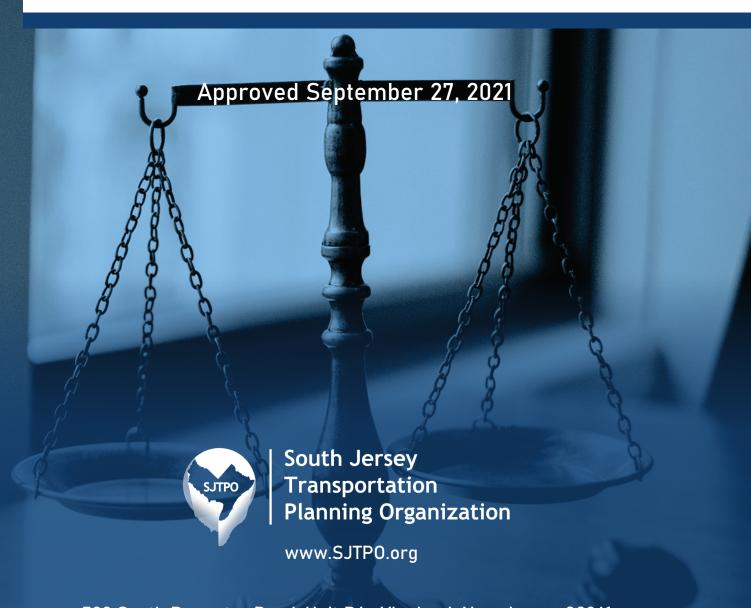
Environmental Justice Report



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Leonard Desiderio, Chairman - Jennifer Marandino, Executive Director

English

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SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

RESOLUTION 2109-29:

Adopting SJTPO's Environmental Justice Report

WHEREAS, the South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) designated under Federal law for the southern region of New Jersey including Atlantic, Cape May, Cumberland, and Salem Counties; and

WHEREAS, Title VI of the Civil Rights Act of 1964 requires that "no persons in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance;" and

WHEREAS, Executive Order 12898 defines Environmental Justice (EJ) and directs agencies who receive federal funds to identify and address, disproportionately high adverse impacts of its activities on minority and low-income populations; and

WHEREAS, SJTPO, as a recipient of federal funding, is required to adhere to Title VI of the Civil Rights Act of 1964, Executive Order 12898, and subsequent laws, court precedents, policies, and guidance; and

WHEREAS, guidance from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) requires MPOs to document Environmental Justice analyses and evaluate investments; and

WHEREAS, the Environmental Justice Report documents low-income, racial minority, and other underserved populations, particularly identifying where groups may be overrepresented to identify possible needs; and

WHEREAS, within the Environmental Justice Report, SJTPO also considered Transportation Justice (TJ) populations, which includes low-income, zero-vehicle households, disability, and populations age 75 and over.; and

WHEREAS, the Environmental Justice Report evaluates SJTPO's Transportation Improvement Program and its mappable, fiscally constrained projects to ensure investments are equitable to Environmental Justice populations; and

WHEREAS, analysis conducted within the Environmental Justice Report finds that SJTPO does invest equitably in EJ areas; and

NOW, THEREFORE, BE IT RESOLVED, that the Policy Board of the South Jersey Transportation Planning Organization hereby adopts SJTPO's Environmental Justice Report.

BE IT FURTHER RESOLVED, that the Policy Board authorizes the Executive Director to review and approve subsequent changes to the Environmental Justice Report, as needed, to adhere to federal guidance, and to implement the Environmental Justice Report accordingly.

Certification

I hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Policy Board of the South Jersey Transportation Planning Organization at its meeting of September 27, 2021.

John W. Risley, Secretary/Treasurer

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Legislative Basis of Equity and Environmental Justice

Legislative History - Inequity

The measures of inequity, that have been established by governance and court precedent, have evolved over decades. In the United States, it has been established that certain inequities are particularly egregious – certain groups in our communities have faced more sustained, aggressive, and systemic inequity throughout the nations' history. These inequities demand that certain groups be provided more deliberate protections under the law.

Among other things, in instances where protected individuals feel that discrimination may have occurred, a greater burden of proof is placed on entities to demonstrate that discrimination did not take place, out of acknowledgement of the systemic discrimination that exists across American society. These pieces of legislation address race, color, national origin, disability, income, and physical ability. Further, antidiscrimination laws apply fully to any organization that receives any federal funding directly or indirectly, not only to the specific activities that directly receive federal funds.

Title VI of the Civil Rights Act of 1964

Established that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

• Civil Rights Restoration Act of 1987

Established that antidiscrimination laws are applicable to an entire organization if any part of the organization receives federal funds.

• Americans with Disabilities Act of 1990

Prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the public.

• Executive Order 13166 (Limited English Proficiency, LEP)

Provided clarity to the "national origin" component of Title VI. It requires agencies who receive federal funds to develop and implement a system by which persons with limited English proficiency can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency.

• Executive Order 12898 (Environmental Justice, EJ)

Defines Environmental Justice (EJ) and directs agencies who receive federal funds to identify and address, disproportionately high adverse impacts of its activities on minority and low-income populations.

Legislation - Environmental Justice (EJ)

In 1994, Executive Order 12898, Environmental Justice (EJ) included identifying and addressing the effects of all programs or activities of Federal-aid recipients, sub-recipients, and contractors, whether such programs and activities are federally assisted.

Executive Order 12898 was created to bring federal attention to the environmental and human health conditions in low-income and minority communities. The goal of EJ is to ensure that any adverse human health or environmental effects of any government activities do not disproportionately affect minority or low-income populations. EJ does not intend to provide preferential treatment to these populations, but rather fair treatment to all populations. Specific to transportation, Executive Order 12898 has been issued to ensure that all federally funded transportation-related programs, policies, and activities that have the potential to cause adverse effects, specifically consider the effects on minority and low-income populations. EJ is a public policy objective that has the potential to improve the quality of life for those whose interests have traditionally been overlooked.

According to the United States Department of Transportation (USDOT), there are three core principles of EJ:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

SJTPO, as the designated Metropolitan Planning Organization (MPO) for Atlantic, Cape May, Cumberland, and Salem Counties, is required to develop a Regional Transportation Plan (RTP) and a Transportation Improvement Program (TIP). Both planning products in coordination with the EJ Report, need to address EJ concerns and do so through the following actions:

- Identify low-income and minority populations so their needs can be identified and addressed and the benefits as well as the burdens of transportation investments can be fairly distributed throughout the planning area.
- Enhance existing analysis processes to ensure the RTP and TIP comply with Title VI requirements.
- Evaluate the existing public involvement processes and make improvements, as needed, to include minority and low-income populations in the decision-making process.

2000, Executive Order 13166

In 2000, Executive Order 13166, Limited English Proficiency (LEP) required Federal agencies to assess and address the needs of otherwise eligible persons with limited English proficiency seeking

access to the programs and activities of the recipient of Federal financial assistance. The SJTPO region's LEP assessment is contained in a separate document (<u>www.sitpo.org/LEP</u>).

Demographic Profile of the SJTPO Region

EJ is the process of ensuring that groups who are historically underserved or have a long history of facing systemic bias, do not face those biases going forward, including the correction of previous biases, when possible. It is not possible to accomplish this without understanding the demographics of the communities served in order to know which protected groups exist and where they are located.

The SJTPO four-county region contains 586,203 residents¹. This represents 6.5 percent of the population of New Jersey. EJ analyses focus on residents in poverty, Hispanic populations, and racial minority populations. The poverty level in the SJTPO region is 14.2 percent compared to 10.5 percent for the state. The poverty level is also higher than the national average of 13.8 percent.

Due to the low-density, largely rural nature of the region, those in poverty in the SJTPO region have less access to public transportation. Similarly, essential services are more spatially dispersed compared to the State of New Jersey as a whole.

Environmental Justice Demographics

EJ groups include low-income and minority populations, which are detailed in <u>Table 1</u>, below. The Non-Hispanic Minority population percentage for the region (20.7 percent) is less compared to the State of New Jersey (24.2 percent) but is comparable to the national level (20.9 percent). The region's Hispanic or Latino population percentage is less (18.5 percent) than the state (19.7 percent) but greater than the nation (17.6 percent). It should be noted that the SJTPO region has a significant migrant worker population that may not be reflected in official census figures.

The percent of two individual races deviate significantly from the state or national percentages. The region has a lower percentage of Asian residents (4.5 percent) compared to the state (9.4 percent) and the nation (5.4 percent). The SJTPO region has a higher percentage of Black or African American residents (14.3 percent) than the state (13.5 percent) or the nation (12.7 percent). Black or African American populations have arguably experienced greater historic discrimination systemically than any other group in the nation. This history, which is too extensive for this publication, includes slavery, Jim Crow, segregation, redlining, ballot access, criminal justice inequity, and many others. The SJTPO region has a greater percentage of Black or African American populations than the state or nation, which means there are likely greater issues of inequity that need to be addressed in the SJTPO region. Further, study and analysis should be conducted to better understand the history and prevalence of inequitable treatment and outcomes in the SJTPO region. This should include, in coordination with SJTPO partners and regional

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¹ US Census, America Community Survey, 2017, Five-Year Data, Table B03002, Column HD01_VD01.

stakeholders, identifying how SJTPO can meaningfully mitigate and improve conditions for African American communities in SJTPO's projects and activities going forward.

Table 1 - SJTPO Demographics Summary: Individual EJ Characteristics

Table 1 - 331PO Delliog	rapines saim	mar y. mu	Vidual E3 C	mar acter is	31103		
	US Totals	US Percent	NJ Totals	NJ Percent	SJTPO Totals	SJTPO Percent	
Total Population	321,004,407	100.0%	8,960,161	100.0%	586,203	100.0%	
Households and Poverty							
At or Above Poverty Level	102,435,812	86.2%	2,863,416	89.5%	184,612	85.8%	
Below Poverty Level	16,390,109	13.8%	335,695	10.5%	30,543	14.2%	
Total	118,825,921	100.0%	3,199,111	100.0%	215,155	100.0%	
Hispanic and Non-Hispanic					,	1	
Non-Hispanic Minorities	67,216,047	20.9%	2,172,035	24.2%	121,344	20.7%	
Non-Hispanic White alone	197,277,789	61.5%	5,023,606	56.1%	356,153	60.8%	
Total Non-Hispanic	264,493,836	82.4%	7,195,641	80.3%	477,497	81.5%	
Total Hispanic or Latino	56,510,571	17.6%	1,764,520	19.7%	108,706	18.5%	
American Indian or Alaska	n Native						
Hispanic or Latino	533,339	0.2%	8,724	0.1%	731	0.1%	
Non-Hispanic or Latino	2,098,763	0.7%	9,282	0.1%	1,570	0.3%	
Total	2,632,102	0.8%	18,006	0.2%	2,301	0.4%	
Asian							
Hispanic or Latino	196,780	0.1%	5,233	0.1%	182	0.0%	
Non-Hispanic or Latino	16,989,540	5.3%	838,872	9.4%	26,322	4.5%	
Total	17,186,320	5.4%	844,105	9.4%	26,504	4.5%	
Black-African American							
Hispanic or Latino	1,165,320	0.4%	71,009	0.8%	4,732	0.8%	
Non-Hispanic or Latino	39,445,495	12.3%	1,136,347	12.7%	79,030	13.5%	
Total	40,610,815	12.7%	1,207,356	13.5%	83,762	14.3%	
Native Hawaiian-Other Pac	ific Islander						
Hispanic or Latino	54,594	0.0%	899	0.0%	83	0.0%	
Non-Hispanic or Latino	515,522	0.2%	2,114	0.0%	95	0.0%	
Total	570,116	0.2%	3,013	0.0%	178	0.0%	
Some Other Race							
Hispanic or Latino	14,838,376	4.6%	535,608	6.0%	29,445	5.0%	
Non-Hispanic or Latino	715,432	0.2%	37,538	0.4%	666	0.1%	
Total	15,553,808	4.8%	573,146	6.4%	30,111	5.1%	
Two or More Races							
Hispanic or Latino	2,629,749	0.8%	81,179	0.9%	6,668	1.1%	
Non-Hispanic or Latino	7,451,295	2.3%	147,882	1.7%	13,661	2.3%	
Total	10,081,044	3.1%	229,061	2.6%	20,329	3.5%	
White							
Hispanic or Latino	37,092,413	11.6%	1,061,868	11.9%	66,865	11.4%	
Non-Hispanic or Latino	197,277,789	61.5%	5,023,606	56.1%	356,153	60.8%	
Total	234,370,202	73.0%	6,085,474	67.9%	423,018	72.2%	

Transportation Justice Demographics

SJTPO also elects to conduct analyses of Transportation Justice (TJ) populations. These focus on the populations that tend to be disadvantaged related to transportation access. TJ analyses include total Households Below Poverty Level, which is also included in EJ analyses. In addition, three other populations are part of the TJ analysis: Households with No Vehicles, Households with Disability, and Population Age 75 and Over. These demographics are detailed in Table 2, below.

The Households with No Vehicle percentage for the region is 11.2 percent. This is comparable to the state (11.4 percent), but higher than the nation (8.8 percent). It should be noted that the comparable figures for region and state do not tell the entire story. Much of the state's population is clustered in highly dense urban areas in the northern part of the state. These areas are well served with public transit, making auto ownership less necessary. For the SJTPO region, which is by comparison notably less dense, with lesser transit coverage to be comparable in zero vehicle households is a notable observation in terms of TJ. This transit coverage issue is one that will require further study and analysis in future studies.

The region has a higher percentage of Households with Disability (28.4 percent) compared to the state (22.5 percent) and the nation (25.5 percent). The region also skews older than the state and the nation. The Population Age 75 and Over percentage for the region is 7.4 percent compared to 6.7 percent for the state and 6.3 percent for the nation. Therefore, the region's population contains a relatively high proportion of residents that traditionally face transportation access challenges. Due to the region's low density and largely rural nature, there are potentially difficult issues for these residents to face. SJTPO will need to work with its partners to ensure that mobility meets the needs of residents, especially those with limited options. One avenue by which SJTPO and partners work to address these issues is through the collaborative development of the Access for All Transportation Plan, which serves to coordinate human service transportation in the region.

Table 2 - SJTPO Demographics Summary: Individual TJ Characteristics

	US Totals	US Percent	NJ Totals	NJ Percent	SJTPO Totals	SJTPO Percent
Total Population	321,004,407	100.0%	8,960,161	100.0%	586,203	100.0%
Total Households	118,825,921	100.0%	3,199,111	100.0%	215,155	100.0%
Households and Poverty						
Below Poverty Level	16,390,109	13.8%	335,695	10.5%	30,543	14.2%
At or Above Poverty Level	102,435,812	86.2%	2,863,416	89.5%	184,612	85.8%
Households with No Vehicles						
HHs with No Vehicles	10,468,418	8.8%	364,966	11.4%	24,164	11.2%
HHs with 1+ Vehicle	108,357,503	91.2%	2,834,145	88.6%	190,991	88.8%
Households with Disability	Households with Disability					
HHs with Disability	30,284,192	25.5%	718,716	22.5%	60,998	28.4%
HHs with No Disability	88,541,729	74.5%	2,480,395	77.5%	154,157	71.6%
Population Age 75 and Over						
Population Age 75 and Over	20,229,000	6.3%	598,523	6.7%	43,235	7.4%
Population Under Age 75	300,775,407	93.7%	8,361,638	93.3%	542,968	92.6%

Data Sources

The decennial United States Census and the American Community Survey (ACS) are the two primary sources of demographic data. The US Census Bureau is responsible for both surveys. The census is conducted every ten years to provide an official count of the entire US population to Congress. As it is conducted every ten years, over time, the data becomes increasingly dated.

The ACS was created so that such data would be available, not just once every ten years, but once every year of the decade. The ACS provides information about the social and economic needs of each community. It shows how people live – education, housing, jobs, and more.

The ACS has been conducted since 2006, based on surveys conducted nationwide starting in 2005. The ACS is also reported for a three-year and five-year period. The three and five-year surveys are running averages and are intended to provide information on the Census Block Group level areas. A Census Block Group (or Block Group or CBG) is a geographic unit created by the US Census Bureau that is used to statistically subdivide counties to count where people live. They typically include approximately 4,000 people². For populations such as SJTPO's planning area, the five-year average is considered the most accurate. <u>Table 3</u> shows the ACS table used for each population.

Table 3 - Demographic Data Sources

Populations	Source-Data Set	Table	Geography
Hispanic and Non- Hispanic Minorities	2013-2017 American Community Survey 5- Year Estimates (ACS1)	B03002 - HISPANIC OR LATINO ORIGIN BY RACE	Block Group
Low-income Population	2013-2017 American Community Survey 5- Year Estimates (ACS1)	B17017 - POVERTY STATUS IN THE PAST 12 MONTHS BY HOUSEHOLD TYPE BY AGE OF HOUSEHOLDER	Block Group
Households with Disability	2013-2017 American Community Survey 5- Year Estimates (ACS1)	B22010 - RECEIPT OF FOOD STAMPS/SNAP IN THE PAST 12 MONTHS BY DISABILITY STATUS FOR HOUSEHOLDS	Block Group
Households with No Vehicles	2013-2017 American Community Survey 5- Year Estimates (ACS1)	B25045 - TENURE BY VEHICLES AVAILABLE BY AGE OF HOUSEHOLDER	Block Group
Population Aged 75 Years or Older	2013-2017 American Community Survey 5- Year Estimates (ACS1)	B01001 - SEX BY AGE	Block Group

-

² <u>United States census geography—Related Concepts | Documentation (arcgis.com).</u> <u>https://learn.arcgis.com/en/related-concepts/united-states-census-geography.htm</u>

Identifying EJ and TJ Areas

To meet the requirements of Title VI and EJ, low income and minority populations will be identified within the SJTPO area. For other planning efforts, TJ, which includes Low-income, Households with No Vehicles, Households with Disability, and Elderly populations will be identified. The requirements are designed to ensure that the protected populations do not bare a disproportionately high burden and share equitably in the benefits of transportation projects and programs.

The methodology to determine the location and concentration of identified groups involves six steps, which are:

- Step 1: Define the Environmental & Transportation Justice populations
- Step 2: Determine the regional average percentages for EJ populations: low-income, and minority populations. Determine the percentages for TJ populations or households: low-income, no vehicles, disabled, and elderly.
- **Step 3:** Establish the thresholds to be used to identify the concentrations for each EJ and TJ characteristic. The thresholds will be based on the regional average, with 0.5 and 1.50 standard deviations above the regional average.
- Step 4: Map the Block Groups that meet the threshold for each EJ and TJ characteristic.
- **Step 5:** Establish a formula which creates a threshold-based, combined criteria for EJ and TJ. This formula will combine all the characteristics.
- Step 6: Map the Block Groups that meet the combined criteria for each EJ and TJ characteristic.

Step 1: Define the EJ & TJ Populations

EJ populations include:

- Low-income means a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines.
- Minority means a person, based on US Census Bureau data, who is:
 - o Black (having origins in any of the black racial groups of Africa);
 - o Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race);
 - o Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or
 - o American Indian and Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

TJ populations include:

• **Low-income** means a person whose median household income is at or below the HHS poverty guidelines.

- **Households with No Vehicle:** Owner-occupied or renter-occupied household no vehicle available to the household, based on US Census Bureau data.
- **Households with Disability:** Households with a person or persons with a disability, based on US Census Bureau data.
- Elderly: Resident that is 75 years old or older, based on US Census Bureau data.

Step 2: Determine the Regional Average for each EJ and TJ Characteristic

The average percentage for the SJTPO region was determined for each population characteristic using the data sources described previously. ACS data and the 10-year Census data do not match due to the sample size of each survey. ACS is a 5-year average using a sample for each block group. The Census data is the total count of persons. The regional averages for each EJ and TJ characteristic are listed in <u>Table 4</u> and <u>Table 5</u>, in the following section. Note that the average for each characteristic is used in developing the EJ and TJ thresholds.

Step 3: Determine the Regional Thresholds for each EJ and TJ Characteristic

It is important to note that all EJ populations are protected and important in the planning process, regardless of where they live – even it outside an "EJ Area." Even one protected individual who is treated inequitably by a project or program is problematic and a violation of EJ requirements. EJ is something that must be considered in every project. However, the identification of EJ Areas as well as TJ Areas is helpful to gain a better understanding of the big picture. It helps to assess if expenditures are generally being distributed equitably and to identify areas where additional resources and efforts may need to be concentrated.

Establishing the thresholds in determining where EJ and TJ Areas are within the region is done by first determining the regional average for each EJ and TJ characteristic. Then, for each characteristic the following figures were determined:

- One-half (0.50) standard deviation above the regional average, which represents the threshold for EJ and TJ Areas
- One and one-half (1.50) standard deviation above the regional average, which represents the threshold for Concentrated EJ and TJ Areas

The Concentrated EJ and TJ Areas highlight where protected populations are particularly prevalent to highlight where additional focus may be needed.

Federal guidance defines what groups are included within the definition of EJ, discussed in an earlier section. However, the use of thresholds and the standards by which thresholds are established is not defined and can be developed based on local understanding of the region. In reviewing best practices, the use of standard deviations from the regional average frequently appeared. A standard deviation is a statistically valid way of measuring how close variables are to

the average. This means that a threshold for each variable (low-income, non-Hispanic minority, etc.) can be defined using the same methodology.

Table 4 - SJTPO Threshold Summary: Individual EJ Characteristics

	Perc	entage Thr	esholds	Number of Block Groups		
	Average (Mean)	EJ Area (Avg + 0.5 Std Dev.)	Concentrated EJ Area (Avg + 1.5 Std Dev.)	Average (Mean)	EJ Area (Avg + 0.5 Std Dev.)	Concentrated EJ Area (Avg + 1.5 Std Dev.)
Households in Poverty	14.20%	20.54%	33.23%	146	91	36
Non-Hispanic Minorities	20.70%	30.99%	51.58%	130	94	41
Hispanic Population	18.54%	27.39%	45.07%	138	93	35
American Indian or Alaskan Native	0.39%	0.98%	2.15%	70	37	19
Asian	4.52%	8.46%	16.33%	91	49	27
Black-African American	14.29%	23.75%	42.68%	120	81	37
Native Hawaiian-Other Pacific Islander	0.03%	0.18%	0.46%	10	10	7
Some Other Race	5.14%	8.72%	15.88%	111	76	32
Two or More Races	3.47%	5.46%	9.45%	140	88	30
White	72.16%	84.81%	110.11%	277	209	0

Table 5 - SJTPO Threshold Summary: Individual TJ Characteristics

	Per	centage Thr	esholds Nu		mber of Block Groups	
	Average (Mean)	TJ Area (Avg + 0.5 Std Dev.)	Concentrated TJ Area (Avg + 1.5 Std Dev.)	Avorogo	TJ Area (Avg + 0.5 Std Dev.)	Concentrated TJ Area (Avg + 1.5 Std Dev.)
Households in Poverty	14.20%	20.54%	33.23%	146	91	36
Households with No Vehicles	11.23%	18.35%	32.59%	133	78	38
Households with Disability	28.35%	33.36%	43.39%	199	117	24
Population Age 75 and Over	7.38%	10.56%	16.94%	200	121	40

Step 4: Mapping Individual EJ and TJ Populations

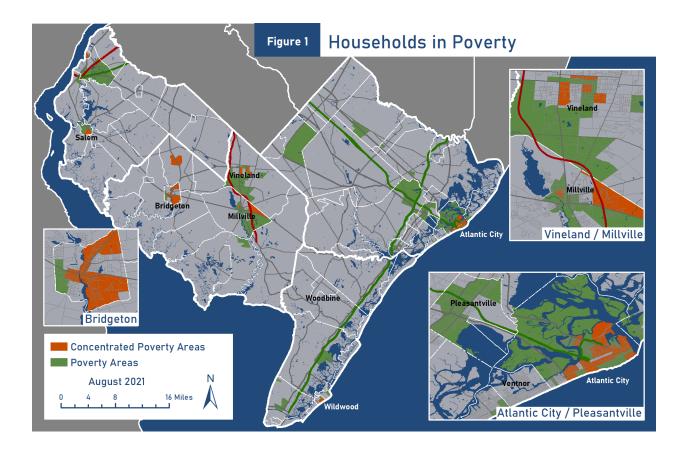
In this step, a geographical display of concentrations for each individual EJ and TJ characteristic is provided. Note, that these individual characteristics alone are not the EJ and TJ Areas. Rather, they are part of a formula that combines multiple characteristics.

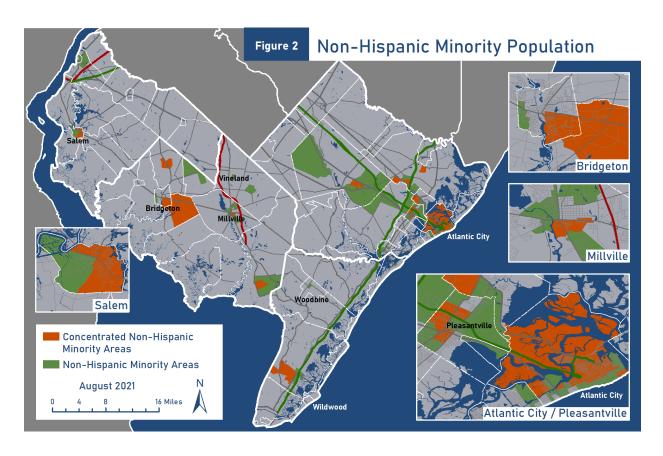
EJ Populations

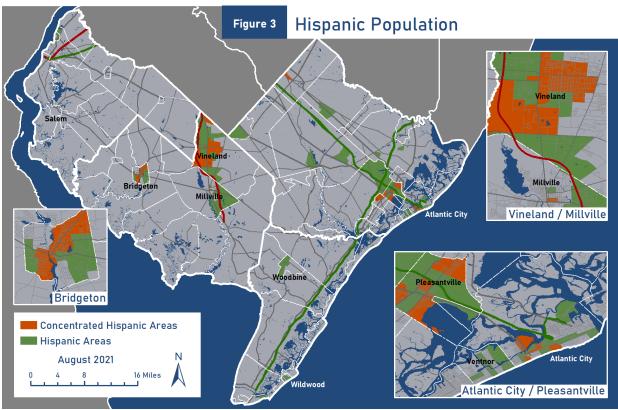
The following figures display the locations that meet or exceed the thresholds for EJ populations, shown in <u>Table 4</u> in <u>Step 3</u>. Those populations include Households in Poverty, Hispanic Population, Total Non-Hispanic Minority Population, and individual Racial Minority Population. The maps all show Block Groups and display two population threshold levels – EJ Area and Concentrated EJ Area. These thresholds are explained in <u>Step 3</u>. It is important to note that each population separately does not define the EJ Areas used in the analysis. Rather, these populations contribute to the definition of an EJ Area, which is defined in <u>Step 5</u>.

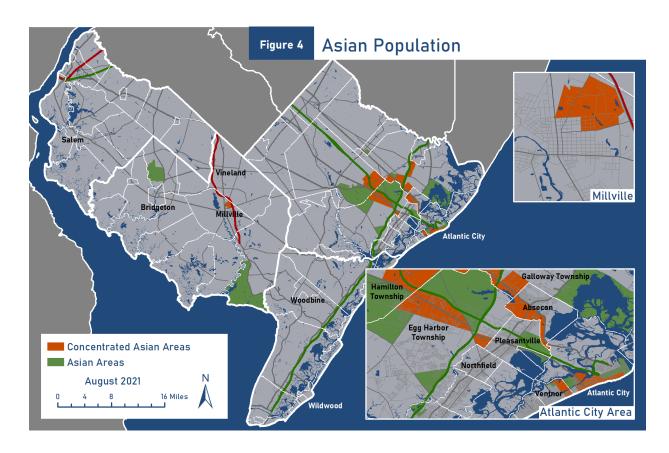
It should be noted that the mapping of the protected populations is a static activity. Maps show what existed in a specific point in time. These maps are based on the 2017 ACS data.

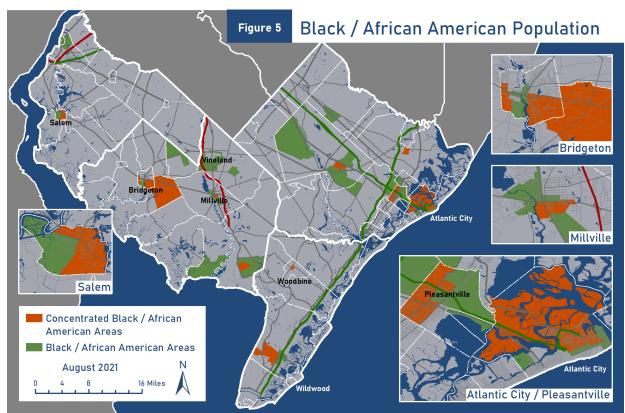
In reviewing these maps, patterns appear, with a largely consistent sizeable cluster of populations in the Atlantic City/Pleasantville area as well as smaller clusters in Millville, Bridgeton, and Salem.

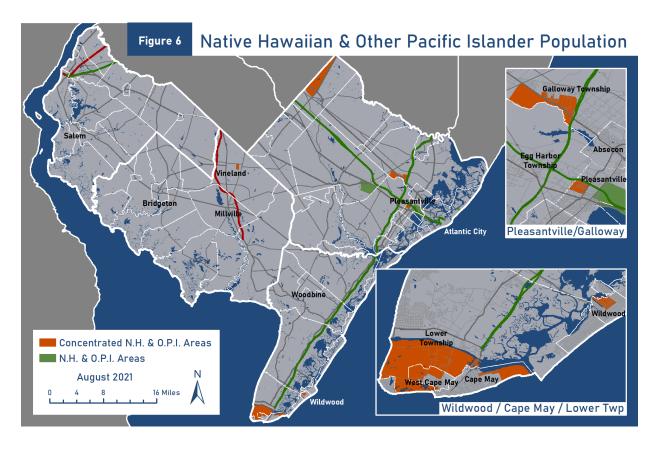


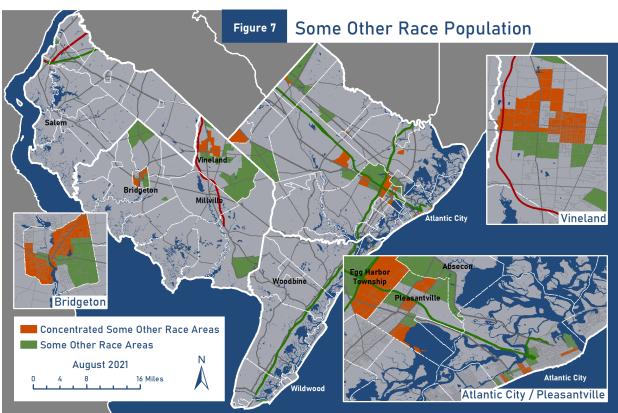


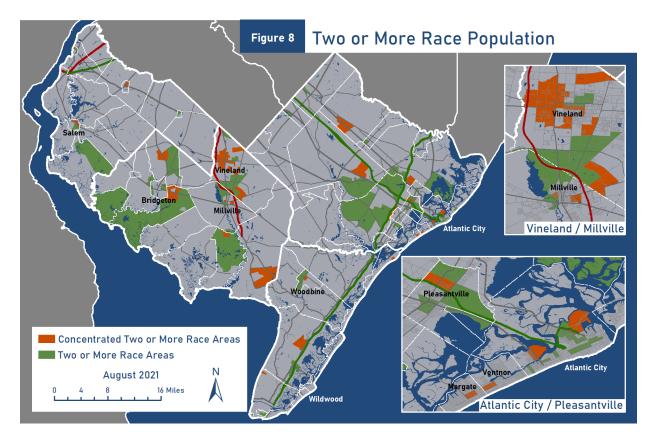








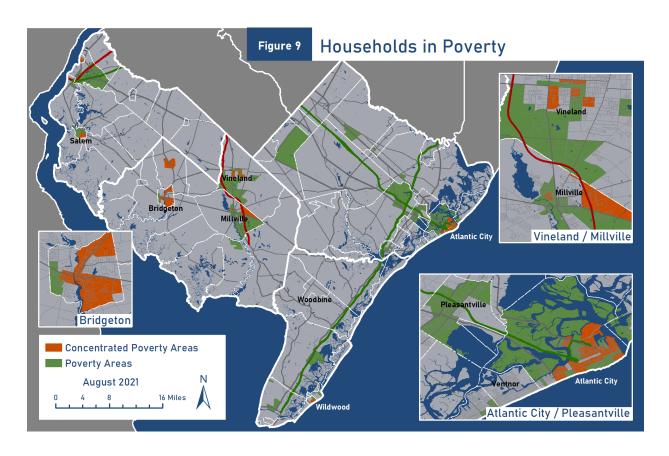


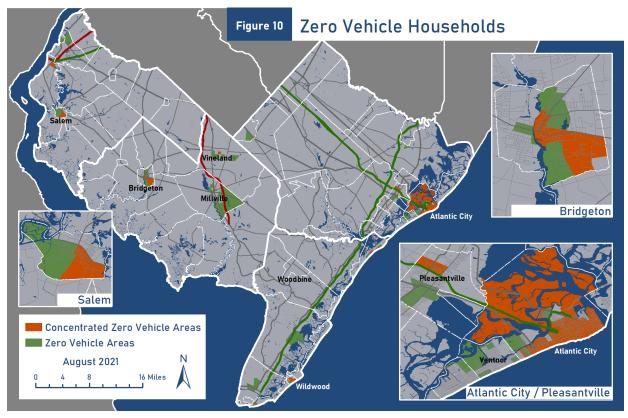


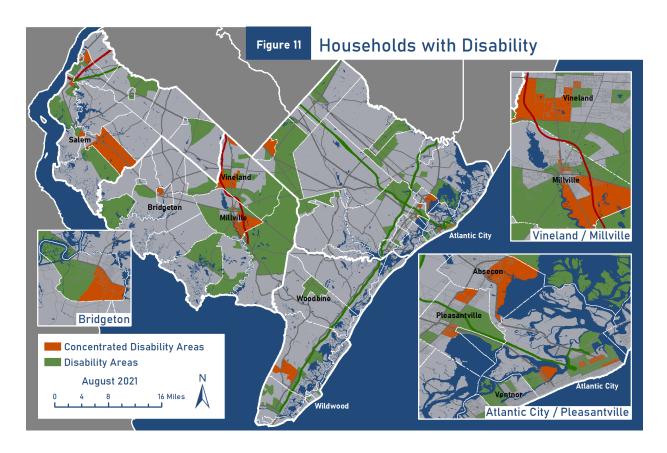
TJ Populations

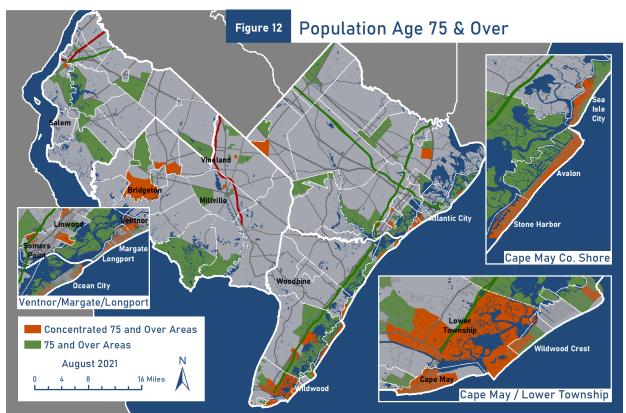
The following figures display the locations that meet or exceed the thresholds for TJ populations, shown in <u>Table 5</u> in <u>Step 3</u>. Those populations include Households in Poverty, Households with No Vehicle, Households with Disability, and the Elderly (75+). The maps all show Block Groups and display two population threshold levels – TJ Area and Concentrated TJ Area. These thresholds are explained in <u>Step 3</u>. It is important to note that each population separately does not define the TJ Areas used in the analysis. Rather, these populations contribute to the definition of a TJ Area, which is defined in <u>Step 5</u>.

Patterns are less consistent among TJ populations. While Households in Poverty and Households with No Vehicle see similar concentrations to those seen in EJ – Atlantic City, Pleasantville, Millville, Bridgeton, and Salem, Households with a Disability and Populations age 75 and over are somewhat more dispersed and often in areas outside the urban centers. This suggests the potential for greater challenges in serving the needs of these populations and demonstrates the need for extensive coordination and a willingness to engage in creative solutions to ensure mobility among these communities.









Step 5: Defining Combined Thresholds for EJ and TJ Areas

The single characteristic averages or thresholds alone do not define the EJ and TJ Areas. EJ and TJ Formulas were developed that combine the threshold results for multiple characteristics. These are the combined threshold test. There is one for EJ Areas, Concentrated EJ Areas, TJ Areas, and Concentrated TJ Areas.

Identifying the EJ Areas

The Block Groups that meet the below criteria (EJ Formulae) are designated as EJ Areas or Concentrated EJ Areas. The abbreviations used are:

- POV: Households in Poverty
- NHM: Non-Hispanic Minorities
- HISP: Hispanic Populations
- Race: Any one of the minority races. The minority races are
 - o American Indian or Alaskan Native
 - o Asian
 - o Black-African American
 - o Native Hawaiian Other Pacific Islander
 - Some Other Race
 - Two or More Races
- S05: One-half standard deviation above the average
- S15: One and one-half standard deviation above the average

EJ Areas

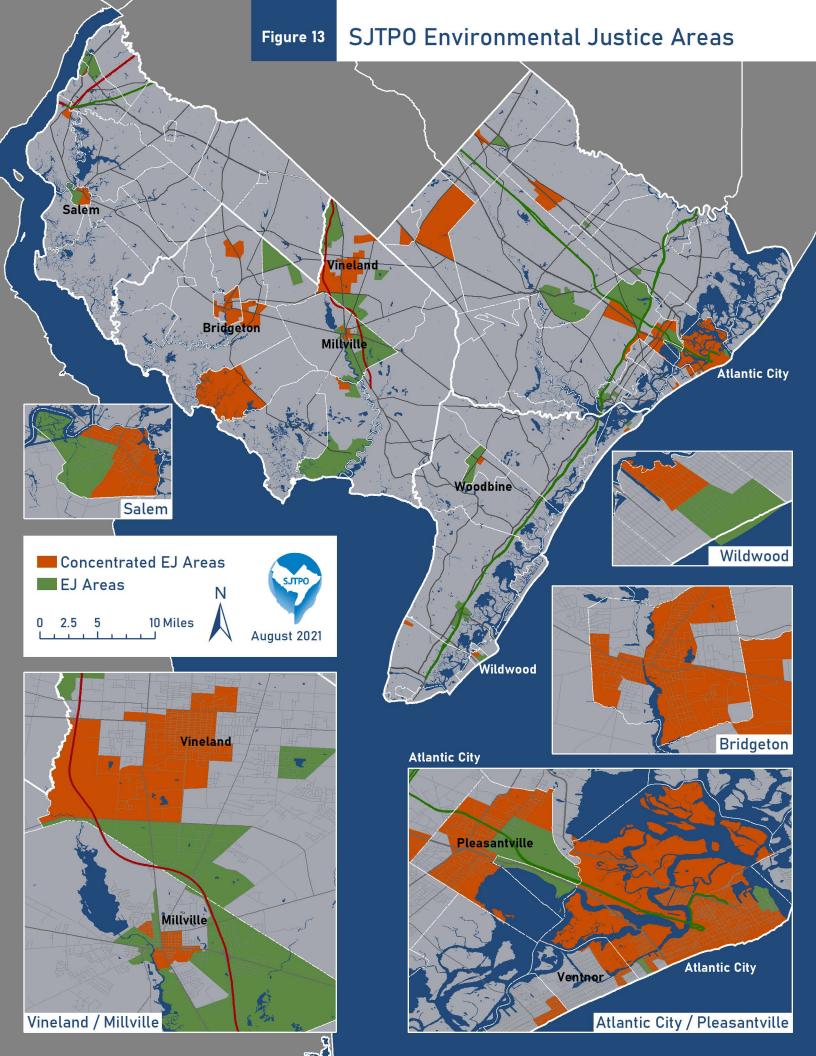
Formula: [POV Avg] AND ([NHM S05] OR ([HISP S05] OR [Each EJ Race S05]) A Block Group meets the criteria for an EJ Area if:

- The number of households below poverty level are greater than the regional average, AND
- The number of Non-Hispanic Minority, OR Hispanic, OR any Minority Race populations are greater than one-half standard deviation over the regional average.

Concentrated EJ Areas

Formula: [POV Avg] AND ([NHM S15] OR ([HISP S15] OR [Each EJ Race S15]) A Block Group meets the criteria for a Concentrated EJ Area if:

- The number of households below poverty level are greater than the regional average, AND
- The number of Non-Hispanic Minority, OR Hispanic, OR any Minority Race populations are greater than one and one-half standard deviation over the regional average.



Identifying the TJ Areas

The Block Groups that meet the below criteria (TJ Formulae) are designated as TJ Areas. The abbreviations used are:

- POV: Households in Poverty
- Seniors: Residents that are age 75 or over
- NVHH: Households with no vehicle available
- DisHH: Households with a disabled resident
- S05: One-half standard deviation above the average
- S15: One and one-half standard deviation above the average

TJ Areas

Formula: [POV Avg] AND ([Seniors S05] OR ([NVHH S05] OR [DisHH S05]) Block Group meets the criteria for a TJ Area if:

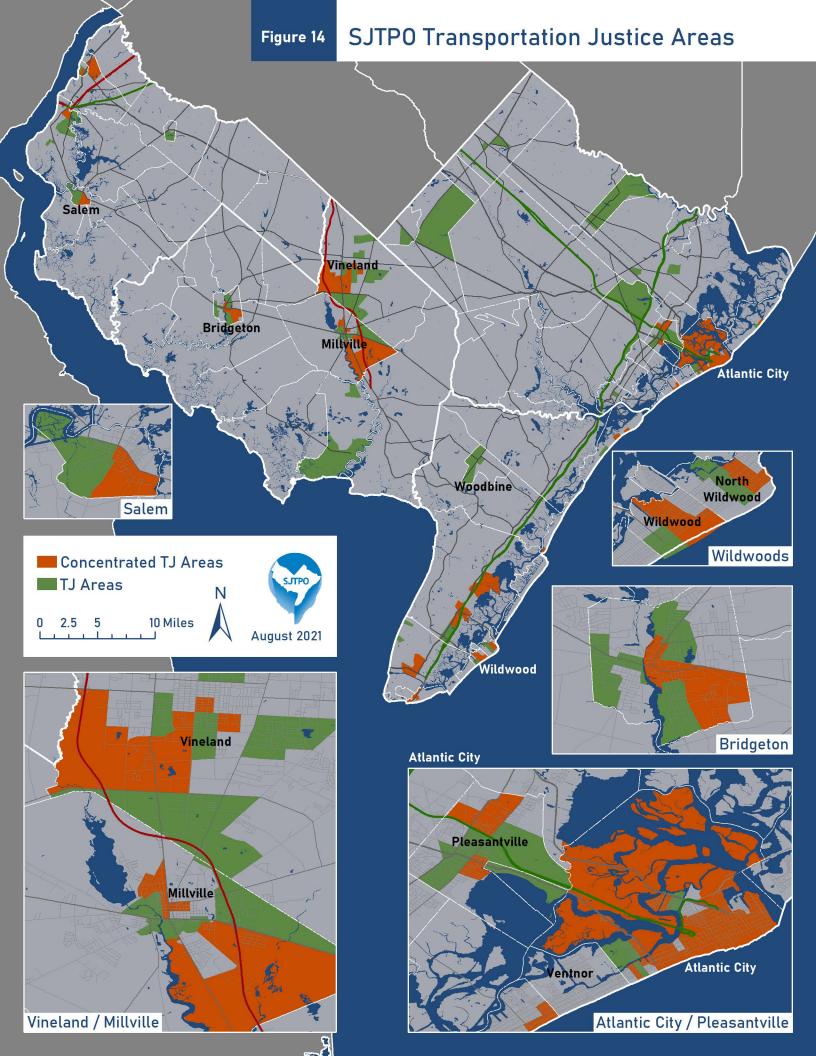
- The number of households below poverty level are greater than the regional average, AND
- The number of residents aged 75 or over, OR households with no vehicle available, OR households with a disabled resident are greater than one-half standard deviation over the regional average.

Concentrated TJ Areas

Formula: [POV Avg] AND ([Seniors S15] OR ([NVHH S15] OR [DisHH S15])

A Block Group meets the criteria for a Concentrated TJ Area if:

- The number of households below poverty level are greater than the regional average, AND
- The number of residents aged 75 or over, OR households with no vehicle available, OR households with a disabled resident are greater than one and one-half standard deviation over the regional average.



EJ Analysis of SJTPO's Process and Investments

Engaging EJ Communities

It is imperative that planning agencies identify underserved populations in the community and consider their mobility needs within the planning process. SJTPO is committed to actively engaging traditionally, underserved populations.

SJTPO has developed a Public Involvement Plan (PIP) (www.sjtpo.org/PIP). The PIP defines a transparent set of guidelines that SJTPO adheres to when conducting public involvement as well as establishes the tools and techniques SJTPO uses to reach populations in the community. The PIP undergoes periodic evaluations to determine the effectiveness of outreach practices with updates to the PIP made as necessary. In terms of strategies to serve the traditionally underserved populations, SJTPO:

- Aims to target outreach events in ADA-accessible facilities and transit-friendly locations that are accessible to underserved populations;
- Holds meetings at convenient times to maximize engagement of underserved populations,
- Tailors messaging and communication methods to try to maximize access to underserved populations; and
- Provides timely and reasonable access to information, including 30-day minimum public comment periods for planning documents and hard copy and electronic versions of planning documents.

In addition to the above-mentioned strategies, SJTPO has an outreach contact list that includes agencies, civic groups, and other organizations that actively engage with minority and low-income populations. SJTPO regularly corresponds with all entities on the list when public comment opportunities and other regional planning news is available. SJTPO actively works to update this list. Further, when relevant to the project or activity, SJTPO distributes press releases to and places advertisements in minority and non-English newspapers. SJTPO is conscious of the limited number of minority and non-English newspapers in the SJTPO region and actively explores other free publications and media outlets that may be accessed by minority and low-income populations.

Methodology for Allocating TIP Funds within Region

The first step of the EJ analysis is to calculate the amount of funding distributed to the region's Block Groups. Each mappable project has its funds distributed to the Block Groups that it passes through. This is based on the amount (length) of that project that is inside the Block Group. Project segments that are on the border of two Block Groups have their funds evenly divided between the two Block Groups. This is done for each segment of each project. The total funds, from all mappable projects, are distributed to each Block Group and then calculated. This distribution of funds allows for the calculation of dollars per resident. As such, the TIP investment can be assessed as a percent compared to population, which also shows if an EJ population is well-represented in TIP investments.

Methodology for Testing EJ Fund Allocation:

The expectation is that EJ Areas would receive at least the regional average amount of funding per residents. Said another way, if EJ Block Groups represent 20 percent of the region's population, it should be expected to receive 20 percent of the TIP funding.

Step 1: Calculate the funds spent per resident for the region (Threshold)

This figure, the regional average funds per resident, is the threshold. It is the expected distribution of TIP funds for EJ Block Groups in the region.

- The regional average is calculated: [Total TIP Funds Distributed to Region] divided by [Regional Population]
- This figure will be used as a threshold, which is the expected distribution of TIP funds for each Block Group in the region.

Step 2: Calculate the average funds distributed for populations in the EJ Areas and Concentrated EJ Areas

- EJ Area formula is: [TIP Funds Distributed to EJ Area Block Groups] divided by [Total EJ Area Block Group Population]
- Concentrated EJ Area formula is: [TIP Funds Distributed to Concentrated EJ Area Block Groups] divided by [Total Concentrated EJ Area Block Group Population]

Step 3: Compare the funds distributed per resident for the region (Threshold) vs. EJ Area and Concentrated EJ Area Block Groups

- EJ Area Block Groups are expected to meet the regional average funds per resident
- Expected Results: The funds distributed to the EJ Area Block Groups should be equal to or greater than the regional threshold, which would indicate that an appropriate amount of funding is allocated to the specific Block Group

EJ Area TIP Funding Allocation Results

SJTPO receives a total of \$146,432,500 in TIP funds that could be allocated to a specific geographic location (mappable). This includes projects with an initial phase of work between Federal Fiscal Year (FFY) 2022 and 2025. In some instances, between FFY 2022 and 2025, a Design or Right-of-Way (ROW) phase may have been programmed, with Construction scheduled after FFY 2025. In these instances, the funds from those later years were included in this analysis and those projects were considered to be "locked in" to the process. This amount, divided by the region's 586,203 residents produces a figure of \$249.80 per resident. The expenditures per person are far greater in the EJ Areas (\$467.12) compared to the Region (\$249.80). The expenditures per person are slightly less in the Concentrated EJ Areas (\$224.77) compared to the Region (\$249.80) but are higher than Non-EJ Area (\$158.59). This shows that overall, SJTPO funding is highly concentrated among populations, and is not a reflection on any lack of investment in Concentrated EJ Areas. However, this highlights an opportunity for SJTPO to work with regional partners to

identify projects as well as barriers to project advancement in these Concentrated EJ Areas to ensure greater investment in future years.

Table 6 - FFY 2022-2025 TIP Funds in the SJTPO Region vs. EJ Areas

	TIP Funds	Popu	lation	Funds per	TIP Funds	
	Allocation (\$)	Total	Percent	Resident	Allocation (%)	
Concentrated EJ Areas	\$28,526,163	126,914	21.7%	\$224.77	19.5%	
EJ Areas	\$80,947,112	173,290	29.6%	\$467.12	55.3%	
Non-EJ Areas	\$65,485,388	412,913	70.4%	\$158.59	44.7%	
Total	\$146,432,500	586,203	100.0%	\$249.80	100.0%	

Project Benefits and Adverse Impacts

This section documents the process that evaluates the plans and projects included in the TIP. The TIP is essentially a list of all projects and programs scheduled to be implemented over the next ten years. The TIP allows the SJTPO Policy Board to determine transportation needs that take precedence. These projects and programs are fiscally constrained in the first four years, allowing them to be eligible for federal transportation funds. The analysis is completed within the development of the TIP.

The process for determining the benefits and impacts of transportation systems are also required in conducting an EJ analysis. Four steps have been identified by the Federal Highway Administration (FWHA) and Federal Transit Administration (FTA) in conducting an EJ analysis, they are:

- 1. Demographic Data
- 2. Public Engagement in the Planning Process
- 3. Consider the Likely Benefits and Adverse Impacts of Proposed Projects
- 4. Select Alternatives

Demographic Data and Public Engagement in the Planning Process have already been discussed.

Project Benefits

Project benefits are the anticipated results of a project which improve performance measures or quality of service. The benefits of a project will vary depending upon the project. Potential benefits include:

- Decreased travel time
- Increased access to employment or businesses
- Increased access to transit
- Improved pedestrian or bicycle facilities
- Improved air quality
- Safety

Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, defines adverse effects of a project or program. Essentially, adverse impacts are defined as the significant individual or cumulative health, environmental, social, and economics impacts of a project or set of projects. They can include:

- Increased traffic
- Noise
- Displacement or relocations
- Neighborhood intrusion
- Water quality impacts
- Air quality impacts
- Green space
- Decreased access to transit
- Decreased access to employment or businesses

Considering the benefits and impacts of projects is complicated and not easy to show graphically. Where possible, the benefit or impact should be shown graphically. The process used to evaluate project impacts is:

- List all project benefits
- List all project impacts
- Provide discussions of how the benefits and impacts might affect low-income and minority populations
- Include discussion in meeting materials, where possible

Disproportionately High and Adverse Effect

A Disproportionately High and Adverse Effect is one that:

- Is predominately borne by a minority population and/or a low-income population, or
- Will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effects suffered by non-minority and/or non-low-income populations.

To determine if any of these conditions apply, a map displaying the locations of protected populations, along with the anticipated projects is created. This work will be expanded in the coming years to include an analysis of the benefits and burdens. If Disproportionately High and Adverse Effects are found in either analysis, additional study or substitution of the project(s) should be completed.

Assessment of the SJTPO Region

EJ and TJ Complete Streets Analysis

SJTPO utilizes Complete Streets as a component in addressing equity issues. As part of SJTPO's work in this area, SJTPO created criteria-based Complete Streets Priority Areas for the region.

These areas are utilized as a part of the Project Evaluation Criteria when evaluating and scoring potential projects for inclusion in the TIP, which contributes to the regional ranking of potential infrastructure projects. Potential projects that fall inside, or serve the residents of Complete Streets Priority Areas, are evaluated accordingly.

This is especially important in the SJTPO region, which has many disadvantaged areas. Municipalities, counties, and the State are required to pay for roadway maintenance. Sidewalks are the responsibility of individual property owners. Therefore, low-income communities are at risk. Their limited means makes it less likely that the county, municipality, or property owners will be able to make the investments required for the construction and maintenance of Complete Streets. It is important to note that the construction of sidewalks is one activity that is included in making a street complete. Other activities may include improving crosswalks and pedestrian signals, adding dedicated bike paths, shoulders, bus pull-outs, bus shelters, among other improvements, dependent on the context of the roadway.

Analysis Summary

The SJTPO EJ and TJ Areas each have a high level of overlap with the region's Complete Streets Priority Areas. This is favorable since the Complete Street program focuses on most of the EJ and TJ residential areas. The Complete Streets program emphasizes transit, bike, and pedestrian focused improvements, which are crucial for the EJ and TJ communities. <u>Table 7</u> shows that the EJ and TJ Areas overlap Complete Streets Priority Areas at a higher rate than the region.

Only 31.8 percent of the region's road miles falls inside the Complete Streets Priority Areas. This compares to 76.7 percent for EJ and 77.2 percent for TJ. This means, as it is presently constructed, the spatial analysis portion of the Compete Streets program will not be biased against the EJ and TJ communities.

Table 7 - Complete Streets Priority Areas, EJ, TJ, Roadway Statistics

	Road Miles
SJTPO Region	6,280.60
EJ Areas	946.32
TJ Areas	799.25
Complete Streets Priority Areas	1,994.44
EJ Roads inside Complete Streets Priority Areas	726.09
TJ Roads inside Complete Streets Priority Areas	617.29
Region road miles inside Complete Streets Priority Areas	31.8%
EJ road miles inside Complete Streets Priority Areas	76.7%
TJ road miles inside Complete Streets Priority Areas	77.2%

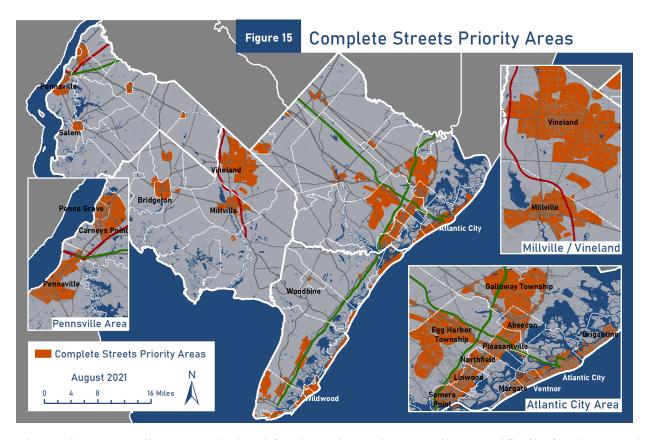
Methodology

SJTPO Complete Streets Priority Areas are defined by three components:

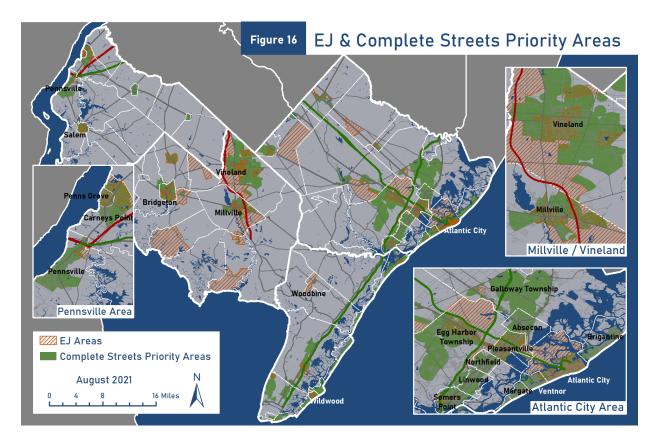
- Block Groups that meet a certain density criterium (Density),
- Adjacent neighborhoods outside of those Block Groups, (Add) and
- Area representing a buffer around essential destinations (DB).

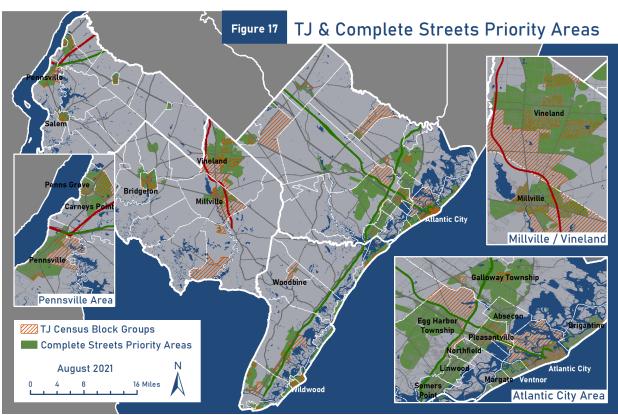
To conduct an analysis, the two density areas (Density & Add) are merged. The resulting area (Density Merge) is intersected with the destination buffer (DB). Therefore, the result is the areas that have a certain amount of density and falls within an essential service travel-shed.

Once the Complete Streets Priority Areas are established, (<u>Figure 15</u>) the roadway network inside the Complete Streets Priority Areas is examined. The length of total roadway center lines inside the Complete Streets Priority Areas is calculated.



The roadway centerlines are calculated for the entire region as well as specifically for the EJ and TJ Areas. These figures are used to calculate percentages of roadways that fall inside the Complete Streets Priority Areas. Figure 16 and Figure 17, below, compare the EJ and TJ Areas to the Complete Streets Priority Areas. From these figures, it is expected that much of the EJ and TJ roadway centerline miles are inside the Complete Streets Priority Areas, consistent with Table 7, above.





Crash Equity Analysis

This section compares the crash rates of the SJTPO region to that of the EJ and TJ Areas. Exposure to a higher crash rate is undesirable. Therefore, the EJ or TJ Areas should not have a higher crash rate compared to the rest of the region.

The following tables display the number of crashes as well as other statistics. <u>Table 8</u> and <u>Table 9</u> provide an overview of various crash statistics in the SJTPO region as well as in the EJ and TJ Areas, discussed earlier. These two tables on their own do not paint a complete picture, but provide background, as they are compared to Population (<u>Table 10</u>, <u>Table 11</u>, and <u>Table 12</u>) and Roadway Mileage (<u>Table 13</u>, <u>Table 14</u>, and <u>Table 15</u>).

<u>Table 8</u>, below, displays the total crashes as well as the total number of people killed and injured, in addition to the total number of pedestrians killed and injured.

Table 8 - All Crashes vs Persons Killed or Injured

	All Crashes	Total Killed	Total Injured	Pedestrians Killed	Pedestrians Injured
SJTPO	49,442	279	19,642	50	601
EJ Areas	16,521	65	7,218	21	319
TJ Areas	14,173	51	5,911	17	305

<u>Table 9</u> also displays the number of total crashes. This table differs from <u>Table 8</u> in that rather than looking at the number of overall people killed and injured versus pedestrians killed and injured, it looks at the total number of crashes that result in a fatality, injury, or Property Damage Only (PDO).

Table 9 - Crashes by Severity

	All Crashes	Fatal Crashes	Injury Crashes	PDO Crashes
SJTPO	49,442	260	13,633	35,549
EJ Areas	16,521	61	4,915	11,545
TJ Areas	14,173	47	4,067	10,059

Taking population into account when comparing crash statistics will more accurately reveal the impact of crashes on the EJ and TJ Areas. The population statistics for the region and the EJ and TJ areas are displayed in <u>Table 10</u>.

Table 10 - Population of Region, EJ and TJ Zones

, , , , , , , , , , , , , , , , , , ,	Population
SJTPO	586,203
EJ Areas	173,290
TJ Areas	139,856

<u>Table 11</u> takes the data shown in <u>Table 8</u> and displays it per 1,000 people. The majority of the EJ and TJ rates are higher (unfavorable) compared to the region, except for the number of people

killed. The EJ and TJ Areas tend to be in more urbanized areas, where more crashes usually occur. However, the crash severity tends to be higher in rural areas, where speeds are elevated. The same patterns are seen in Table 12.

Table 11 - Rate of All Crashes vs Pedestrian Crashes - per 1,000 Population

	All Crashes	Total Killed	Total Injured	Pedestrians Killed	Pedestrians Injured
SJTPO	84.34	0.48	33.51	0.09	1.03
EJ Areas	95.34	0.38	41.65	0.12	1.84
TJ Areas	101.34	0.36	42.26	0.12	2.18

Table 12 - Rate of Crashes by Severity - per 1,000 Population

	All Crashes	Fatal Crashes	Injury Crashes	PDO Crashes
SJTPO	84.34	0.44	23.26	60.64
EJ Areas	95.34	0.35	28.36	66.62
TJ Areas	101.34	0.34	29.08	71.92

Another crash statistics evaluation method is to take road miles into account. The road mileage statistics for the region, and the EJ and TJ Areas are displayed in <u>Table 13</u>. The road mileage of the EJ and TJ Areas are less than the region since they represent only a portion of the four-county area.

Table 13 - Road Mileage - Region, EJ Areas, and TJ Areas

	Road Miles
SJTPO	6,281
EJ Areas	946
TJ Areas	799

<u>Table 14</u> displays crash statistics per road miles. The EJ and TJ crash rates per road mile are higher (unfavorable) in all categories compared to the region, for crashes, number killed, and number injured. The EJ and TJ Areas tend to be in more urbanized areas, where more crashes and more crashes involving pedestrians tend to occur.

Table 14 - Rate of All Crashes vs Pedestrian Crashes - per 1,000 Road Miles

	All Crashes	Total Killed	Total Injured	Pedestrians Killed	Pedestrians Injured
SJTPO	7,872.17	44.42	3,127.41	7.96	95.69
EJ Areas	17,458.09	68.69	7,627.41	22.19	337.09
TJ Areas	17,732.89	63.81	7,395.69	21.27	381.61

<u>Table 15</u> displays the crash frequency of all severity types. The number of crashes, fatal, injury, and PDO crashes are higher for EJ and TJ compared to the region. This is unfavorable.

Table 15 - Rate	of Crashes by	/ Severity - per	1,000 Road Miles
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	All Crashes	Fatal Crashes	Injury Crashes	PDO Crashes
SJTPO	7,872.17	41.40	2,170.65	5,660.13
EJ Areas	17,458.09	64.46	5,193.78	12,199.85
TJ Areas	17,732.89	58.81	5,088.53	12,585.56

SJTPO Transit Access Analysis

Bus Stops and Transit Stations Access - Environmental Justice Zones

The following analysis compares regional transit access to that of the EJ Areas. The percentage of population within 1/2 mile (10-minute walk) of transit stations or 1/4 mile (5-minute walk) of bus stops was compared for EJ Areas, Concentrated EJ Areas, and the Non-EJ Areas. An assumption was made that the population was distributed evenly within each Block Group.

The following table displays the related results.

Table 16 - Proximity to Transit Services in EJ Areas

	Transit Stations (1/2 mile)	Bus Stops (1/4 mile)
Concentrated EJ Area Population	126,9	14
Concentrated EJ Area Population with Proximity to	14,603	64,372
Transit Stations or Bus Stops	12%	51%
EJ Area Population	173,2	90
EJ Area Population with Proximity to Transit Stations or	14,770	77,292
Bus Stops	9%	45%
Non EJ Area Population	412,9	13
Non EJ Area Population with Proximity to Transit	8,311	86,763
Stations or Bus Stops	2%	21%

This indicates that for both transit stations and bus stops, the EJ Areas and Concentrated EJ Areas have greater access to transit than do the Non-EJ Areas. The information is summarized in chart form below. While this is favorable, it is important to note that roughly half of residents in EJ Areas do not live within close walking distance of bus or transit service.

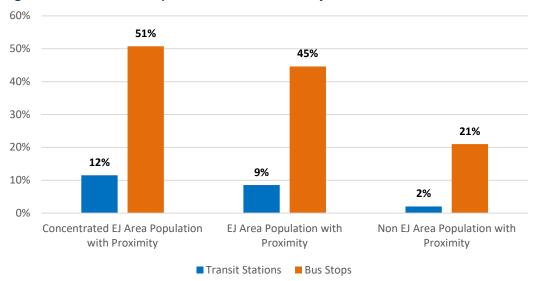
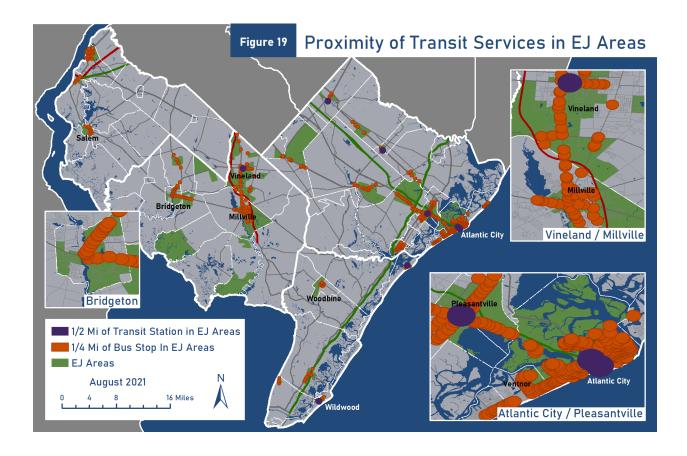


Figure 18 - EJ Area Population with Proximity to Transit Stations and Bus Stops

Transit stations and bus stops tend to be concentrated in urban areas. These urban areas have a high degree of correlation with EJ Areas. This is displayed in <u>Figure 19</u>, below.



EJ, TJ, and Ladders of Opportunity Analysis

Ladders of Opportunity (Ladders) is an analysis that contributes to SJTPO's planning efforts related to transportation disadvantaged populations. Ladders has a different approach and benefit compared to EJ or TJ. The 2015 United States Department of Transportation's (USDOT) Ladders initiative notes that quality of life can be greatly diminished by lack of access to essential services. Ladders was designed to identify areas that have poor access to specific destinations. In <u>Appendix A</u>, SJTPO integrates Ladders with the EJ and TJ analyses.

In <u>Appendix A</u>, tables are provided related to Essential Services and Accessibility Scores. The EJ and TJ Block Groups have a higher number of essential services per population compared to the SJTPO region. The EJ and TJ Block Groups also have a higher Essential Services Score compared to the region.

<u>Appendix A</u> also contains Accessibility Score tables. These tables summarize the accessibility related to Car, Bike, and Walking. The EJ and TJ scores exceed (are favorable compared to) the scores of the entire region.

Housing and Economics

Household incomes per year in the SJTPO region are much lower than the state, \$59,000 compared to \$82,000. It is accurate to say that the region has a lower cost of living. For example, housing costs are roughly 20 percent lower than that state. However, this does not tell the full story. Poverty and transportation cost are significant issues for the region.

Vehicle ownership cost are higher in the region. This is due to the lack of transit in the region and the heavy reliance on personal vehicles. As represented in the table below, vehicle ownership and housing cost are often combined to reflect the burden of households. These costs are a much greater share of the median income in the SJTPO region (51.5 percent) compared to the state as a whole (39.1 percent).

Poverty is also a significant issue for the region compared to the state. Several related metrics displayed below indicate this issue. Of note, the region's unemployment rate is more than 50 percent higher than the state.

Table 17 - Housing and Economics, SJTPO Region

Housing and Economics	New Jersey	SJTPO Region	Atlantic County	Cape May County	Cumberland County	Salem County
Median Household Income	\$81,800	\$59,055	\$60,800	\$62,200	\$51,800	\$64,500
Homeownership	64%	68%	67%	78%	64%	70%
Annual Vehicle Expenses Per Household	\$13,150	\$14,907	\$14,840	\$15,194	\$13,011	\$18,725
Monthly Median Household Housing Costs	\$1,610	\$1,284	\$1,376	\$1,294	\$1,138	\$1,194
Vehicle and Housing Cost as Percent of Median Household Income	39.1%	51.1%	51.6%	49.4%	51.5%	51.2%

Unemployment	4.1%	6.4%	5.9%	8.4%	6.5%	5.4%
Children in Poverty	14%	19%	19%	16%	22%	16%
Children in Single-parent Households	29%	41%	41%	27%	50%	39%
Children Eligible for Free or Reduced-price Lunch	38%	54%	58%	40%	59%	42%
Households using SNAP (Formerly Food Stamps)	9%	14%	15%	7%	19%	13%

Source: The 2020 County Health Rankings. www.countyhealthrankings.org.

Social and Health

Social Factors

The economic disparities facing the SJTPO region have resulted in significant social tolls. This is reflected in several social stability metrics, including educational attainment, teen births, disconnected youth, and crime statistics.

Table 18 - Social Factors, SJTPO Region

Social Factors	New Jersey	SJTPO Region	Atlantic County	Cape May County	Cumberland County	Salem County
High School Graduation	91%	87%	90%	88%	81%	87%
Some College	69%	55%	59%	63%	40%	58%
Children in Single-parent Households	29%	41%	41%	27%	50%	39%
Teen Births (per 1,000 females ages 15-19)	13	24	18	20	36	22
Disconnected Youth (percent of age 16-19 neither working nor in school)	6%	9%	7%	8%	16%	5%
Violent Crimes (per 100,000 population)	253	377	373	236	516	266
Injury Deaths (per 100,000 population)	56	90	87	92	92	94
Homicides (per 100,000 population)	4	6	7	_*	8	6
Suicides (per 100,000 population)	8	11	13	11	8	12
Firearm Fatalities (per 100,000 population)	5	9	9	7	10	11
Juvenile Arrests (per 100,000 population)	19	39	37	46	38	43

Source: The 2020 County Health Rankings. www.countyhealthrankings.org.

^{*} Homicide rate was not reported in Cape May County as their total homicide number was fewer than 10.

Health and Environment

In recent years, the awareness of transportation's impact on society has become more nuanced. It is apparent that there is a connection between transportation and economic and social equity factors, including health.

Health is greatly impacted by a person's physical environment. A person's physical activity is very dependent on the proximity to certain land uses and access to transportation. The physical environment impacts access to economic opportunity. Opportunity, in turn, impacts economic prosperity, and both social and physical health. From the data below, it is apparent that the health outcomes in the SJTPO region are dire. The region's residents experience shorter life spans and more prevalence of obesity. Residents also have less access to healthy food and food in general.

In addition, drug and alcohol issues have hit the region especially hard, including the opioid epidemic. The region has nearly double the state average of drug overdose deaths. In addition, there is less access to physical and mental health services. Mental health providers are generally half as accessible to the region's residents. Compared to the state, Cumberland County has half the access to physical health providers and Salem County has nearly one-third as much.

Table 19 - Health Indicators, SJTPO Region

Health & Environment	New Jersey	SJTPO Region	Atlantic County	Cape May County	Cumberland County	Salem County
Life Expectancy	80.4	76.6	77.2	77.2	75.4	76.2
Child Mortality (per 100,000 population)	40	53	50	50	60	50
Infant Mortality (per 1,000 live births)	4	6	7	5	6	5
Adult Smoking	14%	17%	16%	16%	18%	18%
Adult Obesity	26%	32%	30%	29%	36%	37%
Physical Inactivity	26%	30%	30%	27%	31%	30%
Access to Exercise Opportunities	95%	86%	91%	95%	79%	70%
Food Insecurity	10%	13%	13%	12%	13%	13%
Limited Access to Healthy Foods	4%	8%	8%	9%	10%	3%
Drug Overdose Deaths (per 100,000 population)	28	48	47	48	52	44
Alcohol-impaired Driving Deaths (percent of total driving deaths)	22%	27%	26%	39%	24%	24%
Uninsured	9%	10%	10%	8%	12%	8%
Primary Care Physicians	1,190:1	1,766:1	1,190:1	1,700:1	2,310:1	2,990:1
Dentists	1,160:1	1,818:1	1,750:1	1,680:1	1,540:1	2,980:1
Mental Health Providers	450:1	833:1	630:1	980:1	1,060:1	930:1
Preventable Hospital Stays (per 100,000 Medicare enrollees)	4,535	5,967	5,291	4,259	7,535	7,580

Source: The 2020 County Health Rankings. www.countyhealthrankings.org.

Transportation

The SJTPO is more rural compared to the state. This drives several transportation-related traits.

Commuting

The SJTPO region is a lengthy drive from the metropolitan job centers of Philadelphia and New York City. Therefore, it is less viable for SJTPO residents to make commutes to those job centers. SJTPO residents are more likely to work locally, inside their region. This translates into shorter commutes, and a smaller probability to employ car-pooling. Commutes of thirty minutes or more are experienced by 43 percent of New Jersey residents compared to 29 percent of the region.

Traffic Volume

The region has relatively lower population density and the traffic volumes are much lower. This can be expressed by the Average Traffic Volume per Meter of Major Roadways (ATVMMR). New Jersey has an ATVMMR of 661 compared to 175 for the SJTPO region. That said, the residents that do live in this region rely heavily on vehicle travel and are more likely to drive more miles in any given year. New Jersey's Annual Vehicle Miles Travelled Per Household is 24,130 compared to 27,353 for the SJTPO region.

Crashes

This region experiences motor vehicle crash deaths at a rate that is nearly twice as high relative to the state, with 13 deaths per 100,000 population in the SJTPO region compared to 7 per 100,000 in the state. Alcohol is a contributing factor in a higher number of regional traffic deaths compared to the state. The New Jersey alcohol-impaired driving deaths (percent of total driving deaths) is 22 percent compared to 27 percent for the SJTPO region. Another contributing factor to the higher death rate is speed. Higher speed crashes are more severe. The prevalence of rural areas translates to higher speeds because of the lower volume and congestion. The SJTPO region is more rural than the state.

Table 20 - Transportation Characteristics, SJTPO Region

Transportation	New Jersey	SJTPO Region	Atlantic County	Cape May County	Cumberland County	Salem County
Driving Alone to Work	71%	79%	77%	80%	81%	84%
Long Commute (30+ minutes) - Driving Alone	43%	29%	27%	24%	31%	37%
Traffic Volume (Average traffic volume per meter of major roadway)	661	175	288	86	60	107
Annual Vehicle Miles Travelled Per Household	24,130	27,353	27,230	27,878	23,873	34,357
Motor Vehicle Crash Deaths (per 100,000 population)	7	13	11	12	17	15
Alcohol-impaired Driving Deaths (percent of total driving deaths)	22%	27%	26%	39%	24%	24%

Source: The 2020 County Health Rankings. www.countyhealthrankings.org.

The ACS provides some insight into the commuting behavior within the SJTPO region, and how the region compares to the state.

Table 21 - Worker Demographic and Transportation Statistics

Table 21 - Worker Demographic and Tra	New	SJTPO		Cape May	Cumberland	Salem
	Jersey	Region	County	County	County	County
Workers Age 55+	23.8%	25.3%	25.4%	31.8%	20.8%	25.3%
Workers Age 60+	13.2%	14.3%	13.7%	20.5%	11.2%	14.2%
Workers, Driving Alone, Age 60+	14.0%	14.5%	14.0%	21.0%	11.6%	13.9%
Workers, Carpooling, Age 60+	11.0%	11.2%	11.1%	18.4%	7.5%	13.2%
Workers, Public Transportation, Age 60+	8.7%	12.2%	12.2%	15.5%	8.0%	17.4%
Median Age of Workers	43.9	44.3	44.6	47.1	41.6	44.7
Women Workers, Carpooling	46.3%	44.8%	45.6%	39.7%	45.1%	45.9%
Women Workers, Public Transportation	45.1%	45.2%	44.4%	44.4%	51.7%	43.1
Workers, Age 16+, One Race, White	69.3%	75.5%	69.8%	92.6%	70.9%	84.9%
Workers, Age 16+, One or More Races, Minority	30.7%	24.5%	30.2%	7.4%	29.1%	15.1%
Driving Alone, One Race, White	73.7%	78.4%	73.8%	93.3%	73.1%	87.4%
Driving Alone, One or More Races, Minority	26.2%	21.6%	26.2%	6.6%	26.9%	12.5%
Carpooling, One Race, White	59.2%	68.8%	61.7%	95.5%	65.1%	77.1%
Carpooling, One or More Races, Minority	40.8%	31.2%	38.3%	4.5%	35.0%	22.8%
Public Transportation, One Race, White	51.9%	49.7%	47.5%	89.1%	36.7%	43.7%
Public Transportation, One or More Races, Minority	48.1%	50.2%	52.4%	11.0%	63.2%	56.2%
Workers, Hispanic or Latino, Any Race	19.2%	17.5%	17.7%	6.9%	29.1%	7.4%
Workers, White - Not Hispanic	57.7%	64.5%	59.5%	87.3%	51.9%	79.8%
Workers, Driving Alone, Hispanic or Latino - Any Race	15.8%	14.9%	15.1%	4.4%	26.0%	5.3%
Workers, Driving Alone, White - Not Hispanic	63.6%	69.0%	65.0%	89.8%	55.9%	83.7%
Workers, Carpooling, Hispanic or Latino - Any Race	33.0%	27.3%	23.1%	9.2%	44.1%	19.8%
Workers, Carpooling, White - Not Hispanic	40.3%	50.3%	48.5%	87.2%	33.4%	60.8%
Workers, Public Transportation, Hispanic or Latino - Any Race	24.8%	36.2%	34.7%	49.3%	42.5%	14.5%
Workers, Public Transportation, White - Not Hispanic	37.9%	25.7%	24.3%	42.2%	18.8%	42.4%
Workers, Public Transportation, Speak English Less Than "Very Well"	17.6%	29.8%	31.9%	24.4%	26.1%	4.2%
Public Transportation (Excluding Taxicab) Users, Workers Age 16+, Below Poverty Level*	6.8%	20.9%	22.1%	12.5%	21.1%	14.1%
All Persons, Travel Time to Work – 30+ Minutes*	46.6%	29.5%	29.0%	23.6%	31.1%	36.7%
Public Transportation (Excluding Taxicab) Users, Travel Time to Work – 30+ Minutes*	87.2%	59.8%	58.4%	56.7%	72.9%	56.2%
All Persons with, No Vehicles Available*	6.4%	5.2%	6.9%	4.0%	3.9%	1.9%
Public Transportation (excluding Taxicab) Users, with No Vehicles Available*	24.7%	46.5%	50.1%	35.1%	34.4%	23.8%
Public Transportation (excluding Taxicab) Users, with One Vehicle Available*	31.5%	29.5%	29.7%	28.5%	33.0%	16.6%

^{*}Estimate

When analyzing the data, a few stark trends appear. <u>Figure 20</u>, below, shows that racial minorities are more likely to carpool and particularly to use public transportation when compared to driving

alone or compared to their share of the population. This is starker in the SJTPO region. Whereas racial minorities (age 16+) make up approximately 25 percent of the SJTPO population, they make up roughly 50 percent of public transportation users. In the state, the same groups are 31 percent of the population and 48 percent of public transportation users. One impact of this difference becomes more apparent when compared to <u>Table 21</u>, above, which shows that in the SJTPO region, 59.8 percent of public transportation users have a commute of 30 minutes or more compared to only 29.5 percent of all commuters. Simply stated, in the SJTPO region, public transportation users, which contain a high percentage of all minority commuters, are twice as likely to have a longer (30+ minute) commute. This demonstrates the important role of public transportation in achieving transportation equity in New Jersey and the SJTPO region, in particular.

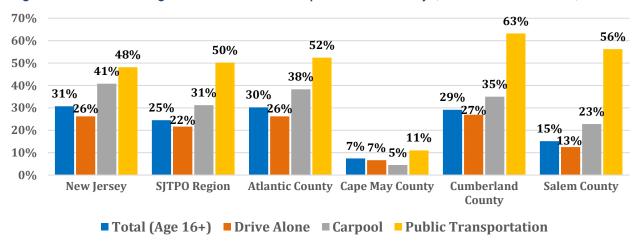


Figure 20 - Percentage of Each User Group that is Minority (One or More Races)

Similarly, Hispanic or Latino populations are also overrepresented in carpooling, but most drastically in public transportation users, making up 18 percent of the SJTPO region's population and 36 percent of the region's public transportation users.

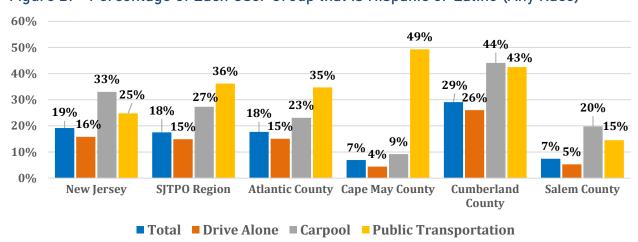


Figure 21 - Percentage of Each User Group that is Hispanic or Latino (Any Race)

Summary

The SJTPO region has a high percentage of disadvantaged residents. Those residents have more challenges than the general population. It is important that SJTPO is sensitive to those challenges while pursuing its mission.

The distribution of TIP funds within the region is unbiased with respect to the disadvantaged populations. 19 percent of the TIP funds are allocated to Concentrated EJ Areas while 22 percent of the population is located inside these areas. 55 percent of the TIP funds are allocated to EJ Areas while 30 percent of the population is located inside these zones. By comparison, areas outside of EJ Areas comprise 70 percent of the population and receive 45 percent of TIP funds. The projects in the TIP are primarily focused on system maintenance, which are generally deemed to be positive contributions to their surroundings. Therefore, the TIP allocation is fairly allocated with respect to EJ Areas.

Crash performance equity is a mix. Concerning is that crash rates are higher within EJ & TJ Areas compared to the region (unfavorable). However, the fatality rate is lower (favorable) within EJ and TJ Areas. This lower fatality rate might be expected, as EJ and TJ Areas tend to be more urban on average and rural roads have higher speeds due to design speeds and reduced congestion, and thus frequently have higher fatality rates and overall crash severity.

Transit access is favorable for EJ Areas and Concentrated EJ Areas, compared to the region. This is expected as EJ Areas are more likely to be in denser communities, which generally see greater transit access due to the demand and farebox recovery that comes with density. However, it is notable that as much as half of EJ populations may not be within proximity of transit service.

Work should continue to monitor and improve conditions in EJ and TJ communities. There are a number of populations that are overrepresented in the SJTPO region compared to the state and/or nation as a whole. These groups include African Americans, Low-income individuals, Households with Disability, Households with No Vehicle, and Population Age 75 and Over. Additional effort should be dedicated to understanding the issues these populations face. Seeking representation from these groups, and others in establishing the Community Outreach and Engagement Committee (COEC) will be a critical first step. While these groups are not disproportionally excluded from transportation investments, it is essential to expand equity analyses in the future to parse out the traits of individual projects to ensure benefits and burdens are equitably shared in each project. Further assistance should be provided to subregions to ensure projects serve the needs of these groups. In addition, further coordination should take place with NJ TRANSIT, county paratransit providers, and others, to identify opportunities to improve transit access for the EJ and TJ populations who may not have adequate access to convenient transit service. In addition, further analyses should consider the frequency of service. Future efforts should also look for opportunities to evaluate bicycle and pedestrian access. In short, it is essential that SJTPO work actively to ensure that in all activities, it improves equity and equitable outcomes for residents across the region.

Appendix A: Ladders of Opportunity Analysis and the SJTPO Ladders Map Toolkit:

EJ, TJ, and Ladders of Opportunity Analysis

The Ladders of Opportunity (Ladders) is an analysis that contributes to SJTPO's planning efforts related to the transportation disadvantaged population. In this section, the Ladders is integrated with the EJ and TJ analyses.

The EJ analysis provides SJTPO with geographic information about its vulnerable populations due to race, ethnicity, or income-level. The TJ analysis provides information about populations in the SJTPO region that have specific characteristics that inversely correlate with transportation access. Ladders has a different approach and benefit. Ladders was designed to identify areas that have poor access to specific destinations. The following narration describes its purpose, methodology, and how Ladders can be utilized by SJTPO's planning partners.

Ladders of Opportunity Analysis - Purpose

Ladders was developed to respond to the 2015 U.S. Department of Transportation's (USDOT) Ladders of Opportunity initiative. This initiative notes that quality of life can be greatly diminished by lack of access to essential services. This initiative is meant to foster more involvement and inclusion and mitigate barriers to access through the nation's infrastructure improvements. The initiative recognizes that transportation projects exert influence beyond the built environment, impacting the job opportunities and social mobility of individuals and communities. Therefore, SJTPO's Ladders is a response to USDOT's initiative. It is one tool used toward improving economic and social opportunity in the region.

Ladders of Opportunity Analysis - Methodology

Ladders identifies geographic concentrations of vulnerable populations and the locations of essential services. Ladders also displays the accessibility that these populations have to their essential service, using the transportation network as it is presently constituted. Vulnerable populations are individuals who are seniors (age 65+), disabled, are members of households with no vehicles or are in poverty. These populations are and more likely to be transit dependent than the general population. Essential services are defined as destinations needed to meet a standard quality of life. The Ladders project identified essential services as grocery stores, schools, health care facilities, recreation/open space, and social services centers.

The accessibility for these populations and destinations were determined using the ESRI ArcMap Network Analysis tool. For every destination type (e.g., schools), a distance was identified as being a reasonable distance for travel. These distances were then used in the network analyst tool to generate the travel-sheds for each destination of that type (e.g., schools) and the relevant travel modes (e.g., walking). The travel-sheds for each destination type (e.g., schools) were placed on a map simultaneously. The travel-sheds were then compared to Census Blocks. If the accessibility zones reached the center of any Census Block, those Census Blocks were determined to have

accessibility for that service type (e.g., schools). Census Blocks outside the travel-sheds were deemed to not have accessibility. Each Census Block received a composite score based on its accessibility to the destinations using various modes.

EJ and TJ Ladders of Opportunity Summary:

The EJ and TJ analysis was derived from data from the Ladders toolkit and the EJ and TJ sections of this report. The Ladders toolkit provides several metrics. A list of these metrics and a detailed description of the Ladders toolkit is contained in the section that follows.

For this EJ and TJ analysis, the focus was on a few metrics. The Block Group's population was incorporated to properly weight each Block Group's accessibility score.

There are two sets of tables below, Essential Services and Accessibility Scores.

For Essential Services, the number of essential services per population (in thousands) is lower for the region (0.76) than it is for EJ (1.11) and TJ (1.22) Block Groups. This holds true for Essential Services Score (division by population): Region (1.19), EJ (1.82), and TJ (1.80).

Table 22 - Essential Services

SJTPO Region – All Block Groups						
Sum of all Block Group Essential Services	Sum of All Block Group Essential Services Score	Sum of All Block Group Population				
445	695,989	586,203				
Divided by Population (000s)	Divided by Population					
0.759	1.187283					

SJTPO Region – All EJ Area Block Groups						
Sum of all Block Group Essential Services	Sum of All Block Group Essential Services Score	Sum of All Block Group Population				
192	315,255	173,290				
Divided by Population (000s)	Divided by Population					
1.108	1.819234					

SJTPO Region – All TJ Area Block Groups						
Sum of all Block Group Essential Services	Sum of All Block Group Essential Services Score	Sum of All Block Group Population				
170	252,036	139,856				
Divided by Population (000s)	Divided by Population					
1.216	1.802111					

In the next tables are the Accessibility Scores. The scores related to the car, bike, and walking accessibility relate to the entire population. Again, the EJ and TJ scores exceed the scores of the entire region.

Table 23 - Accessibility Scores

SJTPO Region – All Block Groups					
Sum of Car Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Total Population		
2,052,768,962	398,579,568.2	138,200,940.3	586,203		
3,501.81	679.93	235.76			

SJTPO Region – All EJ Area Block Groups					
Sum of Car Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Total Population		
717,782,559.1	203,811,608.2	85,343,842.13	173,290		
4,142.09	1,176.13	492.49			

SJTPO Region – All TJ Area Block Groups					
Sum of Car Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Bike Scores, (Population Weighted)	Sum of Total Population		
552,192,662.9	165,429,953.8	70,903,837.23	139,856		
3,948.29	1,182.86	506.98			

The SJTPO Ladders Map Toolkit:

The Ladders tool was created to evaluate the region's accessibility. An Accessibility Score was created to provide a summary of the region's accessibility. The toolkit contains several features as described below.

The toolkit identifies:

- Vulnerable Populations locations
- Essential Services locations
- Population-Services Mismatch
- Transportation & Transit Network
- Employment locations

Vulnerable Populations locations - this was developed using census data for four characteristics:

- Populations of those with a disability
- Populations at or below the poverty line
- People aged 65 and over
- Populations without a car

Essential Services locations - the Ladders project identified essential services as:

- Grocery stores,
- Schools,
- Health care facilities,
- Recreation/open space, and
- Social services centers.

For those with limited travel options, quality of life can be greatly diminished by lack of access to essential services, as described in USDOT's Ladders of Opportunity initiative. The Ladders Tool Kit contains maps that highlight for each Block Group the vulnerability of that Block Group, and the Block Group's accessibility to essential services.

Vulnerable Population/Essential Services Mismatch

The Essential Service ranking was compared with the Vulnerable Population ranking to highlight areas of mismatch. The areas where there is a higher vulnerable population ranking compared to essential services ranking are highlighted in the toolkit maps. This means there is a relatively low number of essential services given the vulnerable population density. This is unfavorable. In contrast, Block Groups that have a relatively favorable number of essential services given their vulnerable population are also highlighted. This means their number of essential services are high relative to their vulnerable population. This is favorable.

Transportation Network

The transportation network is vital to connecting vulnerable populations to essential services. The toolkit contains a map providing an overview of the transportation network within the SJTPO region. The transportation network can be viewed, along with the various vulnerable populations.

Demographics

The toolkit can display the following demographic information spatially:

- Population without a car
- Population with a disability
- Population at or below the poverty line
- Senior population (65 and over in the case of the toolkit)
- Total population

Transit/Job Locations

The toolkit contains a map showing the accessibility of job locations and essential services within 1/4 mile and 1/2 mile from a transit stop. Included is a chart displaying the number of job locations that are inside the 1/4-mile walkshed, inside the 1/2-mile walkshed, and outside both walksheds. A second chart displays the same information for essential services locations.

Vehicle Accessibility

One aspect of the analysis performed for this project was the generation of areas that identify the 'reach', or travel-shed, of each of the essential service locations. The toolkit contains images showing for example, a 10-mile travel-shed around a specific location. Instead of using a standard circular, or 'as the crow flies' distance, the available transportation network was used to provide a more realistic extent.

Taking this a step further, the 'reach' was broken down into modes of transportation - car, biking, or walking. The toolkit contains maps that shows the car travel-sheds for each of the five destination essential services categories: Education, Health Care, Social Services, Grocery Stores, and Recreation Centers, and Parks.

Walk and Bike Accessibility

In addition to determining the vehicle travel-sheds for each essential service group, walking and biking travel-sheds were created to support detailed analysis. Each of the travel-sheds were evaluated for each service destination. As with the vehicle travel-sheds, the available transportation network was used to provide a more realistic extent. The toolkit contains map layers that show the walking and biking travel-sheds for the following essential services categories: Education, Health Care, Social Services, Grocery Stores, Recreation Centers, and Parks.

Senior Walk and Bike Accessibility

This part of the toolkit allows the user to select the destination group. The population group for this tool is fixed to be the Senior Population, which, for the purpose of this tool, is 75 & Over. These maps employ a shape to represent the geographic area that is covered by walking, biking, or driving (travel-shed). The walking and biking travel-sheds displayed will be those that relate to the senior population, which differs in range compared to the other populations. The walking travel-sheds will be displayed over top of the biking travel-sheds.

Destinations and their Travel-sheds

The toolkit allows users to view a map with different locations and associated travel-sheds:

- Social service locations
- Recreation center locations
- Grocery store locations
- Healthcare: Acute care locations

Healthcare: Clinic locationsHealthcare: Rehab locations

All park locationsAll locations

Overall Accessibility Scores

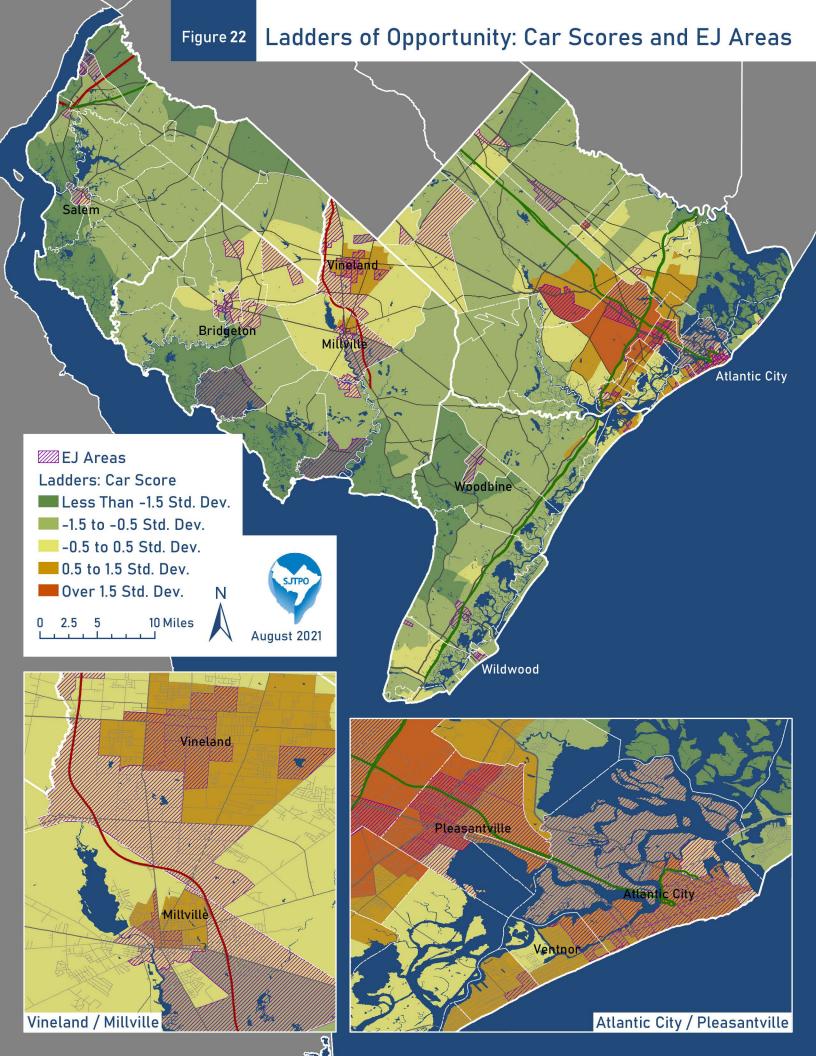
This is the final step, and an effort to summarize accessibility. The distances of the travel-sheds and scores were based on similar access studies as well as input from SJTPO. Each population received a unique travel distance and score (weight) to essential service destinations based on the population being modeled. The weight given to a destination influences the score it will receive. For example, the senior population would have smaller travel-sheds compared to the total population, and a higher weight would be placed on healthcare. Conversely, a destination like recreation centers or schools would have a lower weight for the senior population than the total population since those destinations would not be as high a priority.

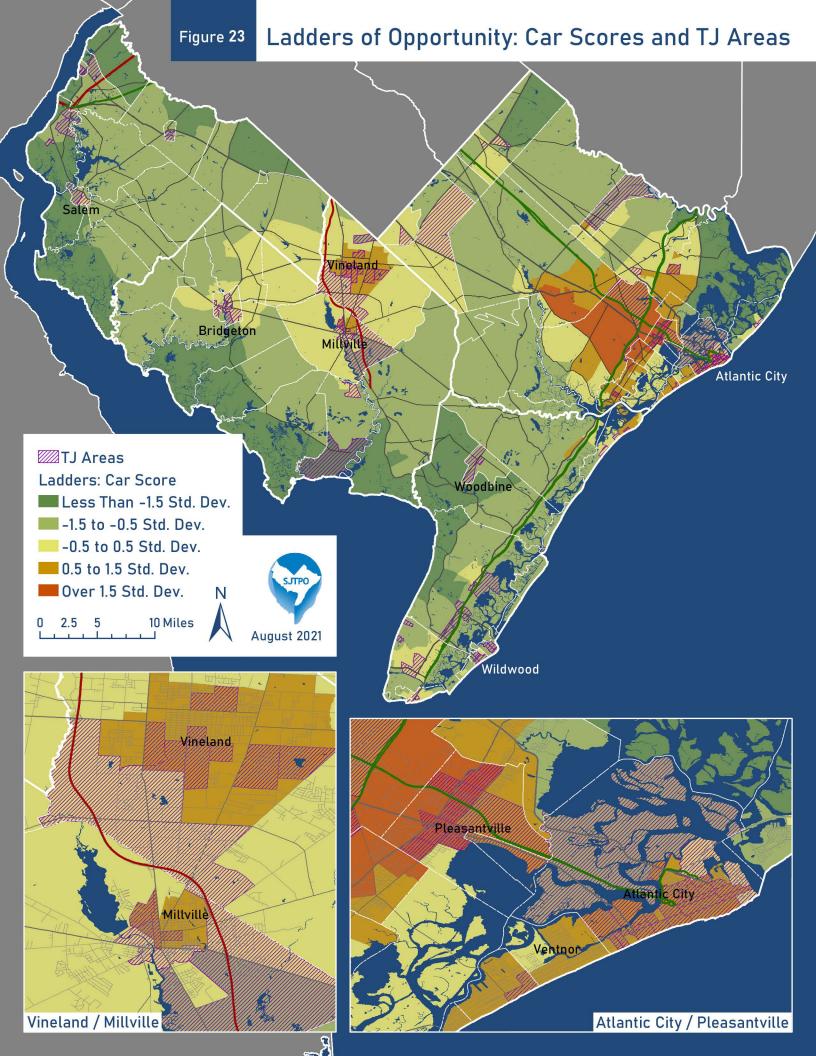
The toolkit contains maps with the overall accessibility scores. The scores can be viewed for each of the travel modes used in the project - car, bike, walk. The higher the overall score, the better the relative access to essential services from that location. The lower the score, the lower the relative access to essential services from that location.

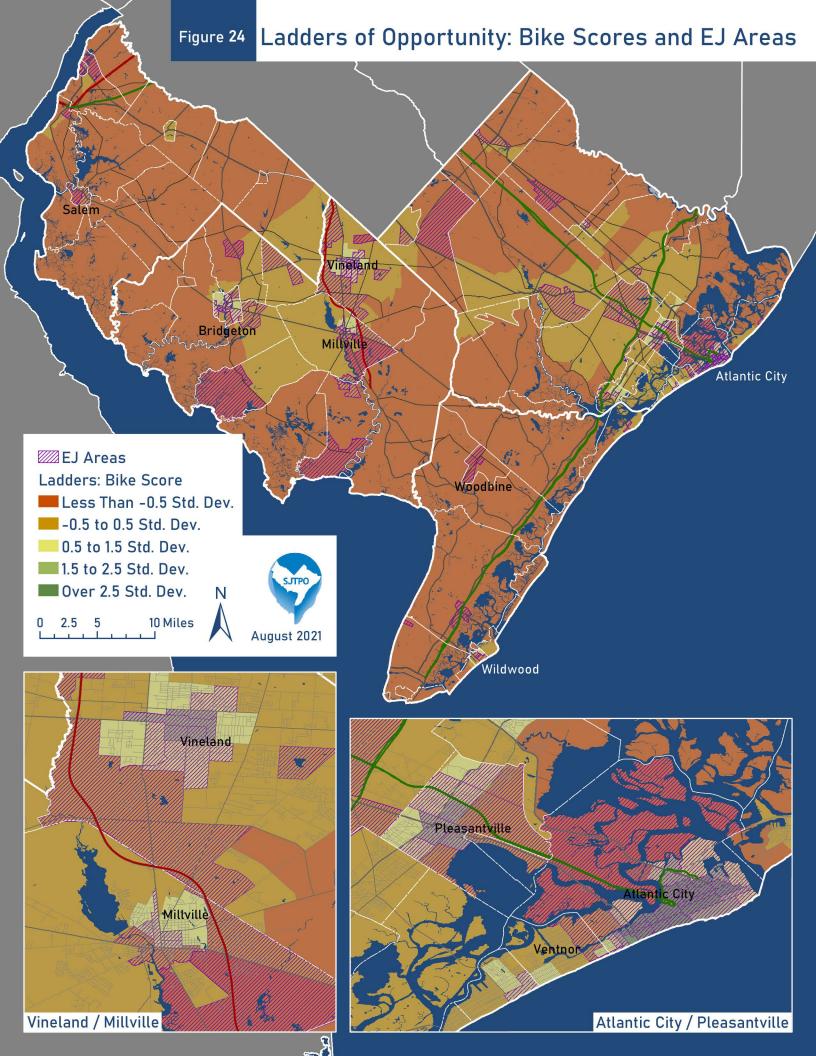
There is a score for each mode:

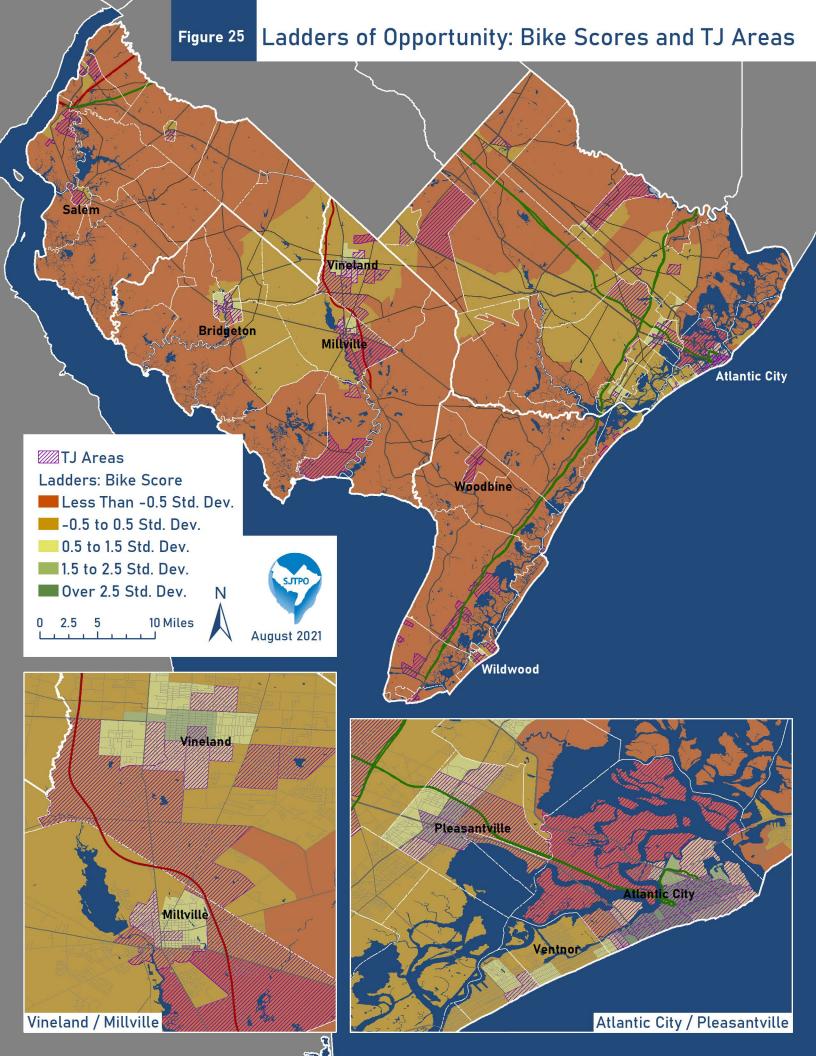
- Car Accessibility Scoring
- Bike Accessibility Scoring
- Walking Accessibility Scoring

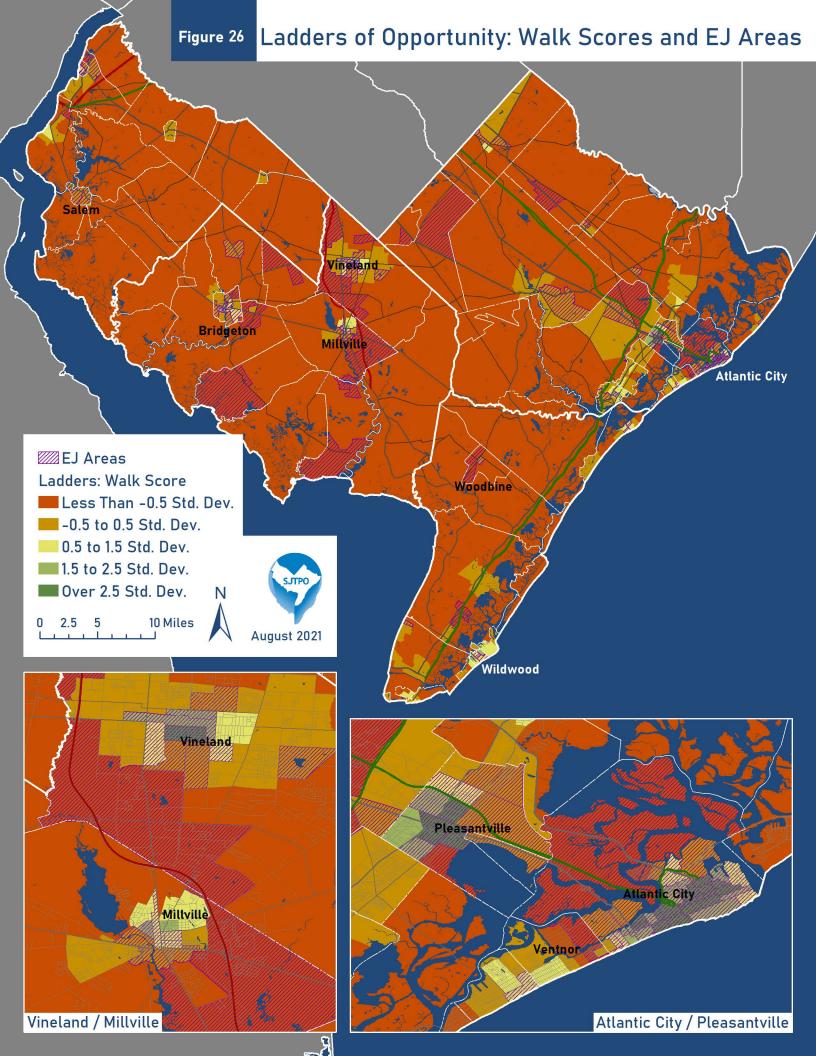
The following maps show each of these scores from the Ladders effort, compared with the EJ and TJ Areas.

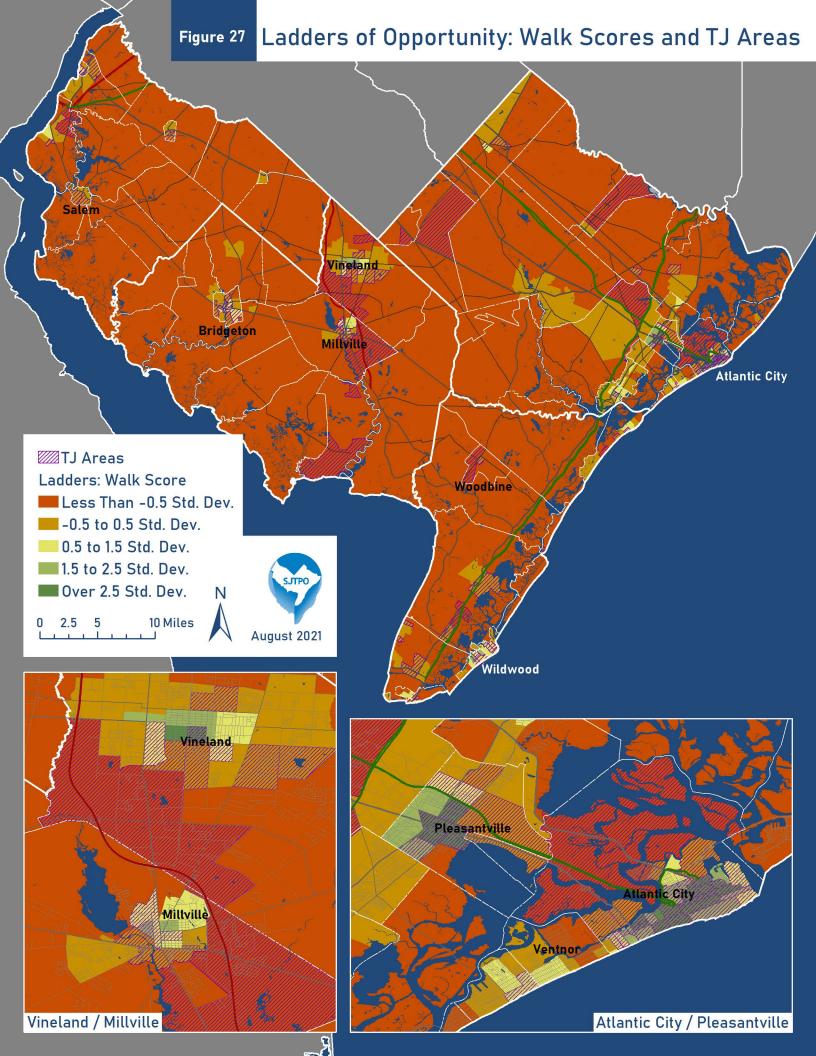












Accessibility Scores for Seniors

The toolkit contains maps with the senior accessibility related to each travel mode used in the project - car, bike, walk. As with the previous map, the higher the overall score, the better the relative access to essential services from that location. The lower the score, the lower the relative access to essential services from that location. In addition, the percentage of seniors can be viewed to help with comparing the overall population of seniors with the relative accessibility of the essential services. The available maps are:

- Senior Population
- Walking Accessibility Scoring
- Bike Accessibility Scoring
- Car Accessibility Scoring

The creation of the toolkit generated data which is summarized as metrics in excel tables. These metrics can be used in other analysis. Metrics data (Block Group-based) that is available from the SJTPO Ladders Tool Kit includes:

- Vulnerability Ranking
- Total Essential Services
- Essential Service Ranking
- Health Care Center Count
- Education Destination Count
- Social Services Count
- Groceries Destination Count
- Recreation Center Count
- Job Location Count
- Total Population Car Accessibility Score
- Total Population Bike Accessibility Score
- Total Population Walk Accessibility Score
- Disabled Population Car Accessibility Score
- Disabled Population Bike Accessibility Score
- Disabled Population Walk Accessibility Score
- Households with No Car Bike Score
- Households with No Car Walk Score
- Households in Poverty Car Accessibility Score
- Households in Poverty Bike Accessibility Score
- Households in Poverty Walk Accessibility Score
- Senior Population Car Accessibility Score
- Senior Population Bike Accessibility Score
- Senior Population Walk Accessibility Score