THE TRANSPORTATION / IT REVOLUTION IN AN URBANIZING WORLD

OPEN SOURCE TRANSPORTATION
(Connecting the dots for New Mobility & Accessibility - Role of IT)

TRANSFORMING the GLOBAL NEW MOBILITY INDUSTRY
(Supplying the Next Generation of Sustainable Urban Transportation through PUBLIC PRIVATE INNOVATION. Role of IT)

MAKING IT HIP AND ATTRACTIVE (Role of IT - sexier than cars?)
“Speak a new language so that the world will be a new world “ -- Rumi
OPEN SOURCE, MULTI-MODAL TRANSPORTATION

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)
New Mobility Hub Network
Regional Pilots
IT / TRANSPORTATION REVOLUTION IN AN URBANIZING WORLD

USER:

• Integrated Real Time Way-Finding (multi-mode, door-to-door)

• Integrated Fare Payment & other incentives (including services & fractional use)

• Seamlessness - Connectivity Across Modes & Services
  • people - mode to mode to service & traffic flow connectivity door to door

• Moving less
  • Tele-work, shop, bank, medicine, education (people)
  • Route and load optimization (goods)

BUSINESS / DEVELOPER / OPERATOR:

• Traffic Management, Information, Optimization, Financing, & Infrastructure
  • people & goods - door to door for people, supply chain for goods (cell data)
  • information gathering to inform planning (“cloud”/ data fusion)
  • congestion pricing & other collection & financing supports

• INFRASTRUCTURE - Bandwidth, Cloud, Mesh, etc. Buttons on coat

• Security / resilience

• Marketing - Princeton study - it’s sexier than cars

• other?
**CONTEXT:**

**Urbanization:** From 50% - 2/3 by 2025; 81% in US; 90% world economy
Coming years: At least 35 cities more than 10 million

**RESULT:**
Almost all transport has at least an urban component
OTHER DRIVERS
SERVICE
• Zipcar
• Public Bicycles
• GoLoco
• Home Delivery
• Senior Chauffeur
• Auto Rickshaw
• Taxi, Pedicab
• Communal cab
• etc

PRODUCT / MODE
• Car
• Bus
• Bike
• Shoes / Skates
• Accessories
• etc.

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

DESIGN
• Product design
• System design
  • Hub design
  • Real Estate
• Community / Urban design
  • etc.
ZIPCAR: Wheels When You Need Them

SERVICES FRACTIONAL USE: AUTO RICKSHAWS, TAXIS & COMMUNAL CABS, INTERMEDIATE VEHICLES, CARSHARE, BIKE SHARE
Parking

Autos, Car-Share, Bikes…
moving people
moving goods
moving less
Urban Goods Movement
Moving Less
PURPOSE: Meet Needs - ACCESSIBILITY

- Live
- Love
- Work
- Play
- Other?

✓ Mobility* Technology * Proximity
There is No Silver Bullet
(not even alt fuels, phev’s or pricing mechanisms)

ESPECIALLY IN EMERGING MARKETS:
No space, no infrastructure, no order, no one mode, no money
CONNECTIVITY/OPTIMIZATION IS THE NEW SILVER BULLET :-}
In ecological terms, it should come as no revelation that as cities grow and become more complex and diverse, they begin to create more efficiencies. Ecosystems grow from simple systems with a few pioneering species to more mature ecosystems with diversity and interconnection. Thus, after a fire or flood, or some other disturbance, a cleared piece of land will begin developing the structure of its ecosystem with an emphasis on rapid simple growth. After a period it becomes more diverse and more efficient as it establishes a more complex network of interactions.

What is better? What is the silver bullet?

I only use my heart I’m too rich and powerful to use my capillaries
Qualities of New Mobility:

...Like the Ideal Life’s Partner ...

- Multi-talented
- Clean
- Connected
- Integrated
- Smart
- Tech savvy
- Sophisticated
- Confers status
- Convenient
- Sexy
- Innovative
- Saves money
- Socially equitable
- Service-oriented
- Creates jobs
- Caters to your needs
- Accessible to all
- Other?
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*Building a New Mobility Industry Cluster in the Toronto Region (MTE & ICF)*
NEW MOBILITY INDUSTRY

- Telecommunications & Wireless
- Clean Energy
- E- Business & New Media
- Information Technology
- Tourism & Retail
- Transportation Operations & Services
- Goods Movement & Supply Chain Management
- Financial Services, Ban King & Investment
- Geomatics
- Real Estate Construction, Planning & Operations
- Intelligent Transportation Systems
- Goods Movement & Supply Chain Management
- Transportation Equipment
- E-Business & New Media
CONNECTING THE DOTS
DOOR-TO-DOOR

NEW MOBILITY HUB NETWORKS

Building from Bremen Model
Hot Smart Green

Local Transit
Regional Transit
Private Transit
Taxi Stand (Traditional)
Taxi Stand
(Niche – Seniors, Youth, etc.)

Showers
Free Bikes
Bike Parking
Bike Rental
Car Share Parking
Car Parking
Planes

Outdoor Recreation
Green Space
Information Kiosk
Retail
Music
Café/Bar/Restaurant
Wifi

Integrated Fare Payment
Electronic Traveler Information
Day Care
Satellite Office
Social Services
NEW MOBILITY HUB NETWORKS

- multi-mode, multi-service grid

Where Shift Happens

✓ Connects Mode Service Product Technology
✓ Door to Door (feeds trunk)
✓ Scalable / all yeses / induces demand
✓ Short term / long term
✓ Sexy (design) & Safe & Equitable
✓ Resilient & Robust (Katrina / 911)
✓ Business, Innovation, Employment
Multiple IT Roles
Moving People
Moving Goods
Moving Less
Moving Money

And...Moving Minds

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CAPACITY BUILDING,
MARKETING NEW MOBILITY
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DISCUSSION