CTPP 2000 Status Report

April 2004

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

Update on Data Release

On Feb. 19, 2004 the Census Bureau (CB) finished releasing preliminary Part 2 data in .ivt format to state DOTs and MPOs. The preliminary Part 2 data are also available in flat ASCII files on the BTS website. To download, go to http://transtats.bts.gov, and click on CTPP 2000.

Final Part 1 data in flat ASCII files are available for download at the same BTS site. CB expects to start shipping final Part 1 CDs in .ivt format with software to state DOTs and MPOs around the end of April. Shortly thereafter, BTS will process orders for CDs from the general public at htpp://www.bts.gov (click on Products).

Preliminary Part 3 data in flat ASCII files are expected during April 2004 as well. Download from the BTS Transtats site will be available. CDs with the .ivt version and software are not expected until May.

For questions on the flat ASCII files, contact Clara Reschovsky at 301-763-2454 (e-mail Clara.A.Reschovsky@census.gov).

For questions on the CTPP Access Tool or to comment on the data, please contact Nanda Srinivasan at 202-366-5021 (e-mail: Nanda.Srinivasan@fhwa.dot.gov).

Journey to Work: Census 2000 Brief

by Elaine Murakami, Federal Highway Administration

The Census Bureau has finally (!) released the Journey to Work: 2000 Brief http://www.census.gov/prod/2004pubs/c2kbr-33.pdf. This was written by Clara Reschovsky, who has been a key Census Bureau staff in the production and distribution of the CTPP 2000. Many of you have talked to Clara by phone or email for technical questions related to TAZ definition, MPO region definition, determining the number of copies of CDs to be mailed, ad infinitum. We are proud that in addition to her work at the Census Bureau, Clara has been working on her Master's degree, and expects to finish in May 2004 with a degree in Transportation Policy from George Mason University.

Some of the results are:

- The average travel time for all modes of travel is nearly 26 minutes. The typical U.S. commuter drove alone, with an average of 24 minutes to get work. (Note: source is CTPP 2000 Profile).
- Overall, people were leaving home earlier and spending more time traveling than in previous censuses.
- Men continue to commute longer than women, 27.2 minutes compared to 23.6 minutes.
- The proportion of the U.S. population living in metropolitan areas increased from 1990 to 2000 by 13.1 million (from 93.1 million to 106.3 million). However, for the first time, more than half of metropolitan area resident workers worked outside of the central city portions of the metropolitan area.

Commuting to Downtown Study

By Ed Christopher (Chair, TRB Committee on Urban Transportation Data and Information Systems) (ABJ30)

The Transportation Research Board (TRB) Committee on Urban Transportation Data and Information Systems (ABJ30 *formerly* A1D08) wants your help to build "downtown profiles" for the largest cities in the United States.

The "downtown profile" is envisioned as a two-page product: one page with a half-page downtown locator map and a half-page table showing commuters by means of transportation to work. The second profile page would include a narrative summary.

Table 1 shows some of the data to be included. Note that the worker count is from Census workplace results, and is not adjusted for total employment. The value of the profile is that it includes a time dimension in addition to the distribution of travel modes, and total workers and employment.

Figure 1 illustrates the share of transit for downtown commutes. Although transit commute mode share for the entire U.S. is around 5 percent, transit plays a critical role in commuting to downtowns. In several cases, transit shares have increased since 1990, returning to rates similar to those found in 1980.

Chuck Purvis (Metropolitan Transportation Commission, Oakland) is coordinating the effort. For an abstract of the study, please visit http://www.mtc.ca.gov/trb/urban/commute/ and http://www.mtc.ca.gov/datamart/census/ctpp2000/downtown/

Please participate! For more information, please contact Ed Christopher (edc@berwyned.com) or Chuck Purvis (cpurvis@mtc.ca.gov).

Figure 1. Transit Shares to Downtown in 2000

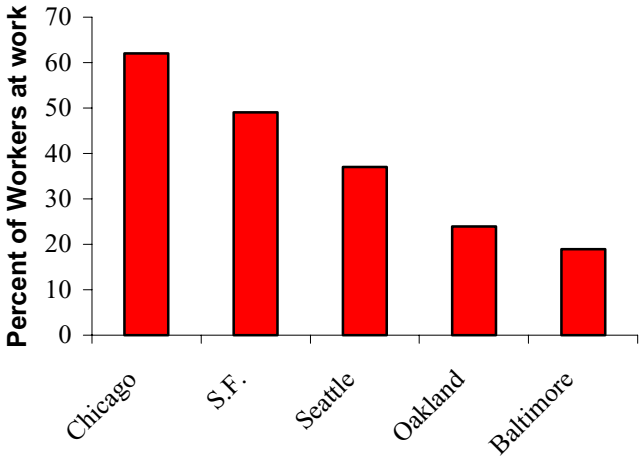

Table 1. Mode Shares to Downtown for Selected Cities

City	Year	Census Workers	Ride share	Transit
Chicago, IL	1980	353,984	8.6	72.9
	1990	321,978	9.5	61.0
	2000	341,014	8.0	61.7
Seattle, WA	1980	72,703	16.6	43.7
	1990	94,421	13.7	34.3
	2000	118,090	13.3	36.9
San Francisco, CA	1980	279,300	16.0	51.4
	1990	284,300	14.9	46.6
	2000	320,300	12.4	49.0
Oakland, CA	1980	53,500	17.6	26.0
	1990	51,900	13.3	20.2
	2000	63,200	12.8	24.1
Baltimore, MD	1980	121,990	22.1	31.7
	1990	127,680	17.1	24.1
	2000	116,340	13.3	18.6

Data Rounding in CTPP 2000

By Nanda Srinivasan, Cambridge Systematics Inc.

All CTPP tables (except mean, median, and standard deviation tables) are subject to the following rounding rules:
0 is kept as 0.
1-7 is rounded to 4.
Anything above 7 is rounded to the nearest multiple of 5 (Example: 9 is rounded to 10, 17 is rounded to 15 etc).

Columns for Totals in each table may not match the sum of the categories because Totals are rounded independently of the cells. For example:
0 vehicle households = 6 is rounded to 4
1 vehicle households = 14 is rounded to 15
2 vehicle households= 8 is rounded to 10
3 vehicle households= 8 is rounded to 10
4 vehicle households= 3 is rounded to 4.
Total households= 39 is rounded to 40
(and NOT 4+15+10+10+4 = 43 rounded to 45).

However, because some variables (Example: Mode to work) are classified in more than one way, the number of possible answers is higher. Chuck Purvis (see Table 1)[1] notes that sometimes, up to 15 answers may be possible!!

Table 1. Different Tables and Different Geographies yield (slightly) Different Answers!

		Table 2-2	**Table 2-12**	**Table 2-27**
Total	Sumlev	Transit=5 categories	Transit=3 categories	Transit=2 categories
4031	TAZ	319,435	319,553	319,600
4384	Blk Grp	319,433	319,521	319,541
1403	Tract	319,717	319,780	319,836
9	County	320,116	320,129	320,125
1	MPO	320,125	320,120	320,120

Because each table may provide a slightly different answer, we recommend that where possible; try-obtaining totals from published CTPP tables, rather than aggregating geographies, or individual table categories.

Rounded Values vs. Unrounded Values

A comparison of CTPP 2000 data and Summary File 3 data showed that the CTPP estimate was more likely to be LOWER than the SF 3 value. We noticed that the rounding value of 1-7 to 4 generally provides a lower estimate than the actual value. This occurs because:

- The Census "long form" sampled 1 in 6 persons nationwide, and 1 in 8 persons in urban areas.
- Individual weights (after adjusting for non-response) may vary anywhere from 1 to 20 (or higher). In urban areas, weights are more probably in the order of 5 to 20.

Which value to use: Totals or "Sum of the Parts"?

Rounding does not affect the "statistical" significance of the data. For example, there is no difference between 431,899 and 431,753. The difference of 136 is well within the sampling error. The choice of using published totals versus summing the different parts of the table is left to you. If you are reporting percentage distributions, we would suggest you use the published totals as the denominator. If you are making a pie or a bar chart, you could use the "Sum of the parts" as the total.

……Continued on Page 4

1 Chuck Purvis, Metropolitan Transportation Commission, Oakland, California, e-mail posted to the CTPP-news listserve on February 19, 2004

Census Data Subcommittee at TRB Annual Meeting

By Ed Limoges, Sabre Systems, Inc.

The Subcommittee on Census Data, ABJ30 (1), met on January 14, 2004 at the 2004 Annual Meeting of the Transportation Research Board. Over thirty persons attended, representing Federal and State agencies, MPOs, consulting firms, and academia. The meeting was chaired by Bob Sicko. Here are a few highlights from the meeting. The complete notes are posted at http://www.TRBcensus.com/notes/minutes01142004.pdf

American Community Survey

Jay Waite, Associate Director for Decennial Census and American Community Survey, presented an update on plans and activities for Census 2000, including ACS.

The nationwide ACS will start in July 2004. The earliest that small geographic reporting, e.g. block group, would be available would be an accumulation of 2005 through 2009 data, with data release toward the end of 2010. The five-year accumulated data will be published in the geography of the last year, so that 2010 data would reflect annexations up to that year. Census staff is currently working on workplace coding options.

There will be a process for modifying the questionnaire content with any changes taking place with the 2008 collection year. Census Bureau will meet and discuss ACS issues with staff from each of 21 Federal agencies.

…..Continued on page 8

Data Rounding

(*Continued from Page 3)*

Aggregating Geography: How to Make Allowances to Rounding?

When you want to aggregate geography, first check to see if there is a summary level in CTPP 2000 that contains the aggregated geography. For example, there is no need to aggregate data from tracts or TAZs to county geography because county data are published as a summary level in CTPP. Table 2 compares the sum total of tracts, and TAZs with the published totals for Mode to Work (by Place of Work) for Montgomery County, MD. Because the county is divided in to 117 tracts, and 1124 TAZs, the TAZ totals are off more than the tract totals. However, the percent of transit commuters is the same in all three cases.

…….Continued on Page 5

Table 2. Mode to Work by Place of Work, Montgomery County, MD

	Published Values	Sum of Tracts	Sum of TAZs
All workers	420,875	420,865	420,757
Drove alone	308,215	308,230	308,130
2-person carpool	37,280	37,307	37,180
3-person carpool	6,745	6,720	6,666
4-person carpool	2,300	2,294	2,282
5-6 person carpool	1,020	994	1,002
7-or-more carpool	825	802	804
Bus or trolley bus	19,000	19,016	18,959
Streetcar or trolley car	150	150	141
Subway or elevated	9,900	9,887	9,839
Railroad	1,045	1,032	1,043
Ferryboat	10	10	10
Bicycle	935	929	900
Walked	8,880	8,847	8,814
Taxicab	500	490	486
Motorcycle	235	220	219
Other means	1,900	1,853	1,854
Worked at home	21,935	21,915	21,802
Percent Transit	7.15	7.15	7.13

Data Rounding

(Continued from page 4)

Aggregating to an Unpublished Geography

To aggregate data to an unpublished geography (example: Central Business District – CBD), consider the LARGEST geography that can be used to aggregate. For example, if the CBD can be defined using Tract geography, then use Tracts instead of using more finely defined TAZs. This will minimize distortions introduced by rounding. Figure 1 shows how 2000 TAZ, and 2000 Tract boundaries can be assembled to obtain the 1990 CBD definition for Seattle, WA. 21 TAZs OR 4 Tracts approximately equal the 1990 CBD geography. Table 3 shows that both the TAZ and Tract results are close, even with rounding and geographic differences.

How Bad is Rounding?

Chuck Purvis notes in his post to the CTPP list serve, "The rounding of values inside the CTPP is, right now, a modest, annoying data processing issue. As professional data analysts, we are always on the lookout to make sure our numbers "add up" so that we're not missing anything." Chuck would prefer that the CB use a different approach to disclosure avoidance that results in numbers that add up. Chuck's final recommendation[1] is to "Develop a sense of humor... Don't take these data issues too seriously. And it's kind of funny that the numbers don't add up. Or, as they say: "close enough for government work."

Figure 1. Combined TAZs/Tracts Overlaid on 1990 CBD Definition - Seattle, WA

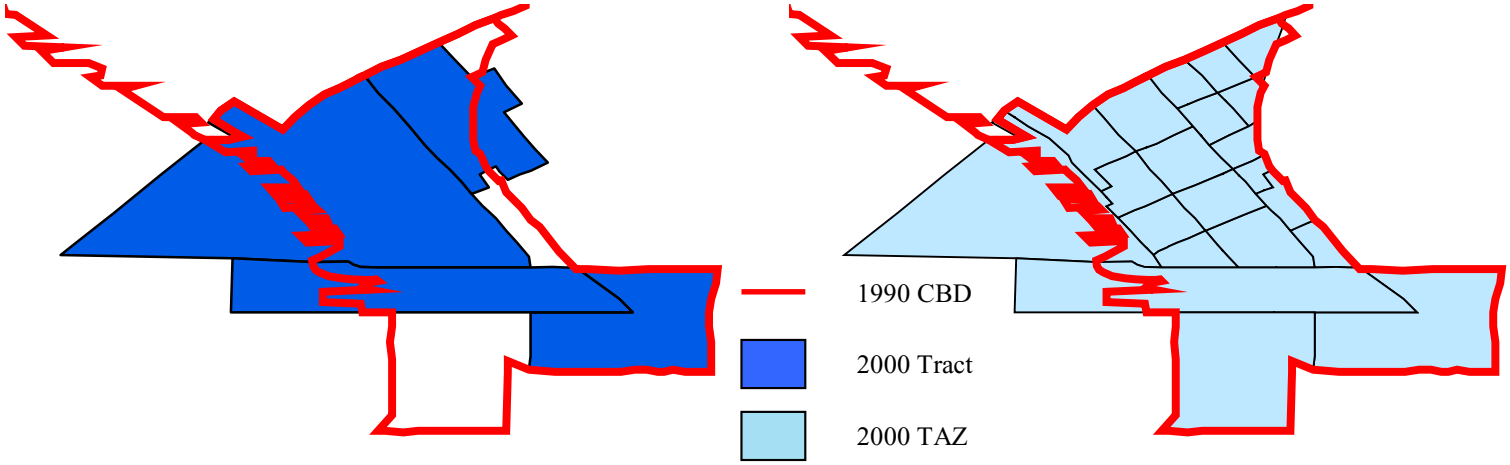

Table 3. Comparison of Tract, and TAZ based definitions of CBD

Geography	Total Workers	Drove alone	Carpooled	Transit
Seattle City Total	477,240	278,645	61,840	82,305
CBD: TAZ based definition	118,090	48,315	15,675	43,532
CBD: Tract based definition	104,360	41,885	13,645	38,919
TAZ based definition: CBD share of Seattle City	24.7	17.3	25.3	52.9
Tract based definition: CBD share of Seattle City	21.9	15.0	22.1	47.3

Race/Hispanic Origin Tables in the CTPP 2000

By Elaine Murakami, Federal Highway Administration

CTPP 2000 has a wealth of tables that include Race and Hispanic origin. CTPP from previous decades virtually ignored these characteristics. However, at the time of CTPP table design, environmental justice issues were prominent, resulting in the addition of tables using these variables, and also poverty status (Table 1).

Table 1. Race by Hispanic Origin Tables in CTPP Parts 1 and 2

Part	Table name	Universe
Residence		
1-23	Hispanic origin by Race by Occupation	Workers
1-24	Hispanic origin by Race by Industry	Workers
1-25	Hispanic origin by Race by Class of Worker	Workers
1-26	Hispanic origin by Race by Worker Earnings	Workers
1-27	Hispanic origin by Race by Means of Transportation	Workers
1-28	Hispanic origin by Race by Travel Time to Work	Workers
1-44	Household income by Hispanic origin by Race by Means of Transportation	Workers in household
1-45	Vehicles available by Hispanic origin by Race by Means of Transportation	
1-46	Poverty status by Hispanic origin by Race by Means of Transportation	
1-80	Vehicles available by Race by Hispanic origin	Households
1-81	Race by Hispanic Origin by Telephone Avail	Households
1-82	Household size by Household Income by Race by Hispanic Origin	Households
Workplace		
2-23	Hispanic origin by Race by Occupation	Workers
2-24	Hispanic origin by Race by Industry	Workers
2-25	Hispanic origin by Race by Class of Worker	Workers
2-26	Hispanic origin by Race by Worker Earnings	Workers
2-27	Hispanic origin by Race by Means of Transportation	Workers
2-28	Hispanic origin by Race by Travel Time to Work	Workers
2-44	Household income by Hispanic origin by Race by Means of Transportation	Workers in Households
2-45	Vehicles available by Hispanic origin by Race by Means of Transportation	
2-46	Poverty status by Hispanic origin by Race by Means of Transportation	

Table 2 (obtained from CTPP 2000 for San Diego County, CA) clearly shows how different Hispanic households are, with over 50 percent of households with 4 or more persons, and over 40% with income below $25,000. White, non-Hispanic households on the other hand were dominated by 1 and 2-person households, with 43 percent with incomes above $60,000.

Table 2. Household Size by Household Income by Race by Hispanic Origin: San Diego County

	Household Income in 1999	All Households	1-person household	2-person household	3-person household	4-or-more-person household
White alone, Non-Hispanic	All Households	657,280	187,575	243,260	98,530	127,920
	Income < $25k	173,180	96,595	48,215	14,715	13,660
	Income between $25-60k	199,505	58,380	80,590	28,770	31,770
	Income equal to or more than 60k	284,590	32,600	114,455	55,040	82,500

Table 2 (Continued)	Household Income in 1999	All Households	1-person household	2-person household	3-person household	4-or-more-person household
Black Alone, Non-Hispanic	All Households	53,365	13,320	13,630	10,165	16,250
	Income < $25k	21,650	8,170	5,415	3,610	4,460
	Income between $25-60k	18,175	4,085	4,800	3,360	5,925
	Income equal to or more than 60k	13,540	1,060	3,420	3,195	5,865
All Hispanic	All Households	182,120	21,585	33,130	31,695	95,710
	Income < $25k	77,760	14,825	13,820	14,175	34,940
	Income between $25-60k	61,495	5,110	11,455	10,075	34,855
	Income equal to or more than 60k	42,865	1,650	7,850	7,445	25,920

Source: CTPP 2000, Table 1-82

Similarly, Summary Files 3 and 4, standard products from the Census Bureau have a wealth of tables in race and Hispanic detail. The SF 3 tables are limited to census tract reporting, called PCT and HCT. Among the PCT and HCT tables in SF3 are two of particular interest to transportation planners, PCT65 (Means of Transportation to Work) and HCT33 (Vehicles available). The tables are structured as follows: PCT##

a. White alone, (Hispanic and non Hispanic)
b. Black alone
c. American Indian and Alaska Native alone
d. Asian alone
e. Native Hawaiian and Other Pacific Islander alone
f. Some other race alone
g. Two or more races
h. Hispanic, all races
i. White Alone, non-Hispanic

A large proportion of the Hispanic population selected "other" as their race.

Mode to work in 2000 has important differences by race and Hispanic origin. Many of these differences are correlated with differences in household income, household size, and residential location. Data from Summary File 3 Table PCT65 shows (See Table 3):

- Driving alone is the predominant mode for everyone, however,
- White, non-Hispanic workers are the most likely to drive alone,
- Hispanic workers are much more likely to carpool, and
- African Americans are most likely to use public transit.

Table 3. United States: Mode by Race by Hispanic Origin

Mode	White, non-Hisp	Black	Hispanic
Drive Alone	80%	66%	62%
Carpool	10%	16%	22%
Transit	3%	12%	8%
Walk	3%	3%	4%
Work at Home	4%	1%	2%
Other	1%	2%	2%
Total	100%	100%	100%

Source: Census 2000 Summary File 3, Tables PCT 65 b, h, and i.

Census Data Subcommittee at TRB Annual Meeting *(….Continued from page 4)*

NCHRP 08-48

Kevin Tierney, Cambridge Systematics, discussed the ACS NCHRP project. The purpose of the project is to develop a guidebook for transportation planners about how to use ACS, adjust for the loss of the long form, and to identify new uses for the data. A draft of the guidebook is expected to be available for the Spring 2005 TRB Census data conference in Irvine, CA.

Elaine Murakami stated that to augment the NCHRP project DOT contracted with the CB for a special tabulation of the 3-year test ACS data. The tabulation is designed as a "mini CTPP" with a Part 1, Part 2 and Part 3 set. Although the data tabulation was developed to support the research associated with the NCHRP project, the data will also be made available to interested researchers.

CTPP 2000

Phil Salopek, Census Bureau, presented an update on the production and distribution for CTPP 2000.

Public Use Microdata Sample (PUMS)

Larry Blain, PSRC, described his use of PUMS data for cross tabulation, and urban simulation. Ken Cervenka, NCTCOG, will do reasonableness checks on the worker flow data, and use PUMS to analyze vehicle availability. Chuck Purvis, MTC, distributed a one-page handout describing travel demand modeling applications and exploratory research.

CTPP Hotline – 202-366-5000

ctpp@fhwa.dot.gov
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
CTPP for 1990 and 2000 downloadable via Transtats: http://transtats.bts.gov/

FHWA
Elaine Murakami
PH: 206-220-4460 (in Seattle)
Email: elaine.murakami@fhwa.dot.gov

Nanda Srinivasan
PH: 202-366-5021
Email: nanda.srinivasan@fhwa.dot.gov

Ed Christopher (Urban Data Committee Chair)
PH: 708-283-3534
Email: edc@berwyned.com

FTA
Eric Pihl
PH: 202-366-6048
Email: eric.pihl@fta.dot.gov

BTS
Pheny Smith
PH: 202-366-2817
Email: pheny.smith@bts.dot.gov

AASHTO
Dave Clawson
PH: 202-624-5807
Email: davidc@aashto.org

Census Population Division
Phil Salopek
PH: 301-763-2454
Email: phillip.a.salopek@census.gov

Clara Reschovsky
PH: 301-763-2454
Email: clara.a.reschovsky@census.gov

TRB Committees
Ed Christopher (Urban Data Committee Chair)
See under FHWA

Bob Sicko (Census Subcommittee Chair)
Mirai Associates
PH : 425-415-0905
E-mail: bob@miraiassociates.com