

South Central Pennsylvania

Unified Environmental Justice Process and Methodology

Appendix F: Data Guide

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Introduction

This Data Guide provides additional information on the datasets and data tools used in recommended analyses of the *South Central Pennsylvania Environmental Justice Unified Process and Methodology Guide* Volumes I and II. Information about each dataset and tool is presented in a table containing an “About” summary and information on: the source where the data or tool is available; geographic coverage; variables, metrics, or other information provided; timeliness of releases or updates; and other considerations relevant to use in Environmental Justice (EJ) analyses.

In addition **Table F.13** through **Table F.15** at the end of the document present information on American Fact Finder tables that can be used to analyze the size, location, and travel characteristics of EJ populations and other disadvantaged populations and cross tabulations of EJ populations and other disadvantaged populations.

Table F.1 Decennial Census Data

About	The Decennial Census, conducted every 10 years by the U.S. Census Bureau, provides data on demographic and housing characteristics of persons living in the United States. It is mandated by the U.S. Constitution and is used to apportion the number of seats held by each State in the U.S. House of Representatives. For the 2010 Decennial Census, the U.S. Census Bureau used a short form consisting of 10 questions related to age, gender, race, ethnicity and whether a person rents or owns a home. In several previous decennial censuses, a long form was used which asked for detailed social and economic information.
Source	Data can be accessed through multiple sources, including American FactFinder, an online clearinghouse maintained by the U.S. Census Bureau. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Geography	Decennial Census data is released for the U.S., states, counties, metropolitan/micropolitan statistical areas, census designated places, census tracts, block groups, blocks, congressional districts, and others.
Indicates	The 2010 Census captured household size, age, sex, race, ethnicity and home ownership for every resident in the country; can be used to examine social and demographic patterns.
Timeliness	Every 10 years.
Other Considerations	The Decennial Census is conducted every 10 years. In the interim, the American Community Survey provides more up-to-date estimates of variables captured by the decennial count. The most recent Decennial Census was restricted to a few key demographic and housing questions. The 2010 Census Coverage Measurement program estimates that there are under-counting and over-counting errors in the Census. Decennial Census data makes it possible to prepare a relatively accurate racial/ethnic profile of a community at the sub-municipal geographic levels for planning and project development studies.

Table F.2 American Community Survey Data

About	The American Community Survey (ACS), a product of the U.S. Census Bureau, provides current demographic, social, economic, and housing information on persons living in the U.S. While the Decennial Census is conducted every 10 years, the ACS collects and produces population and housing information every year. Approximately 3 million households across the country participate in the ACS annually.
Source	ACS data can be accessed through multiple sources, including American FactFinder, an online clearinghouse maintained by the U.S. Census Bureau. ACS data options: https://www.census.gov/programs-surveys/acs/data.html American FactFinder: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Geography	<p>The U.S. Census Bureau publishes single-year ACS data for all geographic areas with populations of 65,000 or more. The 65,000-population threshold ensures that 1-year data are available for all regions, divisions, states, the District of Columbia, Puerto Rico, congressional districts, Public Use Microdata Areas, and many large counties and county equivalents, metropolitan and micropolitan areas, cities, school districts, and American Indian areas. The 1-year Supplemental Estimates, simplified versions of popular ACS tables, are also available for geographic areas with at least 20,000 people.</p> <p>Areas with populations less than 65,000 require the use of multiyear estimates to reach an appropriate sample size for data publication. For geographic areas with smaller populations, the ACS samples too few housing units to provide reliable single-year estimates. For these areas, several years of data are pooled together to create more precise multiyear estimates. Since 2010, the ACS has published 5-year data (beginning with 2005–2009 estimates) for all geographic areas down to the census tract and block group levels. The first 5-year estimates for all census tracts and block groups were released in December 2010 based upon data collected from January 1, 2005, to December 31, 2009. Block group data is available via download on the ACS website. The multiyear estimates are updated annually. Even lesser populated communities are able to obtain ACS data based on 5-year estimates annually.</p> <p>In 2008, the U.S. Census Bureau began releasing 3-year estimates for areas with populations greater than 20,000. Starting with the 2014 data release, the 3-year products were discontinued, but 5-year estimates are still published each year.</p>
Indicates	Low-income, minority, limited English proficiency (LEP), zero-car, elderly, and persons with disabilities, among other census-related variables; can be used to reveal social, economic, and travel patterns.
Timeliness	Data is updated every year.
Other Considerations	<p>ACS data is an up-to-date source of population information since it is collected and published every year instead of every 10 years. ACS data products are released only one year after the data is collected. ACS estimates are based on data collected over a period of time, rather than a single point in time. For small areas and population groups of 65,000 or less, it takes five years of sampling to provide estimates to report at the local level. The quality of the data at the local level warrants attention to margins of error. Smaller sample sizes for 5-year ACS estimates will reduce the reliability of estimates.</p> <p>The ACS data set makes it possible to prepare a relatively current demographic profile of a community for planning or project development studies. The ACS 5-year estimates can help identify the presence of minority, persons in poverty and LEP populations, among other traditionally underserved populations at the sub- municipal geographic levels for planning and project development studies and can also be referenced for policy research.</p>

Table F.3 American FactFinder

About	<p>American FactFinder is an easy-to-use portal to population, housing, economic, and geographic data collected by the U.S. Census Bureau. It is a product of the U.S. Census Bureau and provides access to data collected through the Decennial census, American Community Survey (ACS), Puerto Rico Community Survey, Population Estimates Program, Economic Census, and Annual Economic Surveys. From the 2010 Decennial census, total population as well as racial and ethnic data has been compiled in Summary File 1 (SF1)—data that was collected in the short-form census questionnaire distributed to all households. This information is a 100 percent sample of the population. The SF1 file shows detailed tables on age, sex, households, families, relationship to householder, housing units, detailed race and Hispanic or Latino origin groups, and group quarters. Most tables are shown down to the block or census tract level. Some tables are repeated for nine race/Hispanic or Latino origin groups. The nine groups are (1) White alone; (2) Black or African American alone; (3) American Indian and Alaska Native alone; (4) Asian alone; (5) Native Hawaiian and other Pacific Islander alone; (6) Some other race alone; (7) Two or more races; (8) Hispanic or Latino; (9) White alone, not Hispanic or Latino. The long form is generally being discontinued for most U.S. populations (except territories such as the Virgin Islands and Guam) in favor of the American Community Survey.</p>
Source	<p>http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml</p>
Geography	<p>National data aggregated at metropolitan statistical area (MSA), State, County, Place, Census Tract, Block Group, and Block Level, among others.</p>
Indicates	<p>Low-income, minority, linguistic isolation, zero-car, elderly, and disabled populations, among other social, economic, and travel indicators.</p>
Timeliness	<p>ACS data is updated with a lag of 1 to 2 years.</p>
Other Considerations	<p>Provides access to multiple data sources and allows users to create and save detailed and custom tables.</p> <p>Requires some familiarity with data contained in census surveys and does not provide flat data files, limiting the utility of the portal data as a source for performing cross-tabulations.</p> <p>This website can be used to prepare a demographic profile of a community, which can be applied to planning or project development studies. Depending on how long it has been since the release of the last decennial census, it may be increasingly appropriate to use ACS data, also available on the U.S. Census website, to prepare a demographic profile with intercensal survey estimates.</p>

Table F.4 Public Use Microdata Sample (PUMS) File

About	Public Use Microdata Samples (PUMS) are computer-accessible files containing records for a sample of housing units. This includes information on the characteristics of each housing unit and the people residing within it. Within the limits of sample size and geographical detail, the files enable users to prepare any tabulations they may require. Identifying information has been removed to protect the anonymity of respondents. Samples can be extended to an analysis of the whole United States for many purposes and have been available with past decennial censuses. PUMS files from the American Community Survey (ACS) show a wide range of population and housing unit responses collected on individual ACS questionnaires. With the responses given in these files, it is possible to design tabulations to address research needs, providing greater flexibility than the standard tables available through the ACS. Starting with the 2005 PUMS, the number of housing unit records contained in a 1-year PUMS file is about 1 percent of the total in the nation or approximately 1.3 million records. The first 3-year PUMS file—for the period 2005 to 2007—contains records for about 3 percent of housing units or about three times as many as the 1-year file.
Source	https://www.census.gov/programs-surveys/acs/data/pums.html
Geography	PUMS data is available for Public Use Microdata Areas (PUMAs). PUMA are nested within state or equivalent entities and contain at least 100,000 people. The cover the entirety of the United States, Puerto Rico, Guam, and the U.S. Virgin Islands and are built on census tracts and counties.
Indicates	Income to poverty ratios, race and ethnicity, language spoken at home, country/place of birth, elderly, and persons with disabilities, and transportation variables such as number of vehicles available, commute time, means of transportation, among other topics are available from the ACS PUMS.
Timeliness	The 1-Year estimates of the ACS are updated annually. As the time series of the estimates gets longer—for example, a 3-year or a 5-year timeframe, the less current some of the information in the file will be. Over time, PUMS ACS data provides a robust, large microdata sample to enable detailed cross tabulations.
Other Considerations	<p>Microdata users often want to look at relationships among variables not shown in the standard products provided by the U.S. Census Bureau. PUMS enables data users to tabulate data according to the specific research questions they want to investigate. For example, how does the journey to work differ for foreign-born and native-born residents?</p> <p>Use of the PUMs microdata requires a willingness to wade into detailed technical documentation and a general familiarity with weighting procedures, databases, and statistical programs.</p> <p>This rich data resource is particularly valuable for demographic profile analyses, particularly policy research and planning studies focused on the relationships between detailed socioeconomic characteristics—for example, income, age, sex, race, foreign-born status, language spoken—and the journey to work (e.g., mode, time of day, distance, etc.).</p>

Table F.5 DataFerrett

About	DataFerrett is the analytical interface to the Census Bureau’s TheDataWeb that allows simultaneous access to multiple datasets and variables for instant analysis or for retrieval for use in other software. DataFerret is a free web application that enables users to create tables, graphs and maps to visualize analytical results, as well as for use in documents and presentations without installing expensive statistical or mapping software. DataFerrett allows users to work with the large amount of data available from the ACS PUMS datasets, among other datasets. It searches and retrieves PUMS data quickly, and can recode variables and create complex custom tabulations. It pulls in the weights with the data so that the estimates represent the population overall. The user can download only specific variables. Can create tables, graphs and maps The Census Bureau is in the process of creating a new microdata analysis system that will eventually replace DataFerrett.
Source	https://dataferrett.census.gov/
Geography	Multiple regions including U.S., States, Regions and Public Use Microdata Areas (PUMAs)
Indicates	Makes available American Community Survey PUMS (1-year, 3-Year and 5-year estimates) to permit analysis of such relevant variables as income-to-poverty ratios, race and ethnicity, language spoken at home, country/place of birth, zero-car, elderly, and persons with disabilities, and transportation variables such as commute time, means of transportation, among other topics are available from the PUMs ACS
Timeliness	The 1-Year estimates of the ACS PUMS are updated annually. As the time series of the estimates gets longer—for example, a 3-year or a 5-year timeframe, the less current some of the information will be in the file. Although over time it provides a robust, large microdata sample to enable detailed cross tabulations.
Other Considerations	<p>Microdata users often want to look at relationships among variables not shown in the standard products provided by the U.S. Census Bureau. PUMS enables data users to tabulate data according to the specific research questions they want to investigate. For example, how do commute distances vary between persons with lower and higher incomes, or by means of transportation?</p> <p>Some web browsers are starting to discontinue plug-ins required for DataFerrett. Technical requirements and workarounds are posted on the main page at dataferrett.census.gov.</p> <p>This rich data resource is particularly valuable for demographic profile analyses, particularly policy research and planning studies focused on the relationships between detailed socioeconomic characteristics—for example, income, age, sex, race, foreign-born status, language spoken—and the journey to work (e.g., mode, time of day, distance, etc.).</p>

Table F.6 Census Transportation Planning Products

<p>About</p>	<p>Census Transportation Planning Products (CTPP) provide 200 residence-based tables, 115 workplace-based tables and 39 flow tables (home to work) for over 200,000 geographies. CTPP residence and workplace-based tabulations provide residence and workplace data by occupation, age, travel mode, travel time, minority status, poverty status and so on for selected residence and workplace geographies respectively. CTPP flow-based tabulations provide home to work trips data by travel mode, age, minority status, travel time, poverty status and so on for selected residence-workplace geography. The tool makes available</p> <p>Environmental Justice tabulations of travel related variables include means of transportation to work and travel time by minority status and race and vehicles available by minority and poverty status. CTPP is a product of the State DOTs in partnership with AASHTO.</p> <p>CTPP uses ACS/Census data (both original and disclosure proofed). CTPP Data Access Software is an online tool that provides access to this data in the form of tables, maps and charts. Most recently, CTPP was released for 2006-2010 5-Year ACS data, with a 2012-2016 5-Year ACS data release planned for 2019.</p>
<p>Source</p>	<p>CTPP Data Access Tool: http://data5.ctpp.transportation.org/ctpp/Browse/browsetables.aspx Data Download: ftp://data5.ctpp.transportation.org/</p>
<p>Geography</p>	<p>CTPP 2006-2010 data is available at state, county, place, metropolitan statistical area, PUMA, census tract and TAZ levels. CTPP 2012-2016 ACS data will be provided at the block group level.</p>
<p>Indicates</p>	<p>Where people live, work and how people travel to work by demographic, economic and travel characteristics. Provides several tables on travel-related variables for minority and low-income populations.</p>
<p>Timeliness</p>	<p>The data is not update at regular intervals. It will be released for 2012-2016 5-Year ACS data in 2019. It is currently available for 2006-2010 5-Year ACS, and 2006-2008 3-Year ACS estimates, as well as the 2000 Census and 1990 Census.</p>
<p>Other Considerations</p>	<p>CTPP provides detailed demographic, economic and travel characteristics of individuals, combining data on where people live and work and how they commute. CTPP 2012-2016 data will be even more informative for transportation studies in the future as it is planned to be released at block group level. Data is not updated at regular intervals.</p> <p>CTPP data provides a good understanding of the travel patterns in the study region by demographic, social and economic characteristics of the people – who is travelling, how and to where.</p>

Table F.7 Integrated Public Use Microdata Series (IPUMS) USA

About	IPUMS USA provides Decennial Census and ACS data at the individual and household level for a highly precise representative sample of the American population. It provides easy access to the data through its free web interface that allows users to download/analyze the data. It can be used to select, filter, control and recode variables, and create tables and charts. It consists of an extensive list of variables related to gender, age, education, immigration, occupation, travel, ethnicity, race and household composition available through the decennial census and ACS in a year.
Source	User needs to create an account to access the data available at: https://usa.ipums.org/usa/
Geography	Since 1980, IPUMS has released individual and household data for states, counties or parts of counties, and PUMAs with 100,000 or more residents. Data is not released for smaller geographies in order to maintain confidentiality.
Indicates	Basic demographic data (such as age, gender, race, ethnicity, marital status), economic data (such as occupation, education, work status, income, housing characteristics, etc.) and travel data (such as mode of travel, trip distance, trip time). Enables user to study relationships between variables such as sex and income, housing security, geographical location, etc.
Timeliness	Decennial census (every 10 years) and ACS data (1-year, 3-year and 5-year depending on the region)
Other Considerations	Microdata users often want to look at relationships among variables not shown in the standard products provided by the U.S. Census Bureau. IPUMS enables data users to tabulate data according to the specific research questions they want to investigate. For example, how do commute distances vary between persons with lower and higher incomes, or by means of transportation? Useful for understanding changes across time and conducting comparative research. This rich data resource is particularly valuable for demographic profile analyses, particularly policy research and planning studies focused on the relationships between socioeconomic characteristics (e.g., income, age, sex, race, foreign-born status, language spoken) and journey to work (e.g., mode, time of day, distance, etc.).

Table F.8 LEHD and Origin-Destination Employment Statistics (LODES)

About	<p>Longitudinal Employer-Household Dynamics (LEHD) makes available several data products that may be used to research and characterize workforce dynamics for specific groups. These data products include online applications, public-use data, and restricted-use microdata. The LEHD Origin-Destination Employment Statistics (LODES) data are available online for public use. Confidential microdata are available to qualified researchers with approved projects through restricted access use in Census Research Data Centers.</p> <p>The LEHD Origin-Destination Employment Statistics (LODES) data sets are released both as part of the OnTheMap application and in raw form as a set of comma separated variable (CSV) text files.</p>
Source	<p>https://lehd.ces.census.gov/data/</p>
Geography	<p>Data is available for most states in most years. The Local Employment Dynamics Partnership consists of 53 state and territorial partners of which 50 are producing data for OnTheMap. Version 7 of LODES was enumerated by 2010 census blocks. Previous versions of LODES were enumerated with 2000 census blocks. Data files are state-based and organized into three types: Origin-Destination (OD), Residence Area Characteristics (RAC), and Workplace Area Characteristics (WAC), all at census block geographic detail. Data is available for most states for the years 2002–2015.</p>
Indicates	<p>Jobs by place of residence tables report broad categories of race, earnings, age, industry, educational attainment level and sex. Jobs by place of work report similar variables as well as firm age and size of firm. Origin-destination table reports number of jobs, age, earnings and highly aggregated goods, trade and service sectors.</p>
Timeliness	<p>Data is about 1 year behind, but updated annually and currently contains data from 2002 through 2015.</p>
Other Considerations	<p>The LEHD dataset covers more than 95% of the total workforce in the U.S.</p> <p>The LEHD database contains confidential longitudinal-linked employer–household microdata. This integrated microdata is generated by the Census Bureau using data collected for federal and state administrative purposes as well as from confidential Census Bureau surveys and censuses. Research projects at LEHD are carried out both by LEHD permanent staff and by research associates using a secure network of eight Research Data Centers (RDCs) administered by the U.S. Census Bureau's Center for Economics Studies. The LEHD can support more intensive research, for example, on low-wage workers’ access to suitable jobs over time from investments in transport facilities (e.g., transit stations or highway interchanges).</p> <p>The LEHD resource provides a valuable, relatively timely dataset for examining the labor commute shed and the earnings profile of workers, which can supplement a demographic profile. The dataset can assist practitioners to identify major origin-destination pairs for transportation planning purposes.</p>

Table F.9 OnTheMap

About	OnTheMap is produced by the U.S. Census Bureau in cooperation with states under the Local Employment Dynamics (LED) Partnership. The project is supported by the Employment and Training Administration (ETA) at the US Department of Labor. The On-the-Map tool provides census block-level coverage for home and work areas in 50 partner states/ territories with consecutive years of data from 2002 to 2015. Six different types of analyses are quickly available for users to analyze, compare, and summarize labor force data for user-defined or census-standard areas. Each set of results are presented through interactive maps, charts, and reports. Results can be exported to a report (PDF, HTML, XLS), to a map (KML or Shapefile), or to other forms (PNG images or composite PDF). All US states and Puerto Rico are currently featured showing data for 2002 through 2015.
Source	OnTheMap— https://onthemap.ces.census.gov/ LED Program— http://lehd.did.census.gov/led/
Geography	Employment data used for OnTheMap are derived from Unemployment Insurance Wage Records reported by employers and maintained by each state for the purpose of administering its unemployment insurance system. States assign employer locations, while workers' residence locations are assigned by the U.S. Census Bureau using data from multiple federal agencies. Age, earnings, and industry profiles are compiled by the U.S. Census Bureau from state records and are supplemented with other Census Bureau source data. Final compilations and confidentiality protection are performed by the Census Bureau. Census block-level coverage for home and work areas in 50 partner states/territories.
Indicates	Jobs by place of residence tables report broad categories of race, earnings, age, industry, educational attainment level and sex. Jobs by place of work report similar variables as well as firm age and size of firm. Origin-destination table reports number of jobs, age, earnings and highly aggregated goods, trade and service sectors.
Timeliness	Data is about 1 year behind, but updated annually and currently contains data from 2002 through 2015.
Other Considerations	<p>OnTheMap includes powerful analysis tools—six different analysis types are available for users to analyze, compare, and summarize a vast amount of labor force data for user-defined or census-standard areas. Each set of results are presented through interactive maps, charts, and reports.</p> <p>OnTheMap provides versatile outputs—results can be exported to a report (PDF, HTML, XLS), to a map (KML or Shapefile), or to other forms (PNG images or composite PDF). Users can also save their analysis settings for future use in OnTheMap.</p> <p>Easy-to-use online documentation, including tutorials and walkthroughs, is available at: lehd.ces.census.gov/applications/help/onthemap.html.</p> <p>The LEHD database contains confidential longitudinal-linked employer–household microdata generated by the U.S. Census Bureau using data collected for federal and state administrative purposes as well as from confidential U.S. Census Bureau surveys and censuses. Research projects at LEHD are carried out both by LEHD permanent staff and by research associates using a secure network of eight Research Data Centers (RDCs) administered by the U.S. Census Bureau's Center for Economics Studies. The LEHD can support more intensive research, for example, on low-wage workers' access to suitable jobs over time from investments in transport facilities (e.g., transit stations or highway interchanges).</p> <p>Job data in OnTheMap is available for jobs whose workplaces are located in one of the 50 states currently in OnTheMap. Data are available in all years (2002-2015) except for select States in</p>

	<p>select years. Data is not available for Puerto Rico or Virgin Islands. It is possible to have home locations in States that are missing job data, however these totals will not be complete and should be used with caution.</p> <p>The LEHD resource provides a valuable, relatively timely dataset for examining the labor commute shed and the earnings profile of workers, which can supplement a demographic profile. The dataset can assist practitioners to identify major origin–destination pairs for transportation planning purposes.</p>
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Table F.10 General Transit Feed Specifications (GTFS)

Feature	Details
About	<p>The General Transit Feed Specification (GTFS), also known as GTFS static or static transit to differentiate it from the GTFS real time extension, defines a common format for public transportation schedules and associated geographic information. The GTFS format is used by many transit agencies to communicate their schedules to on-line mapping programs and to travelers for transit trip planning. The GTFS format provides transit trip, route, stop and schedule data and its availability has quickly transformed accessibility research. In transportation decision-making, GTFS can be used to analyze and evaluate public transit accessibility and transit service equity. The companion GTFS Realtime format is used to communicate arrival predictions, vehicle positions, and services advisories.</p>
Source	<p>http://gtfs.org/</p>
Geography	<p>In 2016, there were an estimated 1,026 transit agencies worldwide, including 864 transit agencies in the U.S., that shared their GTFS data openly with the general public.</p>
Indicates	<p>Public transportation schedule, geographic and fare information.</p>
Timeliness	<p>The timeliness of GTFS data depends on how recently a transit agency has updated the GTFS data file it makes available for download.</p>
Other Considerations	<p>A large number of transit agencies have public feeds, and GTFS makes this transit data more widely available. It is designed to be relatively simple to create and read and available for consumer applications. It provides geographic coordinates for transit stops and temporal information on individual runs of transit routes, the times at which routes visit each stop, and the service frequency of routes by time of day. Toolkit software is available with one free copy to any State DOT, metropolitan planning organization (MPO), or public transit agency. Software has been developed that allows GTFS data to be interoperable with traditional GIS tools for standard network analyses.</p> <p>Route geography can be poor or missing. Does not include a street reference layer. Very detailed data, and a computationally intensive process, is needed for meaningful analysis. Data, data preparation, and implementation support are not included with the toolkit software.</p> <p>Researchers and travel demand analysts are increasingly using GTFS—in combination with employment and population data—to examine transit service equity and transit accessibility with the use of GIS tools and without the use of a travel demand model. The comparison of accessibility is used to identify service gaps. The information can be applied to travel demand model support, transit planning, bicycle and pedestrian planning, smart growth analysis, EJ, public outreach, and performance monitoring.</p>

Table F.11 AllTransit

Feature	Details
About	The Center for Neighborhood Technology’s (CNT) AllTransit provides transit connectivity, access, and frequency data gathered from U.S. transit agencies. The program uses General Transit Feed Specification (GTFS) data, as well as additional information on stop locations and schedules obtained from transit agencies directly. The dataset has station, stop, and frequency data for bus, rail, and ferry service for 824 transit agencies in regions with populations greater than 100,000 and a large number of smaller regions and agencies. The database compiles information on some transit agencies that do not have GTFS to create GTFS data for these agencies. AllTransit integrates data from ACS and LEHD, and location data from the Low-Income Housing Tax Credit Program, and Car Share and Bike Share programs.
Source	https://alltransit.cnt.org/
Geography	Census block groups, census tracts, municipality, county, metro regions, MPO boundaries, and local political boundaries.
Indicates	AllTransit provides over 200 metrics in six metric categories including jobs, economy, equity, health, transit quality, mobility network. The program assigns performance scores, and maps metrics such as access to jobs, transportation costs, commute by walking, households near high frequency transit, transit connectivity, among others.
Timeliness	Released in 2016, AllTransit continues to update data, including adding demographic data from the 2015 ACS.
Other Considerations	<p>The AllTransit website provides information on transit affordability, connectivity, and identification of transit gaps. It provides printable high-level summary reports. Performance scores are assigned to aid in comparison among communities.</p> <p>Custom datasets are available for purchase only. The datasets can be joined to census geography in GIS to analyze metrics in relation to socio-economic variables.</p> <p>AllTransit is a useful tool for measuring transit performance in relation to health, equity, and economic development, and identifying potential areas for improvement of transit systems.</p>

Table F.12 Open Trip Planner

Feature	Details
About	Open Trip Planner (OTP) is a family of open-source software projects that provide passenger information and transportation network analysis services written in JAVA. To model auto, biking, and walking, OTP uses a free and open-source dataset called OpenStreetMap (OSM) and supports public transport routing through imported General Transit Feed Specification datasets. OTP can be accessed directly via its web API or using a range of Javascript client libraries. OTP enables the user to modify transit schedules or make changes to a local OSM file in order to assess the impact of altering the transportation network. OTP was launched in 2009 and is used by public agencies and transportation consultants for route planning and running a wide variety of analyses.
Source	http://www.opentripplanner.org/
Geography	OTP can be used to carry out analysis on any street or transit network data available through OSM or GTFS. Outputs from OTP can be imported to GIS and overlaid on census geography, such as census tracts or block groups.
Indicates	Distance within specified travel time by auto, bike, walking, or the transit network; shortest path; street directions; transit routes; others.
Timeliness	OTP draws on OSM and GTFS. OSM street networks are created and updated by a community of contributors. The timeliness of GTFS data depends on how recently a transit agency has updated the GTFS data file it makes available for download.
Other Considerations	Among the many uses of data made available through OTP, users can create travel time isochrones from a specified point for multiple modes of transportation. Travel time isochrones can be imported into GIS as shapefiles and overlaid on census geographies to assess regional access.

American FactFinder Datasets

Table F.13 American Fact Finder Data Tables for Identifying EJ Population and Other Disadvantaged Populations - ACS 5-Year Estimates

Indicator	Census Variable	Lowest Geographic Level	Universe	Data Table
Race	White Alone, Black or African American alone, American Indian and Alaska Native alone, Asian alone, Native Hawaiian and other Pacific Islander alone, Some other race alone, Two or more races	Block Group	Total Population	ACS 5-Year Estimates – Race – B02001
Hispanic or Latino Origin	Not Hispanic or Latino (by Race); Hispanic or Latino (by Race)	Block Group	Total Population	ACS 5-Year Estimates – Hispanic or Latino Origin by Race – B03002
Poverty	Income in the past 12 Months below poverty level by Household Type by Age of Household; Income in the past 12 Months at or above poverty level by Household Type by Age of Household	Block Group	Households	ACS 5-Year Estimates – Poverty Status in the Past 12 Months by Household Type by Age of Household - B17017
Poverty	Ratio of income to poverty level in increments from under .50 to 2.00 and over	Block Group	Population for whom poverty status is determined	ACS 5-Year Estimates – Ratio of Income to Poverty Level in the Past 12 Months - C17002
Limited English Proficiency (LEP)	Language spoken at home – English only; Language other than English; Spanish; Other Indo-European; Asian and Pacific Island; Other languages. For all: Speak English less than “very well”	Census Tract	Population five years and older	ACS 5-Year Estimates – Selected Social Characteristics in the United States – DP02
Household limited English speaking status	English only; Spanish; Other Indo-European; Asian and Pacific Island; Other languages	Block Group	Households	ACS 5-Year Estimates – Household Language by Household Limited English Speaking Status - C16002
Persons with a Disability	By age, with a disability	Census Tract	Civilian Non-Institutionalized Population	ACS 5-Year Estimates – Selected Social Characteristics in the United States – DP02
Persons with a Disability	Sex; Race and Hispanic or Latino Origin; Age; Disability type by detailed age	Census Tract	Civilian Non-Institutionalized Population	2012-2016 ACS 5-Year Estimates – Disability Characteristics – S1810

Table F.13 American Fact Finder Data Tables for Identifying EJ Population and Other Disadvantaged Populations - ACS 5-Year Estimates

Indicator	Census Variable	Lowest Geographic Level	Universe	Data Table
Female Head of Household with Child	Households by type	Census Tract	Households	ACS 5-Year Estimates – Selected Social Characteristics in the United States – DP02
Female Householder	Family households; Nonfamily households	Block Group	Households	ACS 5-Year Estimates – Household Type (Including Living Alone) – B11001
Female Householder with children	Households with one or more people under 18 years; Households with no people under 18 years	Block Group	Households	ACS 5-Year Estimates – Households by Presence of People Under 18 Years by Household Type – B11005
Female Householder with Seniors	Households with one or more people under 60 years and over; Households with no people 60 years and over	Block Group	Households	ACS 5-Year Estimates – Households by Presence of People 60 Years And Over By Household Type – B11006
Elderly (75 years and over and/or 65 years and older)	Sex by age	Block Group	Total Population	ACS 5-Year Estimates – Sex by Age – B01001
Carless Households	By number of people in the household	Census Tract	Households	ACS 5-Year Estimates – Household Size by Vehicles Available – B08201
Carless Households (alternative 1)	Owner occupied by vehicles available; Renter occupied by vehicles available	Block Group	Occupied housing units	ACS 5-Year Estimates – Tenure by Vehicles Available – B25044
Carless Households (alternative 2)	Owner occupied by age; Renter occupied by age	Block Group	Occupied housing units	ACS 5-Year Estimates – Tenure by Vehicles Available by Age of Householder – B25045

Note: Most recent available ACS 5-Year Estimates are for the years 2013-2017 issued in December 2018. American FactFinder table numbers shown in the above table are accurate as of December 2018.

Table F. 14 American Fact Finder Data Tables for Identifying Travel Characteristics - ACS 5-Year Estimates

Indicator	Census Variable	Lowest Geographic Level	Universe	Data Table
Means of Transportation to Work	Car, truck, or van; Public transportation; Taxicab; Motorcycle; Bicycle; Walked; Other means; Worked at home	Block Group	Workers 16 years and older	ACS 5-Year Estimates – Means of Transportation to Work – B08301
Travel Time to Work	Travel time in increments from less than 5 minutes to 90 or more minutes	Block Group	Workers 16 years and older who did not work at home	ACS 5-Year Estimates – Travel Time to Work – B08303
Means of Transportation to Work by Race/Ethnicity (alternative 1)	Car, truck, or van – drove alone; Car, truck, or van – carpooled; Public transportation (excluding taxicabs)	Census Tract	Workers 16 years and over	ACS 5-Year Estimates – Means of Transportation to Work by Selected Characteristics – S0802
Means of Transportation to Work by Race/Ethnicity (alternative 2)	Car, truck, or van – drove alone; Car, truck, or van – carpooled, Public transportation (excluding taxicab); Walked; Taxicab, motorcycle, bicycle, or other means; Worked at home	Census Tract	Race alone, workers 16 years and over	ACS 5-Year Estimates – Means of Transportation to Work – B08105 (A-I)
Means of Transportation to Work by Poverty Status	Car, truck, or van – drove alone; Car, truck, or van – carpooled; Public transportation (excluding taxicabs)	Census Tract	Workers 16 years and over	ACS 5-Year Estimates – Means of Transportation to Work by Selected Characteristics – S0802

Note: Most recent available ACS 5-Year Estimates are for the years 2013-2017 issued in December 2018. American FactFinder table numbers shown in the above table are accurate as of December 2018.

American FactFinder Cross Tabulation Datasets

Table F.15 American FactFinder Indicator Cross Tabulation Sources - ACS 5-Year Estimates

	Hispanic Origin	Minority Population	Low-Income	Limited English Proficiency (LEP)	Persons with a Disability	Elderly
Hispanic Origin		B03002: Hispanic or Latino Origin by Race (Block Group Level)	S1701: Poverty Status in the Past 12 Months (Census Tract Level)	B16005I: Nativity by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over (Census Tract Level) B16006: Language Spoken at Home by Ability to Speak English for the Populations 5 Years and Over (Hispanic Or Latino) (Census Tract Level)	S1810: Disability Characteristics (Census Tract Level)	B01001I: Sex by Age (Hispanic and Latino) (Block Group Level)
Minority Population	B03002: Hispanic or Latino Origin by Race (Block Group Level)		S1701: Poverty Status in the Past 12 Months (Census Tract Level)	B16005A-H: Nativity by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over (Census Tract Level)	S1810: Disability Characteristics (Census Tract Level)	B01001A-H: Sex by Age

Table F.15 American FactFinder Indicator Cross Tabulation Sources - ACS 5-Year Estimates

	Hispanic Origin	Minority Population	Low-Income	Limited English Proficiency (LEP)	Persons with a Disability	Elderly
Low-Income	S1701: Poverty Status in the Past 12 Months (Census Tract Level)	S1701: Poverty Status in the Past 12 Months (Census Tract Level)			S1811: Selected Economic Characteristics for the Civilian Noninstitutionalized Population by Disability Status (County Subdivision Level)	S1701: Poverty Status in the Past 12 Months (Census Tract Level)

Note: Most recent available ACS 5-Year Estimates are for the years 2013-2017 issued in December 2018. American FactFinder table numbers shown in the above table are accurate as of December 2018.