



# CTPP Status Report

March 2007

U.S. Department of Transportation  
Federal Highway Administration  
Bureau of Transportation Statistics  
Federal Transit Administration  
In cooperation with the TRB Census Subcommittee

## TAZ definition timeframe

By Elaine Murakami, FHWA

One of the first tasks for the new CTPP is TAZ boundary definition by MPOs and State DOTs. We have been talking with the Census Bureau's Geography Division about how and when to submit TAZs for the next CTPP. We would like to use a GIS-based approach similar to that used for the TAZ definition for the CTPP2000. We would like a system that does not require licensing any other GIS software to operate. (As an historic reference, the TAZ-UP program for CTPP2000 was an add-on to ArcView 3.1, which required that users have ArcView.) We would like a user-friendly interface. We have heard that many people liked using TAZ-UP in the last round, so we want a system that is equally friendly.

CB recommends using the Summer 2008 Benchmark File. **This file would be distributed to Transportation agencies (MPOs and State DOTs) for TAZ definitions in October 2008. Agencies would have 120 days to return files to the Census Bureau. You may want to plan for labor hours between October 2008 and February 2009 for this task.**

Potentially, a "near final" tract boundary file could be sent to transportation agencies in late 2009, with the understanding that it was to be used ONLY for reviewing TAZ boundaries, and moving TAZ boundaries to tract boundaries, if so desired. This is one way that we could assure that places that want to use tract boundaries have a method for some modifications to assure consistency between TAZ and tract boundaries, if desired.

## TAZ Definitions FAQs

What kind of TAZs to create?

We have asked the CB to plan for the software to create three levels of TAZs that nest within each other. The smallest is a base TAZ that will be subsequently used to define two other larger size aggregations (optional by county). The base TAZ would be similar to the traditional "small area geography" TAZs in 2000. The software must provide the ability to aggregate these TAZs to medium size (about 4,000 population) and larger size (about 20,000 population) aggregations (much like Block Groups being aggregated to Tracts, or Tracts aggregated to PUMAs), if desired by the MPO/State. (Note: some PUMAs use political boundaries rather than tracts, so they do not fit into the concept of aggregating tracts into PUMAs.)

Will there be a population (residents or worker) threshold for TAZs?

We hope that there will not be strictly imposed threshold for TAZs. However, because the expected sampling ratio of the American Community Survey after five year accumulation will be about 60 percent of the sample in the decennial Census Long Form, we think that base TAZs may need to be larger than in the past. The Census Bureau will most likely be using 1200 persons and 480 housing units as the threshold for tracts and block groups.

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## Use of CTPP to assess transit access to the Manhattan CBD

By Bruce Schaller, Principal of Schaller Consulting

A major objection to policies to restrict auto use in the Manhattan Central Business District (CBD) is the perception that auto commuters lack viable transit alternatives. Don't drivers "have to" drive?

Although only 16% of the 1.7 million workers in the Manhattan CBD drive to work, auto commuters contribute to very high levels of congestion and traffic delay at bridges, tunnels and roads leading into the CBD, defined as the area south of 60<sup>th</sup> Street. As a comparison, approximately the same number of people commute by auto to Midtown Manhattan as to downtown Los Angeles, two downtown districts of comparable land area.

The analysis utilized CTPP data to analyze the extent to which auto commuters have a viable transit alternative defined in terms of (1) rail access and (2) reasonable transit travel times relative to the auto.

The analysis used CTPP Part 3 data, which provides worker flows between place of residence and place of work and is the only data source available for sub-county level analysis of worker flows. While CTPP excludes non-work trips, work trips account for two-thirds of peak hour auto travel into the CBD and thus provide a reasonable overall picture of drivers' alternatives.

### *1. Do auto commuters have rail access to the CBD?*

Each census tract in the New York region was classified based on rail access. New York City tracts which are entirely or mostly within 2/3 mile of a subway station, and suburban tracts which are within 2 miles of a commuter rail station, were classified as having rail access. These are distances that can be measured at the tract level and that are

strongly associated with high rail mode share for CBD commuting.

The results showed that 64% of CBD auto commuters live near rail access to the CBD, showing that most auto commuters do in fact have a rail alternative.

### *2. How do transit travel times compare to auto commute times?*

This analysis includes not only rail access but also bus and ferry modes, which account for 12% and 1% respectively of CBD commutes, and rail commuters who take a bus to access a rail station.

For an apples-to-apples comparison of auto and transit commute times, the analysis took account of place of work within the CBD. For subway travel, the CBD was divided into Midtown and Downtown zones, reflecting the longer or shorter travel time to each area depending on one's point of origin. For rail commuters, the CBD was divided into zones for census tracts within walking distance of Penn Station or Grand Central Terminal; for other parts of Midtown; and for Downtown. Also, for both city and suburban commuters, a separate zone was constructed near the Hudson and East River waterfronts to capture the greater transit travel times to these areas, which are remote from the subway.

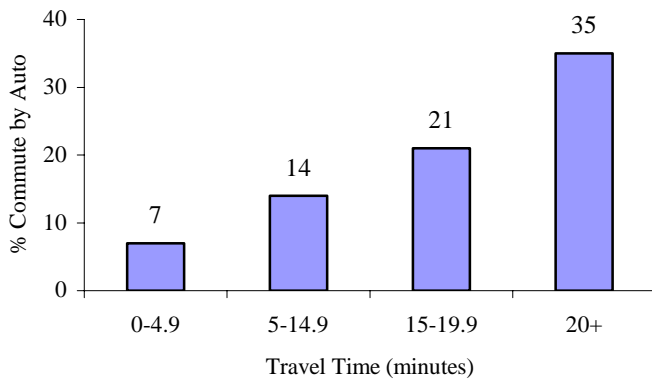
For place of residence, public use microdata areas (PUMA) were used instead of census tracts in order to maintain an adequate sample size for each home-to-work pair. Analysis of commuters' place of residence showed that auto and transit commuters are distributed similarly throughout each PUMA zone, so the aggregation should not bias the travel time comparisons.

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This methodology yielded 265 home and work zone pairs that have at least 300 auto and 300 transit commuters (or at least 50 of each in the CTPP sample for each home-to-work pair). These 265 zone pairs cover 85% of CBD workers commuting from the Tri-state area.

Results showed the impact of travel time on mode choice. While 7% of commuters used the auto when transit commute times were within 5 minutes of auto times, 21% commute by auto when the differential is 15 to 19 minutes and 35% commute by auto when the difference is over 20 minutes. (See Figure 1.)

**Figure 1. Manhattan CBD commuters, 2000**



Using 15 minutes as the cut-off for a tolerable travel time differential between auto and transit, results showed that 80% of auto commuters have a transit option that would take no more than 15 minutes longer by rail or bus than their auto trip. Mapping these travel time differences also identifies the areas in the region that are most in need of faster transit service. These include the outlying parts of New York City which are mostly beyond direct subway service, and west-of-Hudson areas that have no or slow rail service. (See Figure 2 (Page 6).)

These results helped to dispel popular misconceptions that auto commuters are mostly suburban commuters or that they are commuters who lack a viable transit alternative. These results contributed to a growing consensus that New York City can take measures to restrict auto use without harming the city economy, provided that public transportation is improved for commuters from outlying areas of the city. Results of the analysis were presented in several reports and highlighted in a page 1 *New York Times* article in January 2007. These reports and news coverage can be accessed at <http://www.schallerconsult.com/pub/ctpp>.

(See Page 6 for Figure 2)

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**TAZ Definition FAQs** (Continued from Page 1)

In review of TAZ from CTPP2000, on average, TAZs had a residential population of over 1000 persons, and about 550 workers. We identified 16 MPOs who had an average of 10 or more TAZs per tract. Although TAZs for travel demand modeling are getting smaller and smaller as MPOs move toward microsimulation, TAZs for ACS tabulation may need to be slightly larger than in CTPP2000 or previous CTPP or UTPP. Some of this will depend on whether or not a data synthesis approach can be developed and passes the Census Bureau’s Disclosure Review Board for data release.

Other geographic units to add?

We have asked the CB to plan for the software to ask users to define their MPO planning area boundary. If the MPO planning area boundary is added to TIGER, it could be used as a tabulation geographic unit for CTPP products.

## Gaining Clues to Seattle's Workforce Housing Needs

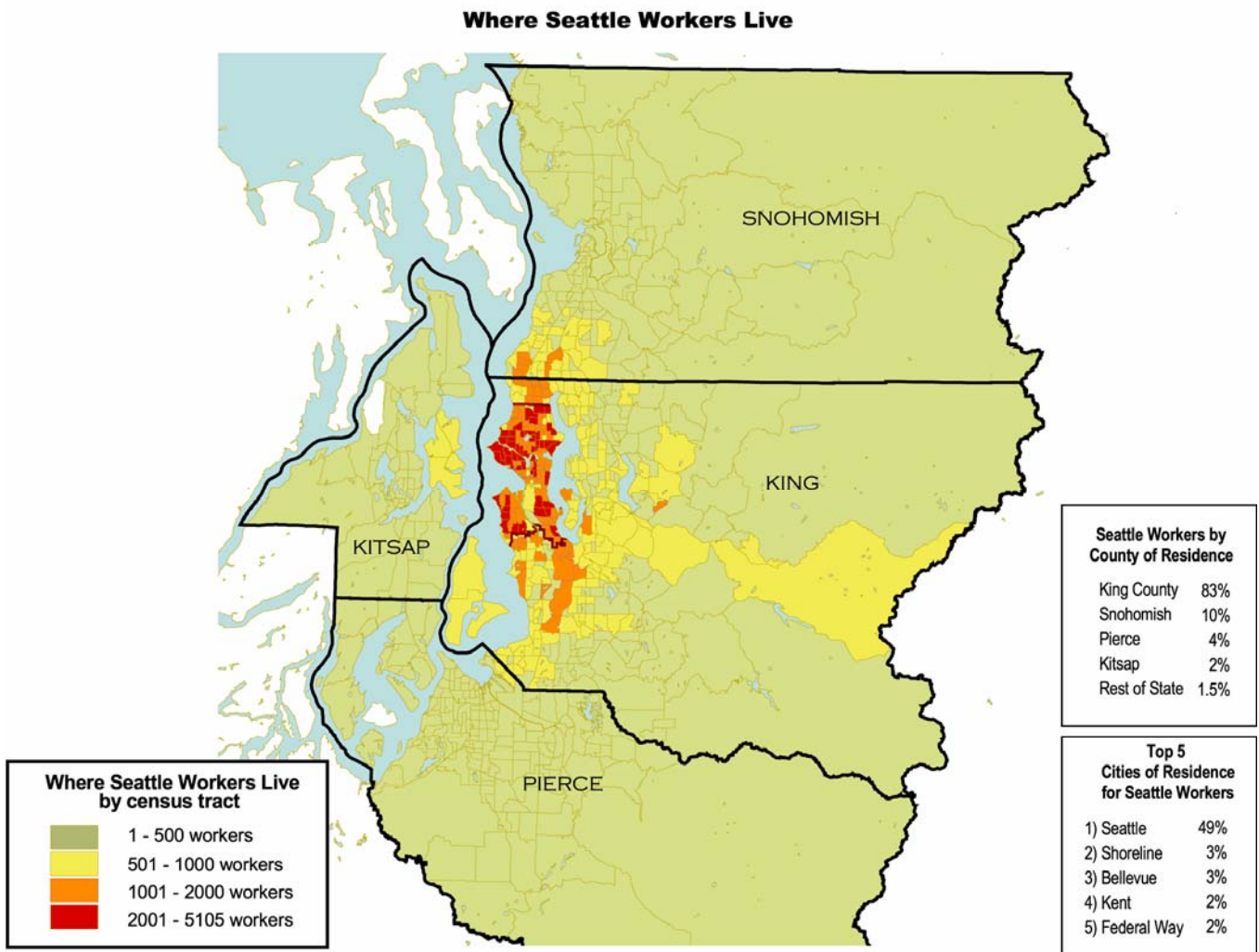
Sean Power, Seattle Office of Housing

Like many cities with skyrocketing housing prices, Seattle is witnessing a large-scale reordering in the income-mix of its residents. To gain clues as to how this issue is affecting Seattle workers, the Seattle Office of Housing used the CTPP 2000.

Our specific research questions were:

- Where do Seattle workers live?
- Where do Seattle residents work?; and
- What percentage of Seattle workers lives in the City and how does this average vary by workers from different income levels?

To answer the first two questions, CTPP data at the Census tract level was used.

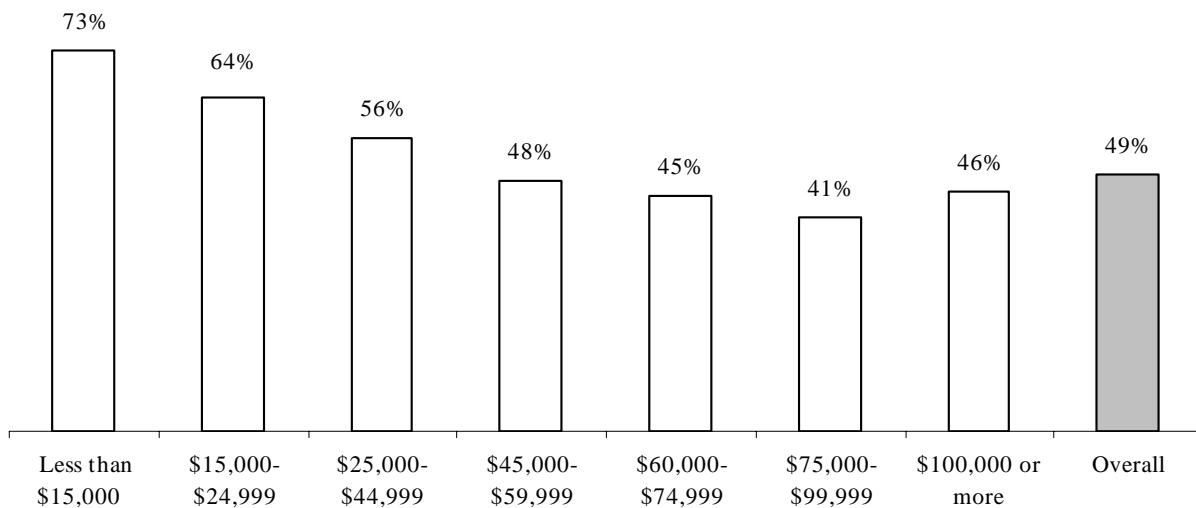


With regard to the last question, CTPP Part III data at the place level was chosen due to problems of data suppression at lower geographic units. That is, we would have liked to use Table 3-005: Household Income in 1999 at the census tract level, but it was too often suppressed.

Interestingly, this analysis shows that Seattle workers at the four lowest household incomes levels are the most likely to live in the City. This makes sense, however, given that these households are primarily renters; with a portion living in subsidized housing.

As the household income level of Seattle workers increases beyond \$60,000, the likelihood that they live in the City drops, with the exception of workers from households at the very highest income level. Given that most workers from households with incomes above \$60,000 are homeowners, this suggests that workers with household incomes from \$60,000 to \$99,999 have a greater tendency to leave the City and buy elsewhere. As workers' household incomes rise above \$100,000, high homeowner prices seem to play less of a role in their decision to live in the City.

**Percentage of Seattle Workers within Each Household Income Level that Live in the City (2000)**  
 (Total number of workers within each income level listed in parentheses)



## Staffing Changes

By Ed Christopher, FHWA

Along with the New Year came several staff changes to the CTPP family. So far we have had three retirements. David Clawson of AASHTO who has been around for the last two Journey-to-work tabulations; Phil Salopek, of the Census Bureau who was the first person hired to support the newly formed Journey-to-Work and Migration Branch; and, Bruce Spear of the FHWA Office of Planning. All three individuals will be missed.

As we look to the future, AASHTO is currently reviewing potential candidates, conducting interviews and hopes to have someone onboard very soon. Filling this position has become especially important as the CTPP Consolidated Purchase moves forward.

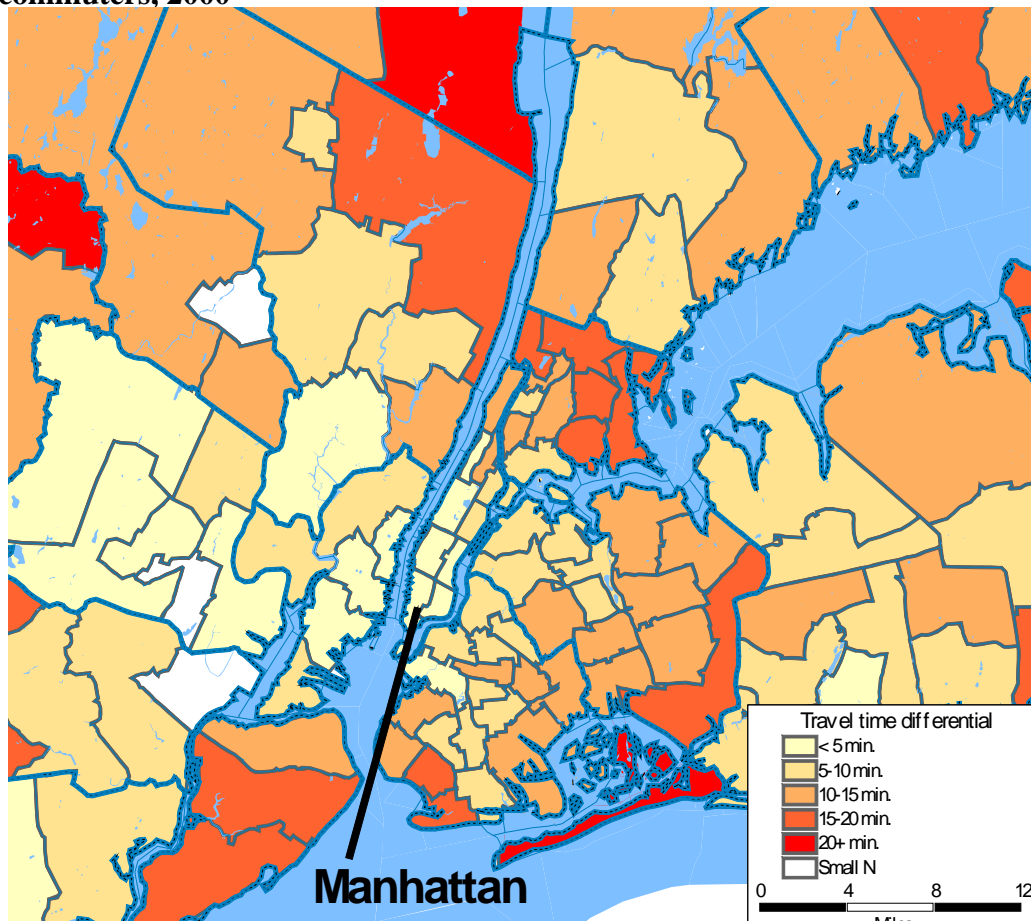
At the Census Bureau, two positions have been identified and are in various stages in the hiring process. The first will be a replacement for Phil who served as the Branch Chief. The new Branch Chief will focus more on branch chief duties and less on CTPP. A “new” staff person will be hired whose main responsibility will be to work on transportation related issues within the Census Bureau. The Census Bureau will post the job announcement to the CTPP listserv when it opens. Until the dust settles on these positions and new people are in place Celia Boertlein will function as CTPP main contact within Census Bureau.

FHWA plans to fill Bruce Spear’s vacated position, but no details are known at this time.

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## Use of CTPP to assess transit access to the Manhattan CBD (Continued from Page 3)

**Figure 2. Auto/transit travel time differential by PUMA zone, Manhattan CBD commuters, 2000**



## TRB January 2007: Census Subcommittee and Other Notes

By Bob Sicko, Chair, TRB ADJ30(1) Census Data Subcommittee

The January meeting of the Subcommittee on Census Data for Transportation Planning (ADJ30(1)) provided an opportunity for members and data users to get an update of Census Transportation Planning Products released in 2006 and key activities that are on-going. The American Community Survey (ACS) was implemented and data collected in 2005 was released. The American Association of State Highway Transportation Officials is coordinating a consolidated purchase to support the next CTPP data product using the ACS, along with additional tasks including capacity building and research. The Longitudinal Employer Household Dynamics (LEHD) program continues to mature and is making significant advancements, with the 2004 data processing to include 44 States.

Members and data users were asked to provide an overview of their use of the newly released ACS data. While some cursory review has occurred, the general consensus was more activity would occur in 2007. As a start the CTPP Technical Working Group has created some profiles using ACS (see box below).

The development of TAZ data from ACS was addressed as it has become quite evident that

MPO's and states want this product. For the 2010 Census, the Census Bureau MAF/TIGER Partnership Software (MTPS) will be used for submitting geographic boundaries. The boundaries to be created will include tracts, block groups, MCD's (Minor Civil Divisions), school districts and VTDs (Voting Districts) as well as underlying TIGER geographies. Similar software is planned for adding TAZ's to TIGER, so that future CTPP data releases can use revised TAZ geography.

The final agenda item dealt with the perennial problem of geocoding work place locations. In 2000, improvements included using a complex combination of industries and occupation codes for imputing workplace. With the smaller ACS sample, alternative approaches need to be explored. FHWA and the Census Bureau are working with the Metropolitan Transportation Commission to test a GIS-based approach to assist in the imputation process.

At the end of the meeting congratulations were extended to Phil Salopek on his pending retirement. Heartfelt thanks were deservedly given to Phil for all his hard work over the many, many years.

### Transportation Profiles from ACS

The CTPP Technical Working Group created data profiles using 2005 ACS results, along with 1990 and 2000 Census data. These profiles have been posted on the FHWA page at <http://www.fhwa.dot.gov/planning/census/2005tpoverview.htm> and at the AASHTO page at: <http://ctpp.transportation.org/home/default.htm>

There are 3 different sets, the second and third sets are the "new" ones, and are based on the October 2006 release of 2005 ACS data. The cautions about interpreting the results from ACS, compared to decennial Census remain the same. <http://ctpp.transportation.org/production/notes/notes.htm>

The first set is by **Place of Residence** (posted in October 2006). The second set is also by **Place of Residence** and tabulates WORKERS and HOUSEHOLDS by household characteristics such as HOUSEHOLD SIZE and VEHICLE AVAILABILITY. The third set is by **Place of Work**.

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**CTPP Listserve:** <http://www.chrispy.net/mailman/listinfo/ctpp-news>

CTPP Website: <http://www.dot.gov/ctpp>

TRB Sub-committee on census data: <http://www.trbcensus.com>

FHWA Website for Census issues: <http://www.fhwa.dot.gov/planning/census>

CTPP 2000 Profiles: <http://www.transportation.org/ctpp>

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

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**CTPP Listserve**

The CTPP Listserve serves as a web-forum for posting questions, and sharing information on Census and ACS. Currently, over 700 users are subscribed to the listserv.

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