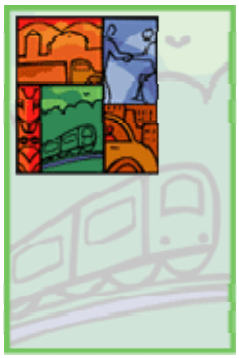


Peer Exchanges

Planning for a Better Tomorrow

FHWA/FTA
Transportation Planning Capacity Building

Transportation Planning Capacity Building Program

– Peer Exchange Report –

Using ACS Data in Transportation Planning Applications

A Peer Exchange

Location: Hilton Hotel
Daytona Beach, Florida

Dates: May 10 -11, 2007

Participants:

State DOTs
American Association of State Highway and Transportation Officials
CalTrans
Florida Department of Transportation
Georgia Department of Transportation
Iowa Department of Transportation
New York State Department of Transportation
Virginia Department of Transportation
Wisconsin Department of Transportation
Minnesota Department of Transportation
Texas Department of Transportation

MPOs
San Diego Association of Governments
Southeast Michigan Council of Governments
Association of Central Oklahoma Governments
Atlanta Regional Commission
Capital Region Council of Governments
Metropolitan Council Twin Cities
Metropolitan Transportation Commission
Volusia County Metropolitan Planning Organization
Houston-Galveston Area Council

Federal Agencies
Federal Highway Administration
Bureau of Transportation Statistics
Census Bureau
Federal Transit Administration
Volpe National Transportation Systems Center

Consultants
AECOM
Cambridge Systematics
Louis Berger Group
MKC Associates

Academia
Texas Transportation Institute
University of Iowa
University of South Florida, Center for Urban Transportation Research

I. Summary

This report summarizes the presentations and discussions at a Peer Exchange held through the FHWA/FTA Transportation Planning Capacity Building (TPCB) Program. The peer exchange was organized by the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on Planning (SCOP) Census Data Workgroup chaired by Jonette Kreideweis (Minnesota DOT). Attendees were from AASHTO, state departments of transportation, metropolitan planning organizations and councils of government, universities, Census Bureau, the United States Department of Transportation, and the private sector. Following the keynote addresses, issue-specific sessions were held in which multiple presenters gave short presentations and all participants joined in discussion. Twenty-one presentations are posted at ftp://ftp.camsys.com/clientsupport/CTPPdata/Daytona_peer/

II. Background

Transportation planners and analysts are making or contemplating a transition from using data from the decennial Census "long form" to the new American Community Survey (ACS). The Census Bureau released the first round of data from the 2005 ACS in the fall of 2006. In October 2006, the AASHTO SCOP Census Data Workgroup secured support for continuing the Census Transportation Planning Products (CTPP) concept using a consolidated purchase. The Peer Exchange presented an opportunity to share emerging practices and discuss issues and challenges in applying and integrating ACS data into transportation planning activities. States, MPOs and universities are independently beginning to use the ACS data and develop analytic tools using the ACS The Peer Exchange provided a platform for sharing information, documenting practices and issues, discussing plans for the future CTPP, and exploring how to help inform the larger transportation planning community.

III. Key Findings from the Peer Exchange

The major findings from the Peer Exchange are noted in summary points below.

There is a Strong Demand for Transportation Data Products from ACS

The CTPP 2000 is widely used in the transportation planning community and beyond. Distinguishing characteristics are that the sample size is large (relative to local surveys), response rates are high due to the requirements to participate in the census, and it is one of the best sources for trip distribution data (data on the origins and destination of work trips). The national availability of the CTPP 2000 enables professionals to become familiar with it and use it in various locations. As a nationally collected data source it has the benefit of having high credibility and professional oversight in its development and supporting resource and training materials. To date, once the States and MPOs paid for CTPP, there have not been additional fees charge to other users. This has enabled local planners to avoid the time and cost of new primary data collection.

There is Strong Support for Transportation Data Products from ACS

For the reasons cited above, there is strong interest in having a CTPP product from (or using) the ACS. While the sample size will be different there remains a desire to have this standardized national resource to support transportation planning. States, MPOs and universities are independently beginning to use the ACS data and develop analytic tools that rely on ACS. The Peer Exchange provided a platform for sharing information, documenting practices and issues, discussing plans for the future data products.

Uncertainty has Surrounded Transportation Data Products from ACS

Several factors have collectively resulted in a great deal of uncertainty in the planning community regarding the ACS and the prospect of transportation data tabulated from it. These uncertainties have been exacerbated by larger uncertainties regarding several federal level data collection initiatives. Funding for the ACS has regularly been uncertain clouding expectations. In addition, funding for the next National Household Travel Survey (NHTS) has been uncertain. Thus, practitioners have been faced with a confusing and unsettling picture regarding the availability of transportation planning data from federal sources and the ability to validate, fuse, merge, or substitute various data resources as details on their timing, quality and features evolve.

Understanding the American Community Survey

The planning profession is in the early stages of understanding the nature of the potential applications of the ACS. Some of the uncertainty is simply due to busy professionals not yet being aware while other uncertainty stems from limited disclosure or dissemination of important aspects of the planned future data products. Other issues involve the release and usability of the data. To date, the only data released has been for areas with 65,000 residents or more. This has left many areas with partial data and planners left 'waiting" for the rest of the data. Remaining questions include:

- Release schedules for ACS products for various geographic scales
- How multiyear data items will be developed including how group quarters will be treated
- How ACS data uses and can be used with population estimates at the sub county level
- How to treat standard errors when discerning and communicating ACS findings
- Understanding income differences between ACS and Census or other sources
- Understanding how and when the 2010 census will be reflected in ACS products
- How geographies for reporting will be updated
- Understanding how rounding and suppression will be applied and impact products
- Understanding the impact of data collection over twelve months instead of a point in time

ACS as a Source of Zone-to-Zone Flow Data

One of the unique characteristics of the CTPP 2000 was its value for understanding local work trip distribution. This application has no readily available alternative data source. Trip distribution is relatively stable over time thus enabling older CTPP data to retain value. Flow data is fundamental to calibrating regional models so has relevance to roadway and transit modes for major regional and corridor planning. Sample sizes for local survey are too small to substitute for this purpose. The smaller ACS sample and data suppression raise concerns about the availability of flow data for smaller geographies. The zone to zone flow tables, preferably by mode, provide the greatest challenge for survey data in terms of ensuring adequate sample size.

One potential alternative worth examination for small area home-to-work flow data is the Longitudinal Employer-Household Dynamics (LEHD) On-The-Map data produced being developed by the U.S. Census Bureau and funded by the US Department of Labor. This project synthesizes "home-to-work" flows using federal and State administrative records. The potential for fusing LEHD On-The-Map data with ACS data that includes travel mode and time and other household characteristics could be used to develop a richer understanding of trip distribution. This might enable analysts to better understand and model home to work distributions thus reducing the need for location specific zone flow data on a recurring basis.

ACS and Transit

Transit is fundamentally different than the auto mode. It is typically involves a walk access/egress mode and thus significantly benefits from small scale geographies for planning data. Also, since transit use is modest, it requires a very larger general population sample to produce a sufficient number of transit passenger responses. These traits influence the transit applications of ACS, as well as the applications for bike and walk modes. As small area ACS data becomes available there may be more use by transit planners. Transit continues to benefit from the role of ACS data in regional and corridor model validation/calibration for major investment studies and ACS may be of future value in updating zonal socio-demographic characteristics that can support service planning. The ACS also supports general policy research and planning that can impact transit. The annual updating of the data can benefit transit particularly in dynamic fast growth/change areas. The ACS use of the "usual mode" versus "actual mode" requires caution when using the ACS transit mode data.

Administrative Issues

Through the course of the exchange a variety of questions arose regarding numerous aspects of the ACS and future CTPP data products. The diverse conference participation list exemplified one of the challenges of producing, refining, disseminating ACS data products and research. Building the CTPP around the ACS is a collaborative initiative with a broad base of participants that exemplifies the value of these products; however, this array of participants also clouds the responsibilities and creates uncertainty regarding roles and responsibilities. This, combined with other uncertainties referenced previously, has left most users with a very modest level of understanding of what products, training, research, and other resources will be available to support their application of ACS and any CTPP data products. Absent a clear institutional or legislative mandate, initiatives of concerned individuals and institutions in a somewhat ad hoc fashion have been responsible for the very important progress to date. While this partnership arrangement may be a necessary feature going forward, efforts to define roles and responsibilities and to communicate what is being done will be of great value to the user community as we continue through this transitional period. Communications strategies, outreach mechanisms, training priorities, scheduling release dates, opportunities for input, redefining geography, and developing consensus on data formats are all issues that will benefit from collaborative input but will also benefit from coordinated communications amongst entities.

This situation clearly highlights the need for an ongoing partnership commitment from the states, MPOs, regions, US DOT and AASHTO. This partnership should serve as the forum for coordination of actions and decisions and as a means of assuring communications between the partners.

Evolution of ACS and Integration with Other Data Sources

Increased computing power, growing use of micro simulation, a growing interest in the transportation land use interface, interest in bike pedestrian and transit competitiveness, and the prospects for funding and impact assessment at the small zone or parcel level of detail all support the evolution to more micro scale planning and analysis. As these trends continue there will be increasing interest in utilizing the ACS in conjunction with other data sources to provide the small area data necessary to support transportation planning. Additional research and applications experiences will need to be developed and shared with planning community. Resources to support the ongoing evolution of ACS applications will extend its value and support the planning community.

Training/Capacity Building with ACS

While mentioned previously, it is critical to emphasize the importance of the ongoing need for resources to support training on ACS use. To leverage available resources, web-based products may be useful to complement hands-on training and technical support. Coupled with training and

capacity building, the user community has enjoyed the benefits of "on-demand" technical support with CTPP 2000. Given the evolving nature of the ACS and a potentially steep learning curve for the user community, this aspect can not be lost. Many times when planners are looking for help with the data they are trying to respond to a time sensitive issue, where critical policy decisions will be made with or with out the adequate data. How quickly, professionally, and with substantive information the analyst can respond can make a difference.

Framing and Communicating ACS results

The ACS has a range of applications from input to broad national policy deliberations to its application for small area technical modeling. Each of these applications places different demands on the data and requires the users to consider different tactics to ensure valid and meaningful application. It's important that users understand different applications have different requirements in terms of accuracy and precision. The user should exercise caution in application of the data and can benefit from relying on multiple data sources, multiple analysis methods and integration of finding with strong theoretical and anecdotal linkages to the topical issue being addressed.

Next Steps in Securing Transportation Data Products from ACS

AASHTO is now in the process establishing a CTPP Review Board to guide the development of transportation data products from ACS. To ameliorate the administrative challenges of coordinating this multi-stakeholder initiative will require establishment of a consensus work program including specification of necessary tasks (including technical tasks, coordination, research, communications, training, etc.), prioritization, identification of critical dates and deadlines, assignment of responsibility, establishment of communications protocols, and staffing for execution. This work plan can then serve as the basis for subsequent interactions between the stakeholders in this important initiative.

ACS is Part of the Knowledge Foundation for Sound Planning and Policy Analysis

While there are many opportunities to enhance and improve the ACS products and their applications, this data source remains critical to transportation planning. The costs for this data are increasingly modest in contrast to infrastructure costs that have risen dramatically. The need for well informed decisions is even more critical in an era of tight resources. While there are shortcomings of the ACS, as the old saying goes, "One should not let the pursuit of perfection stand in the way of progress."

IV. Day One: Keynote Addresses

Ron McCready introduced the agenda, and welcomed the participants. He thanked Jonette Kreideweis (MN DOT) for organizing the peer exchange, and for her advocacy of transportation data issues. Ron mentioned that the CTPP Consolidated Purchase for potential CTPP like products from ACS is a focus area for AASHTO. Ron distributed "draft" pre-publication copies of NCHRP 08-48 "ACS Guidebook"

A. Challenges and Opportunities in Using ACS Data

Heather MacDonald, University of Iowa

Dr. MacDonald provided an overview of both the challenges and opportunities that the ACS presents for transportation planners, stressing throughout the need to educate and inform the public and decision makers. She said that the ACS represents a major reengineering of information infrastructure, and as such offers many opportunities along with challenges.

Challenges:

- **Data Collection Rules are Different**
  Residence rules are different in ACS and Census 2000. While Census data were collected in a period around April 1, ACS data are collected through out the year, using a current residence rule (based on whether the respondent stayed at the same place for 2 or more months).
- **Sample error will be higher**
  The ACS samples the equivalent of 2.5% housing units annually, rather than the 17% for the 2000 Census. Follow up is limited to one in three non-respondents, so that the actual interviewed sample size is lower. The estimated sample error is about 1.33 times that of the 2000 Census. It is, therefore, important to state at least the 90 percent Confidence Interval when presenting ACS data.
- **Sample error will vary among places and variables**
  Sample error will differ based on the percentage of units surveyed in each location. There may be fundamentally different levels of precision with the same tables for different locations. For example, in one of the years, Bronx County, NY, had a mail response rate of 36 percent, but Multnomah County, OR had a much higher mailback rate. These may imply inconsistent Margins of Error (MOEs) for estimates in Bronx, when compared to Multnomah County. Similarly, workers who drove alone to work usually constitute 75 percent of all workers. Lesser used modes such as transit or bike may have a higher standard error associated with their measurements than for drive alone.
- **The Completeness of the Master Address File**
  The quality of sample is only as good as the quality of the sample frame. There have been efforts to update the Census Bureau Master Address File.
- **Averages are different to estimates**
  The biggest change with ACS data are that they reflect "period" estimates and not "point" estimates (as in Census 2000). Care must be taken to interpret these period estimates, especially when performing trend analysis and comparing these estimates to Decennial Census data.
- **Funding Continuity**
  The ACS funding stream is more vulnerable to interruption. It could be devastating if the survey is interrupted over time.

Some concepts have changed fundamentally from the decennial Census. Data users will be tempted to use year-to-year releases to track trends, but it is important to understand that those estimates come with associated standard errors.

One area of particular concern is the additional attention needed to handle media enquiries. ACS data could easily end-up being used spuriously when the underlying concepts are not understood. It is important to be ready to explain to decision makers that apples-to-apples comparisons will not be possible for some time.

It is important to compare like to like when working with jurisdictions of different sizes – a large metropolitan area may have smaller standard errors associated with the data than a smaller sized area.

Opportunities:

- **Decennial Census Data get outdated quickly**
  The ten-year cycle of the decennial Census meant that in 2000, users were working with projections from 1990 data. The ACS provides more timely data and may be a more meaningful reflection of the real world. Reductions in precision are a tradeoff for more timely data.
- **Non-sample error may be reduced**

The use of professional interviewers for ACS promises to improve quality by managing non-sample error more effectively by using professional interviewers.

The ACS offers opportunities for improvement, if it is used carefully. Dr. MacDonald offered the following advice:

- **Present the full picture**. The margins of error must be included in presentation of the data.
- **Compare like-to-like data.** Avoid comparisons with overlapping years.
- **Do a fair presentation and be aware of alternative explanations for apparent changes.** For example, extreme caution is required in discussion of income change until we have several years of ACS data to benchmark against.
- **Educate people about why their response counts**. Dr. MacDonald was not aware of local efforts to improve response rates. She hoped that there could be a larger outreach effort aimed at state legislators, city community meetings etc.
- **Strive to improve the address file from which the sample is drawn**. Because the Master Address File is so central to drawing the ACS samples, it is important that the file be as complete and current as possible.

B. Al's Top Ten Tidbits from *Commuting in America 3* and the ACS

Alan Pisarski, Consultant

Mr. Pisarski posed a series of questions related to commuting to the audience regarding the "Top Ten Trends" identified in *Commuting in America 3*. He presented the metrics used to identify these trends.

10. Single-occupancy vehicle growth in share slows
- Have we reached stability? What is causing the slowing in SOV growth?

9. Variable carpool & transit trends

Between 1990 and 2000, the Northeast saw declines in carpooling and transit use, while the West saw increases.
- Is the change really regional?
- Or, demographically driven or service based?
- Or, something else?

8. African-American vehicle ownership surges
- The decennial census data show a decline of percent of households without vehicles. African-American and Hispanic household vehicle ownership rates have increased.

7. Immigrant role

6. Older workers
- Are the older workers changing mode; or are workers retiring at differential rate?

5. Extreme commutes
- Years ago, more than 50 percent of workers commuted less than 20 minutes to work. This percent has steadily declined in favor of longer commutes.
- What are the growth rates for commutes over 60 and 90 minutes?
- Is an average travel over 60 minutes stable?

4. The "donut" metro
- How do mode shares match by area type?
- Where are the areas with growth in commuter flows?
- Can you decompose flows in detail?

3. Continuing growth in working at home
- Who is working at home?
- What defines the trend?
- Work at home vs Walk?
- Work at home vs Transit?

2. Leaving home before 6am

- How applicable is it around the country?
- What are the drivers of change?
- Linked to sex, occupation, or?

1. Workers leaving home county to work

- How do we meaningfully track change?

Most of the questions raised point to the need for continuing availability of data for national policy development. ACS data on commuting are going to be vital in order to continue answering these questions.

C. How Good It's Going To Be

Dane Ismart, Louis Berger Group

Mr. Ismart focused on the value of Census data and the CTPP in transportation planning and presented three examples from his own experience. He noted that for any project, he begins by searching for existing data, as the most expensive part of any planning project is the data collection. Avoiding primary data collection results in faster, less expensive projects. If Census data were not available, the projects presented would have been prohibitively expensive. He summed up by saying that despite the issues presented by Dr. MacDonald, the long form (Census or ACS) data are one of the most useful sources for urban transportation planning.

Lewiston-Auburn Model

For the Lewiston-Auburn downtown circulation study, CTPP was essential for studying "through" movements of workers. External trips were a major component of activity at a highway interchange. The model needed county-county worker flows for these external "through" trips through the region. Without journey-to-work data to correct and calibrate external movements, the model development would have taken longer and would have cost much more.

Washington DC planning analysis

The District of Columbia wanted to integrate its comprehensive plan with the transportation plan development by the District Department of Transportation. There was neither funding nor time for a model development, and the client wanted to know where people were coming from, to where they were commuting, and by what mode. While the Metropolitan Washington Council of Governments model could have been used, it is still based, on part, on CTPP 2000. Although changes have occurred since the data were collected, the CTPP data still provide a good picture of existing conditions. The District of Columbia developed transportation policies based on the flows.

New Hampshire statewide model and corridor study

In New Hampshire, CTPP was used for developing and calibrating a tour-based statewide model. For the I-95 Corridor Study, it was important to be sure that the model was replicating design year traffic. Because the model was not replicating ground counts, it was adjusted based on Census 2000 commuter flows between southern New Hampshire and Massachusetts.

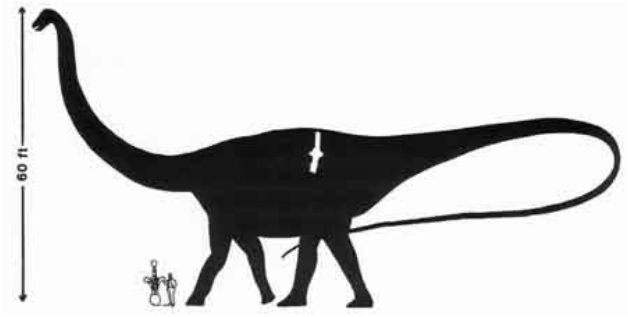
Other applications

- **Time of day / peak spreading**
- **Mode of travel / transit**
- **Employment information** beyond commercial sources
- **Travel time / home to work**

Principles to remember

- **Geographic level – smaller is better but even large is helpful.** There has to be "some data" to begin with.

- **Work is just one purpose but provides enough "anchors" to model other trips**. Mr. Ismart compared the process of extrapolating non-work trips from limited JTW data to the process used in developing a dinosaur replica from a single bone. Other trip purposes can be deduced from the work trip.



- **Timeliness is important but late is better than never.** Two year old data is regarded as "new" in the data world
- **Planners need data.** They tend to take whatever data "bone" they have and extrapolate so better data is an asset.
- **Continuity.** Continuity and consistency are vital for developing trend lines.

D. Some Observations and Perspectives on Using ACS Data

Steve Polzin, University of South Florida Center for Urban Transportation Research

Dr. Polzin discussed the status of transportation data and provided advice on working with policymakers.

Importance of Data

The cost of transportation and transportation projects is increasing in a time that the Highway Trust Fund is expected to be depleted by 2010. However, the relative costs of data are decreasing. The cost of the CTPP is equivalent to constructing a flyover ramp. The potential audience for data driven answers may also be growing, although this is uncertain.

Dr. Polzin emphasized the difference between data applications for modeling and for policy analysis by comparing them to criminal law and civil law. The former is more stringent and tests against the standard of removing all reasonable doubt, while the latter requires only a preponderance of evidence. Some projects that do not require much capital investment, but redeployment of existing resources (example: changing signal timing, neighborhood calming) require data that are "ball park" estimates, while the data required for defending a costly Capital Improvement Project (example: New Starts programs) will need much more precise data.

In order to advance the state of the practice, planners must be assured of consistently available datasets and adequate resources for analysis and dissemination. Timely data is critical in an area such as Miami-Dade County, which is experiencing volatility in its population. There was net population growth, largely stemming from in-immigration, but at the same time a large number of existing residents moved out.

There are pressures at work which both increase the demand for detail and precision; at the same time, there are pressures against this level of detail and precision, mostly due to confidentiality and privacy concerns.

For Precision and Detail	*Against Precision and Detail*
• Simulation modeling and similar new tools desire detailed data • Evolving funding strategies such as impact fees, concurrency fees, proportionate share, and even tolls and pricing schemes may beg detailed precise data • Computing power begs to be used	• Demographic and employment dynamics argue against precision • Dynamic travel behavior argues against precision • Latent demands argues against the need for precision for forecasts

• Our interest in incidence of impacts demands detail and precision • Our interest in minor modes demands detail and precision	

Dr. Polzin pointed out discrepancies in popular perceptions of common transportation facts:

- **What share of travel is for work?** The public has a misperception about the relative share of travel that is for work purposes. While planners know the share to be around 20%, the public perception is that the answer is in the range of 30-70%.
- **What share of Florida households has no workers? The** answer is about 30%, but the public perceives it to be 5-20%
- **What is the average commute time in Florida?** While it is about 25 minutes, the public believes it to be about 45 minutes.
- **What share of travel is on transit in Florida?** About 1% of travel in Florida is on transit, but the public perception is that it is about 5-25%.

Transit observations

- Transit's "usual" mode share is greater than its actual mode share for the United States. Thus, in any analysis of CTPP data, users need to be aware that "mode loyalty" is lower for transit than for drive alone.

Communicating with policy makers

- Recognize that decisions will be made regardless of whether good information is available (Neil Pedersen)
- Promote easy interpretation. The ability to interpret and explain the data is key
- Be Timely. Timeliness is usually more important than perfection of data
- Be Transparent. Information must be transparent, objective and impartial to have credibility
- Provide limitations. Explicitly discuss the quality and weaknesses of the data

Making the case:

1) Begin with the theoretical or logical hypothesis
2) Employ credible data to support the point. Including multiple data sources and multiple analysis methods helps to improve credibility.
3) Use an anecdotal story to exemplify the point

Discussion

Much of the discussion revolved around policy issues, including decision making on issues with "irreversible" consequences. Data related discussion focused on presenting results on usual and actual mode. Given that the mode share for transit captures small segment of workers, some discussants felt that it would be counterproductive to present transit data in terms of over-all national use, but instead, by focusing on a particular corridor to make a local argument instead of expanding to the entire region. There are also time-of-day issues related to transit use.

Questions for Keynote Speakers

- Given the importance of educating the public, what efforts are underway?
  - Respondents may not answer the survey, if they do not understand its importance or if they feel that the questions are invasive. This education has to happen locally and there is a role for local planners who deal extensively with the public. Dr. MacDonald was not aware of specific local efforts in Iowa.
  - Census Bureau's outreach effort is aimed to work with legislatures, state data centers, and other groups. A brochure and materials are available for the state and local government audience.

- The Census Bureau changed procedures to address differential non-response. Mark Asiala pointed that historical response at the tract level is now used to conduct follow-up at different rates, ranging from one in two to one in five.
- Every year, leadership at State DOT asks about changes in average commute time. How can the planner sufficiently convey the importance of the confidence interval?
    - One of the suggestions to analysts was to include a narrative element to presenting the data, and not just show the data with the MOEs.

V. Census Data Issues, Challenges and Successes – Case Studies

A. Population Estimates

Chuck Purvis, Metropolitan Transportation Commission
Greg Harper, U.S. Census Bureau

Chuck Purvis, Metropolitan Transportation Commission
State estimates for population and Census Bureau estimates do not often agree. A key issue in informing the media, the politicians, and the public is answering the question, "what does the lower bound mean?" For example, in California, local media outlets picked up on lower population estimates from the ACS and asked what these numbers mean for transportation funding in California, not realizing that ACS data are not used for apportionment purposes[1].

Mr. Purvis recommended papers from the July 2006 COPAFS Conference on Population Estimates: Meeting User Needs, (available online at http://members.aol.com/copafs/EstimatesIndex.html). He noted that many state demographers are trying to take a multi-pronged approach to using the "best of everything" from all of the sources out there today and suggested that attendees talk to their state demographer about what can be done to ensure the best population estimates possible.

Greg Harper, U.S. Census Bureau
Mr. Harper provided a brief overview of the estimates program, its products, and what it delivers to the ACS. The Census Bureau provides annual population estimates at state-county level by age, sex, race, and Hispanic origin. These estimates are used as control totals in demographic surveys, including ACS, the Current Population Survey (CPS), and the American Housing Survey (AHS). The elements of population change are births, deaths, and net migration. The estimates method uses ACS data to estimate net international migration, but not internal state-state migration. The method used in the estimation is detailed at:
http://www.census.gov/popest/topics/methodology/

At the county level, ACS results are controlled to Census estimates; this is not the case at the subcounty (eg: State-Place) level. At the place level, there are differences between ACS estimates, population estimates from CB, and local estimates.

Many analysts have expressed concerns about the population estimate numbers. Mr. Harper pointed out that states can challenge these estimates. The challenge procedure is outlined at http://www.census.gov/popest/archives/challenges.html

[1] The ACS is not used to apportion most Federal transportation dollars. ACS is not used to apportion federal transportation planning funds. However, apportionment for Federal Transit Administration's Job Access and Reverse Commute (JARC) and New Freedom programs uses updates to decennial Census results, which could include ACS. Mr. Purvis also questioned if data on disability should be used, as the Census 2000 data on disability are flawed.

While estimates are not used for allocating Federal transportation funds, they are used for the Department of Housing and Urban Development's Community Development Block Grant program and many other Federal programs.

Discussion

- Developing local estimates of household population: One of the discussants used Census 2000 data to control subcounty data and measured changes using occupancy rates from ACS.
- One discussant pointed out comparisons of workers between different surveys that use estimates for benchmarks end up with very different numbers. Mr. Harper replied that:
  - The estimates program only provides population controls to different surveys. There are many differences in the ways that the surveys use these data.
  - There will be slight variations in population controls depending on the timing of when the estimates are requested.
- One question pertained to the process of challenging CB estimates.
  - The challenge process calls for an updated count of housing. The community can use building permit data, certificates of occupancy, and utility connection data. The Census Bureau has worksheets that show the standard methods used and blank worksheets can be provided on request.
  - If the initial challenge is refused, the community may ask for a more formal challenge process. This does not happen very often; the last time may have been in the 1980s.
- A discussant from a border state asked if the Census Bureau is working to improve estimates of net-immigration.
  - The CB staff felt that the international migration component in the estimates program worked well. For example, in California, there is good agreement on the net-international migration. However, movements to and from other states have been challenged. There have been many changes in internal migration patterns in some areas since 2000. In the future, results from the ACS may be used to update distributions at the county and state level.

B. Demographic Indicators and Trends – Income, Race, Poverty
Sharon Ju, Houston-Galveston Area Council (HGAC)
Kristen Rohanna, San Diego Association of Governments (SANDAG)
Xuan Liu, Southeast Michigan Council of Governments (SEMCOG)

Sharon Ju, Houston-Galveston Area Council (HGAC)
Ms. Ju presented demographic changes between 2000 and 2005 using Public Use Microdata (PUMS) data for HGAC. In the Houston-Galveston region, widespread changes were seen in population between the two periods. These could be due to housing development and demographic changes, such as an aging population. There were especially large changes seen in the disability rate, perhaps due to issues with Census 2000 data, or due to better capture of the disabled in the ACS.

Comments

- One of the comments was that having Public Use Microdata Areas (PUMAs) as tabulation geography for the ACS is welcome idea.
- We need to understand the differences in the surveys to use them properly. When we look at change over time we need to be careful about interpretation. Use of standard errors for both time periods will avoid many common pitfalls.
- The data have a margin of error associated, and a lot of the "apparent" changes seen over that period were not statistically significant when you introduced the margin of error.

Kristen Rohanna, San Diego Association of Governments (SANDAG)
Ms. Rohanna presented two case studies of using the ACS in her region. SANDAG is the MPO for San Diego County and 18 incorporated cities. In the past, SANDAG has produced annual estimates of income by using trends to extrapolate from the last decennial Census. When trying to use the ACS for annual estimates of income, Ms. Rohanna encountered several issues. For example, she noted that even the upper bound from ACS 2005 was lower than the Census 2000 estimate. This held true for nearly every city in the region.

She attempted at several possible explanations for the discrepancy.

- The reference period was changed to income received in previous 12 months. Participants' income recall may have been worse. Because Census 2000 data was gathered close to tax time, it might be closer to the truth. ACS survey could have been answered at any time of the year, and many people may not have had kept records of all their income sources.
- Another explanation attempted was that the word "month" may trigger a different outcome than "annual income". Possibly, "monthly" incomes were reported, although the CB found very little evidence of this happening.
- Finally, inflation adjustment issues may also have influenced the outcome.

Resolutions: For the county and city of San Diego, SANDAG will apply the ACS rate of change for 2000-2005. For the other cities in the region, SANDAG will continue using its previous methodology and "start fresh" in 2010. Ms. Rohanna concluded by pointing to the usefulness of current data from ACS, even if they are inconsistent, quoting Jeff Tayman from the previous peer exchange in Irvine, CA that "Consistent lies are better than inconsistent truths."

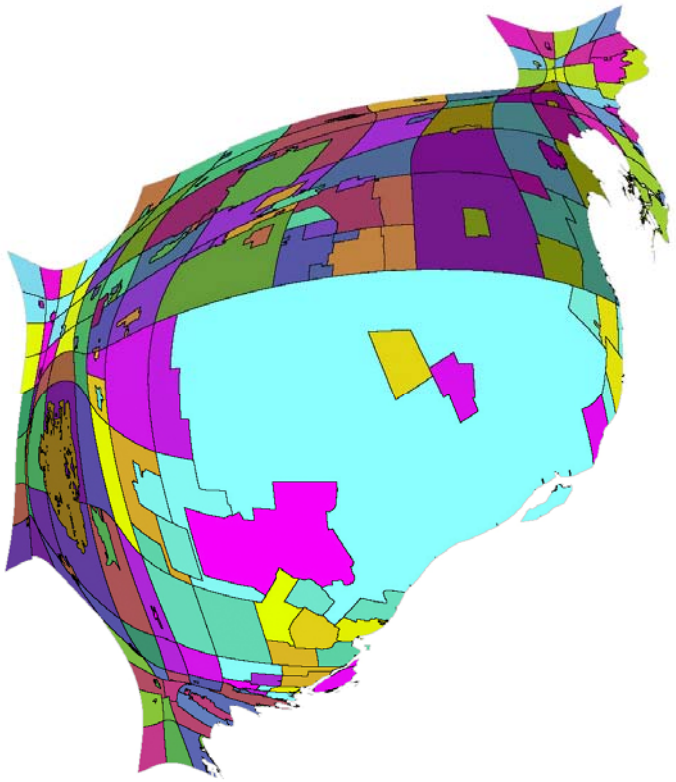
In the second example, SANDAG planners wanted to develop ACS based Quality of Life Indicators in a regional comprehensive plan baseline report. The indicators focused on household variables since group quarters were not included. Ms. Rohanna's dilemma was how to interpret these trends for non-statisticians, since the planners want to know, "did some variable go up or did it go down"? However, when using ACS data, it is critical to test whether or not results are statistically significant and provide the interpretive text. She also recommends presenting a simplified text along with the table or charts, so results will be read and understood.

Xuan Liu, Southeast Michigan Council of Governments (SEMCOG)

Mr. Liu spoke forecasting household characteristics for the Detroit region. SEMCOG used micro simulation (UrbanSim) and a three step process. Step one is developing regional trends for controlling small area analysis and forecast, step two is synthesizing individual households, and step three is developing and running models. SEMCOG did not use 2005 ACS data. However, they compared ACS results to the modeling results to see the differences.

As a result of this effort, SEMCOG analysts were able to forecast locations of population, households and jobs at various geographic levels for planning, land development, and evaluating policy consequences. Mr. Liu hopes to use the ACS for this process in the future.

Participants were intrigued by thematic maps that exaggerated geography based on density of occurrence. For example, the following map presents exaggerating geographies with high concentrations of persons in poverty for 2000.



Discussion

- Mr. Liu's maps renewed interest in preparing a mapbook on the applications of 2005 ACS data.
- Many discussants felt that the CTPP program may need to take on providing training and technical assistance on using the ACS.
- Discussants felt that these presentations showed the value of small area data.
    - There is increasing demand for modeling and microsimulation applications, such as corridor analysis.
    - Going to small-area data gives you more options for modeling policy changes.
- One recommendation on training was to read the publication "American Community Survey Data for Community Planning" by Cynthia Taeuber (Trafford Publishing).

C. Workers and Employment Data
Nanda Srinivasan, Cambridge Systematics
Nathan Erlbaum, New York State Department of Transportation

Nanda Srinivasan, Cambridge Systematics Inc.
Mr. Srinivasan reviewed the major uses of employment data and compared and contrasted the primary sources. Employment data are used for, among other things, non-home based trip estimation, approximate daytime populations for security planning, creating economic forecasts for future scenarios, and creating TAZ to TAZ worker "flows". Despite declining home-to-work trips, the commute trips are still important because the average trip length is the longest of all trips, the frequency of these trips is high and regular, and because home and work serve as anchors for other trips. Often the decennial Census is the only local data used in smaller communities.

None of the primary sources give the same results due to differences in coverage, definitions, seasonality, and absenteeism. However, there is some overlap at an aggregate level. Mr.

Srinivasan focused on two Federal sources of data: the CTPP JTW Flows, and the Longitudinal-Employer Household Dynamics (LEHD). Some examples from local research show that although LEHD is a promising source, there have been some systematic issues with the data. Local agencies must review LEHD data, particularly, locations of workers for state or federal agencies, before deciding to use it for planning applications.

Table 1: Comparison of Primary Employment Data Sources

	CTPP	ACS	LEHD
Frame	**HH and GQs Inc. self-employed**	**HH and GQs Inc. self-employed**	**Workers covered by Unemployment Insurance**
Sample Rate	**~ 1 in 6 per 10 years**	**~ 1 in 8 per 5 years**	**~ 1 in 1 4 times a year**
Release Frequency	**Decennial**	**Annual**	**Quarterly**
Coverage	**Nationwide**	**Nationwide**	**41 States**
Work location	**Self-report (75% and 25% imputed/allocated)**	**Self-report (75% and 20-25% imputed/allocated)**	**Employer address in QCEW + imputed for multi-site**

Mr. Srinivasan pointed users to some ready-made profiles developed by the CTPP Technical Group. These profiles (posted at http://ctpp.transportation.org/) compare 1990, 2000, and 2005 data side-by-side, along with margins of error (MOEs) and significance tests. There are also some ready-made spreadsheets developed by the NY State Data Center that incorporate these formulas. Another resource for LEHD data is the LED on the map, an online mapping tool for LEHD data.

Nathan Erlbaum, New York State Department of Transportation

Mr. Erlbaum compared employment changes between 1990 and 2000 from different sources for New York State. Results varied widely, depending on the source. Differences in results between CTPP 2000, ES202 and Global Insight data at the county level are hard to explain, and comparisons between Global Insight and CTPP 2000 at the census place level are even more difficult to explain. These differences are also seen in the aggregate data and data across the industrial categories. One cause could be definitional issues: workers and industries are defined differently by different sources. The question on "who is a worker", jobs, establishment employment elicits different responses from different surveys: different counts of workers are obtained from Census, ACS, and the NHTS, simply by asking the work for pay or profit question in a different location on the survey form. In the NHTS this resulted in 1.5 million more workers. The NHTS found people who do not have jobs who get paid, and in other surveys, people who are "retired" report going "to work" but do not get paid. This difference between the transportation view and the respondent view of what it means to be a worker can be significant. Perhaps of greater concern is the accuracy of the industry coding. In some data sets it is clear that they are derived from the Standard Industry Classification and later translated to North American Industry Classification System creating another inconsistency of definition.

He pointed out several data sources for local analysis, and said that given the differences across the various data sources, choosing the right source to address specific questions especially policy questions is very important. Of greater import is in understanding why they are different. He noted that most executive staff are not interested in the details. Mr. Erlbaum observed that the data analyst's role is to understand the problem they are working on and the audience for whom this information is needed. Then, one can give them appropriate information from the appropriate source.

Mr. Erlbaum felt that the lack of work place surveys is a major data gap nationwide. He also felt that worker/establishment type data might benefit from different geographic tabulation geography than traditional TAZ used in travel demand models. Many discussants, who were predominately modelers however, felt that the TAZ, by definition, should be structured to separate areas of high residence, and high employment. TAZs should be created so as to reflect underlying land-use, and should separate out areas of residence from areas of predominantly commercial activity. Creating mixed use TAZs would cause several problems to existing travel models because the travel models have a need to minimize intra-zonal trips. Mr. Erlbaum felt that travel demand models were only one application of worker/employment data and meeting the needs of modelers might not be the best solution.

Discussion

- Discussants felt that modelers rejected the concept of establishing a different zone. Dane Ismart mentioned that the TAZ is structured to reduce intra-zonal trips as much as possible. A separate TAZ of residence and a separate TAZ for work might require a lot of changes in how models operate.
- One discussant felt we should explore the use of satellite imagery to supplement other data for understanding warehouses and other land uses.
- The smaller sample size for the ACS means that smaller geographies such as TAZs will have even larger margins of error.
- One of the discussant was interested in the results of the CB comparison of worker counts from CPS and Census 2000 to resolve many of the apparent differences.
- Content change: In 2006, the Census Bureau looked at the questions about who is considered to be in the workforce. There will be content changes for 2008, mainly a follow up to the question on did this person work pay or profit last week. They will be asked if they did any work for pay last week, even as little as one hour. The follow up question catches more of the casual workforce.

In the end, one has to be an educated "consumer" when using employment data. Each source of employment data is used for a different purpose and is structured slightly differently.

D. Journey to work – travel time, mode split, flows, and model development
Joel North, Georgia DOT
HuiWei Shen, Florida Department of Transportation (FDOT)
Paul Agnello, Virginia DOT
Guy Rousseau, Atlanta Regional Commission (ARC)

Reporting Commute Time to Work: Metro Atlanta's Coweta County Experience
Joel North, Georgia DOT
Joel North reported on problems resulting from the 2005 ACS table of average commute times. This table showed Coweta County GA with the longest commute to work nationally. Local media picked up on the story and wrote sensational stories highlighting the extreme commutes. Using PUMS data, Mr. North discovered many records approaching 200 minutes. The Census Bureau tracked the problem back to a single enumerator who had added together a weeks' worth of commute times instead of tabulating a single daily commute time. Currently, the mean travel time to work in minutes is not listed on the ACS website for Coweta County. The Census Bureau subsequently has treated the travel time as a "missing" value, but has not re-issued a corrected PUMS file.

Lessons learned:

- Review data before releasing
- Exercise quality control
- Have a strong working relationship with media with regard to reporting travel times

The group discussed the need for the Census Bureau to do more internal quality control before releasing data.

Florida Transportation Modeling – Using CTPP and ACS Data
HuiWei Shen, Florida Department of Transportation (FDOT)

In Florida, urban and regional modeling is decentralized to the FDOT districts and the MPOs. This is coordinated at the state level by Ms. Shen. FDOT uses a wide variety of methods to make the best of what data is available.

Locally, CTPP 2000 was used for transit ridership modeling, for model validation, to address Environmental Justice issues, and for many other purposes. Ms. Shen noted that TAZ definition changes caused some areas to not be able to take advantage of CTPP and that timely data is needed to coincide with long-range transportation plan update cycles. For Florida, the ACS may offer opportunities to allow for inclusion of more demographic variables in travel demand models.

Ms. Shen discussed Florida's expectations for an ACS-based CTPP product, including timing, user education, and updating the Florida Standard Urban Transportation Model Structure (FSUTMS) Standards:

- Annual CTPP Product
  - Provide standard base tables by Place of Residence and Place of Work at the TAZ level in addition to block group and Census tract levels
  - Indicate confidence intervals for MPO Summaries
- 5-year CTPP Product
  - Produced on 5 non-overlapping year intervals
  - Differentiate between workers in group quarters and workers in households
  - Provide similar level of details to CTPP 2000 without suppression or rounding
  - Stage for delivery in 2007-2011 or 2008-2012 time frame to enable users to make effective use of new Census small area geography
  - Include the following Part 3 tables
    - Flow data at the TAZ level by mode
    - Average travel time by mode
- Continuous update, enhancement and maintenance of TIGER/MAF.
- Allow TAZ definition to change once in a decade using a regular process.
- Educate users on disclosure rules and their impact prior to defining TAZs
- Publish final 2010 Census TIGER/Line features to the user community prior to defining TAZs
- Add MPO region as a reporting geography

Discussion

- Ms. Shen stressed the need to keep asking for desired data, even if the likelihood of getting it is low. Although it may not have been possible in the past, it may be possible in the future.
- Modal distinctions by tract may be a good topic for a CTPP research program.
- Another issue is the accessibility of data. There is currently no easy, ready, web-based access and compare flow data. Ms. Murakami (FHWA) is working with CB to add CTPP flow data to On-the-Map portal.

Virginia Transportation Planning – Using CTPP and ACS Data
Paul Agnello, Virginia DOT

In Virginia, travel demand modeling is mostly centralized, while transportation planning is mostly decentralized. VDOT coordinates Virginia's Transportation Modeling program and maintains eleven of the state's fourteen MPO models and the statewide model.

In the past, the CTPP has been primarily used in the large urban areas comprising the eastern part of the state, e.g., Northern Virginia, Richmond/Tri-Cities, and Hampton Roads. In travel demand modeling, the CTPP has been used to calibrate or validate Home Based Work (HBW) trips for the models in Northern Virginia, Richmond/Tri-Cities, Hampton Roads, and the statewide model. In the future, NHTS add-on data will be used to develop HBW trip purposes in the urban area models, but the CTPP and ACS will likely continue to be used by the statewide model.

Additionally, the Virginia State Legislature recently created a new Multimodal Office, which among its other responsibilities, is charged with developing multimodal transportation performance measures to be used in statewide analysis. The Multimodal Office established a task force, which is developing the desired list performance measures and data sources that are available for this analysis. Initially travel demand models were used to support this effort, but there were too many differences between the different models to perform a statewide comparison. As a result, the task force looked into using other data sources including the CTPP, ACS, and NHTS. Efforts are underway to perform statewide comparisons of urban areas using CTPP and ACS data.

ACS Data Issues, Challenges and Model Development at the ARC
Guy Rousseau, Atlanta Regional Commission (ARC)

ARC maintains both a classic four-step transportation demand model and an activity-based/tour-based model.

ARC's Population Synthesizer (ARC PopSyn) uses Census data and ARC's land use model to create a synthetic population to feed the travel demand model. The travel demand model then predicts travel for this population. 2000 is the base year and validation is achieved by back-casting to 1990.

There are some differences in how the base year and the forecast year are handled:

- Distribution for ***base year*** comes from PUMS
- Distribution for ***forecast year*** comes from base year distribution
- Controls for ***base year*** come from Census tables
- Controls for ***forecast year*** come from land use forecasts

With the introduction of the ACS, the ARC will have to revisit the geography of the program, manipulate the standard tables, re-engineer the PopSyn, modify the forecast year, and revisit the validation. Inconsistencies in the 2000 Census PUMS data dictionary and the ACS PUMS data dictionary cause some coding issues. The ultimate goal is to create an ACS version of the population synthesizer and get to a point where data can be drawn from either the 2000 PUMS or the ACS PUMS. ARC hopes to eventually begin using ACS data for the controls, the seed distribution, and for the PUMS households that are drawn into the synthetic population. If the variable definitions themselves are different (ie, not just name differences) two versions of the PopSyn might be created.

Discussion

- Many of the discussion questions focused on PUMS data from ACS:
  - How does the number of records in ACS PUMS compare with 2000 PUMS? Chuck Purvis observed that the ACS PUMS are for 1% of the households, similar to the 2000 Census PUMS.
  - The data dictionaries are complete, but 90% of the variable names are different.
  - The Census Bureau has promised a methodology on weighting the PUMS for an aggregate 5-year sample.

  - In the Census 2000 PUMS, Place of Work was coded only to the county in smaller areas. Because PUMAs could be combination of places or tracts, PUMA-PUMA flows could not be tabulated. Elaine Murakami (FHWA) is working with CB (JTW Branch) to develop an extended place of work allocation system for ACS prior to the first three year tabulation. This would enable the creation of 3-year PUMA-PUMA tabulation.
- For the 3-year ACS tabulations, will the years be added together and divided by three, or weighted?
  - The Census Bureau will not just be averaging the estimates but will use a methodology similar to the single year products. They will pool the 36 months of data, weight the data, and create the new tabulations.
  - The geography used for tabulations will be that of the final year. Also, monetary data (such as income) will be adjusted using the CPI. Finally, the controls for the three and five year data products will take the average of population estimates for each of the single years as the period control.
  - In 2009, the three-year tabulation will average 2006, 2007, and 2008 estimates. It is a period estimate, not a point in time.
  - The one-year data products have priority in the release schedule.
  - The methodology was documented in the multi-year estimates study (see http://www.census.gov/acs/www/AdvMeth/Multi_Year_Estimates/overview.html),
  - The Bureau needs to be able to explain this to people more simply than in that paper.
- At what point will the 2010 Census feed into population estimates and the weighting process?
  - 2011 is the first year the Census Bureau might be able to use 2010 data.
  - By 2012, the CB will be using estimates based on Census 2010 to create ACS 3 and 5 year products.
- Are there plans to use the 2010 Census to adjust 2010 ACS or the three-year population numbers for 2009, 2010, and 2011?
  - The plan is to use the same methodology for all three and five year tabulations. The ACS will use the most current population estimates available at the time of weighting.

E. Transit applications and New Start analysis

David Schmitt, AECOM Consult
Nazrul Islam, Federal Transit Administration
Craig LaMothe, Metropolitan Council of the Twin Cities

Using the CTPP for Transit Applications & New Starts Analysis: Part I

David Schmitt, AECOM Consult

Federal Transit Administration New Starts analysis is an investment grade level decision. The models undergo rigorous scrutiny. To make the case for decision makers, FTA puts together a briefing sheet.

Trip distribution is a major issue in transit planning because it defines potential corridors for transit investments. Work trips constitute 80 percent of benefits in New Starts programs. Validating work trips, especially during AM peak, is essential to replicate existing conditions. CTPP data help to validate these flows. The Census has much higher sample sizes than typical household surveys or on-board surveys and CTPP flows are available to the transit agency at “no additional” cost. On-board surveys are useful but the survey instruments commonly used need improvement.

CTPP data are used in validating travel markets, in the Aggregate Rail Ridership Forecasting (ARRF) models, and in comparing employment data to land use. Travel patterns do not change as rapidly for transit, so data quality is of more interest than timeliness. CBD-orientation maps are

used to display concentrated work-trip destinations – the CTPP flow data is compared to results from the model.

The target level of geography for most of these validations is the block group or the TAZ, aggregated to corridors of interest. It would be helpful to have ACS data at the same level as for CTPP 2000.

Discussion

- The CTPP is great for transit applications and flows generally because of the large sample size. Flows are one of the most vital elements of CTPP.
- Extremely large household surveys would be necessary to replicate CTPP flow data.
- A frequent question is what is most essential at the TAZ level for models to work?

The answers seem to indicate that:

  - Flows by mode to work at TAZ level are vital.
  - Flows cross-classified by other variables can help in forecasting.
  - An element of research is to investigate linkages between ACS and LEHD.

Aggregate Rail Ridership Forecasting Model (ARRF Model)
Nazrul Islam, Federal Transit Administration

One of the primary tasks of the FTA Office of Planning is to review New Starts and Small Starts applications. All models used are examined and compared with data from existing sources.

Aggregate Rail Ridership Forecast (ARRF) is a sketch planning tool developed by FTA to support quality control testing of forecasts for new proposals. The inputs to AARF are GIS shape files for the rail line, underlying Census geography, and CTPP Part 3 flow data, income data at the home end (Part 1), and employment density data from CTPP, Part 2. The tool is used to provide a 'reality check' for areas which do not have fixed guideway transit currently. Rail ridership is estimated for different segments and different markets. Light rail and commuter rail ridership is analyzed separately using different thresholds.

FTA encourages project sponsors to use the AARF model and compare with their model output. Mr. Islam can provide a copy of the model to interested parties (nazrul.islam@dot.gov).

Discussion:
Mary Kay Christopher observed that many transit agencies are not currently using the ACS data so far because they typically are looking for data with finer geography. Most are sitting back and waiting to see what will be provided. These agencies are expecting to keep using the decennial Census. Of all transportation applications, transit planners use the lowest level of geography from CTPP frequently for many purposes including equity analysis. Increasing the size of the smallest reporting units may create some issues for Title VI analyses.

Transit Applications Using LED On-The-Map Data
Craig LaMothe, Metropolitan Council of the Twin Cities

Mr. LaMothe reported that transit ridership has been increasing in the Twin Cities region. The region is expected to grow considerably over the next 25 years.

Version 2 of LED On-The-Map is being rolled out. Minnesota was a pilot state for LED and Metro has been using it for service planning since August 2005. 44 states are participating for version 2. Because CTPP data are based on Census 2000, they cannot capture short term impacts of gas prices, suburbanization, etc. but are still used for long term planning. Metro Transit uses the LED for service planning, facility planning, system planning, and marketing. Examples include evaluating park-and-ride proposals, performing corridor studies, and identifying target areas for direct mail marketing on new routes.

Metro has been using the data behind the tool. Limitations of the online tool for transit include the inability to buffer by a quarter-mile and to integrate other regional datasets. The data are used in Metro's GIS with an Access database.

Mr. LaMothe is continually finding new applications for the LED for short-term and day to day planning. Local consultants, cities, and counties are being trained in using the data behind the online tool.

Discussion
The discussion focused on quality of LED data in states other than Minnesota.

- Minnesota has different laws on unemployment insurance records than other states and is a best case scenario for using LED. Minnesota law requires employers to report exact place of work locations for employees. Because other states don't have such a law, the workplace locations for multi-site businesses are modeled based on MN data.
- A major limitation in California is that the work address is the address on the W-2, not necessarily where employees travel to work.
- ARC has been using LED and has a long history of using the data in the state. ARC has done a lot of geocoding to resolve some of the issues with multi-site establishments.
- Elaine Murakami requested more local review of LEHD. Examples of review and applications at the local government level would be helpful in assessing systematic issues, and aid in developing a research agenda.
- Data analysts at the state and local level can report issues on workplace locations to their state Labor Department.
- Statewide use of LED is complicated by the need for agencies to sign nondisclosure forms. Florida DOT developed boilerplate language for the MPOs and consultants to use.

F. Dealing with geography: challenges and opportunities
Sharon Ju, HGAC
Ed Christopher, Federal Highway Administration

Ms. Ju provided a brief overview of the various geographies in use at HGAC. Because TAZ size varies greatly from area to area, HGAC is considering using a gridcell for the TAZ in the future to be compatible with UrbanSim. There are currently 3,000 TAZs in the H-GAC area and there are plans to expand them to 5,000.

The issue is for Census data and other data sources to keep up with developments in travel modeling. Guidelines for bringing data down to small geographies are needed. Some consultants have previously split larger geographies by area size alone, which is not necessarily a good idea.

ACS Data Release Schedule
Ed Christopher, Federal Highway Administration

Mr. Christopher presented the release schedule for ACS data and highlighted potential changes in Census geographies and in data release rules. The three-year product will be available for areas with population of 20,000 or more. CTPP's first 3-year product will have to be based on Census 2000 geography such as place or PUMAs. New TAZs developed in 2008-2009 should be integrated into the first five-year release. While the three-year product will likely have actual flows, the five-year product may well have synthetic flows for cross-tabulations involving mode and income.

The Census Bureau released a Federal Register notice on April 6, 2007 on the Participant Statistical Areas Program (PSAP). The FR outlines current plans to define tracts and block groups. Comments are due by July 5, 2007. The CB is contemplating changing the average size of a block group to an average of 1,200 residents, up from 300-600. Also, a housing unit count may used to set block group thresholds for the first time.

This change is necessitated by the smaller sample size in ACS, and may allow for getting data at the block group level. Block groups may be becoming as big as or bigger than TAZs with this new definition.

For CTPP, the CTPP Technical Group is considering development of three types of TAZs –

- A regular TAZ as defined by the MPO for its planning process. Base TAZs will be traditional sizes.
- A medium TAZ (at 4,000 population) to correspond with the average tract sizes.
- A Large or Super TAZ which aggregates TAZs (up to 20,000 in population) corresponding to three-year data releases.

Discussions are in place with the Census Bureau on developing a TAZ geography program using a customized version of the PSAP software. The goal is for the Census Bureau to release draft tracts and block groups in 2009. The TAZs will be developed slightly behind the tract and block group definitions so that MPOs could address nesting their TAZ geographies with Census geography, if desired.

MPO planning area boundaries are larger than urbanized areas as they are to include areas likely to become urbanized in the next twenty years. Mr. Christopher would like to incorporate these boundaries into TIGER. If these boundaries were added to TIGER, they could be used as a tabulation unit.

A final issue for MPOs to note is the new Disclosure rules for ACS (See below).

		Workplace Tables Only	All Tables: Resident and Workplace	Tables with "Means of Transportation"
1 year data 65,000+	Counties	Rule of 10/60 *10 unweighted 60 weighted*	Filtered and/or Collapsed	No Special Rules
	Cities			
	PUMAs			
	MCDs			
3 year data 20,000 to 65,000	Counties	Rule of 30/180 *30 unweighted 180 weighted*		
	Cities			
	MCDs			
5 year data under 20,000 *Small Areas*	Cities	Rule of 50/300 *50 unweighted 300 weighted*	NO Filtering or Collapsing	Univariate Tables No Special Rules
	MCDs			
	Tracts			All Cross-tabs 3 unweighted workers per mode or Collapsed / Suppressed
	Block Groups			
	TAZs			
	Others			

Discussion

- MPOs and DOTs need to start developing relationships with their State Data Centers (SDC) so as to be "looped" into the Tract and BG definition process.
  The definition of urbanized areas used by FHWA and by the Census differs slightly. FHWA is planning to make a rule to implement all changes to UZAs simultaneously across states when reporting HPMS data.
- Discussion on developing work-zone TAZs:
  - Many modelers felt that it is standard practice to develop TAZs in such a way so as to separate homes and workplace areas.
- Data Delivery issues:
  - Multi-state MPOs want to be able to visualize cross-state flows.

G. New CTPP Consolidated Purchase
Janet Oakley, AASHTO
Ron McCready, AASHTO

Ms. Oakley and Mr. McCready updated the group on the status of the CTPP consolidated purchase. Invoices are starting to go out to the states for the project. An oversight panel is being convened. AASHTO's Standing Committee on Planning (SCOP) Census Data Workgroup will be the primary motivator, and will oversee the effort. The AASHTO Board of Directors will provide fiduciary oversight.

Ms. Oakley noted that CTPP should about more than just doing the tabulations. Rather, it should include a suite of programs which establish the capacity and capability among MPOs and states to "help themselves" and to provide the tools to advance the state of the practice in planning. There has been a great deal of emphasis on performance-based approaches and asset management and these have lead to an increased understanding of the importance of data. The consolidated purchase is an opportunity to develop and institutionalize the program.

There is also a possibility of extending the success of this program to other opportunities in planning and modeling data beyond the Census. SCOP may try to strategize about how a broader program might be developed. Ron McCready noted that the existing relationship with TRB is a strong asset. Through the consolidated purchase, the NCHRP regular research projects and quick-response research through NCHRP Project 8-36, and other avenues, AASHTO is in a position to carry out research to complement CTPP effort. A topic for future discussion is that there may be a way to better share the costs with those outside of the pooled fund community and to take that revenue and put it back into the project.

Discussion
CTPP administration

- Attendees want the state technical staff to be notified when invoices go out to the states.
- About 12 states have not yet made financial commitments to CTPP. Some of these states have new executive staff. Participants felt that once they are contacted, they are likely to participate.
- Many attendees felt the need for training to continue. VA, FL, and GA DOTs were appreciative of the classes conducted by Ed Christopher and Nanda Srinivasan, and would like the consolidated purchase to help continue providing these training sessions.
- AASHTO would like a good representation of the user community for the CTPP Review Board for CTPP. Initially, the SCOP Data Working Group is expected to provide oversight. Ron McCready would like to extend membership to this group to include:
  - Appropriate TRB committees.
  - Include a transit agency on the oversight committee.
  - Work with other groups 'entrepreneurially'

CTPP training

- Technical staff at many agencies are due to retire soon. Many attendees stressed the need for continuing training and technical support. A few attendees stressed the need to continue the current class-room training, and technical training provided by the CTPP Technical Group (especially Elaine Murakami, Ed Christopher and Nanda Srinivasan).
- Use of new technology to develop and deliver training modules was viewed as important. For example, Ed Christopher and Elaine Murakami gave a presentation at Portland State University which was archived and still web-accessible.
  - Another area that was stressed was to have trainers at the Federal level train State DOT staff adequately so that they in turn could train other staff.

Data and Delivery

- Elaine Murakami observed that CTPP has benefited from the work of Bureau of Transportation Statistics, especially the TranStats staff for making the products web-accessible. BTS also hosts the product distribution stage. The costs for several of these tasks have been borne by FHWA and BTS. With the onset of the consolidated purchase, we need to develop a stable way for continuing these delivery mechanisms.
- The absence of GQ for 2005 may cause some issues for total workers for the first 3-year package. However, some attendees felt the two years of data would be sufficient. Mr. Purvis asked for the first three year data to be tabulated only for workers in households.
- Some attendees would like the first five-year CTPP product to be based on 2005-2009 collection.
- Many attendees felt the need for flows by mode to work. Adding income to the mix was deemed to be important for analyzing demographics of market segments.

- USDOT and the Census Bureau have been discussing possible use for network-based Home-to-work distance as a calculated variable in CTPP Part 1, and Part 2 tabulations. For example, using worker residence and workplace locations, and using a network based distance approach, CB could provide a cross tabulation of distance to work by income at the residence and work end. Questions that need to be resolved include:
  - Whose/which network to use?
  - How to evaluate distance for transit users: There is no good nationwide network file for buses.

  MPOs would want to have distributions by time or income. They would favor income quartiles and can deal with large ranges. Flow distributions by mode and income are desired because workers with high incomes commute differently than workers with low incomes, even if they commuted by the same mode-to-work.
- CTPP software issues
  - The software should allow visualizing TAZ to TAZ flows from neighboring MPOs.
  - Bi-state MPOs want to be able to see their data across state borders in the same session.

Research

- Chuck Purvis said that many MPOs may be willing to contribute with in-kind research support. Currently, MTC, Oakland is helping with the research on place of work allocation.
- Nathan Erlbaum mentioned NYSDOT's tools to present Census and CTPP data alongside other data sources. He would like to have improved methods to integrate multiple data sources.

VI. Summary Remarks

Steve Polzin, University of South Florida Center for Urban Transportation Research

Dr. Polzin hoped that the appreciation for data is growing. He noted that Walmart reports weekly sales and revenues from across all its locations worldwide by Sunday evening, while the transportation community often is forced to make decisions on capital improvements based on very limited data that is years old.

Pedestrian, bike, transit have inherently different data needs than the motor vehicle. Flow data is the most critical constraint in terms of data quality. There are still administrative issues to resolve – communications, training, release dates, opportunities for input, redefining geography, developing consensus on data formats etc. These are all solvable problems. However, the element of research is an issue that often gets ignored.

Big picture issues include the continuity of funding for ongoing research and technical transfer. Traditionally there has been a lack of continuity of support and technical training because of the 10 year cycle in decennial Census. It is not always clear who has which of these responsibilities, although, he favored national "centralized" technical support and training.

The tendency towards precision and accuracy is increasing. We need more and better communications, training, and information dissemination. There are opportunities to involve the private sector, especially big data houses and modeling groups. Finally, meeting once a year may not be enough to resolve all these issues, we may need to develop a continuing dialog via webinars or other means.

VII. For More Information

The CTPP website, located at http://www.fhwa.dot.gov/ctpp/, provides CTPP products, updated information on CTPP, and links to other online resources for transportation planners. Other ways to get CTPP help are to call 202-366-5000 or email ctpp@dot.gov.

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VIII. Attachments

A. List of Attendees

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