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EDUCATION

- Ph.D. Civil Engineering - Major in Transportation and Minors in Stochastic Processes and Statistics. Department of Civil Engineering, University of California, Davis, September 1991. Dissertation: Long Term Forecasting with Dynamic Microsimulation. Advisor: Ryuichi Kitamura.
- M.S.C.E. Civil Engineering - Major in Transportation Engineering. Department of Civil Engineering, The University of Michigan, Ann Arbor, Michigan, August 1987. Advisor: Donald Cleveland.
- Laurea Civil Engineering (B.S. & M.S.C.E. – Laurea Magistrale), Università degli Studi della Calabria, Dipartimento di Pianificazione Territoriale (Territorial Planning Department), College of Civil Engineering, Cosenza, Italy, March 1986. Thesis: Econometric Models for the Forecast of Travel Demand: A Hierarchical Approach of Mode Choice (*In Italian*). Advisor: Demetrio C. Festa.

EMPLOYMENT IN UNIVERSITIES

Professor: University of California, Department of Geography, Santa Barbara, California (March 2004-present)

Duties and responsibilities: Teaching graduate and undergraduate courses in Transportation Systems Planning and Analysis: Geog 111A/211A - Transportation Planning and Modeling; Geog 111B/211B - Transportation Modeling and Simulation; Geog 111C – Smart Green Cities; Geog 211C - Activity and Travel Behavior Analysis; GEOG 288KG - Seminar in the 4 T's in Life: Time-Use, Transportation, Technology, and Telecommunications; GEOG 210B - Analytical Methods in Geography II, Regression Methods & Spatial Statistics; GEOG 210C - Analytical Methods in Geography III, Geostatistics and Spatial Statistics; GEOG 5 – People, Place, and Environment: Introductory Human Geography; Freshman Seminar INT94TC – Self-Driving Cars and Green Futures; Freshman Seminar INT94TR – Smart Green Cities.

Co-Founder and Director GeoTrans Laboratory: University of California, Department of Geography, Santa Barbara, California (July 2007-present)

Research initiatives include: Transportation Planning and Modeling, Travel Demand Analysis, Economic and Behavioral Geography, Geographic Information Science, Applied Statistics and Econometrics, Microsimulation in Activity-based Analysis and Forecasting, Travel Behavior, Activity and Travel Survey Design, Transportation and Air Quality, Travel Demand Management, Congestion Management Systems, Traffic Analysis and Site Impacts, Telecommunications and Travel Behavior/Demand, Optimal Resource Allocation, and Road Transport Informatics/Intelligent Transportation Systems. Goulias has been the Principal Investigator of approximately \$6.5 million of projects sponsored by regional, state, federal, and international sponsors from 2004 to 2022.

Associate Director University of California Transportation Center (UCTC): University of California, (2008-2018)

Duties and responsibilities: Set the overall policy direction for the center and assure coordination with the major transportation research and education groups on the partner UC and CalState campuses. Prepare drafts of campus annual reports, coordinate projects, serve as contact for sponsors and press, provide announcements and related news items for the centers web page.

Executive Committee Member and Campus Representative: University of California Center on Economic Competitiveness in Transportation (UC CONNECT): University of California, (2013-2018)

Duties and responsibilities: Same as UCTC above.

Professor: The Pennsylvania State University, Department of Civil and Environmental Engineering, University Park, Pennsylvania. (July 2002- February 2004).

Duties and responsibilities: Teaching graduate and undergraduate courses: CE521 Transportation Networks and Systems Analysis; CE523 Analysis of Transportation Demand; CE 597 Models of Probability; CE 598 Data Analysis in Transportation; CE498/598 Design of Multimodal Facilities; CE598 Activity-Based Approaches to Travel Behavior Research; CE422 Transportation Planning (and Modeling Methods); CE221 Introduction to Transportation Systems. Research in travel behavior and transportation systems analysis (same as at UCSB).

Regional Multi-University Consortium Director: Mid-Atlantic Universities Transportation Center (MAUTC), The Pennsylvania Transportation Institute, The Pennsylvania State University. (September 2002 – February 2004).

Duties and responsibilities: Direct and coordinate a partnership among transportation centers in Region 3 of the US DOT program. Coordinate and conduct research within the PennState component.
Institutional charge: MAUTC was a consortium of Penn State University, University of Pennsylvania, University of Virginia, Virginia Tech, and University of West Virginia. Its charge is to advance the state-of-art and the state-of-the-practice in the use of advanced technologies and management techniques to benefit transportation systems. The PennState component of research in this consortium emphasizes a systems approach that is also human-centered. To this end MAUTC funds were matched with local funding, mainly from the Pennsylvania Department of Transportation but also from local and

international partners, in projects to create new modeling and simulation systems and a variety of travel behavior studies using data from the US, Australia, and Europe.

Program Director: The Pennsylvania State University, The Pennsylvania Transportation Institute (PTI), Transportation Operations Program (TOP). (November 1997 - February 2004).

Duties and responsibilities: Member of the Institute's Executive Committee to direct, develop and implement the transportation planning, highway engineering, traffic engineering, roadway safety, transportation logistics, and public transportation research activities of the Institute. In fiscal year 2000-2001 TOP has had 92 active projects of contract value \$18.5 million (43.8% of the entire PTI contract value) and expenditures of external funds of 4.5 million (42.4% of the entire PTI annual expenditures). TOP was the largest and most diverse program at PTI and consisted of approximately 60 individuals including 10 faculty/research associates, 4 full time research assistants/engineers, 35 graduate/undergraduate students, and 6 on as needed support staff.

Director: Center for Intelligent Transportation Systems (CITranS), College of Engineering and The Pennsylvania Transportation Institute, The Pennsylvania State University. (December 1997 – February 2004).

Duties and responsibilities: Direct, develop, and coordinate the Intelligent Transportation Systems (ITS) activities at Penn State. ***Institutional charge:*** CITranS was a Center of Excellence within the College of Engineering. The Center promoted interdisciplinary research among the various university colleges and research institutes, centers, and laboratories in Intelligent Transportation Systems and related topics. CITranS coordinated proposal preparation and outreach with public and private sponsors. In a typical year maintained around \$1 million in sponsored research contracts. CITranS also organized an International Conference for ITS America (RATTS 1998) and provided funding on average for 10 to 14 graduate students from a variety of specialties such as Business Logistics, Industrial Engineering, and Civil and Environmental Engineering.

Associate Professor: The Pennsylvania State University, Department of Civil and Environmental Engineering, University Park, Pennsylvania. (July 1997- June 2002).

Program Manager: The Pennsylvania State University, The Pennsylvania Transportation Institute, Transportation Operations Program. (July 1996-November 1997). Duties same as program director above.

Assistant Professor: The Pennsylvania State University, Department of Civil and Environmental Engineering, University Park, Pennsylvania. Same duties as above. (August 1991-June 1997). Duties are the same as associate professor above.

Post Graduate Research Engineer: University of California at Irvine, Institute of Transportation Studies, Irvine, California. (April 1991 - June 1991).

Post Graduate Research Engineer: University of California at Davis, Department of Civil Engineering, Davis, California (September 1988 - August 1991).

Transportation Lab Coordinator: Engineering Summer Residency Program. Organized labs and demonstrated traffic engineering techniques (June 1990).

Teaching Assistant: Traffic Engineering and Transportation Facilities Design (January 1990-June 1990).

Research Assistant: Bureau Goudappel Coffeng, Deventer, The Netherlands. (Summers of 1989 and 1990).

Research Assistant: University of California at Davis, Department of Civil Engineering, Davis, California. (September 1987-June 1988).

EMPLOYMENT IN CONSULTANT COMPANIES AND PUBLIC AGENCIES

Duties and responsibilities: Provide transportation engineering and planning consulting services to State/Federal agencies and international organizations and firms. Has worked in *Australia, Germany, Greece, Italy, Japan, the Netherlands, Portugal, Qatar, and the United States* developing new data collection and modeling techniques, simulation frameworks, and expert reviews of technologies and engineering practice and policies.

BOOKS AND JOURNALS

	Transportation Systems Planning: Methods and Applications. This is an edited volume by K.G. Goulias in the CRC Press (Boca Raton, FL) series New Directions in Civil Engineering, 2003. The content is also available in electronic form at ENGnetBASE. Page count 456.
	Transport Science and Technology. This is an edited volume by K.G. Goulias with a selection of papers from the TRANSTEC Athens 2004 conference published by Emerald/Elsevier in 2006.
	Transportation Letters: The International Journal of Transportation Research is a quarterly journal that publishes high-quality review and min-review papers as well as major contributions to the state of the art in transportation research. 10 Issues per year on Traffic Engineering, Travel Behavior, Modeling and Simulation, Freight and Logistics. Journal Editors-in-Chief: K.G. Goulias and K. Mohammadian. Taylor & Francis. <u>Years: 2009-today.</u>
	Mapping the Travel Behavior Genome, 1st Edition. This is an edited volume by K. G. Goulias and A.W. Davis, Paperback ISBN: 9780128173404; eBook ISBN: 978012817341; published by Elsevier; Published Date: October 2019, Page Count: 732.

CONFERENCE PROCEEDINGS

	Transtec Prague, Transport Science & Technology Congress, 13 - 15 September 2007: Proceedings of International Conference. This is an edited volume by M. Novak and K.G. Goulias. 594 pages. ISBN: 9788001037829
CEUP 2014	Civil Engineering and Urban Planning III. This is an edited volume by K. Mohammadian, K.G. Goulias, E. Cicek, J. Wang, and C. Maraveas. CRC Press. 520 pages. ISBN: 9781138001251

PUBLICATIONS

1. Hui Shi, Su, R, Xiao, J. and Goulias K.G. (2022) Spatiotemporal Analysis of Activity-Travel Fragmentation Based on Spatial Clustering and Sequence Analysis. *Journal of Transport Geography* (under review)
2. Su, R., Dodge, S., & Goulias, K. G. (2022). A classification framework and computational methods for human interaction analysis using movement data. *Transactions in GIS* (in press).
3. Xiao, J., & Goulias, K. G. (2022) Perceived usefulness and intentions to adopt autonomous vehicles. *Transportation Research Part A*, (in press)
4. Su, R., Dodge, S., & Goulias, K. G. (2022). Understanding the impact of temporal scale on human movement analytics. *Journal of Geographical Systems*, <https://link.springer.com/article/10.1007/s10109-021-00370-6>
5. Laviolette, J., Morency, C., Waygood, O. D., & Goulias, K. G. (2022). Car Ownership and the Built Environment: A Spatial Modeling Approach. *Transportation Research Record: Journal of the Transportation Research Board*, 2676.3, pp. 125-141. <https://doi.org/10.1177/03611981211049409>
6. Xiao, J., & Goulias, K. G. (2021). How public interest and concerns about autonomous vehicles change over time: A study of repeated cross-sectional travel survey data of the Puget Sound Region in the Northwest United States. *Transportation Research Part C*, 133, <https://doi.org/10.1016/j.trc.2021.103446>.
7. Su, R., Dodge, S., & Goulias, K. (2021, November). A time-geographic approach to quantify the duration of interaction in movement data. This paper received the **Best Paper Award**. In *Proceedings of the 1st ACM SIGSPATIAL International Workshop on Animal Movement Ecology and Human Mobility* (pp. 18-26). <https://dl.acm.org/doi/10.1145/3486637.3489490>.
8. Dodge, S., Su, R., Johnson, J., Simcharoen, A., Goulias, K., Smith, J. L., & Ahearn, S. C. (2021). ORTEGA: An object-oriented time-geographic analytical approach to trace space-time contact patterns in movement data. *Computers, Environment and Urban Systems*, 88, <https://doi.org/10.1016/j.compenvurbsys.2021.101630>
9. Su, R., Xiao, J., McBride, E. C., & Goulias, K. G. (2021). Understanding senior's daily mobility patterns in California using human mobility motifs. *Journal of Transport Geography*, 94, <https://doi.org/10.1016/j.jtrangeo.2021.103117>
10. Su R and K.G. Goulias (2021) Evolution of the Chinese spring festival travel network during the COVID-19 early outbreak. *Transportation Letters*, 13(5-6), 492-500. <https://doi.org/10.1080/19427867.2021.1896065>
11. Goulias, K. G. (2021). Special issue on understanding the relationships between COVID-19 and transportation. *Transportation Letters*, 13(5-6), 327-330. <https://doi.org/10.1080/19427867.2021.1913875>

12. Su R. and K.G. Goulias (2021) Exploration of human mobility motifs in the California component of the 2017 National Household Travel Survey. hEART. 9th Symposium of the European Association for Research in Transportation, February 3-4, 2021. https://transpor.epfl.ch/heart/2020/abstracts/HEART_2020_paper_171.pdf
13. Su R., E.C. McBride, and K.G. Goulias (2021) Unveiling daily activity pattern differences between telecommuters and commuters using human mobility motifs and sequence analysis. *Transportation Research Part A: Policy and Practice*, 147, 106-132. <https://doi.org/10.1016/j.tra.2021.03.002>
14. Shih, H. C., Stow, D. A., Chang, K. C., Roberts, D. A., & Goulias, K. G. (2021). From land cover to land use: Applying random forest classifier to Landsat imagery for urban land-use change mapping. *Geocarto International*, 1-24. <https://doi.org/10.1080/10106049.2021.1923827>
15. Su R., E.C. McBride, and K.G. Goulias (2020) Pattern recognition of daily activity patterns using human mobility motifs and sequence analysis. *Transportation Research Part C: Emerging Technologies*, 120, November. <https://doi.org/10.1016/j.trc.2020.102796>
16. Goulias K. G., E.C. McBride, and R Su (2020) Life Cycle Stages, Daily Contacts, and Activity-Travel Time Allocation for the Benefit of Self and Others. Chapter 13 in *Mobility Across the Life Course: Qualitative and Quantitative Approaches* (Eds Joachim Scheiner and Henrike Rau), Edward Elgar. <https://doi.org/10.4337/9781789907810.00023>
17. Xiao, J., Su, R., McBride, E. C., & Goulias, K. G (2020) Exploring the correlations between spatiotemporal daily activity-travel patterns and stated interest and perception of risk with self-driving cars. *AGILE: GIScience Series*, 1, pp. 1-15. <https://doi.org/10.5194/agile-giss-1-22-2020>
18. McBride, E. C., Davis, A. W., & Goulias, K. G. (2020) Exploration of statewide fragmentation of activity and travel and a taxonomy of daily time use patterns using sequence analysis in California. *Transportation Research Record*, 2674(12), pp. 38-51. <https://doi.org/10.1177/0361198120946011>
19. Ravulaparthi, S., & Goulias, K. G. (2020). *Activity Time-Use Patterns and Experienced Satisfaction: Travel Behavioral Dynamics from the 2010–2013 American Time-Use Survey Data*. Oak Ridge National Lab.(ORNL), Oak Ridge, TN (United States). <https://www.osti.gov/biblio/1607013>
20. Goulias, K.G. A. W. Davis, and E. C. McBride (2020). Chapter 1 - Introduction and the genome of travel behavior. In *Mapping the Travel Behavior Genome* (edited by Goulias K.G. and A.W. Davis), Elsevier, pp. 1-14. <https://doi.org/10.1016/B978-0-12-817340-4.00001-2>.
21. Davis A. W., A. Polydoropoulou, A. Stathopoulos, B. Farooq, C. R. Bhat, C. Antoniou, J. Zhang, K. G. Goulias, K. Mohammadian, M. Kamargianni, P. L. Mokhtarian, R. M. Pendyala, Y. Shiftan, (2020). Chapter 32 - Workshop summary and research themes. In *Mapping the Travel Behavior Genome* (edited by Goulias K.G. and A.W. Davis), pp. 635-673. Elsevier, <https://doi.org/10.1016/B978-0-12-817340-4.00032-2>
22. Davis, A. W., McBride, E. C., & Goulias, K. G. (2020). Chapter 6 - Environmental correlates of travel behavior from a destination attractiveness and activity timing perspectives. In *Mapping the*

- Travel Behavior Genome* (edited by Goulias K.G. and A.W. Davis), pp. 83-102. Elsevier, <https://doi.org/10.1016/B978-0-12-817340-4.00006-1>
23. McBride, E. C., Davis, A. W., & Goulias, K. G. (2020). Chapter 19 - Sequence analysis of place-travel fragmentation in California. In *Mapping the Travel Behavior Genome* (edited by Goulias K.G. and A.W. Davis), pp. 371-398. Elsevier, <https://doi.org/10.1016/B978-0-12-817340-4.00019-X>
 24. McBride, E. C., Davis, A. W., & Goulias, K. G. (2019). Fragmentation in Daily Schedule of Activities using Activity Sequences. *Transportation Research Record*, 2673(4), pp. 844-854. <https://doi.org/10.1177/0361198119837501>
 25. Davis A.W., Lee J.H., McBride E.C., Ravulaparthi S., Goulias K.G. (2019) California Business Establishment Evolution and Transportation Provision. In *The Practice of Spatial Analysis* (edited by Briassoulis H., Kavroudakis D., Soulakellis N.), pp. 295-323. Springer, Cham. https://doi.org/10.1007/978-3-319-89806-3_14
 26. Lee, J. H., Davis, A., McBride, E., & Goulias, K. G. (2019). Statewide Comparison of Origin-Destination Matrices Between California Travel Model and Twitter. Paper (#18-00857) presented at the 97th Annual Transportation Research Board Meeting, January 7-11, 2018, Washington D.C., included in the TRB proceedings and published in *Mobility Patterns, Big Data and Transport Analytics* (pp. 201-228). Elsevier. <https://doi.org/10.1016/B978-0-12-812970-8.00009-9>
 27. Davis A.W., E.C. McBride, K. Janowicz, R. Zhu, and K.G. Goulias (2018) Tour-based path analysis of long distance non-commute travel behavior in California. *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2672 (49), pp. 1-11. <https://doi.org/10.1177/0361198118778926>
 28. Davis, A. W., McBride, E. C., & Goulias, K. G. (2018). A latent class pattern recognition and data quality assessment of non-commute long-distance travel in California. *Transportation Research Record: Journal of the Transportation Research Board*, 2672(42), pp. 71-80. <https://doi.org/10.1177/0361198118787362>
 29. McBride E.C., A.W. Davis, and K.G. Goulias (2018) A spatial latent profile analysis to classify land uses for population synthesis methods in travel demand forecasting. *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2672 (49), pp. 158-170. <https://doi.org/10.1177/0361198118799168>
 30. Lee J. H. and K.G. Goulias (2018) A decade of dynamics of residential location, car ownership, activity, travel and land use in the Seattle metropolitan region. *Transportation Research Procedia: Papers selected for the 22nd International Symposium on Transportation and Traffic Theory, Chicago, Illinois, USA, July 24-26, 2017. Pages 420-439*. Subsequently published in *Transportation Research Part A: Policy and Practice*, 114, pp. 272-287. <https://doi.org/10.1016/j.tra.2018.01.029>
 31. Lee J. H. and K. G. Goulias (2017) Companionship and time investment in social fields at different life cycle stages: Implications for activity and travel modeling and simulation. Paper presented in Frontiers in Transportation 2015 workshop, Beaumont Estate, Windsor, July 24, 2015, and published in *Research in Transportation Economics*, 68, pp. 18-28. <https://doi.org/10.1016/j.retrec.2017.01.003>
 32. Lee J.H. A.W. Davis, S.Y. Yoon, and K.G. Goulias (2017) Exploring Daily Rhythms of Interpersonal Contacts: Time of day dynamics of human interactions using latent class cluster analysis. This paper

- received the **Pyke Johnson Award by TRB** *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2666 (1), pp.58-68. <https://doi.org/10.3141/2666-07>.
33. McBride E., A.W. Davis, J.H. Lee, and K.G. Goulias (2017) Incorporating Land Use in Synthetic Population Generation Methods and Transfer of Behavioral Data. *Transportation Research Record: Journal of the Transportation Research Board - No. 2668*, pp. 11-20. DOI 10.3141/2668-02.
 34. Ravulaparthi S. , K.C. Konduri, and K.G. Goulias (2017) Exploring the role of activity time-use frontiers on emotional well-being: an evidence from disability and use of time survey. *Transportation Research Record: Journal of the Transportation Research Board – No. 2669*, pp 80-90. DOI: 10.3141/2665-10.
 35. Lee J., Davis A. W., and K. G. Goulias (2017) Triggers of Behavioral Change: Longitudinal Analysis of Travel Behavior, Household Composition and Spatial Characteristics of the Residence. *Journal of Choice Modelling*, Volume 24, pp 4-21.
 36. Lee J.H. A.W. Davis, E. McBride, and K.G. Goulias (2017) Exploring Social Media Data for Travel Demand Analysis: A comparison of Twitter, household travel survey and synthetic population data in California, Paper presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., January 8-12, 2017. In *TRB Compendium of Papers*.
 37. Ravulaparthi S. and K.G. Goulias (2016) Fundamental Linkages Between Activity Time-Use and Subjective Well-Being for Elderly Population: A Joint Exploratory Analysis Framework for In-Home and Out-Of-Home Activities. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2566, pp. 31-40. DOI: 10.3141/2566-04.
 38. Ravulaparthi S. and K.G. Goulias (2016) Exploring the Role of Location in Dynamics of Birth and Death of Business Establishments: Case Study Analysis of Santa Barbara County, California. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2564, pp. 106–117. DOI: 10.3141/2564-1.
 39. Kroesen M. and K. G. Goulias (2016) Modelling Activity-travel Behaviour Dynamics with Panel Data: The State-of-the-art. *European Journal of Transport and Infrastructure Research Issue 16(4)*, 2016 pp. 633-637 ISSN: 1567-7141.
 40. McBride, E., Lee, J. H., Lundberg, A., Davis, A. W., & Goulias, K. G. (2016). Behavioral Micro-dynamics of Car Ownership and Travel in the Seattle Metropolitan Region from 1989 to 2002. *European Journal of Transport and Infrastructure Research Issue 16(4)*, 2016 pp. 735-753 ISSN: 1567-7141.
 41. Davis A. W., Lee, J.H. & Goulias K.G. (2016) Taking Place Attitudes into Travel Behavior Research. Paper presented at the 95th Annual Meeting of the Transportation Research Board. Washington, DC. In *TRB Compendium of Papers*.
 42. Lee, J. H., Davis, A. W., & Goulias, K. G. (2016). Activity Space Estimation with Longitudinal Observations of Social Media Data. Paper presented at the 95th Annual Meeting of the Transportation Research Board. Washington, DC. *Transportation*, Volume 43, Issue 6, pp 955–977. doi:10.1007/s11116-016-9719-1.

43. Lee J., S. Gao, and K. G. Goulias (2016) Comparing the Origin-Destination Matrices from Travel Demand Model and Social Media Data. *Paper presented at the 95th Annual Meeting of the Transportation Research Board, Washington, DC. In TRB Compendium of Papers.*
44. Shao, C., Xia, J. C., Lin, T. G., Goulias, K. G., & Chen, C. (2015). Logistic regression models for the nearest train station choice: A comparison of captive and non-captive stations. *Case Studies on Transport Policy*, 3(4), 382-391.
45. Lee J., S. Gao, and K. G. Goulias (2015) Can Twitter data be used to validate travel demand models? Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July.
46. Davis A. W., J. H. Lee, K. Deutsch-Burgner, E. McBride, K.G. Goulias (2015) Perception and Reality: Linking Metrics of Place Perception to Measurable Attributes of Place Using Cross-Classified SEM Analysis. Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July.
47. Tsouros I., A. Polydoropoulou, K.G. Goulias, and A. Tsirimpa (2015) Rhythms in Urban and Island Areas: Does Lifestyle Affect Daily Dynamics? Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July.
48. Goulias K.G. (2015) An Overview of GeoSimulation for Smart City Planning, Design, and Operations. Smart Cities Symposium Prague 2015. Faculty of Transportation Sciences, June 24 - 25, 2015, Prague, Czech Republic.
49. Goulias K.G. (2015) Design and Implementation of a Simulator of Activities, Greenhouse Gas Emissions, Networks, and Travel (SimAGENT) in Southern California. *International Conference on Foresight*. 22-24 June 2015, Athens, Greece.
50. Lee J.H., A.W. Davis, and K.G. Goulias (2015) Triggers of Behavioral Change. Paper presentation at the 4th International Choice Modelling Conference, Austin, TX. May 10-13, 2015.
51. Davis A.W., J.H. Lee, K. Deutsch-Burgner, E. McBride, and KG Goulias (2015) Perception and Reality: Linking Metrics of Place Perception to Measurable Attributes of Place Using Cross-Classified SEM Analysis. Paper presentation at the 4th International Choice Modelling Conference, Austin, TX. May 10-13, 2015.
52. Goulias, K., Lee, J. H., Deutsch-Burgner, K., Davis, A. W., & Wu, F. (2015, May). Detection and Measurement of Latent and Manifest Heterogeneity of Familiarity, Perceptions, and Attractiveness of Places Using Multilevel Analysis. Paper presentation at the 4th International Choice Modelling Conference, Austin, TX. May 10-13, 2015.
53. Lee J.H., A.W. Davis, and K.G. Goulias (2015) Exploratory Analysis of the Relationships Among Long Distance Travel, Sense of Place, and Subjective Well-Being of College Students. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-01, Santa Barbara, CA.

54. Lee J.H. and K.G. Goulias (2015) Examining Differences and Commonalities of Life Cycle Stages in Daily Contacts and Activity-Travel Time Allocation. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-02, Santa Barbara, CA.
55. Davis A.W., J.H. Lee, and K.G. Goulias (2015) Analyzing Bay Area Bikeshare Usage in Space and Time. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-03, Santa Barbara, CA.
56. Goulias K. G., J.H. Lee, and A.W. Davis (2015) Longitudinal Mixed Markov Latent Class Analysis of the 1989 to 2002 Puget Sound Transportation Panel Data. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-04, Santa Barbara, CA.
57. Ravulaparthi S.K. and K.G. Goulias (2015) Exploring locational influences on technical efficiency of business establishments in Santa Barbara County using stochastic frontier modeling framework. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-06, Santa Barbara, CA.
58. Deutsch-Burgner K and K.G. Goulias (2015) Measuring Heterogeneity in Spatial Perception for Activity and Travel Behavior Modeling. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. Also published as GEOTRANS Report 2014-8-07, Santa Barbara, CA.
59. Lin, T. G., Xia, J. C., Robinson, T. P., Goulias, K. G., Church, R. L., Olaru, D., ... & Han, R. (2014). Spatial analysis of access to and accessibility surrounding train stations: a case study of accessibility for the elderly in Perth, Western Australia. *Journal of Transport Geography*, 39, 111-120.
60. Ravulaparthi S.K. and K.G. Goulias (2014) A comprehensive evaluation of locational determinants on birth and death of business establishments. GEOTRANS Report 2014-8-05, Santa Barbara, CA.
61. Dalal P. and K. G. Goulias (2014) An Analysis of Jobs, Business Establishments, Housing, and Commuting Travel in the Smart Growth Centers of the Puget Sound Region. GEOTRANS Report 2014-3-01, Santa Barbara, CA.
62. Yoon S., S.K. Ravulaparthi, and K.G. Goulias (2014) Dynamic diurnal social taxonomy of urban environments using data from a geocoded time use activity-travel diary and point-based business establishment inventory. *Transportation Research Part A: Policy and Practice*, 68, 3-17. Also published as GEOTRANS Report 2013-11-01, Santa Barbara, CA.
63. Deutsch-Burgner, K., Ravualaparthi, S., & Goulias, K. (2014). Place happiness: its constituents and the influence of emotions and subjective importance on activity type and destination choice. *Transportation*, 41(6), 1323-1340. Also published as GEOTRANS Report 2013-07-02. Santa Barbara, CA.

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CURRENT RESEARCH PROJECTS

Principal Investigator (August 2021 - August 2022). **Spatial Microanalysis and Equity Assessment of Joint Relationships among Destination Choice, Activity Duration, and Mode Choice.** Sponsor: Pacific Southwest Region 9 University Transportation Center, US Department of Transportation, and UCSB. \$118,000. This project combines multiple strands of research and develops a new integrated framework for spatial choice modeling and simulation. We use ideas emerging from our own research in motif and sequence analysis based on the 2017 National Household Travel Survey for California. This is then complemented with other external data at the business establishment microlevel. We develop a structural behavioral model that shows spatial correlation among destinations, duration of activity at each destination and the mode chosen to travel to each activity location considered as forming activity chains/tours. Then, we post process the data to identify segments of the population that face unsurmountable barriers in activity participation and therefore become de facto excluded from opportunities. This project advances science in the combination of built environment data with individual/household behavior and in the formulation of a new generation of core models for modeling and simulation for large scale urban simulation model systems. The methods we develop here have applications in equity analysis.

Principal Investigator (August 2020 - August 2022) **A Before-After Intervention Experiment and Survey and Covid-19 Add-on Survey** Sponsor: Pacific Southwest Region 9 University Transportation Center, US Department of Transportation, and UCSB Senate. \$106,500. In this project, we first develop a

strong theoretical model accompanied by data collection to test some of its aspects for behavioral change research. Data collection shifted from the originally planned public transportation intervention to the examination of COVID-19 impacts on the life of Los Angeles Metropolitan area residents. In terms of substantive findings, we verified that in this region as in other parts of the US people experienced loss of jobs, forced relocations, and major changes in working and studying. In terms of the attitude-behavior relationship, we also confirmed the existence of more diversity in attitudinal groups of people with respect to their position towards the private automobile and found that these attitudes are strongly correlated with the use of different modes. The survey design and conceptual model form the foundation for subsequent data collection and analysis based on the pilot examples of this project. A third pilot study within this project is the design of a smartphone application. Guidelines for survey design are provided in this report with a description of an ongoing research effort at UCSB that continues beyond the project reported here.

Principal Investigator (May 2021 – June 2022) **Connected and Autonomous Vehicle Demand Modeling for Integrated Transportation Modeling (BEAM Core)**. Sponsor: Lawrence Berkeley National Lab (LBNL) and UCSB. \$80,138. In this project we develop Market Segments and their Potential Market Penetration of Connected Autonomous Vehicles (CAV). Then, we formulate pilot demand models by market segment and at the end we test and assess the pilot models for inclusion in the ActivitySim, BEAM, and Atlas model system in development at the Lawrence Berkeley National Lab (LBNL). This project contributes to the development of new processes, policies, analytical tools, program designs, and business models to advance the state of the art in next-generation sustainable transportation solutions.

RECENTLY COMPLETED RESEARCH PROJECTS

Principal Investigator (January 2020 – December 2020) **Revisiting the impact of teleworking on activity-travel behavior using recent data and sequence-based analytical techniques**. *Sponsor: Pacific Southwest Region 9 University Transportation Center, US Department of Transportation, and UCSB. \$109,520.* In this project motif and sequence analysis are used in tandem to analyze differences and commonalities between telecommuters and usual commuters. Telecommuters are by far more diverse in their allocation of time to places, activities, and travel. Approximately 20% of telecommuters stay at home all day during a workday, while only 8% of commuters do. Telecommuters that have at least one trip during their workday accrue more vehicle miles travelled and number of trips than their commuter counterparts. However, they drive alone less and tend to have more complex schedules visiting more locations. A substantial proportion of traditional commuters display morning and afternoon peaks of arriving at and departing from work, and telecommuters do not show this pattern. In addition, telecommuters during a day travel to a variety of locations to either visit customers and exploit their spatio-temporal schedule flexibility to perform work tasks from locations other than home or workplaces. Similarly, seniors (60 years and older) enjoy higher activity and travel flexibility due to seniority in jobs or retirement and use telecommuting in a variety of different ways. We find that 15 distinct motifs can capture 82.17% and 86% of the total senior respondents on workdays and non-workdays, respectively. Seniors are more likely to have simple motifs with three or fewer distinct locations on non-workdays, while they present more complex motifs during workdays.

Principal Investigator (August 2018 – August 2019) **An Analysis of Accessibility, Social Interaction, and Activity-Travel Fragmentation in California**. *Sponsor: Pacific Southwest Region 9 University Transportation Center, US Department of Transportation, and UCSB. \$110,000.* Sequence analysis is used in this project to measure fragmentation in activity participation and travel. Studying sequences of daily

episodes (each activity at a place and each trip) is preferable over other techniques of studying activity-travel behavior because sequences include the entire trajectory of a person's activity during a day while jointly considering the number of activities and trips, their ordering, and their durations. We first identify places visited and duration at each place on a minute-by-minute basis, then we derive representative daily behavior patterns using hierarchical clustering. Our study shows there are at least nine distinct daily patterns with different sequencing of activities and travel as well as travel time ratios and modal split. As expected, day of the week plays a major role in the type of daily activity-travel patterns. Travel time ratios are also examined for each daily pattern and we find differences in the role played within each pattern between central city, suburban, exurban, and rural dwellers. In a comparison of couples, we find systematically higher fragmentation in households that have children and their parents are employed with women showing higher fragmentation in the activity-travel patterns.

Principal Investigator (August 2017 – May 2019) **Activity Based Model for Qatar.** *Sponsor: ItalConsult & Ministry of Transport and Communication Qatar. \$610,000.* In this project in collaboration with Chandra Bhat from UT Austin and Ram Pendyala from Arizona State University, a new version of an activity-based travel demand forecasting model is created for the State of Qatar. This simulator includes population synthesis that recreates the entire resident population of this region, provides locations for residences, workplaces, and schools for each person, estimates car ownership and type as well as main driver for each vehicle, and provides other key personal and household characteristics. Then, a synthetic schedule generator recreates for each resident person in the simulated region a schedule of activities and travel that reflects intra-household activity coordination for a day. These synthetic schedules are then converted to multiple Origin Destination (OD) matrices at different times in a day and used in other modeling tasks developed by ItalConsult.

Principal Investigator (January 2018 – December 2018) **Vertical Equity Statewide Pilot, Data Inventory, and Guidelines for Performance Based Planning.** *Sponsor: Pacific Southwest Region 9 University Transportation Center, US Department of Transportation, and UCSB. \$123,072.* In this project, we develop a method for vertical equity analysis. Vertical equity is the analysis of the disadvantages groups of different incomes and other sociodemographic characteristics experience from the land use-transportation system. We first create a data inventory for the indicators needed to satisfy performance based planning in California. This inventory is comprehensive and covers many goals in CTP 2040. In parallel, using detailed in space and time database in the GeoTrans laboratory we create a first pilot geo-computation of equity indicators covering the entire State at fine spatial detail. We compare data available and this pilot to the literature on gentrification, equity analysis, and access to opportunities. We also develop a crowdsourcing method to collect input for the expert community in three different stages. First on the first pilot geo-computation online and at TRB 2018 and then after an improved method is developed we check with a wider spectrum of experts at an international conference in Santa Barbara. Input from the different expert sources that is used to create a second pilot geo-computation of equity is particularly important and for this reason requires special attention in a dedicated task. The project ends with the creation of guidelines for data collection, computational examples, and guidelines for research and practice.

Principal Investigator (May 2017 – August 2017) **Qatar Activity-based Model Preparation and Initial Design.** *Sponsor: ItalConsult & Ministry of Transport and Communication Qatar. \$50,000.* In this project, in collaboration with Professor Chandra Bhat from UT Austin and Professor Ram Pendyala from Arizona State University, we conducted a series of meetings with all the local agencies involved in the project. We examined data and plans for data collection and developed a temporal sequence of model development and

testing. Moreover, in this task will provided a series of seminars on data needs for policy analysis, modeling and simulation in activity-based approaches, synthetic population generation, household travel surveys, and the design of choice experiments.

Investigator - Visiting External Scientific Collaborator at University of the Aegean. *(February 2016 to December 2017)* **OPTIMUM (Multisource Big Data Fusion Driven Proactivity for Intelligent Mobility).** *Sponsor: European Union's Horizon 2020 research and innovation programme under grant agreement No 636160-2. EUR 5,966,186.* The aim of this project is to develop and distribute state-of-the-art information technology solutions to improve transit, freight transportation and traffic connectivity throughout Europe. Through the management and processing of multisource big data and the creation of tailor-made applications, OPTIMUM will strive to make transport systems more interoperable, adaptable and dynamic. The project includes 18 partner organizations and eight European countries with a duration of approximately 3 years (<http://www.optimumproject.eu>).

Principal Investigator (Co-PI Krzysztof Janowicz). *(July 2016 - June 2017)* **Long Distance Travel in the California Household Travel Survey (CHTS) and Social Media Augmentation.** *Sponsor: University of California Center /CALTRANS. \$173,409.* The objectives of this project are to: a) provide empirical evidence for long distance travel behavior analysis using synthetic population methods; and b) identify the determinants of long-distance travel behavior. The method provides CALTRANS with a powerful baseline inventory of travel demand statewide and creates the foundation for future updates. The archived data and their analysis also enable the study of vulnerable segments of the population as well as developing an estimate of long distance travel contribution to the statewide VMT. Our initial workshop in Sacramento illustrated the potential of these methods and the technical problems we solve in the project, and the final report explains and demonstrates the findings from CHTS, the potential of harvesting social media, the regression and structural equations models and latent class clusters developed here, their substantive findings, and a variety of ideas for using similar methods for other purposes.

Principal Investigator. *(April 2015 to March 2016)* **Combining California Household Travel Survey data with harvested social media information to form a self-validating statewide origin-destination travel prediction method.** *Sponsor: University of California Center /CALTRANS. \$128,050.* In this project we use data from multiple sources to produce statewide travel patterns and large scale estimates of induced travel demand. In this way we can develop a baseline short- and long- distance travel inventory that includes statewide vehicle miles traveled (VMT). A procedure is created to monitor the evolution of travel in California using data from social media adjusted by region and correlated with land uses at fine geographic areas. We use data from the California Household Travel Survey, Origin-Destination data from the Statewide Travel Demand Model, and social media harvested data. A conversion procedure is created to transform harvested data from the web into origin-destination travel and perform comparisons with other sources of OD matrices.

Principal Investigator. *(March 2015 to April 2016)* **Spatial Transferability Using Synthetic Population Generation Methods.** *Sponsor: University of California Transportation Center/CALTRANS. \$84,094.* In this project we develop a new method to transfer daily travel behavior data from one place to another. The basic ingredients of this new method are: a) the California Household Travel Survey (CHTS) data that includes household and person characteristics and an one day place-based diary that spans an entire 12 month period in 2012 and 2013; b) a database of all the business establishments in California that enables computation of land use indicators at many geographical scales; and c) highway and public transportation

network information. In the project we develop a classification system of the different determinants of household travel behavior and then use variables at the person, household, and spatial organization levels to perform experiments and find the best transferability method.

Principal Investigator. *(March 2015 to April 2016) Business Establishment Survival and Transportation System Level of Service.* Sponsor: University of California Transportation Center/CALTRANS. \$115,205. In this research we empirically link the survival and economic success of business establishments to the performance of the transportation system that serves these establishments. We explore this relationship for the entire State of California while controlling in a statistically robust way for a variety of factors influencing business life cycle events, such as closures, formation/birth, and relocation. We use data from: a) longitudinal business establishment population event data that span two decades; b) highway and transit accessibility and level of service indicators at multiple time points; and c) geographical market size and mix from available US Census data. We draw lessons learned and develop suggested policies that increase economic development and business establishment performance.

Principal Investigator *(September 2013 to September 2015) UCCONNECT Transportation Student Fellowships for UCSB.* US Department of Transportation. \$100,000. This funding is provided for graduate students in the Transportation Emphasis at UCSB and allocated based on merit, study orientation in transportation, and intention to follow a transportation career.

Investigator - Visiting External Scientific Collaborator *(January 2012 to October 2015).* Green Transport in the Islands Area (GRETIA). Sponsor: European Union (European Social Fund - ESF) and Greek National Strategic Reference Framework (NSRF) called THALES Programme. EUR 596,700. This program is about “Reinforcement of the interdisciplinary and/or inter-institutional research and innovation with the possibility of attracting high standard researchers from abroad through the implementation of basic and applied excellence research”. The GRETIA project creates a comprehensive green transport policy, research and development action plan for Aegean island areas, accounting for the unique characteristics and growth prospects of the area in its multiple dimensions. The project identifies the factors that affect the study area development by defining the requirements of decision makers, investigating individual activity and travel patterns; and exploring island destination choice for tourists. The final product is a policy platform. It includes environmental analysis, travel simulation, and economic analysis.

Principal Investigator. *(April 2012 to September 2014) Business Establishment Spatial Evolution Microsimulation (BESEM).* Sponsor: University of California Transportation Center/CALTRANS. \$44,000. The ultimate objective of this initiative is to create software that is able to replicate the change in location of each business establishment in California as a function of its relationship with other business establishments and the transportation infrastructure connecting all businesses. This is a much needed method to: a) show the spatial correlation between business location (and implicitly jobs) and infrastructure by each business type at a microlevel; and b) compute activity opportunity based accessibility indicators that capture observed changes due to businesses moving into the state, moving out of the state, and relocating from one region to another. Schemata for each business type (medical, retail, legal) will be first developed and tested with real world data using point process statistical models and measures of centrality and clustering. In addition, economic efficiency and relocation behavior is also analyzed to discern patterns of regularity/stability and change. Eventually, models of location/relocation will be developed and used in simulating urban environments. The tasks include data assembly and assessment of quality, testing of spatial statistics models, creation of the simulator framework, and testing.

Principal Investigator (August 2006 to September 2014) *UCTC Transportation Student Fellowships for UCSB. US Department of Transportation - University of California Transportation Center. \$673,000.* This funding is provided for graduate students in the Transportation Emphasis at UCSB and allocated based on merit, study orientation in transportation, and intention to follow a transportation career.

Principal Investigator. (April 2009 to June 2013) *SCAG Activity-based Travel Demand Model Development: Development of Simulator of Activities, Greenhouse (gas) Emissions, Networks, and Travel (SimAGENT). Sponsor: Southern California Association of Governments. Approximately \$1,400,000.* In this project in collaboration with Chandra Bhat from UT Austin and Ram Pendyala from Arizona State University, the requirements of California Senate Bill 375 and the regional transportation modeling guidelines are addressed by developing an activity scheduling model system and insert it into the overall model system of SCAG. The simulator includes population synthesis that recreates the entire resident population of this region, provides locations for residences, workplaces, and schools for each person, estimates car ownership and type as well as main driver for each vehicle, and provides other key personal and household characteristics. Then, a synthetic schedule generator recreates for each resident person in the simulated region a schedule of activities and travel that reflects intra-household activity coordination for a day. These synthetic activity and travel daily schedules are then converted to multiple Origin Destination (OD) matrices at different times in a day. These are in turn combined with other OD matrices (representing truck travel, travel from and to ports and airports, and travel generated outside the region) and assigned to the network in multiple periods in a day. The assignment output is then used in the software EMFAC to produce estimates of fuel consumed and pollutants emitted (including CO₂) by different classes of vehicles. The overall model system also includes provision for finer spatial and temporal resolutions that is pilot tested using TRANSIMS and MATSIM. In addition, spatial allocation (geolocation) techniques are used to assign household to residential parcels and activities to all land parcels in a region. Moreover, testing of second by second vehicle emission estimation using the output of TRANSIMS and CMEM was also successful.

Principal Investigator. (January 2009 to December 2012) *Development of Next Generation Agent-based Simulation. Sponsor: UC Lab Fees Program. UC Office of the President. \$870,000.* In this project, realistic agents are created using observed and reported data from persons and their households including a variety of time use, activity participation, and travel surveys combined with large databases available from public agencies and private companies. Also key is the inclusion of weekly rhythms in the life of people, their interactions with other people within their strongest and most influential social network (i.e., the household), life cycle stages, and people's complex interactions with the built environment. In this project, different modeling techniques are developed, tested, evaluated, and implemented to demonstrate them in applications. This project generated a base suite of tested models, provided core information for many new research proposals, strengthened the GeoTrans laboratory at UCSB, and offered unique opportunities for our graduate students in developing modeling and simulation careers.

Principal Investigator. (April 2010 to June 2013) *California Household Travel Survey Pre-test Design and Management Consultant. Sponsor: Southern California Association of Governments. \$90,000.* In this project Goulias with Dr. Morrison designed a pre-test for the California Household Travel Survey (an approximately 65,000 household survey) and developed a list of data items required for the modeling needs of California to address SB 375 policy questions today and to also prepare for new modeling needs in the

future for large, medium, and small MPOs as well as CALTRANS. Goulias also supervised data collection efforts and analyzed outcomes using quality assurance and control techniques.

Principal Investigator. *(August 2009 to December 2010) Forecasting with Dynamic Microsimulation: Design, Implementation, and Demonstration (Year 22). Sponsor: University of California Transportation Center, \$102,000.* In this project we develop a new travel demand forecasting system that integrates demographic microsimulation with urban simulation and travel demand model systems. The basic ingredients of this new model system are: a) a dynamic demographic simulator designed and tested with repeated observations of the same individuals in another context that will be transferred to a case study in Santa Barbara, CA; b) a modified version of the recently finalized Urbansim model that will also be calibrated with data from Santa Barbara, CA; and c) travel demand models that account for intra-household interactions and path based accessibility that were estimated with data from California. The model system is unique because it combines within a day and across years human behavior dynamics and it will push the frontier of modeling and simulation one step further. A pilot test of land use models was tested in Santa Barbara, CA, and a strategy for next steps was developed.

OTHER COMPLETED RESEARCH PROJECTS

Principal Investigator (May 2008 to October 2009) Doctoral Dissertation Research for Kriste Henson: Travel Determinants and multi-scale transferability of national activity patterns to create synthetic populations. National Science Foundation. NSF/BCS-0752378. \$6,000.

Principal Investigator (September 2008 to July 2009) Group Behavioral Process Identification in the Interaction Between Location Choice and Travel Behavior. US Department of Transportation - University of California Transportation Center. \$39,936.

Principal Investigator (August 2008 to July 2009) UCTC Transportation Student Fellowships for UCSB. US Department of Transportation - University of California Transportation Center. \$100,000.

Principal Investigator (September 2007 to December 2008) Travel Behavior Dynamics in Spatial and Social Dimensions. US Department of Transportation - University of California Transportation Center. \$56,843.

Principal Investigator (September 2007 to July 2008) UCTC Annual Student Conference 2008. US Department of Transportation - University of California Transportation Center. \$24,908.

Principal Investigator (August 2007 to July 2008) UCTC Transportation Student Fellowships for UCSB. US Department of Transportation - University of California Transportation Center. \$80,000.

Principal Investigator (September 2007 to August 2008) Travel Funds for UCSB. US Department of Transportation - University of California Transportation Center. \$5,000.

Principal Investigator (September 2006 to August 2008) Travel Funds for UCSB. US Department of Transportation - University of California Transportation Center. \$5,000.

Principal Investigator (August 2005 to July 2008) A Spatial Analysis of Self-serving and Altruistic Travel Behavior. US Department of Transportation - University of California Transportation Center. \$64,000.

Principal Investigator (May 2007 to June 2008) Determining the Impacts of Active Infrastructure Development on Travel behavior and Physical Activity. Grant for Burbidge Fellowship. \$25,108.

Principal Investigator (August 2006 to July 2007) Eisenhower Fellowship for Shaunna Burbidge. National Highway Institute. US DOT. \$11,500.

Principal Investigator (August 2006 to July 2007) UCTC Transportation Student Fellowships for UCSB. US Department of Transportation - University of California Transportation Center. \$65,000.

Principal Investigator (September 2004 to June 2008). A GIS-based Tool for Forecasting the Travel Demands of Demographic Groups within California - An Optimal Resource Allocation Tool. California Department of Transportation via UC Berkeley California Partners for Advanced Transit and Highways (PATH). \$284,829.

Principal Investigator (July 2005 to January 2006) Space and Time Prisms for Activity Modeling and Microsimulation Peer Exchange. Federal Highway Administration – US Department of Transportation. \$20,000.

Principal Investigator (September 2002 to June 2004) . Mid-Atlantic Universities Transportation Center”, US DOT - RSPA, \$916,300 in 2002-2003 and \$906,000 in 2003-2004 fiscal years. This is a project that started in June 22, 1999 and will end in September 30, 2005. The contract is renewable every year at different amounts depending on yearly budget appropriations that fluctuate between \$800,000 and \$1,000,000 per year.

Principal Investigator (May 2002 to April 2004). CENTRE SIM: A Dynamic and Activity-Based Microsimulation Model for Travel Demand Forecasting and a Centre Country Resident Survey to Support Model Development. MTA and PennDOT, \$284,000 (*equal match from MAUTC in 2002-2003 and in 2003-2004*).

Principal Investigator. ITS Steering Committee Support and ITS Evaluation. Pennsylvania Department of Transportation. \$150,000.

Principal Investigator. Research Cooperation with Socialdata, GmbH, Munich, Germany. Socialdata; \$30,000;

Principal Investigator. Pennsylvania Turnpike Commission Advanced Traveler’s Information System (ATIS) Phase III, Independent Evaluation.” Subcontract with Frederick Harris, Inc. \$160,000.

Principal Investigator. Phase IV-Pennplan. Pennsylvania Department of Transportation. \$100,000.

Principal Investigator. “Intelligent Transportation Systems Evaluation Fellowship Matching”; \$100,000; Mid-Atlantic Universities Transportation Center.

Principal Investigator. Transportation Engineering and Management"; \$100,000; Mid-Atlantic Universities Transportation Center.

Principal Investigator. I-95 Corridor Coalition Field Operation Test #10 Coordinated Safety Management. The I-95 Corridor Coalition, U.S. DOT, and the Pennsylvania Department of Transportation. \$300,000.

Principal Investigator. Statewide Transportation Planning Public Involvement Program (Penn Plan). Pennsylvania Department of Transportation. \$649,604.

Principal Investigator. Transportation Operations Partnership Work Order 5: Developing Pennsylvania's Intelligent Transportation Systems/Commercial Vehicle Operations Business Plan. Pennsylvania Department of Transportation and the Mid-Atlantic Universities Transportation Center. \$95,500.

Conference Director/Principal Investigator. Rural Advanced Technology and Transportation Systems 1998 International Conference. ITS America, U.S. DOT, and the Pennsylvania Department of Transportation. \$40,000.

Principal Investigator. Transportation Operations Partnership Work Order No. 16: Winter Maintenance Survey. Pennsylvania Department of Transportation and the Mid-Atlantic Universities Transportation Center. \$50,000.

Principal Investigator. Transportation Operations Partnership Work Order 17: Statewide Transportation Planning Public Involvement Program Preparation Study (PennPlan Prepare). Pennsylvania Department of Transportation. \$105,078.

Principal Investigator. The Pennsylvania Department of Transportation-Federal Highway Administration-National Institute for Environmental Renewal. Evaluation of Fleet Management System for Hazardous Materials (Tranzit Xpress). \$47,500.

Principal Investigator. James H. Kell & Associates and the Pennsylvania Department of Transportation. Development of Intelligent Transportation Systems for the Scranton/Wilkes-Barre Metropolitan Area. \$43,000.

Principal Investigator. PennDOT/MAUTC Partnership Project Task 34: Access Management Impact Simulation, Phases II and III. \$75,000.

Principal Investigator. PennDOT/MAUTC Partnership Project Task 39: WIM-CAVC Algorithm and Software Development for Data Analysis and Quality Control. \$45,000.

Principal Investigator. Battelle Memorial Institute/FHWA. Weigh-In-Motion Data Collection in PA. \$25,000.

Faculty Associate. Texas A&M University System & Federal Highway Administration. Design Consistency Evaluation Module for the Interactive Highway Safety Design Model. \$177,192.

Faculty Associate. PennDOT/MAUTC Partnership Supplement H: Traffic Engineering Education Program. \$166,751.

Principal Investigator. FHWA- Battelle Memorial Institute. BAT94-016. Analysis of Longitudinal Data from the Puget Sound Transportation Panel (PSTP). \$150,000.

Co-Principal Investigator. FHWA- Battelle Memorial Institute. BAT94-024. Highway Cost Allocation Study. \$200,000.

Principal Investigator. PennDOT/MAUTC Partnership Project Task 21: Geographic Information Systems Training and Technical Support, \$40,000.

Principal Investigator. PennDOT/MAUTC Partnership Supplement E: Automatic Traffic Data Collection System Modernization. \$39,955.

Principal Investigator. PennDOT/MAUTC Partnership Project Task 15: Access Management/Impact Simulation (AMIS). \$121,593.

Principal Investigator. Puget Sound Regional Council and Mid-Atlantic University Transportation Center. "Analysis of the First Two Waves of the Puget Sound Transportation Panel: Panel Attrition, Residential Location, Mode Switching, and Panel-Based Forecasting" \$38,281.

Principal Investigator. Centre Region Planning Commission. Centre Regional Transportation Demand Management Plan. \$71,367.

Principal Investigator. Pennsylvania Department of Transportation, Local Right-Of-Way Preservation Program - Project Task 7. \$103,076.

Principal Investigator. Pennsylvania Low Emissions Vehicle Commission. LEV Program Technical Support. \$40,000.

Principal Investigator. Pennsylvania Department of Transportation, EVIPAS Training Program - PennDOT Safety and Congestion Work Order No. 3. \$31,135.

Faculty Associate. Pennsylvania Department of Transportation. Developing an AVCS Research Program to Improve Safety on Rural Roadways. \$74,473.

Faculty Associate. Pennsylvania Department of Transportation, Access Management Guidelines - PennDOT Safety and Congestion Work Order No. 7. \$41,315.

Faculty Associate. Pennsylvania Department of Transportation, Congestion Management Summit - PennDOT Safety and Congestion Work Order No. 4. \$15,000 .

Principal Investigator. Transportation Analysis of Travel Routes from the Centre County Solid Waste Authority to Six Different Sites in Pennsylvania. \$5,583.

Principal Investigator. Transportation and Air Quality Modelling (TAQM). MAUTC internal project. \$8,500.

Presentations

1. Goulias K.G. (2022) Spatial Analysis of Trade and Shipping, Examples from the United States & Beyond. Invited 2-hour Lecture at the University of the Aegean Masters of Business Administration in Shipping, May 12. (Presenter Goulias by synchronous teleconferencing)
2. Xiao, J. and K.G. Goulias (2022) How Public Interest and Concerns about Autonomous Vehicles Change over Time: A study of repeated cross sectional travel survey data of the Puget Sound Region in the Northwest United States. American Association of Geographers Annual Meeting February 25-March 1. (Presenter by teleconference: Xiao)
3. Su, R, Dodge, S. and K.G. Goulias (2022) Understanding the Impact of Temporal Scale on Human Movement Analytics. American Association of Geographers Annual Meeting February 25-March 1. (Presenter by teleconference: Su)
4. Shi, H., Su, R., Xiao J. and K.G. Goulias (2022) Spatial Clustering of Activity-Travel Fragmentation in California. American Association of Geographers Annual Meeting February 25-March 1. (Presenter by teleconference: Shi).
5. Xiao J. and K. G. Goulias (2022) Perceived Usefulness and Intentions to Adopt Autonomous Vehicles. 101st Annual Transportation Research Board Meeting. January 9-13, Washington D.C. (Poster presentation by teleconference: Xiao)
6. Su, R., Dodge, S., & Goulias, K. (2021). A time-geographic approach to quantify the duration of interaction in movement data. *1st ACM SIGSPATIAL International Workshop on Animal Movement Ecology and Human Mobility, November* (Presenter by teleconference: Su). Also received the **Best Paper Award**.
7. Goulias K. G. (2021) Exploring the Roles of Location and Transportation Provision on Business Establishment Formation, Dissolution, and Relocation. Invited Presentation at the Center for Spatial Business University of Redlands, School of Business, October 13, 2021. (Presenter Goulias by synchronous teleconferencing). <https://www.youtube.com/watch?v=Ybk8A355kvY>
8. Goulias K.G. (2021) Spatial analysis with network tools and examples from freight flow analysis. Invited Presentation at the Chaire Mobilite Colloque Annuel 2021 Polytechnique Montreal, Canada.(Presenter: Goulias by synchronous teleconferencing).
9. Goulias K.G. (2021) Activity-based Models for Travel Demand Forecasting (Simulator of Activities, Greenhouse Gas Emissions, Networks, & Travel – SimAGENT). Invited 1 hour seminar at the University College London, April 27. (Presenter Goulias by synchronous teleconferencing)

10. Goulias K.G. (2021) Spatial Analysis of Trade and Shipping, Examples from the United States & Beyond. Invited 3-hour Lecture at the University of the Aegean Masters of Business Administration in Shipping, April 22. (Presenter Goulias by synchronous teleconferencing)
11. Su R., K.G. Goulias, E.C. McBride, and Xiao J. (2021) Unveiling the taxonomy of daily travel and time use patterns using human mobility motifs and sequence analysis. American Association of Geographers Annual Meeting, April 7-11. (Presenter by teleconference: Su)
12. Su R. and K.G. Goulias (2021) An Exploration of human mobility motifs in the California component of the 2017 National Household Travel survey. hEART. 9th Symposium of the European Association for Research in Transportation, February 3-4, 2021(originally in 2020). (Presenter by teleconference: Su)
13. Su R., E.C. McBride, and K.G. Goulias (2021) Pattern Recognition of Daily Activity Patterns Using Human Mobility Motifs and Sequence Analysis. Poster Presentation and Webinar at the 100th Annual Transportation Research Board Meeting Online (Presenter: Su).
14. Su R., E.C. McBride, and K.G. Goulias (2021) Unveiling Daily Activity Pattern Differences between Telecommuters and Commuters Using Human Mobility Motifs and Sequence Analysis. Poster Presentation and Webinar at the 100th Annual Transportation Research Board Meeting Online (Presenter: Su).
15. Goulias K.G. (2020) Taxonomy of Daily Travel and Time Use Patterns Using Sequence Analysis to Explore Schedule Fragmentation and Gender Roles. Invited Presentation at the University of Southern California METTRANS, Sep. 24. Sponsored by the Pacific Southwest Region University Transportation Center (PSR) and the TRB Standing Committee AME20, Women and Gender in Transportation, and AEP30 Travel Behavior and Values (<https://youtu.be/UFBN40rsGkM>)
16. Xiao J. and K. G. Goulias (2020) Exploring the Correlations Between Individuals' Attitudes Towards Autonomous Vehicles, Daily Activity-travel Patterns, and Demographics. 3rd Symposium on Management of Future Motorway and Urban Traffic Systems (MFTS20) July 6-8, 2020. (Presenter Jingyi Xiao by video recording, Goulias in post presentation panel).
17. Goulias K.G. (2020) Impacts in the Life of Angelenos of COVID-19: Evidence from 1000 Participants in the GeoTrans May 2020 Survey. Invited Presentation at the Chaire Mobilite Colloque Annuel 2020 Polytechnique Montreal, Canada. (Presenter: Goulias by teleconferencing)
18. Goulias K.G. (2020) Impacts in the Life of Angelenos of COVID-19: Evidence from 1000 Participants in the GeoTrans May 2020 Survey. Same presentation as above delivered to: UCSB's Interdisciplinary Research Centers, NOVIM, and Cottage Health seminar series on: Issues, Approaches, and Consequences of the COVID-19 Crisis. (Presenter: Goulias by teleconferencing)
19. Goulias K.G.(2020) Life Cycle Stages, Daily Contacts, and Activity-Travel Time Allocation for the Benefit of Self and Others. T h i n k S p a t i a l The UCSB brown-bag forum on spatial thinking. April 28, UCSB

20. Ravulaparthi S. and K. G. Goulias (2020) Activity Time-Use Patterns and Experienced Satisfaction: Travel Behavioral Dynamics from the 2010–2013 American Time-Use Survey Data. Presentation at the 99th Annual Meeting of the Transportation Research Board, January 2020, Washington, D.C.(Presenter: Ravulaparthi)
21. McBride E.C., A.W. Davis, and K.G. Goulias (2020) An Exploration of Statewide Fragmentation of Activity and Travel and a Taxonomy of Daily Time Use Patterns Using Sequence Analysis in California. Presentation at the 99th Annual Meeting of the Transportation Research Board, January 2020, Washington, D.C. (Presenter: Davis)
22. Goulias K.G., E.C. McBride, and A.W. Davis (2020) Moral Utility in Daily Time Allocation to Activities and Travel. Presentation at the 99th Annual Meeting of the Transportation Research Board, January 2020, Washington, D.C. (Presenter: Goulias)
23. Goulias K.G., E.C. McBride, and A.W. Davis (2019) Sequences, Daily Schedule of Activities, and Fragmentation. Presentation at the hEART. 8th Symposium of the European Association for Research in Transportation, September 4-6, 2019. (Presenter: Goulias)
24. Goulias K.G., A.W. Davis, and E.C. McBride (2019) Multidimensional Moral Utility in Daily Time Allocation. Presentation at the International Choice Modelling Conference, Kobe, Japan (Presenter: Goulias)
25. Goulias K. G. (2019) Activity-Travel GeoSimulation for Smart City Planning, Design, and Operations. Invited plenary presentation at the Spatial Data for Smarter Cities, spatial@ucsb.local2019, UCSB, Santa Barbara, CA. (Presenter Goulias)
26. Goulias K. G. (2019) Forecasting Challenges in Smart Cities and Automated-Connected Transport Planning and Modeling. Invited Presentation at the Chaire Mobilite Colloque Annuel 2019 Polytechnique Montreal, Canada. (Presenter Goulias).
27. Goulias K. G. (2019) Contemporary Automated & Connected Technology Forecasting Challenges. Invited Plenary Keynote. Modelling and Policy Analysis Tools to Explore the Future of Autonomous and Connected Transport (ACT) WISE-ACT Training School 2019. European Cooperation of Science and Technology, 26th – 28th March 2019, Technion, Haifa, Israel (Presenter Goulias).
28. Chaniotakis E., A.W. Davis, G. Aifadopoulou, C. Antoniou, and K. G. Goulias (2019) A Latent Class Cluster Comparison of Travel Behavior Between Thessaloniki in Greece and San Diego in California. Presentation at the 98th Annual Meeting of the Transportation Research Board, January 2019, Washington, D.C. (Presenter: Chaniotakis).
29. McBride E.C., A.W. Davis, and K.G. Goulias (2019) *Fragmentation in Daily Schedule of Activities using Activity Sequences*. Presentation at the 98th Annual Meeting of the Transportation Research Board, January 2019, Washington, D.C. (Presenter: Goulias).

30. Goulias K. G.(2018) Three Challenges in Transportation (Modeling & Simulation). Invited Presentation at IOT Panel. The 8th International Conference on the Internet of Things (IOT 2018), October 15-18, 2018, Santa Barbara, CA. (Presenter Goulias).
31. Goulias K.G. (2018) Objective and Subjective Built Environment Correlates of Activity and Travel Behavior. Invited Presentation at the Research Group on Innovation in Integrated Built Environments. Sonny Astani Civil and Environmental Engineering Department, University of Southern California, Los Angeles, CA. (Presenter: Goulias via Teleconferencing).
32. Goulias K.G. (2018) Environmental correlates of activity and travel behavior. Invited Plenary Keynote. European Association for Research in Transportation, hEART 2018, September 5-7, National Technical University of Athens, Greece.
33. Last C., A. W. Davis, and K. G. Goulias (2018) A Multilevel Analysis of Opportunity-Based Accessibility of Different Ethnic Groups in Los Angeles. IATBR 2018, Santa Barbara, CA (Presenter: Last)
34. Burtner S., A. W. Davis, and K. G. Goulias (2018) Sentiment Analysis of Generation Z Perceptions toward Self-Driving Cars. IATBR 2018, Santa Barbara, CA (Presenter: Burtner)
35. McBride, A. W. Davis, and K. G. Goulias (2018) An Analysis of Activity and Travel Fragmentation among Disadvantaged Groups. IATBR 2018, Santa Barbara, CA (Presenter: McBride)
36. Davis AW., E. C. McBride, and K. G. Goulias (2018) Destination Attractiveness and Neighborhood Identification: Case Studies in California. IATBR 2018, Santa Barbara, CA (Presenter: Davis)
37. Lee J. H. and K. G. Goulias (2017) A Decade of Dynamics of Residential Location, Car Ownership, Activity, Travel and Land Use in the Seattle Metropolitan Region. Paper Presentation at the 22nd International Symposium on Transportation and Traffic Theory, Evanston, Illinois, July 25. (Presenter: Goulias)
38. Goulias K. G., Adam W. Davis, and E. C. McBride (2017) Experiments with Semantic and Sentiment Analysis of Generation Z Reports About Smart Cities and Automation. Invited Presentation at the Czech Technical University (CVUT) Smart Cities Symposium Prague 2017, Prague, May 25. (Presenter: Goulias)
39. Goulias K.G. (2017) Design & Implementation of a Simulator of Activities, Greenhouse Gas Emissions, Networks, & Travel. Invited Presentation at the Qatar Ministry of Transport and Communication and ItalConsult, Doha, Qatar, May 15.
40. Lee J. H. and K. G. Goulias (2017) A Decade of Dynamics of Residential Location, Car Ownership, Activity, Travel and Land Use in the Seattle Metropolitan Region. Invited presentation at the Mobility Chair (Colloque Annuel de la Chaire Mobilité). May 2, École Polytechnique de Montréal, Montreal, Canada. (Presenter: Goulias)

41. Lee J.H. A.W. Davis, E. McBride, and K.G. Goulias (2017) Exploring Social Media Data for Travel Demand Analysis: A comparison of Twitter, household travel survey and synthetic population data in California. Paper presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., January 8-12, 2017. (Presenter: Lee)
42. Lee J.H. A.W. Davis, S.Y. Yoon, and K.G. Goulias (2017) Exploring Daily Rhythms of Interpersonal Contacts: Time of day dynamics of human interactions using latent class cluster analysis. Paper presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., January 8-12, 2017. (Presenter: Lee)
43. McBride E., A.W. Davis, J.H. Lee, and K.G. Goulias (2017) Incorporating Land Use in Synthetic Population Generation Methods and Transfer of Behavioral Data. Paper presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., January 8-12, 2017. (Presenter: McBride)
44. Ravulaparthi S. , K.C. Konduri, and K.G. Goulias (2017) Exploring the role of activity time-use frontiers on emotional well-being: an evidence from disability and use of time survey. Paper presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., January 8-12, 2017. (Presenter: Ravulaparthi)
45. Lee J. H., A.W. Davis, S. Y. Yoon, and K.G. Goulias (2016) Exploring the Relationship Between Urban Spatial Structure and Individual Activity Spaces. Invited presentation at the *International Symposium on ICT, Activities, Time Use and Travel*, July 15-18, 2016, Nanjing University, China. (Presenter: Goulias)
46. Goulias K. G., E. McBride, J.H Lee, and A W. Davis (2016) Longitudinal Analysis of the Dynamics of Car Ownership and Travel in the Seattle Metropolitan Region. Paper presented at the 14th World Conference on Transport Research 10-15 July 2016, Shanghai, China. (Presenter: Goulias)
47. Goulias K. G. (2016) Design & Implementation of a Simulator of Activities, Greenhouse Gas Emissions, Networks, & Travel. Invited Presentation at the *Executive Course Activity-Based Modeling of Spatial and Temporal Patterns of Human Travel Behaviour* organized by Center for Transportation Research, The University of Texas Austin and Tongji University, July 9-10, Shanghai, China.
48. Goulias K. G. (2016) Measures of Opportunity-based Spatio-temporal Accessibility. Invited Presentation at the *Executive Course Activity-Based Modeling of Spatial and Temporal Patterns of Human Travel Behaviour* organized by Center for Transportation Research, The University of Texas Austin and Tongji University, Shanghai, July 9-10.
49. Goulias K. G. (2016) Data and Analytics for Activity Modeling of Place Perception, Attractiveness, Meaning & Relationship to Activity & Travel. Invited Presentation at the *Executive Course Activity-Based Modeling of Spatial and Temporal Patterns of Human Travel Behaviour* organized by Center for Transportation Research, The University of Texas Austin and Tongji University, Shanghai, July 9-10.

50. Goulias, K. G., J. H. Lee, A. W. Davis, E. McBride (2016) Building a Statewide Origin-Destination Matrix in California Using Social Media Data: Lessons Learned. Invited Presentation at the *University of Cyprus - Summer school 2016 - Big data, mobility patterns and transport analytics*. June 3, Nicosia, Cyprus. (Presenter: Goulias)
51. Goulias, K. G., J. H. Lee, A. W. Davis, E. McBride (2016) Activity Space Estimation with Longitudinal Observations of Social Media Data. Invited Presentation at the *University of Cyprus - Summer school 2016 - Big data, mobility patterns and transport analytics*. June 3, Nicosia, Cyprus. (Presenter: Goulias).
52. Goulias, K.G. (2016) Design & Implementation of a Simulator of Activities, Greenhouse Gas Emissions, Networks, & Travel. Invited Presentation at *the Course on Sustainable Green Infrastructure for the Urban Environment* organized by the Polytechnic University of Turin (*Politecnico di Torino*) and the University of Maryland, June 31st, 2016. Turin, Italy.
53. Goulias K. G. (2016) Life Styles, Life Cycle Stages, Time Use and Travel. Invited Presentation at the Czech Technical University (CVUT) & University of Maryland *International Project Oriented Workshop on SMART Cities 2016*, Prague May 25.
54. Goulias K. G., A. W. Davis, and J. H. Lee (2016) Potential Data Sources for Tourism Research in California. Keynote Presentation at US and Japan Joint Seminar on Long Distance Travel and Tourism Related Activity Patterns. Santa Barbara, CA, March 15. (presenters: Goulias & Davis).
55. Lee J. H., A. W. Davis, S. Y. Yoon, and K. G. Goulias (2016) Activity Space Estimation with Longitudinal Observations of Social Media Data. Paper 16-0070 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Lee).
56. Tsouros I., K. G. Goulias, A. Polydoropoulou, and A. Tsirimpa (2016) Rhythms in Urban and Island Areas: Does Lifestyle Affect Daily Dynamics? Paper 16-2667 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Polydoropoulou).
57. McBride E., J.H. Lee, A. Lundberg, A. W. Davis, and K.G.Goulias (2016) Behavioral Microdynamics of Car Ownership and Travel in the Seattle Metropolitan Region from 1989 to 2002. Paper 16-0068 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: McBride).
58. Davis A. W., J.H. Lee, and K.G. Goulias (2016) Taking Place Perception into Travel Behavior Research. Paper 16-0065 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Davis).
59. Ravulaparthi S. K. and K.G. Goulias (2016) Exploring the Role of Location in Dynamics of Birth and Death of Business Establishments: Case Study Analysis of Santa Barbara County, California. Paper 16-2322 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Ravulaparthi).

60. Ravulaparthi S. K., K. Konduri, and K.G. Goulias (2016) Fundamental Linkages Between Activity Time-Use and Subjective Well-Being for Elderly Population: A Joint Exploratory Analysis Framework for In-Home and Out-Of-Home Activities. Paper 16-4236 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Ravulaparthi).
61. Lee J. H., S. Gao, and K. G. Goulias (2016) Can Twitter Data be Used to Validate Travel Demand Models? Paper 16-0069 presented at the Transportation Research Board TRB 95th Annual Meeting, Washington D.C., January 10-14. (presenter: Lee).
62. Goulias K. G. (2015) The Southern California Simulator of Activities, Greenhouse Gas Emissions, Networks, and Travel (SimAGENT). Invited Lecture at the Postgraduate Course on ΔΕΔΟΜΕΝΑ, ΜΟΝΤΕΛΑ ΚΑΙ ΛΗΨΗ ΑΠΟΦΑΣΕΩΝ (Data, Models, and Decision Making). University of the Aegean, Chios, Greece, December 17. (presentation in Greek)
63. Goulias K.G. (2015) Measurement of Sense of Place. Invited Lecture and round table panel discussion at the University of Piraeus Public Consultation GreTIA event of November 30, Piraeus, Greece, November 30. (presentation in Greek).
64. Goulias K.G. (2015) Part 1: Large Scale Simulation; Part 2: Business Establishment Dynamics; Part 3: Place Perception. Invited Lectures at the Mediterranean Institute for Risk, Environment and Sustainable Development (IMREDD a center of University of Nice Sophia Antipolis and Centre National De La Recherche Scientifique), Nice, France, November 27.
65. Ravulaparthi S. K., I. Tsouros, and Goulias K.G. (2015) Locational Determinants of Birth and Death of Business Establishments and their Relationship to Highway Networks. Paper presented at the 7th International Congress on Transportation Research, Athens, Greece, November 5-6. (Presenter: Goulias).
66. Tsouros, I., A. Polydoropoulou, K. G. Goulias, A. Tsirimpa (2015). Rhythms in Urban and Island Areas. Paper presented at the 7th International Congress on Transportation Research, Athens, Greece, November 5-6. (Presenter: Tsouros).
67. Tsouros, I., A. Polydoropoulou, K. G. Goulias (2015). GPS Data Collection for Active Transport Modes and Design of Real Life Experiments. Paper presented at the 7th International Congress on Transportation Research, Athens, Greece, November 5-6. (Presenter: Tsouros).
68. Goulias K.G. (2015) Business Formation, Survival and Success as a Function of Urban Network Location and Transportation Infrastructure Provision. Invited Keynote Talk at the 4th International Conference on Civil Engineering and Urban Planning, Beijing, China, October 20-23.
69. Goulias K.G., A. W. Davis, and J.H. Lee (2015) Developing Mental Maps Using Sense of Place and Place Perception Survey Data, Social Media Place Happiness Information, and Objectively Measurable Attributes of Places. 1st International Conference on Experiential Tourism, Santorini, Greece, October 8-11, 2015 (presenter: Goulias).

70. Goulias K.G., A. Polydoropoulou, I. Tsouros, and J.H. Lee (2015) Green Transport in the Island Areas: Measurement of Sense of Place and Comparison with Social Media Data in a Greek Island (poster). 1st International Conference on Experiential Tourism, Santorini, Greece, October 8-11, 2015 (presenter: Goulias).
71. Goulias K. G. (2015) Lifestyle, Lifecycle, Time Use, and Travel: A Framework and Empirical Evidence of Roles in Social Fields. Invited Lecture at the European Transport Conference 2015, Frankfurt, Germany, September 28-30.
72. McBride E., J. H. Lee, A. W. Davis, and K.G. Goulias (2015) Behavioral micro-dynamics of car ownership, activity and travel in the Seattle metropolitan region from 1989 to 2002. 4th symposium of the European Association for Research in Transportation (hEART 2015), Lingby (Denmark), September 9-11, 2015 (presenter: McBride).
73. Goulias K.G., J.H. Lee, E. McBride, A. W. Davis, A. Lundberg (2015) Household Behavioral Dynamics and Behavioral Triggers. XIX European Colloquium on Theoretical and Quantitative Geography (ECTQG2015), Bari (Italy), 3-7 September 2015 (presenter: Goulias)
74. Goulias K. G. and S. K. Ravulaparthi (2015) Business Establishment Survival Dependence on Transportation Network Structure, Firm Characteristics, Market Size, Agglomeration, and Accessibility. XIX European Colloquium on Theoretical and Quantitative Geography (ECTQG2015), Bari (Italy), 3-7 September 2015 (presenter: Goulias)
75. Lee J.H. and K.G. Goulias (2015) Examining differences and commonalities of life cycle stages in daily contacts, activity participation, and travel time allocation. 37th IATUR Conference on Time Use Research, Ankara (Turkey), August 5-7, 2015. (presenter: Goulias)
76. Goulias K. G. (2015) An Overview of GeoSimulation for Smart City Planning, Design, and Operations. Invited Lecture and round table discussion at the Smart Cities - Smart Islands Workshop, University of the Aegean, Chios, Greece, July 29.
77. Goulias K. G. (2015) Choice Context in Travel Behavior Models. Invited presentation for Workshop B: Life-oriented Approach for Transportation Studies. 14th International Conference on Travel Behaviour Research, Windsor 19-23, July.
78. Lee J. H. and K. G. Goulias (2015) Companionship and Time Investment in Social Fields at Different Life Cycle Stages: Implications for Activity and Travel Modeling and Simulation. Paper presented in Frontiers in Transportation 2015 workshop, Beaumont Estate, Windsor, July 24, 2015 (presenter: Lee).
79. Lee J., Davis A. W., and K. G. Goulias (2015) Triggers of Behavioral Change. Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July (presenter: Goulias).

80. Lee J., S. Gao, and K. G. Goulias (2015) Can Twitter data be used to validate travel demand models? Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July. (presenter: Lee)
81. Davis A. W., J. H. Lee, K. Deutsch-Burgner, E. McBride, K.G. Goulias (2015) Perception and Reality: Linking Metrics of Place Perception to Measurable Attributes of Place Using Cross-Classified SEM Analysis. Paper presented the 14th International Conference on Travel Behaviour Research, Windsor 19-23, July. (presenter: Davis)
82. Goulias K.G., J. H. Lee, and A. W. Davis (2016) Triggers of Behavioral Change: Conceptual Framework and Empirical Analysis. Invited presentation at the Workshop on Activity-Travel Behavior Dynamics. A new era in activity-travel behaviour dynamics: innovations in theory, methods and data. July 10, Delft University of Technology (TU Delft), Delft, The Netherlands. (presenter: Goulias)
83. Goulias K.G. (2015) An Overview of GeoSimulation for Smart City Planning, Design, and Operations. Invited Lecture at the Smart Cities Symposium Prague 2015. Faculty of Transportation Sciences, June 24 - 25, 2015, Prague, Czech Republic.
84. Goulias K.G. (2015) Design and Implementation of a Simulator of Activities, Greenhouse Gas Emissions, Networks, and Travel (SimAGENT) in Southern California. *International Conference on Foresight*. June 22-24, Athens, Greece.
85. Goulias K. G. (2015) Internal and External Triggers of Household Travel Behavior Change. Invited presentation at the Chaire Mobilite - 5e colloque annuel. May 26, 2015, École Polytechnique de Montréal, Montreal, Canada.
86. Goulias K.G. (2015) Place Perception, Attractiveness, Meaning and Relationship to Activity and Travel: Three case studies of different scales from Santa Barbara, California. *Invited seminar at the Northwestern University Transportation Center*. April 23, 2015, Evanston, Illinois.
87. Lee J. H., A.W. Davis, and K.G. Goulias (2015) Investigating the Relationship between Sense of Place, Subjective Well-Being, and Travel Behavior. *Presentation at the Association of American Geographers Annual Meeting, April 21-25, 2015. Chicago, Illinois. (presenter: Lee)*
88. Goulias K. G. (2015) Longitudinal Analysis of the Dynamics of Car Ownership and Travel in the Seattle Metropolitan Region. *Invited seminar at the Department of Civil and Materials Engineering, University of Illinois at Chicago*. April 20, 2015.
89. Davis A.W., and J.H. Lee, and K.G. Goulias (2015) Analyzing Bay Area Bikeshare Usage in Space and Time. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Davis).
90. Lee J. H., A.W. Davis, and K.G. Goulias (2015) Exploratory Analysis of Relationships Among Long-Distance Travel, Sense of Place, and Subjective Well-being of College Students. Paper

presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Lee).

91. Goulias K.G., J.H.Lee, and A.W. Davis (2015) Longitudinal Mixed Markov Latent Class Analysis of the 1989 to 2002 Puget Sound Transportation Panel. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Goulias).
92. Ravulaparthi S. and K. G. Goulias (2015) Exploring Locational Influences on Technical Efficiency of Business Establishments in Santa Barbara County Using Stochastic Frontier Modeling Framework. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Ravulaparthi).
93. Lee J.H. and K.G. Goulias (2015) Examining Differences and Commonalities of Life Cycle Stages in Daily Contacts and Activity-Travel Time Allocation. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Lee).
94. Deutsch-Burgner K.E. and K.G. Goulias (2015) Measuring Heterogeneity in Spatial Perception for Activity and Travel Behavior Modeling. Paper presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Deutsch-Burgner).
95. Ravulaparthi S. and K. G. Goulias (2015) A Note on Experimentation and Evaluation of Online Real Estate Databases of Residential Prices in Land-use Models. Presentation at the Workshop Emerging Data Technology and Analytic Frontiers in Integrated Land-Use and Transport Modeling presentation at the *94th Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 11-15, 2015. (Presenter: Ravulaparthi)
96. Goulias, K. G. (2014) Large-Scale Travel Demand Forecasting and Inclusion of Spatial and Placial Determinants. Invited Keynote Speech. 3rd International Conference on Civil Engineering and Urban Planning (CEUP 2014), June 20-22, Wuhan, China.
97. Goulias K. G. (2014) Built Environment Representation in Activity-based Travel Demand Forecasting Models. Invited presentation at the Chaire Mobilite - 4e colloque annuel. May 13, 2014, École Polytechnique de Montréal. Montreal, Canada.
98. Goulias, K. G. (2014) Representing the Objective and Subjective Dynamics of Opportunities in Urban and Regional Simulations. Invited Lecture the School of Sustainable Engineering and the Built Environment, Ira A. Fulton Schools of Engineering, Arizona State University. Tempe, February 26, 2014.
99. Deutsch, K.E., Ravulaparthi, S. K., and K.G. Goulias (2014) Place Happiness: It's Constituents and the Influence of Emotions and Subjective Importance on Activity Type and Destination Choice. Paper accepted for presentation at the *93rd Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 12-16, 2014, and publication in *Transportation*. (Presenter: Deutsch).

100. Ravulaparthi, S.K., and K.G. Goulias (2014) Characterizing the Composition of Economic Activities in Central Locations: A Graph-Theoretic Approach to Urban Network Analysis. Paper accepted for presentation at the *93rd Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 12-16, 2014, and considered for publication in the *Transportation Research Record: Journal of the Transportation Research Board*. (Presenter: Ravulaparthi).
101. Isbell, N. A., and K.G. Goulias (2014) Modeling Second-by-Second Traffic Emissions in a Mega-Region. Paper accepted for presentation at the *93rd Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 12-16, 2014. (Presenter: N. Isbell).
102. Chen, Y. Goulias K. G., C. R., Bhat, and R.M. Pendyala (2014) Residential Geolocation of Households in a Large-Scale Activity-based Microsimulation Model and Development of a High Definition Spatial Distribution of Vehicle Miles Traveled. Paper accepted for presentation at the *93rd Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 12-16, 2014. (Presenter: Goulias)
103. Goulias K. G., S. Ravulaparthi, K. Konduri, and R.M. Pendyala (2014) Using Synthetic Population Generation to Replace Sample and Expansion Weights in Household Surveys for Small Area Estimation of Population Parameters. Paper also accepted for presentation at the *93rd Annual Meeting of the Transportation Research Board, Washington, D.C.*, January 12-16, 2014. (Presenter: Goulias).
104. Goulias K.G. (2013) New Generation Large Scale Activity Microsimulation Models (SimAGENT) & Data Needs. Invited Keynote Lecture at the University of Tokyo Summer School, September 21, 2013, Tokyo, Japan.
105. Goulias K.G. (2013) GIS Analytics and New Service Possibilities. Invited Lecture at Nissan Research Center, September 20, 2013, Atsugi, Japan.
106. Goulias K.G. (2013) Activity-Travel Happiness and Related Ideas. Invited Presentation at Infrastructure Division of the Korea Research Institute for Human Settlements (KRIHS). August 7, 2013. Anyang-si, Gyeonggi-do, Korea.
107. Goulias K.G. (2013) New Generation Large Scale Activity Microsimulation Models (SimAGENT) and Data Needs. Invited international seminar on activity-based simulation models for promotion of transportation policy effectiveness: present roles and future directions. August 6, 2013. Korea Research Institute for Human Settlements (KRIHS), Anyang-si, Gyeonggi-do, Korea.
108. Polydoropoulou, A., J.A. Paravantis, E. Sambracos, K. G. Goulias, A. Tzavali, A. Papatheodorou, A. Kotrikla, S. Kapros, N. Litinas, A. Tsirimpa, and K. Glyptou (2013) Expert Opinions for Promoting Green Transport in the Islands. Presentation at the 13th World Conference on Transport Research. July 15-18, 2013. Rio de Janeiro, Brazil. (Presenter: Polydoropoulou).
109. Kamargianni M., A. Polydoropoulou, K.G. Goulias and K. Kamargiannis (2013) To Walk or not to Walk? Teenagers' Travel Behavior and Perceptions Towards Walkability Constraints. Presentation

- at the 13th World Conference on Transport Research. July 15-18, 2013. Rio de Janeiro, Brazil. (Presenter: Polydoropoulou).
110. Goulias K.G. (2013) Quality of Life, Subjective Well-Being, Activity-Travel, and Urban Design. Invited presentation at the STT CAMP 2013: Shipping & Transport Markets and Business Perspectives. June 10-15, 2013. University of the Aegean, Chios, Greece.
 111. Goulias K.G. (2013) New Generation Large Scale Activity Microsimulation Models (SimAGENT) and Data Needs. Invited presentation at the STT CAMP 2013: Shipping & Transport Markets and Business Perspectives. June 10-15, 2013, University of the Aegean, Chios, Greece.
 112. Goulias K.G. (2013) Quality of Life and Activity-Travel Behavior: Conceptual Framework, Empirical Findings, and Possible Experimental Designs. Invited presentation at the 3rd Colloque Annuel de la Chaire Mobilite. Ecole Polytechnique de Montreal, May 13, 2013. Montreal, Canada.
 113. Deutsch K.E. and K.G. Goulias (2013) Modeling Travel Decisions: Including the Impact of Place Attitudes on Destination Choice. Association of American Geographers Annual Meeting, April 9-13, 2013. Los Angeles, CA. (Presenter: Deutsch)
 114. Lee, J. and K.G. Goulias (2013) Exploring the Relationship between Activity Types and the Types of Business Establishments. Association of American Geographers Annual Meeting Los Angeles, CA. April 9-13, 2013. (Presenter: Lee)
 115. Goulias K. G., S. K. Ravulaparthi, and A. Polydoropoulou (2013) An Exploratory Analysis on the Time-of-Day Dynamics of Episodic Hedonic Value of Activities and Travel. Paper 13-0521 presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 13-17, 2013. (Presenter: Goulias)
 116. Ravulaparthi S.K., S.Y. Yoon, and K.G. Goulias (2013) Linking Elderly Transport Mobility and Subjective Well-being: Multivariate Latent Modeling Approach. Paper 13-1242 presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 13-17, 2013. (Presenter: Ravulaparthi)
 117. Paleti R., C.R. Bhat, R.M. Pendyala, and K. G. Goulias (2013) The Modeling of Household Vehicle Type Choice Accommodating Spatial Dependence Effects. Paper 13-3920 presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 13-17, 2013. (Presenter: Paleti).
 118. Deutsch K. and K. G. Goulias (2013) Decision Makers and Socializers, Social Networks, and the Role of Individuals as Participants. Paper 13-4387 presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 13-17, 2013. (Presenter: Deutsch)
 119. Tang D., S.K. Ravulaparthi, and K. G. Goulias (2013) Geolocating Activities to Business Establishment Locations Using Time-Dependent Activity Assignment for Travel Demand Modeling. Paper 13-4455 presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 13-17, 2013. (Presenter: Goulias)

120. Goulias K.G. (2012) New Generation Large Scale Activity Microsimulation Models (SimAGENT) and Data Needs. Invited presentation at the Aegean Summer Training in Transport. Competitiveness, Assessment, and Management Policies. University of the Aegean, Chios, Greece, August 24 - September 2, 2012.
121. Polydoropoulou A., K.G. Goulias, and A. Rahman (2012) Green Policies and Examples. Aegean Summer Training in Transport. Competitiveness, Assessment, and Management Policies. University of the Aegean, Chios, Greece, August 24 - September 2, 2012. (Presenter: Polydoropoulou)
122. K.G. Goulias, S.K. Ravulaparthi, A. Polydoropoulou, and S. Yoon (2012) An Exploratory Analysis on the Time-of-Day Dynamics of Episodic Hedonic Value of Activities and Travel. 13th International Conference on Travel Behavior Research organized by International Association for Travel Behavior Research (IATBR), Toronto, CA. July 15-20, 2012. (Presenter: Goulias).
123. Yoon S., S.K. Ravulaparthi, and K.G. Goulias (2012) Dynamic Diurnal Social Taxonomy of Urban Environments. 13th International Conference on Travel Behavior Research organized by International Association for Travel Behavior Research (IATBR), Toronto, CA. July 15-20, 2012. (Presenter: Yoon).
124. Deutsch, K.E. G. McKenzie, and K.G. Goulias (2012) Examining The Use Of Smartphones For Travel Behavior Data Collection. 13th International Conference on Travel Behavior Research organized by International Association for Travel Behavior Research (IATBR), Toronto, CA. July 15-20, 2012. (Presenter: Deutsch)
125. Ravulaparthi, S.K., S. Yoon, and K.G. Goulias (2012) Linking Elderly Transport Mobility and Subjective Well-Being: A Multivariate Latent Modeling Approach. 13th International Conference on Travel Behavior Research organized by International Association for Travel Behavior Research (IATBR), Toronto, CA. July 15-20, 2012. (Presenter: Ravulaparthi)
126. Goulias K. G. Curriculum for Transportation Profession (2012) Presentation at the Curriculum Workshop. 13th International Conference on Travel Behavior Research organized by International Association for Travel Behavior Research (IATBR), Toronto, CA. July 15-20, 2012.
127. Goulias K. G. Activity-Based Approaches to Travel Demand Modeling and Forecasting (Part 1: General Ideas). Lecture-Presentation at Transportation Systems Course at the University of the Aegean, Chios Greece. June 11-12, 2012.
128. Goulias K. G. Activity-Based Approaches to Travel Demand Modeling & Forecasting (Part B: SimAGENT Simulator of Activities, Greenhouse Emissions, Networks, and Travel). Lecture-Presentation at Transportation Systems Course at the University of the Aegean, Chios Greece. June 11-12, 2012.
129. Goulias K.G. Survey Design: General Principles, California Household Travel Survey, CentreSIM, and GreTIA Data Collection Plans. Lecture-Presentation at Transportation Systems Course at the University of the Aegean, Chios Greece. June 11-12, 2012.
130. Goulias K.G. New Generation Large Scale Activity Microsimulation Models & Data Needs: Critical Perspectives on the City. International Seminar for 20th Anniversary of Department of Urban Planning and Engineering, College of Engineering, Yonsei University, Seoul, Korea. May 24, 2012.

131. Goulias K.G. New Generation Large Scale Activity Microsimulation Models & Data Needs. Invited presentation at the Korea Transportation Institute (KOTI), Seoul, Korea. May 23, 2012.
132. Kamargianni M., A. Polydoropoulou, and K.G. Goulias (2012) Teenagers' Travel patterns for School and After-School Activities. Paper presentation at the Conference Transport Research Arena Europe, April 23-26, Athens 2012. (presenter: Kamargianni).
133. Goulias K.G. (2012) Accessibility, Time-Space Prisms, Choice Sets, and Related Issues. Presentation at the Workshop on Integrated Models and Data Needs for Large-Scale Simulations. Transportation Research Board, Tampa Florida April 30, 2012.
134. Goulias K.G., C. R.Bhat, R.M. Pendyala, Y. Chen, R. Paleti, K. Konduri, G. Huang, and H. Hu (2012) Simulator of Activities, Greenhouse Emissions, Networks, and Travel (SimAGENT) in Southern California. Paper 12-0845 presented at the January 2012 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Goulias)
135. Lei T., K. G. Goulias, and Y. Chen (2012) Opportunity-Based Dynamic Transit Accessibility in Southern California: Measurement, Findings, and Comparison with Automobile Accessibility. Paper 12-3813 presented at the January 2012 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Goulias)
136. Bhat C. R., K.G. Goulias, R.M. Pendyala, R. Paleti, R. Sidhartan, L. Schmitt, and H. Hu. A Household-Level Activity Pattern Generation Model: Simulator of Activities, Greenhouse Emissions, Networks, and Travel (SimAGENT) System in Southern California. Paper 12-4226 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Bhat)
137. Vyas G., R. Paleti, C.R. Bhat, K.G. Goulias, R. M. Pendyala, H. Hu, T. J. Adler, A. Bahreinian. A Joint Vehicle Holdings (Type and Vintage) and Primary Driver Assignment Model with an Application for California. Paper 12-3701 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Paleti).
138. Seraj S., R. Sidhartan, C.R. Bhat, R.M. Pendyala, and K.G. Goulias. Parental Attitudes Toward Children Walking and Bicycling to School: Multivariate Ordered Response Analysis. Paper 12-3675 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Sidhartan).
139. de Abreu e Silva J., K.G. Goulias, and P. Dalal. A Structural Equations Model of Land Use Patterns, Location Choice, and Travel Behavior in Southern California. Paper 12-3422 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter de Abreu)
140. Deutsch K. and K.G. Goulias. Understanding Place Using a Mixed Method Approach. Paper 12-2984 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Deutsch).
141. Yoon SY, K. Deutsch, and K.G. Goulias. Feasibility of using time-space prism to represent available opportunities and choice sets for destination choice models in the context of dynamic

- urban environments. Paper 12-2707 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Yoon)
142. Yoon S.Y. and K.G. Goulias. Exploratory Analysis of Differences Between Men and Women in Time and Travel Task Allocation Patterns and Time-Space Prism Accessibility in Dual-Income Households With and Without Children. Paper 12-2668 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Yoon)
 143. Pendyala R.M., C.R. Bhat, K.G. Goulias, R. Paleti, K.C. Konduri, E. Sidhartan, H. Hu, G. Huang, and K. P. Christian. Application of Socioeconomic Model System for Activity-Based Modeling: Experience from Southern California Paper 12-2186 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Pendyala).
 144. Ravulaparthi S., P. Dalal, Y. Chen, and K. G. Goulias. An Exploratory Analysis of Spatial Hierarchical Clustering Using Opportunity-based Accessibility and Reported Land Values and its Relationship with Residents Characteristics in Los Angeles County. Paper 12-1297 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Ravulaparthi)
 145. Deutsch K. E., S.Y. Yoon, and K.G. Goulias. Using Sense of Place to Model Behavioral Choices. Paper 12-0144 presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012. (Presenter: Deutsch)
 146. Kamargianni M., A. Polydoropoulou, and K.G. Goulias Teenagers' Travel patterns for School and After-School Activities. Paper presented at the 4th European Conference Transport Research Arena, Athens, Greece, April 23-26, 2012. (Presenter: Kamargianni)
 147. Goulias K.G. and S.Y. Yoon. On the Relationship Among Travel Behavior, Time Use Investment and Expenditures in Social Networks. Paper presented at the 16th HKSTS International Conference, Hong Kong, China, December 17-20, 2011, and published in the conference proceedings. (Presenter: Goulias)
 148. Yoon S. Y. and K.G. Goulias. Life cycle dynamics of the impact of land use on time use and intra-household interaction. Paper presented at the 16th HKSTS International Conference, Hong Kong, China, December 17-20, 2011, and published in the conference proceedings. (Presenter: Yoon)
 149. Goulias K.G., R.M. Pendyala, and C.R. Bhat (2011) Total Design Data Needs for the New Generation Large Scale Activity Microsimulation Models. Keynote paper presented at the plenary of the 9th International Conference on Travel Survey Methods, Chile, Nov. 14-18, 2011. (Presenter: Goulias)
 150. Goulias K.G. SimAGENT - Simulator of Activities, Greenhouse gas Emissions, Networks, and Travel. Presentation at T h i n k S p a t i a l- The UCSB brown-bag forum on spatial thinking organized by spatial@UCSB, Santa Barbara, CA. October 25, 2011.
 151. Goulias K.G. Panel on Travel Behavior and Land Use. Presentation at the 20th Anniversary of the Institute of Transportation Studies at UCDavis, September 24, 2011, Davis, CA.

152. Yoon S. Y., Y. Chen, and K. G. Goulias. Development of Dynamic Opportunity-based Time-Space Prism Constrained Accessibility Indicators. Presentation at the 17th European Colloquium on Quantitative and Theoretical Geography Hosted by Harokopio University, Department of Geography^[1]_{SEP}2-5 September 2011, Athens – Greece (presenter: Goulias).
153. Goulias K.G., C.R. Bhat, R.M. Pendyala, Y. Chen , R. Paleti, K. C. Konduri, G. Huang, H. Hu. Simulator of Activities, Greenhouse gas Emissions, Networks, and Travel (SimAGENT) in Southern California. Presentation at the 17th European Colloquium on Quantitative and Theoretical Geography Hosted by Harokopio University, Department of Geography^[1]_{SEP}2-5 September 2011, Athens – Greece (presenter: Goulias).
154. Deutsch K., S.Y. Yoon, and K. G. Goulias. Unpacking the theory of sense of place. Is it useful to choice modeling? Paper prepared for presentation at the International Choice Modelling Conference 2011, Oulton Hall, UK, July 4-6, 2011 (presenter: Deutsch).
155. Yoon S.Y., K. Deutsch, Y. Chen, and K.G. Goulias. Feasibility of using time-space prism to build choice sets for destination choice models. Paper prepared for presentation at the International Choice Modelling Conference 2011, Oulton Hall, UK, July 4-6, 2011 (presenter: Yoon).
156. Goulias K.G., C. R. Bhat, R. M. Pendyala, Y. Chen, R. Paleti, K. C. Konduri, G. Huang, and H. Hu. Simulator of Activities, Greenhouse Emissions, Networks, and Travel (SimAGENT) in Southern California: Design, Implementation, Preliminary Findings, and Integration Plans. Paper presented at the IEEE Forum on Integrated and Sustainable Transportation System, Vienna, Austria, June 29 to July 1, 2011(presenter: Goulias).
157. Isbell A. N. and K.G. Goulias. A Method for Computing Flight Emissions and Identifying Potential Point-to-Point Aviation Market Identifying Potential Point-to-Point Aviation Market. Paper prepared for presentation at the IEEE Forum on Integrated and Sustainable Transportation System, Vienna, Austria, June 29 to July 1, 2011 (presenter: Isbell).
158. Goulias K. G. et al. (June 2011). A series of presentations as a Chios workshop hosted by the Department of Shipping, Trade, and Transport on Geographic Information Science and Transportation Modeling and Simulation that included “Activity-based Travel Demand Model SimAGENT and Next Generation Agent-based Modeling” (Presenter: Goulias); “Dynamic Opportunity-based Accessibility and Spatial Clustering” (Presenter: **Dalal**); “Integrated Land Use and Travel Demand Forecasting Models” (Presenter: **Ravulaparthi**); “The Impact of Time-space Prism Accessibility on Time Use Behavior and its Propagation through Intra-household Interaction” (Presenter: **Yoon**); “The Evolution of Travel in the Urban Landscape: Extrapolating Spatio-Temporal Behavioral Trends with Longitudinal Data” (Presenter: **Royal**); “Data Collection Using GPS and Using Sense of Place in Destination Choice” (Presenter: **Deutsch**); and “A Method for Computing Flight Emissions and Identifying Potential Point-to-Point Aviation Markets” (Presenter: **Isbell**).
159. Dalal, P., Y. Chen, S. Ravulaparthi, and K G. Goulias. Dynamic Opportunity-Based Multipurpose Accessibility Indicators In California. Paper presented at the Annual Meeting of the European Associate of Geographers, June 2-5, 2011. Athens, Greece. (Presenter: Dalal)
160. Dalal, P., N. Royal, and K. G. Goulias. The Evolution of Travel in the Urban Landscape: Extrapolating Spatio-Temporal Behavioral Trends With Longitudinal Data. Paper presented at the

- 2011 Annual Meeting of the European Association of Geographers, June 2-5, 2011. Athens, Greece. (Presenter: Royal).
161. Deutsch, K. , D. Dara-Abrams, and K. G. Goulias. Integrating GPS And Smart Phone Technology For Behavioral Data Collection. Paper presented at the Annual Meeting of the European Association of Geographers, June 2-5, 2011. Athens, Greece. (Presenter: Deutsch).
 162. Ravulaparthi, S.K., N.Isbell, and K.G. Goulias. Hedonic Price Model: Neighborhood Spatio-Temporal Effects On Home Prices. Paper presented at the 2011 Annual Meeting of the European Association of Geographers, June 2-5, 2011. Athens, Greece. (Presenter: Ravulaparthi).
 163. Yoon, S., K.Deutsch, Y.Chen, K.G. Goulias. Using Time-Space Prism To Build Choice Sets For Destination Choice Models In The Context Of Dynamic Urban Environment. Paper presented at the Annual Meeting of the European Association of Geographers, June 2-5, 2011. Athens, Greece. (Presenter: Yoon).
 164. Goulias K.G., C.R. Bhat, R.M. Pendyala, Y. Chen, R. Paleti, and L.C. Konduri, S.Y. Yoon, S. Ravulaparthi, K. Deutsch, P. Dalal, T. Lei, N. Isbell, G. Huang, H. Hu. Geography Aspects of a Simulator of Activities, Greenhouse gas Emissions, Networks, and Travel (SimAGENT) in Southern California. Paper presented at the Annual Meeting of the European Association of Geographers, June 2-5, 2011. Athens, Greece.
 165. Goulias K.G. Life Cycle Stages and Activity-Travel Behavior. 1er Colloque Annuel de la Chaire Mobilite. Ecole Polytechnique de Montreal, May, 2011. Montreal, Canada.
 166. Goulias K.G. Urban Simulation for Mega Regions: the Southern California Activity-Based Model System. Quantitative Methods in the Social Sciences Seminar, April, 2011. University of California Santa Barbara, CA.
 167. Dalal P. and K.G. Goulias. Geovisualization of the spatial distribution access of opportunities: an exploration of accessibility in Southern California using geographic information systems for equity analysis. Association of American Geographers Annual Meeting Seattle, WA. April 12-16, 2011. (Presenter: Dalal)
 168. Deutsch K.E., S. Yoon, and K.G. Goulias. Modeling Sense of Place Using a Structural Equation Model. Association of American Geographers Annual Meeting Seattle, WA. April 12-16, 2011. (Presenter: Deutsch)
 169. Goulias K.G., C.R. Bhat, R.M. Pendyala, Y. Chen, R. Paleti, and L.C. Konduri. Activity-Based Travel Demand Model Development Simagent: Progress report to the Modeling Task Force. Southern California Association of Governments, March, 2011. Los Angeles, CA.
 170. Henson K. and K. G. Goulias. Travel Determinants and Multi-scale Transferability of National Activity Patterns to Local Populations. GEOTRANS Technical paper, Department of Geography, University of California-Santa Barbara. Presentation at the 90th Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011.
 171. Deutsch K. E, S.Y. Yoon, and K.G. Goulias. Modeling Sense of Place Using A Structural Equation Model, GEOTRANS Technical paper, Department of Geography, University of California-Santa

- Barbara. Presentation at the 90th Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011.
172. Dalal P. and K.G. Goulias. Geovisualization of Opportunity Accessibility in Southern California: an exploration of spatial distribution patterns using geographic information systems for equity analysis, GEOTRANS Technical paper, Department of Geography, University of California-Santa Barbara. Presentation at the 90th Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011.
 173. Yoon S.Y., M. Doudnikoff, and K.G. Goulias. Spatial Analysis of the Propensity to Escort Children to School in Southern California. GEOTRANS Technical paper, Department of Geography, University of California-Santa Barbara. Presentation at the 90th Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011.
 174. Chen, Y., S. Ravulaparthi, K. Deutsch, P. Dalal, S.Y. Yoon, T. Lei, K.G. Goulias, R.M. Pendyala, C.R. Bhat, and H-H. Hu. Development of Opportunity-based Accessibility Indicators, GEOTRANS Technical paper, Department of Geography, University of California-Santa Barbara. Accepted for presentation at the 90th Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011.
 175. Goulias K. G. Geosimulation, Activity Microsimulation, and Safety Analysis: Commonalities and the Potential Gain in Merging Analytical Methods. Presentation at the Road Safety -European Reality and Perspectives: A New Interdisciplinary Approach, 24th -25th September 2010, Homerium Cultural Centre of Chios Municipality, Chios, Greece.
 176. de Abreu e Silva J., C. Morency, A. Daurien, and K.G. Goulias. Using Structural Equations Modeling to unravel the influence of land use patterns on travel behavior of workers in Montreal. Presentation at the World Conference on Transport Research, July 11-15, Lisbon Portugal. (Presenter: de Abreu).
 177. Goulias K.G., Y. Chen, C.R. Bhat, N. Eluru, R.M. Pendyala, and L.C. Konduri. Greenhouse Gas Emission Scenarios of Land Use Change Using a Large Scale Continuous-Time Activity-Based Microsimulation Model System in Southern California: Design, Implementation, Preliminary Findings, and Future Plans. Presentation at the World Conference on Transport Research, July 11-15, 2010. Lisbon Portugal. (Presenter: Goulias).
 178. Yoon S.Y. and K.G. Goulias. An Intra-Household Assessment of Land Use and Activity-Travel Behavior Patterns in California. Presentation at the World Conference on Transport Research, July 11-15, Lisbon Portugal. (Presenter: Goulias).
 179. Goulias K.G. Companionship and Altruism in Daily Activity Time Allocation and Travel by Men and Women in the Same Households. Presentation at 32nd Time Use Conference, 7-10 July, 2010. Paris, France. (Presenter: Goulias).
 180. Yoon S.Y. and K.G. Goulias. A Comparison of Daily Time Allocation by Men and Women in the Same Household Accounting for the Presence of Children in the Household and Space-time Accessibility. Presentation at 32nd Time Use Conference, 7-10 July, 2010. Paris, France. (Presenter: Goulias).

181. Morrison E. and K.G. Goulias. Pre-TEST California Household Travel Survey: Overview and Design Elements. Presentation to the SCAG Modeling Task Force and the California Interagency Modeling Forum, May 26, 2010. Los Angeles, CA. (Presenter: Goulias).
182. Goulias K. G., Y. Chen, C.R. Bhat, N. Eluru, H. Hu, R.M. Pendyala, and K.C. Konduri. Activity-Based Microsimulation Model System in Southern California: Design, Implementation, Preliminary Findings, and Future Plans. Development of SimAGENT. Presentation to the SCAG Modeling Task Force and the California Interagency Modeling Forum. May 26, 2010. Los Angeles, CA (Presenter: Goulias).
183. Yoon S.Y. and K.G. Goulias. The Impact of Time-Space Prism Accessibility on Time Allocation and its Propagation Through Intra-Household Interaction. Presentation at the 3rd Conference on Innovations in Travel Modeling, May 10-12, 2010. Tempe, Arizona. (Presenter: Yoon).
184. Goulias K. G., Y. Chen, C.R. Bhat, N. Eluru, H. Hu, R.M. Pendyala, and K.C. Konduri. Activity-Based Microsimulation Model System in Southern California: Design, Implementation, Preliminary Findings, and Future Plans. Presentation at the 3rd Conference on Innovations in Travel Modeling, May 10-12, 2010. Tempe, Arizona. (Presenter: Goulias).
185. Goulias K.G. Part 1: Travel Behavior Dynamics from a Lifespan Development Perspective. Part 2: SCAG activity-based model and California Household Travel Survey. UCI ITS Seminar, May 8, 2010. (Presenter: Goulias).
186. Goulias K.G. Spatio-temporal Microsimulation of the Human Lifecourse for Land Use and Travel Policy Analysis. Presentation at the 3rd International Conference - Transport Science and Technology Congress 2010, April 4th to 7th, New Delhi, India. (Presenter: Goulias).
187. Goulias K.G. Regional Microsimulation Activity Models for GHG Estimation (2010). Presentation at the “Measuring Progress Towards Transportation GHG Goals” Symposium UCLA Lewis & Luskin Centers. UCLA Program on Local Government Climate Action Policies, March 5, 2010. (Presenter: Goulias).
188. Yoon S.Y. and K.G. Goulias. Constraint-Based Assessment of Intra-household Bargaining on Time Allocation to Activities and Travel Using Individual Accessibility Measures (10-1820). Paper accepted for presentation at the 89th Annual Transportation Research Board Meeting, January 10-14, 2010, Washington D.C. (Presenter: Yoon).
189. Deutsch, K. E. and K.G. Goulias. Exploring Sense-of-Place Attitudes as Indicators of Travel Behavior (10-0070). Paper accepted for presentation at the 89th Annual Transportation Research Board Meeting, January 10-14, 2010, Washington D.C. (Presenter: Deutsch).
190. Yoon S.Y. And K.G. Goulias. The Impact of Individual Accessibility on Travel Behavior and its Propagation Through Intra-household Interaction. Paper presented at the 12th International Conference on Travel Behavior Research, December 13-18, 2009. Jaipur, India (Presenter: Yoon).
191. Goulias K. G. Travel Behavior Dynamics from a Lifespan Development Perspective. Paper presented at the 12th International Conference on Travel Behavior Research, December 13-18, 2009. Jaipur, India. (Presenter: Goulias).
192. Burbidge S. K. and K. G. Goulias. Evaluating the Impact of Neighborhood Trail Development on Active Travel Behavior and Overall Physical Activity Among Suburban Residents. Paper presented

- at the 12th International Conference on Travel Behavior Research, December 13-18, 2009. Jaipur, India. (Presenter: Goulias).
193. Goulias K.G. Activities, Time Use and Travel Behavior in Multiple Space-Time Dimensions. Presentation at the The Joy of the Journey: Celebrating the Life and Work of Ryuichi Kitamura, June 28-30, 2009, UC Davis, Davis, CA.
 194. Dalal P. and K. G. Goulias. Changing Travel Demand in an Emerging City: Sylhet, Bangladesh. Presented at the Association of American Geographers Annual Meeting, March 22-27, 2009. Las Vegas, NV. (Presenter: Dalal).
 195. Deutsch K. and K. G. Goulias. Why should sense of place matter to travel behavior modeling and simulation? Presented at the 2009 Association of American Geographers Annual Meeting, March 22-27, Las Vegas, NV. (Presenter: Deutsch).
 196. Yoon S. Y., T. Golob, and K. Goulias. A California Statewide Exploratory Analysis Correlating Land Use Density, Infrastructure Supply and Travel Behavior. Paper accepted for presentation at the 88th Annual Transportation Research Board Meeting, January 11-15, 2009, Washington D.C. (Presenter: Yoon).
 197. Deutsch K.E. and K.G. Goulias. Measuring Sense of Place: Innovation in Intercept Survey Methodology. Paper accepted for presentation at the 88th Annual Transportation Research Board Meeting, January 11-15, 2009, Washington D.C. (Presenter: Deutsch).
 198. Burbidge S. K. and K. G. Goulias. Active Travel Behavior. Paper accepted for presentation at the 88th Annual Transportation Research Board Meeting, January 11-15, 2009, Washington D.C, and publication in Transportation Letters. (Presenter: Burbidge).
 199. Burbidge S. K. and K. G. Goulias. Evaluating the Impact of Neighborhood Trail development on Active Travel behavior and Overall Physical Activity Among Suburban Residents. Paper accepted for presentation at the 88th Annual Transportation Research Board Meeting, January 11-15, 2009, Washington D.C. (Presenter: Burbidge).
 200. de Abreu e Silva J. and K.G. Goulias. Using Structural Equations Modelling to Unravel the Influence of Land Use Patterns on Travel Behavior of Urban Adult Workers of Puget Sound Region. Paper accepted for presentation at the 88th Annual Transportation Research Board Meeting, January 11-15, 2009, Washington D.C. (Presenter: Abreu).
 201. Goulias K.G. Transportation Modeling and Simulation Requirements for Policy Analysis. Invited Presentation at the XV Convegno Nazionale Societa Italiana dei Docenti di Trasporti (15th National Congress Italian Society of Transport Faculty), 9-10 June, 2008. University of Calabria, Arcavacata di Rende, Italy.
 202. Henson K. and K. G. Goulias. The Relationship between Population and Land Use for Application in Homeland Security Modeling. Presented at the 2008 Association of American Geographers Annual Meeting, April 18-22, Boston, MA. (Presenter: Henson).
 203. Goulias K. G. Transportation Policy Analysis and Planning in the US with Emphasis on California. Invited presentation at the Smart Travel Center, Transport Queensland, March 20, 2008. Brisbane, Queensland, Australia.

204. Goulias K. G. Space, Time, and Money in Activity Modeling and Simulation. Invited presentation at the First Indo-US Symposium on Advances in mass Transit and Travel behavior Research (MTTBR-08), February 12-15, 2008. Guwahati, India.
205. Goulias K.G. Quo Vadis Activity-Based Travel Demand Model? Presentation at the 14th Annual University Transportation Center Research Conference, February 1, 2008. University of California Santa Barbara.
206. Alam Md. J. B., J. W. Polak, and K.G. Goulias. Regional Efficiency and Accessibility Demand Assessment Using Stochastic Data Envelopment Analysis. Paper presented at the 87th Transportation Research Board Annual Meeting, January 13-17, 2008, and included in the CD ROM proceedings (Presenter: Polak).
207. Goulias K. G. Companionship and Altruism in Daily Activity Time Allocation and Travel by Men and Women in the Same Households. Paper presented at the 87th Transportation Research Board Annual Meeting, January 13-17, 2008, and included in the CD ROM proceedings.
208. Beckman J.D. and K.G. Goulias. Immigration, Residential Location, Car Ownership, and Commuting Behavior: Multivariate Latent Class Analysis from California. Paper presented at the 87th Transportation Research Board Annual Meeting, January 13-17, 2008, and included in the CD ROM proceedings (Presenter Beckman).
209. Kemel E., S.Y. Yoon, and K.G. Goulias. Inequality Assessment Tool for Urban Development Using GIS-Based Accessibility Measures and Fractal Version of Theil's Index. Paper presented at the 87th Transportation Research Board Annual Meeting, January 13-17, 2008, and included in the CD ROM proceedings (Presenter: Yoon).
210. Goulias K.G. Supply Chain & Transportation: A Smorgasbord of Issues. Invited Presentation at the 2nd Conference on Agro-Industrial Logistics in the Mediterranean Area. November 30 – December 1, 2007. University of Reggio Calabria, Reggio Calabria, Italy.
211. Goulias K. G. The Current and Future State of Activity-based Models, Invited Presentation at the 11th World Conference on Transport Research, June 24-28, 2007, University of California Transportation Center, University of California, Berkeley, CA.
212. Goulias K. G. Activity-Based Approaches to Travel Demand Forecasting: Research and Practice. Invited Seminar at the Complex Systems Center, April 27, 2007. University of Vermont, Burlington, VT.
213. Goulias K. G. Science, Technology, and Education in Transportation. Dan and Carole Burack President's Distinguished Lecture Series, April 26, 2007. University of Vermont, Burlington, VT.
214. Goulias K. G. On Altruism and Companionship in Activity Participation and Travel. Spring 2007 ITS-Davis Seminar Series. April 20, 2007. University of California-Davis, Davis, CA.
215. Goulias K. G. Progress in the Evolving Paradigm of Travel Demand Forecasting. Paper presentation at the Association of American Geographers Annual Meeting, April 17-21, 2007. San Francisco, California.
216. Yoon S. Y. and K. G. Goulias. Measuring Activity Spaces as Determinants of Travel Behavior. Paper presentation at the Association of American Geographers Annual Meeting, April 17-21, 2007. San Francisco, California. (presenter: Seo Youn Yoon)

217. Beckman J. D., K. G. Goulias, C. Irazabal, and M. Gomez-Barris. Does Culture Fade in Immigrants' Travel Behavior? Paper presentation at the Association of American Geographers Annual Meeting, April 17-21, 2007. San Francisco, California. (presenter: Jarad Beckman)
218. Deutsch K. and K. G. Goulias. Integrated Activity-Travel Behavior Surveys. Paper presentation at the Association of American Geographers Annual Meeting, April 17-21, 2007. San Francisco, California. (presenter Kate Deutsch).
219. Goulias K. G. Development of Activity-Based Travel Demand Model. Presentation at the Modeling Task Force Meeting, March 27, 2007, Southern California Association of Governments, Los Angeles, CA.
220. Goulias K. G. Activity-Based Modeling – Challenges and Solutions. Presentation at the Southern California Association of Governments, February 28, 2007. Los Angeles, CA
221. Goulias K. G. An Optimal Resource Allocation Tool for Urban Development Using GIS-based Accessibility Measures and Stochastic Frontier Analysis. Paper presented at the 86th Transportation Research Board Annual Meeting, January 21-25, 2007, Washington, D.C.
222. Goulias K. G., L. Blain, N. Kilgren, T. Michalowski, and E. Murakami. Catching the Next Big Wave: Are the Observed Behavioral Dynamics of the Baby Boomers Forcing us to Rethink Regional Travel Demand Models? Paper presented at the 86th Transportation Research Board Annual Meeting, January 21-25, 2007, Washington, D.C. and included in the CD ROM proceedings.
223. Goulias K. G. Issues of Scale, Time and Approach to Transportation Modeling and Simulation. Invited METRANS Seminar, November, 2006, University of Southern California, Los Angeles, CA.
224. Goulias K. G. An Evolving Paradigm of Transportation Modeling and Simulation. Bruce Podwal Seminar Series, Department of Civil Engineering, City College of New York, October 2006, New York, NY.
225. Goulias K. G. Altruism in Activity-based Approaches to Travel Demand Analysis. Invited Presentation at Hasselt University, October 14, 2006, Hasselt, Belgium. (presenter: Goulias)
226. Goulias K. G. Transportation Policy Analysis and Planning. Invited Resource Paper. Paper to be presented at the IATBR Conference, August 16-20, 2006, Kyoto, Japan. (presenter: Goulias)
227. Henson K. and K.G. Goulias. An Assessment of Activity-based Modeling and Simulation for Applications in Operational Studies, Disaster Preparedness, and Homeland Security. Paper to be presented at the IATBR Conference, August 16-20, 2006, Kyoto, Japan. (presenter: Henson)
228. Goulias K. G. and T. Kim Behavioral Dynamics in Activity Participation, Travel, and Information and Communications Technology. The 16th International Symposium on Transportation and Traffic Theory, July 19-21, 2006, University of Maryland, College Park, MD. (presenter: Goulias).
229. Burbidge S. K., K. G. Goulias, T. Kim. Travel Behavior Comparisons of Active-Living and Inactive Living Lifestyles. Paper presented at the 85th Transportation Research Board Annual Meeting, January 23-26, 2006, Washington, D.C. (presenter: Burbidge)
230. Henson K. and K.G. Goulias. A Preliminary Assessment of Activity and Modeling for Homeland Security Applications. Paper presented at the 85th Transportation Research Board Annual Meeting, January 23-26, 2006, Washington, D.C. (presenter: Henson)

231. Goulias K.G. and K. Henson. On Altruists and Egoists in Activity Participation and Travel: Who are they and do they live together? Paper presented at the 85th Transportation Research Board Annual Meeting, January 23-26, 2006, Washington, D.C. (presenter: Henson)
232. Abreu J. Da Silva, T. Golob, and K.G. Goulias. The Effects of Land Use Characteristics on Residence Location and Travel Behavior of Urban Adult Workers. Paper presented at the 85th Transportation Research Board Annual Meeting, January 23-26, 2006, Washington, D.C (presenter: Abreu).
233. Goulias K. G. Integrated Regional Simulation. Invited Seminar at the Los Alamos National Laboratory, December 13, 2005, Los Alamos, NM. (presenter: Goulias).
234. Alam J. B., S. H. Sikder and K. G. Goulias. Assessing Time Lag between Transportation Investment and Economic Development using Data Envelopment Approach. Paper presented at the 84th Transportation Research Board Annual Meeting, January 9-13, 2005, Washington, D.C. (presenter: Goulias)
235. Goulias K.G., M. Bradley, V. Noronha., R. Golledge, and P.S. Vovsha. Data needs for Innovative Modeling Resource Paper. National Household Travel Survey Conference: Understanding Our Nation's Travel. November 1-3, 2004. Washington, D.C., Transportation Research Board. (presenter: Goulias).
236. Goulias K.G. Issues in moving activity-based approaches to practice. Invited presentation at the Conference on Progress in Activity-Based Analysis, May 28 - 31, 2004, Vaeshastel Castle, Maastricht, the Netherlands.
237. Goulias, K.G. and T. Kim, and M.L. Patten. On activity type classification and issues related to the with whom and for whom questions of an activity diary: Preliminary findings and pattern classification. Paper presented at the Conference on Progress in Activity-Based Analysis, May 28 - 31, 2004, Vaeshastel Castle, Maastricht, the Netherlands. (Presenter: Goulias).
238. Kim and K.G. Goulias. A Multivariate Multilevel Analysis of Information Technology Choice. Paper presented at the Transport Science and Technology Congress (TRANSTEC), September 1-5, 2004, Athens, Greece. (Presenter: Kim).
239. Kim T. and K.G. Goulias. Dynamic analysis of time use and frequency of activity and travel using Latent Class Clustering and Structural Equation Modeling. Paper presented at the Conference on Progress in Activity-Based Analysis, May 28 - 31, 2004, Vaeshastel Castle, Maastricht, the Netherlands. Also presented at the Transport Science and Technology Congress (TRANSTEC), September 1-5, Athens, Greece. (Presenter: Kim)
240. Pribyl O. and K.G. Goulias. Simulation of daily activity patterns. Paper presented at the Conference on Progress in Activity-Based Analysis, May 28 - 31, 2004, Vaeshastel Castle, Maastricht, the Netherlands. Also presented at the Transport Science and Technology Congress (TRANSTEC), September 1-5, Athens, Greece. (Presenter: Pribyl)
241. Alam J. B., S. H. Sikder and K. G. Goulias. Role of transportation in regional economic efficiency in Bangladesh: Data Envelopment Analysis. Paper presented at the 83rd Annual Transportation Research Board Meeting and accepted for publication in the Transportation Research Record, Washington, D.C., January 11-15, 2004. (Presenter: Goulias).
242. Goulias K.G. and T. Kim. A longitudinal analysis of the relationship between environmentally friendly modes, weather conditions, and information-telecommunications technology market

- penetration. Paper presented at the ECOSUD 2003 International Conference, June 4-6, 2003, Siena, Italy. (Presenter: Goulias).
243. Goulias K.G., T. Kim, and O. Pribyl. A longitudinal analysis of awareness and use for advanced traveler information systems. Paper presented at the European Commission Workshop on Behavioural Responses to ITS – April 1-3, 2003, Eindhoven, the Netherlands. (Presenters: Pribyl and Goulias).
 244. Kim T. and K.G. Goulias. Travel behavior changes: Evidence from a longitudinal travel survey. Paper presented at the Urban Transport 2003 International Conference, March 10-12, 2003, Crete, Greece. (Presenters: Kim and Goulias).
 245. Pribyl O. and K. G. Goulias. On the application of Adaptive Neuro-fuzzy Inference System (ANFIS) to analyze travel behavior. Paper presentation at the 82nd Transportation Research Board Meeting, Washington D.C., January 2003. (Presenter: Pribyl).
 246. Patten M. L., K.G. Goulias, and O. Pribyl. Patterns of information and telecommunication use and attitudes in the Pennsylvania turnpike traveler information system. Paper presented at the 82nd Transportation Research Board Meeting and included in the CD ROM proceedings, Washington D.C., January 2003 (Presenter: Patten).
 247. Goulias K.G. (2003) CUTC profiles survey. Preliminary data analysis. Presentation at the CUTC Winter meeting. January 12, 2003, Washington D.C.
 248. Patten M., K.G. Goulias, and O. Pribyl. User perceptions of advanced traveler information systems on the Pennsylvania Turnpike. Paper presented at the 9th World Congress on Intelligent Transportation Systems, October 14-18, 2002, Chicago, IL (Presenter: Pribyl)
 249. Goulias K. G., L. Elefteriadou, and J. L. Kuhnau. Classroom consulting experience as entrepreneurship training: Lessons learned from a case study in transportation. Paper presented as a poster and a multimedia presentation at the 2002 ASEE/SEFI/TUB Colloquium in Berlin, Germany, October 2002. (Presenter: Goulias)
 250. Kuhnau J. L. and K. G. Goulias. Centre SIM: Hour-by-hour travel demand forecasting for mobile source emission estimation. Paper presentation at the ENVIROSOFT 2002 – the 9th International Conference on the Modeling Monitoring, and Management of Environmental Problems, Bergen, Norway, May 2002. (Presenter: Goulias)
 251. Goulias K.G., W. Broeg, B. James, and C. Graham. Travel behavior analysis of the South Perth individualized marketing intervention. Paper presentation at the 81st Transportation Research Board Meeting, Washington D.C., January 2002. (Presenter: Goulias).
 252. Goulias K. G., J. Smedley, J. Fenush, G. Dauber, K. Viswanathan, T. Kim (2002). Pennsylvania's statewide long range transportation plan: Reporting of achievements 2000. Paper presented at the 81st Transportation Research Board Meeting, Washington D.C., January 2002. (Presenter: Fenush).
 253. Viswanathan K. and K. G. Goulias. Travel Behavior Implications of Information and Communications Technology (ICT) in the Puget Sound Region. Paper Preprint 01-2767. Paper Presented at the 80th Annual Transportation Research Board Meeting, January 2001, Washington, D.C.. (Presenter: Viswanathan).

254. Goulias K. G. and Tae-Gyu Kim. A Multilevel Analysis of Activity and Travel Patterns Accounting for Person-specific and Household-specific Observed and Unobserved Effects Simultaneously. Paper Preprint 01-2803. Paper Presented at the 80th Annual Transportation Research Board Meeting, January 2001, Washington, D.C.. (Presenter: Kim)
255. Goulias K. G., J. Smedley, R. Heaney, P. Everett, G. Dauber, T. Kim, and K.Viswanathan. Pennsylvania's Statewide Long-Range Transportation Plan (PennPlan): An Overview and Summary. Paper Preprint 01-2799. Paper Presented at the 80th Annual Transportation Research Board Meeting, January 2001, Washington, D.C. (Presenter: Goulias)
256. T. Kim, Koza S.A., and K. G. Goulias. Analysis of the Resident Component in PennPlan's Public Involvement Survey. Survey Overview and Item Nonresponse Selectivity Issues. Paper Preprint 01-2772. Paper Presented at the 80th Annual Transportation Research Board Meeting, January 2001, Washington, D.C.. (Presenter: Kim)
257. Goulias K. G., K. Viswanathan, and T. Kim. Pennsylvania's Statewide Long Range Transportation Plan (PennPlan): Performance Based Planning in the US. In Urban Transport VII, Urban Transport and the Environment for the 21st Century, May 2001, Lemnos, Greece. (Presenter: Goulias)
258. Viswanathan K., K. G. Goulias, and T. Kim. On the Relationship Between Travel Behavior and Information and Communications Technology (ICT): What do the Travel Diaries Show? In Urban Transport VII, Urban Transport and the Environment for the 21st Century, May 2001, Lemnos, Greece. (Presenter: Viswanathan)
259. Goulias K. G. A Longitudinal Integrated Forecasting Environment (LIFE) for Activity and Travel Forecasting. In Ecosystems and Sustainable Development III conference, June 2001, Alicante, Spain.
260. Sundararajan and K.G. Goulias. Demographic Microsimulation for Transportation Analysis (DEMOS 2000). Presentation at the Fourth Annual PTI Transportation Conference, July 19, 2001, University Park, PA. (Presenter: Sundararajan).
261. T. Kim and K.G. Goulias. An Analysis of the Resident Component in PennPlan's Public Involvement Survey: Survey Overview and Item Non-Response Selectivity Issues. Presentation at the Fourth Annual PTI Transportation Conference, July 19, 2001, University Park, PA. (Presenter: Kim).
262. J. Kuhnau and K.G. Goulias The PennState and Centre County Dynamic Simulation Regional GIS Model: Development Steps and Predictions for 2010. Presentation at the Fourth Annual PTI Transportation Conference, July 19, 2001, University Park, PA. (Presenter: Kuhnau).
263. Goulias K.G. and J. L. Kuhnau. Computer Simulation for Regional Transport Systems: Overview and an Example. Paper presented at the International Scientific Conference. The transport of the 21st century. Organized by the Warsaw Polytechnic and Polish Academy, September 2001 Warsaw, Poland . (Presenter: Goulias)
264. Kulakowski B.T. and D. J. Klinikowski. The Bus Testing Program: Delivering Tangible Benefits to the Riding Public and Transit Industry. Paper presented by Goulias on behalf of the authors at the International Scientific Conference. The transport of the 21st century. Organized by the Warsaw Polytechnic and Polish Academy, September 2001 Warsaw, Poland.
265. Viswanathan K., K.G. Goulias, and P. P. Jovanis. Use of Traveler Information in the Puget Sound Region: Preliminary Multivariate Analysis. Preprint #001368. Paper presented at the 2000, 79th Annual TRB Meeting, January 2000 (Presenter K. Viswanathan).

266. Marker J.T.,and K.G. Goulias. Review and Framework for the Analysis of Household Replenishment and its Impacts on Travel Behavior and Goods Movement. Preprint #000566. Paper presented at the 2000, 79th Annual TRB Meeting, January 2000 (Presenter J. Marker).
267. Goulias K. G. Multilevel analysis of daily time use and time allocation to activity types accounting for complex covariance structures using correlated random effects. Paper presented at the IATBR 2000, 9th International Association for Travel Behaviour Research Conference (July2-7, 2000), Sheraton Mirage Gold Coast, Queensland, Australia.(Presenter K. Goulias).
268. Kim T, and K. G. Goulias. Pennplan-Planning with Extensive Public Involvement. The Third Annual PTI Transportation Conference. July 20, 2000, University Park, PA. (Presenter: T. Kim).
269. Viswanathan K, and K.G. Goulias. Activity and Travel Simulation using Intelligent Agent Technology. The Third Annual PTI Transportation Conference. July 20, 2000, University Park, PA. (Presenter: K. Viswanathan).
270. Goulias, K.G. and T. Kim. Repeated Measures Multivariate Multilevel Models and Applications in Activity and Travel Behavior. The Third Annual PTI Transportation Conference. July 20, 2000, University Park, PA. (Presenter: K. Goulias).
271. Chandrasekharan B. and K.G. Goulias. Exploratory Longitudinal Analysis of Solo and Joint Trip Making in the Puget Sound Transportation Panel. Preprint # 990093. Paper presented at the 1999 Annual TRB Meeting, January 1999 (Presenter B. Chandrasekharan).
272. Ma J. and K.G. Goulias. Application of Poisson Regression Models to Activity Frequency Analysis and Prediction. Preprint # 990813. Paper presented at the 1999 Annual TRB Meeting, January 1999 (Presenter J. Ma).
273. Alam B. S. and K. G. Goulias. Dynamic Emergency Evacuation Management System Using GIS and Spatio-Temporal Models Of Behavior. Preprint #990814. Paper presented at the 1999 Annual TRB Meeting, January 1999 (Presenter B. S. Alam).
274. Goulias K. G. and K. Viswanathan. A Dynamic Analysis of Activity and Travel Using Mixed Markov Latent Class (MMLC) Models. Paper presented at the 14th International Symposium on Transportation and Traffic Theory, July 1999, Jerusalem, Israel (Presenter: Goulias)
275. Goulias, K. G. Multilevel Random Effects Analysis of Modal Use Constraints and Perceptions on Public Transportation Using Data from Germany. In Urban Transport V, Urban Transport and the Environment for the 21st Century conference, Rhodes, Greece, September 1999. (Presenter: Goulias).
276. Goulias, K.G. A Dynamic Analysis of Activity and Travel Patterns. Paper accepted for presentation at the European Transport Conference 1999, and publication in the proceedings, September 1999, Cambridge, UK. (Presenter: Goulias).
277. Zineddin A. Z. and K. G. Goulias. A Demand Based Rural ITS Plan for Passenger Travel.@ Paper presented at the Rural Advanced Technology and Transportation Systems 1998 International Conference, August 30-September 2, 1998, ITS America, University Park, PA. (Presenter A. Z. Zineddin).

278. Kharoufeh J. P. and K. G. Goulias. Longitudinal and Cross-Sectional Kernel Density-Based Nonparametric Identification of Daily Activity and Travel Patterns. Invited Seminar Lecture at the University of Toronto, Toronto, August 1998. (Presenter K. G. Goulias).
279. Ma J. And K.G. Goulias. Forecasting Home Departure Time, Daily Time Budget, Activity Duration, and Travel Time Using Panel Data. Preprint 981312. Paper presented at the 77th Transportation Research Board Annual Meeting, January 1998. (Presenter J. Ma).
280. Chung J., K.Viswanathan, and K.G. Goulias Design of an Automatic Comprehensive Traffic Data Management System for Pennsylvania. Preprint 981354. Paper presented at the 77th Transportation Research Board Annual Meeting, January 1998. (Presenter K. Viswanathan).
281. Marker J.T, Jr, and K.G. Goulias Truck Traffic Prediction Using the Quick-Response Freight Model Under Different Degrees of Geographic Resolution: GIS Application in Pennsylvania. Preprint 980161. Paper presented at the 77th Transportation Research Board Annual Meeting, January 1998. (Presenter J. Marker).
282. Goulias K.G. Forecasting the inputs to dynamic model systems. Workshop Resource Paper presented at the Eighth Meeting of the International Association of Travel Behaviour Research, Challenges and Opportunities in Travel Behaviour Research and Applications, Austin, Texas, September 1997. (Presenter K. Goulias).
283. Ma J. And K.G. Goulias Analysis and prediction of activity/travel patterns using multiperiod multinomial probit models. Paper presented at the Eighth Meeting of the International Association of Travel Behaviour Research, Challenges and Opportunities in Travel Behaviour Research and Applications, Austin, Texas, September 1997. (Presenter J. Ma).
284. Goulias K. G. Multi-method and multi-instrument surveys (surveys using multiple approaches). Resource Paper Prepared for Workshop 1: Multi-instrument and multi-method surveys. International Conference on Transport Survey Quality and Innovation - Transport Surveys: Raising the Standard, May, 1997, Grainau, Germany. (Presenter K. Goulias).
285. Goulias K. G. ITS Activities at Penn State: Public Information Needs, Hazardous Material Transportation, and Benefit Cost Analysis for Scranton Wilkes Barre EDP. Invited presentation at the Mid-Atlantic Section ITE Meeting, March, 1997.
286. Chung J and JK. G. Goulias. Travel Demand Forecasting Using Microsimulation: Initial Results from a Case Study in Pennsylvania. 76th Transportation Research Board Annual Meeting, January 12-16, 1997. (Presenter: Jin-hyuk Chung).
287. Accessibility Indicators for Transportation Planning Using GIS. (by Lee, M. and K.G. Goulias). 76th Transportation Research Board Annual Meeting, January 12-16, 1997. (Presenter: M. Lee).
288. Activity-Based Travel Forecasting: What Are Some Issues? (By K.G. Goulias). Invited keynote paper presentation at the Travel Model Improvement Program Conference on Activity-based Travel Forecasting in New Orleans, June 1996. (Presenter: K.G. Goulias).
289. Transitions of Time Use Emerging from Transportation Panel Data (By K.G. Goulias and J. Ma). Paper prepared for the XVIIIth International Association for Time Use Research Conference and International Scientific Conference on Methodological Issues of Time Use Surveys: Designs and Analysis, Warsaw, Poland, May 29-June 2, 1996. (Presenter: K.G. Goulias).

290. A Comparison of Traveler Perceptions Regarding Traffic Congestion and Route Selection Behavior Across Chicago, San Francisco, and Centre County (by Aemal J. Khattak, K.G. Goulias, and Assad J. Khattak). 75th Transportation Research Board Annual Meeting, January 7-11, 1996. (Presenter: Aemal J. Khattak).
291. Predicting Operating Speeds on Low-Speed Urban Streets: Regression and Panel Analysis Approaches. (By J. P. Tarris, C. M. Poe, J. M. Mason, and K.G. Goulias). 75th Annual Transportation Research Board meeting, January 7-11, 1996. (Presenter: C.M. Poe).
292. Access Management Using GIS and Traffic Management Tools in Pennsylvania.(by J. Chung and K.G. Goulias). 75th Annual Transportation Research Board meeting, January 7-11, 1996. (Presented by J. Chung).
293. EVIPAS . Traffic Engineering and Safety Conference. University Park, PA, December 1995. (Presenter: K.G. Goulias).
294. Access Management Impact Simulation. Traffic Engineering and Safety Conference. University Park, PA, December 1995. (Presenter: K.G. Goulias).
295. Stochastic Simulation for Integration of Transportation Planning and Traffic Operations (by A. Elefteriadou and K. G. Goulias) The Second World Congress on Intelligent Transport Systems, Yokohama, Japan, November 9-11, 1995. (Presenter: A. Elefteriadou).
296. A Dynamic Analysis of Out-of-Home Activity Engagement (by J. Ma, R. Pendyala, and K.G. Goulias). Conference/Workshop on Activity Based Approaches: Activity Scheduling and the Analysis of Activity Patterns, Eindhoven, The Netherlands, May 25-28, 1995. (Presenter: R. M. Pendyala).
297. A Dynamic Analysis of Activity and Travel Patterns Using Data from the Puget Sound Transportation Panel (by J. Ma and K. G. Goulias). Institute for Operations Research and the Managements Sciences Spring National Meeting, April 23-26, 1995. (Presenter: J. Ma).
298. Access Management/ Impact Simulation Using GIS and Traffic Simulation (by Goulias, K.G., J. Chung, and J. Ma). Fifth International Conference on Transportation Planning Methods Applications, 1995, Seattle, WA, April 17-21. (Presenter: K. G. Goulias).
299. A Method for Congestion Management, Access Control, and Impact Simulation using GIS (by Goulias, K.G., J. Chung, M. T. Pietrucha, J. Ma, and A. J. Khattak). Institute of Transportation Engineers International Conference, Technology Tools for Transportation Professionals-Moving into the 21st Century, Ft. Lauderdale, FL, April 9-12, 1995. (Presenter: J. Chung).
300. Selecting Strategies to Mitigate Intelligent Transportation Systems (ITS) Institutional Issues (by Khattak A. J., K.G. Goulias, and J. M. Mason). Institute of Transportation Engineers International Conference, Technology Tools for Transportation Professionals-Moving into the 21st Century, Ft. Lauderdale, FL, April 9-12, 1995. (Presenter: A. J. Khattak).
301. Sample Selection Bias with Multiple Selection Rules: An Application with Residential Relocation, Attrition, and Activity Participation in the Puget Sound Transportation Panel (by J. Chung and K.G. Goulias)-Preprint #950330. Presentation at the 74th Annual Transportation Research Board Meeting and Publication in the Transportation Research Record, January 22-28, 1995 (Presenter: J. Chung)

302. A Dynamic Analysis of Activity and Travel Patterns Using Data from the Puget Sound Transportation Panel. (by Ma, J. and K. G. Goulias) - Preprint #950331. Presentation at the 74th Annual Transportation Research Board Meeting and Publication in the Transportation Research Record, January 22-28, 1995 (Presenter: J. Ma).
303. Comparison of Estimated and measured Signalized Intersection Delay (by R. C. Nuss, M.T. Pietrucha, and K. G. Goulias) Preprint #950933. Presentation at the 74th Annual Transportation Research Board Meeting, January 22-28, 1995 (Presenter: R. Nuss).
304. PennDOT Access Management Computer Model. Invited Presentation at the Mid-Atlantic Section of ITE Summer Meeting, Philadelphia, PA. (1995) (Presenter: K.G. Goulias).
305. Microsimulation Application in Transportation Planning, Overview and Examples (by K.G. Goulias). Presentation at the 74th Annual Transportation Research Board Meeting , January 22-28, 1995 (Presenter: K. G. Goulias).
306. Residential Relocation, Frequency of Activity Participation, Travel Time to Activity Locations, and Modal Split (by K.G. Goulias and R. Pendyala), presentation at the 73rd Annual Transportation Research Board meeting, January 9-13, 1994. (Presenter: K.G. Goulias)
307. Analysis of the Puget Sound Transportation Panel. Invited presentation by the Federal Highway Administration to the Travel Model Improvement Program Workshop at Fort-Worth-Dallas, TX, 1994. (Presenter K.G. Goulias).
308. Assessing Impacts of Telecommuting: Experiences from the California Pilot Project (by R. Pendyala, K.G. Goulias, and P.L. Mokhtarian), presentation at the 73rd Annual Transportation Research Board meeting, January 9-13, 1994. (Presenter: R. Pendyala).
309. The Clean Air Act Amendments of 1990 and Parking Supply. Presentation to the Pennsylvania Parking Association Meeting, University Park. PA, (1994). (Presenter: K.G. Goulias).
310. Formal Presentation to the PA Legislature's Low Emission Vehicle Commission on "A Study of Emission Control Strategies for Pennsylvania: Emission Reductions from Mobile Sources, Cost Effectiveness, and Economic Impacts," August 1993. (Presenters: K.G. Goulias, T. Litzinger, and J. Nelson).
311. Forecasting Travel Demand with Dynamic Microsimulation: The Microanalytic Demographic Accounting Systems (MIDAS) for Personal Computers. Fourth International Conference on Microcomputers in Transportation Proceedings, Baltimore, MD, July 22-24, 1992. (Presenter: K. G. Goulias).
312. A Dynamic Microsimulator for Travel Demand Forecasting. The Modelling and Simulation Conference, University of Pittsburgh, May 1992. (Presenter: K. G. Goulias).
313. Institutional and Funding Issues Related to the Staged Development of IV/HS. Paper presented at the ITE International Conference Transportation Engineering in a New Era, Monterey, CA, March 22-25, 1992. (Presenter: J. M. Mason).
314. Travel Demand Forecasting with Dynamic Microsimulation. Paper presented at the Transportation Research Board 71st Annual Meeting, January 1992. (Presenter: K. G. Goulias).

315. An Analysis of Choice-Based Panel Travel Survey Sample: Results from the Puget Sound Transportation Panel. Paper presented at the Transportation Research Board 71st Annual Meeting, January 1992. (Presenter: R. M. Pendyala).
316. Impacts of Telecommuting on Workers' Action Space: An Analysis of California's Telecommute Pilot Project, paper presented at the North American Regional Science Conference, New Orleans, LA, November 6-9, 1991. (Presenter: R. Kitamura).
317. Cross Sectional Evaluation in Trip Generation and Car Ownership by Population Segments. Prepared for the 1st International Conference on Travel Behavior, Quebec City, Quebec, Canada, May 22-24, 1991. (Presenter: L. Kostyniuk).
318. Long Term Forecasting with Dynamic Microsimulation. Seminar on Student Research in Transportation Modeling and Meeting of the Committee on Traveler Behavior and Values (A1C04). Transportation Research Board 70th Annual Meeting, January 13-17, 1991 (Presenter: K. G. Goulias).
319. Impact of Telecommuting on Spatial and Temporal Patterns of Household Travel. Presented at the 70th Transportation Research Board Annual Meeting, Washington, D. C., January 13-17, 1991. (Presenter: R. M. Pendyala).
320. Innovations in Transportation: The Case of Telecommuting. Transportation Research Forum Meeting, Long Beach, CA, October 1990. (Presenter: K. G. Goulias).
321. A Practical Method for the Estimation of Trip Generation and Trip Chaining. Transportation Research Board 69th Annual Meeting, January 1990. (Presenter: K. G. Goulias).
322. Dynamic Aspects of Trip Chaining Behavior Under Time-Space Constraints (Nishii K., K. G. Goulias and K. Kondo). Presented at the 5th World Conference on Transport Research, Yokohama, Japan, July 10-14, 1989. (Presenter: K. Nishii).
323. Managing Travel Demand through Telecommuting: Results from the State of California Telecommuting Pilot Project. Institute of Transportation Engineers District 6, November meeting, Davis, 1989. (Presenter: K. G. Goulias).
324. Recursive Model System for Trip Generation and Trip Chaining. Transportation Research Board 68th Annual Meeting, January 1989. (Presenter: K. G. Goulias).
325. Trip Chaining Behavior by Central City Commuters: A Causal Analysis of Time-Space Constraints. 2nd Oxford Conference on Developments in Dynamic Analysis and Activity-Based Approaches to Travel Analysis, Oxford, UK, July 1988. (Presenter: K. G. Goulias).

HONORS AND PROFESSIONAL ACTIVITIES

Ex-officio/appointed - International Association for Travel Behaviour Research; iatbr.org (Jan 2022-Dec. 2023)

Chair - International Association for Travel Behaviour Research; iatbr.org (Jan 2020- Dec. 2021)

Vicechair/Chair elect - International Association for Travel Behaviour Research (Jan 2018-Dec. 2019)

Executive Board Member - International Association for Travel Behaviour Research (Jan. 2010- Dec. 2011, Jan. 2012- Dec. 2013, July 2015-Dec. 2017 as conference organizer).

Emeritus Member, Committee on Traveler Behavior and Values (2009-today). Transportation Research Board of the National Academies.

Member, Regional Travel Model Peer Review Panel, Maricopa Association of Governments, Arizona (2013).

Member, National Research Council - National Cooperative Highway Research Program, Project Panel B08-94 (2013-today).

Member, Scientific Committee of Chaire Mobilité sur la mise en oeuvre de la durabilité en transport, Département des génies civil, géologique et des mines École Polytechnique de Montréal, Canada, January 2011 - 2021.

Member, Review Committee of Metro Transport Models and Modeling Practices, Portland, OR, November 2009 – June 2011.

Member, Cadre for Strategic Plan for Advanced Travel Modeling at Chicago Metropolitan Agency for Planning (CMAP), Chicago, IL, October 2009 to June 2010.

Conference Chair and Co-organizer, Transport Science and Technology Conference (TRANSTEC) New Delhi, India, April 4-7, 2010 (<http://www.ewebevolution.com/transtec/>).

Chair, Strategic Highway Research Program 2 (SHRP 2) Capacity Expert Task Group (ETG) on Partnership to Develop an Integrated, Advanced Travel Demand Model and Fine-Grained, Time-Sensitive network, FD010 (C10). December 2008 to May 2009. Transportation Research Board of the National Academies.

Member, Planning Committee. Fourth International Conference on Women's Issues in Transportation, ABE99D, April 2008 to April 2011. Transportation Research Board of the National Academies.

Member, Peer Review Committee. TRANSIMS Deployment Case Study in the Sacramento Council of Governments region, CA, December 2009.

Dan and Carole Burack President's Distinguished Lecture, University of Vermont, April 2007.

Conference Chair and Co-organizer, Transport Science and Technology Conference (TRANSTEC) Prague, Czech Republic, September 13-15, 2007.

Editor, Transport Science and Technology, ISBN-10 008044707-4, Elsevier, 2007.

Member, Local Organization Committee, The 11th World Conference on Transportation Research Berkeley, USA, 24-28 June 2007. <http://www.wctrs.org/conferences.htm#11th>

Member, Planning Committee, Transportation Research Board – National Research Council, ADB99A Innovations in Travel Demand Modeling: A Conference, May 2006, Austin TX – December 2005 – 2006.

Member, Travel Model Peer Review Panel, Metropolitan Transportation Commission, Oakland, CA, 2004-2007.

Member, Transportation Research Board – National Research Council, ABJ99B (A1T97) Committee for the Conference on Census Data for Transportation Planning: Preparing for the Future May 2005, Irvine, CA – December 2003 – 2005.

Member, Conference Planning Committee, National Household Travel Survey Conference: Understanding Our Nation's Travel. November 1-3 Washington, D.C., Transportation Research Board (2003-2004).

Conference Chair and Primary Organizer, Transport Science and Technology Conference (TRANSTEC) Athens, Greece, September 1-5, 2004.

Conference Chair and Primary Organizer, Transportation Engineering and Safety Conference, University Park, PA, December 10-12 2003.

Fellow of Wessex Institute of Great Britain. Recognition of Leadership in Computational Engineering, June 2003. Wessex Institute of Technology, Centre of Excellence in Engineering Research and Technology, Southampton, UK.

Founder and Chair, Transportation Research Board (TRB), National Research Council, National Academy of Sciences. Task Force on Moving Activity-based Approaches to Practice (A1C53) – December 2002 – March 2008.

Judge of MS Theses & Ph.D. Dissertation Awards, Council of Universities Transportation Centers, 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012.

Editor-in-Chief and book contributor, Transportation Systems Planning: Methods and Applications, ISBN 0849302730, CRC Press Inc, 2003.

Expert Panel Member, Portland Metro, May-June 2002.

Guest Editor (with Ram Pendyala) for journal *Transportation*. Special Issue on: *Time Use and Activity Perspectives in Travel Behavior Research*, 2002.

Member, International Scientific Advisory Committee, URBAN TRANSPORT 2004, Wessex Institute of Technology.

Member, International Scientific Advisory Committee, ECOSUD 2003, Wessex Institute of Technology.

Member, International Scientific Advisory Committee, URBAN TRANSPORT 2003, Wessex Institute of Technology.

Associate Editor, Advances in Ecological Sciences Series, Wessex Institute of Technology Press, 2001-present.

Member, International Scientific Advisory Committee, URBAN TRANSPORT 2002, Wessex Institute of Technology.

Fulbright-FLAD Chair, *Distinguished Lecturing Award in Knowledge Management and Policies*, Technical University of Lisbon, Portugal, 1999.

Member of Editorial Advisory Board, *Transportation Research Part B, Methodological*. 2004 - present.

Member of Editorial Advisory Board, *Transportation Research Part A, Policy and Practice*. 1997-2001.

Member of Editorial Advisory Board, *Intelligent Transportation Systems Journal: Computing, Communication and Transportation*, G&B Editorial Services Inc. and Taylor & Francis, 2000-present.

Member of International Editorial Advisory Board, *Transactions on Transport Sciences, CDV - Transport Research Center, Czech Republic*. 2008-present.

President, Intelligent Transportation Society of Pennsylvania (State Chapter of ITS America), December 1999-2002.

Vice-President and Board member, Intelligent Transportation Society of Pennsylvania (State Chapter of ITS America), 1998-1999.

Chair and Member, Transportation Research Board (TRB), National Research Council, National Academy of Sciences. Member 1987-present

Committee of Travel Behavior and Values (A1C04), chair 1997-2003 & member 1992-present
Subcommittee on Activity Analysis and Travel Patterns, A1C04(1), chair 1995-1998
Committee on Telecommunications and Travel Behavior (A1C08), member 1994-1997
Committee on Urban Transportation Data (A1D08), 1995-1998

Control Group Member and Member, American Society of Civil Engineers (ASCE), member 1989-present

Environmental Quality Committee of the Highway Division, Secretary 1995-1997, Control Group Member, 1996-present.

Chair and Member, Institute of Transportation Engineers (ITE), member 1989-present.

Council on Intelligent Transportation Systems Executive Committee, member, 1993-1997
Institutional and Policy Issues Committee, chair 1993-1997.
Transportation Planners Council, 1994-1997.

Member, The International Association for Travel Behavior Research, 1993-present.

Member, The International Association for Time Use Research, 1995-present.

Member, The Econometric Society (ESA), 1989-93.

Member, American Society of Engineering Educators (ASEE), 1991-93.

Congratulatory letter by Secretary of Pennsylvania Department of Transportation H. Yerusolim to PSU President Joab Thomas for K.G. Goulias.

Paper Award Co-Recipient, first prize of the graduate student paper award of the Transportation Research Forum 1990.

Recipient, University of California, Transportation Center Dissertation Award. 1990-1991.

Paper Award Recipient, 1989, Title: Quasi-Simulation of Auto-type Choice: Minimum Requirements of Alternatively Fueled Vehicles. *Paper Award of the Institute of Transportation Engineers*, District 6, California, 15 pages.

Recipient, Department of Civil Engineering Scholarships of Fall 1986 and Winter 1987, University of Michigan, Ann Arbor.

Research Proposal Reviewer,

- *National Science Foundation, 1991-present.*
- *University Transportation Centers, 1991-present.*
- *Social Science and Humanities Research Council of Canada, 1999.*
- *Natural Sciences and Engineering Research Council of Canada, 2000, 2002.*
- *Canada Foundation for Innovation, 2001.*
- *European Commission, 5th Framework Program Sustainable Mobility and Intermodality (Transport research program), 2000.*
- *Directorate for Science and Policy Programs, American Association for the Advancement of Science (AAAS), Kansas NSF EPSCoR First Awards Program, 2003*
- *United Arab Emirates University, Research Affairs, 2006*
- *The Israel Science Foundation, 2006*
- *Grant Agency Academy of Sciences of the Czech Republic, 2006*

Member, International Group of Experts, The Netherlands Organization for Scientific Research (NWO) for Priority Research Programme ‘Society and the Electronic Highway’, 2000.

Auditor, Department of Transport on the South Perth Individualized Marketing Evaluation Survey, Western Australia, 2000.

Paper Reviewer of the Following Journals

- *Applied Geography*, 2009-present.
- *Computers, Environment and Urban Systems*, 2012-present.
- *Energy Economics*, 2011-present.
- *Environment and Planning*, 2003-present.
- *Geography Annals*, 2005-present.
- *Geographiska Annaler*, 2011-present.
- *International Journal of Geographical Information Science*, 2012-present.
- *International Journal of Sustainable Transportation*, 2010-present.
- *Journal of Intelligent Transportation Systems*, 2006-present.
- *Journal of Choice Modelling*, 2008-present.
- *Journal of Transport Geography*, 2012-present.
- *Journal of Transport Policy* 2008-present.
- *Journal of Transportation Engineering*, 2006 – present.
- *Journal of Applied Geography*, 2011-present.
- *Journal of Advanced Transportation*, 2011-present.
- *Multivariate Behavioral Research*, 2008-present.
- *Transactions in GIS*, 2012- present.
- *Transportation Research Record*, 1989-present.
- *Transportation Journal of American Society of Civil Engineers*, 1995-1998, 2003.
- *Transportation*, 1993-present.
- *Transportation Science*, 1995-1998, 2006-present.
- *Transportation Research Parts A & B*, 1994-present.
- *Transportation Research Parts C & E*, 2006-present
- *Transportation Letters*, 2008-present.
- *Transport Policy*, 2008-present.
- *Transport Reviews*, 2008-present.
- *Transportmetrica*, 2010-present.

Academic Performance Evaluator (Faculty promotion and tenure)

- *In Greece: University of the Aegean, University of Piraeus, Athens Economic School, National Technical University of Athens, TEI of Serres, Aristotle University of Thessaloniki.*
- *In Finland: Aalto University*
- *In the US: UC System and Other Institutions (confidential)*

University-wide Quality Assurance Evaluation Committees

- Member of External Evaluation Committee: University of Patras (December 2015)
- Member of External Evaluation Committee: University of Applied Sciences of Thessaly (April 2016)

ADVISOR/SUPERVISOR OF CANDIDATES.

<i>Student Name</i>	<i>Degree</i>	<i>Month/ Year</i>	<i>Title of Thesis</i>
<u>At the Pennsylvania State University, University Park, PA</u>			
Joe Milazzo	Undergrad . Honors Thesis	5/92	Route 220 Traffic Engineering Study
Gregory Shiffer	Undergrad . Honors Thesis	5/96	An Analysis of User Demand for Advanced Public Transportation System Technologies in the Centre Region
Jessica Sickman	Undergrad . Honors Thesis	5/97	The Effects of the East College Heights Traffic Diverters, A Review of Transportation Analysis Approaches
Abdul Zinnedin	Undergrad . Honors Thesis	12/98	A Demand-Based Framework for Rural APTS
Kent Selby	M.Eng.	12/93	Theoretical and Practical Issues Regarding U.S. Army Ammunition Freight Movement
James A. Burnett	M. Eng.	12/94	An Exploratory Analysis of Attitudinal and Behavioral Relationships for Use with Congestion Management Strategies
Chao-Yang Liao	M. Eng.	12/94	An Exploratory Analysis of Random Coefficient Regression Models for Transportation Demand
Yu-Tsai Chuang	M. Eng.	5/95	Nationwide Time Series Analysis of Intercity Freight Movement Using ARMAX Models
Steven Weller	M. Eng.	12/96	An Analysis of the Effect of Traffic Management On Emissions Using TRANSCAD and MOBILE 5.0A
Charles Plummer	M.Eng	5/97	A Social and Technical Review of the Electric Vehicle

<i>Student Name</i>	<i>Degree</i>	<i>Month/ Year</i>	<i>Title of Thesis</i>
Rachel Tait	M. Eng	8/97	Design of Multi-modal and Intermodal Facilities: The Harrisburg International Airport
Wei-Chien Chen	M. Eng	12/97	Portfolio
Yi-Ching Wu	M. Eng	12/97	Portfolio
Daniel Szekeres	M. Eng	8/99	Portfolio
Jahid Russel	M. Eng.	8/02	Portfolio
Aemal Khattak	M.S.	12/95	Identification of User Needs and Acceptance of Advanced Traveler Information Systems by Small Urban Area Commuters
Ming-Seng Lee	M.S.	5/96	Accessibility Indicators for Transportation Planning Using GIS
Rachel Dawn Tait	M.Eng	8/97	A Conceptual Analysis and Evaluation for the Harrisburg International Airport as an Intermodal and Multimodal Facility
John T. Marker	M.S.	5/98	Interaction of Truck and Passenger Vehicle Traffic In Traffic Assignment Using GIS-Based Software
Sajjad Alam	M.S.	12/98	Dynamic Emergency Evacuation Management System Using GIS and Spatio-Temporal Models of Behavior
Balasubramanian Chandrasekharan	M.S.	5/99	Cross-Sectional, Longitudinal And Spatial Characteristics of Joint and Solo Travel Patterns
Gopal Mandava	M.S.	8/99	DEMOS: A Demographic Microsimulator for Travel Demand Forecasting
Sandy Koza	M.S.	5/00	An Analysis and Assessment of the Resident Component in PennPlan's Public Involvement Survey
Xinge Yin	M.S.	12/00	An Activity-theory Approach in Intelligent Transportation Systems Design
Ashok Sundarajan	M.S.	8/01	Design and Validation of a Sociodemographic Microsimulator (DEMOS 2000) for Travel Forecasting
JoNette Kuhnau	M.S.	12/01	Activity-Based Travel Demand Modeling Using Spatial and Temporal Models in the Urban Transportation Planning System

<i>Student Name</i>	<i>Degree</i>	<i>Month/ Year</i>	<i>Title of Thesis</i>
Michael Zekkos	M.S.	12/03	Updating of Behavioral Equations & Implementation of Scenarios in CentreSIM
JinKi Eom	M.S.	12/03	Incorporating Truck Trip estimation in CentreSIM Using GIS Based Software
Jin-Hyuk Chung	Ph.D.	5/97	Traffic Impact Simulation of Access Management and Other Land-Use Policies Using Geographic Information Systems
June Ma	Ph.D.	12/97	An Activity-Based and Micro-Simulated Travel Forecasting System: A Pragmatic Synthetic Scheduling Approach
Ondrej Pribyl	Ph.D.	5/04	A Microsimulation Model of Activity Patterns and Within Household Interactions
Tae-Gyu Kim	Ph.D.	8/04	Transportation and Telecommunications Interaction
Saiyid Sikder	Ph.D.	8/05	Transportation and Economic Development: System and Service Considerations

At the University of California Santa Barbara (Committee Chair and Advisor/Supervisor)

Shaunna Burbidge	M.A.	12/04	Factors Effecting Active Mode Choice in Transportation: A case study of Centre County, Pennsylvania
Shaunna Burbidge	Ph.D.	6/08	Evaluating the Impact of Neighborhood Trail Development on Active Travel Behavior and Overall Physical Activity
Kathleen Deutsch	M.A.	12/08	What is So Special About This Place? An Examination of Sense of Place and It's Correlation to Travel Behavior
Pamela Dalal	M.A.	08/09	Education, Accessibility, and Mobility in Sylhet, Bangladesh
Nate Isbell	M.A.	08/09	Procedures to Identify "Low Hanging Fruit" Spoke-and-Hub Airline Routes Ripe for Conversion to Point-to-Point Operations
Kriste Henson	Ph.D.	12/10	Travel Determinants and Multi-scale Transferability of National Activity Patterns to Create Synthetic Populations
Seo Youn Yoon	Ph.D.	12/10	Multifaceted Analysis of Household Activity Based on Individual Accessibility

<i>Student Name</i>	<i>Degree</i>	<i>Month/ Year</i>	<i>Title of Thesis</i>
Kathleen Deutsch	Ph.D	9/13	An Investigation in Decision Making and Destination Choice Incorporating Place Meaning and Social Network Influences
Pamela Dalal	Ph.D.	9/13	Stability and Change in Travel Behavior and the Built Environment
Srinath Ravulaparthi	Ph.D.	12/13	Spatial Perspectives in Firm Behavioral Modeling: A Case-Study Analysis in Santa Barbara County
Adam Wilkinson Davis	M.A.	12/15	Investigating Place Attitudes in Santa Barbara, CA
Jay Hyun Lee	Ph.D.	9/16	Travel Behavior Dynamics in Space and Time
Elizabeth Calahan McBride	M.A.	12/17	Enhancing Population Synthesis using Land Use Indicators
Adam Wilkinson Davis	Ph.D.	06/19	Using Road Network Spatial Clustering to Assess the Timing and Duration of Dining, Shopping, and Entertainment Activities in California
Elizabeth Calahan McBride	Ph.D.	12/21	A theory-based approach to travel behavior analysis using pattern recognition and latent group identification techniques
Jingyi Xiao	Ph.D.	Ongoing	Exploring correlations among attitudes towards autonomous vehicles, demographics, vehicle ownership, and daily spatiotemporal activity-travel patterns.
Rongxiang Su	Ph.D.	Ongoing	Title: Merging two traditions in analyzing human behavior in space and time
Hui Shi	Ph.D.	Ongoing	TBD

Note: Membership in committees chaired by others not listed here

International Ph.D. Appraiser/Committee Member (degree completed):

- *Department of Civil and Environmental Engineering, University of Toronto, Canada. PhD committee member for Sean Doherty (1998)*
- *Department of Civil and Environmental Engineering, University of Toronto, Canada. PhD committee member for Paul Salvini (2003)*
- *Transportation Research Institute, University of Hasselt, Belgium. Davy Janssens Ph.D. Dissertation Jury (2005).*
- *Department of Civil and Environmental Engineering, University of Toronto, Canada. PhD committee member for Marek Litwin (2005)*
- *Instituto Superior Technico, Lisbon, Portugal. Joao de Abreu e Silva. Ph.D. Dissertation Jury (2006-2007).*

- *School of Graduate Studies, Universiti Putra Malaysia. Landscape Studies. Ph.D. Dissertation external examiner (2013-1014).*
- *Department of Shipping, Trade, and Transport. School of Business. University of the Aegean, Chios, Greece. Ph.D. Committee Member for Ioanna Kourounioti (2016).*
- *Department of Transportation Planning and Engineering School of Civil Engineering, National Technical University of Athens, Greece PhD. Committee Member for Ioanna Pagoni (2017).*
- *Department of Shipping, Trade, and Transport. School of Business. University of the Aegean, Chios, Greece. PhD committee member for Ioannis Tsouros (2018).*
- *School of Graduate Studies, Universiti Putra Malaysia, Serdang, Selangor. PhD Committee for Ding Rui (2018).*
- *School of Civil and Environmental Engineering. The University of New South Wales, Sydney, Australia. PhD committee for Ali Najmi (2019).*
- *Engineering – Technical University of Munich, Germany. PhD committee member (Prufende de Dissertation) for Emmanouil Chaniotakis (2020).*
- *Department of Shipping Trade and Transport. University of the Aegean, Greece. PhD committee member for Theofani Hatzioannidu (2021).*
- *Centre for Environmental Sciences Hasselt University. PhD. Committee member for Ilias Mokas (2022).*

NARRATIVE STATEMENT

I was born in Athens, Greece, where I also completed my pre-university studies. I continued my studies at the University of Calabria in Italy graduating with a Laurea in Engineering degree (5 years with a thesis) with specialty in Civil Engineering and in Territorial Planning. My thesis, in Italian, supervised by Demetrio Festa, involved the creation, testing, and application of an algorithm for maximum likelihood estimation of Multinomial Logit models for mode choice. I then continued my research with a post-graduate scholarship named integrated study (corso integrativo) at the University of Calabria to develop a mode choice model for the City of Cosenza, Italy. Subsequently (August 1986 to August 1987) I received an MSCE from the University of Michigan, Department of Civil Engineering, concentrating on traffic engineering, highway design, and probabilistic models for civil infrastructure systems. Between August 1987 and August 1991, I completed my Ph.D. at the University of California, Davis, with a brief visit to University of California, Irvine, and two brief visits in the Netherlands at the Bureau Goudapel Coffeng, Deventer in projects funded by the Rijkswaterstaat (Dutch Ministry of Infrastructure and the Environment). In my dissertation, supervised by Ryuichi Kitamura, I created a demographic and travel demand micro-simulator (MIDAS) for the Netherlands that was funded by the Rijkswaterstaat and the University of California Transportation Center in 1990 and 1991. During this period I also worked on a variety of projects including telecommuting studies, panel/longitudinal survey design and analysis, dynamic econometric modeling, and freight simulation models.

My faculty member career started at Penn State University in the Fall of 1991 as an *assistant professor*, was promoted to *associate professor* in July 1997, became director of a research program at the Pennsylvania Transportation Institute in 1997 and director of a center for excellence in Intelligent Transportation Systems in 1997. I achieved the rank of *full professor* in July 2002 and became *director* of the Mid-Atlantic Universities Transportation Center in September 2002. In March 2004, I joined the faculty at the Department of Geography of the University of California at Santa Barbara (UCSB) where with

professor Rick Church we developed the GeoTrans laboratory dedicated to transportation modeling and simulation. In my first few years, I developed estimation methods and computer code for data analysis and simulation systems for nationwide demographic and travel demand forecasting. These systems use dynamic econometric models of traveler behavior and microanalytic stochastic simulation methods. After this initial period I developed a larger research program that includes data collection, analysis, and development of digital twins. At Penn State and at UCSB, my primary research interests are in the area of quantitative transportation planning.

In research my team and I transformed many analytical approaches to become behaviorally realistic incorporating in the analysis spatial perception. The domain of most of my work is for transportation policy questions about land use changes and their impact on transportation and the environment, provision of accessibility and mobility and their relationship to equity, sustainability, and optimal resource allocation of public and private investments.

My three main research objectives are to: 1) Design data collection methods about people and places to understand spatio-temporal behavior and human interaction; 2) Develop analysis and pattern recognition techniques to identify behavioral heterogeneity and trends; and 3) Create simulation frameworks and model applications to design smart and green policies with digital twins. Below for each substantive area I provide a short description.

Behavioral Dynamics: I used the first U.S. general purpose transportation panel survey (i.e., repeated interviews of the same individuals over time) data set and designed new demand forecasting tools. I created a research stream called Longitudinal Integrated Forecasting Environment (LIFE) with a variety of projects funded by the Puget Sound Regional Council, Federal Highway Administration (U.S. Department of Transportation), the Mid-Atlantic Universities Transportation Center, the Center for Intelligent Transportation Systems, the Fulbright foundation, the University of California Transportation Center, and the UC Office of the President. In this effort, models of panel participation and attrition, relocation, activity participation, and household time allocation were developed to explain and predict the dynamics of human behavior. A key product in this area is DEMOS (based on earlier work in my dissertation called MIDAS), which is a stochastic microsimulation model system for demographic forecasting linked to a set of dynamic econometric models for travel demand forecasting. This work continued in a 2009-2010 University of California Transportation Center (UCTC) project with title *Forecasting with Dynamic Microsimulation: Design, Implementation, and Demonstration* in which a new version of DEMOS is linked to land use modeling in California and leads to a Ph.D. dissertation by Pamela Dalal on behavioral leads and lags and their correlation to accessibility. Moreover, ideas from this work are used in a SCAG sponsored project called *Household Evolution* and another project in QATAR for which my team in GeoTrans developed location choice models to feed the Qatar Activity Based Model that I directed. Another direction in this area is a research project that provided funding for Ondrej Pribyl's dissertation in which using soft computing applications for travel behavior and methods for data clustering, modeling within household interactions in time allocation, a software for forecasting by stochastic microsimulation was created. Ondrej's work demonstrated the need to consider intra-household interactions in developing model systems for forecasting. His work earned him professorship position at the Czech Technical University in Prague in the Department of Applied Mathematics and where he holds the position of Dean in 2022. At UCSB this and in a third major direction Seo Youn Yoon's dissertation work on *Spatio-temporal Dynamics of Travel Behavior* demonstrated how daily interactions can be modelled. The more recent work on residential

location, car ownership, and travel behavior that also accounts for attitudes in the fourth direction in this substantive area with Jay Lee, Adam Davis, and Elizabeth McBride.

Decision Making Tools: I completed eight projects funded by the Centre Regional Planning Commission, the Pennsylvania Department of Transportation, the Pennsylvania Legislature's Low Emissions Vehicle Commission, and the U.S. Department of Transportation producing a variety of decision support methods and systems for transportation planning agencies at the local (regions), the state, national, and international levels. One early key product in 1995-97 is Access Management Impact Simulation (AMIS), which identifies local and regional impacts of new developments using Geographic Information Systems and a combination of regional with local traffic simulation tools. This work also supported Jin-Hyuk Chang's dissertation, which continued at Yonsei University in Seoul, South Korea where Jin-Hyuk is a professor. My research in this area also motivated a significant component of a large project for PennDOT that is the performance-based statewide long range transportation plan in Pennsylvania (PennPlan) and its monitoring component to address a wide range of issues including technology market penetration, land use planning, safety, and economic development. I also designed and implemented a regional simulation model system for Centre County, PA, called CentreSIM, which included a new survey design and implementation as well as activity-based model development. This work was also the foundation of a feasibility study of an activity-based travel demand forecasting system designed for the Southern California Association of Governments (SCAG). This effort motivated a collaboration with Professors Chandra Bhat (UT Austin) and Ram Pendyala (ASU) for the SCAG region to create SimAGENT, a large scale application of an activity-based microsimulation model for 2020 and 2035. This was later modified to fit the realities of QATAR that in turn was integrated with time of day parking demand and traffic assignment in collaboration with two Italian Universities and ItalConsult. In a parallel track this research continued with the work of my former Ph.D. student Kriste Henson at Los Alamos National Laboratories for her dissertation using the entire US (48 continuous states) as a case study to build *Generic Cities for Homeland Security* using many layers of data that have never been pooled together. Kriste is already recognized for her pioneering work with two UCTC dissertation awards and a substantial Eisenhower fellowship award. In another research direction we started analyzing business establishment data with Srinath Ravulaparthi to identify the determinants of birth, death, and relocations of businesses as well as their efficiency in converting inputs to outputs and its relationship to significant life cycle events of firms including location choices. Based on this work we completed a study for Caltrans on business establishment survival and success for the entire State of California and showed the importance of public transportation for business establishments. This work also continued with another graduate student Adam Davis who also expanded ideas about heterogeneity and individuality/special character of groups of business establishments (spatial clusters) as attractors of different people at different times of a day in his dissertation.

Sustainable/Green Transportation: I have been involved in non-motorized transportation research, design of hybrid-electric vehicles, and air pollution control program evaluation since 1991. Key products in this area include the evaluation of the California Low Emission Vehicle program for the Pennsylvania's LEV Commission, assessment of the IndiMark program in Western Australia and in Queensland, and market analysis for the Portuguese government in developing a factory of hybrid-electric vehicles in Lisbon. Lessons learned from this area are used directly in the SCAG activity model that will use the newly created MOVES and EMFAC2011 models to estimate emissions for air pollutants and Greenhouse Gases. Work and experience in this area also motivated me to create the *TRANSTEC* series of conferences (Athens 2004, Prague 2007, and New Delhi, 2010) and a new research direction in aviation (see below). In the period 2009-2012 we developed with Professor Amalia Polydoropoulou of the University of the Aegean a real-

life experiment with data collection and modeling-simulation of travel behavior in the Islands of Chios and Lesbos in Greece. In this project, called GreTIA-Green Transportation in Island Areas and funded by the European Union, quantitative indicators of economic development, social impacts, and environmental impacts are estimated and a simulation system is produced to assess the market penetration of (electric) power assisted bicycles and electric cars used by residents and tourists. We continued this work with Adam Davis studying the spatio-temporal distribution of the bikeshare system in San Francisco, CA. In a different direction the role of *air travel and operations* in decreasing Greenhouse Gas (GHG) emissions with Nate Isbell for his Master's in which we developed an assessment tool of the hub-and-spoke aviation operations. The tool shows that strategically selected direct point to point flights decrease substantially GHG emissions and travel time. Nate was also recognized for this research with an Eisenhower fellowship and is working for a firm that develops urban air mobility solutions.

Human Environment Relations: I am developing with my colleagues at UCSB new approaches to relate space, place, and travel behavior from multiple viewpoints. Active transportation, traveling accompanied by physical activity to benefit personal health, is one key direction in this area. This research was developed predominantly with Shaunna Burbidge, my first MA and PhD graduate student at UCSB, who completed her PhD project in Salt Lake City, UTAH, on assessing the impact of providing active transportation infrastructure improvements using a before-after setting. Shaunna's work was recognized during her studies at UCSB by UCTC dissertation awards, an Eisenhower fellowship, and after graduation by a variety of paper awards by other organizations. With opportunity expertise in our department, this area of research is also evolving in a technology-aided area using geospatial technologies, visualization, and computation aided by data that contain rich spatial and temporal information. In this context, I co-organized with other colleagues at UCSB a workshop funded by the Federal Highway Administration to define research projects that will help us advance a new vision in this arena. Emerging from this with Kate Deutsch we designed a new data collection technique to measure sense of place (SOP) and correlate it to travel behavior indicators such as destination choice, departure time, and mode choice. Kate in her MA thesis demonstrated the feasibility of these ideas and won a 2009 best transport geography thesis award by AAG. Kate also received a major Eisenhower fellowship for 2009-2010 and the Brython Davis Endowment Graduate Fellowship for 2009-2010 as well as the Presidents fellowship to continue this line of work in her dissertation research by collecting data based on spatial cognition theories merged with activity and travel behavior theories. The data analysis gave us the opportunity to map an entire region and show why specific locations are perceived as more attractive than others. This work continued by Adam Davis in his MA thesis using more sophisticated modeling techniques that account for spatial correlation and the cross-classified nature of the data. From another viewpoint, with Dr. Abreu e Silva from the Technical University in Lisbon we created a multi-country comparative study on land use, residential location, job location, and travel behavior. This work continued with collaborations in Canada (building a model for Montreal with Catherine Morency of Ecole Polytechnique) and the US (in Seattle and Los Angeles). In addition, in a California statewide study with Seo Youn Yoon and Tom Golob (UC Irvine) we tested many hypotheses on the relationships among land use, residential location, infrastructure provision, and activity/travel behavior. In this research area but in the developing world with Pam Dalal we also completed a study on transportation expenditures, education/literacy, and residential location in Sylhet, Bangladesh. Findings in this area inform many of the elements in activity-based travel demand forecasting models worldwide.

Human Interactions: In an open-ended time use survey I collected data on activity participation and travel to identify the underlying motivation for the interacting behavior of humans in their every-day life. Tae-Gyu Kim (who is now the director of research in North Carolina DOT) developed multilevel models for his

dissertation. This helped us explore issues of altruistic and self-serving behavior as well as reciprocity in time allocation and travel with Kriste Henson. In parallel, using existing data we developed models of human interactions using multilevel multivariate dynamic models to decompose behavioral variance in its multiple hierarchical components. To support this, with Seo Youn Yoon we created explicit functions of this interactive behavior in households accounting for the environment experienced by people in their everyday life viewed as agents that engage in bargaining behavior. This is a major developing emphasis of model building at UCSB with funding from the UC Office of the President. Seo Youn's progress in this area was also rewarded with an Eisenhower fellowship, a UCTC dissertation fellowship, and in the 2009-2010 academic year the UCSB Graduate Division Dissertation Fellowship. Later using more sophisticated modeling techniques called sequence analysis and motif extraction we developed daily rhythms of activity participation with Elizabeth McBride and Rongxiang Su. We also studied the gender roles based on data about with whom and for whom activities were completed discovering the importance of detail in human interactions to explain travel behavior. In addition, using sequence analysis and motif identification we studied the behavior of different senior citizen cohorts and telecommuters with Elizabeth McBride, Rongxiang Su, and Jingyi Xiao. This was later expanded to correlate daily activity-travel patterns with the propensity to own and operate autonomous vehicles with Jingyi Xiao and to study activity-travel fragmentation spatial clustering with Hui Shi.

Information and Communication Technology (ICT) and Transportation: Heavy interest in this research field started within a subfield known as **Intelligent Transportation Systems (ITS)**. In this area I developed a new method for the design of ITS based on contextual theories of human behavior and methods to evaluate the effectiveness of operational systems. Key products in this area include the independent evaluations for the Pennsylvania Turnpike Commission of its Advanced Traveler Information System (ATIS) and a series of evaluations for the Pennsylvania Department of Transportation. With my collaborators we also developed a variety of models about awareness and use of information by different types of travelers. In addition, with graduate students we developed conceptual frameworks and models of the **ICT** impacts on transportation for passenger and freight travel. Key products in this area include a framework for studying grocery teleshopping with my former student John Marker and a series of papers analyzing the effects of mobile technologies on travel behavior of individuals and their households. Another important accomplishment in this area is the work we completed with Tae-Gyu Kim on telecommunications and travel behavior using the Puget Sound Transportation Panel. Tae-Gyu in his dissertation employed a variety of econometric methods and structural equations models to study different aspects of the dynamic relationship between ICT and travel. He is now the Model Research and Development Group Supervisor of the North Carolina Department of Transportation.

Subjective Well-Being (SWB): SWB is people's emotional responses, domain satisfactions, and global judgments of life satisfaction and these are correlated with travel behavior. SWB can be separated into an affective component (the presence of positive affect and the absence of negative affect in a specific action) and a cognitive component (information-based appraisal of a person's discrepancies between expectations and experience). In the context of time-use, activity participation, and travel with graduate students and collaborators we began analyzing time use data and started development of new data collection methods in the US (Kate Deutsch dissertation on cognitive and affective) and Greece (GreTIA project on affective). Some early findings using national time use data were presented with Ravulaparthi at IATBR conferences, in a short course at the University of the Aegean, and a seminar at KRIHS in Seoul, Korea. We continued this with Jay Lee studying the dynamics and relationships between SWB and SOP of UCSB students. Merging SOP with SWB helped us develop ideas such as place happiness. All these ideas are used to assess

Smart city initiatives for which we are developing new metrics. In parallel, in GeoTrans we are developing new techniques that can assess subjective well-being by harvesting social media data. Jae-hyun Lee's work in this area is of fundamental importance demonstrating the full value of Tweeter data as a tool to complement traditional household surveys and large scale statewide travel demand forecasting models.

Optimal Allocation of Resources: I co-developed with two colleagues from Bangladesh a Data Envelopment Analysis (DEA) tool to estimate the effect of transportation on economic development and the possible lagged effects of public investments. In this direction with my former Ph.D. student Saiyid Sikhder we developed a comprehensive and longitudinal approach for optimal allocation of resources. Saiyid continued in this area of research as the Chief of the Physical Infrastructure Division of the Planning Commission of Bangladesh. In this area we also completed a project in a joint partnership with UC Irvine that I directed and was funded by the California Department of Transportation through the PATH program extending the methodology to social welfare of transportation investments using stochastic frontiers and fractal-based methods of social equity. Key product in this area is a new method using GIS to assess efficiency and inequality in allocating resources and a series of methods to compute statewide accessibility measures using existing databases. In this area with Srinath Ravulaparthi we developed a new method to assess firm technical efficiency and propensity to relocate and correlate these with network topology and geometry.

TEACHING & TRAINING

All my undergraduate and graduate courses are heavily based on the research directions above. During the past almost twenty years I focused on modifying the material of courses from a Civil Engineering curriculum to fit the UCSB Geography curriculum, developed new courses tailored to Geography, strengthened the graduate program in transportation at UCSB by testing a new Ph.D. emphasis in transportation, taught a lower level undergraduate course (Geography 5), supported our mandatory quantitative Geography graduate curriculum (Geography 210B and 210C), and created a new course Geog 111C Smart Green Cities that combines ideas from Civil Engineering and Geography based on earlier ideas from freshman seminars with Adam Davis and Elizabeth McBride.

At the undergraduate level I also supervised many individual studies courses (199 & 199RA) designed by the students in the form of open ended projects on sustainable transportation, which was also expanded to include other areas such as sustainable tourism, GIS applications, and data collection techniques. My role is to provide oversight, information about sources of information, and guidance in developing objectives, doing research, delivering final products, and grading. The overall scope of these courses is **actions for sustainable development**, which is a key activity housed in our department.

At the graduate level I also supervised a variety of individual studies courses in which students work on small research projects involving hands-on experience with data analysis, findings interpretation, and writing of project reports. These experiences are designed to give them the opportunity to write research proposals and papers and give professional presentations at national and international research meetings. In fact, many research awards they received (e.g., Eisenhower fellowships for Shaunna Burbidge, Kriste Henson, Seo Youn Yoon, Kate Deutsch, and Nate Isbell) are the direct result of this activity. I am also involved in international graduate education at the University of Calabria (Italy), the University of the Aegean (Greece), and here at GeoTrans hosting undergraduate and post-graduate students from ENTPE

(France), Mediterranean University of Reggio Calabria (Italy), and University of Calabria (Italy). I also host researchers from Portugal (Instituto Superior Tecnico), Polytechnic of Madrid (Spain), Liaoning Normal University (China), and Shanghai Maritime University (China), and Hasselt University (Belgium) as visiting scholars collaborating in joint research projects.

During the most recent period I reorganized all my courses to have laboratories with data analysis in R (this is freely available software and has a large community of contributors in <https://cran.r-project.org>). I finalized new laboratory exercises for Geog 111A/211A Transportation Planning and Modeling, followed by regression and choice modeling in Geog 111B/211B Transportation Modeling and Simulation. Substantial part of this material was also used in the laboratories of Geog 210C on Spatial Statistics in Spring 2019.

In July 2018, I organized the most important conference in travel behavior called International Conference of Travel Behavior (IATBR2018.org) with 340 participants, 178 presentations, and 8 workshops on the state-of-the-art in research. The participants are faculty members and graduate students from a variety of departments including Computer Science, Civil Engineering, Geography and Spatial Science, and Economics. The teaching contribution is the active involvement of graduate students from around the world in co-leading the 8 workshop discussions on the state of the art in travel behavior analysis methods and then giving presentation at the plenary. These are all recorded and appearing in the youtube channel IATBR18 (https://www.youtube.com/channel/UC-yVXOJCWdAud-e666_fYjw).

I also co-organized a one-day workshop in honor of Daniel McFadden (Nobel Laureate in Economics 2000). The education part of this is access to graduate students to learn about the state of the art in choice modeling and to attend Dan McFadden's feedback to presenter on their research work.

In the first quarter of 2019 I prepared with my colleagues at UT Austin, ASU, University of Rome La Sapienza, and University Roma III a two-day hands-on training course of activity-based travel demand forecasting, data analysis, and estimation of econometric models for simulation. The course also included the development and provision of open source software in Python, R, and GAUSS. This two-day event took place in March 17 and March 18, 2019 in Doha, Qatar.

In Spring 2021 and Spring 2022 I prepared and delivered three hour lectures to the Methods Course of the University of the Aegean Masters of Business Administration in Shipping. The topic is on spatial analysis of international and domestic USA trade flow of a variety of commodities and the modal split and infrastructure to move goods. The method for data analysis is network data analysis. This material was modified and used as seed in new lectures in my regular courses in Fall 2021. In Spring 2021 and Spring 2022 I prepared and delivered a lecture on Sustainable Transportation for the UCSB Geography course Geog 287 - Seminar in Climate Sciences and Climate Change. These last few activities expand my repertory beyond travel behavior.

Courses Taught at UCSB and Frequency

Course	Title	Frequency
Geog 5*	People, Place and Environment	Twice
Geog 111A**	Transportation Planning and Modeling	Yearly
Geog 111B**	Transportation Modeling and Simulation	Yearly
Geog 111C**	Smart Green Cities	Yearly

Geog 210B	Analytical Methods in Geography II – regression methods	When needed
Geog 210C	Analytical Methods in Geography II – spatial statistics	When needed
Geog 211A	Transportation Planning and Modeling	Yearly
Geog 211B	Transportation Modeling and Simulation	Yearly
Geog 211C	Activity and Travel Behavior Analysis	When needed
Geog 288	Behavioral Theories and Processes	When needed
Geog 288	Urban and Traffic Microsimulation	When needed

* Lower division undergraduate, ** Upper division undergraduate paired with first year graduate courses

SERVICE TO THE PROFESSION AND THE UNIVERSITY

My service spans a wide spectrum of activity that includes serving on editorial advisory boards of prestigious journals and establishing a new international journal, supporting and chairing international and national conferences and annual meetings, serving on peer review panels and chairing expert task groups and councils, reviewing and appraising research proposals and dissertations, and chairing and serving on a variety of UC systemwide, UCSB campus based, and departmental committees, councils, and boards. In addition, at PennState I also served on a variety of administrative functions directing programs and centers that continued at UCSB as co-director of Geotrans and associate director of UCTC as well as campus director for the MRPI on sustainable transportation. Below I am describing four accomplishments in service that represent my contributions in this area.

I was fortunate and proud to have the opportunity to collaborate with many colleagues in the US and abroad co-organizing many conferences and workshops. The most time consuming but also rewarding involvement for me was an international conference of 80 presentations and 150 participants. I organized and managed all the activities leading to the *Transportation Science and Technology Congress (TRANSTEC)* to coincide with the Athens 2004 Olympics. The conference was sponsored by US and European organizations and companies and was tremendously successful bringing together specialists that are usually isolated from each other. I also edited a 30 chapter book for Elsevier published in 2006 that contains papers from this conference. Subsequently in collaboration with colleagues at the Technical University of Prague we organized *TRANSTEC 2007* (<http://filip.fd.cvut.cz/transtec/>) and with colleagues from the UK and India organized the *TRANSTEC 2010* in New Delhi. I also served as member of the Local Organization Committee and track leader for freight models of the 11th *World Conference on Transportation Research* Berkeley, USA, 24-28 June 2007 (<http://www.wctrs.org/>) and continue to contribute in a supporting role many other international and national transportation conferences and annual meetings (by the Transportation Research Board and International Association for Travel Behaviour Research). The culmination in this area of conference organization has been the 15th International Conference on Travel Behavior Research that I chaired and organized in July 2018 at the University of California Santa Barbara campus in 2018 (www.iatbr2018.org).

A second area of heavy involvement and accomplishment is the committee work at the Transportation Research Board (TRB) and the National Research Council (NRC) of the National Academies in which I am active in the past 35 years. Most visible has been my chairmanship of **Committee on Traveler Behavior and Values** and one of its subcommittees on **Activity Analysis** and the subsequent creation and chairmanship of the **Task Force on Moving Activity-based Approaches to Practice**. In parallel, I also actively participated in all but three of the TRB annual meetings since 1989 by organizing sessions,

reviewing papers, and presenting papers of my own research. In 2008-2009, I also served as chair of the **SHRP2 Expert Task Group** to write a request for proposals of a new research program (C10) and served on many National Research Council committees reviewing research and organizing workshops including conference organizing committees. All this activity earned me the unique honor to be elected by my peers as an **Emeritus Member of Committee on Traveler Behavior and Values in 2009**.

My third accomplishment in service to the profession is the creation of **Transportation Letters** in 2008 with Kouros Mohammadian from University of Illinois at Chicago. This is a quarterly peer reviewed **International Journal of Transportation Research** that publishes high-quality research papers. The focus of Transportation Letters is on analytical and empirical findings, methodological papers, and theoretical and conceptual insights across many areas of research in transportation. The first fourteen issues of the journal are available in both print and electronic versions. The main topics and subject areas covered in the journal include, but are not limited to, state-of-the-art research in transportation policy analysis and planning, system design, operations, management, maintenance and rehabilitation, as well as modeling and simulation, choice and other decision making models, behavioral and attitudinal analysis, and human factors and cognition. The journal was published by J.Ross Publishing until 2012, later moved to Maney Publishing – <http://maneypublishing.com/index.php/journals/trl>. In 2013 is indexed and received its first impact factor of 0.5. In 2016 the journal was moved to Taylor and Francis (<http://www.tandfonline.com/toc/ytrl20/current>) and today has an impact factor of 3.598 (2020)

My fourth accomplishment in service is in **shared governance** at UCSB. From 2005 to 2008 I served as the **chair** of the Parking Ratepayers Board. In that period we navigated through a crisis and successfully attracted a new director and managed a budget of approximately \$5 million per year with success. For three years I also served as the **vice-chair** of the UCSB Senate Council of Faculty Issues and Awards (<https://senate.ucsb.edu>), which also includes chairing the committee on teaching awards. I was also the UCSB **representative** to the UC systemwide committee called University of California Faculty Welfare committee. The task of the council and committee is to meet monthly and review many policies and to develop faculty positions about these policies (e.g., retirement programs, faculty salary, reforms of the office of the president, budget issues, revisions to academic manuals) as well as provide communication between the systemwide activities and UCSB. Although these service commitments are time consuming, they gave me an opportunity to contribute to the very important approach to shared governance at UC. In the UCSB Senate I also served as **representative** on the Senate Faculty legislature for two years. In 2013-14 and 2014-15, I served as **member** of the Committee on Academic Personnel that reviews and judges all recruitments, retentions, exceptions from open recruitment, and merit advancements and promotions (on average every 3-years every faculty member is reviewed in the UC-system). At UCSB this committee reviews approximately 300 cases per year. In the years 2016-17, 2017-18, and 2018-19, I served as a member of the Council of Planning and Budget that provides programmatic advise to UCSB and also assesses and recommends FTE plans of all 45 academic departments. In the years 2019-20, 2020-21, and 2021-22, I served on the Graduate Council that is in charge of reviewing and approving graduate level proposals and selects candidates for graduate level fellowships. I also served on a variety of committees within the Department of Geography (<https://www.geog.ucsb.edu>) including the Graduate, Colloquium, and Chairs Advisory, Computing and Information Systems, and Diversity committees.

I am also active in other professional service as the following table shows from the past 4 years.

Years	Position	Type of Service
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2018	Member	Peer Review Panel for the Maricopa Association of Governments (MAG) Activity Based Model (ABM), Phoenix Arizona. Reviewed the new simulation models for the regional transportation plan in the Phoenix Metropolitan Area, AZ. Participated in a one-day meeting Dec 2018 and co-authored a peer review report mapping needs for improvement.
2020	Member	Peer Review Panel for the Maricopa Association of Governments (MAG) Activity Based Model (ABM), Phoenix Arizona. MAG requested a second review of progress with a new report about new modeling and simulation in October 2020. Our committee revised the peer review and issued a new final report.
2019	Member	Peer Review Panel for the Southern California Association of Governments (SCAG) Activity Based Model (ABM). Reviewed the new simulation models for the regional transportation plan in the SCAG region, CA. Participated in a one-day meeting May 2019 and co-authored a peer review report.
2020	Member	Peer Review Panel for the Association of Monterey Bay Area Governments (AMBAG) Activity Based Model (ABM). Reviewed the new simulation models for the regional transportation plan in the AMBAG, SLOCOG, and SBCAG regions, CA. Participated in a one-day meeting and co-authored a peer review report.