



Transportation for Livable Communities

Charting a Research Agenda

October 18–19, 2010

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

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<http://www.trb.org/conferences/livability2010.aspx>

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Planning Committee

Lisa Aultman-Hall, Director, University of Vermont
Transportation Research Center, *Chair*
Diana J. Bauer, Policy Analyst, U.S. Department of
Energy
Roderick B. Diaz, Planning Manager, Los Angeles County
Metropolitan Transportation Authority
Robert Dunphy, Transportation Consultant; Emeritus
Fellow, Urban Land Institute
Susan L. Handy, Professor, University of California, Davis
Gabe Klein, Director, District Department of
Transportation

Shawn Turner, Senior Research Engineer, Texas
Transportation Institute (TTI)
Martin Tuttle, Deputy Director, Planning and Modal
Programs, California Department of Transportation

*Liaisons from Research and Innovative Technology
Administration (RITA)*

Curtis J. Tompkins
Robin Kline
Thomas G. Bolle

CHARTING A RESEARCH AGENDA FOR LIVABLE COMMUNITIES

The transportation system plays one of the key roles in creating livable communities. Transportation systems that create livability work with land use to give everyone multiple travel choices for meeting their daily needs affordably, safely, conveniently, and efficiently. This conference focuses on common goals for researchers, planners, and implementers of transportation projects: the need for better definition, data, interdisciplinary models and metrics. Also considered will be the unique role university transportation centers (UTCs) can play in accomplishing the research agenda necessary to advance transportation for livable communities.



Aultman-Hall

Conference attendees and panelists will actively engage to consider case studies, research needs, and the challenges of incorporating livability into transportation programs and projects. Implementers of livability projects are invited to join faculty, students, and other researchers from UTCs and other universities to explore transportation approaches for livable communities. Together, based on expert panels and facilitated discussion, attendees will chart a future research agenda, which will be disseminated by the planning committee and others.

As the guiding principle for transportation planning in the 21st century, livability means transportation systems that are guided by a complex set of principles:

- Providing more transportation choices;
- Expanding access to affordable housing, particularly housing located close to transportation alternatives;
- Enhancing economic competitiveness—giving people access to jobs, education, and services as well as giving businesses access to markets;
- Targeting public funding toward existing communities to spur revitalization, including protection of rural landscapes;
- Increasing collaboration among all stakeholders—including federal, state, and local government—to better target investments;
- Recognizing that many unique and diverse livable communities lie within rural, suburban, and urban areas; and
- Helping create quality places.

Research has provided important data and methods that form a basis for changes that align practice more closely with these principles. But more research is needed; and where practice has often pushed ahead of research, a need for rigorous evaluation of both successes and failures is called for. A rich focused dialogue between researchers and practitioners will contribute to the development of a research agenda directed toward achieving livability.

—Lisa Aultman-Hall
Conference Planning Team Chair
University of Vermont

Monday and Tuesday, October 18–19, 2010



Monday, October 18

7:30 a.m.–8:30 a.m., *Keck 109*

Breakout Group Leaders Meeting (*invitation only*)

7:45 a.m.–8:30 a.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Breakfast

(Seating with tables also available in Keck 101 and 3rd Floor Atrium)

8:30 a.m.–10:30 a.m., *Keck 100 (Overflow seating for Keck 100 will be located in Keck 101)*

Opening Session

Lisa Aultman-Hall, Director, University of Vermont Transportation Research Center, *presiding*

Developing a Working Definition of Livability

Lisa Aultman-Hall, Director, University of Vermont Transportation Research Center

The conference will start with a group exercise to develop a working definition of transportation systems for livable communities.

Welcome

Peter H. Appel, Administrator, Research and Innovative Technology Administration

A U.S. DOT Vision of Transportation for Livable Communities

Beth Osborne, Deputy Assistant Secretary for Transportation Policy, U.S. Department of Transportation

10:30 a.m.–11:00 a.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Break

(Seating with tables also available in 3rd Floor Atrium and Keck 101)

11:00 a.m.–12:30 p.m., *Keck 100 (Overflow seating for Keck 100 will be located in Keck 101)*

Integrating Transportation and Livability: Perspectives from Practitioners

Roderick B. Diaz, Planning Manager, Los Angeles County Metropolitan Transportation Authority, *presiding*

Implementing transportation systems to support livability involves multiple entities, agencies, and stakeholders. The challenges to making places more livable most often reflect the need for integration—integration of different sensibilities (transportation, land use, development) in system design; integration of planning processes and work efforts; and integration of actual transportation facilities and services. In addition to discussing particular physical and planning challenges, each speaker will discuss institutional issues that arise in addressing those challenges.

Integrating Transportation with Land Use and Development Plans

Joseph Alfandre, President, Joseph Alfandre Homebuilding Company and the Kentlands Company

Prioritizing Physical Space

Marcy McInelly, Associate Principal, SERA

Balancing Transit and Alternative Modes for Livability

Gabe Klein, Director, District Department of Transportation

12:30 p.m.–1:30 p.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Lunch

(Seating with tables also available in 3rd Floor Atrium, Keck 101 and 208)

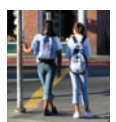
1:30 p.m.–3:00 p.m., *Keck 100 (Overflow seating for Keck 100 will be located in Keck 101)*

Livability Research Across Disciplines

Diana J. Bauer, Policy Analyst, U.S. Department of Energy, *presiding*

This panel will present livability case studies illustrating methods and results from several different disciplinary perspectives, touching on drivers and motivators, models, and cobenefits of livability. The session will provide new food for thought for transportation professionals as well as illustrate the complex interplay among diverse factors that set the context for designing livable communities.

Monday, October 18, 2010



What Would a Livable—and Intergenerational—Community Really Look Like?

Sandra Rosenbloom, Professor, University of Arizona

Livability and Active Transportation

Angie Cradock, Research Scientist, Deputy Director, Harvard Prevention Research Center, Harvard University

Metropolitan Accessibility and Transportation Sustainability

Jonathan Levine, Academic Program Chair and Professor of Urban Planning, University of Michigan

Harnessing Co-benefits of Urban Adaption to Climate Change

Matthias Ruth, Roy F. Weston Chair of Natural Economics Professor and Director, University of Maryland

3:00 p.m.–3:30 p.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Break

3:30 p.m.–5:00 p.m., *Keck 100 (Overflow seating for Keck 100 will be located in Keck 101)*

Research on Transportation for Livable Communities: Recent Findings and Research Needs

Shawn Turner, Senior Research Engineer, Texas Transportation Institute, *presiding*

Several presentations will focus on how community and street design affects safety, traveler behavior, and trip-making characteristics. The topic of measuring livability will be addressed, and quantitative metrics will be discussed as a way to measure progress toward livable communities. The concluding speaker will discuss how research findings are being implemented through the update of various planning and design guidelines and manuals.

The Impact of Community Design on Traveler Behavior

Susan L. Handy, Professor, University of California, Davis

Measuring Livability: How Do We Measure Progress and Success?

Harvey J. Miller, Professor, Department of Geography, University of Utah

Rewriting the Playbook: Updating Traffic Engineering and Planning Manuals to Reflect Livability Principles

Reid Ewing, Professor, Department of City and Metropolitan Planning, University of Utah

Looking Ahead to Tuesday's Breakout Groups

5:00 p.m.–6:30 p.m., *3rd Floor Atrium*

Poster Session and Reception

Promises and Pitfalls of Senate Bill 375 as a Model for Regional Planning Coordination

Elisa Barbour and Elizabeth Deakin, Department of City and Regional Planning, University of California, Berkeley

Penny Wise, Pound Foolish: New Measures of Housing and Transportation Affordability

Scott Bernstein, Bridget Torres, and Maria Choco Urban, The Center for Neighborhood Technology

Freight and Livability: Does Economic Sustainability Still Matter for Transportation Decision Making?

Jason Bittner, University of Wisconsin–Madison, National Center for Freight and Infrastructure Research and Education; Josh Levine, University of Wisconsin

Four Decades of Planning for Livable Communities: Insights from Freiburg, Germany

Ralph Buehler, Urban Affairs and Planning Department, Virginia Tech University

TOD 3.0: Aligning Partners in Real Estate Development and Transit Implementation

Ian Carlton, Private Consulting; Will Fleissig, Communitas Development

Reversing Urban Sprawl: A Reclaimability Approach to Reviving Downtown Brownfields

Maria Chrysochoou, Norman Garrick, Kweku Brown, and Geeta Dahal, University of Connecticut

Real-Time Ridesharing for Livable Communities

Jason Conley, Avego Corporation



The Strategy of Alternative Fuels for Urban Transit: Phase 1: Life-Cycle Assessment of Alternative Fuel Buses

Elaine Croft McKenzie and Pablo Durango-Cohen, Northwestern University

Understanding the Impact of Different (and New) Housing Choices on Older Adults' Mobility in the Community

Lisa D'Ambrosio, Philipp Osl, Dick Myrick, and Joseph Coughlin, MIT AgeLab and New England University Transportation Center

Implementation of Active Living Policies by Land Use and Transportation Agencies

Jennifer Dill, Oregon Transportation Research and Education Consortium, Portland State University; Deborah Howe, Temple University

Urban Design Strategies for Integrating Safety and Livability

Eric Dumbaugh, Texas A&M University; Robert Rae, Kimley-Horn and Associates, Inc.

Multimodal Corridors: Making Transit and Nonmotorized Modes Work in Highway Corridors

Christopher Ferrell and Michael Carroll, Dowling Associates, Inc.; Herbert Levinson, Herbert Levinson Consulting

Rating Urban Street for Pedestrian Facilities Based on User's Perception

Aimee Flannery, George Mason University; Asma Ali, T3 Design; Cerasela Cristei, Dewberry and Davis

Multiobjective Optimization Model for Complete Street Design

Aimee Flannery, George Mason University; Cerasela Cristei, Dewberry and Davis

The Pedestrian and Bicycling Survey (PABS) Approach

Ann Forsyth, Cornell University; Kevin Krizek, University of Colorado; Asha Weinstein Agrawal, San Jose State University

ITNAmerica: Network Connectivity Through Social Enterprise and Information Technology

Katherine Freund, Alan Fried, and Jackie Vine, ITNAmerica; Richard Fortinsky, University of Connecticut Center on Aging

Effectiveness of Traffic Calming for Speed Management to Enhance Safety and Quality of Life in Small Rural Communities

Shauna Hallmark and Neal Hawkins, Iowa State University

Programs That Match Seniors with Volunteer Drivers

Sara Hendricks, Center for Urban Transportation Research, University of South Florida

Using Open Data to Develop Multimodal Trip Planners for Livable Communities

Edward Hillsman and Sean Barbeau, Center for Urban Transportation Research, University of South Florida

Issues in Data Collection, Methodology, and Analysis of Transportation-Based Economic Development: The District of Columbia and the Great Streets Development

Christopher Hooton and Peggy Tadej, District of Columbia Department of Transportation

Effect of Roadway and Roadside Design Features on Observed Vehicle Speeds

John Ivan, University of Connecticut

The Cast Walkability Audits: A Citizen-Powered Neighborhood Assessment of Walking and Biking Safety

Deborah Johnson-Shelton and Jason Blair, Oregon Research Institute; Christo Brehm, University of Oregon

Eagle River (Alaska) Central Business District and Residential Core Study: A Case Study of Applied Livability Principles

Gary Katsion, Phill Worth, and Chris Tiesler, Kittelson & Associates, Inc.; Vivian Underwood, Municipality of Anchorage

Lower Don Lands Waterfront Redevelopment

Tessa Knox-Grant and Varanesh Singh, Arup

Monday, October 18, 2010



Driving Smart: Car2Go in Austin and Beyond

Katherine Kortum, University of Texas at Austin

How to Define Community Context and Translate the Information into Indicators to Evaluate Different Transportation Solutions

Leigh Lane and Ann Hartell, Center for Transportation and the Environment, North Carolina State University

Yes, They Do Walk in Suburbia: Suburban Multifamily Housing and Trips to Strips

Nico Larco, University of Oregon

What Makes a “Complete Street” Complete? Defining Completeness Based on Context and Public Participation

Mike Lowry and Mike Dixon, National Institute for Advanced Transportation Technology, University of Idaho; Kevin Kingsbury, University of Idaho

Effect of Suburban Transit-Oriented Developments on Residential Property Values

Shishir Mathur, San Jose State University; Christopher Ferrell, Dowling and Associates

Implementing Complete Streets: Lessons Learned

Barbara McCann, National Complete Streets Coalition; Suzanne Rynne, American Planning Association

Green Modes of Transportation for the Delivery of Fast Food in Connecticut’s Mixed-Use Developments

Peter Miniutti, University of Connecticut

Value of Transit: Paying for Place-Making

Abigail Osei-Asamoah, Nicholas Lownes and Garrett Bolella, University of Connecticut

Sustainable Public Transit Investments: Increasing Nonmotorized Access and Multiple Trip Type Usage

Laurel Paget-Seekins, Georgia Institute of Technology

Methodology for Citing an Intermodal Transit Facility in the Upper Valley Region of Vermont and New Hampshire

David Saladino, Resource Systems Group

Performance Measures for Complete Streets: Measuring Pedestrian and Bicyclist Safety and Mobility in California

Rebecca Sanders and Jill Cooper, Safe Transportation Research and Education Center, University of California, Berkeley; Alia Anderson, University of California, Berkeley

“Fix This Tool”: Empowering Citizens to Spatially Assess their Active Transportation Environment

Marc Schlossberg, Ken Kato, Christo Brehm, and Dana Maher, University of Oregon

Universities as Catalysts for Retrofitting Communities Toward Livability: The Sustainable Cities Initiative

Marc Schlossberg and Nico Larco, Sustainable Cities Initiative

Moving from “Complete Streets” to “Complete Communities”: A Study of Customer Mode Choice at 20 San Francisco Bay Area Retail Pharmacy Stores

Robert Schneider, University of California, Berkeley

Neighborhood Walking

Reginald Souleyrette and Mike Martello, Iowa State University

New Approaches to Quantifying Livability Using State-of-the-Art Survey and Analysis Methods

Greg Spitz, Elizabeth Greene, and Margaret Campbell, Resource Systems Group

How to Define and Measure Livability Factors

Elizabeth Sanford, Cambridge Systematics

Bicycling and Transit—A Marriage Unrealized

Eric Stonebraker and Kevin Krizek, University of Colorado Denver



Highway 92 Corridor Livable Centers Initiative: A Case Study in Implementing Viable, Livable Multimodal Networks

Kevin Tilbury, Gresham, Smith & Partners

Coordinating Accessibility, Mobility, and Livability in Rural Communities: What Works?

Hannah Twaddell, Renaissance Planning Group

District Policies as Barriers to Walking and Bicycling to School

Leigh Ann Von Hagen, Alan M. Voorhees Transportation Center at Rutgers, The State University of New Jersey

A Travel Demand Forecasting Framework for Assessing Smart Growth Strategies

Qian Wang and Peng Su, University at Buffalo, State University of New York

Achieving Transit-Friendly Development in Chicago: Station Area Typology

David Whyte, Kimley-Horn and Associates, Inc.

Methodology for Assessing and Reporting the Impacts of Transit Investment on Community Sustainability and Liveability

Peta Wolmarans and Desmond Bliek, Halcrow Consulting Inc.

Moving Goods and People in Urban Centers: Reducing Transportation Impacts with Shared-Use Services

Erica Wygonik and Anne Goodchild, University of Washington

Assessing the Economic Burden of Transportation

Jason Zheng, Norman Garrick, Carol Atkinson-Palombo, and Chris McCahill, University of Connecticut

Monday, October 18, 2010



Tuesday, October 19

7:30 a.m.–8:30 a.m., *Keck 109*

Breakout Group Leaders Meeting (*invitation only*)

7:45 a.m.–8:15 a.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Breakfast

(Seating with tables also available in 3rd Floor Atrium)

8:15 a.m.–9:30 a.m., *Keck 100*

Transportation Agency Perspectives on Research to Support Implementing Livable Systems

Martin Tuttle, Deputy Director, Planning and Modal Programs, California Department of Transportation, *presiding*

Federal Transit Administration

Kate Mattice, Director of Policy Review and Development, Federal Transit Administration

Washington Metropolitan Area Transit Authority

Patricia Hendren, Director, Office of Performance, Washington Metropolitan Area Transit Authority

Maryland Department of Transportation

Donald Halligan, Director Office of Planning and Capital Programming

Federal Highway Administration

Shana Baker, Community Planner, Federal Highways Administration, Office of Human Environment

Charge to Breakout Groups

9:30 a.m.–11:00 a.m.

Identifying Research Needs: Livability and Transportation for All Communities

The conference attendees break into groups to brainstorm research needs in transportation and livability based on jurisdiction size—rural, suburban, small cities, and urban. This work will be gathered for a research blueprint. **(Refer to your breakout group number on your badge to determine your assigned group)**

Breakout Group 1, Keck 100

Leaders: Johanna Zmud, RAND Corporation; and Diana Bauer, U.S. Department of Energy

Breakout Group 2, Keck 109

Leaders : Roderick Diaz, Los Angeles County Metropolitan Transportation Authority; and Reginald Souleyrette, Iowa State University

Breakout Group 3, Keck 205

Leaders : Robert Dunphy, Urban Land Institute; and Jason Bittner, University of Wisconsin

Breakout Group 4, Keck 208

Leaders : Steven Polzin, University of South Florida; and William Carr, District of Columbia Department of Transportation

Breakout Group 5, Keck C-800

Leaders : Shawn Turner, Texas Transportation Institute; and Cynthia Burbank, PB Americas, Inc.

Breakout Group 6, Keck C-1100

Leaders: Teresa Adams, University of Wisconsin-Madison; and Susan L. Handy, University of California, Davis

11:00 a.m.–11:30 a.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Break

Tuesday, October 19, 2010



11:30 a.m.–1:00 p.m.

Identifying Research Needs: Measuring Performance with Livability and Transportation

In the second breakout time slot, the same groups brainstorm about how to measure livability for transportation projects and systems and how to disseminate good case studies.

Breakout Group 1, Keck 100

Leaders: Johanna Zmud, RAND Corporation; and Diana Bauer, U.S. Department of Energy

Breakout Group 2, Keck 109

Leaders: Roderick Diaz, Los Angeles County Metropolitan Transportation Authority; and Reginald Souleyrette, Iowa State University

Breakout Group 3, Keck 205

Leaders: Robert Dunphy, Urban Land Institute; and Jason Bittner, University of Wisconsin

Breakout Group 4, Keck 208

Leaders: Steven Polzin, University of South Florida; and William Carr, District of Columbia Department of Transportation

Breakout Group 5, Keck C-800

Leaders: Shawn Turner, Texas Transportation Institute; and Cynthia Burbank, PB Americas, Inc.

Breakout Group 6, Keck C-1100

Leaders: Teresa Adams, University of Wisconsin-Madison; and Susan L. Handy, University of California, Davis

1:00 p.m.–2:00 p.m., *Served Outside Keck 100 and on 2nd Floor Landing*

Lunch

(Seating with tables also available in Keck 205, 208, C-800, and C-1100)

2:00 p.m.–4:00 p.m., *Keck 100*

Charting a Strategic Research Agenda for Livability and Transportation

Roderick Diaz, Los Angeles County Metropolitan Transportation Authority, *presiding*

This highly interactive closing session will provide an opportunity for participants to help crystallize the essence of a research needs road map for developing transportation systems for livable communities in the years ahead. The conference planning committee and others will be taking the outcomes to the TRB Annual Meeting, *TR News* and a TRB webinar.

Perspectives from University Transportation Centers

Three UTC directors and the audience consider the role of UTCs in advancing these research needs.

Lisa Aultman-Hall, Director, University of Vermont Transportation Research Center; Susan L. Handy, University of California, Davis; and Joseph Schofer, Northwestern University

← Presentation Image Available

4:30 p.m.–6:30 p.m., *Keck 109*

Planning Committee Meeting (by invitation)

Tuesday, October 19, 2010



Breakout Exercise Instructions

Each breakout group will have up to 25 people, a flip chart, a computer with projector, one facilitator, and one “honest broker.” One of the leaders has served for many months on the conference planning committee; the other is a participant who volunteered. The honest broker has the role of reminding people that we are talking about *research needs* (not other important topics related to livability).

Breakout Task 1-A, Exploring Research Needs

What did you take away from the posters last evening about research needs? Main themes? Gaps? (honest broker takes notes on flip charts)

Breakout Task 1-B, Identifying Research Needs for Group Discussion

Choose four research needs for discussion and enter them as the column headings in the matrix provided.

Possible categories may include: access, relative locations, mobility, significance of other modes, transit type, nonmotorized transportation, travel behavior, telecommunications, street network design, street standards, alternative business models (car-sharing and bike-sharing), land use planning process, transportation planning process, governance and decision making, finance and funding, linkage to environmental goals, equity and provisions for underserved groups (minorities, poor, elderly, and children), barriers to livability, design guidelines and standards, and transportation planning guidelines and standards.

If other research needs arise, they may be listed in the “other topics” column.

Breakout Task 1-C, Brainstorming

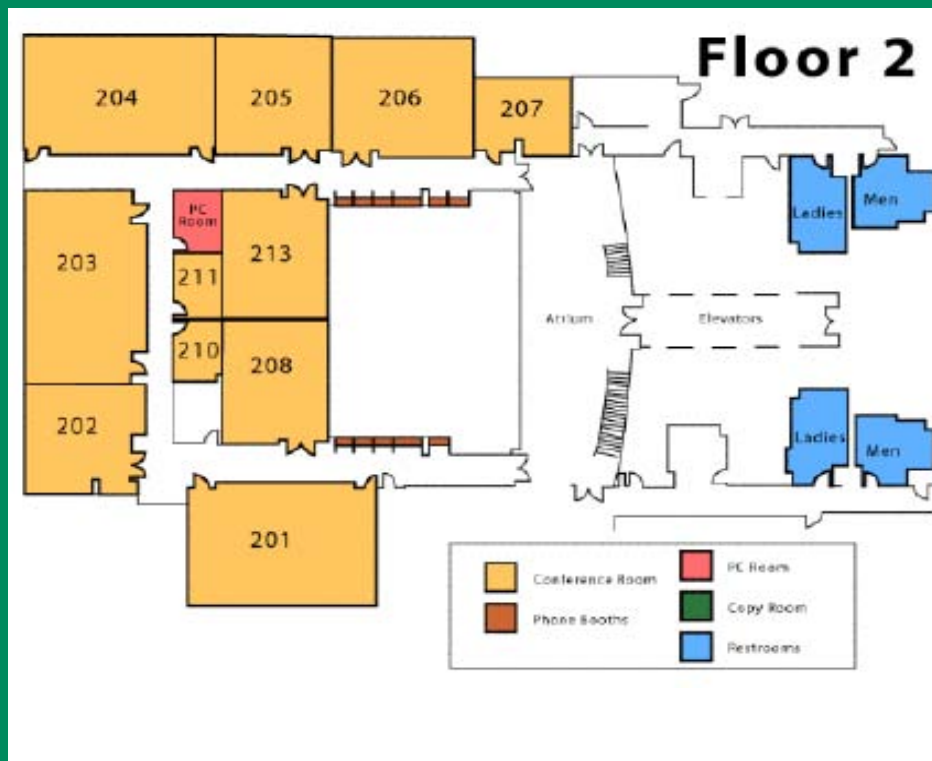
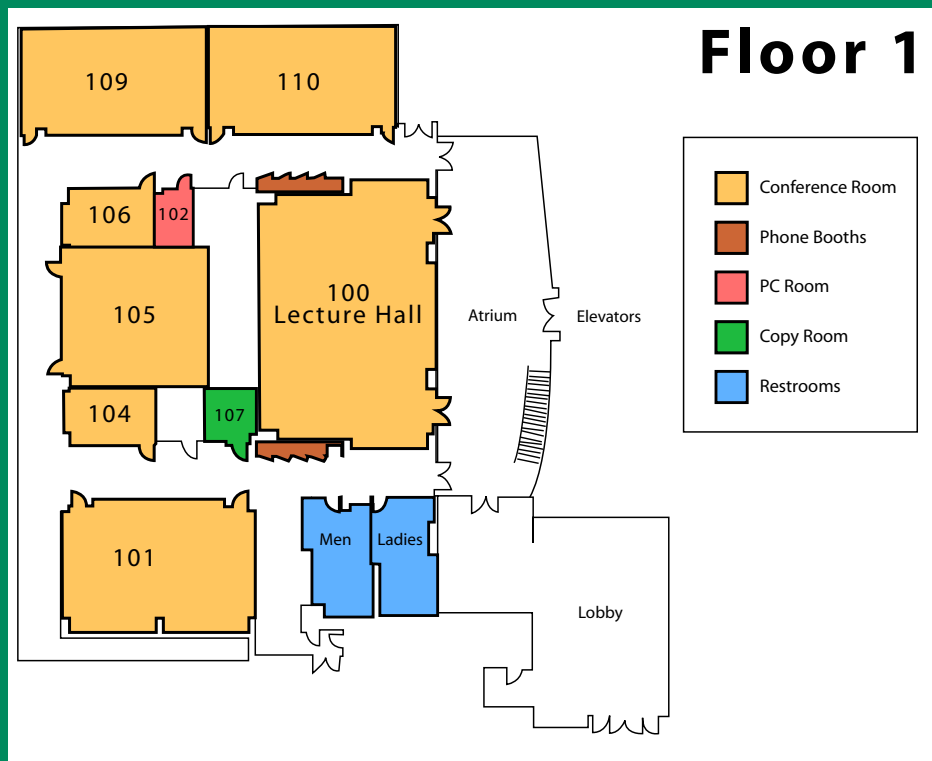
As a group, brainstorm the research questions in each area and place them in the matrix cells, using check boxes to indicate the level of knowledge.

Breakout Task 2, Deciding on Performance Measurement

For each research category identified by your group, discuss how to measure (directly and indirectly) attributes of interest and progress toward desired livability outcomes. This list of needs may include data needs.



Categories of Research Needs				
	1.	2.	3.	4.
Density Range/ Landscape				Other Topics
Exurban, Rural, Small Towns	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched
Suburban Expanse	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched
Urban Core	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched	<input type="checkbox"/> major gaps <input type="checkbox"/> some knowledge <input type="checkbox"/> well researched



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