

Activity-Based Approaches: Theory, Methods, Data, and Applications

Kostas Goulias

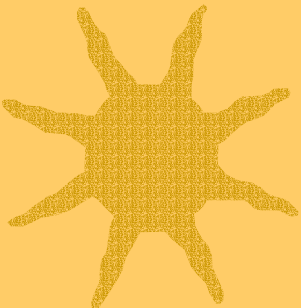
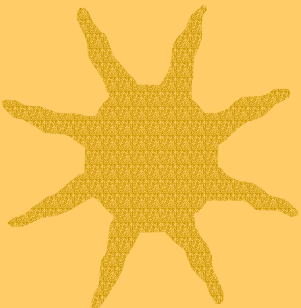
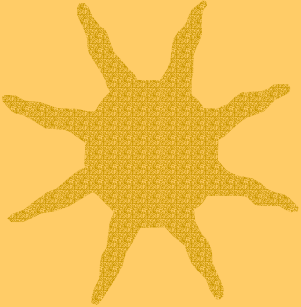
Professor

Department of Geography

University of California Santa Barbara



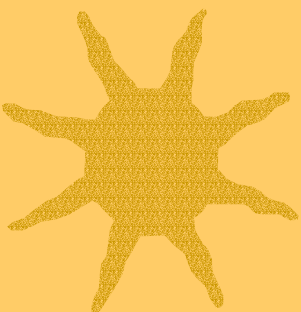
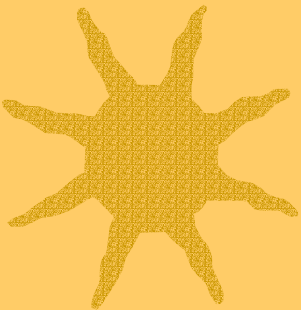
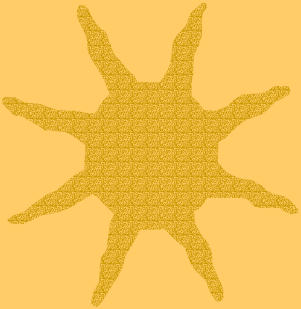
Summary



- ★ Theory – New ideas are emerging (intra-household interactions)
- ★ Methods – Steady increase in new methods (many data driven and mostly utility based)
- ★ Data – Improved past approaches and new ideas in behavioral processes/dynamics
- ★ Applications – Fast forward increase (later in this workshop)



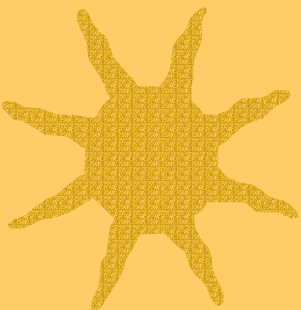
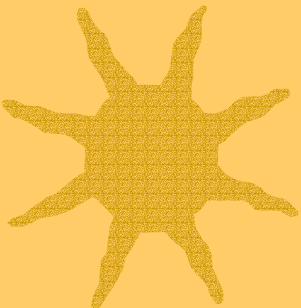
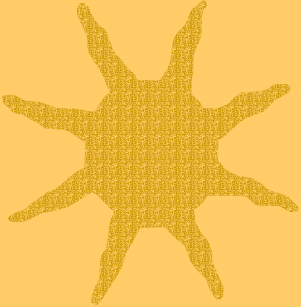
Facts



- ★ Activity-based moved to practice!
 - Proof = examples in this workshop
 - Strong interest by leading consultants
 - Alternate model approaches = healthy competition
 - 30 + years of accumulated knowledge/skills
 - 30 + years of UTPS failures
 - 30 + years of Olympian utility model failures
 - 30 + years of unanswered policy questions



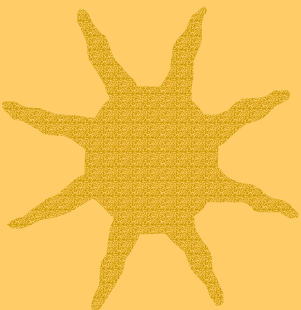
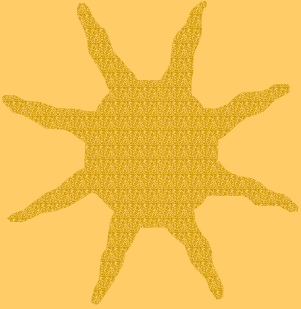
Facts



- ★ Multiple models = richer policy analysis options
- ★ Multiple data collection methods = ability to examine behavior from multiple viewpoints
- ★ Emerging transdisciplinary field = activity analysis → beyond transportation!



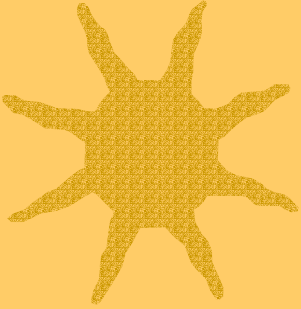
The Need



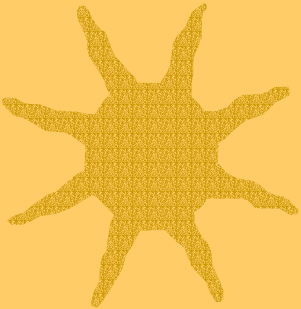
- ★ A coordinated and focused effort to make activity-based approaches practice
- ★ Take advantage of the momentum in Europe, Canada, and the US
- ★ Provide convincing evidence for analysts!



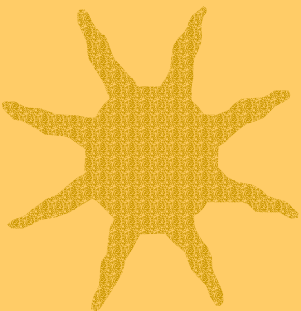
The TRB Task Force (ADB60T)



★ **Objective 1:** Inform practitioners about the state of the art and the state of the practice in activity-based approaches.



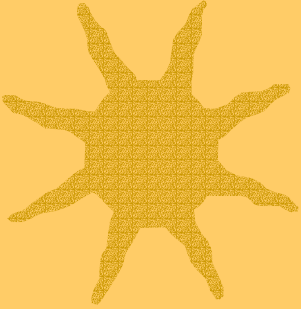
★ **Objective 2:** Identify specific model improvements and techniques from the activity-based approaches that can be used today within the normal work tasks of MPOs.



★ **Objective 3:** Identify data collection and other preparatory steps needed to enable activity-based approaches.



TRB 2005

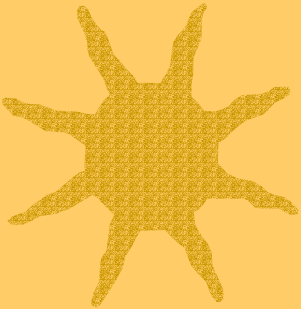


★ This workshop

★ A descriptive session

- Monday, January 10, 2005, 7:30pm- 9:30pm, Hilton, Georgetown West

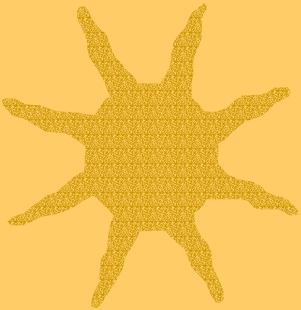
[Update on Activity-Based Approaches](#)



★ Task force meeting open to all

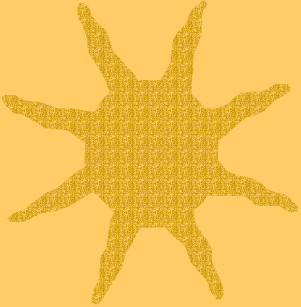
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[ADB60T](#)





This Workshop

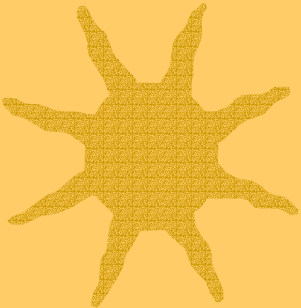


What is Activity Based Modeling? A TMIP Primer (T. Rossi) 1:15 - 2:00 PM

Activity Based Models in Practice: Portland, Oregon and San Francisco, California (M. Bradley) 2:00 - 2:30 PM

Activity Based Models in Practice: Columbus, Ohio (P. Vovsha) 2:30 - 3:00 PM

Break 15 minutes

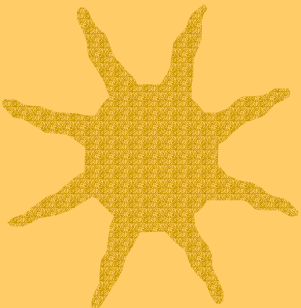


New Developments in Analytical Methods for Activity Based Modeling (C. Bhat) 3:15 - 3:40 PM

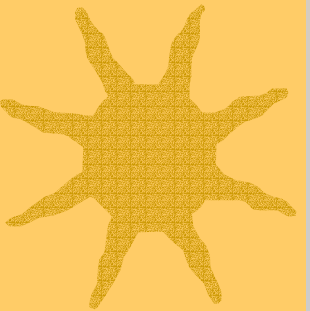
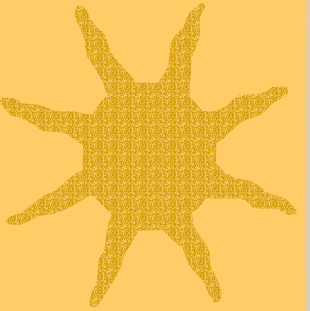
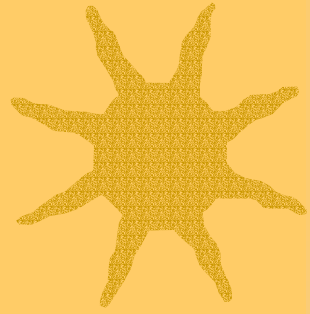
New Developments in Microsimulation of Activity-Travel Patterns in Time and Space (R. Pendyala) 3:40 - 4:05 PM

European Perspective: Albatross (H. Timmermans) 4:05- 4:30 PM

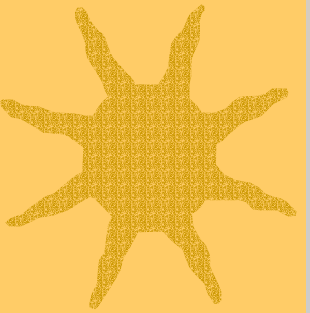
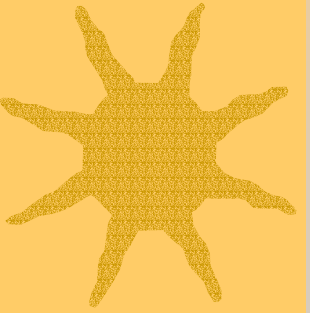
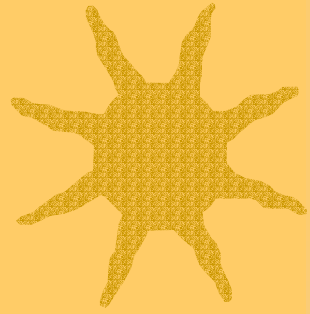
Summary of New Analytic Techniques and the Need for "Proof of Concept" Studies (J. Walker) 4:30-4:45 PM



Closing Remarks: What Does the Future Hold and What Are Key Action Items (Goulias) 4:45 - 5:00 PM



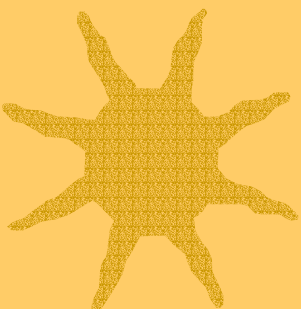
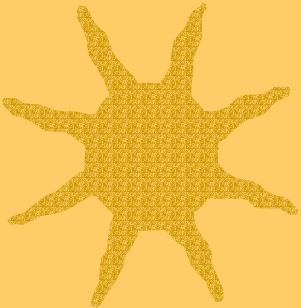
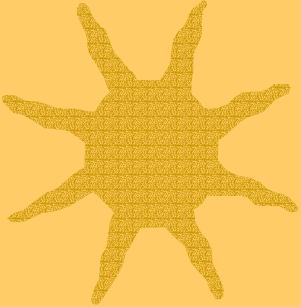
Thank you – Questions?



*What Does the Future Hold and
What Are Key Action Items?*



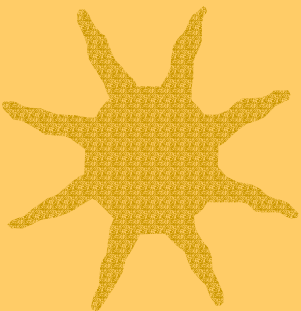
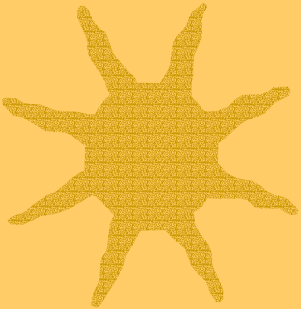
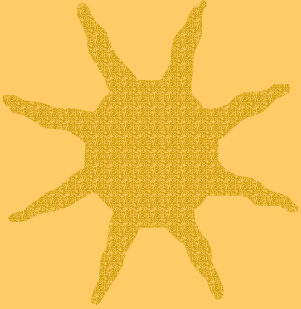
House Keeping Tasks



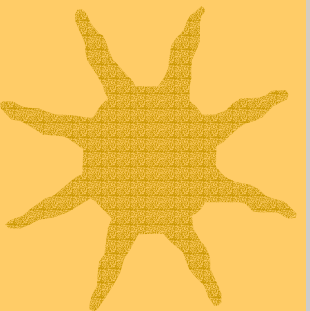
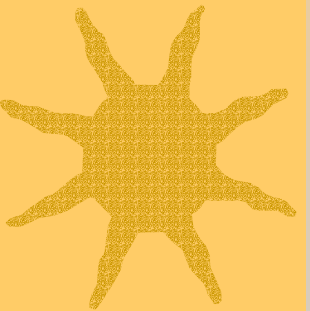
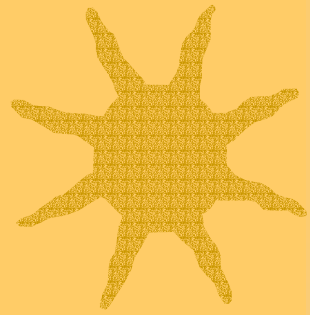
- ★ Develop a consensus document on activity-based approaches
- ★ Create a “thematic network” or use an existing one – STELLA/STAR
- ★ Use other institutions to advance our vision
- ★ Initiate a series of introduction and review documents (theory, data collection, models, implementation)



About Community



- ★ We are a community with common objectives, substantial skill, and huge potential!
- ★ National Consortium – natural evolution – how?

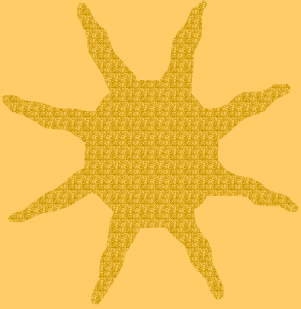


Evaluation as Scope of Consortium

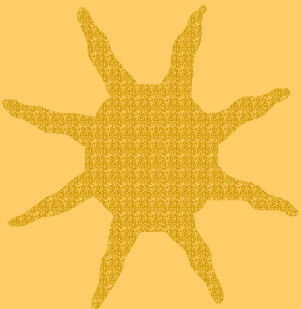
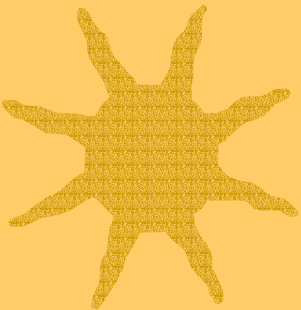
Multiple avenues



The Need

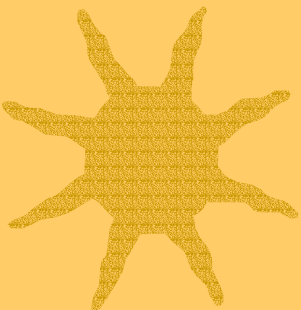
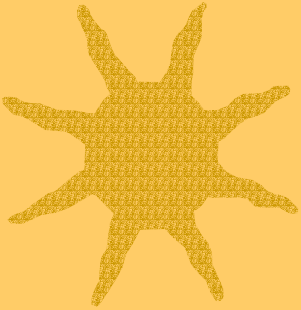
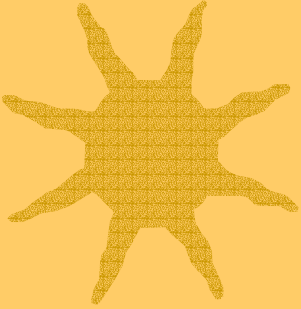


- ★ Show credibility and feasibility
- ★ Provide evidence of successes
- ★ Explain differences and commonalities among different approaches
- ★ Offer multiple ways to insert activity-based approaches in “normal” planning work
- ★ Show costs and benefits
- ★ Communicate all this to others





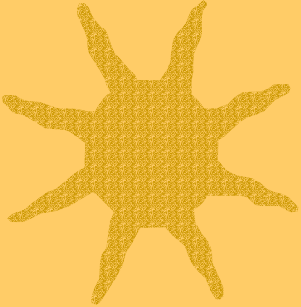
Develop Credibility



- ★ Independent evaluation and comparison of disparate methods and models – select case studies and propose joint research projects
- ★ Cross-country comparisons of methods and policy analysis propositions – see the land use models past project
- ★ Outcome = recommendations about the use of the right tool for the right job



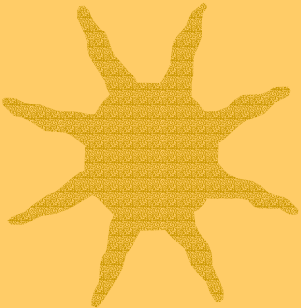
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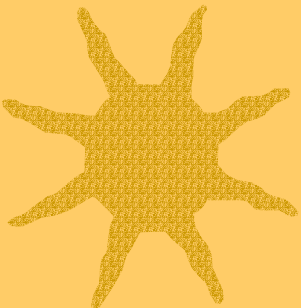
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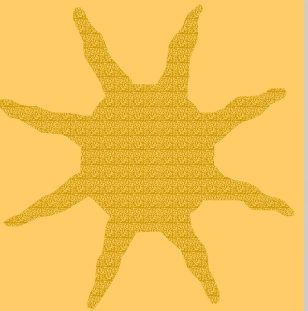
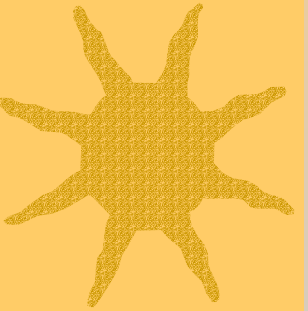
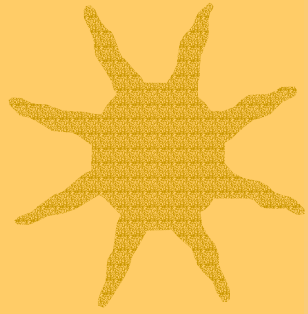


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ADB60T





Thank you!

Questions & Comments