Using National Household Travel Survey Data for Transportation Decision Making
A Workshop

June 6–7, 2011

The Keck Center of the National Academies, Washington, D.C.

Supported by
Office of Highway Policy Information, FHWA

http://www.trb.org/conferences/NHTS2011.aspx

NHTS

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

Chair's Letter

The Transportation Research Board, with support from the Federal Highway Administration, hosts this workshop focusing on how the National Household Travel Survey data is used in transportation planning and practice and how it informs decision making.

The workshop objectives are to bring together data producers, analysts, policy makers, and other interested stakeholders to

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- Illustrate the use of NHTS and other travel data sources to support transportation decision making in key issue areas;
- Share case studies of strategies and methods for enhancing the effectiveness of NHTS and other travel databases to inform decisions;
- Share the results of NHTS-based investigations and innovative applications of other data sources to provide a more complete picture of travel behavior in the United States; and
- Identify emerging trends and issues in travel behavior that are now or should be illustrated by NHTS.

It is expected that the workshop will

- Enhance knowledge and appreciation of the ways in which NHTS informs policy decisions;
- Broaden the constituency for planning future NHTS surveys; and
- Provide guidance for more directly linking travel data collection, analysis, and dissemination programs to planning and policy issues.

We look forward to a very successful workshop.

—Steven E. Polzin
Conference Chair
Director, Mobility Policy Research
Center for Urban Transportation Research
University of South Florida

Workshop Agenda

Monday, June 6

7:30 a.m.–8:30 a.m., *Outside Room 100*
Registration Opens and Breakfast Is Served

8:30 a.m.–10:00 a.m., *Room 100*
Opening Session
Steven E. Polzin, University of South Florida, *presiding*

FHWA's Treasure—You Say Data and We Say Intelligence
Shailen Bhatt, Associate Administrator for Policy and Governmental Affairs, FHWA

Meeting the Challenge and Building the Community
Patricia S. Hu, Director, Bureau of Transportation Statistics, RITA

Overview of the NHTS Program: Past, Present, Future
Tianjia Tang, Federal Highway Administration

Exploring Changing Travel Trends
Steven E. Polzin, University of South Florida; and Nancy McGuckin, Consultant

10:00 a.m.–10:30 a.m.
Morning Break

10:30 a.m.–noon, *Room 100*
Data in the Policy Process
Joseph L. Schofer, Northwestern University, *presiding*

Three policy analysts discuss their experiences providing information support in the policy process and share their perspectives of the role of travel data.

Perspective from a Former Senate Environment and Public Works Committee Staffer and FHWA Policy Leader
Susan J. Binder, Cambridge Systematics

Perspective from a Retired Congressional Research Service Transportation Specialist
John Werner Fischer, Consultant

Perspective from a State CEO
Neil J. Pedersen, Maryland State Highway Administration

Noon–1:00 p.m., *Outside Room 100*
Lunch Is Served
Seating available in Third Floor Atrium and breakout rooms

1:00 p.m.–3:00 p.m., *Room 101*
Hot Off the Press: Findings from the 2009 NHTS
Jill Ingrassia, American Automobile Association, *presiding*

Factors Influencing Vehicle Use in Multiple-Vehicle Households
Don H. Pickrell, Volpe National Transportation Systems Center

Using National Household Travel Survey Data for Transportation Decision Making

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Use of NHTS Data in Assessment of Impacts of Plug-In Hybrid Electric Vehicles on Greenhouse Gas Emissions and Electricity Demand
Yan Zhou and Anant D. Vyas, Argonne National Laboratory

Poverty and Transportation: What does the NHTS Say?
Krishnan Viswanathan, Wilbur Smith Associates

1:00 p.m.–3:00 p.m., *Room 100*
Innovative Analysis Methods
Daniel G. Chatman, University of California, Berkeley, *presiding*

Using NHTS Add-On Data to Estimate Interstate Travel
Rhett Fussell and Erin Wardell, Parsons Brinckerhoff; and Stacey Bricka, Texas Transportation Institute

Joint Household-Level Analysis of Work-Arrangement Decisions of Individuals
Mubassira Khan, Rajesh Paleti, and Chandra R. Bhat, University of Texas at Austin; and Ram M. Pendyala, Arizona State University

Multilevel Approaches to Explore the Effect of Land Use on NHTS Commuting Outcomes
Edmund J. Zolnik, George Mason University

Logit Models to Forecast Nationwide Intercity Travel Demand in the United States
Nicolas Karlsson Hinze and Antonio A. Trani, Virginia Polytechnic Institute and State University

1:00 p.m.–3:00 p.m., *Room 204*
Overview of NHTS Data and Resources
Nancy McGuckin, Consultant, *presiding*

This session is to provide participants an overview on both the 2009 NHTS data and processes used to carry out the 2009 survey. Plans for future surveys will also be discussed. The presentations span the history of the program, including the value-added data, and innovative programs of application. The program manager will end the session with a wrap-up and plans for future surveys.

2009 NHTS—Overcoming all the Odds
Heather Contrino, Federal Highway Administration

Travel Patterns of the 50+: Who's Driving New Trends in Mode Choice?
Jana Lynott, AARP Public Policy Institute; and Carlos Figueiredo, AARP

Transportation Fuel Use—Using NHTS for Energy Analysis
Thomas Leckey and Mark A. Schipper, Energy Information Administration

NHTS Resources and Tools—A Wealth of Web Tools
Rick Goeltz, Oak Ridge National Laboratory

Overview and Plans for the Next NHTS
Adella Santos, Federal Highway Administration

3:00 p.m.–5:00 p.m., *Room 101*
Policy Impact
Joseph L. Schofer, Northwestern University, *presiding*

Poor People's Use of Different Modes of Public Transit: Is There a Conflict Between Rail and Bus Services?
Sandra Rosenbloom, University of Arizona; and Nancy McGuckin, Consultant

NHTS Data Contributions to Critical Federal Policy Questions
Heather Contrino, Federal Highway Administration

Hybrid Vehicles, Fuel Efficiency, and Vehicle Miles Traveled
Cynthia Chen, University of Washington

Next Generation of Travel Research, Analysis, and Scenario Development
Erica Interrante and Heather Contrino, Federal Highway Administration

3:00 p.m.–5:00 p.m., *Room 100*
Modeling Applications
Phillip J. Mescher, Iowa Department of Transportation, *presiding*

Incorporating NHTS Data into the Urban Mobility Report
David Lynn Schrank and Timothy J. Lomax, Texas Transportation Institute

Estimation and Short-Range Forecasting of County-Level Vehicle Miles of Travel and Motor Fuel Use for the United States
Frank Southworth, Oak Ridge National Laboratory

Developing Vehicle Ownership and Use Models from the 2001 and 2009 NHTS Data for Environmental Policy Analysis
Lei Zhang, Yijing Lu, Xiang He, and Jasmy Methipara, University of Maryland, College Park

The 2009 National Household Travel Survey, Vermont
Justine Sears, University of Vermont

3:00 p.m.–5:00 p.m., *Room 204*
Integrating Data with NHTS
Adella Santos, Federal Highway Administration, *presiding*

An Evaluation of the NHTS Add-On Surveys in Texas
Stacey Bricka, David Pearson, Lisa Larsen, and Ed Hard, Texas Transportation Institute

Household Travel Attributes Transferability Analysis: Application of Hierarchical Rule-Based Approach
Abolfazl Mohammadian and Taha H. Rashidi, University of Illinois at Chicago

5:00 p.m.–6:30 p.m., *Keck Center Atrium, 3rd Floor*
Welcome Reception and Poster Session

The Effectiveness of State and Local Incentives on Household Ownership of Hybrid Electric Vehicles: Results from the 2009 National Household Travel Survey
Jean-Daniel Maurice Saphores and Roberto Ayala, University of California, Irvine

Changes in Equity of the Gasoline Tax, 2001–2009
Brian Anthony Weatherford, Pardee RAND Graduate School

A Travel Estimation Toolkit for Transportation Planning
Matthew Martimo, Citilabs

Estimating Household Car Ownership from 2009 National Household Travel Survey—A Joint Model of Vehicle Holding and Vehicle Type Choice
Cinzia Cirillo and Yangwen Liu, University of Maryland, College Park

The Development of a Decision Tool for Greenhouse Gas Emissions Reduction Strategies: The Role of NHTS Data in GreenSTEP Model Development
Kelly J. Clifton, Alexander York Bigazzi, and Roger Chen, Portland State University; and Brian J. Gregor, Oregon Department of Transportation

Estimating and Modeling Vehicle Soak Time Distributions with NHTS Data
Xiang He, Xiajie Cong, and Lei Zhang, University of Maryland, College Park; and Oliver Gao, Cornell University

Active Travel in Germany and the United States: Implications For Public Health
Ralph Buehler, Virginia Polytechnic Institute and State University; John Pucher, Rutgers University; and Dafna Merom and Adrian Bauman, University of Sydney, Australia

U.S. School Travel 2009: An Assessment of Trends
Noreen McDonald and Austin Brown, University of North Carolina, Chapel Hill

Congestion and Air-Quality Benefits of LRT Starter Line on the Phoenix Metropolitan Region: A Quantitative Approach
Abhishek Dayal, METRO Light Rail

Analysis of 2008 NHTS Arizona Add-On Samples
Sreevatsa Nippani, Maricopa Association of Governments; and Aichong Sun, Pima Association of Governments

Exploring the Influence of Urban Form on Travel and Energy Consumption by Using Structural Equation Modeling (SEM)
Chao Liu, University of Maryland, College Park

Short-Term and Long-Term Mobility Patterns of the Elderly in the United States: Evidence from the 2009 NHTS Data
Sujan Sikder, University of South Florida

The Travel Behavior of the Foreign-Born: Findings from the 2001 and 2009 National Household Travel Surveys
Nicholas J. Klein, Rutgers University; and Daniel G. Chatman, University of California, Berkeley

Vehicle Occupancy Composition of Journey-to-Work Trips: Evidence from the Vermont Add-on Sample of the 2009 NHTS
Nathan P. Belz and Brian H. Y. Lee, University of Vermont

A Comparative Analysis of University Student Travel Behavior in Virginia
Asad J. Khattak, Xin Wang, and Sanghoon Son, Old Dominion University; and Paul Thomas Agnello, and Ju-Yin Chen, Virginia Department of Transportation

Similarity and Dissimilarity in Travel Behavior Between Urban and Rural Areas in North Carolina
Soon Chung and Tae-Gyu Kim, North Carolina Department of Transportation

Enhancing Transportation Planning Using National Household Travel Survey Add-On Data
Sasanka Gandavarapu, Wilbur Smith Associates

Do Trip Productions Vary in Space?
Xin Wang and Asad J. Khattak, Old Dominion University; Ju-Yin Chen and Paul Thomas Agnello, Virginia Department of Transportation

Analyzing NHTS Travel Behavior Data for Effective Travel Demand Management
Lei Zhang and Cory Krause, University of Maryland, College Park

Cohort Analysis with the NHTS Data
Krishnan Viswanathan, Wilbur Smith Associates

Assessing Potential Transit Ridership with NHTS Data
Lee Han, University of Tennessee; and Patricia S. Hu, Bureau of Transportation Statistics, U.S. DOT

Household Vehicle Fleet Composition and Use from 2001 to 2009: Opportunities and Obstacles for Reducing Future Transportation Energy Use
Kevin Bolon, University of Michigan

7:30 a.m.–8:30 a.m., *Outside Room 100*
Registration Opens and Breakfast Is Served

8:30 a.m.–9:45 a.m., *Room 100*
Topic Focus Session: Model Development
Ken Cervenka, Federal Transit Administration, *presiding*

Study of Interregional Long-Distance Commuting Using NHTS Data
Binbin Chen, University of Texas at Austin

NHTS Add-On Data: Trip Generation Rates and Descriptive Analysis
Sasanka Gandavarapu and Jennifer Hahnfeldt Humphreys, Wilbur Smith Associates

Innovative Application of NHTS Databases for Estimation, Validation, and Calibration of Activity-Based Models
Petya Maneva, Maricopa Association of Governments; and Surabhi Gupta, Parsons Brinckerhoff

A Multivariate Analysis of Factors that Influence Attitudes Toward Use of Nonmotorized Forms of Transportation
Saamiya Seraj, Raghuprasad Sidharthan, and Chandra R. Bhat, University of Texas at Austin; Ram M. Pendyala, Arizona State University; and Kostas Goulias, University of California at Santa Barbara

8:30 a.m.–9:45 a.m., *Room 109*
Understanding Alternative Fuel Vehicle Demand
Johanna P. Zmud, RAND Corporation, *presiding*

This session examines the nation's current and future demand for alternative fuel vehicles through the NHTS data lens. Given the growing importance of low-emissions vehicle analyses in planning and policymaking, the capability of an expanding set of data users both in the private and public sector to use NHTS data for such studies becomes increasingly important.

Use of NHTS for Predicting Future Transportation and Electric Energy Demand
Di Wu, Eirini Kastrouni, and Dionysios Aliprantis, Iowa State University; and Nadia Gkritza, Institute for Transportation at Iowa State University

Trip Characteristics and Fuel Efficiency: Your Mileage May Vary
Rick Nevin, ICF International; and Don H. Pickrell, Volpe National Transportation Systems Center

Do U.S. Households Favor High-Fuel–Efficiency Vehicles When Gasoline Prices Increase?
Valerie Karplus, Massachusetts Institute of Technology

8:30 a.m.–9:45 a.m., *Room 204*
Innovative Methods for NHTS Data Display and Communications
Alan E. Pisarski, Consultant, *presiding*

***USA Today's* Approach to Visualization and Its Relevance to NHTS**
Paul Overberg, USA Today

Dynamic Visualizations of Household Travel Survey Data
Ben Stabler, PB

A Review of GeoStats' Efforts with Visualization of NHTS Data
Marcelo Simas Oliveira, GeoStats

An Innovative Approach to Select Key Measures and Variables for Visualizing NHTS 2009 Data
Qifeng Lu, MacroSys, LLC

9:45 a.m.–10:15 a.m., *Outside Room 100*
Morning Break

10:15 a.m.–noon, *Room 100*
Topic Focus Session: Bicycles, Pedestrians, and Health Issues   **Kuzmyak Presentation**
Daniel G. Chatman, University of California, Berkeley, *presiding*

Quantifying Nonmotorized Demand: A New Way to Understand Walking and Biking Demand
Jeff Hammond and Preston Jonathan Elliott, RPM Transportation Consultants, LLC

Traffic Safety Barriers to Walking and Bicycling: An Analysis of California Add-On Responses to the 2009 National Household Travel Survey
Robert J. Schneider and Swati Pande, University of California, Berkeley; and John M. Bigham, Safe Transportation Research and Education Center

Active Transportation Beyond the Urban Centers
Daniel Sonenklar, Virginia Polytechnic and State University; and David D. Levinger, Rails-to-Trails Conservancy

10:15 a.m.–noon, *Room 109*
Topic Focus Session: Add-On Experiences
Tianjia Tang, Federal Highway Administration, *presiding*

Using NHTS Data for Model Development: The Virginia Experience
Patrick Coleman, AECOM; Juyin Chen and Paul Thomas Agnello, Virginia Department of Transportation; and William G. Allen, Jr., Transportation Planning Consultants

Comparison of Travel Measures from State Perspective
Nathan S. Erlbaum, New York State Department of Transportation

Design and Develop Add-On Sampling Plan
Vidya Mysore, Florida Department of Transportation; and Krishnan Viswanathan, Wilbur Smith Associates

Use of NHTS Data for Georgia Statewide Model
Habtewold Kassa, Georgia Department of Transportation; and Jay Pease, PBS&J

10:15 a.m.–noon, *Room 204*
Understanding Personal Vehicles Use and Environmental Consequences
Shashi S. Nambisan, Iowa State University, *presiding*

Urban Transportation, Land Use, and Household Greenhouse Gas Production
Matthew Holian, Mineta Transportation Institute

NHTS Survey Day-Driving Distance and Estimated Variability to Inform Electric Vehicle Range Design
Elizabeth Traut, Jeremy J. Michalek, and Chris T. Hendrickson, Carnegie Mellon University

Analysis of Household Vehicle Usage by Vehicle Type, Age, and Area Type: Applications of 2009 National Household Travel Survey
Yan Zhou, Anant D. Vyas, and Danilo J. Santini, Argonne National Laboratory

Using NHTS to Identify Impact of Hybrid Electric Vehicles Incentives and Determinants of Hybrid Vehicle Adoption
Alison Riggieri, Georgia Institute of Technology

12:00 p.m.–1:00 p.m., *Outside Room 100*
Lunch Is Served
Seating available in Third Floor Atrium and breakout rooms

1:00 p.m.–3:00 p.m., *Room 100*
Topic Focus Session: Transportation Land Use
Guy Rousseau, Atlanta Regional Commission, *presiding*

Accommodating Immigration Status and Built Environment Effects in Joint Model of Household Auto Ownership and Residential Neighborhood Type Choice
Chandra R. Bhat and Rajesh Paleti, University of Texas at Austin; and Karen Marie Lorenzini, Texas Transportation Institute, Texas A&M University

Residential Land Use, Travel Characteristics, and Demography of Southern California
Hsi-hwa Hu, Frank Wen, Simon Choi, SeongHee Min, and Jung Seo, Southern California Association of Governments

Extracting Bicycle & Pedestrian Relationships from 2009 NHTS
Rich Kuzmyak, University of Wisconsin–Madison

NHTS Data Sets and Neighborhood-Level Effects: Lessons from Research on Immigrants' Travel Patterns
Michael Smart, University of California, Los Angeles

1:00 p.m.–3:00 p.m., *Room 109*
Topic Focus Session: Sociodemographic
Steven E. Polzin, University of South Florida, *presiding*

Impact of Gasoline Prices on Internet Purchases
Andrea Martens, University of Illinois at Urbana–Champaign

Transit Dependence and Choice Riders in NHTS 2009: Improving Our Understanding of Transit Markets
Ugo Lachapelle, Voorhees Transportation Center

Mobility Gap Analysis for Rural Households
Nancy X. Lefler and Frank Spielberg, Vanasse Hangen Brustlin Inc; and Albert T. Stoddard, LSC Transportation Consultants, Inc.

Motor Vehicle Occupant Fatality Risk: Age, Gender, Day of Week, Time of Day, and Their Remarkable Interactions
Craig Morris, U.S. Department of Transportation

1:00 p.m.–3:00 p.m., *Room 204*
Exploring Long-Distance Travel Research in Frameworks Designs, Methods, and Identifying Issues
Adella Santos, Federal Highway Administration, *presiding*

This session presents an overview of past and future U.S. long-distance travel research surveys issues at national and state levels. Topics will cover decisions related to various mode choices, purpose, urban and rural behavior. It will provide a general understanding of the issues of data collection and its strengths and gaps in the conduct of the freight and passenger surveys. An audience dialogue will help identify long-distance travel survey need assessments.

Needs of Multimodal Long-Distance Travel Data
Tianjia Tang and Rolf R. Schmitt, Federal Highway Administration

Historical Overview of Passenger Long-Distance Travel Survey
Joy Sharp, Bureau of Transportation Statistics

Exploring New Methods of Data Gathering in Long-Distance Passenger Travel Data
Bennett Pierce, Battelle Memorial Institute

Long-Distance Travel Data Sources
Nancy McGuckin, Consultant

National Transportation Model—Needs of Long-Distance O-D Data
Brad Gudzinas, Federal Highway Administration

3:30 p.m.–5:00 p.m., *Room 100*
Using NHTS for Transportation Decision Making
Steven E. Polzin, University of South Florida, *presiding*
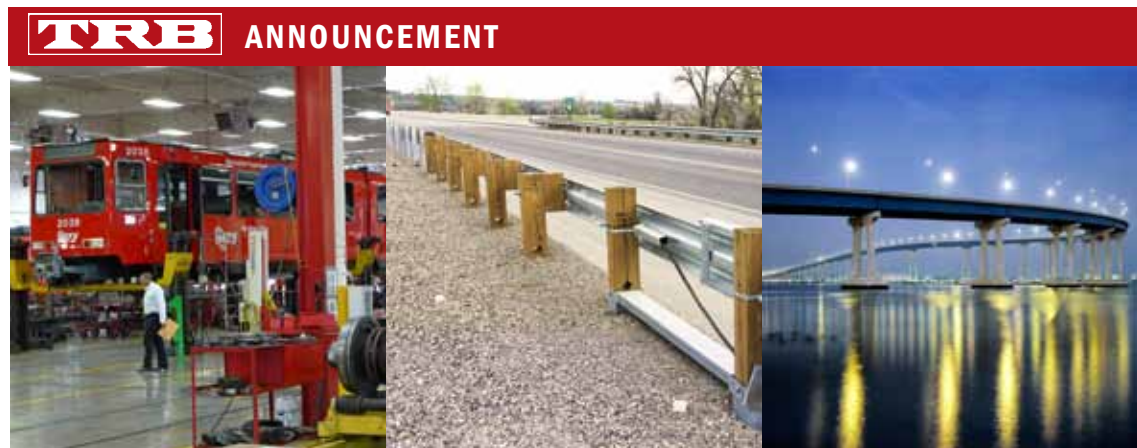
In this wrap-up session, panel members will

- Discuss the range of applications of NHTS data presented at this workshop to support transportation decisions;
- Highlight notable achievements, opportunities, and gaps in creative data analysis, interpretation, and presentation modes; and
- Consider promising future directions for the NHTS program.

Panelists
Daniel G. Chatman, University of California, Berkeley
William J. Mallett, Congressional Research Service
Joseph L. Schofer, Northwestern University

TRB ANNOUNCEMENT

9th National Conference on Transportation Asset Management
Making Asset Management Work in Your Organization

April 16–18, 2012
The Westin San Diego
San Diego, California

www.TRB.org/Conferences/AssetManagement2012

Tuesday, June 7, 2011

NHTS

Hotel Information

Hotel Monaco
700 F Street, NW
Washington, D.C. 20001

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TRB PRELIMINARY PROGRAM

Using Census Data for Transportation

October 25–27, 2011
Arnold and Mabel Beckman Center of the National Academies
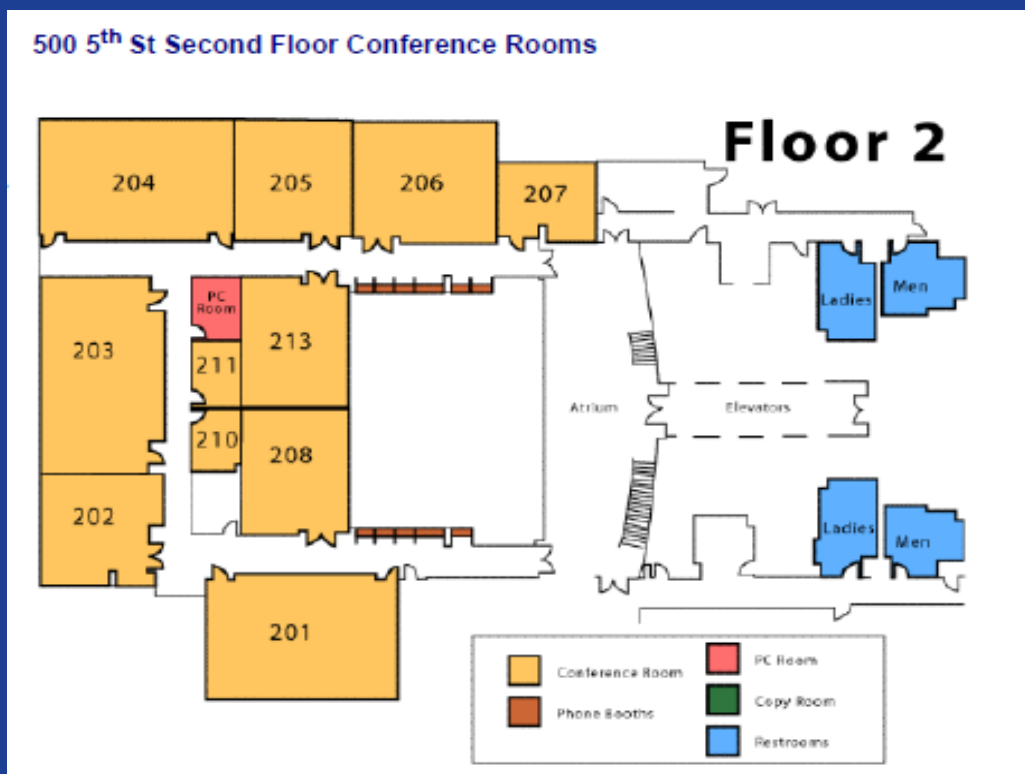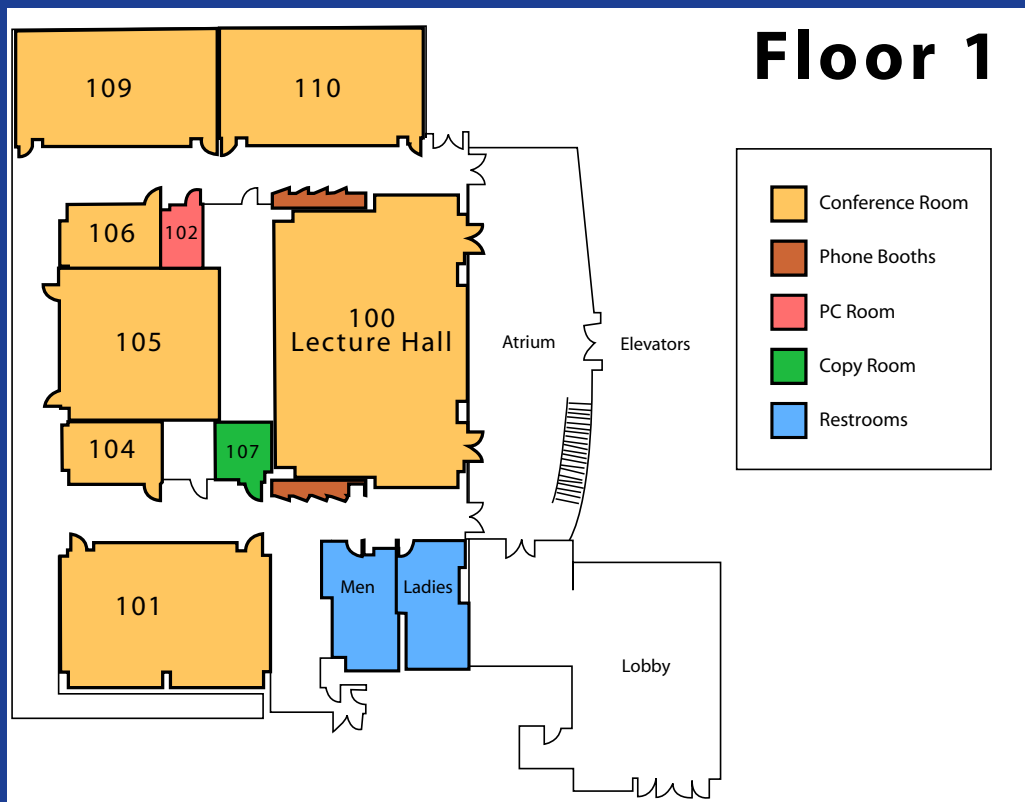Irvine, California

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TRANSPORTATION RESEARCH BOARD
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Floor 1

109

110

106

102

105

100 Lecture Hall

Atrium

Elevators

104

107

101

Men

Ladies

Lobby

▇ (yellow)	Conference Room
▇ (brown)	Phone Booths
▇ (pink)	PC Room
▇ (green)	Copy Room
▇ (blue)	Restrooms

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500 5th St Second Floor Conference Rooms

Floor 2

204

205

206

207

Ladies

Men

PC Room

203

211

213

Atrium

Elevators

210

208

202

Ladies

Men

201

▇	Conference Room	▇	PC Room
▇	Phone Booths	▇	Copy Room
		▇	Restrooms