The New York Metropolitan Transportation Council and
The Region 2 University Transportation Research Center

Contemporary Issues in Household Travel Behavior Survey Design and Management: Best Practices and Pitfalls to Avoid

January 9-10, 2008

Agenda

WEDNESDAY, JANUARY 9TH

12:30 pm – 12:45 pm: Welcome and objectives for the workshop
Kuo-Ann Chiao, New York Metropolitan Transportation Council

12:45 pm – 2:15 pm: Session 1: Matching survey goals with design, methods, and sample size
Moderator: Todd Goldman, University Transportation Research Center

- Guy Rousseau, Atlanta Regional Commission; Co-Chair, TRB Household Surveys Subcommittee
- Laxmi Ramasubramanian, Hunter College/CUNY

2:15 pm – 2:30 pm: Break

2:30 pm – 4:30 pm: Session 2: Survey planning and implementation at U.S. MPOs
Moderator: Kuo-Ann Chiao, New York Metropolitan Transportation Council

- Robert Griffiths, Metropolitan Washington Council of Governments
- Neil Kilgren, Puget Sound Regional Council
- Kyung-Hwa Kim, Portland Metro
- Guy Rousseau, Atlanta Regional Commission

4:30 pm – 5:00 pm – Open Discussion

THURSDAY, JANUARY 10TH

9:00 am – 10:00 am – Session 3: Applications of GPS Technologies in HH Travel Surveys
Moderator: Kyung-Hwa Kim, Portland Metro

- Cynthia Chen, City College of New York/CUNY and Hongmian Gong, Hunter College/CUNY
- Comment: Robert Griffiths, Metropolitan Washington Council of Governments

10:00 am – 11:15 am – Session 4: Best Practices in Sampling
Moderator: Todd Goldman, University Transportation Research Center

- Elaine Murakami, FHWA (by phone)
- Robert Griffiths, Metropolitan Washington Council of Governments

11:15 am – 11:30 am: Break

11:30 am – 12:30 pm: Session 5: Stated Preference Add-Ons and Panel Surveys
Moderator: Cynthia Chen, City College of New York/CUNY

- José Holguín-Veras, Rensselaer Polytechnic Institute
- Comment: Guy Rousseau, Atlanta Regional Commission

12:30 pm – Adjourn

Meeting Minutes January 9-10, 2008 Household Travel Survey

A workshop for NYMTC member agencies and on best practices in household travel survey design and management was held at NYMTC on January 9-10, 2008. The following are the minutes for that meeting.

- NYMTC Executive Director, Joel Ettinger, gave an introduction and spoke about the importance of the workshop. He discussed about the expected growth in the region in the next 25 years. He mentioned that the age of the current survey data has been questioned in recent studies. On March 13th the NYMTC principals will meet to define the vision for the region.
- The Technical Group Director, Kuo-Ann Chiao discussed congestion pricing, the aging population and the reasons for the workshop. He also mentioned that proposals for NYMTC's Regional Household Travel Survey were due on 1/10/2008.

Wednesday January 9, 2008
Session 1 – Matching Goals with Design, Methods, and Sample Size
Moderator: *Todd Goldman, UTRC*
Presenters:
Dr. Laxmi Ramasubramanian, Hunter College/CUNY- Key Issues in Survey Design
Dr. Ramasubramanian discussed goals of survey research, types of surveys, basics of survey design, sampling, measurement concepts and technologies. She also discussed special populations (social isolation), response rates due to barriers of language, face to face interviews and sample size.
Guy Rousseau, Atlanta Regional Commission – Household Travel Survey Methods
Mr. Rousseau spoke regarding the National Household Travel Survey, survey examples from other cities, recent survey experience, designing surveys, the future of survey design, and key issues in travel survey design. He mentioned that it costs between $175 to $200 for a complete and useable survey. He mentioned several types of surveys such as establishment, airport, tourist and work place and that at a minimum sampling should be 1/200 households. He also said that short trips were under reported. Also discussed was stated vs. revealed preferences.

Session 2 – Survey Planning and implementation at U.S. MPOs
Moderator: *Kuo-Ann Chiao, NYMTC Technical Group Director*
Presenters:
Robert Griffiths, Metropolitan Washington Council of Governments – MWCOG 2007 Household Travel Survey
Mr. Griffiths spoke on the MWCOG 2007 Household Travel survey. Topics included: household travel survey basics, survey challenges, survey design elements, sampling plan, schedule, GPS vehicle data collection and non-respondent follow-up.
Neil Kilgren, Puget Sound Regional Council – PSRC 2006 Household Activity Survey
Mr. Kilgren discussed the survey study area (4-county Puget Sound Region), survey intercept locations, GPS tracking, transit choice experiments, transit market analysis, study goals, public relations, sample design, pretest analysis and stated preference survey.

Kyung-Hwa Kim, Portland Metro – Household and Travel Behavior Survey 2010
Ms. Kim discussed issues such as, survey history, reason for the survey, survey geography(Portland/Vancouver, Salem, Eugene, Medford, Corvallis, Bend), survey strategy, types of data collected, survey costs, choice based sample survey, funding and research partners.
Guy Rousseau, Atlanta Regional Commission (ARC) – Household Travel Survey SMARTRAQ at the Atlanta Regional Commission
Mr. Rousseau discussed travel modeling at ARC, why ARC needs SMARTRAQ, short term trip based modeling, long term trip based modeling, address GEO-coding outcomes and trip generation model.

Thursday January 10, 2008
Prior to the first session, NYMTC staff and workshop presenters held a round table to discuss modeling and data collection issues.

Session 3 – Applications of GPS Technologies in Household Travel Surveys
Moderator: *Kyung-Hwa Kim, Portland Metro*
Presenters:
Dr. Cynthia Chen, City College of New York/CUNY – GPS Pilot Project
Dr. Chen discussed statewide surveys that used GPS technology, analysis of 1997-1998 survey data, types of GPS and the role of proxy.

Session 4 – Best Practices in Sampling
Moderator: *Todd Goldman, UTRC*
Presenters:
Elaine Murakami FHWA (by phone) – Hard to Reach Populations
Ms. Murakami discussed why collecting data for New York City is unique, hard to reach populations, survey methods for hard to reach populations and choice base samples. She also discussed the importance of the legitimacy of the survey. Since some of these groups of populations are distrustful of the government.
A participant stated that a formal letter to make a survey legitimate can improve response rate.

Session 5 – Stated Preference Add-ons and Panel Surveys
Moderator: *Dr. Cynthia Chen, City College of New York/CUNY*
Presenters:
Dr. Jose Holguin-Veras, Rensselaer Polytechnic Institute – A Primer on Stated Preference and Panel Surveys
Dr. Veras discussed stated vs. revealed data, disaggregate data, potential sources of bias, hybrid panel design and comparison of revealed preference vs. stated preference data.

Additional Highlights and Issues

What follows are the highlights and issues that were discussed at the different workshop sessions.

Dr. Laxmi Ramasubramanian, Hunter College/CUNY- Key Issues in Survey Design

- During the discussion of telephone interviews it was noted that not everyone has a land line phone. In 1997, 97% of households had a land line phone; that is not the case now.
- Some advantages of F2F interviews include:
  1. Reach special populations
  2. Can probe for more information
- Disadvantages include high possibility of interviewer bias.
- Advantages of telephone interview include:
  1. As valid as mail survey or F2F (USA)
  2. Combines features of F2F and mail surveys
  3. Relatively inexpensive
- When you design the questionnaire you need to:
  1. Pay attention to words/phrases
  2. Design mutually exclusive responses
  3. Avoid loaded questions
- Also discussed were innovative uses of technologies such as:
  1. *GIS:*
     - Preliminary spatial analysis to assist in sampling.
     - Identifying pilot test sites.
  2. *Mobile Devices:* To gather time use data
  3. *Robust Websites:*
     - To disseminate information.
     - To manage continuous survey participation.
- In-house internet penetration – about 75%. Internet survey participants are mostly white, educated and with high incomes.

Guy Rousseau, Atlanta Regional Commission – Household Travel Survey Methods

- Modern household travel surveys are facing many challenges, such as declining telephone response rates, cell phone only households, answering systems, caller identification, etc.
- It appears more and more common to randomly select household by postal carrier routes, instead of random digit dialing, as has been the case in the past, due to no call listings.
- NHTS is mostly suited for small to mid-size MPO's, as well as State DOT's.
- Large MPO's, such as NYMTC, are usually better served by a through household travel survey, administered and conducted separately from NHTS.
- Comparison of household response rates among other metropolitan areas range from 30% to 34%.

- Some pitfalls to avoid in a survey are:
  1. Missing/ miscoded locations
  2. Underreporting of short non-mandatory activities
  3. Missing preschool children (ARC)
- When designing surveys to support activity based and tour based models:
  1. Need full and consistent diary-days for all household members
  2. Perform checks of frequency distributions, ARC found out that age distribution indicates missing children under age 5.
  3. Activity starts and end times: Day should start at home at 3AM and end at 2:59 (1,439 minutes). Duration of all activities and travel should add to 24 hours (valid range of 1:00 to 24:59).
- Sample size and degree of precision
  1. At a minimum, I household out of every 200 households should be surveyed
  2. 0.5% sampling of the total households is desired but may not be economically feasible in large metropolitan areas.
  3. Pre-test sample size is usually between 100-1,000 households.
- Other key questions for model development
  1. Oversampling of environmental justice areas, and "difficult to reach" population.
- The future of survey design
  1. NYMTC could implement continuous data collection programs rather than large scale episodic survey programs as are commonly done for household travel surveys every 10 years.
  2. A mixture of revealed and stated preference survey techniques could also be used to elicit information on all aspects of the transportation system.

Robert Griffiths, Metropolitan Washington Council of Governments - 2007 Household Travel Survey

- Background on Survey
  1. About once every decade
  2. Used to update travel models
  3. Trend analysis
- Challenges for MWCOG 2007 HTS
  1. Declining telephone response rates
  2. "cell phone only" households
  3. Obtaining the participation of lower income, minority, younger and no-vehicle households
  4. Identifying "travel substituting" activities (e.g. teleworking, teleshopping, etc.)
  5. Incomplete reporting of auto travel
  6. Measuring non-response
- Design elements for 2007 Metropolitan Washington Council of Governments HTS
  1. Address list-based sampling frame
  2. Address-telephone matching
  3. Website for scheduling recruitment interviews

4. Special focus group incentives
5. GPS Vehicle data collection to supplement travel diary data collection
6. Non-respondent follow-up survey

- Address-telephone matching for households not having a listed phone number
  1. Advance letter w/household questionnaire
  2. Up to 3 reminder post cards
  3. $50 participation incentive
  4. Household provides phone number via mail, telephone, or website
- GPS vehicle data collection sub-sample
  1. Randomly selected GPS household sub-sample
  2. 2-3 days of GPS data collection
  3. Obtain independent estimates of vehicle trip rates and VMT
- Non-respondent follow-up survey conducted to measure size and likely impacts of survey non-response.

Neil Kilgren, Puget Sound Regional Council – PSRC 2006 Household Activity Survey

- Regarding public relations; you should respond to every phone call/email. Also share with project team feedback/complaints.
- Pilot survey results
  1. Awkward or confusing wording identified
  2. Interviews longer than average; mail-back option to reduce respondent burden
  3. Substantial changes to diary
  4. Differential incentives of $15 for rare population households.
- GPS subsample
  1. Conducted over 12-week period concurrent with main survey
  2. 150 GPS devices to 285 households with 518 different vehicles
  3. Mail-out/mail-back GPS logger, easily installed by respondent.
  4. 27% overall under-reporting of auto stops
  5. Highest under-reporting on 2nd day, and on short home-home trips.
- Stated preference survey
  1. Stated-preference and attitudinal portion of the survey carried out as a follow-up to the main activity survey
  2. Four stated-preference choice tasks between car and transit options
  3. Four stated-preference choice tasks between car tolled and non-tolled options.
- Attitudinal data used to segment the market along subjective dimensions.
- Transit market segmentation factor analysis
  1. Factor analysis searches for patterns within the responses
     A. Instead of selecting a known variable for analysis
     B. "How did households making over $80K/year respond to question #23?"
  2. Factor analysis looks for correlation among the responses
     A. "Did people who agree strongly with question #23 respond in a similar fashion to question #5? #17? #9?
- Final analysis looks for previously undefined "factors" that help explain these relationships.

Kyung-Hwa Kim, Portland Metro – Household and Travel Behavior Survey 2010

- Value of cross-sectional data
  1. Provides regional "snapshot"
  2. Provides information for model building
- Value of Longitudinal data (original)
  1. Measures transitional effects
     A. Captures traveler response to
        - Household changes (new HH member, income changes, retirement, new driver, etc.).
        - Infrastructure changes (new transit service / park-ride lot, roadway widening, road pricing, etc.).
        - Environment changes (new close-by shopping opportunities, new home, new job site, etc.)
- Caution list on questions related to:
  1. Transit path (whether B-L-B, L-B-L …)
  2. What they consider their mode (bus or LRT)
  3. Where they parked
  4. Parking cost
  5. Bike path
- Careful with the number of questions on a survey.
- Panel survey – problems analyzing data. In their experience not much has been getting done with the panel survey data in terms of practical applications.

Guy Rousseau, Atlanta Regional Commission – Household Travel Survey SMARTRAQ at the Atlanta Regional Commission.

- This work supports decades of prior research that have shown that household income is an extremely important determinant of household trip making.
- Income provides the resources both for consumption of goods and services and for trip making, so it should logically be a strong influence on travel.
- Total number of persons is not a key variable. For adult trip-makers, total size has largely been replaced with the "number of other adults" and the "presence of any children".
- This suggests that the number of children in a household is not a strong determinant of travel – it doesn't matter much whether there is one child or four. But the presence of even one child makes a huge difference over the presence of none, as every new parent will readily attest.
- Number of cars, and the relationship between cars and workers, was important for many of the "discretionary" trip models. This influence is over and above that of income.
- This may suggest that the effect of "induced travel" comes indirectly from households locating in areas where transit and walking are not viable options, thus causing greater car ownership, and thus creating more trips.
- The density and accessibility variables were not very important. Researchers had theorized that high density or accessibility might relate to less trip making, since car ownership could be less and more trips could be combined. This did not prove to be the case, however. The accessibility variables were statistically too weak. In

some cases, the propensity was for slightly more travel in high density areas and slightly less travel in low density areas.

Dr. Cynthia Chen, City College of New York/CUNY – GPS Pilot Project

- GPS technology is being accepted by more and more people.
- There are lots of issues:
  1. Technical feasibility
  2. Practical feasibility
  3. The added benefit and burden of having a GPS component in the Household travel survey
- Data accuracy and reliability
  1. Accuracy: the newest technology can detect a point within 10-15 meters of a location and report data every second for several hours; the most advanced has a battery life of 12-16 hours, or 466,000 points of recording.
  2. Reliability: urban-canyon effect; being underground; cold-start issues
- From the scan of regional/statewide surveys that used GPS technologies
  1. Weight: 100-500 grams for the most recent ones
  2. Ease of use/respondent burden: although most suggest a pure passive data collection, 80% of the surveys reviewed required respondents fill out a traditional diary as well.
  3. Cost: $1,000 per household.
  4. Public acceptance: most are willing to participate in a GPS survey. Those unwilling are very different from those willing. Those unwilling are often lower-income, non-English, without driver license, couples with older children or household heads 30 or younger.
- Advantages of implementing GPS technologies in travel surveys:
  1. Gather more accurate data
  2. Determine detailed route information
  3. Capture trips that are often missed in traditional surveys
  4. Travel Mode information may be inferred

Elaine Murakami FHWA (by phone) – Hard to Reach Populations

- Start with difficult populations.
- You don t need many households with 2+ vehicles and 2 workers who live in the suburbs. They all travel about the same.
- Work with the survey research organization to start recruiting difficult populations at the beginning. If you wait until the end you will run out of money and not have sufficient samples.
- Hard to reach populations
  1. African American
  2. Non-English speaking
     A. Hispanic, fear of INS
     B. Distrust of government
  3. Young males, who are often very mobile

- Hard to reach populations and difference in travel behavior
  1. African American
     a. Lower income
     b. Different vehicle availability
     c. More likely to be "cell phone only"
  2. Non-English speaking
     a. Lower income
     b. Different driver licensing (especially women)
  3. Young males, who are often very mobile
     a. May be intrigued by new technology
- Survey methods for hard-to-reach populations
- Special targeted time periods of specific populations
- Work with neighborhood schools
- Work with University to add legitimacy
- Adding legitimacy by local knowledge and jargon
- Differential incentives
- Easy to read materials (6th or 7or 7th grade).
- Use graphics to translate message and purpose
- Use choice-based samples.
- Survey methods to try
  a. Establish a CALENDAR period focused on specific target populations
  b. Pre-survey meetings with community leaders
  c. Special and different media campaign: - Radio, television, print, bus and subway signs
  d. How to avoid scam artists
  e. Work with selected neighborhood schools
- Develop a homework assignment related to travel behavior and transportation planning. Suggestions:
  a. Work with the UTRC to develop and implement this?
  b. Add legitimacy with link to university. In Chile, South America, response rates to travel behavior surveys are much better when part of university research not government.
  c. Add legitimacy with local knowledge and local jargon. CMAP (Chicago) survey. Used local African American survey firm for sample recruitment and had good recruitment. But, then, travel data retrieval was conducted by firm in Texas and retrieval rates fell off considerably.
- Choice samples vs. "random" samples:
  a. Samples today are non-random. We are kidding random ourselves if we pretend they are random.
  b. Typically, much lower response rates from both lower and upper income ranges, and Hispanic populations.
  c. WHY NOT try choice-based sample and weight them by known characteristics, like Vehicle Ownership, Household Income, Household size, Education
- Choice-based samples:

    a. Men between 16 and 25. How about trying a driver's license file and a web-based survey with cash incentive? Obtaining license data in NYS is difficult.
    b. Regular bicycle riders (e.g. more than once a week)
- Some ideas, not solutions:
    a. Do a couple of small tests.
    b. Conduct a couple of focus groups with populations you think will be particularly problematic.
    c. Outreach: Start working with community leaders for special populations.

Jose Holguin-Veras, Rensselaer Polytechnic Institute – A Primer on Stated Preference and Panel Surveys

- Repeated Cross Sections: Pros and Cons:
    1. Causality cannot be studied in depth as the individuals are not the same from sample to sample.
- Panels: Pros and Cons
    1. In panels, the "same" sets of individuals participate in different waves of data collection.
    2. This enables to track the impact of policies on specific individuals, and unravel cause-effect relations.
    3. If the panel is refreshed to make sure each wave is representative of the population, it could also be used as a cross-section.
    4. Panels suffer from attrition bias, require statistical compensation.
    5. Panel stagnation, panel fatigue may be an issue.
- Hybrid panel designs
    1. Rotating panel surveys (RPS):
        a. Individuals are rotated off fairly soon, and panel is refreshed to ensure it represents the population.
        b. Rapid rotation may limit the ability to identify longitudinal effects.
    2. Split panel surveys (SPS):
        a. It includes a longitudinal panel (with same participants in multiple waves) and a non-overlapping cross-sectional sample).
        b. Require a large effort and cost though it may be worth it.

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SPEAKER BIOGRAPHIES

Cynthia Chen, Assistant Professor of Civil Engineering, City College of New York/CUNY
Dr. Cynthia Chen has over 10 years' experience in travel behavior analysis, demand forecasting, and survey design. She has published over 20 peer-reviewed articles in the field. Her current interest is to understand the role of the built environment in activity and travel behavior using panel datasets and advanced econometric methodology. Recently, Dr. Chen was invited to write a guest editorial "The Built Environment and Travel Behavior: Making the Connection" for Transportation, a top-ranked journal in Transportation. She currently chairs the subcommittee on Time Use and Activity and Travel Patterns at the Transportation Research Board, a division of the National Research Council, which is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. She also serves as a member of the Travel Behavior and Values committee and Telecommunications and Travel Behavior Committee at the Transportation Research Board. Currently, she is a on the organizing committee for the Next Generation Travel Model Conference sponsored by the Transportation Research Board in Portland, Oregon in 2008.

Hongmian Gong, Associate Professor of Geography, Hunter College/CUNY
Dr. Hongmian Gong has 12 years of research and teaching experience in urban GIS, urban transportation, and urban geography. She has published a dozen of peer-reviewed articles and obtained over $200K in funding to support her research, most of which came from government agencies such as U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and NASA. Her recent research project involves pilot testing the use of GPS in the next household travel survey in New York Tri-state metro region, funded by the New York Metropolitan Transportation Council.

Robert E. Griffiths, Metropolitan Washington Council of Governments
Mr. Robert E. Griffiths is the Technical Services Director for the Metropolitan Washington Council of Governments (COG) Department of Transportation Planning. During his 30-years at COG he has been deeply involved in the development of technical methods, data, and information systems for the analysis of regional growth and transportation issues. In his career at COG he has worked both as a regional and transportation planner and has served as the project director for several large-scale transportation surveys in the metropolitan Washington region. He is currently serving as the Project Director for the National Capital Region Transportation Planning Board's (TPB) 2007 Household Travel Survey -- a major regional effort to obtain current information on the daily travel and activity patterns of persons living in the greater Washington metropolitan area.

José Holguín-Veras, Professor of Civil & Environmental Engineering, Rensselaer Polytechnic Inst.
Dr. José Holguín-Veras is Professor of Civil and Environmental Engineering at the Rensselaer Polytechnic Institute. He received his B.Sc. in Civil Engineering, Magna Cum Laude, from the Universidad Autónoma de Santo Domingo, Dominican Republic, in 1981. He received his M.Sc. from the Universidad Central de Venezuela in 1984; and his Ph.D. from The University of Texas at Austin in 1996. He has taught at California Polytechnic State University - San Luis Obispo, The City College of New York (1997-2002), and Rensselaer Polytechnic Institute (2002-present). He is the author of more than a hundred publications in leading journals, professional conferences, and book chapters on subjects related to transportation modeling, intermodal freight transportation, transportation economics and multicriteria decision making, Intelligent Transportation Systems, simulation, and transportation planning.

Neil Kilgren, Puget Sound Regional Council
Mr. Neil Kilgren is a senior planner at Puget Sound Regional Council in Seattle. A graduate of the University of Washington (Geography), for the last 20 years he has been involved with four large household travel survey projects for the PSRC.

Kyung-Hwa Kim, Portland Metro
Ms. Kyung-Hwa Kim is a principal planner at Metro, Portland Oregon. She has been working at Metro for 20 years as a modeler. Her 20 years of experience covers from simple data analysis to complicated activity model development. Her strength on data understanding and model structure lead to involve with region's the most challenging projects such as Land Use Transportation and Air Quality (LUTRAQ) study, Transportation Analysis and Simulation System(TRANSIM), Activity Model Development, and Regional Freight Modeling Project. She has been served for numerous peer modeling review committee, member of the Oregon Modeling Steering Committee, Transportation Research Board (TRB) Transportation Survey Methods Committee, and Transportation Research Board (TRB) Task Force on Moving Activity-Based Approaches to Practice Committee.

Elaine Murakami, Federal Highway Administration
Ms. Elaine Murakami is a community planner with the Federal Highway Administration Office of Planning in Washington, D.C., where she has worked for 15 years. Previous to her job with FHWA, she worked for 9 years at the Puget Sound Regional Council, the MPO for Seattle. She has worked on innovations in household travel and activity surveys, with particular focus on increasing response rates and reducing item non- response, including financial incentives, diary design, and the use of new technology (GPS, cell phones, web interface). She is interested in using multi-day GPS data for analyzing activity space. At PSRC, she initiated the Puget Sound Transportation Panel, the first general purpose longitudinal transportation survey in the U.S. Ms. Murakami also serves as Chair of the TRB New Technologies in Travel Survey Methods Subcommittee.

Laxmi Ramasubramanian, Assoc. Professor of Urban Affairs & Planning, Hunter College/CUNY
Dr. Laxmi Ramasubramanian is an associate professor in the Department of Urban Affairs and Planning at Hunter College. Ramasubramanian holds master's degrees in architecture (University of Madras, India) and city planning (Massachusetts Institute of Technology) and a doctorate in environment-behavior studies (University of Wisconsin–Milwaukee). She has previously held research and teaching appointments at the University of Illinois- Chicago and the University of Wisconsin-Milwaukee and postdoctoral fellowships at the University of New England (Australia) and the University of Auckland. She seeks to inform and transform planning policy and its practice in order to create a just and equitable society. Dr. Ramasubramanian's research falls within the larger umbrella of Critical GIS research (investigations that examine how GIS adoption and use can alter social and political processes and the power of individuals and institutions). Her area of expertise is in setting up and implementing participatory planning projects that use affordable and accessible digital technologies. Dr. Ramasubramanian's research has uncovered that technology use by relatively powerless actors alters the nature of knowledge creation and thereby the discursive strategies they can use to solve strategic planning problems.

Guy Rousseau, Atlanta Regional Commission
Mr. Guy Rousseau is the Modeling Manager for the Atlanta Regional Commission (ARC), the MPO for Atlanta, Georgia, which he joined in 1998. He is a member of the TRB Committees on Transportation Planning Applications, Metadata, and Travel Survey Methods. He is a member of the TRB oversight panel for the ACRP Mode Choice Models project. He is also on the TRB/NAS Committee for the Determination of the State of the Practice in Metropolitan Area Travel Forecasting (TRB Special Report 288, Metropolitan Travel Forecasting, Current Practice and Future Direction). He has participated in the FHWA's Travel Model Improvement Program peer review of metropolitan travel forecasting for the North Carolina Department of Transportation, Memphis, San Diego, St. Louis, Seattle and Knoxville. He holds an MSCE degree from Laval University and a BSCE degree from the University of Montreal. He is also the Co-Chairman of the TRB Household Travel Survey Subcommittee.

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Resources on Household Travel Survey Methods

Workshop Presentations

Presentations from this workshop will be available at: http://www.utrc2.org/events/events.php?viewid=188

Other Resources

Catherine T. Lawson, Christine W. Fassman, and Maria Y.C. Chau, "Household Travel Survey Research," Final report to the New York Metropolitan Transportation Council and Metropolitan Transportation Authority. New York: University Transportation Research Center, Feb. 2007.*
http://www.utrc2.org/research/projects.php?viewid=111

Data for Understanding Our Nation's Travel: National Household Travel Survey Conference, November 1–2, 2004. (http://www.trb.org/calendar/event.asp?id=125)

- Conference Summary: Transportation Research Circular Number E-C071, January 2005
  http://trb.org/publications/circulars/ec071.pdf

- Joy Sharp, Bureau of Transportation Statistics, and Elaine Murakami, FHWA, "Travel Survey Methods and Technologies Resource Paper"*
  http://www.trb.org/Conferences/NHTS/Workshop-TravelSurvey.pdf

- Konstadinos G. Goulias, Mark Bradley, Val Noronha, Reg Golledge, and Peter S. Vovsha, "Data Needs for Innovative Modeling Resource Paper"
  http://www.trb.org/Conferences/NHTS/Workshop-DataNeeds.pdf

Pew Research Center for People and the Press, "The Cell Phone Challenge to Survey Research: National Polls Not Undermined by Growing Cell-Only Population," May 2006.*
http://people-press.org/reports/pdf/276.pdf

11th TRB National Transportation Planning Applications Conference (May 2007)
http://www.trb-appcon.org/program.html (see sessions 4 & 7)

- Simek, Morgan, and Christopher, Improving Survey Design through Community Group Input*
  http://www.trb-appcon.org/program.html#s4

- Bricka and Wies, "Survey Design with a Focus on Model Validity"*
  http://www.trb-appcon.org/program.html#s7

TRB Household Travel Survey Methods Research Subcommittee: Annotated Bibliographies on Survey Non-Response, Data Quality, and Sampling (http://www.travelsurveymethods.org/HH.asp)

Information on Specific Metropolitan Survey Efforts

Atlanta SMARTRAQ Project (http://www.act-trans.ubc.ca/smartraq/pages/)

- Goldberg, Chapman, Frank, Kavage, and McCann, "New Data for a New Era: A Summary of the SMARTRAQ Findings; Linking Land Use, Transportation, Air Quality and Health in the Atlanta Region" (2007)*
  www.act-trans.ubc.ca/smartraq/files/smartraq_summary.pdf

Metropolitan Washington Council of Governments

- 2007-08 Household Travel Survey
  http://www.mwcog.org/transportation/activities/hts/

New York Metropolitan Transportation Council

- 1997-98 Regional Travel Household Interview Survey
  http://www.nymtc.org/project/surveys/survey02.html

Puget Sound Regional Council

- 2006 Household Activity Survey Analysis Report
  http://www.psrc.org/data/surveys/hhsurvey/index.htm

San Francisco Metropolitan Transportation Commission:

- BATS 2000 Final Report: Volume I: Methodology, Design and Analysis of Results (2002)
  http://tinyurl.com/2fc78n (.pdf)
  http://www.mtc.ca.gov/maps_and_data/datamart/survey/

- Stella Wotherspoon and Kearey L. Smith, "Adding value through network analysis: The Network Analyst Approach" (August 2006)*
  http://tinyurl.com/2fjmkl (.ppt)
  http://tinyurl.com/24hvkp (.pdf)

Metropolitan Travel Survey Archive, University of Minnesota
http://www.surveyarchive.org/

** Included in workshop packet*