Understanding Future Trends
And Catalyzing New Mobility opportunities
In China

Susan Zielinski, SMART, University of Michigan.
University of Michigan-Shanghai Jiao Tong University Joint Institute (UM-SJTUJI)
Shanghai Jiao Tong University

In Partnership with University of Michigan
Sustainable Mobility and Accessibility Research and Transformation (SMART)

Invite You to Participate in a Special Research and Action Forum on
Advancing Sustainable Transportation Systems: Multimodal Solutions for Mega Cities in China

Date: December 10 & 11, 2013 Location: Shanghai Jiao Tong University, Shanghai

Overview
Traffic congestion and environmental pollution related to transportation have become a major issue across large cities in China. The way people currently meet their travel needs increasingly impacts energy consumption, energy security and material resources as well as CO₂ emissions, climate change, and air quality, not to mention overall quality of urban life and economies. Growing concern about these trends is challenging the business-as-usual mindset related to the future of urban and regional mobility.

Fortunately, advanced information technologies combined with innovative integration models, business models, policy models, and decision models are beginning to enable seamless, sustainable, and multi-modal transportation systems for people and businesses.

Join experts from the University of Michigan’s SMART initiative and the UM-SJTU Joint Institute as well as a diverse range of local and international invited guests to advance research and implementation of sustainable and multimodal systems solutions in China.

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http://sjtusmartchina.wordpress.com/register/

The UM-SJTU / SMART Team

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Sue Ziefeld</td>
<td>Managing Director SMART, Univ. of Michigan</td>
<td>Multimodal Transportation Implementation, Innovation, Entrepreneurship + Economic Development</td>
</tr>
<tr>
<td>Richard Gonzalez</td>
<td>Prof., Dept. of Psychology, Marketing and Statistics, Univ. of Michigan</td>
<td>Decision making Under Risk + Uncertainty, Discrete Choice Modeling</td>
</tr>
<tr>
<td>David Chock</td>
<td>Research Scientist, Univ. of Michigan Transportation Research Institute</td>
<td>Green House Gas, Environmental Impact, Alternative Fuels + Energy</td>
</tr>
<tr>
<td>David Hung</td>
<td>Associate Prof., UM-SJTU Joint Institute</td>
<td>Renewable Energy, Vehicle Technology</td>
</tr>
<tr>
<td>Min Li</td>
<td>Associate Prof., UM-SJTU Joint Institute</td>
<td>Systems Optimization + Simulation</td>
</tr>
<tr>
<td>Alfred Zhu</td>
<td>Assistant Prof., UM-SJTU Joint Institute</td>
<td>Real time Data Transfer, Processing + Analysis</td>
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上海交通大学 上海交通大学交大密西根学院 (UM-SJTUJI)
合作伙伴：密西根大学 可持续交通研究与改革 (SMART)

中心

诚邀您参加以下主题的特别研究与讨论：
先进的可持续交通运输系统 — 
中国超大城市的多联运解决方案

2013年12月10至11日。地点：上海交通大学（上海市闵行校区）

简

在中国的大城市中，由于交通运输所造成的拥堵和环境污染已经成为一个严重问题。人们为了满足出行所需正在越来越大地影响到能源消耗、能源安全、物资资源以及二氧化碳排放量、气候变化和空气质量，更不用说对城市的生活质量和经济发展的巨大影响。而这些趋势的加剧也正在挑战人们对于未来城市和区域交通的心态。

幸运的是，在创新型整合模式、商业模式、政策方式、决策模式的等新兴技术和发展的促进下，先进技术使得面对个人和企业的选择的可持续的多联运交通系统成为可能。

联合来自密西根大学SMART中心和上海交通大学密西根学院的专家以及多元化的本地和国际特邀嘉宾参与研讨，就是为了推进可持续发展的多联运系统解决方案在中国尤其在中国超大型城市的中研究和实施。

报名：

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New Mobility Solutions for Beijing and Detroit Regions
PARTNERS & SPONSORS:

Ford Motor (redefining)
- Mott Foundation
- FIA Foundation
- Barr Foundation
- Rockefeller Foundation
- US Environmental Protection Agency
- US DOT
- National Science Foundation
- Cisco Systems
- IBM
- Federal Highway Administration
- Center for South Asian Studies
- U.S. Department of Education
- Transportation Research Board
- CEO’s for Cities
- City Connect Chennai
- Confederation of Indian Industry
- Etc…
SMART LEADERSHIP:

- David Berdish*
- Lawrence Bums
- John DeCicco
- David Featherman
- Elizabeth R. Gerber
- Thomas Gladwin*
- Rick Gonzales
- Nigel Melville*
- Jun Ni*
- Sue Nichols
- Panos Papalambros
- Umesh Patel
- Doug Pritchett
- Irv Salmeeen*
- Joe Grengs
- Krista Gullo*
- Douglas Kelbaugh*
- Chris Leinberger
- Jonathan Levine*
- Bob Marans*
- Walter McManus*
- Don Scavia*
- Carl Simon*
- Peter Sweatman*
- Geoffrey Thun
- Daryl Weinert
- Moira Zellner*
- Susan Zielinski*

Managing Director
Mission For this Project Has Been:

• catalyze research advancing implementation of multi-modal IT enabled New Mobility systems (within which automotive) (more later)

• accelerate implementation of New Mobility that would generate more research …

• in turn advance more research

• And so on and so on
Core Team

- Komal Anand – UM SMART
- Chenxi Bai – SMART Cities China
- Maiyue Cheng – Cisco Systems
- David Chock – UM SMART
- Richard Gonzalez - UM/SMART
- Qiang Hong – Center for Automotive Research Ann Arbor
- David Hung SJTU Joint Institute
- Mian Li – SJTU Joint Institute
- Ming Xu - UM SNRE
- Sue Zielinski – UM SMART
Beijing & Detroit Are Very Different
But there are Common Contexts, Themes, Gaps and Opportunities in New Mobility in General.

Smart’s Focus areas:

GLOBAL TRENDS

CONNECTING THE DOTS

MOVING THE ECONOMY

MOVING MINDS
PROJECT COMPONENTS IN BEIJING

• Preliminary Research (Context, Attitudes, Behaviour, & Decision Models; Industry & Economic Development; Implementation)

• Testing SMART System Implementation Approach
  • Eco-System Development (public, private, entrepreneur, civil sectors)

• Recommendations for future action & research
  • Only the beginning
CONTEXT: Trends & Drivers
CONTEXTS & DRIVERS
TRANSPORTATION = CARS? -- ASPIRATIONS
More teens are choosing to wait to get driver's licenses

By Donna St. George
Washington Post Staff Writer
Sunday, January 24, 2010; A01

The quest to get a driver’s license at 16 – long an American rite of passage – is on the wane among the digital generation, which no longer sees the family car as the end-all of social life.

The holdouts include Kat Velkoff, who turned 17 in Chantilly without a license. Focused on tough classes, the debate team, dance and color guard, she turned 18 without taking the wheel. Then 19.

"It just wasn't a priority," said Velkoff, who got her license last year at 20. "It was just never the next thing that needed to get done in my life."

Federal data released Friday underscore a striking national shift: 30.7 percent of 16-year-olds got their licenses in 2008, compared with 44.7 percent in 1988. The difference is even sharper in Virginia and Maryland, state figures show. Numbers from the District, which go back to 2003, show a decline in the past two years.
... as Thomas Friedman might say ...

TRANSPORTATION IS FLAT

OPEN SOURCE, MULTI-MODAL, MULTI-SERVICE, IT ENHANCED USER FOCUSED,-socially equitable, aesthetic livable whole systems transportation

TRANSLATION: More Choices; More Connected Choices (New Mobility)

EMERGING GLOBAL NEW MOBILITY INDUSTRY TO SUPPLY IT
The current value of New Mobility markets can be measured in the billions of dollars. “Building a New Mobility Industry Cluster in the Toronto Region” (MTE & ICF)
moving people
moving goods
moving less
How Some of These Trends Are Playing In Beijing

• air quality continues to deteriorate and environmental challenges persist and grow (daily EPA readings Qiang Hong)

• continued motorization but some government action to curb and action especially on the local level

• emerging ambitious environmental goals (public and private sector)

  • More research needed on youth, seniors, social equity
CONNECTING THE DOTS
**SERVICE**
- Zipcar
- Public Bicycles
- GoLoco
- Home Delivery
- Senior Chauffeur
- Auto Rickshaw
- Taxi, Pedicab
- Communal cab
- etc.

**TECHNOLOGY**
- Fare payment (cell, card)
- Wayfinding / information
- Seamlessness / signalling
  - Clean fuel
  - Congestion pricing
  - Mesh Networking
  - Border crossing
  - Security
  - etc.

**PRODUCT / MODE**
- Car
- Bus
- Bike
- Shoes / Skates
- Accessories
- etc.

**DESIGN**
- Product design
- System design
- Hub design
- Real Estate
- Community / Urban design
- etc.
CONNECTIVITY / OPTIMIZATION
(THE 3 INTERNETS & BEYOND: MOBILITY, ENERGY, INFORMATION)

• spatial / physical

• service (use vs. own)

• technological (wayfind; fare pay; traffic manage; security)

• economic (open source; new business models, jobs)

• institutional & policy
  (public private innovation)

• cultural / psychological (moving minds)
SMART IMPLEMENTATION METHODOLOGY

1. **CONVENING** – The Crucial & Often Under-Rated First Step  
   (not just the usual suspects – public private innovation)

2. **MAPPING** – An Engaging and Tangible Catalyst for Action

3. **PILOTING & ROLL-OUT** – Start with Hologram for Wider Spread Roll-Out

4. **MOVING MINDS** – Speak a new language (Rumi, Philip K. Dick)

5. **NETWORK** (SMART network – “twinning” for shared genius)
Dec. 2012:
SMART Implementation Methodology
-60 Municipal / Regional Leaders
In Beijing

Beijing has good existing and as well as aggressive transit / New Mobility plans & implementation, mainly government driven, though some gaps i.e. last mile, connectivity, taxi system, public information
Moving Money
Transforming the Economy

- Multi-billion $ global market / industry cluster: IT, real estate, automotive, logistics, tourism, energy, utilities, service industry, finance, insurance, planning & architecture, etc.
- New jobs creation
- Regional competitiveness
- Cost Effectiveness (optimization)
- Policy Platforms: mobility, information, energy, QoL
- Michigan Icon: Innovation, Educational Pillars

Global Research

Studying the trends that are transforming transportation, the resulting global demand for New Mobility enterprise, and proactive steps for regions (including Detroit) to capitalize on global market opportunities

Tech Transfer

BIG BUSINESS transforming supply to meet emerging global market needs & opportunities.

ENTREPRENEURSHIP & ENTERPRISE
Meeting customized local needs. Replicating and scaling globally. Catalyzing investment, building capacity.

Industry Mobilization

- Ford Motor
- Ashok Leyland
- Cisco Systems
- Michelin
- IBM
- Intel
- Infosys
- Mapunity
- Microsoft
- Qualcomm
- Siemens
- Velankani
- Veolia
- etc
**mobi** : From PRIZE to PLATFORM

**mobiprize.com**

- **mobiprize** honors entrepreneurial ventures in sustainable transportation worldwide.
- **mobi-net** crowd-sources replicable solutions to local & global transportation challenges.
- **mobilab** supports New Mobility entrepreneurs.
In China

• some increased interest / uptake in New Mobility entrepreneurship, industry involvement in New Mobility directions

• substantial electric vehicle development & policy

• increasing automated technology exploration
1. How does the Transportation Industry become a more diverse, distributed New Mobility Industry that employs emerging technologies and approaches, meets emerging needs and captures emerging markets?”

2. What are the new business models needed to provide systems rather than individual and unrelated products and services for moving people and moving goods (and moving less)?

3. What are the conditions and actions necessary to propel the New Mobility industry forward as a cluster?
Moving Minds

Focus groups indicated slightly increased interest in public feedback / involvement “Consumer”

Advanced vocabulary re: New Mobility

Youth aspirations mixed
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<td>Managing Director, SMART, Univ. of Michigan</td>
<td><a href="mailto:sz2466@umich.edu">sz2466@umich.edu</a></td>
</tr>
<tr>
<td>Richard Gonzalez</td>
<td>Prof., Dept. of Psychology, Marketing and Statistics, Univ. of Michigan</td>
<td><a href="mailto:rgg@umich.edu">rgg@umich.edu</a></td>
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<td><a href="mailto:davidchock@umich.edu">davidchock@umich.edu</a></td>
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<td><a href="mailto:davidhung@sjtus.edu.cn">davidhung@sjtus.edu.cn</a></td>
</tr>
<tr>
<td>Meini Li</td>
<td>Associate Prof., UM-SJTU Joint Institute</td>
<td><a href="mailto:meini@sjtus.edu.cn">meini@sjtus.edu.cn</a></td>
</tr>
<tr>
<td>Alfred Zhu</td>
<td>Assistant Prof., UM-SJTU Joint Institute</td>
<td><a href="mailto:alfredzhu@sjtus.edu.cn">alfredzhu@sjtus.edu.cn</a></td>
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