



UNIVERSITY OF
MARYLAND

National Transportation Center

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WORKSHOP

**APPS: AUTO, PEOPLE AND POLICIES: ADDRESSING
THE ISSUES OF THE NEW MILLENIUM**

Final Report

by

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for

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
1.0 OBJECTIVES	6
2.0 LECTURERS AND CONTENTS	6
3.0 PARTICIPANTS	9
4.0 OUTCOMES	9
APPENDIX	10

LIST OF FIGURES

Figure 1: Workshop flyer	10
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EXECUTIVE SUMMARY

The workshop on policies and methods related to vehicle ownership and use was held at the University of Maryland on January 16th, 2015. The lectures presented by the invited speakers have covered a wide spectrum of topics, all relevant for the competitiveness of our country and the sustainability of our mobility lifestyle. More than 40 people from different countries, including students, representatives from public agencies, research laboratories and consultancies, registered and attended the event.

1.0 OBJECTIVES

The research team lead by Dr. Cinzia Cirillo has organized a workshop on policies and methods related to vehicle ownership and use. The lectures presented by the invited speakers have covered a wide spectrum of topics all relevant for the competitiveness of our country and the sustainability of our mobility lifestyle.

The workshop announcement has been diffused through several TRB committees (i.e. ADB10, ADB40 and ADC20); and through the mailing list of the International Association for Travel Behavior Research (IATBR). The flyer has been also sent to the attention of State (Maryland SHA, MDOT) and federal agencies (FHWA, USDOT, DOE).

2.0 LECTURERS AND CONTENTS

All the speakers contacted have accepted our invitation and have agreed to give a contribution in line with the objectives of the scientific seminar.

The keynote lecture has been given by Dr. David Greene from University of Tennessee and former fellow of the Oakridge National Laboratory. Dr. Greene is an internationally recognized expert in transportation and energy issues, alternative fuels, fuel economy and costs of oil dependence, and he is the author of more than 250 professional publications on transportation and energy issues. His talk has provided a wide overview of the problem and introduced the main unresolved research questions related to the prediction of car ownership and use in the future. In particular, Dr. Greene has emphasized the fact that the transition to zero emission vehicles poses new challenges for public policy because of the time required, deep uncertainty, and regional and international interdependencies. Because of this uncertainty, policies must adapt based on the positive learning process that R&D can support.

The first lecturer of the day was Professor Oliver Gao, Associate Professor at Cornell University and editor in chief of Transportation Research part D. Dr. Gao is an expert in environmental issues in transportation systems (especially air quality and climate change), energy, and sustainable development. His talk was centered on the temporal and spatial scales of GHG emissions across different transportation infrastructures and real results from a case study in New York were presented to the audience.

Volpe economist Don Pickrell has discussed some of the findings from his research about the recent decline in driving. He said that Vehicle Miles Travelled (VMT) has dropped during the most recent recession, as it has during previous ones. But unlike after prior recessions, it still hasn't recovered. The recent decline in driving is concentrated among teens and young adults while seniors are driving more than the same age group did a decade ago. Gasoline prices have risen sharply since 2005 and are much more volatile compared to the late 1990s. The decline in VMT does not appear to be a result of shifting to other modes: gains in transit, biking or walking, and teleworking each account for only about 1 percent of the recent decline in VMT, and e-

shopping has reduced vehicle use by less than expected because it requires more truck travel to deliver purchases. One of his main conclusions was that "Car ownership is essentially at its saturation point".

Dr. Cinzia Cirillo, organizer of the workshop and Associate Professor at The University of Maryland, Department of Civil and Environmental Engineering presented results from her recent research sponsored by the National University Transportation Center at UMD and the National Science Foundation. In particular, she gave a wide overview of a model system that is able to predict vehicle ownership (including type and vintage) and use for the US and the integrated module for GHG emission estimation. Results from recent work on dynamic discrete choice models applied to the problem of predicting adoption of new vehicle technology were also presented.

Professor Ricardo Daziano talk was centered on the slow transition to new propulsion technologies and showed evidence of an energy paradox in the valuation of future savings. His main conclusions were that the compensating variation of range improvements is much lower than the cost of producing that improvement and that the adoption of autonomous navigation looks promising. Desirability for safety features also remains very high in individuals' preferences.

Dr. Elisabetta Cherchi from the University of Copenhagen offered an international perspective on choice and attitude registered in Europe in response to the adoption of innovative policies concerning the use of the electric vehicle.

Davide Cerruti from the Department of Agricultural Economics at UMD presented results from a recent analysis conducted in collaboration with Resources for the Future on data from the UK. Mr. Cerruti gave to the audience the perspective of economists on the problem and outlined how taxes have been effective in changing people behavior and how they can be used in the US context.

Dr. Scott Levine presented findings from a number of his recent studies mainly aiming at understanding factors that are changing people behavior towards car use in the UK. In particular, he has analyzed which factors are associated with young adults delaying or even forgoing driving licenses. Dr. Le Vine explained that based on his results there is no evidence that attitudes to sustainability and online-activity are associated with young adults' decreased 'auto-mobility'. Instead, the run-up in fuel prices in the 2000s seems to have affected all ages and the increasing cost/difficulty of acquiring a driving license disproportionately affected young adults. He also urged researchers to better understand new manifestations of the classical hypotheses.

The workshop has been closed by Jacob Ward who is the head of the vehicle technology division at the Department of Energy (DOE). His program in collaboration with industry helps to develop and deploy advanced vehicle technologies, including highly efficient combustion engines, lightweight materials, and electric drive vehicles. Mr. Warde has concluded that this is a period of transition and that research is needed to understand what technology to develop, how people will adapt to new products and how policies can guide the process of innovation.

3.0 PARTICIPANTS

In terms of participation, the seminar has been very successful; more than 40 people registered and attended the event. Attendants included student from the University of Maryland and Morgan State University. The audience had very different backgrounds; there were representatives from public agency (New England Transportation Institute), research laboratory (Argonne); consultancies (Resources for the future; Energetics Inc.). We are proud of the participation of a representative of the European Commission (Research directorate) and of a number of international researchers (Germany, The Netherlands, and Italy).

4.0 OUTCOMES

We believe that students from our program have benefited from the interaction with internationally recognized scholars in this promising area of research and that the workshop has been of interest to both local and international researchers and practitioners. We also think that the event has contributed to the visibility and credibility of National University Transportation Center at the University of Maryland, and that possibly new research funding will be generated.

APPENDIX



“Autos, People and Policies (APPs): Addressing the Issues of the New Millennium”

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UNIVERSITY OF
MARYLAND

National Transportation Center

Friday, January 16th, 2015
Kim Engineering Building
Kay Room 1107 – 1111 (1st floor)
College Park MD 20742

Agenda

10:00AM Keynote lecture: David Greene (University of Tennessee, Knoxville)

11:00 AM Oliver Gao (Cornell University)
Title: From transportation emissions to public health - Are we doing the right thing, and doing it right?

11:30 AM Don Pickrell (VOLPE)
Title: Has growth in Automobile use ended?

12:00 PM Cinzia Cirillo (University of Maryland)
Title: The present and the future of car ownership and use in the US.

12:30 PM Ricardo Daziano (Cornell University)
Title: Are consumers ready for driverless cars? Analyzing response to self-driving attributes.

1:00 PM Lunch

2:00 PM Elisabetta Cherchi (DTU – Copenhagen DK)
Title: Formation of preferences and attitudes in the choice of Electric Vehicles.

2:30 PM Davide Cerruti (University of Maryland)
Title: Behavioral response to environmental taxation: evidence from the Vehicle Excise Duty in the UK.

3:00PM Scott Le Vine (Imperial College, UK)
Title: Speculative versus classical explanations of young adults’ decline in auto-mobility: Results from Britain

3:30 PM Jacob Ward (DOE – Vehicles Technologies Office)
Conclusions and Discussion

Participation is free.
R.S.V.P. requested but not required. R.S.V.P to Cinzia Cirillo (ccirillo@umd.edu)

Please visit <http://ntc.umd.edu/> for more information and events

Figure 1: Workshop flyer