



CTPP Status Report

January 2013

U.S. Department of Transportation
Federal Highway Administration (FHWA)
Bureau of Transportation Statistics (BTS)
Federal Transit Administration (FTA)
AASHTO Standing Committee on Planning
In cooperation with the TRB Census Subcommittee

Census Transportation Planning Products (CTPP) AASHTO Update

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The big news for CTPP is that pursuant to a decision by our oversight board we successfully petitioned the AASHTO Executive Committee, with the endorsement of the Standing Committee on Planning, to resolve to change the nature of the CTPP from an Ad Hoc program that needs resurrection for each lifecycle, to an ongoing technical services program. This change allows the CTPP to more closely follow the continuous data releases of the American Community Survey (ACS), rather than the former model, which relied on the decennial long form data. The upshot is we can now develop a more long term strategic goal, and better meet the needs of our community. In the coming year, if you have the opportunity to share your thoughts on the value of the program with others in your agency, please do so. As always, any ideas on improving the program should be addressed to me, at pweinberger@ashto.org.

What We Spend: Toward a New Consumer Expenditure Survey

The Committee on National Statistics has published the report: Measuring What We Spend: Toward a New Consumer Expenditure Survey. The Consumer Expenditure Survey (CES) may be of interest to the transportation community as it tracks household expenditures on transportation, which are around 15 percent of household expenditures.

http://www.nap.edu/catalog.php?record_id=13520

Also please note that CES microdata are now downloadable for free at:

<http://www.bls.gov/cex/pumhome.htm>

The CTPP Oversight Board met on November 7, 2012 via webconference. There was progress on all fronts, including revising the charge and structure of the board, contingent on the (now approved) new ongoing program. Other discussions included:

- 2006-2010 CTPP: The CTPP data will be released to AASHTO State by State, but the first CTPP table set was developed for testing in December 2012. The data will be released with data access software with excellent new mapping capabilities. We expect a full release, including small area data by mid-2013.
- Research projects: The Board approved CTPP program funding for a proposal for “CTPP Data Utility Research”. The scope is being refined and a Request for Proposal should be released shortly. Other research projects are being developed to take advantage of various funding sources and research programs including:
 - Data Visualization.
 - Small Area Employment Data.
- FTA and BTS are leading the efforts of recommending to Census Bureau adding the words “light rail” to the ACS questionnaire. The Census Bureau is expected to provide an instruction for 2015 ACS content testing in early 2013. FTA and BTS will make sure materials are submitted to Office of Management and Budget (OMB) in a timely manner.

The Partnership for Sustainable Communities Hot Report and API Roadmap

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The Partnership for Sustainable Communities (PSC)—the U.S. Environmental Protection Agency, Department of Transportation, and Department of Housing and Urban Development—with support from the Census Bureau, has developed an online visualization, tracking, and web services toolkit. The toolkit includes a dynamic and interactive website that presents a series of sustainable community measures and indicators for a selected State and county. Information in the report currently comes from a variety of sources including the American Community Survey, Census 1990 and 2000, the Department of Labor's Quarterly Census of Employment and Wages and State Occupational Projections, and the Census Bureau's Local Employment Dynamics. Data are maintained and updated by the collecting agency.

Web services provide easy access to the most current, publicly available data via DataWeb across the internet using the DataFerrett¹ interface. Definitions of HotReports and DataWeb are listed as following:

- HotReports, a website builder for dynamically presenting data is available through the DataWeb.
- DataWeb provides the ability to manipulate and visualize datasets in multiple websites at once, while still maintained and dynamically updated as a single instance of the dataset.

The data in DataWeb are live streaming and automatically updated, provided in nonproprietary format at no cost to the public, using official Census metadata. More indicators will be added in the future.

The HotReport includes indicators for the following topics:

Transportation

Mode share: Percentage workers commuting by non-auto modes

Mean travel time to work

Housing

Percent of households with housing costs greater than 30 percent of income

Average housing costs as share of median income

Economic Development

Job growth

Unemployment rate

Share of population with a college degree

Equity

Share of income held by top 5 percent of households

Share of children living below poverty line

Poverty rate

Share of population with a high school degree

Wealth

Median household income

Average monthly earnings per job

Users can select a State and county and view charts, tables, and maps showing performance trends (Figure 1 and Figure 2). Users can also select other communities that they consider as "peers" or comparison

¹FERRETT is an acronym for "Federal Electronic Research, Review, Extraction, and Tabulation Tool." It enables users to locate, extract, download and/or perform limited on-line manipulations of statistical information drawn from any one of several survey datasets. Currently, DataFerrett users can work with datasets from Census, Bureau of Labor Statistics, and the National Center for Health Statistics surveys. It can be accessed at <http://dataferrett.census.gov/>

communities. Future enhancements will allow users to select a “place” level of geography.

The site also includes an Application Programming Interface (API)² section or “Sustainable Communities API Roadmap” that describes how developers and practitioners can stream live data from a variety of Federal data sources using the Census API. With this API users can design their own software apps, tables, and databases.

The Partnership for Sustainable Communities Hot Report and API Roadmap can be accessed via the following link: http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/EPA/EPA_HomePage2.html The HotReport is expected to be improved by incorporating time series and trend charts, improved background maps, the ability to select geography from a map interface, and direct peer comparisons in the future when resources are available.



Figure 1. HotReport Geography Selection Interface.

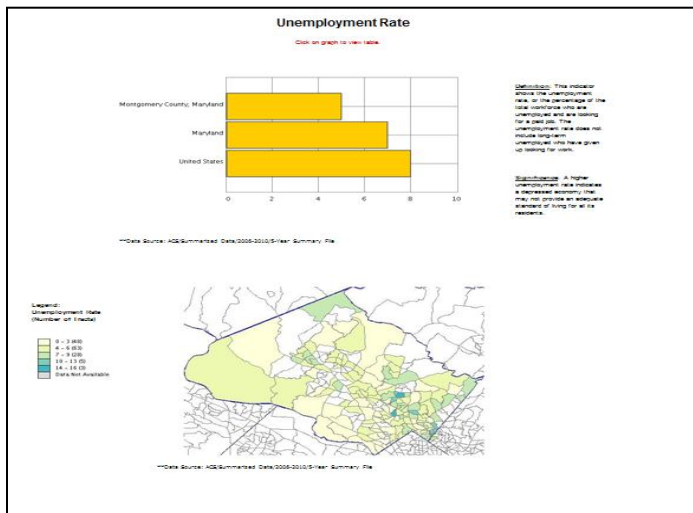


Figure 2. Unemployment Rate for Selected Geography.

²Census Bureau APIs @ <http://www.census.gov/developers/>

Census Data Application for Title VI Service Equity Analysis

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Title VI and Service Equity Analysis

On October 1, 2012, FTA released a new circular (C 4702.1B), which clarifies FTA's requirements for demonstrating compliance with Title VI of the Civil Rights Act of 1964, which protects people from discrimination based on race, color, or national origin in programs or activities that receive Federal financial assistance. Transit providers that operate 50 or more fixed-route vehicles in peak service and are located in urbanized areas of 200,000 or more people must conduct an equity analysis whenever they propose a fare change and/or a major service change. One objective of the analysis is to assess the effects of the proposed service change and determine if the change would result in a disparate impact on the basis of race, color, or national origin. While low-income populations are not a protected class under Title VI, FTA also requires recipients to evaluate proposed service and fare changes to determine whether low-income populations will bear a disproportionate burden of the changes. The revised circular provides guidance to transit operators who are FTA-funded recipients on how to comply with the U.S. Department of Transportation's Title VI regulations (49 CFR part 21). The circular also requires that transit operators establish guidelines or thresholds for major service changes.

The circular states that transit operators can undertake the service change equity analysis using either ridership data or demographic data. Although some agencies collect their own demographic data for the Title VI and low-income analyses, most of the transit operators use data from metropolitan planning organizations and the Census Bureau. Given that the Census Bureau discontinued using the long form survey after the 2000 Census, and recently released the 5-year American Community Survey (ACS) estimated data, most transit operators will use the 5-year ACS data for the source of the demographic data in their fare or service equity analyses. Since the purpose of the analyses is to identify potential impacts on minority and low-income riders, the demographic data should include race, national origin, and income information. The example that follows is an application of the census demographic data for a service equity analysis, as described in FTA's Circular 4702.1B. This article will not cover the fare equity analysis.

Prior to undertaking the analysis, the transit operator should determine the appropriate geographic unit (i.e., Block, Tract, traffic analysis zone (TAZ)), which should be used for the analysis. Although FTA encourages using the smallest geographic unit, the block-level data from the Census Bureau does not include information needed for analysis by income level. Thus, many transit agencies use census tract- or TAZ-level information to assess impacts of transit service changes to low-income populations.

A typical service equity analysis would assess the impacts of a change in transit service to the population served by the affected route(s) and the population of the area in which the transit service is proposed to be changed. This type of analysis follows the steps listed below:

1. Obtain demographic data and Geographic Information System (GIS) layers of the region.
2. Define thresholds for identifying low-income and minority areas.
3. Identify and label minority and low-income geographic unit (Block, Tract, or TAZ) in GIS layers.
4. Overlay transit route layers on top of the demographic data layer.
5. Identify low-income and minority geographic units within the affected transit routes.
6. Identify whether there is disparate impact or disproportionate burden.

The first task in the process is to obtain GIS layers and population data of the study area. The ACS 5-year population data and accompanying GIS layers can be downloaded from the Census Bureau website. Additionally, GIS layers can be obtained from regional Metropolitan Planning Organizations (MPOs). The second task is to define the thresholds for identifying census tracts that may be labeled as predominantly low-income or predominantly minority areas. Typically, many areas set the minority threshold based upon the average proportion of the minority population in the region. On the other hand,

the threshold for low-income census tracts can be defined in two ways—using the Federal poverty threshold or using a percent of median regional income. After the thresholds are defined, and the census tracts labeled as predominantly low-income or minority, the transit routes are overlaid on top of the demographic data layer to identify the number minority and low-income people that may be impacted by a change in the transit routes.

Example Analysis

For illustration purposes, data for the Metro West Regional Transit Authority (MWRTA) of Massachusetts was obtained from the Census Bureau website. At the time of this particular analysis, the ACS 5-year data were not yet available, so the 2000 census data was downloaded for the analysis. Please note that original figures in the 2000 Census were changed to develop various scenarios. As a result, the figures presented in the example do not represent the year 2000 actual condition of the Metro West area.

Figure 3 shows the transit layer on top of a TAZ layer of MWRTA area. The study area includes 11 counties with total population of 242,916. Based upon the average minority population for the region, the threshold for the regional minority population was calculated as 21 percent. The threshold for low-income populations was established as sixty percent of median income (\$57,000), so the proportion of the low-income population was calculated to be 18 percent of the total.

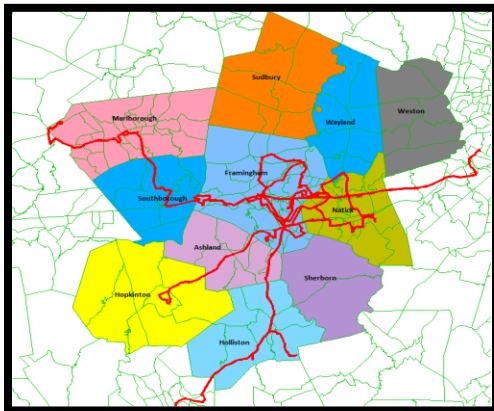


Figure 3. Eleven-County MWRTA GIS layers and its transit routes.

Figure 4 below shows the TAZ that were identified as minority TAZs in blue (left figure) and TAZ that were identified as low-income TAZs in red (right figure). If the percentage of minority population in a TAZ is higher than the regional average, the TAZ is defined as a minority TAZ. Similarly on the right side the shaded TAZs are the low-income TAZs. Threshold for defining low-income population will vary in different regions and cities, based upon local conditions, income levels and regional average income. In this case, 60 percent of the median income was established as the threshold for low-income census tracts. Table 1 shows the percent minority and low-income population in the study area. As shown in the table, minority population threshold was established as 21 percent and low-income threshold was established as 18 percent.

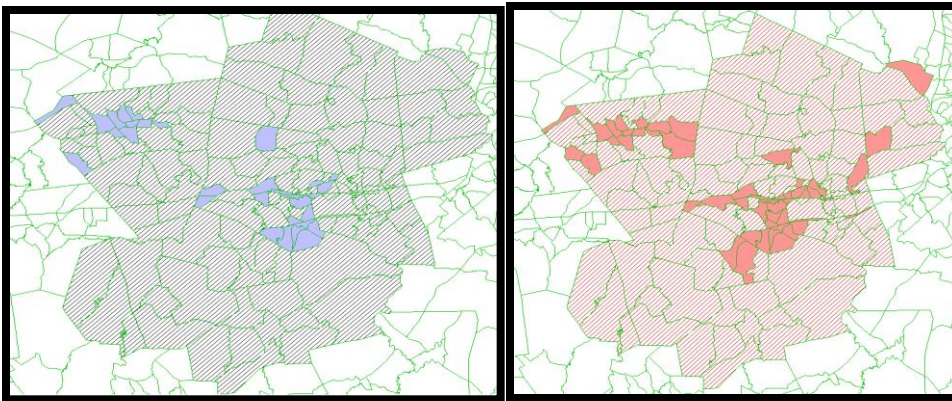


Figure 4. Minority TAZs (left) and Low-Income TAZs (right).

Table 1. Minority and Low-Income Population Percentage in the Region.

MWRTA - Regional Population & Household Data				
Total Population	Minority Population	Percent Minority	Low-income Population	Percent Low-income
242,916	50,829	21%	43,000	18%

In this example, two transit routes, Route 6 and Route 7, are proposed to be discontinued. To identify census tracts that have been identified as predominantly minority or low-income, the transit routes are overlaid on the census tracts using GIS. The maps in Figure 5 show the discontinued transit routes and the ¼ mile bands along the routes. In this example ¼-mile band was considered to calculate the typical expected walk distance for bus riders. The ¼-mile band will identify the census tracts and TAZs along the routes. A transit operator may define a different walk-distance, based upon local conditions, to estimate walk access riders. Figure 5 left shows GIS layers of minority population and right shows layers of low-income population.

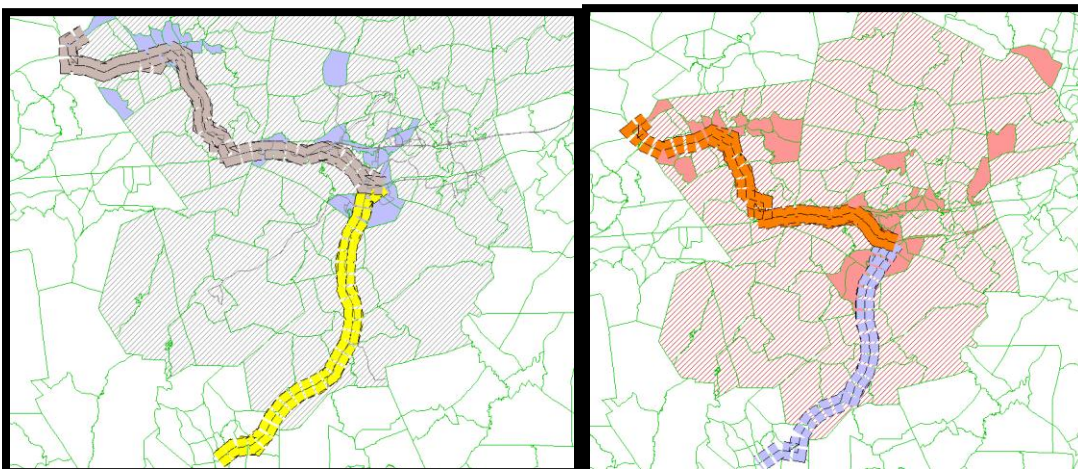


Figure 5. Discontinued Routes with ¼ Mile bandwidth along the routes.

The next step is to calculate the minority and low-income population in the affected area and compare them with the regional statistics. Table 2 shows minority and low-income population and the percentage of total population.

Table 2. Population data of affected TAZs along the routes.

MWRTA - Affected TAZ Area Population Data						
Route #	Change type	Total Population in the	Minority Population	Percent Minority	Low-income Population	Percent Low-income
Route 6	Discontinued	5,870	800	14%	250	4%
Route 7	Discontinued	9,500	2,500	26%	2,100	22%
Total		15,370	3,300	21%	2,350	15%

Regional data shows that 21 percent of the regional population is minority population, and 18 percent is low-income population. Table 2 shows that for Route 6 minority and low-income population are 14 percent and 4 percent respectively. Similarly, for Route 7, 26 percent of population along the corridor is minority and 22 percent are low-income. Average of the two routes indicates that 21 percent of the impacted population is minority and 15 percent is low-income population. Based upon this analysis, the change in the Route 7 would impact census tracts with a higher proportion of minority and low income populations than the regional average. The transit provider’s ultimate determination of disparate impact on minority riders or disproportionate burden on low-income riders would depend on the disparate impact and disproportionate burden threshold policies developed by the transit provider through a public participation process

Conclusions

As described in the Circular, transit operators with at least 50 fixed route vehicles in peak service and located in urbanized areas of 200,000 or more people must conduct an equity analysis whenever they plan a fare change and/or a major service change. Many of the transit agencies, especially the small ones, always struggle with data. Some agencies collect demographic data but do not include information related to race, income, and national origin. Some of them collect ridership data as part of a customer satisfaction survey without race and income data. As a result, the data are not adequate to perform the Title VI and low-income service equity analyses.

Census Bureau’s 5-year ACS data includes race, income, and national origin information, which is required for Title VI and low-income analyses. Transportation planners have been using information from the Census Bureau’s “long form” for many years. Since the Census Bureau stopped collecting “long form” data and ACS 5-year data has been released recently, transit agencies are planning to use ACS data for their service equity analysis. Five-year ACS data includes all the information needed to perform the analysis.

The Census Bureau American FactFinder2 and DataFerrett Self Tutorial

American FactFinder2 Self Tutorial is available at:
http://www.fhwa.dot.gov/planning/census_issues/ctpp/training/af2sf1.cfm

Census Bureau DataFerrett Self Tutorial is available at:
http://www.fhwa.dot.gov/planning/census_issues/ctpp/training/dataferret_self_tutorial/index.cfm

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FHWA website for Census issues: http://www.fhwa.dot.gov/planning/census_issues

AASHTO website for CTPP: <http://ctpp.transportation.org>

1990 and 2000 CTPP data downloadable via Transtats: <http://transtats.bts.gov/>

TRB Subcommittee on census data: <http://www.trbcensus.com>

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CTPP Listserv

The CTPP Listserv serves as a web-forum for posting questions, and sharing information on Census and ACS. Currently, more than 700 users are subscribed to the listserv. To subscribe, please register by completing a form posted at: <http://www.chrispy.net/mailman/listinfo/ctpp-news>.

On the form, you can indicate if you want e-mails to be batched in a daily digest. The website also includes an archive of past e-mails posted to the listserv.