FY2016-2017)*

COUNTY	NON-FIXED ROUTE PROVIDER	65+ Trips	PwD Trips	Other Shared Rides	Non-Public Trips	Escort Trips	Avg Trip Cost
URBAN SYSTEMS							
Allegheny	ACTA RideACTA[1]	120	0	79,885	0	0	$8.34
	PAAC TransDev[2]	612,379	61,389	258,971	2,806	62,002	$27.58
Beaver	BCTA Demand and Response Transit	30,072	0	46,121	100,532	3,034	$24.47
Fayette	Fayette Area Coordinated Transportation	33,044	6,870	60,506	61	7,800	$19.53
Washington	Washington County Transportation	91,890	21,941	80,137	2,122	18,815	$24.42
Westmoreland	WCTA GOWestmoreland	77,971	7,292	85,530	63,989	6,809	$26.78
RURAL SYSTEMS							
Armstrong	Mid County Transit Authority	20,336	3,088	5,328	0	796	$26.23
Indiana	Indiana County Transit Authority	18,012	743	474	27,486	570	$28.35
COMMUNITY TRANSPORTATION							
Butler	BCCA Butler Area Rural Transit (BART)[3]	30,042	9,131	21,832	0	0	$17.06
Greene	Greene County Transportation	11,714	3,581	22,026	1,016	1,986	$26.16
Lawrence	Allied Coordinated Transportation	27,587	2,713	50,128	4,472	22,876	$16.10

Average Trip Cost = Annual Service Delivery Cost / Total Number of Trips

[1] ACTA stands for Airport Corridor Transportation Association.

[2] Port Authority of Allegheny County contracts with TransDev Services, Inc. to broker on-demand trips for its ACCESS program, using private transportation providers.

[3] Butler County Community Action (BCCA) no longer exists; BART services are now coordinated through the Alliance for Nonprofit Resources.

**Other Shared-Rides, Non-Public Trips, and Escort Trips**

- **Other Shared-Rides** include any trip other than 65+ or PwD that a shared-ride provider delivers as part of its public service. Most commonly, these trips would be funded by Medical Assistance Transportation (MATP), Mental Health/Intellectual Disabilities (MH/ID), or Area Agency on Aging (AAA) 60-Plus Adults programs.

- **Non-Public Trips** are rides provided by a shared-ride provider that are outside the bounds of its public service. Unlike any destination served by the Shared-Ride and PwD programs, these trips would be available only to distinct clientele. A common example would be a shared-ride provider performing out-of-county trips to a medical specialist for an eligible MATP consumer. Typically, a shared-ride provider limits how far into another county it will travel, with the range roughly between 1-5 miles. With the intention of fully covering the cost of delivering this special service, fares for non-public trips are higher than public shared-ride fares.

- **Escort Trips** are free or discounted rides available to people accompanying a rider of the demand-response service who, for various reasons, is not capable of taking trips on their own.

Photo: ACCESS Transportation Systems

Creating Greater Non-Fixed Route Efficiency with Ecolane

Statewide implementation of a common scheduling platform (Ecolane) for on-demand services was completed in February 2018. The only agencies not using Ecolane are the two largest shared-ride providers in the Commonwealth - Southeastern Public Transportation Authority (SEPTA) in Philadelphia and Port Authority of Allegheny County in the Pittsburgh metropolitan area. Utilization of a common scheduling platform, especially by mid-sized and smaller providers, can result in reduced procurement costs, enhanced ability to review customer concerns, automated call systems, and a greater coordination of services.
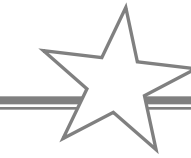
Benefits of the region's extensive public transportation system to its residents:

- Enables thousands of people to access employment and hundreds of other destinations in the region
- Serves every demographic, including older and disabled residents who often have no other transportation alternatives available
- Provides for more livable communities and helps to promote growth and economic development with transit-friendly options
- Is efficient and affordable
- Decreases our energy consumption, which ultimately helps to improve the environment
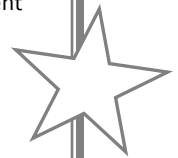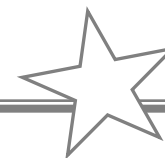
PRIVATE TRANSPORTATION SERVICES

This section of the CTP addresses the fast-growing transportation sector referred to as "shared mobility", which is defined by the nonprofit Shared-Use Mobility Center (SUMC) as "transportation services and resources that are shared among users, either concurrently or one after another."[10] While public transit is the epitome of shared mobility, unprecedented advances in technology over the past decade or so have created a space for many innovative transportation options to emerge in both the public and private sectors. These particular types of shared mobility, which include car-sharing, ride-hailing, micromobility options such as bike- and scooter-sharing, and microtransit, are changing how people choose to move about their communities.

Car-Share in SW PA

Car-sharing is a service that provides members with access to a car, van, or truck for short-term use (usually hourly). The shared vehicles are distributed across a network of locations within a metropolitan area. Members can access the vehicles at any time with a reservation and are charged by either time or distance. Car-sharing provides most of the benefits of a personal vehicle without the costs of true ownership. According to SUMC, in early 2019, traditional car-share services were operating in more than 400 North American cities.

Reducing the need for personal car ownership, extending affordable access to transportation, decreasing dependence on fossil fuels, and encouraging residents to use other forms of transportation, car-sharing has grown from a collection of local grassroots organizations into a worldwide industry.

Operating in Southwestern Pennsylvania since 2007, the car-share company Zipcar has cars and vans located in different City of Pittsburgh neighborhoods.[11] Local area Zipcar members can book a vehicle 24/7, paying an hourly or daily fee. The company covers gas, insurance, parking and maintenance. In its marketing materials, Zipcar claims that, by choosing car-sharing over car ownership, a person can recoup a monthly savings of close to $600.

Different Forms of Car-Share Systems

Round Trip: Requires customers to borrow from and return vehicles to the same location.

Point-to-Point (One-Way): Allows customers to pick up a vehicle at one location and drop it off at another.

Peer-to-Peer: Vehicle owners monetize the excess capacity of their vehicles by enrolling them in car-share programs.

Zipcar Services for Members with Disabilities

Persons with disabilities who want to become a Zipcar member have the opportunity to check the box on their online application form that states, "I have a physical disability or drive with someone who does." Applicants are then asked to identify their accessibility needs based on the following options:

- I require the use of hand controls to drive a vehicle and I'm licensed to drive using hand controls.
- Either I or someone I drive require(s) the use of a service animal.
- I have a disability that prevents me from using a website or mobile application. I will require live contact center assistance when using Zipcar.
- I require a personal care assistant(s) as additional drivers on my account.

https://support.zipcar.com/hc/en-us/articles/360001630448-Services-for-members-with-disabilities

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[10] https://sharedusemobilitycenter.org/what-is-shared-mobility/

[11] In March 2019, Zipcar vehicles were available for members to rent at sixteen distinct locations.

The Difference Between Ride-Hailing and Shared Ride-Hailing:

- **Ride-hailing** is when a rider "hails" or hires a personal driver to take them exactly where they need to go. The transportation vehicle is not necessarily shared with any other riders, nor does it make several stops along a route.

- **Shared Ride-Hailing**, by contrast, is synonymous with carpooling. It is literally the process in which a rider shares a vehicle with other riders. It is not personal transportation, as the space is shared, and it will make stops to pick up other riders.

Shared Mobility: Key Accessibility and Social Equity Goals

- Encourage fair placement and access to shared mobility across all socioeconomic levels and minority neighborhoods.

- Foster the participation of individuals affected by shared mobility services in transportation planning and decision-making processes.

- Encourage access of shared mobility services to minority, disabled, and low-income populations.

- Develop policies that bridge the digital divide, either by making digital services more accessible and affordable to low-income populations or by offering viable alternatives for digital-only or app-exclusive services.

Ride-Hailing in SW PA

Ride-hailing providers, which have been codified in California law and elsewhere as Transportation Network Companies or TNCs, use online-enabled platforms to connect between passengers and local drivers using their personal vehicles. In most cases, they are a comfortable method for door-to-door transportation. Over the past few years, ride-hailing has become one of the most recognized and ubiquitous forms of shared mobility, with Uber and Lyft currently the top providers in the United States. Recent statistics show that more than 600 North American cities have TNCs operating within their boundaries.[12] In Southwestern Pennsylvania, companies Lyft, Uber and z-Trip provide ride-hailing services, with the greatest number of drivers operating in the urban areas.

More and more, TNCs are including shared ride-hailing among their service offerings. For example, UberPool and Lyft Line involve the sharing of one vehicle by multiple riders to reduce vehicle trips. With these particular services, drivers carrying a passenger can add additional passengers who are traveling a similar route. For riders, this ride-hailing option is also known as "ride-splitting," since the passengers split the cost of the trip.

Despite the tremendous growth in ride-hailing services across the country, transportation-disadvantaged populations are less likely to avail themselves of this option for very practical reasons: i.e. seniors and others who do not possess smart-phones, which are typically required to hail a TNC ride; the lack of wheelchair-accessible vehicles (WAVs) to accommodate persons with disabilities; and the high cost of TNC trips, especially for people with limited incomes.

Given that many shared mobility services, including ride-hailing, are provided by the private sector, ensuring service access in low-income and minority neighborhoods and ADA compliance for disabled access can be a key concern.[13] Found within the Federal Highway Administration's **Shared Mobility: Current Practices and Guiding Principles** document and listed in the sidebar to the left are the U.S. Department of Transportation's key accessibility and social equity goals with respect to all shared mobility.

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[12] https://www.sharedusemobilitycenter.org, What's Happening in the Shared Mobility Industry?

[13] https://ops.fhwa.dot.gov/publications/fhwahop16022/ch5.htm, Shared Mobility: Current Practices and Guiding Principles, 21st Century Operations Using 21st Century Technologies

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Micromobility in SW PA

Along with the shared mobility options already described, micromobility services such as bike-share and scooter-share are being deployed in many U.S. cities to further transform the country's mobility landscape. While traveling by bikes and scooters offers people a clean, convenient, and relatively inexpensive way of getting around, determining how best to manage these increasingly popular on-street modes is a major concern for local municipalities. As with all other emerging mode options, when it comes to micromobility, communities must ensure that its benefits are equitable among all population groups.

Bike-Share

Bike-sharing allows users to take short point-to-point trips using a fleet of public or private bikes distributed throughout a community. To date, more than 400 North American cities have launched bike-share systems.[14]

As of 2019, the only bike-share program in the Southwestern Pennsylvania region is Pittsburgh's Healthy Ride, which was formed in 2014 and is owned and operated by the non-profit Pittsburgh Bike Share. Healthy Ride users can rent bikes for $2 per half-hour at one location and drop them off at another. In addition to paying per ride, users can sign up for unlimited half-hour rides for $12 a month and hour-long rides for $20 monthly. Over 33,000 rides were taken during 2018's third quarter (July through September), making it the busiest quarter since Healthy Ride's launch.[15]

Through an innovative partnership between Healthy Ride and Port Authority of Allegheny County, PAAC riders with prepaid ConnectCards can take 15-minute bike rides for free, which helps to facilitate first-mile and last-mile connections with public transit. In order to take advantage of free 15-minute bike sharing, ConnectCard users register with Healthy Ride at a kiosk-based station. If a user exceeds the free time limit, an automatic text message will be sent regarding the required payment amount, which can be paid with a credit/debit card.

Different Forms of Bike-Share Systems

· **Dock-Based:** User picks up a bicycle at any self-serve bike station and returns it to any designated docking station located within the bike-share system's service area.

· **Dockless:** User unlocks a bike with their mobile device, cycles to their destination, parks and locks it on any public land, and walks away.

· **Closed Community:** As a member of a specific community (i.e. college or corporate campuses), a user can borrow/rent a bike, typically for round trips only.

· **Peer-to-Peer:** Users rent or borrow bikes hourly or daily from individuals or bike rental shops.

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[14] https://www.sharedusemobilitycenter.org; What's Happening in the Shared Mobility Industry?
[15] Ed Blazina, https://www.post-gazette.com/news/transportation/2018/12/02/Healthy-Ride-Pittsburgh-bike-sharing-program-adding-stations-new-neighborhoods/stories/201812020119 Dec 3, 2018

Healthy Ride currently operates only in the City of Pittsburgh. Recently, stations have been located in some less affluent neighborhoods such as Larimer, Homewood, and the Hill District, which can help to close the transportation equity gap (albeit in a small way) for low-income and minority residents.

Ideally, public bike-sharing services are fully integrated into a region's transportation system such that, over time, it becomes a mobility choice for people regardless of age, physical ability, income, or race. Right now, the outstanding question is, "What is the viability of bike-sharing for seniors, persons with disabilities, and low-income individuals?"

Is the senior population amenable to bike-sharing? According to an online AARP Livable Communities article titled, "Bike-Sharing Gets Older Adults Cycling", the answer is yes. Phyllis Rodan, who is in her sixties, has taken nearly 2,000 trips over the past seven years, covering more than 4,000 miles, using Minneapolis-St. Paul's Nice Ride's bike system. Ginger Horton, also 60-something, calculates that some days she'll take as many as six bike trips in and around New York City to meet friends, do volunteer work, and go out in the evening.[16]

Is bike-sharing accessible to persons with disabilities? The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination and ensures equal opportunity and access for persons with disabilities. When the U.S. Justice Department was asked to what extent bike-sharing entities are obligated to offer alternatives to people with limited mobility, its response was, "to the extent a bike-share program is a program, service, or activity of a city or other public entity," it would fall under the ADA.[17] While the question has not been tested in the courts, some bike-share companies include adaptive bikes in their fleets.

Adaptive Bikes

The bike-share company, Zagster, offers six forms of adaptive bikes: handcycles, side-by-side tandems, heavy-duty cruisers, tricycles, recumbent tricycles, and cargo tricycles. Determining which variety to implement depends on the needs of each specific community. In general, handcycles and side-by-side tandems are the most common. (Cat Johnson, Shareable, https://www.shareable.net/blog/how-to-create-an-accessible-bike-share, February 15, 2017)

| Handcycle | Side-by-Side Tandem | Heavy-Duty Cruiser | Tricycle | Recumbent Tricycle | Cargo Tricycle |

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[16] Jay Walljasper, AARP Livable Communities, Bike-Sharing Gets Older Adults Cycling, https://www.aarp.org/livable-communities/getting-around/info-2018/bike-sharing-transportation-solution-for-older-adults-too.html

[17] Mihir Zaveri, Bike-Share Options Are Rarely Available for People With Disabilities, New York Times, https://www.nytimes.com/2018/12/10/us/bike-share-disabilities-detroit.html, Dec. 10, 2018

<u>Is bike-sharing an affordable option for individuals with limited incomes?</u> Generally speaking, bike-share users skew wealthy and white. Many bike-share operators, however, are working to make this mobility option accessible to low-income neighborhoods and their residents. According to a National Association of City Transportation Officials study, in 2017, 32 percent of cities where riders can rent a bicycle from stations (as opposed to dock-less systems) offered income-based discounts. This was a seven percent increase from the year before when only 25 percent of cities offered such discounts.

Additionally, in a study conducted by the National Institute for Transportation and Communities (NITC)[18], a program of the Transportation Research and Education Center at Portland State University and a U.S. Department of Transportation university transportation center, researchers found that residents of low-income, majority-minority neighborhoods have an overwhelmingly favorable view of bike-share. Based on survey responses from 1,885 people from specific neighborhoods in Philadelphia, Chicago, and Brooklyn, wherein a comparison of four demographics - *lower-income people of color, higher-income people of color, lower-income white people, and higher-income white people* - was made, respondents identified the following as major barriers to bicycling in general:

- Regardless of race or color, traffic safety was deemed to be the greatest barrier (48% of all respondents).
- For people of color, personal safety was identified as a very real concern (22% of lower-income people of color and 17% of higher-income people of color).
- Lack of a bike or related gear was said to present a financial barrier to lower-income residents (41% of lower-income people of color and 37% of lower-income white people).

In the Pittsburgh area, in particular, Healthy Ride has made it clear that their bike-share system is not just for a certain demographic. As the company's local area spokesperson Erin Potts stated in a 2018 article, "We are here to provide active transportation options in Pittsburgh, regardless of their neighborhoods."[19]

[18] Nathan McNeil, Jennifer Dill, John MacArthur, Joseph Broach, Steven Howland, Portland State University, Breaking Barriers to Bike Share – Insights on Equity

[19] Ryan Deto, Pittsburgh City Paper, https://www.pghcitypaper.com/pittsburgh/pittsburgh-bike-share-is-expanding-and-hoping-to-get-more-minority-and-low-income-riders-on-bikes/Content?oid=7261548

Scooter-Share

Coming to metropolitan areas only recently, scooter-sharing is experiencing rapid growth in the shared mobility domain. Provided by private operators, fleets of dockless, electric, two-wheeled scooters are available to users by the minute or hour and are typically used for one-way trips. One such enterprise, Scoobi, was introduced to Pittsburgh's urbanized area in July 2018. At that time, the company placed 100 on-demand, moped-type scooters throughout the East End, Downtown, North Shore, and South Side.

Because Scoobi's scooters are designed for the roadways, they're licensed vehicles that cannot be ridden in bicycle lanes and are available only for people over 18 years old with a valid driver's license and clean driving record. These electric scooters hold their battery charge for about 35 miles of riding and top out at 30 mph.

Scoobi E-Scooter

Microtransit in SW PA

The U.S. Department of Transportation (U.S. DOT) defines microtransit as "a privately owned and operated shared transportation system that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling," which, in most cases, uses vehicles that are smaller than transit buses but larger than the passenger vehicles commonly used by TNCs.

As defined by U.S. DOT and affirmed by the ENO Center for Transportation, microtransit can be operated on a fixed or flexible route and by a preset schedule or on-demand schedule as the following four configurations indicate:[20]

Fixed Route/Fixed Schedule
While routing and arrival/departure times of the shared vehicles are fixed, new and adjusted routes can be "crowd sourced" (i.e., users request origin-destination points on a tech-enabled platform that can inform the operators of which routes to introduce). This configuration most closely mirrors public transit.

Flexible Route/Fixed Schedule
Users request shared vehicles in real time through a tech-enabled application, but the arrival and departure times of the shared vehicles are fixed. Routes can be fully dynamic and adjusted in real time based on traffic and demand or can change over the span of a few days.

Fixed Route/On-Demand Schedule
Users request shared vehicles in real time through a tech-enabled application along a predetermined route. Alignment of routes can be "crowd sourced."

Flexible Route/On-Demand Schedule
Users request shared vehicles through a tech-enabled application, and the vehicle will deviate from its route to somewhere within walking distance of the requester. Routes can be fully dynamic and adjusted in real time based on traffic and demand or can change over the span of a few days.

Above - RubyRide microtransit van that is currently operating in Tucson, Arizona. Below - Passengers riding in the RubyRide vehicle. *Photos: RubyRide*

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[20] Eno Center for Transportation, UpRouted: Exploring Microtransit in the United States, January 2018

Flexible route/on-demand microtransit, for example, uses ad-hoc pickup and drop-off points, within a few minutes' walk of multiple customers. This particular microtransit model typically functions as a stand-alone, subscription-based system, transporting its members in and around pre-defined and limited service zones.

Taking on a slightly different form, microtransit is also capturing the attention of many public transportation agencies as they strive to look beyond ridership numbers and fare-box recovery as their primary measures of success. Instead, microtransit is providing agencies with a public option that places greater emphasis on improved mobility, increased safety, and enhanced customer experience.

Public transit agencies contend that traditional fixed route bus and light rail services are most productive in terms of ridership and fare-box recovery when they operate along high density corridors where users "come to them" by way of pedestrian-accessible bus stops and rail stations or park-and-ride facilities. However, since not all transit services are easily accessible by those who either depend on it or prefer it, microtransit is viewed by some agencies as a promising first-mile/last-mile solution to connect riders in less dense areas to existing fixed route services.

There's an opportunity for traditional public transit agencies to leverage the potential of microtransit and, in particular, the flexible route, on-demand configuration. In cities, suburbs, and even in some rural areas around the country, agency-sponsored pilot projects are putting microtransit services to the test (see sidebar for examples).

Knowing that technology cannot solve all of public transportation's challenges, it's crucial that transit agencies are intentional and deliberate in identifying the problem they are looking to solve or the question they seek to answer when testing microtransit. And, in all cases, the customer should remain at the forefront when considering new service models.

Examples of pilot microtransit projects from around the country:

Wheels2U (Sep 2018 – Feb 2019)
The Norwalk Transit District, together with the City of Norwalk, the State of Connecticut Department of Transportation, the Norwalk Redevelopment Agency, and Ford Smart Mobility's microtransit technology provider, TransLoc, launched Wheels2U, providing free on-demand rides within designated service areas to local area residents.

Marin Transit Connect (Jul 2018 – Jul 2019)
Marin County Transit District partnered with ride-hailing company, Via, to launch Marin Transit Connect, an on-demand microtransit service, enabling individuals in northern San Rafael to request weekday rides on accessible, seven-passenger vans.

CTP PLANNING PROCESS

Regional Transportation Goal

A year prior to the launch of this most recent coordinated transportation planning initiative, the Alliance for Transportation Working in Communities set out to devise a formalized statement outlining the important features of a regional network that could work for everyone in Southwestern Pennsylvania, including seniors, persons with disabilities, and low income individuals. As part of the process, the group took into consideration the region's existing transportation system and the degree to which it currently met (or did not meet) the access needs of all residents. The Regional Transportation Goal established by the Alliance is as follows:

> *Develop a regional multimodal transportation network which, through the use of robotics, automation, and shared mobility, can create seamless travel chains in urban, suburban, and rural environments for in-county and cross-county trips that anyone, regardless of ability or income, can take advantage of in order to access healthcare, jobs, education, quality nutrition, and social activities.*

When the official planning process for the 2019-2022 Public Transit · Human Services Coordinated Transportation Plan got underway in February 2018, the Alliance decided to make a distinction between the concepts of mobility and accessibility. While the two go hand in hand, mobility is viewed as having the physical means with which to move from one place to another, whereas accessibility translates to capable of being used and barrier free.

Agreeing that accessibility is a civil right, Alliance members stressed the importance of gauging the region's transportation offerings from the perspective of "the transportation user", which can come in many forms. After studying the countless technologies being brought to market for the purpose of enhancing transportation options and services, the Alliance considered their potential for overcoming mobility and accessibility inequities of the current regional transportation network. In the end, these same stakeholders helped formulate strategies to alleviate the most prevalent transportation barriers facing the region's disadvantaged populations.

Barriers to Access and Use

Maintaining a focus on transportation equity, the CTP takes into account the barriers identified by the U.S. Department of Transportation (DOT) and Federal Highway Administration (FHWA) in its STEPS to Transportation Equity framework – Spatial, Temporal, Economic, Physiological and Social.[21]

WHAT THE FEDERAL GOVERNMENT HAS TO SAY ABOUT TRANSPORTATION EQUITY

Transportation equity is key to ensuring broad-based access to opportunities such as jobs, healthcare, goods and services, and social connection by all Americans. The geographic, economic, and socio-demographic diversity of the United States can create challenges to ensuring transportation equity, requiring coordination among federal, state, local, and private sector stakeholders. While much progress has been made at all levels to remove barriers and improve access to transportation, equity challenges still persist. Moreover, current challenges coupled with changing demographic trends, such as an aging population, may create additional equity challenges in the future.

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[21] Travel Behavior: Shared Mobility and Transportation Equity, U.S. Department of Transportation and Federal Highway Administrations, August 2017

CTP PLANNING PROCESS

COMPLETE COMMUNITY

HISTORIC CHARACTER   SENSE OF COMMUNITY
SMALL TOWN   NATURAL SETTING

CORE VALUES
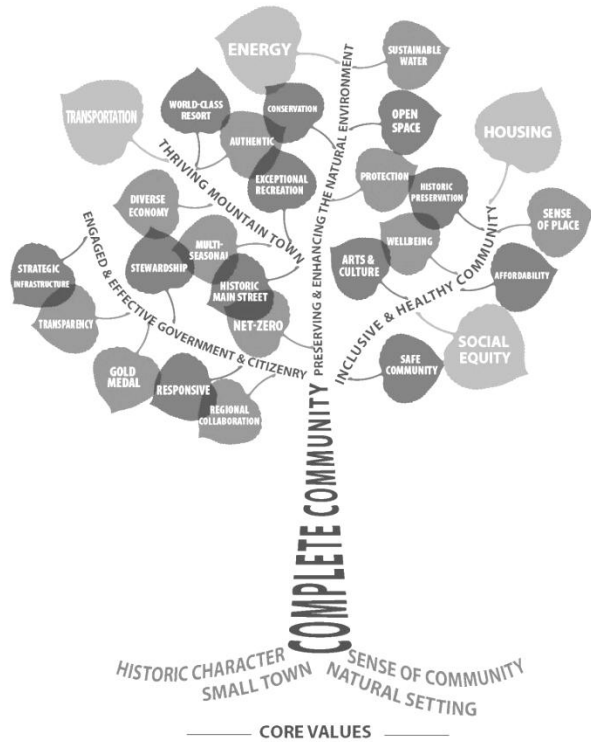
Ensuring Equity in Transportation

Who is responsible?
- Is it the public sector?
- Is it the private sector?

The answer is…
   It's everyone's responsibility.

The STEPS framework delivers a categorization of equity barriers to accessing transportation. These barriers are defined below:

BARRIER	BARRIER EXAMPLES	IMPACT
SPATIAL	Long distances between destinations; lack of public transit within walking distance	Compromise daily travel needs
TEMPORAL	Public transit reliability issues; limited operating hours; traffic congestion	Inhibit a user from completing time-sensitive trips
ECONOMIC	Direct Costs: *fares, tolls, vehicle ownership costs;* Indirect Costs: *smartphone, Internet, credit card access*	Create economic hardship or preclude users from completing basic travel
PHYSIOLOGICAL	Physical and/or cognitive limitations of older adults, persons with disabilities, children	Can make using standard transportation modes difficult or impossible
SOCIAL	Social, cultural, safety, and language barriers	Inhibit a user's comfort with using transportation

There are practical approaches to addressing these barriers such as building denser, mixed-use communities or expanding the coverage of existing public transit systems. Practical and easily doable, however, are not one and the same. So, throughout the CTP planning process, the Alliance was introduced to an array of pilot projects that have been tried in other places across the country, all in pursuit of identifying shared mobility options that can be quickly deployed, allow for operational flexibility, and whose implementation costs are manageable.

Equity in Transportation

In their effort to make certain every resident in Southwestern Pennsylvania has the access they need to live full productive lives, the Alliance also studied seven principles of universal design[22] to determine how best to shape a transportation environment that can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, ability, income, or size.

[22] Principles of Universal Design, https://projects.ncsu.edu/ncsu/design/cud/about_ud/udprinciplestext.htm

CTP PLANNING PROCESS

Developed at North Carolina State University (NCSU) with funding provided by The National Institute on Disability and Rehabilitation Research, U.S. Department of Education, the Principles of Universal Design are as follows:

1) Equitable Use: *The design is useful and marketable to people with diverse abilities.*

2) Flexibility in Use: *The design accommodates a wide range of individual preferences and abilities.*

3) Simple and Intuitive Use: *Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.*

4) Perceptible Information: *The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.*

5) Tolerance for Error: *The design minimizes hazards and the adverse consequences of accidental or unintended actions.*

6) Low Physical Effort: *The design can be used efficiently and comfortably and with a minimum of fatigue.*

7) Size and Space for Approach and Use: *Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.*

Photo: Age-Friendly Greater Pittsburgh

Even with the deluge of technological advancements that have prompted changes in the way people get around, the fundamental condition of good product/service design, which is to meet the needs of all people wishing to use that product or service, has essentially been ignored. While developing the CTP, it became apparent to everyone contributing to the effort that creating mobility options which, by design, are accessible, usable, convenient and safe, benefits everyone.

Emphasizing equity in transportation, the CTP planning team compiled a snapshot of data considered most relevant in terms of addressing mobility and accessibility issues for not only transportation-disadvantaged populations, but also everyone else. These demographic factors, many of which directly impact a person's ability to move about in daily life, are laid out next.

CTP PLANNING PROCESS

A Snapshot of Regional Demographics

The Pittsburgh Metropolitan Statistics Area (MSA), which is defined as a "geographical region with a relatively high population density at its core and close economic ties throughout the area", includes only seven of the ten counties that make up the Southwestern Pennsylvania region. Greene, Indiana, and Lawrence counties do not belong to the MSA-designated "urban cluster," because they're not contiguous to a core urbanized area with a population of at least 50,000. While this in no way diminishes their role in the region, it makes it more difficult to coordinate transportation services regionwide. The MSA statistics[23], shown below, capture in a straightforward way the demographic factors that are most applicable to the Coordinated Transportation Plan. The main difference between this data and data covering the entire ten-county region has to do with population density and household density, both of which affect a county's propensity for public transit utilization. In comparison, take note of the density numbers for the Pittsburgh MSA and the non-MSA counties.

Population	2.5 million	Do not speak English	5.19%
Median Household Income	$56,073	Veterans (civilians 18 years old+)	8.7%
Median Age	42.6	Live with a Disability (18 years old+)	13.2%
Age 65+	17.3%	Live Below Poverty (18 years old+)	10.7%
Age 18-64	62.5%	Average Car Ownership Per Household	2
White	87.8%	Occupied Housing Units w/ No Vehicle	10.6%
Black or African American	8.4%	Drive Alone to Work (16 years old+)	81.0%
American Indian & Alaska Native	0.1%	Carpool to Work (16 years old+)	8.6%
Asian	1.8%	Take Transit to Work (16 years old+)	5.7%
Hispanic or Latino (of any race)	1.3%	Bike or Walk to Work	3.9%

The data below shows the differences between population densities and household densities in the Pittsburgh MSA and the non-MSA counties, Greene, Indiana, and Lawrence.

	MSA	Greene	Indiana	Lawrence
Pop Density – Persons per square mile of land	446	67	107	254
Household Density – Households per square mile of land	190	26	42	104

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[23] 2010 Census Summary File 1 (released June 2011)

CTP PLANNING PROCESS

Aligning the CTP with the Long Range Transportation Plan (LRTP)

At the same time the CTP was under development, SPC was creating a new regional plan within which five major Forces of Change were examined and strategies to address them were developed. These forces include: Demographics, Economy, Environment, Funding, and Technology. Based on an extensive assessment of the Forces of Change and their potential regional impacts, the development of various exploratory scenarios, and a compilation of broad public input and feedback, the final plan, **SmartMoves for a Changing Region**, lays out the vision and strategies for economic, community, and transportation investments in the Southwestern Pennsylvania region over the next 25 years.

V I S I O N
TRANSPORTATION IN SOUTHWESTERN PENNSYLVANIA
A world-class, well-maintained, integrated transportation system that provides connected mobility for all, enables resilient communities, and supports a globally competitive economy.

Out of the three LRTP goals shown in the graphic to the right, **Connected Mobility** aligns most directly with the CTP. In fact, the driving force behind a coordinated transportation system is the integration of multiple forms of public, private, and non-profit transportation. Only through carefully planned integration can there be "mobility for all", including disadvantaged populations and people residing in underserved and/or rural areas. As stated in the Connected Mobility section of the **SmartMoves** plan, "Equity keeps us whole." Let it be said that "equity keeps us whole" is also the perfect refrain for the CTP.

OUTREACH ENDEAVORS

In preparing the Coordinated Transportation Plan, SPC staff largely relied on input from Alliance members during quarterly meetings and special Work Group sessions, along with information resulting from supplementary outreach efforts conducted across the region. Additionally, presentations given in front of various stakeholder groups garnered feedback specific to each group, which was helpful in providing unique perspectives relative to transportation services in their areas and the levels of access to those services. (*A separate document,* **Appendices: FY2019-FY2022 Southwestern Pennsylvania Public Transit · Human Services Coordinated Transportation Plan**, *includes detailed summaries of Alliance meetings specifically associated with the development of the plan.*)

The outreach that took place beginning in February 2018 and continuing for a total of 16 months was conducted not only for the purpose of capturing valuable input, but also to ensure the plan included the perspectives of the targeted populations. This section of the plan provides an account of the extensive information gathering process while the next section titled **Discovery** is a compilation of SPC's findings. First and foremost, SPC sought to address the CTP's fundamental questions:
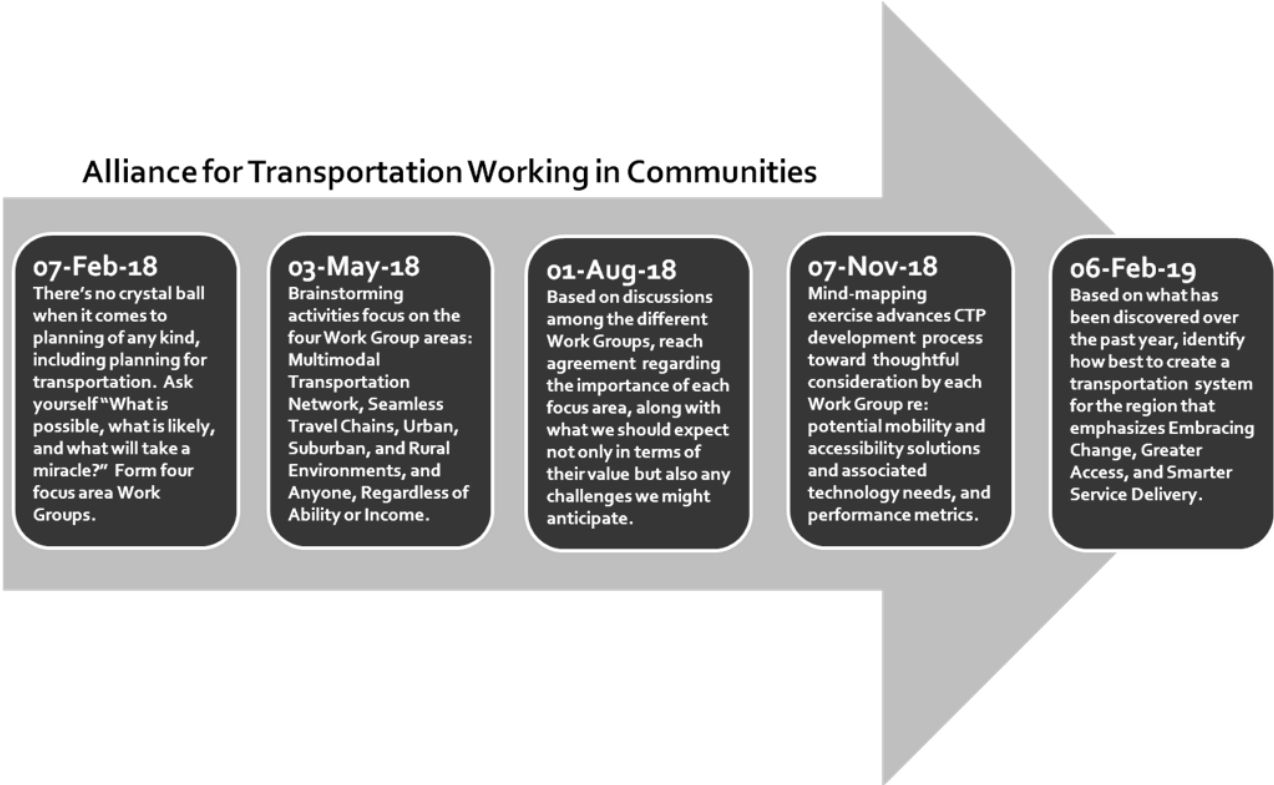
1) What opportunities exist for developing and advancing multimodal transportation strategies in urban, suburban, and rural areas in Southwestern Pennsylvania?

2) What is the user's experience of the regional transportation system and in what ways can mobility across the network be more extensive and streamlined?

3) What would a transportation system that alleviates land use-related barriers and enhances the overall user experience look like?

4) What will it take to create a contemporary transportation system that meets the needs of everyone?

Alliance for Transportation Working in Communities

As described earlier, the Alliance for Transportation Working in Communities is comprised of human service agency representatives, public, private, and non-profit transportation providers, county and local government staff, and members of the public who utilize the area's transportation services. SPC both coordinates and facilitates quarterly Alliance meetings in which an average of 35-38 people regularly participate. When appropriate, outside speakers are invited to present on timely topics including but not limited to new service deployments occurring around the country, emerging technologies being applied to transportation, and innovative business models promising mobility that is accessible to everyone.

The following graphic displays a timeline of one full year of Alliance meetings held since the CTP kickoff in February 2018. Also included is a brief summary of tasks for each of these meetings. Given their professional expertise and unrelenting support, all Alliance members can claim credit for contributing to the contents of this Coordinated Transportation Plan. While SPC staff guided its development, the plan itself is the result of many discussions, some of which were across-the-board and, therefore, involved the Alliance in its entirety. At times when the transportation topic at hand was more specific, the conversations were held within special sub-groups called Focus Area Work Groups. Occurring outside the regularly scheduled Alliance meetings, these particular sessions were planned and directed by Work Group leads who unreservedly committed themselves to the CTP planning effort.

Alliance for Transportation Working in Communities

07-Feb-18
There's no crystal ball when it comes to planning of any kind, including planning for transportation. Ask yourself "What is possible, what is likely, and what will take a miracle?" Form four focus area Work Groups.

03-May-18
Brainstorming activities focus on the four Work Group areas: Multimodal Transportation Network, Seamless Travel Chains, Urban, Suburban, and Rural Environments, and Anyone, Regardless of Ability or Income.

01-Aug-18
Based on discussions among the different Work Groups, reach agreement regarding the importance of each focus area, along with what we should expect not only in terms of their value but also any challenges we might anticipate.

07-Nov-18
Mind-mapping exercise advances CTP development process toward thoughtful consideration by each Work Group re: potential mobility and accessibility solutions and associated technology needs, and performance metrics.

06-Feb-19
Based on what has been discovered over the past year, identify how best to create a transportation system for the region that emphasizes Embracing Change, Greater Access, and Smarter Service Delivery.

Note: While not shown in this graphic, the Alliance also met in May 2019 to sanction the draft CTP and advise on how best to bring the planning effort to a successful end.

Mid-way through the planning process, Alliance participants were asked to rate different aspects of Southwestern Pennsylvania's present-day transportation network on a 1 to 5 scale (where 1 is 'poor' and 5 is 'very good'). Taken in clusters of three with each cluster tied to a unique component of mobility/accessibility, the aspects/component combinations are shown below.

| Aspects of the Region's Transportation Network	Component Tied To
Options · Infrastructure · Access	Multimodal network
Integration · Service & Schedule · Common Fare Instrument	Seamless travel
Land Use/Transportation Link · Mobility Ecosystem · Political Will	Urban, suburban, and rural
People-First · Beyond Traditional Public Transit · Flexibility in Use & Cost	Access for all

This same ratings exercise was carried out two more times – at an SPC Active Transportation Forum (ATF) and a meeting of the Mon Valley Providers Council's (MVPC) Employment and Training Work Group. The comparative results for the Alliance, ATF, and MVPC are shown in the following four bar charts. It was interesting to see that, despite the diverse functions of the participating groups, the ratings for the range of aspects were relatively close.
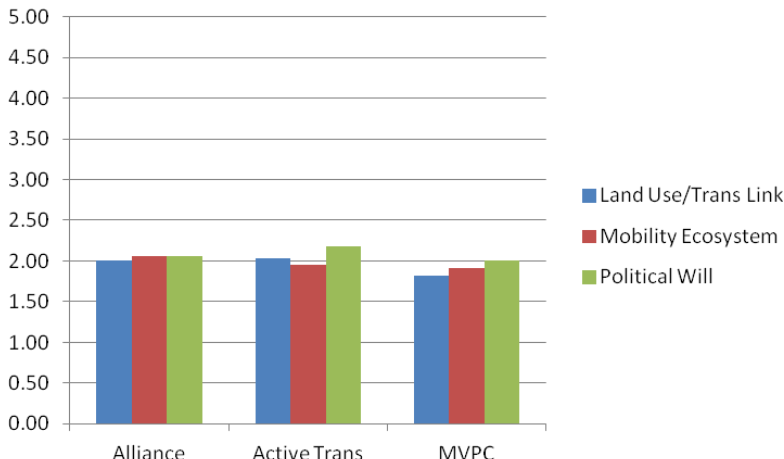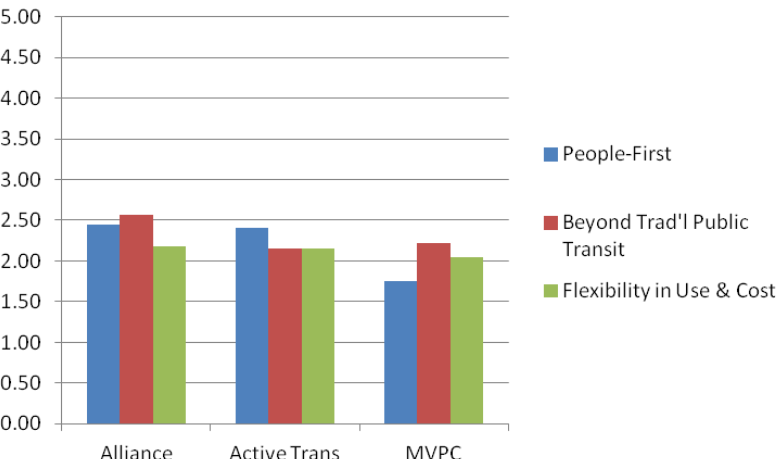
MULTIMODAL
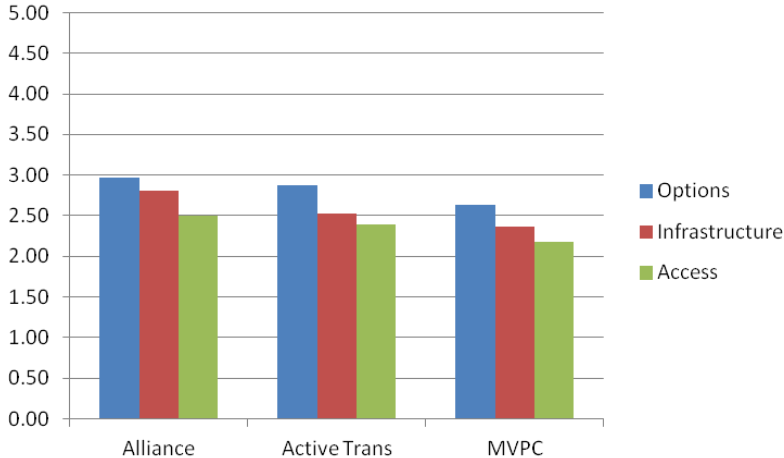
SEAMLESS TRAVEL
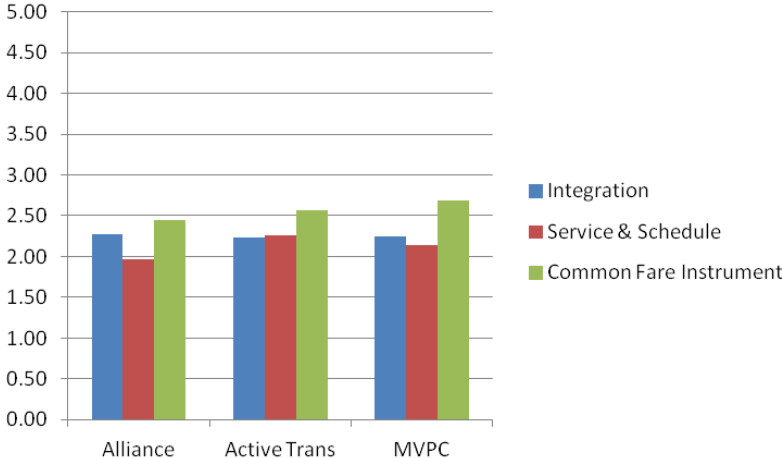
URBAN, SUBURBAN, AND RURAL

ACCESS FOR ALL

Supplementary Outreach, Presentations, and CTP Work Groups

Supplementary outreach efforts included SPC involvement with external groups whose own agendas focus on mobility and accessibility for vulnerable populations and/or distressed communities. For example, SPC is a participant on the Allegheny County Health Department's PHA Transportation Subcommittee. Their initiative, "Simplifying Transportation to Medical Appointments", offered up a full perspective on healthcare access issues for people residing in Allegheny County and provided present-day specifics for the CTP. Additionally, SPC's multimodal staff worked alongside a consulting firm on a Transit Development Plan (TDP), Transit Service Guidelines, and Strategic Business Plan for Washington County Transportation Authority (also known as Freedom Transit) and Westmoreland County Transit Authority. In each case, the planning teams evaluated fixed route and on-demand/shared-ride service operations. Combining the evaluation results with information collected through online public surveys and in-person interviews, the agencies identified strategic objectives aimed at enhancing mobility in their counties. Having direct involvement in these two endeavors affirmed for SPC staff who were also engaged in the CTP effort that, to stay relevant in today's transportation environment, transit operators would do well to:

- ✓ Standardize operations
- ✓ Invest in operational technologies

- ✓ Foster and leverage partnerships
- ✓ Improve public image and perception
- ✓ Diversify revenue/strengthen financial position

- ✓ Improve the customer experience
- ✓ Pursue regional collaboration

In addition to the supplementary outreach conducted by SPC, formal presentations describing the coordinated transportation planning process were given to standing SPC committees as well as outside groups who expressed an interest in sharing their perspectives about accessibility issues in the region.

It was mentioned earlier that Focus Area Work Groups, the members of which were also Alliance participants, would come together outside the quarterly meetings to 'focus' on a predefined area of the CTP framework. While the outcomes of the four work groups - Multimodal Transportation Network, Seamless Travel Chains, Urban, Suburban, and Rural Environments, and

Supplementary Outreach, Presentations, and CTP Work Groups

Supplementary Outreach
Allegheny County Department of Health
Borough of Wilkinsburg *(TRID)*
City of Tomorrow Challenge *(Paratransit)*
Community Health Choices
Mon Valley Providers Council
Pittsburghers for Public Transit
PPTA, CCAP, PACHSA *(MATP)*
Washington County *(TDP)*
Westmoreland County *(TDP, Microtransit)*

Group Presentations
SPC Active Transportation Forum
SPC Transportation Technical Committee
SPC Transit Operators Committee
SPC Staff *(Mobility as a Service)*
T.I.R.E.S. Spring Forum
2018 CTAA Expo *(Mobility as a Service)*
2018 PA APA Fall Conference *(All Transportation is Personal)*

Work Group Sessions
Multimodal Transportation Network
  2018 – May, Jul
Seamless Travel Chains
  2018 – May, Aug, Nov; 2019 - Feb
Urban, Suburban, & Rural Environments
  2018 – May, Aug; 2019 - Feb
Anyone, Regardless of Ability or Income
  2018 – May, Dec; 2019 - Feb

Anyone, Regardless of Ability or Income – are described in detail under **Discovery**, the graphic above shows the number of work group sessions conducted and when, along with listings of all supplementary outreach and CTP-related presentations.
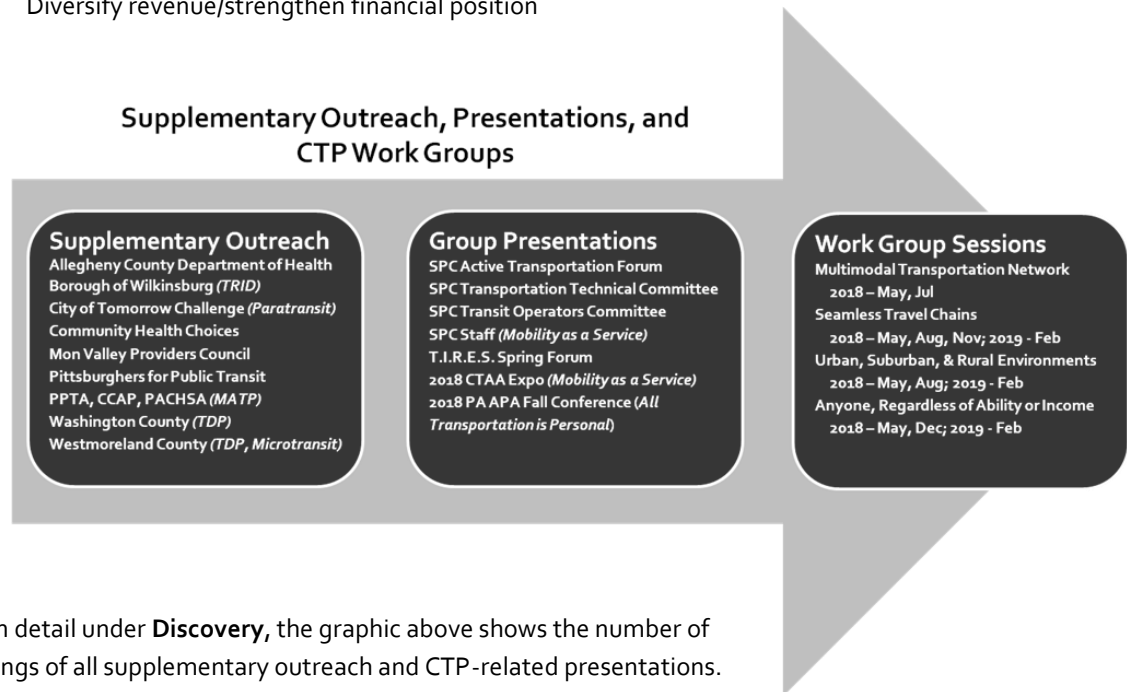
DISCOVERY

CTP PLANNING FRAMEWORK

Reflecting on the Regional Transportation Goal that has guided the efforts of the Alliance since 2017, a planning framework for the 2019-2022 CTP emerged in a seemingly effortless way. In this framework, there are four areas of focus:

1) Multimodal Transportation Network
2) Seamless Travel Chains
3) Urban, Suburban, and Rural Environments
4) Anyone, Regardless of Ability or Income

A special Work Group was formed for each of the focus areas with as many as four discovery sessions per group being coordinated and facilitated by Alliance members.

The next four subsections lay out each of the focus areas as a stand-alone component that, when combined with the others, forms a three-pronged strategic approach for strengthening mobility and accessibility throughout the region. The three prongs, which will be thoroughly presented later in the plan, are:

1) Embracing Change
2) Greater Access
3) Smarter Service Delivery

Multimodal Transportation Network (MMTN)

Like other places around the country, the Southwestern Pennsylvania region is working to develop a comprehensive multimodal transportation network. The long-term success of such a network will be determined based on the availability of a broad range of transportation options, adequate infrastructure to support those options, and the ease with which the different modes can be accessed by everyone, including transportation-disadvantaged populations.

For the movement of people, transportation can occur on foot, bicycle, scooter, or other non-motorized vehicle, in a personal car, by way of public transit, on a boat, and by air. For the purposes of the CTP, the travel modes of particular interest are shown in the list to the right.

Regional Transportation Goal…REITERATED
Develop a regional multimodal transportation network which, through the use of robotics, automation, and shared mobility, can create seamless travel chains in urban, suburban, and rural environments for in-county and cross-county trips that anyone, regardless of ability or income, can take advantage of in order to access healthcare, jobs, education, quality nutrition, and social activities.

PUBLIC TRANSPORTATION
→ Fixed Route Transit
→ Non-Fixed Route Transportation
→ Human Services Transportation
→ Other Publicly-Supported Transportation

PRIVATE TRANSPORTATION
→ Car-Share
→ Ride-Hailing
→ Micromobility
→ Microtransit

DISCOVERY

From a people-movement perspective, supporting multimodal travel options on a regional scale requires a unified political will among three distinct levels of government - municipal, county, and state. Public-private collaborations are likely to play an important role as well, especially when considering how best to design and maintain pedestrian walkways, bike lanes, dedicated bus ways, roads, and bridges, and creatively utilize streets, sidewalks, and curb space.

In each of the ten counties that make up the Southwestern Pennsylvania region, people have access to physical infrastructure such as sidewalks, bike lanes, roads, and bridges, although they are in varying numbers, conditions, and levels of usefulness. There is a public transportation agency in nine of the ten counties that provides some amount of fixed route transit. Additionally, HST rides through PennDOT's Shared-Ride Programs are open to the public in every county, with subsidized fares available to people who meet certain eligibility requirements. Those not eligible must pay the full fare, which, for many, is cost-prohibitive.

The region is made up of urban, suburban, small urban, and rural areas and, as a consequence, the number of transportation options available in any given place drops in relation to its population density. While the dense urban areas, in particular the City of Pittsburgh in Allegheny County, offer a broad range of transportation services, including fixed route buses and light rail, on-demand or shared-ride shuttles, traditional taxicabs, and ride-hailing, there is only limited, if any, coverage and service in some of the Allegheny County suburbs and large swaths of the surrounding counties.

Even within the City of Pittsburgh, the transportation system does not meet all needs, primarily because it's not a well-connected network with the capacity for seamless travel that is also easy-to-navigate. And, in many areas of the region, there's a disconnect between public transportation services, job centers, and other important destinations.

Seamless Travel Chains (STC)

Given the deployment of new and innovative communication technologies, it's now more feasible than ever to seamlessly combine different forms of transportation when traveling. No longer does a seamless trip have to translate exclusively to a point-to-point ride by way of a single mode. It can just as easily be multimodal if the transportation network within which the trip is made has the following features:

- Fully integrated with smartly-placed connection hubs

- Open data sharing

- Effectively coordinated services and schedules among the varied modes

- Common method of payment utilized across the entire system

For the availability of seamless travel chains to become the rule rather than the exception in Southwestern Pennsylvania, the different mode options, along with the level of integration required for multimodal travel to function smoothly, will need to be defined. In addition, everyone – legislators, industry, and consumers - will have to come together to develop a collective vision for the future of seamless travel in the region.

Tools that can connect the services of various transportation operators with one another, combined with the digital networking of vehicles and people, are opening up opportunities for dramatic changes in mobility. Through the promotion of emerging mobility options, the expansion of local public transportation, and the increased use of digital platforms, people will be able to plan multimodal trips that encompass a variety of alternatives. At the same time, a strategy will be needed to help people change their mobility habits and accept a new transportation structure that focuses more and more on shared services to meet individual mobility needs.

DISCOVERY

Trips that are easy to navigate are at the core of what seamless travel is all about. While there are many important components that can define a seamless travel chain, a few in particular rise above the rest when assessing the efficacy of a trip designed to utilize more than one transportation mode or service.

Multimodal Options
1) Is there a centralized clearinghouse whereby trip-planning using one or more available modes can occur?
2) Are the methods of use for the various modes logical and clear to current and would-be users?

Fare Structure
1) Are fares uniform across all services?
2) Is there only one fare instrument?
3) Is the fare collection policy the same regardless of provider?

Transfers
1) Do transportation providers work together to minimize the number of transfers for the majority of trips taken?
2) Do transfers from one mode/vehicle to another happen in an efficient manner?
3) Are transfers free and, if not, is the cost of a transfer incorporated into a single fare payment?

Network Operations
1) Do all transportation providers work together to coordinate their service schedules?
2) Do all transportation providers work together to eliminate redundancies in service?

Furthermore, for on-demand, shared-ride services to become an integral part of the envisioned seamless, multimodal travel network, notable changes to program policies and regulations may be necessary. Currently, most program rules limit flexibility with regard to funding subsidies, rider eligibility, and vehicle utilization. As a result, transportation agencies' hands are tied, making it difficult to provide access that is both respectful of the user and makes the most practical sense. Through seamless travel chains, transitions between on-demand and fixed route transit services, for example, must be effectively coordinated and made with ease.

Urban, Suburban, and Rural Environments (USRE)

Whether residing in an urban, suburban, or rural community, people in the Southwestern Pennsylvania region must travel to obtain jobs, secure educational opportunities, get quality health care, and access daily needs. While public transportation is available in one form or another in the region's ten counties, every county but one is largely rural with only a few small urban areas dense enough to effectively support fixed route transit. The exception, Allegheny County, is home to 1.2 million residents who live in either the City of Pittsburgh or one of its 129 other municipalities. Whereas all but Greene County operate public transit along fixed routes, Port Authority of Allegheny County (PAAC) provides 95 percent of the fixed route trips in the region (62.2 million out of 65.3 million total number of unlinked trips in FY2016-2017). Mid Mon Valley Transit Authority (MMVTA) is somewhat unique in that it serves 21 Mid Monongahela River Valley communities located in three different counties (Fayette, Washington, and Westmoreland). It also runs commuter service into Downtown Pittsburgh. Likewise, the nonprofit organization, Heritage Community Initiatives, operates fixed route transit services in sixteen (16) mostly disadvantaged communities in the Mon Valley. Table 8 sequentially lists the region's fixed route providers by the size of their service areas (highest to lowest).

DISCOVERY

Table 8. *Fixed Route Providers in Order of Transit Service Area Size* (in square miles, highest to lowest)

Fixed Route Transit Provider	County Served	County Area (Sq Mi)	Transit Service Area (Sq Mi)	Total Trips (FY16-17)	Operating Expenses (FY16-17)	Oper Exp / Trips
Fayette Area Coordinated Transportation	Fayette	798	790	155,603	$1,845,000	$11.86
Port Authority of Allegheny County	Allegheny	744	775	62,176,355	$379,384,000	$6.10
Westmoreland County Transit Authority	Westmoreland	1,036	668	488,610	$5,913,000	$12.10
Indiana County Transit Authority	Indiana	834	504	329,973	$2,446,000	$7.41
Beaver County Transit Authority	Beaver	444	440	871,404	$5,987,000	$6.87
New Castle Area Transit Authority	Lawrence	363	178	582,563	$5,962,000	$10.23
Heritage Community Initiatives	Allegheny	NA	51	75,109	$948,535	$12.63
Mid Mon Valley Transit Authority	Fay/Wsh/Wst	NA	45	299,827	$4,023,000	$13.42
Freedom Transit (WCTA)	Washington	861	33	100,229	$1,620,000	$16.16
Butler Transit Authority	Butler	795	25	198,271	$1,934,000	$9.75
Mid County Transit Authority	Armstrong	664	24	38,147	$616,000	$16.15
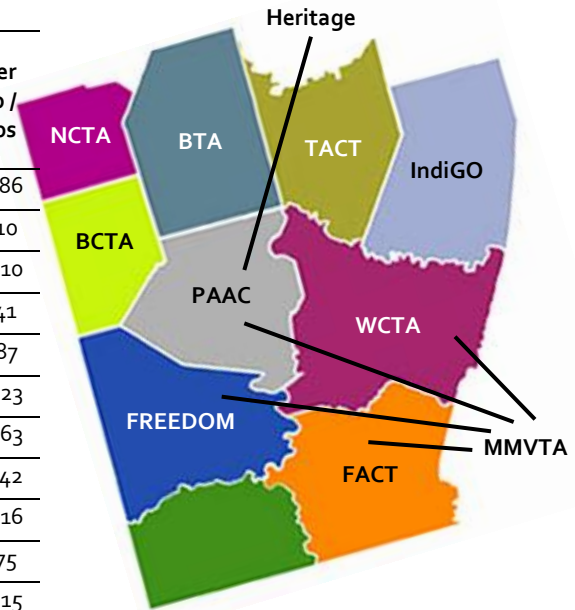
Source: Pennsylvania Public Transportation, Annual Performance Report, Fiscal Year 2016-17

It's important to note that, along with MMVTA, New Castle Area and Mid County transit authorities are multi-municipal authorities, meaning they receive operating support from the municipalities in which they serve. It also means the county where the agency is located is not necessarily obliged to provide supplemental funding. As indicated in the table above, the transit service coverage of these two additional multi-municipal authorities is substantially less than their county's area in total square miles. As for Heritage, their fixed routes were never intended to serve anywhere outside the defined service district.

Fixed route transit functions most effectively and efficiently in high density areas. So it should come as no surprise that transit services are primarily designed for urban spaces. Given that people living outside cities also need to get places, efforts are made by transit agencies to extend their services to the suburbs, usually with stops located along well-traveled corridors. The utilization of these specific transit services will often require a first- and/or last-mile travel mode (i.e. walking, biking, driving, etc.). And, for transportation-disadvantaged people who live just beyond the suburbs (in the exurbs) and more rural areas, the transportation challenges they face are further exacerbated.

Transit agencies do what they can, even in lower density areas, to employ different strategies to meet riders' demands for affordable and convenient access. For example, park-and-ride facilities can be found alongside a region's main corridors and in locations where multi-family housing units exist. However, much more needs to happen in order for Southwestern Pennsylvania to have a multimodal transportation network that provides ample connectivity between urban, suburban, and rural communities.

DISCOVERY

Bringing complete mobility to all who call this region their home will be possible **ONLY IF**:

- There is strong political will to influence and support public transportation efforts.

- Transportation and land use are inextricably connected.

- Local municipalities, employers, and developers are part of the transportation access discussion.

- Multimodal travel is supported and encouraged.

- Transportation funding supports projects that enhance regional connectivity in practical ways.

- Affordable, convenient, and reliable transportation meets people where they choose to live.

- Fixed route, shared-ride, and a hybrid of the two play important roles in the transportation ecosystem.

- Communities throughout the region embrace and support all transportation modes.

- Transit facilities are located in urban, suburban, and rural areas where people can easily access them.

- First- and last-mile transportation services are available and accessible to everyone.

- Cross-community connectivity projects that may have made sense in a different time are altruistically reconsidered in the context of the transportation environment within which we now live.

Anyone, Regardless of Ability or Income (ARAI)

Accessible, affordable transportation is critical to the lives we live. Too often, however, competing interests result in transportation policies that can make it difficult, especially for certain population groups, to live full, productive lives. When making a determination about the strength of a region's transportation system from the perspective of access in differently-sized areas and by a wide-ranging population, equity becomes a significant part of the conversation.

So, what exactly defines an equitable and all-inclusive transportation system? Having fairly easy access to the different options available as well as being able to afford the cost of utilizing those options, is part and parcel to a system that is designed to work for everyone, including seniors, persons with disabilities, and those with limited incomes. There is an increasing realization that equity must play a constructive a role in the provision of transportation services. In order to achieve equity in transportation, strategies aimed at helping communities get the investments necessary to spur mobility in every sense of the word need to be well-planned, smartly developed, and effectively implemented.

Equity is essential in public transportation because it ensures population segments that are at a disadvantage are provided the same opportunities as other population segments. That being said, with any type of transportation service and/or mode, there are certain expectations that are universal to every user. The transportation must be available, accessible, safe, affordable, convenient, comfortable, easy-to-use, timely, and respectful.

The current expansion of transportation options, from transit to bike-share to on-demand services, offers some hope for increased accessibility even among disadvantaged populations, but progress will require

coordinated planning and outreach from policymakers.[24] Those who are charged with making decisions, whether about services, funding, or regulations, must bear in mind that all transportation is personal, meaning transportation accessibility is distinctive for everyone.

- Personal functional abilities can dictate what type(s) of transportation services a person can use.

- Personal financial capacity can dictate what type(s) of transportation services a person can afford.

- Individual preferences can dictate what type(s) of transportation services a person chooses to take.

While seniors aged 65 and over as well as persons with disabilities can benefit from transportation subsidies, if the services where they live aren't able to adequately meet the demand and/or geographical constraints, these populations might find it difficult getting their medical and social needs met.

Income disparities, regardless of where a person resides, are an important factor in terms of who has and doesn't have sufficient transportation access. Low-income individuals and families that don't own a vehicle often times cannot afford to take advantage of the transit services that exist in their community. Instead, they have to rely on family and friends to get them where they need to go.

Regardless of one's ability, financial capacity, and/or personal preferences, an equitable transportation system will be able to connect people to key activity destinations utilizing public and private transportation that meets the universally expressed expectations listed earlier.

In terms of making transportation accessible and equitable, Southwestern Pennsylvania faces many challenges. Thinking long term, there is no local support or funding base for public transportation in general, let alone *equitable* public transportation.   Additionally, while most communities know what is needed in terms of transportation for their residents, getting the legislative and financial support necessary to meet the needs can be complicated.

Given federal reporting requirements and the relative ease of obtaining certain data, many transit operations are based on a business model where the two primary measures of success are financial performance and ridership. When high ridership is one of the agency's top goals, its services will largely occur in markets that offer density, walkability, linearity, and proximity.[25] In this case, critical aspects of performance important to customers and the community at large – such as being able to connect to life in the fullest sense - are often insufficiently addressed.

For agencies that aspire to adequately provide access to not just choice riders, but also those who must rely on public transportation to get to jobs, medical care, and other daily activities, their service planners would do well to focus first and foremost on the expressed needs of people that fall outside the margins. This may mean transit agencies will have to look beyond traditional fixed route bus services and consider other options, at least in certain areas across the ten-county region. If the transportation system is designed to adequately serve the more vulnerable populations, by extension, the access needs of everyone else in the middle will be met as well.

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[24] https://mobilitylab.org/equity/

[25] Jarrett Walker, https://humantransit.org/basics/the-transit-ridership-recipe#summary
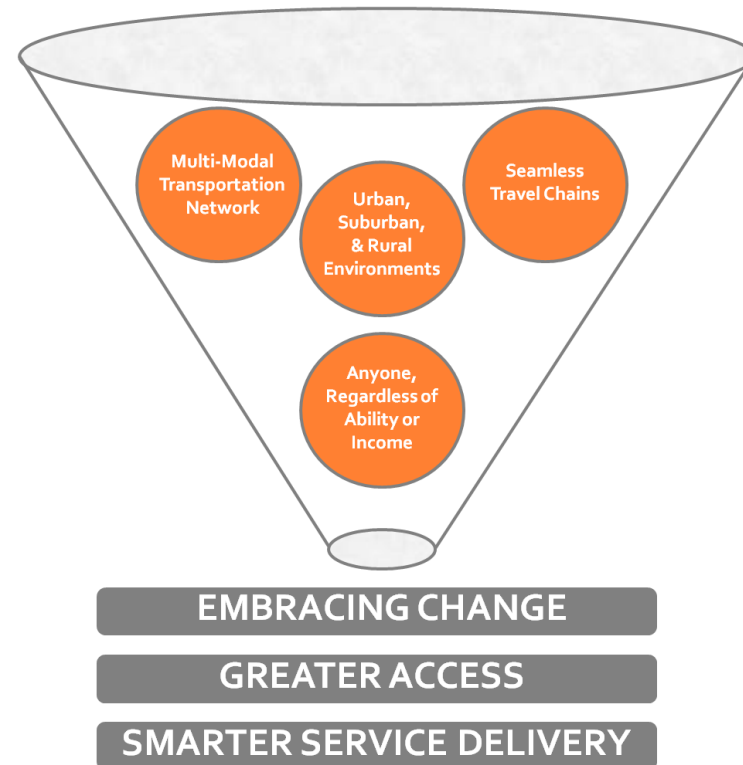
A NEW TRANSPORTATION STANDARD

WHY A NEW STANDARD?

Upon completion of the **DISCOVERY** phase of the coordinated transportation planning process, SPC staff and the Alliance set out to formulate feasible strategies aimed at enhancing mobility and accessibility in Southwestern Pennsylvania. The strategies, when implemented, can bring the region closer to attaining its goal of a multimodal transportation network that can facilitate seamless travel within and across all sizes of communities so that everyone has sufficient access to healthcare, education, jobs, quality nutrition, and social activities.

As indicated in the previous section, the four areas of focus – Multimodal Transportation Network, Seamless Travel Chains, Urban, Suburban, and Rural Environments, and Anyone, Regardless of Ability or Income - were initially discussed among Alliance members as components separate from one another. However, for a mobility system to succeed as both robust and resilient, it must be comprised of multiple and easily navigable modes, many of which can be utilized to travel short, medium, and/or long distances and all of which are completely inclusive.

When it came time to put forth a comprehensive strategy for creating just such a network, the four distinct components, taken as a singular all-encompassing building block, helped lay the groundwork necessary to pursue a new transportation standard in Southwestern Pennsylvania – one that is all about **Embracing Change** and ensuring **Greater Access** through **Smarter Service Delivery** to anyone and everyone who chooses to live in the region.

A NEW TRANSPORTATION STANDARD

Embracing Change

Earlier, the CTP listed eight notable changes that are occurring within the transportation space. Here, these changes are explored in greater detail.

Growing recognition that all transportation is personal

All transportation is personal, but then again, so is every other aspect of our lives. It's about having choices and being able to choose based on one's own needs, abilities, and preferences. Looking beyond transportation, people choose where to live and where to work for very personal reasons. While transportation may not be a major consideration, at least initially, when deciding where to live or work, mobility and accessibility can become an issue when a person discovers that the services available don't meet his/her needs.

Shifts in people's attitudes toward obtaining a driver's license and/or personally owning a car

A 2016 University of Michigan Transportation Research Institute study[26] showed the percentage of people with a driver's license decreased between 2011 and 2014, across all age groups. Comparing 1983 percentages of people in different age groups with a driver's license to those same age groups in 2014, the researchers found:

Age, in Years	Driver's License in 2014 vs 1983
16	↓47.0 percent
19	↓21.0 percent
20-24	↓16.4 percent
25-29	↓11.0 percent
30-34	↓10.3 percent
35-39	↓07.4 percent
40-54	↓05.0 percent

[26] The Decline of the Driver's License - The Atlantic, https://www.theatlantic.com/technology/archive/2016/01/the-decline-of-the-drivers-license/425169/, January 22, 2016

Also in this study, young adults ages 18 to 39 were asked why they had not obtained a driver's license. Their top three reasons were: "too busy or not enough time to get a driver's license" (37 percent); "owning and maintaining a vehicle is too expensive" (32 percent), and "able to get transportation from others" (31 percent). While not based on a formal statistical analysis, Alliance members offered additional rationale, including "fear of driving (i.e. aggressive drivers, road rage)", "aging population not renewing their licenses", and the "availability of ride-hailing options".

Service models enhanced through technology

New and emerging service models - ride-hailing, micromobility, microtransit, and others - are changing the mobility landscape. In terms of their capacity to improve accessibility across our region, the jury is still out. Given that these types of services rely on broadband internet service, smart phone utilization, and credit/debit card payments, rural and low-income populations are at a disadvantage when it comes to benefitting from the latest transportation-enhancing technologies. For example, Fayette, Greene, and Indiana counties are three of thirty-four counties in Pennsylvania that have less broadband access than the national average.

Additionally, providers new to transportation may have a limited understanding of their consumer base. While the typical customer may need nothing more than a ride from point A to point B, the elderly and persons with disabilities might require assistance with getting in and out of a vehicle, the folding and storage of a walker/wheelchair, or a vehicle that is fully wheelchair-accessible. Just as important is adequate driver training to ensure both safe and comfortable experiences for all riders.

The prevailing new services, which to some public transit agencies may be seen as competition, could possibly alleviate transportation gaps for people by providing first- and last-mile connections to/from an area's major corridors where most bus stops and light rail stations are located.

Availability of and access to open data

The availability of and access to open data is transformative, especially when it comes to planning for change in transportation. The sharing of data across public transit agencies creates an opportunity for the broad integration of services and schedules within Southwestern Pennsylvania's entire transit network. Having access to network-wide routing, passenger origins and destinations, and on/off statistics can be used to identify underserved areas and open up avenues for mutually beneficial agency-to-agency collaborations. And, while the idea has been discussed in this region for a long time, establishing a "one-stop shop" so that all Southwestern Pennsylvania residents can better understand the transportation options available to them is possible now more than ever given the abundance of sharable data.

Service planning based on better data

Transit agencies can take advantage of the wealth of data to strengthen their service planning efforts. Analysis of the data can help identify service redundancies, which could lead to improved coordination between existing agencies. Also, the identification of service shortfalls could possibly result in the creation of public-private partnerships to address the disparities.

If regionalizing transit services becomes a long-term goal, better data can play an important role in achieving that goal. For example, there are ten fixed route providers in the ten-county region, eight of which, including Port Authority of Allegheny County, transport commuters into downtown Pittsburgh at least five days a week. Seven of these eight agencies (the only exception being PAAC) make two or more daily dead-head trips, either to or from their home county, carrying zero customers. Just as the statewide implementation of a common scheduling platform (Ecolane) was designed to enable greater coordination of on-demand services for mid-sized and smaller providers, exploring ways to utilize data for the optimization of inter-county fixed route services could be a worthwhile endeavor.

Means with which a person can access and pay for transportation

For a region wanting to create a true multimodal transportation network, the ease with which trips are linked and navigable is very important. Uncomplicated movement between origins and destinations, regardless of the number and types of modes used, is tantamount to seamless travel. The processes for accessing and paying for transportation, in particular, could be streamlined. Applying technology to trip-planning and trip-payment for a range of transportation options available in the region can help advance a multimodal effort.

Through the use of smart technology, there could be a centralized clearinghouse for multimodal trip-planning. Additionally, a common fare instrument that works for public, private, and non-profit transportation services alike can minimize payment method uncertainty and lead to greater uniformity across the network.

Greater opportunity for taking multimodal trips

All trips start with a walk and most are multimodal. As a case in point, transit riders are pedestrians at the start and end of their trips. For people living in low-density urban and suburban communities, however, taking public transit can be difficult if not impossible. In these areas, the bus lines are either too far away or the pathways to stops and stations are not easily or safely traversable. And, in rural areas, public transit may not be available at all. While extending traditional fixed-route services into suburban neighborhoods is cost prohibitive, opportunities might exist for transit agencies to partner with ride-hailing, micromobility, and microtransit companies who can provide first- and last-mile connections to the public system more efficiently and affordably.

A NEW TRANSPORTATION STANDARD

Acknowledgement that equity must play a constructive role in the provision of transportation

According to Kevin DeGood and Andrew Schwartz, both of whom work for the Center for American Progress, there are three important elements of transportation equity:[27]

1) Person's ability to pay

2) Amount of benefit received

3) Person's ability to participate fully in society

Access to transportation that is both affordable and reliable is a key factor for economically disadvantaged individuals to receive job skills training, secure and retain employment, and conceivably lift themselves out of poverty. While it's unlikely many of the new mobility services hitting our streets today were designed to tackle transportation equity issues, transit agencies and the companies behind the mobility-changing platforms may want to join forces, experimenting with ways to connect low-income populations to the larger public transit system. Given the shifts in our transportation paradigm, opportunities abound for traditional transit agencies and start-up entities to expand equity and mobility across the region through mutually beneficial public/private partnerships.

GREATER ACCESS

At the 2019 National Shared Mobility Summit, the CEO of Massachusetts Department of Transportation, Stephanie Pollack, expressed the need for transportation engineers and planners to "think less about moving cars and more about moving people." She pointed out that the numbers associated with mode share, vehicle miles traveled (VMT), transit ridership, vehicle occupancy, and vehicle ownership, are all going in the wrong direction.

Given that the CTP's major objective is also to move people rather than cars, the primary transportation modes that merit broader regionwide support include walking, biking, public transit, and other shared mobility options.

A fundamental aspect of the transportation discussion that is often overlooked is land use. And, until this issue is effectively addressed in the Southwestern Pennsylvania region, ensuring adequate access to jobs, services, healthcare, and daily living needs will continue to be a challenge. Real change in both mobility and accessibility can only happen when transportation and land use are inextricably linked in concept and practice.

Transit-oriented development enables shared mobility. British Columbia's City of Vancouver, for example, was able to turn a car-oriented culture into a flourishing transit center through a two-fold approach: 1) offering transportation alternatives; and 2) focusing on density by building complete communities. Vancouver's cultural transformation did not happen overnight. In fact, the undertaking likely got its start as far back as 1997 when, for the first time, the Vancouver Transportation Plan placed pedestrian movement at the top of the mobile hierarchy.

Southwestern Pennsylvania may want to establish a regionally-accepted mobile hierarchy to help guide future transportation development efforts. Regardless, when planning for new or improved transportation infrastructure and facilities, every mode and user group must be given due consideration. Additionally, transportation policy and projects must be diligent about not making conditions worse for the most vulnerable users.

Over the next few pages, the spatial, temporal, economic, physiological, and social barriers, which were defined by the U.S. DOT and FHWA in their **STEPS to Transportation Equity** and mentioned earlier in this plan, are discussed once again – but, this time, from a Southwestern Pennsylvania perspective.

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[27] Kevin DeGood and Andrew Schwartz, Can New Transportation Technologies Improve Equity and Access to Opportunity?, April 27, 2016

<div style="background:orange">
SPATIAL
Long distances between destinations; lack of public transit within walking distance
</div>

Spatial barriers can compromise daily travel needs. In the Southwestern Pennsylvania region, people have to contend with the area's natural geography and topography in their travels. With much of the area comprised of hills and valleys, mobility options such as walking and biking can be hindered by distance as well as a person's capacity for active transportation. In other words, are sidewalks available and in good condition? Did the biking trip involve climbing lots of hills?

One way to alleviate spatial barriers is through greater transit service coverage. For example, even if a person's mode of choice is biking, instead of having to traverse steep hills, an alternative is to use the bike for first- and last-mile connections to transit and then transfer to either a bus equipped with bicycle racks or a light rail vehicle that permits bikes on board.

Effectively linking transportation and land use can also help address the spatial barrier issue. Providing information on best practices with respect to how to link these two components can be useful to municipal governments in their efforts to establish and advance smart land use development policy. A strong policy could ensure, for example, that subsidized housing is located where transit services are available and easily accessible.

<div style="background:orange">
TEMPORAL
Public transit reliability issues; limited operating hours
</div>

Temporal barriers can inhibit a user from completing time-sensitive trips. Typical complaints about public transit services often have to do with

reliability and limited operating hours. Possible solutions for minimizing temporal barriers are to design cross-town and inter-community routes and lay a foundation for late night services where appropriate. For transit agencies considering the implementation of such routes and services, it's important that they have a solid understanding of passenger origins and destinations.

Effective transit planning relies on good data – data about the users' mobility needs. And, because it all comes down to numbers, there's a constant struggle to assure the data used in these planning efforts is both accurate and relevant. More often than not, planners turn to the U.S. Census' Journey to Work data, which only covers work-related commuter trips. Better transportation data – data that includes all trip purposes – could prove constructive in the creation of a multimodal transportation network where alternative mobility services "feed" riders to traditional public transit and vice versa.

<div style="background:orange">
ECONOMIC
Direct Costs: fares, tolls, vehicle ownership costs; Indirect Costs: smartphone, Internet, credit card access
</div>

Economic barriers can make it difficult if not impossible for people with limited incomes to live fully productive lives. Costs associated with owning, driving, and maintaining a vehicle can put personal car ownership out of reach for many low- and even some middle-income individuals. And, although public transportation may be a more affordable option, it can still be too expensive to use on a daily basis.

Often not acknowledged is the fact that public transit is more than just transportation – it represents a much-needed social service. In a lot of ways, transit is the equalizer that helps put everyone in the region on a level playing field, giving them the ability to access education, jobs,

services, healthcare, family, and friends. As stated in Pittsburghers for Public Transit's Bill of Rights:

> "Public transit not only provides basic mobility for many in our community, it is also essential urban infrastructure – just like roads, bridges, tunnels and utilities – that is crucial to the economic, social and environmental wellbeing of our region."[28]

PHYSIOLOGICAL
Physical and/or cognitive limitations of older adults, persons with disabilities, children

Physiological barriers can make using standard transportation modes difficult and, in some cases, impossible. With the growth in Southwestern Pennsylvania's aging population expected to continue for many years to come, the term "temporarily-abled" might be the appropriate catchphrase to describe the region's trending population.

As people age, their physical ability to move about easily decreases, which means, at some point, they will become disabled in one form or another. So, how should the ten counties in the region plan for this dynamic, especially in terms of mobility and accessibility for all?

Transportation system design that employs all seven universal design principles described earlier in the CTP must become the norm for PennDOT engineers and planners. No longer can public space be designed primarily for cars. Safe access and use by pedestrians, bicyclists, transit riders, and others need to be considered as well. Southwestern Pennsylvania will benefit from roadway and bridge project plans that adhere to the principle coined by the Massachusetts DOT - "Treat people walking the same way you treat people driving."

When planning for new or renewed transportation infrastructure, ongoing communication between municipalities, developers, and planners is essential. Pennsylvania's Secretary of Transportation, Leslie Richards, and every transportation district in the state, is implementing the PennDOT Connects initiative, the purpose of which is to ensure transportation improvement projects are planned with the specific needs of the affected communities in mind.

SOCIAL
Social, cultural, safety, and language barriers

Social barriers can get in the way of immigrants and refugees who now reside in Southwestern Pennsylvania, whether they speak English or not, from taking full advantage of the region's transportation network. Targeted marketing that is available in multiple languages, as well as easy-to-understand system information such as transit schedules and routes, will go a long way in providing safe and welcoming access to newcomers in the region.

Additionally, these same people must be informed about and feel comfortable participating in public meetings where community input is sought regarding the funding, design, and implementation of local area transportation projects.

Smarter Service Delivery
Public transportation, which is the foundation of all shared mobility, requires dedicated federal, state, and local support. As a public service whose continued existence is dependent on the efficiency of its service delivery and the affordability of its use, transit providers might want to consider smarter and more effective ways of providing services in Southwestern Pennsylvania. What follows are three service delivery concepts that could help break down the silos between public agencies and the private sector to more successfully manage mobility in our region – Transit Service Consolidation / Transit Agency Coordination, Shared Mobility, and Mobility as a Service.

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[28] https://www.pittsburghforpublictransit.org/about-us/who-we-are/

A NEW TRANSPORTATION STANDARD

SMARTER SERVICE DELIVERY-1

Transit Service Consolidation / Transit Agency Coordination

Public transportation in Pennsylvania is locally controlled and managed.

↓

Operating costs continue to increase at rates that regularly exceed available funding.

↓

Act 89 of 2013 provided incentives for local governments to consolidate transit operations.

↓

Consolidation could result in greater economies of scale and better coordinated regional travel.

↓

While the state supports consolidation efforts, the decision to do so rests
with the local transit authorities and county officials.

↓

Transit authorities and county officials are reluctant to relinquish control over service delivery
for fear that service quality will diminish and local jobs will be lost.

↓

**Coordination among the region's transit agencies is viewed by the agencies
as a viable strategy for improving operating efficiency and securing additional government funding.**

↓

Better coordination of services, a centralized information clearinghouse, and the facilitation of transfers at the county borders
could result in enhanced access for the riding public and smarter utilization of resources for the individual transit agencies.

TRANSIT SERVICE CONSOLIDATION / TRANSIT AGENCY COORDINATION The consolidation of all transit services in Southwestern Pennsylvania has been studied in the past, with no definitive conclusion reached regarding the practicality of and regional support for the idea. Coordination among the transit agencies, on the other hand, is a strategy that is strongly supported across the region. That being said, this CTP encourages multi-agency communication and collaboration such that a multimodal transportation network providing seamless travel in urban, suburban, and rural environments which is accessible by anyone, regardless of ability or income, is the end result. In general, successful transit agency coordination means services and schedules are integrated, fare structures are consistent, the fare payment instrument is the same across agencies, and marketing efforts are multi-agency and regionwide.

SMARTER SERVICE DELIVERY-2

Shared Mobility

"Transportation services and resources that are shared among users,
either concurrently or one after another", *Shared-Use Mobility Center*

↓

Taxis, limos, vanpools, carpools, bike-share, scooter-share, car-share,
ride-hailing, shuttle services, microtransit, jitneys, and more

↓

Traditional public transit is also shared mobility.

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What shared mobility modes are complementary to public transportation?

↓

What shared mobility modes are in competition with public transportation?

↓

Can public transit agencies become mobility managers and, if so, how?

SHARED MOBILITY modes can be both complementary to and in competition with public transportation. It depends on the kinds and numbers of mobility options available in a given place over a span of time. For example, the ride-hailing services that operate in and around the Southwestern Pennsylvania region could be used to provide first- and last-mile connections to bus stops and light rail stations; thus, complementing public transportation for commuters. Microtransit, which typically operates within specific geographic boundaries, takes people to and from places located in a defined area. It may also be able to connect riders to the larger public transit system, which, like ride-hailing, would complement transit. Using bikes to access transit routes is a practical choice if the agency's vehicles can accommodate bicycles (i.e. bike racks on buses). An additional benefit is when a community's bike-share system is integrated with the transit agency's fare card, as is the case with Port Authority of Allegheny County and Pittsburgh Healthy Ride (via the ConnectCard). Bicycles, in general, are not an enormous threat to transit because, at least for now, bicycle trips account for only a small percentage of counted trips. Also, the region's geography, topography, and weather conditions can impede frequent bicycle travel. In contrast, public transportation is experiencing declines in ridership, most of which is being attributed to the rise of ride-hailing services. Taking a Lyft, Uber, or z-Trip is easier and can take less time. Not everyone can afford the cost of a ride-hailing trip, but for those who can, it may be the preferred choice over transit. Vanpools and carpools are not viewed as direct competition to public transportation – quite often, they're an option for people living in areas underserved by transit.

SMARTER SERVICE DELIVERY-3

Mobility as a Service

MaaS is a holistic model wherein the utilization of public and private transportation services is managed by way of a unified gateway or single interface.

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Two key elements with MaaS:
1) Single account to access trip options and pay for trips
2) Real-time journey planner

↓

Policy issues for both government and public transit agencies:
- Need for subsidies
- Regulatory changes
- Equitable access
- Service quality
- Safety standards
- Assurance of user privacy/data security

↓

What is public transportation's role in Mobility as a Service?

MOBILITY AS A SERVICE (MAAS) redefines transportation in terms of mobility, rather than modes. MaaS can personalize the way people connect to life through the "bundling" of available travel service options that meet individual mobility needs and budgets. By integrating different forms of transportation that exist across a regionwide network, technology can make it possible to specify mode preferences, plan a seamless and/or multimodal trip based on those preferences, and automatically pay for the entire trip with a common fare payment instrument . MaaS is a business model comprised of public and private transportation providers, the service utilization of which is managed by way of a unified gateway or single interface. As explained by Sampo Heitanen, founder of MaaS Global, "*All we need to do is think about the telecommunications industry and how it works – where we purchase a package deal that bundles a certain number of minutes, SMS messages, and data.*" Mobility as a Service components include: 1) USER – Person who wants to go somewhere; 2) MOBILITY AGENT - Public, non-profit, or private entity that identifies best options, coordinates trips based on personal needs, and administers all financial transactions; 3) TRANSPORTATION PROVIDERS - Public and private providers making data-driven service level decisions about the supply side of transportation; and 4) DATA CENTER – Manages the data exchange between multiple service providers and provides application programming interface (API) gateways and service usage analytics.

TRANSPORTATION TOMORROW

Today, in 2019, transportation is responsible for 29 percent of greenhouse gas emissions in the United States with 59 percent of all transportation sector emissions coming from passenger cars and light-duty trucks.[29] While a daunting statistic, the good news is, with every challenge, there's an opportunity. For **Transportation Tomorrow**, the Southwestern Pennsylvania region has the opportunity to transform mobility and accessibility as we now know it and ultimately change how people across our ten counties move around.

When thinking about what the regional transportation network could look like in the next 5, 10, 25, or 40 years, it's imperative that the future we shape is the future we want. In a 2017 article, Richard White reminds us that "Public transportation is the original shared economy form of transportation. It's the great social equalizer, connecting people to opportunities by sharing rides in vehicles that are available to everyone in the community."[30] Going forward, transportation planners will want to view new and emerging means of transportation through a lens similar to that used for the more traditional modes. That being said, it's important to keep the following in mind:

- Transportation is not about the vehicles; it's about the system itself and the mobility it provides.[31]

- Delivering on the value propositions intrinsic to public transit, as well as those that are inherent to new and emerging mobility services, ought to be regional priorities.

- Carefully planned policies are needed to ensure traditional and non-traditional modes can operate equitably in the same public space.

- There are generally agreed-upon criteria in transportation that address basic civil rights and new modes must abide by these criteria.

Using the transportation standard outlined in the previous section as a guide, Southwestern Pennsylvania can create an even more coordinated transportation system than the one it has today. As stated earlier, so much is changing and continues to change in transportation, especially in terms of service operations, the availability of different modes, and the ways in which people make trip-related decisions. The region can benefit by *embracing the changes* impacting mobility and accessibility and

S T R A T E G I E S   A T   W O R K *
- Mobility for All
- Modernize Supporting Infrastructure
- Public Transit Equity
- Pursue Innovative Ideas and Solutions
- Coordinated Investment
- Reinvest in Communities
- Emerging Technology
- Internet Connectivity

* From SmartMoves for a Changing Region

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[29] United States Environmental Protection Agency, Fast Facts: U.S. Transportation Sector Greenhouse Gas Emissions 1990-2017, Office of Transportation and Air Quality EPA-420-F-19-047, June 2019, p 2
[30] Richard A. White, Public Transportation and the Emerging Mobility Ecosystem, May 7, 2017
[31] Roger Millar, Secretary, Washington State Department of Transportation, National Shared Mobility Summit, "Advancing Access to Employment and Economic Opportunities with Shared Mobility", March 7, 2019

responding to them in innovative ways. From a transportation services perspective, the different result being sought by our region's residents, in general, and transportation-disadvantaged populations, in particular, is *greater access*. And, when both traditional and non-traditional transportation offerings are fully integrated and operating within a singular comprehensive network, the outcome will be *smarter service delivery*.

Over time, the three-pronged transportation standard has the potential to create an environment where people residing in urban, suburban, and rural communities can choose from among a multitude of mobility options to get from point A to point B. Knowing that all transportation is personal, decisions about which modes to use will be based not only on a person's physical and/or intellectual abilities and capacity to pay for the different services, but also his/her personal preferences.

Strategies specific to embracing change, working toward greater access, and exploring smarter service delivery methodologies are laid out over the next few pages.

Embracing Change

There's a shift occurring in the way people think about and understand mobility. Rather than focusing on cars and the goal of personal car ownership, a growing percentage of the public just wants to go places, regardless of how that happens and by what mode. In particular, younger generations appear to be more open to different models of car use and ownership than those in older age groups. Changes in how and where people work are also having an impact on daily commuting patterns, which could result in some workers giving up their automobiles for less expensive and more environmentally-friendly options. Additionally, individual cities in many places around the world are demonstrating the will to impose downtown car restrictions or ban cars all together in city centers.[*]

Madrid, Spain has imposed automobile restrictions in its downtown area whereas cars have been totally banned in the city centers in Oslo, Norway and Ponteverdra, Spain. Germany bans the use of older diesel vehicles.

Recommended Strategies

EMBRACING CHANGE

1. Determine the impact that changing attitudes about driving and car ownership is having on the region.

2. Foster a mobile hierarchy that directly acknowledges the shift occurring in the way people think about and understand mobility.

3. Support the PennDOT Connects collaborative planning process whereby solutions for sustaining and expanding mobility in a given community are devised to address the needs specific to that community.

TRANSPORTATION TOMORROW

Recommended Strategies

GREATER ACCESS

1. Encourage public, private, and non-profit transportation providers to pilot proposed first-mile/last-mile and other microtransit services in underserved communities.

2. Work with different levels of government to streamline their procurement processes, so that transportation services, after attaining proof-of-concept, can be brought to the market quickly.

Working Toward Greater Access

In addition to the more traditional public transportation services, our region, like the rest of the country, is experiencing the emergence of a broad set of operating models and technologies that are intended to improve the overall performance of a transportation system. The newer mobility services are defined by the use of data and technology to streamline the dispatching and tracking of trips and the user experience in terms of trip-planning, fare payment, and ease of travel.

Planning for greater access requires active engagement with residents, workers, businesses, and other stakeholders. Because every community is unique and every community has its own challenges, broad public outreach and education is essential. Also, since communities that need transportation solutions the most are often the hardest to serve, creating an equitable transportation network must be the overriding objective of all mobility planning efforts.

" We are in the opportunity business. Public transportation connects people with opportunity so they can move their lives forward. We are an essential rung on the ladder to success. "

Stephanie Wiggins, Chief Executive Officer, Metrolink, Southern California Regional Rail Authority, Los Angeles Building Outstanding Customer Experience Passenger Transport, Volume 77, Number 7

TRANSPORTATION TOMORROW

Recommended Strategies

SMARTER SERVICE DELIVERY

Exploring Smarter Service Delivery Methodologies

What will be most important about the region's future transportation network is that the different mode operators can work together in cooperative and coordinated ways. This requires a willingness on the part of traditional transit agencies especially to consider new approaches to delivering service. Ideally, all shared mobility modes can be coordinated in such a way that they complement rather than compete with each other.

Through strong public/private partnerships, communities can benefit from the distinctive features of both old and new mobility services to improve transportation accessibility overall.

For example, with Transportation Network Companies operating in different areas across the region, fixed route, demand-response, and HST providers may opt for subsidizing ride-hailing trips in mid- to low-density communities in lieu of running costly bus and shared-ride services.

1. Explore what it will take to reach a level of transit agency coordination where services and schedules are integrated, fare structures are consistent, the fare payment instrument is the same across agencies, and marketing efforts are multi-agency and regionwide.

2. Conduct a regionwide summit to discuss greater coordination of transit services and the utilization of data to optimize inter-county fixed route and on-demand, shared-ride services.

3. Plan, coordinate, and facilitate a regional discussion about the Mobility as a Service concept and if and how MaaS can be implemented in Southwestern Pennsylvania.

TRANSPORTATION TOMORROW

EMBRACING CHANGE • GREATER ACCESS • SMARTER SERVICE DELIVERY

SUPPORT MULTIMODAL TRAVEL

Over the span of several months, SPC and the Alliance examined our region's transportation system, primarily to determine how each of the modes currently in use across Southwestern Pennsylvania fits into the existing network. Also scrutinized was the degree to which today's infrastructure supports the various modes, as well as the availability of mode type and practicality of mode utilization by different population groups.

In terms of wanting to support multimodal travel, the fundamental question was:

What opportunities exist for developing and advancing multimodal transportation strategies in urban, suburban, and rural areas in Southwestern Pennsylvania?
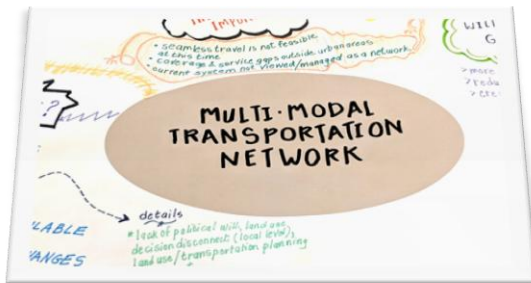
Bringing a multimodal transportation network to fruition requires creativity, innovation, and collaboration among all players. Just as important a requirement if not more so is being able to recognize the futility of "chasing the shiny object".

Developing and advancing multimodal transportation in the region is dependent on the creation of strong partnerships between public and private enterprises that presently operate their own distinct vehicles and services. Working together as partners for the common good, these principal stakeholders can each play a role in designing and maintaining multimodal infrastructure, including pedestrian walkways, bike lanes, roads, and bridges, and devising practical and fair solutions for utilizing our streets, sidewalks, and curb space.

While public transit is considered the most efficient way to travel, through the integration of traditional and non-traditional services, people will have more choices from which to select the options that work for them personally.

Recommended Strategies
MULTIMODAL NETWORK

1. Work to break down the silos between public agencies and the private sector to more successfully manage mobility in the region.

2. Encourage public/private partnerships (P3) to strengthen regional connectivity.

3. Advance the availability and utilization of public transit and other shared mobility options as an alternative to personal car ownership.

4. Advocate for a multimodal and multi-provider network of mobility services, the purpose of which is to provide greater equity in transportation through maximum consumer choice.

TRANSPORTATION TOMORROW

BRINGING ABOUT SEAMLESS TRAVEL

From the outset, SPC staff and the Alliance wanted to hear what different population groups had to say about the region's fixed route and on-demand, shared-ride services in terms of availability and ease of use. By taking every opportunity to ask people to describe their idea of transportation accessibility in personal terms, SPC learned what easy-to-navigate trips might look like, especially for seniors, persons with disabilities, and low-income individuals.

In terms of wanting to bring about seamless travel, the fundamental question was:

What is the user's experience of the regional transportation system and in what ways can mobility across the network be expanded and streamlined?

Based on feedback gathered during Alliance meeting brainstorming sessions and other community engagement events, "end-to-end accessibility" was the overarching catchphrase when talking about seamless travel chains.

This CTP presumes the prospect of creating a regionwide transportation system that holds the promise of "mobility for all" is within the realm of possibility, especially given the paradigm shift taking place in transportation, both service-wise and operationally. People will have a better understanding of the travel options available to them and, with access to trip data and trip planning algorithms, they'll be able to put together travel chains by trip purpose, time constraints, and individual preferences.

Facilitating Seamless Travel in Belgium and Beyond
In 2010, Belgium introduced a nationwide ticketing system that uses a smart chip card, MoBIB, which can be loaded with different transport tickets for railways, bike-sharing, car-sharing, taxis, shared parking and even a Mobility as a Service pilot. Now working in a few other European countries, MoBIB helps facilitate what it calls an inter-modality treasure chest.

Recommended Strategies
SEAMLESS TRAVEL

1. Encourage transit agencies in the region to identify service redundancies and, through improved communication among all providers, address disparities in access.

2. Through open data sharing between transit agencies, integrate transportation services and schedules.

3. Establish a centralized clearinghouse that applies technology to trip planning and trip payment processes across a range of service modes in the region.

4. Promote a regionwide adoption of a common fare instrument.

TRANSPORTATION TOMORROW

EMBRACING CHANGE • GREATER ACCESS • SMARTER SERVICE DELIVERY

ENSURING MOBILITY IN ALL SETTINGS

In Pennsylvania, the population density is 284 persons per square mile. Based on the classification adopted by the Center for Rural Pennsylvania, counties that have a density below 284 are rural, and those with a density above 284 are urban. Out of 67 counties across the state, 48 (72%) are rural, whereas 19 (28%) are urban.[32] When it comes to providing public transportation, Pennsylvania's rural and suburban communities are naturally harder to serve than the urbanized areas. Exacerbating the problem is the fact that many lower-income individuals, faced with the high cost of living, have been forced to move from city centers to inner and outer ring suburbs, with fewer jobs and resources and where reliable, affordable public transportation is even less likely to exist. For this plan, SPC asked people residing in urban, suburban, and rural communities in the region, to describe their typical travel mode(s) and patterns from the perspectives of cross-county travel, inter-community connectivity, facility accessibility, and average trip length.

In terms of wanting to ensure mobility in all settings, the fundamental question was:

What would a transportation system that alleviates land use-related access barriers and enhances the overall user experience look like?
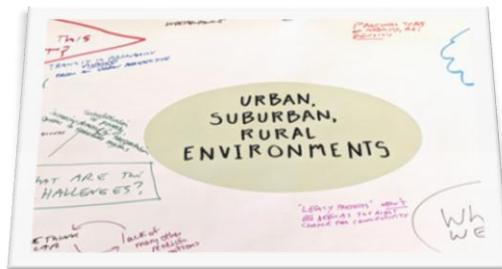
There's no denying the connection between the way we build communities and its effect on people. This is especially true when the fundamental link between land use and transportation is disregarded, resulting in land developments primarily if not exclusively accessible by car. Unintended consequences of this form of development include a location mismatch between home and work, higher transportation costs, and more time spent traveling from one place to another. Proactive planning that places transportation accessibility at the forefront of land development decision-making can help alleviate the land use/transportation disconnect.

Recommended Strategies
MOBILITY IN ALL SETTINGS

1. Encourage public transit agencies and private and non-profit transportation providers to collaborate on ways to connect underserved communities and disadvantaged populations to the larger public transit systems.

2. Encourage the deployment of tools and technology that can accurately track origin-destination combinations.

3. Develop a process through which land use and its impact on transportation demand can be better understood.

4. Identify and share with local municipalities best practices pertaining to transportation/land use policies.

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[32] Center for Rural Pennsylvania, 2014

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TRANSPORTATION TOMORROW

EMBRACING CHANGE • GREATER ACCESS • SMARTER SERVICE DELIVERY

MAKING TRANSPORTATION EQUITABLE

In order to achieve transportation equity, it's important to understand the "continuum of disability" and the adaptive changes that occur during a person's lifespan, which typically encompass distinct phases of growth and abilities – infant to toddler to school-age to teen to young adult to middle age to senior citizen (and everything in between). Creating a mobility system that meets people where they are on this continuum at any point in time will require transportation engineers and planners to shift their focus away from moving vehicles to moving people. A change in perspective can lead to a regional network of services that is fully accessible, easy to navigate, and adaptable to different users.

In terms of wanting to make transportation equitable, the fundamental question was:

What will it take to create a contemporary transportation system that meets the needs of everyone?

The Commonwealth of Pennsylvania has been providing subsidized shared-ride services for seniors and persons with disabilities across all 67 counties for many years, positively impacting their quality of life through mobility they may not otherwise have. Is this publicly-implemented paratransit system perfect? Most users and even the providers themselves would say "No", but, because the public sector lacks the resources to overhaul existing systems, on-demand services have not changed substantially over time.

With the transportation environment at an inflection point, it's time to contemplate a future where there are more balanced transportation choices and more public transit offerings for everyone. As stated by Carol Tyson at the 2019 National Shared Mobility Summit, "We are in a moment of reimagining mobility. Anything is possible. We need to hold each other accountable to principles of justice and equity."[33] Providing equitable access, especially for vulnerable populations, must be front and center of every discussion about existing and emerging transportation services.

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[33] Carol Tyson, Government Affairs Liaison, Disability Rights Education and Defense Fund, National Shared Mobility Summit, *Inclusive Shared Mobility and People with Disabilities: Strategic and Regulatory Approaches*, March 7, 2019.

Recommended Strategies
EQUITABLE TRANSPORTATION

1. Incorporate NCSU Principles of Universal Design on projects that happen in the public space.

2. Expand on the PennDOT Connects initiative where every mode and user group is taken into account when planning for transportation infrastructure and facility improvements.

3. Address broadband internet, smart phone use, and unbanked issues, alleviating these barriers to access for disadvantaged populations.

4. Strengthen public outreach efforts such that they're broadly marketed, all-inclusive, and fully accessible.

MEASURING PROGRESS

● ● ●
COORDINATED STRATEGIES   OUTCOMES
TRANSPORTATION

- Determine the impact that changing attitudes about driving and car ownership could have on the region.

  → *Report describing current regional trends regarding driver licenses and personal car ownership and the impact they can be expected to have on future decisions about transportation services in SW PA.*

- Foster a mobile hierarchy that directly acknowledges the shift occurring in the way people think about and understand mobility.

  → *Approval by Southwestern Pennsylvania Commission of a regionally-accepted mobile hierarchy that can be used to help guide future transportation development efforts.*

- Support the PennDOT Connects collaborative planning process whereby solutions for sustaining and expanding mobility in a given community are devised to address the needs specific to that community.

  → *Partnership between implementers of PennDot Connects and the Alliance for Transportation Working in Communities wherein the Alliance helps inform municipalities and their residents about the importance of coordinated transportation in the region's mobility network.*

- Encourage public, private, and non-profit transportation providers to pilot proposed first-mile/last-mile and other microtransit services in underserved communities.

  → *Guidance on pilot project funding, execution, and performance measurement is provided by the Alliance for Transportation Working in Communities to entrepreneurs who want to implement a shared mobility service concept on a small scale in low-income and transit-deficient communities.*

- Work with different levels of government to streamline their procurement processes, so that transportation services, after attaining proof-of-concept, can be brought to the market quickly.

  → *Federal and state procurement processes are streamlined in such a way that, once a shared mobility pilot project attains proof-of-concept, demonstrating that the proposed service can sustain itself, the Alliance for Transportation Working in Communities is able to assist with full service implementation.*

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COORDINATED **STRATEGIES**   **OUTCOMES**
TRANSPORTATION

- Explore what it will take to reach a level of transit agency coordination where services and schedules are integrated, fare structures are consistent, the fare payment instrument is the same across agencies, and marketing efforts are multi-agency and regionwide.

  → *A course of action developed by the Alliance for Transportation Working in Communities successfully brings together the transit agencies in the region to both strategize on regionwide coordination of services and schedules and deliberate the economies of scale that can result from comprehensive coordination.*

- Conduct a regionwide summit to discuss greater coordination of transit services and the utilization of data to optimize inter-county fixed route and on-demand, shared-ride services.

  → *Coordination of the region's transit services, which could result in the integration of services across multiple agencies, enhanced access for the riding public, and smarter utilization of individual agency resources, is studied by the Alliance and other regional partners.*

- Plan, coordinate, and facilitate a regional discussion about the Mobility as a Service concept and if and how MaaS can be implemented in Southwestern Pennsylvania.

  → *Legislators, industry leaders, and transportation users put forth a collective vision for Mobility as a Service in SW PA, which can help personalize the way people connect to life through a bundling of available transportation services that meet individual mobility needs and budgets.*

- Work to break down the silos between public agencies and the private sector to more successfully manage mobility in the region.

  → *Regionwide policies are in place to ensure traditional and non-traditional mobility modes can operate equitably within the same public space.*

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COORDINATED **STRATEGIES**   **OUTCOMES**

TRANSPORTATION

- Encourage public/private partnerships (P3) to strengthen regional connectivity.

  → *State transportation funding is sought for the support of P3 projects that are designed to enhance regional connectivity in practical ways.*

- Advance the availability and utilization of public transit and other shared mobility options as an alternative to personal car ownership.

  → *A communications campaign aimed at informing the general public about the region's growing shared mobility network and incentivizing people to try different transportation options is designed and implemented.*

- Advocate for a multimodal and multi-provider network of mobility services, the purpose of which is to provide greater equity in transportation through maximum consumer choice.

  → *A unified political will on the parts of state, county, and municipal governments is opening up opportunities for achieving multimodality on a regional scale in SW PA, as well as supporting local area multimodal infrastructure investments.*

- Encourage transit agencies in the region to identify service redundancies and, through improved communication among all providers, address disparities in accessibility.

  → *The identification and subsequent elimination of service redundancies across different transit agencies in the region has resulted in greater service coordination and a reduction in operating costs.*

- Through open data sharing between transit agencies, integrate transportation services and schedules.

  → *With service and schedule data openly shared across the region's transit agencies and shared-ride providers, fixed route and demand-response services are integrated, which allows transitions between the two types of trips to be made with ease.*

COORDINATED TRANSPORTATION   STRATEGIES   OUTCOMES

- Establish a centralized clearinghouse that applies technology to trip planning and trip payment processes across a range of service modes in the region.

  → *A centralized clearinghouse utilizes trip planning and trip payment technology for a variety of mobility options, creating greater opportunities for seamless travel even when a person takes a trip using one or more modes.*

- Promote a regionwide adoption of a common fare instrument.

  → *A common fare instrument that works for public, private, and non-profit transportation services alike minimizes payment method uncertainty and leads to a higher degree of uniformity across the transportation network.*

- Encourage public transit agencies and private and non-profit transportation providers to collaborate on ways to connect underserved communities to the larger public transit systems.

  → *Small scale shared mobility companies work with the region's public transit agencies to provide first- and last-mile connections between underserved communities and main transit corridors, enhancing accessibility especially for disadvantaged populations.*

- Encourage the deployment of tools and technology that can accurately track origin-destination combinations.

  → *Passenger origin/destination data is available for all trip purposes (not just Journey to Work), enabling transportation providers to offer mobility services that meet people where they live, work, and play.*

- Develop a process through which land use and its impact on transportation demand can be better understood.

  → *The Alliance for Transportation Working in Communities studies the disconnect between land use and transportation in SW PA and reports on ways to address spatial barriers by advocating for stronger policies aimed at linking land use to transportation and vice versa.*

COORDINATED **STRATEGIES** **OUTCOMES**
TRANSPORTATION

- Identify and share with local municipalities best practices pertaining to transportation/land use policies.

  → *Local area municipalities have a greater understanding of the important link between transportation and land use and, in some instances, have adopted formal policies to help align housing, job, and healthcare location decisions with the level of accessibility provided by current transportation services.*

- Incorporate NCSU Principles of Universal Design on projects that happen in the public space.

  → *North Carolina State University's Principles of Universal Design are given due consideration by PennDOT engineers, county planners, and mobility service providers for transportation planning efforts in the region.*

- Expand on the PennDOT Connects initiative where every mode and user group is taken into account when planning for transportation infrastructure and facility improvements.

  → *The Alliance collaborates with implementers of PennDOT Connects to develop a performance metric aimed at determining the success of the regional network by the degree to which people are able to choose modes based on their personal needs, abilities, and preferences.*

- Address broadband internet, smart phone use, and unbanked issues, alleviating these barriers to access for disadvantaged populations.

  → *Legislators and policymakers work to not only ensure broadband internet is sufficiently available in all ten SW PA counties, but also mandate that public transportation services in the Commonwealth are just as easy to use and pay for by people without smart phone access or credit/debit cards as it is for anyone not facing those same barriers.*

- Strengthen public outreach efforts such that they are broadly marketed, all-inclusive, and fully accessible.

  → *Information about available transportation services and public participation opportunities is available in multiple languages and broadly distributed. Venues for public engagement minimize social barriers by being both welcoming and accessible.*

CONCLUSION

The **Southwestern Pennsylvania Public Transit · Human Services Coordinated Transportation Plan** was developed with the understanding that when it comes to regional transportation planning, especially for populations that are dependent on fixed route transit, non-fixed route transportation, and other publicly-subsidized mobility services due to age, ability, or income, the overall effort must focus on the human side of transportation above anything else. Also, given the implementation of transportation-supportive technologies, along with the deployment of new mobility services, in the marketplace, the Southwestern Pennsylvania Commission recognizes that the paradigm shift transforming transportation systems in the region and across the country is impacting how society functions as well. This plan asserts that in order to be at the forefront of positive change in transportation, the ten counties that make up Southwestern Pennsylvania have a lot of work to do. The work will be made easier, however, through a collective political will, forward-thinking policies, effective collaboration among the region's public transit agencies, and supportive corporate involvement through public/private partnerships.

As a supplemental document to SPC's recently approved long range plan – **SmartMoves for a Changing Region** – the Coordinated Transportation Plan will help guide regionwide discussions about the steps we need to take to create a comprehensive and better-connected transportation system than the one that exists today. More specifically, the strategies outlined in the **Transportation Tomorrow** section of the CTP lays the groundwork for efforts to be undertaken by the Alliance for Transportation Working in Communities between now and 2022 when this particular plan will be updated. Each of the twenty-four strategies is associated with a desired outcome, which is described under the plan's **Measuring Progress** heading. While the Alliance will be called upon to be extremely involved in the Coordinated Transportation Plan's implementation, neither SPC nor Alliance members have the capacity and resources to go it alone. Involvement on the part of and assistance from the federal government, state legislators, PennDOT, county commissioners, local municipalities, industry leaders, public transit agencies, private and non-profit mobility providers, and others will be essential for a positive and enduring transformation of the transportation network that spans Southwestern Pennsylvania.