Mobility-as-a Service

Moderator: Susan Zielinski, independent consultant and mobility innovator
At the ICLEI Local Governments for Sustainability
EcoMobility World Festival 2017
Kaohsiung, Taiwan
October 1, 2017

MY (LONG TERM) RELATIONSHIP WITH MAAS

- **30 years (it just wasn't called MaaS yet)**
- **City of Toronto in the 90's: Linking Sustainab Multi-modal mobility + emerging New Mobilit industry ("Moving the Economy"). First conference, first global study on the cluster**
- **Boosted by Michael Glotz-Richter (he'll be here - seek him out)**
- **U of M SMART: Industry support to advance MaaS. Developed approach to accelerating implementation of MaaS led in over 25 cities (attend Thursday)**
- **Most recently a study on the recent MaaS phenomenon (supported by Ford Motor; a consortium of national innovation & research leads from the Nordic countries & beyond + over 60 global expert interviews) SOON TO BE RELEASED**

A FEW HIGHLIGHTS FROM THE STUDY

(soon to be released)

"Accelerating the Demonstration-Learning-Deployment Cycle of Mobility as a Service: Success Factors"

MaaS and ”MaaS-Like”
(or “MaaS-ish”)

SEARCH TERMS:

Mobility-as-a-Service * Transportation-as-a-Service * New Mobility-Hub-Networks * Combined-Mobility * Connected-Transport * Egg-Laying-Wool-Milk-Sow* MobilPunkt * EcoMobility * Green-Transport* Integrated-Mobility* Integrated * Urban-Mobility * Mobility-as-a-Service * Mobility-On-Demand * New-Mobility * New-Mobility-Services * On-Demand-Transport * Smart-City * Connected-and-Automated * Smart-Transportation * Smart-Mobility * Sustainable * Transportation * Etc *

Mobility-As-A-SERVICE (MaaS)

Pulling it all together: Public Private Innovation advancing sustainable future mobility systems and the industries and enterprises to supply them

BUSINESS MODELS

INNOVATION
RESEARCH
TECH TRANSFER
CAPACITY BUILDING

MaaS = Mobility-as-a-Service

(Service & Product BUNDLING for the end user)

Seamless connected multi-mode multi-service IT-enabled door-to-door on-demand sustainable equitable mobility bundle

… car share, bike share , transit, shuttle, taxi, informal, trains, boats, planes, connectivity, automation, parking, wayfinding, apps, traffic management, safety, security, measuring, monitoring, moving goods, tele-work, tele-other, sensing, marketing, tourism, learning, gaming, …

ENABLING INFORMATION TECHNOLOGY

POLICY & LEGISLATION

PHYSICAL DESIGN, PLANNING INFRASTRUCTURE

SYSTEMS & PRODUCT OPTIMIZATION, ENGINEERING & DESIGN

MARKETING (DECISION MODELS, ATTITUDES, BEHAVIOR)

SMART
Sustainable Mobility & Accessibility Research & Transformation

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IN A NUTSHELL, MaaS's IMPACT:

- **Radically moves us to META - from many single solutions to whole SYSTEM door to door (i.e. MaaS is not an App)**
- **Builds on & connects what's there (+ even what is still to be invented) AS A SYSTEM or platform**
- **Radically flips the focus to serving the PERSON or the CUSTOMER or END USER door to door (not the individual mode or technology)**
- **Uses a range of integrated ENABLERS to advance MaaS**
  - **New information technologies + platforms**
  - **New business models**
  - **New policy frameworks & platforms**
  - **New integrative approaches to physical design & infrastructure**
  - **New decision models and end user relationships**
  - **And more**

DRIVERS

WHY IS THIS HAPPENING NOW?

BECAUSE IT NEEDS TO

BECAUSE IT CAN

BECAUSE IT'S COOL, SEXY, ON DEMAND + SHARED

The Washington Post

NEWS | POLITICS | OPINIONS | BUSINESS | LOCAL | SPORTS | ARTS & LIVING |
CARS | REAL ESTATE |SHOPPING

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.

Advertisement

Hipster Clothing

MILLENNIALS: SHARED ECONOMY, SHARED USE & SOCIALNETWORKS

BECAUSE IT'S

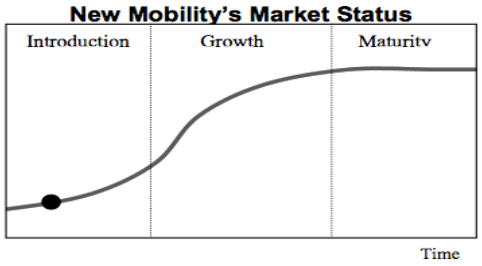
AN INVESTMENT (not a cost)

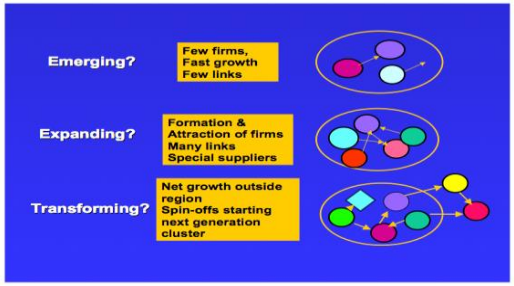
✈REGIONAL COMPETITIVENESS / PRODUCTIVITY

✈SAVES MONEY (OPTIMIZATION)

✈CREATES JOBS

✈ A WHOLE NEW MOBILITY INDUSTRY
Multi-trillion $ global market / industry cluster





MULTI-TRILLION $ INDUSTRY

Industry Cluster: Automotive; Transit; Energy; Real Estate; IT; Logistics; Planning & Arhitecture; Telematics; Retail; Tourism; etc…

ENTERPRISE & TECH TRANSFER

SMART MobiPrize

ENTREPRNEURSHIP & 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
- Qualcom
- Siemens
- Velankani
- Veolia
- etc

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

NEW MOBILITY INDUSTRY CLUSTER DEVELOPMENT

- Scotland
- Finland
- Brazil
- Sweden
- Spain
- Austria
- etc

CURRENT META DRIVERS

- ✓ Change is changing faster
- ✓ Technology is outpacing policy
- ✓ We don’t know what we don’t know
- ✓ Wider field of actors / movers
- ✓ It’s an infinite game
- ✓ It’s an eco-system

ON THE GROUND SHINING EXAMPLES

From around the world

Over 50 in our study

(see me after)

CHALLENGES & SUCCESS FACTORS

Flip sides of the same coin

CHALLENGES & SUCCESS FACTORS

Public-private balance (who owns / leads)

(NUMBER ONE CITED)

CHALLENGES & SUCCESS FACTORS

Ecosystems:

Much wider set of public, private, NGO players need to be involved and working together

(THIS ALSO CAME UP A LOT)

CHALLENGES & SUCCESS FACTORS

Complexity:

- ✓ MaaS Can be Hard to understand or overwhelming at first
- ✓ Lack of common language (both cultural and technical) for discussing and implementing
- ✓ Harder to adapt & scale more complex systems

CHALLENGES & SUCCESS FACTORS

Customer:

- ✓ End user variance
- ✓ Culture & demographics
- ✓ Changes by purpose & over time

CHALLENGES & SUCCESS FACTORS

Business models:

- ✓ (across complex systems)
- ✓ jury out on winners & losers in terms of whole system business models (blurry line between MaaS & apps)
- ✓ vary according to existing conditions, legacy business and government
- ✓ procurement (what and from whom and by whom)
- ✓ replication and scaling is hard given the range of actors and variance in local conditions

CHALLENGES & SUCCESS FACTORS

Technology:

- ✓ platform vs. apps vs non-technology components standards / system architectures
- ✓ digital divide (ensuring it serves the underserved)
- ✓ cyber security
- ✓ ends vs means
- ✓ connected & automated infrastructures (V2V, V2I)

CHALLENGES & SUCCESS FACTORS

Data:

- ✓ ownership (user; business; government, all or none or some of the above)
- ✓ monetization
- ✓ availability
- ✓ accuracy

CHALLENGES & SUCCESS FACTORS

Physical space & DESIGN:

✓ essential but now a neglected element

✓ needs integrative work according to needs & legacy

✓ varying mental maps of physical planning /infrastructure leads (from knowing little to smart city champions)

✓ environmental & resilience elements can be overlooked

✓ rural vs urban comes up

CHALLENGES & SUCCESS FACTORS

Policy, legislation & insurance

✓ more diverse policy actors need to be involved

✓ they need to work together

✓ the how not just the what of policy needs to change (frameworks not just rules)

✓ need to develop & enforce standards / architectures

CHALLENGES & SUCCESS FACTORS

Evidence Base:

- ✓ lack of research / evidence base in an increasingly competitive environment, slowing / weakening the demonstration-learning-deployment cycle

CHALLENGES & SUCCESS FACTORS

Marketing

- ✓ Complexity
- ✓ Overshadowed by self driving cars, drones and other sexy tech / simpler innovations

CHALLENGES & SUCCESS FACTORS

Confusing means & ends

- ✓ enablers & goals. i.e. seeing the technology platform, business result, or policy suite or even mobility itself as the goal (as opposed to meeting user / customer needs / accessibility / sustainability being the goal

SUCCESS FACTORS **(outweigh the challenges)**

Robust end-user analysis + design (across the whole system)

Enabling open data / API's / codes to support interoperability

Supportive policy / legislation

Contracts & agreements to support public private innovation

Robust public private eco-system

Smaller countries sometimes have advantage (incl. eco-system)

Culture: non car-dominated cultures

Compelling & exciting narratives

NEXT STEPS:

1. Corner the Panelists

2. You are invited to attend the MaaS Implementation workshop Thursday afternoon

WhereIsMyTransport, South Africa

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Avego Ride Sharing Technology, Ireland

mobiprize.com

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Zagster provides bicycle sharing systems for the world's leading businesses and institutions. We design, build, and operate solutions to fit your organization's unique needs and provide a great rider experience.

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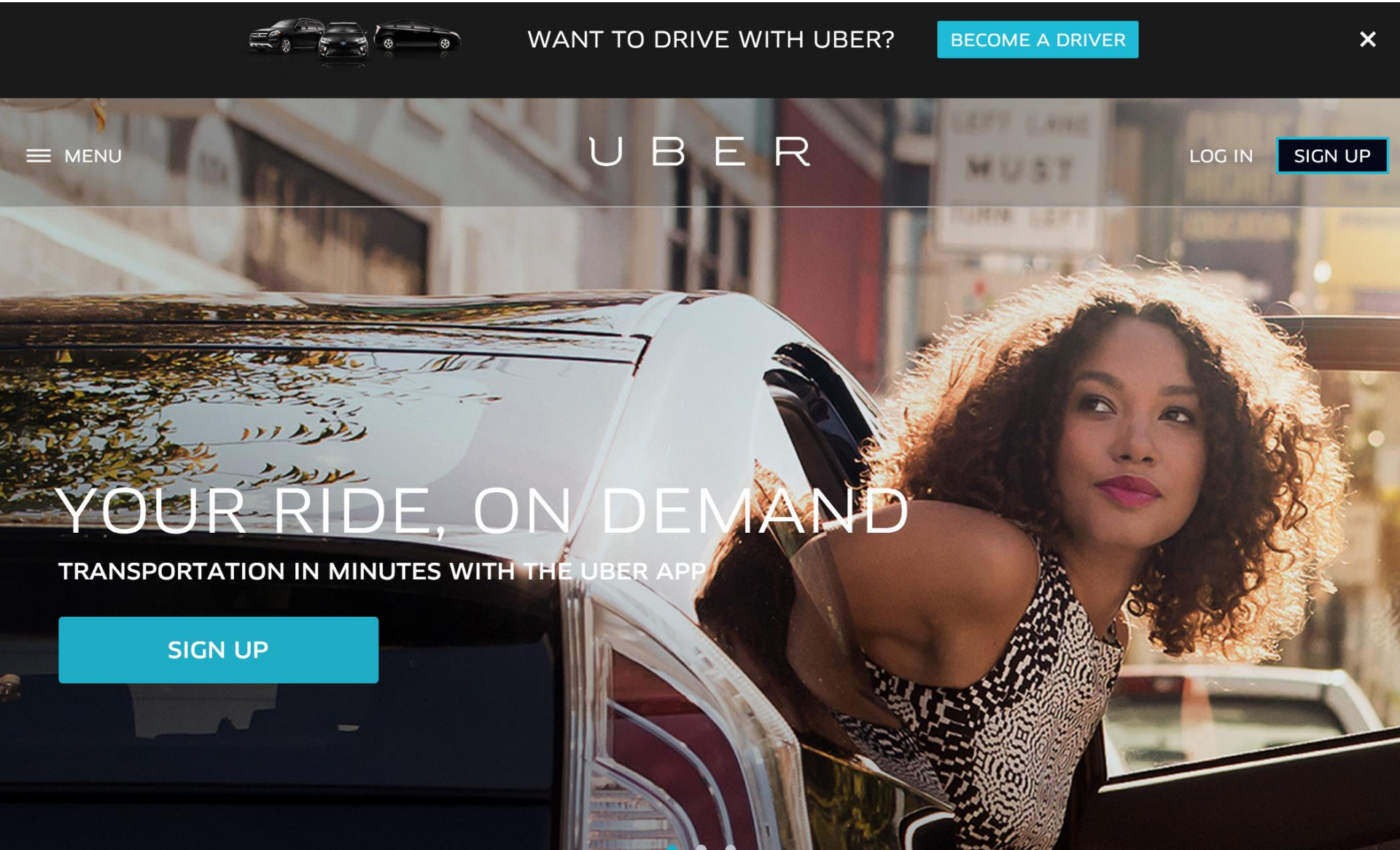
a better way to bike

UBER Global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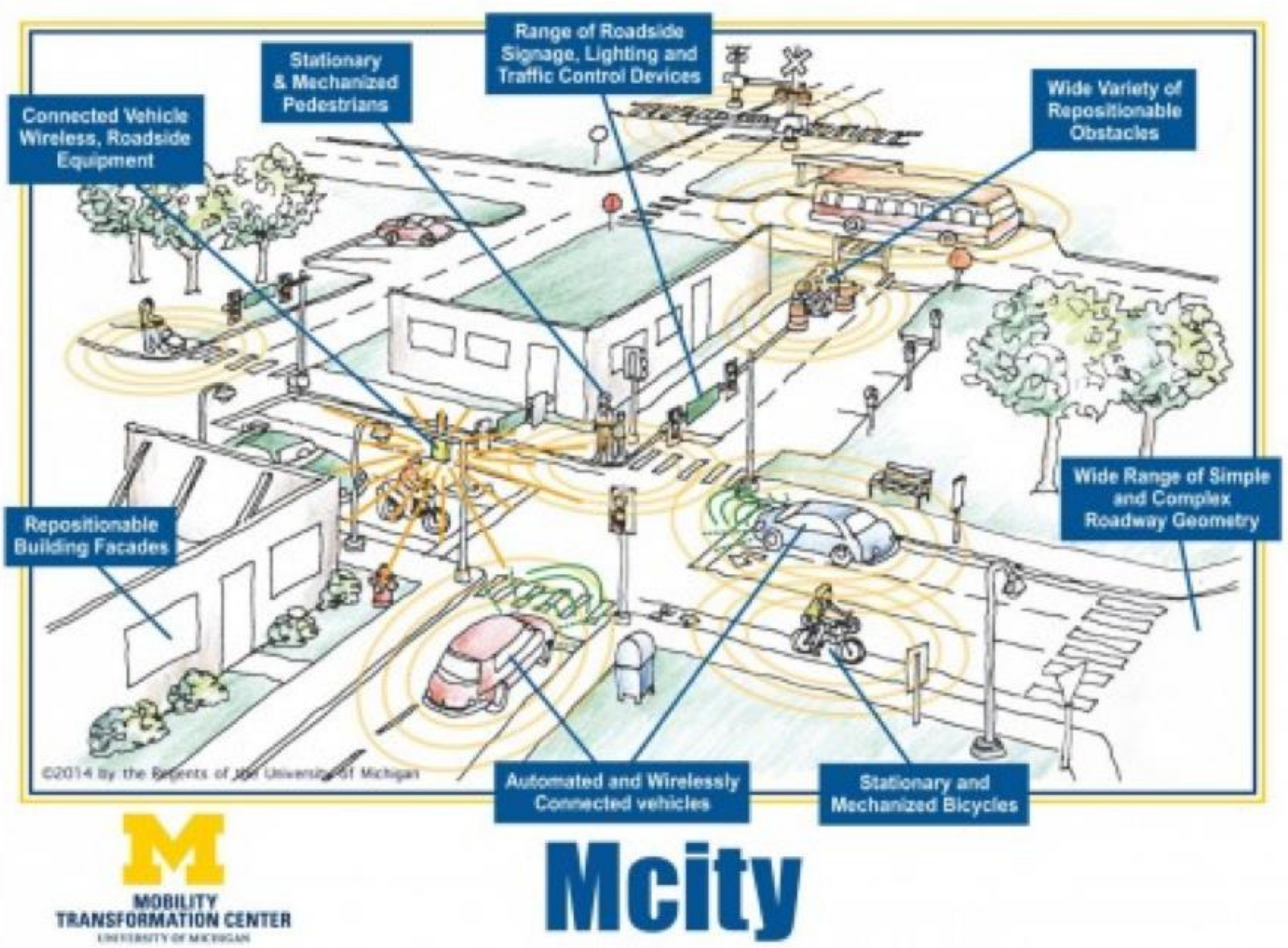
YOUR RIDE, ON DEMAND
TRANSPORTATION IN MINUTES WITH THE UBER APP
SIGN UP

MCITY Connected & Automated Vehicles Ann Arbor USA



Chair Lift in Rio

MellowCabs, South Africa

Priyadarshini Taxi Service, India

Bikes On Buses in Bage
Rio Grande Do Sul

Eco-Cabs Dial-a-Rickshaw, India

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Roadify, USA

Roadify Text Service

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Hangzhou Omnipay, China

Winner

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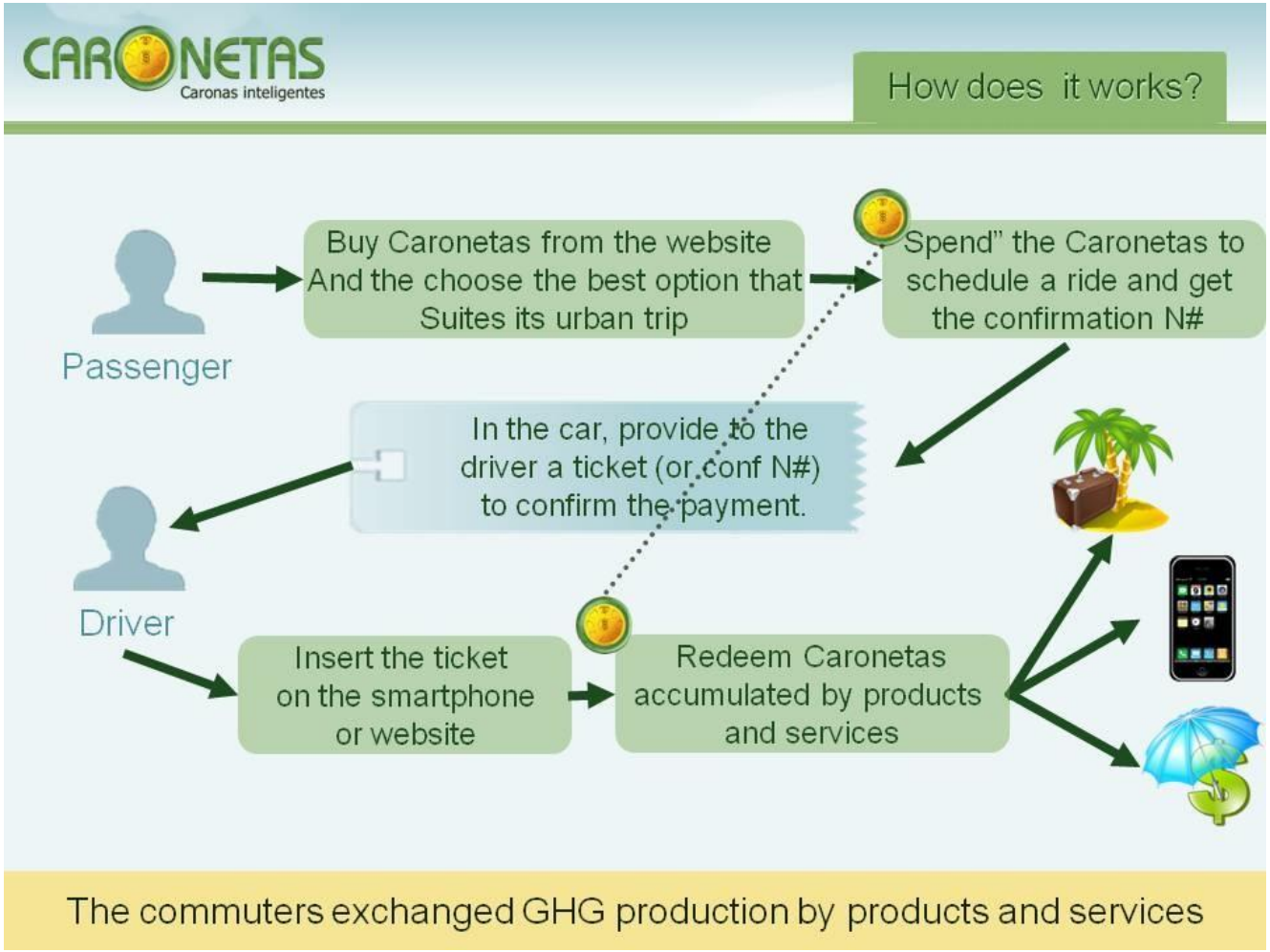
A transit revolution fighting for a connected Detroit. "Biofuel-powered transit with a healthy shot of uncommonly good customer service."

Caronettas, Brazil

Winner



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MISTER Guideways, New Zealand, Poland

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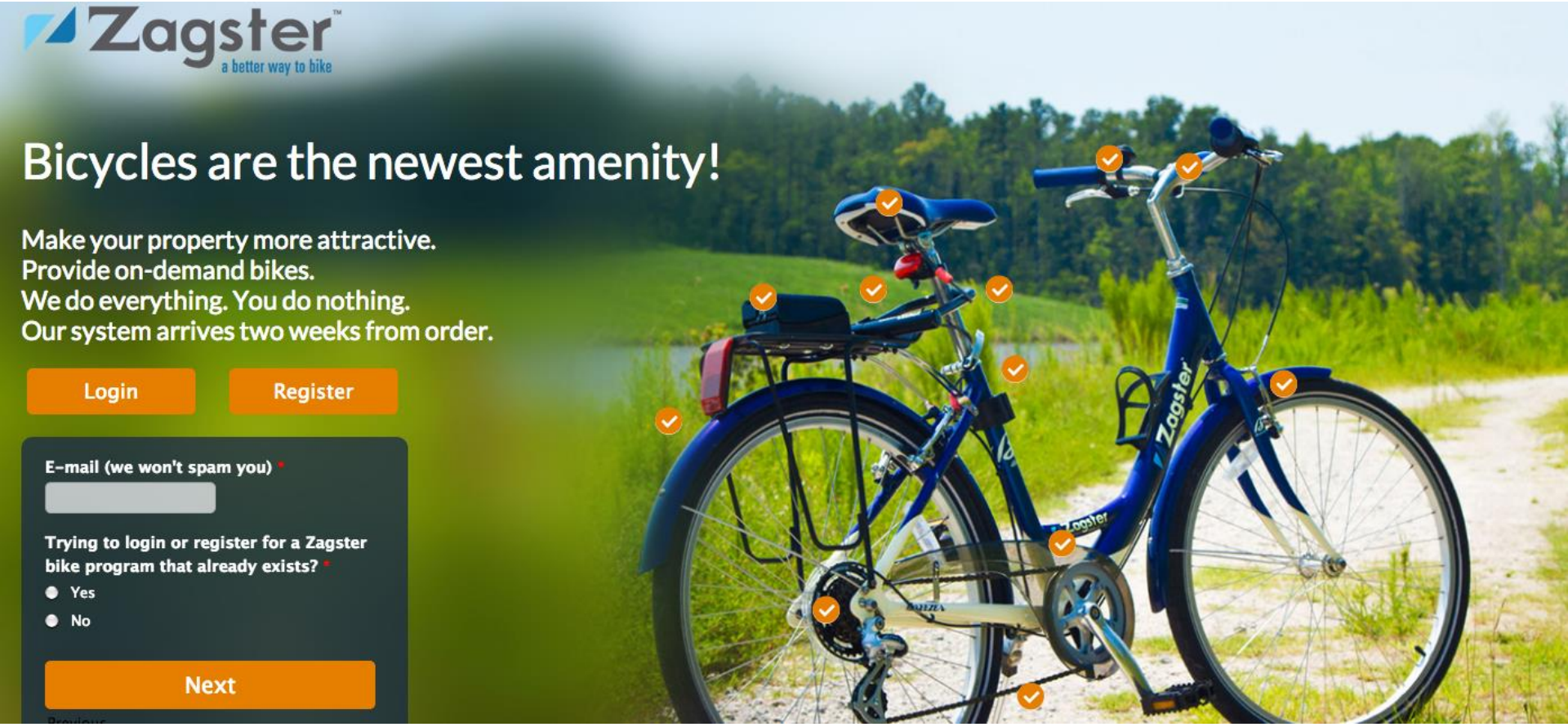
Electric Tricycles in Blumenau Shopping Centers

Dr. AM Speradio, Faculdade Jaguariuna

City Ryde Zagster, USA



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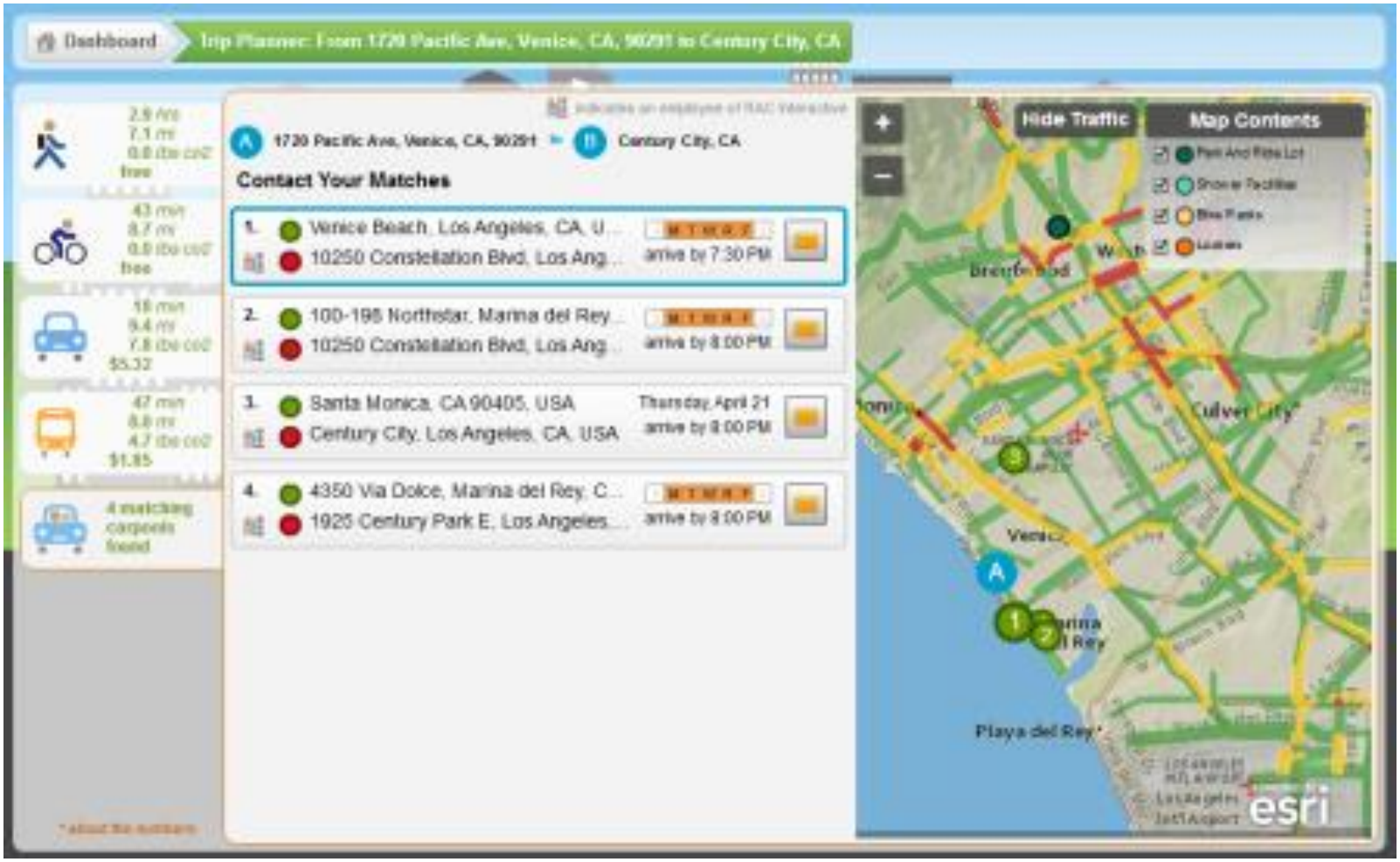
Ride Amigos Commute Optimization, USA



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Rising Pheasant Farms Urban Farming & Sustainable Delivery, USA

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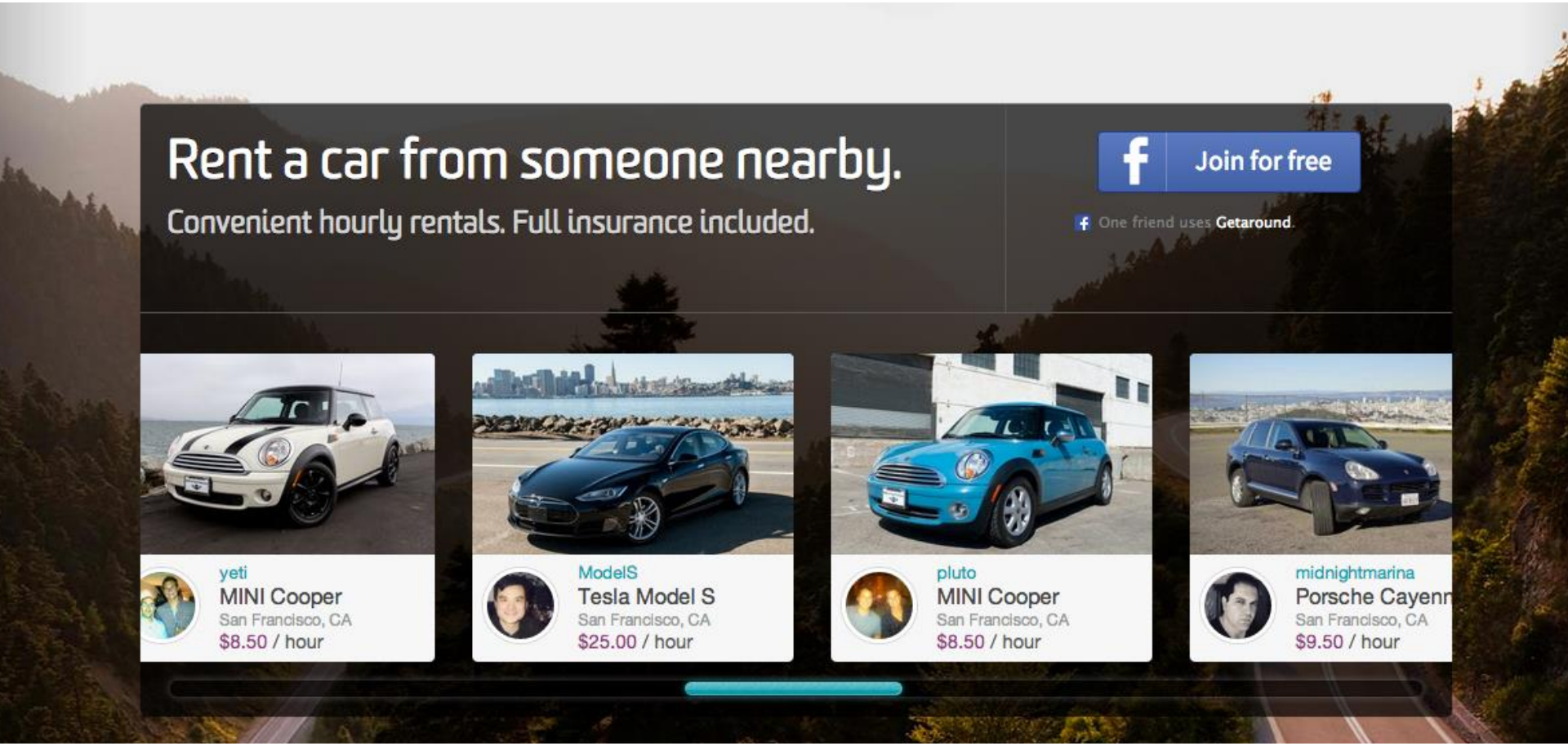
Getaround Car Share, USA



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Federal District 235 more kilometers of bike lanes

Tuk Tuk Factory Electric Shuttles, Netherlands

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GoMetro, South Africa

Pocket-sized personal transporters could soon be seen on the streets of Tokyo

by SMART on August 7, 2015 in Innovations (InspireMobility), News from the Field, Videos

Jayride Spare Capacity, Australia

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DATA DRIVEN DETROIT

Provides accessible, high-quality information and analysis to drive informed decision-making in Detroit.

Ford's definition of Mobility: Accessibility for people, goods and services to go where they need or want safely, efficiently and affordably – providing a simplified and fun customer experience. Our goal is to make mobility affordable in every sense of the word – economically, environmentally and socially.

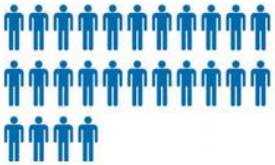
By 2050 we will have a true network of mobility solutions, and automobiles will likely look very different from how they look today.

Zambikes, Zambia

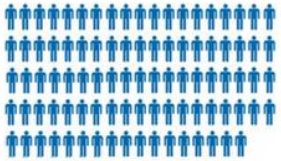
Winner

1 Zambulance = $1,000

1 Zambulance = 1 life saved every 2 weeks



$1,000 = 26 lives saved per year



5 Years = 130 Lives Saved

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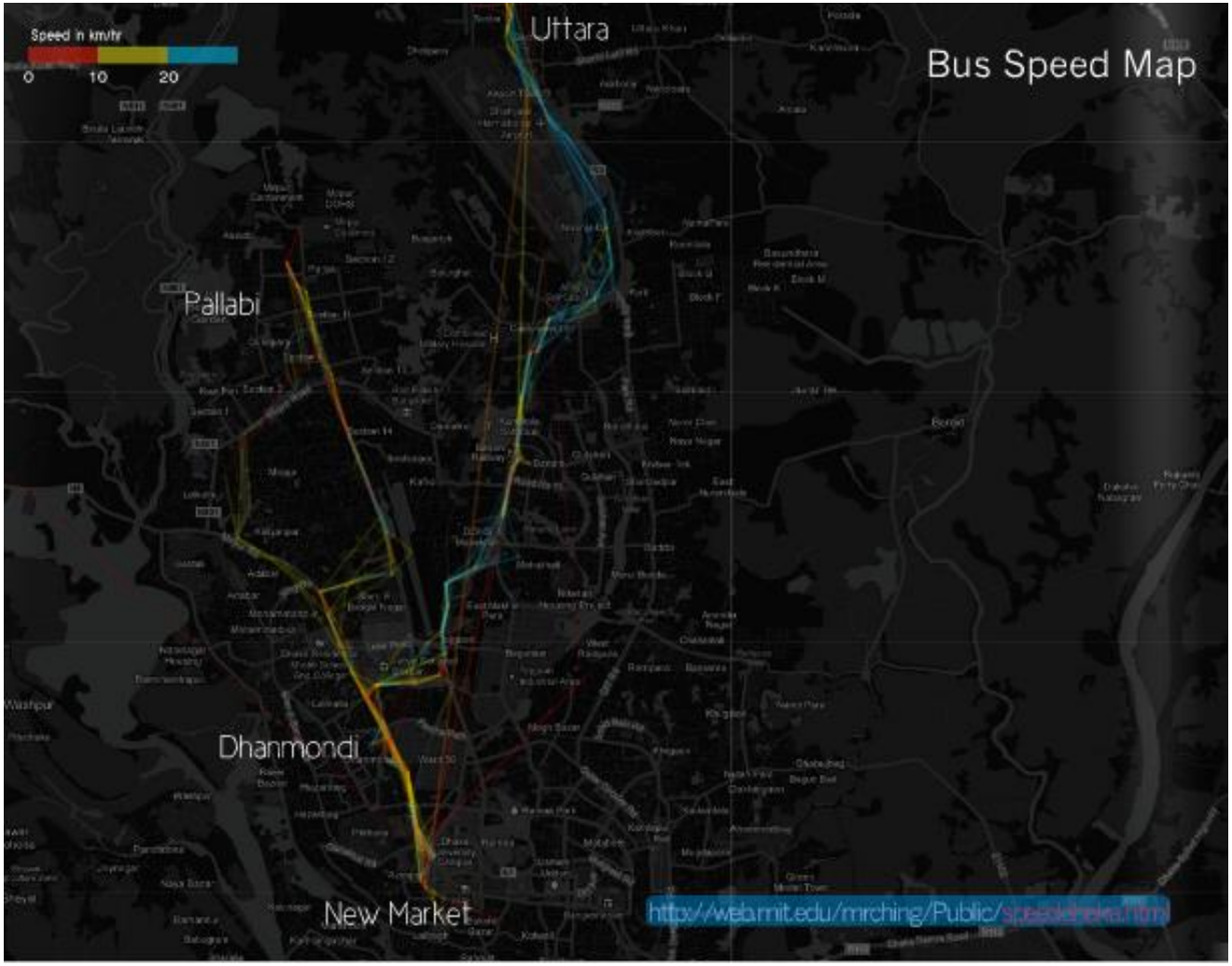
Flocksourcing Buses, Bangladesh



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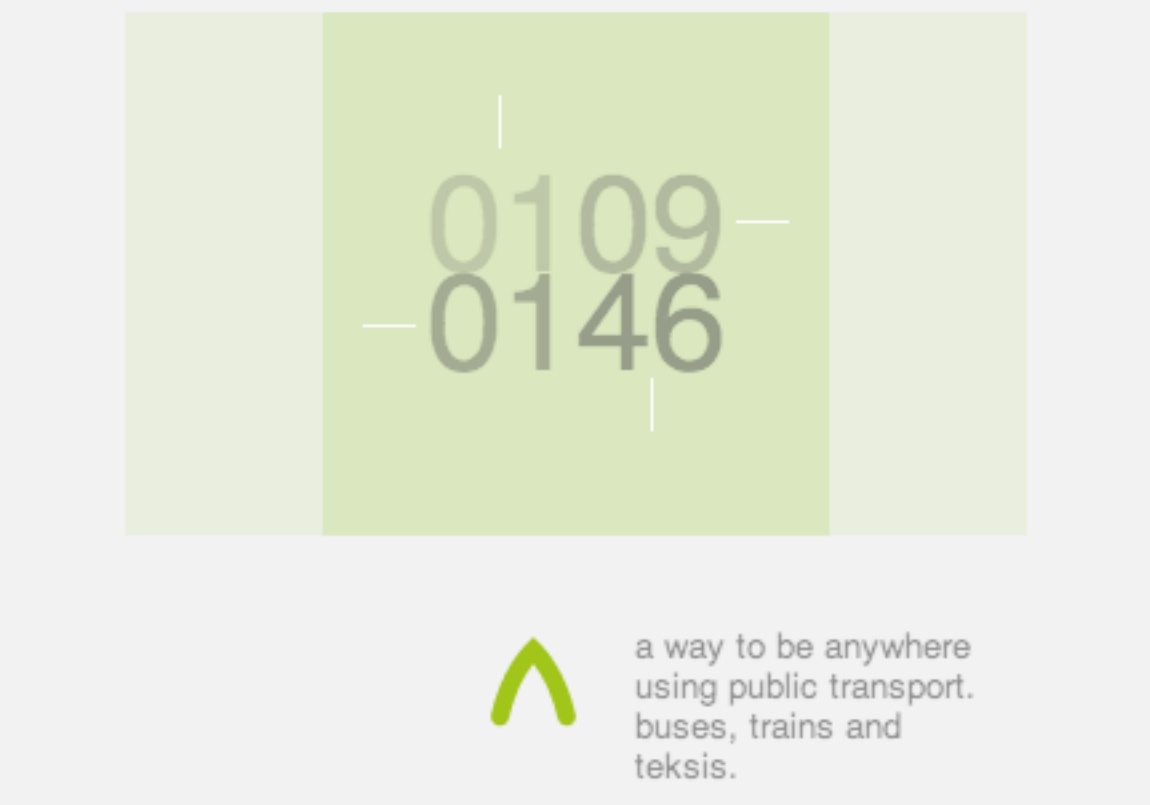
AUTOLIB PARIS

Banking Boat in Manaus

Dr. AM Speradio, Faculdade Jaguariuna

A Way To Be, South Africa



PHD: Party Hard Drivers, India

The Green Cab, South Africa

Buenos Aires Launches Automated Bike Share

March 3, 2015

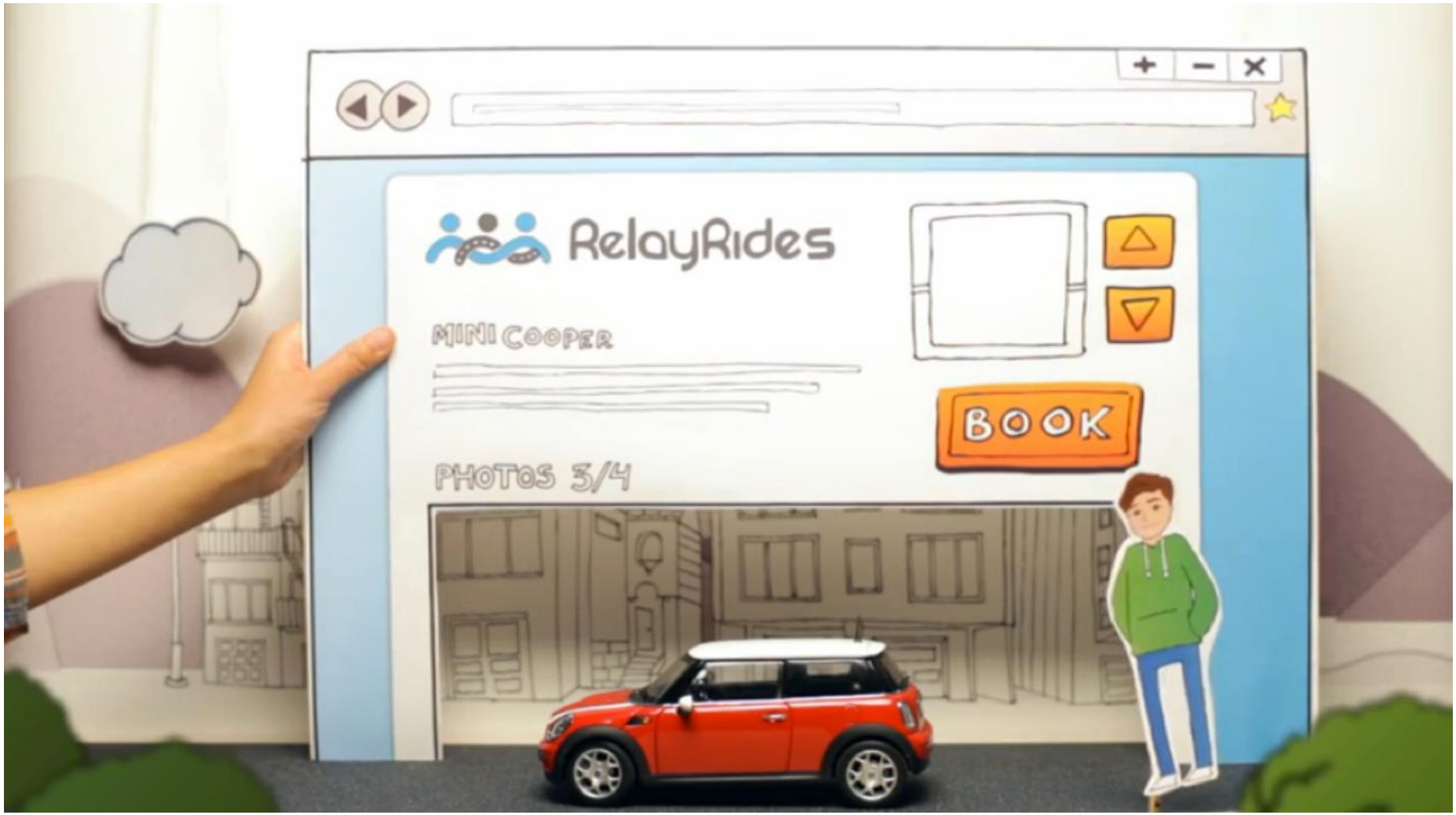
Tapajos River

Health Care On Boats

(Floating Hospital)

Dr. AM Speradio, Faculdade Jaguariuna

Relay Rides Peer to Peer, USA



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Ideophone Apps, India

just launched

TripThirsty

introducing

PYKA

the smart wake-up alarm

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Cabcorner Taxi Platform, USA

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Greenride Mobility Management, USA

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Detroit Labs is a team of thinkers, doers, and makers. We dream up and ship beautiful, intuitive apps.

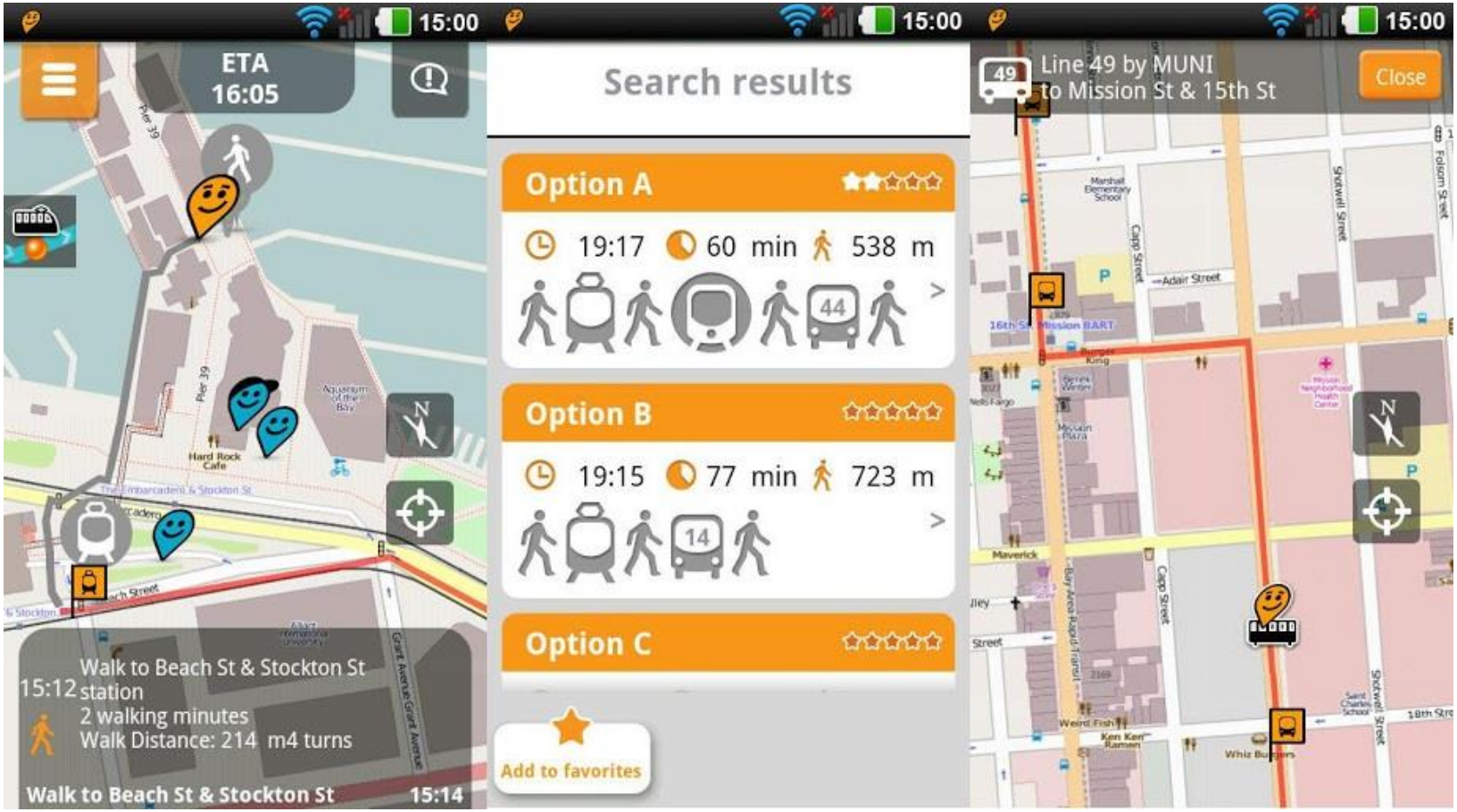
A luxury goods maker located in Detroit creating a community that will thrive through excellence of craft and pride of work. Where we will reclaim the making of things that are made well. And define American luxury through American quality.

SHINOLA
DETROIT

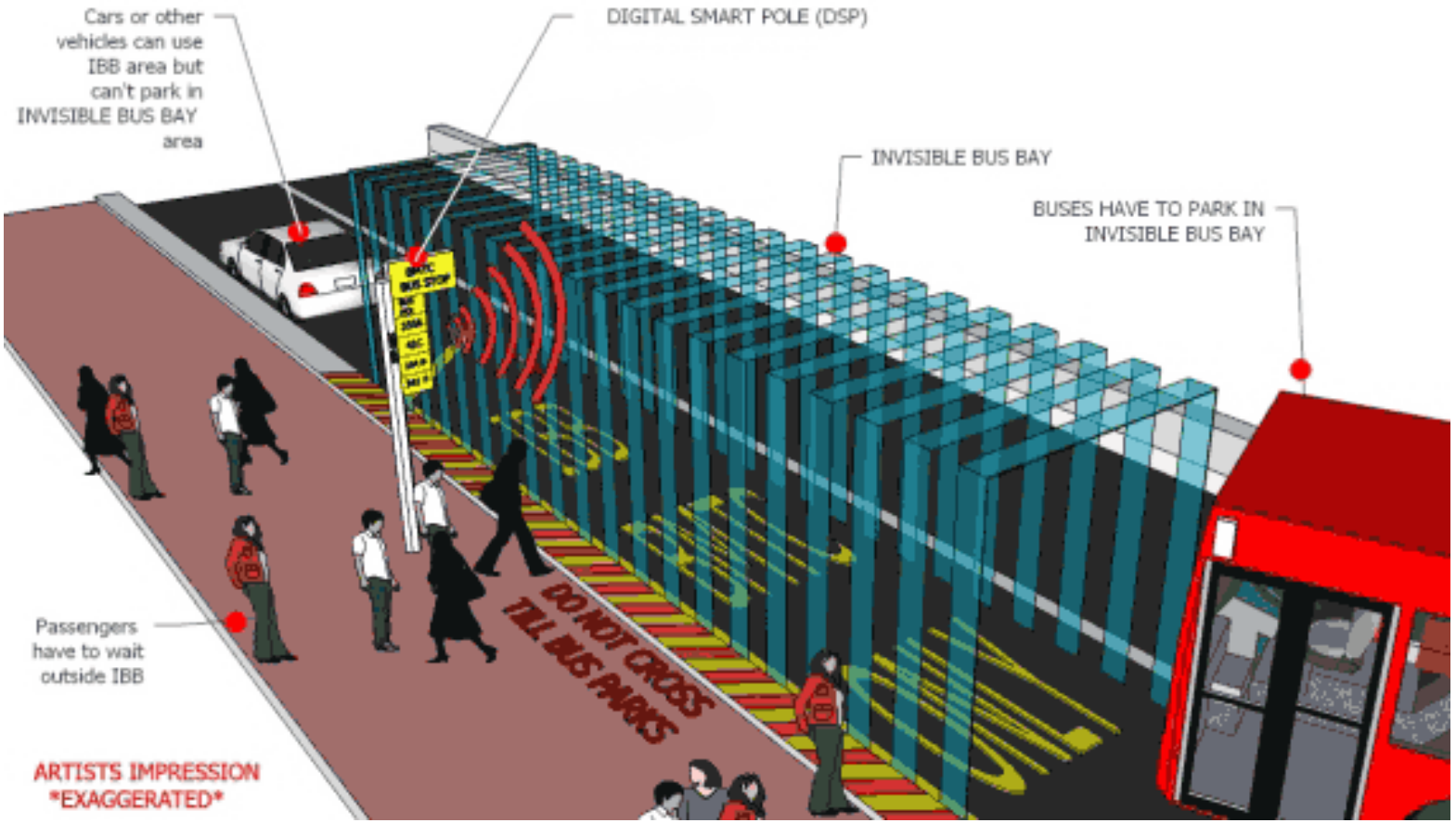
MindHelix, India

Thula Lula, South Africa

Moovit, Israel



Neosphere Invisible Bus Bay, India



E2 Community Taxi, USA

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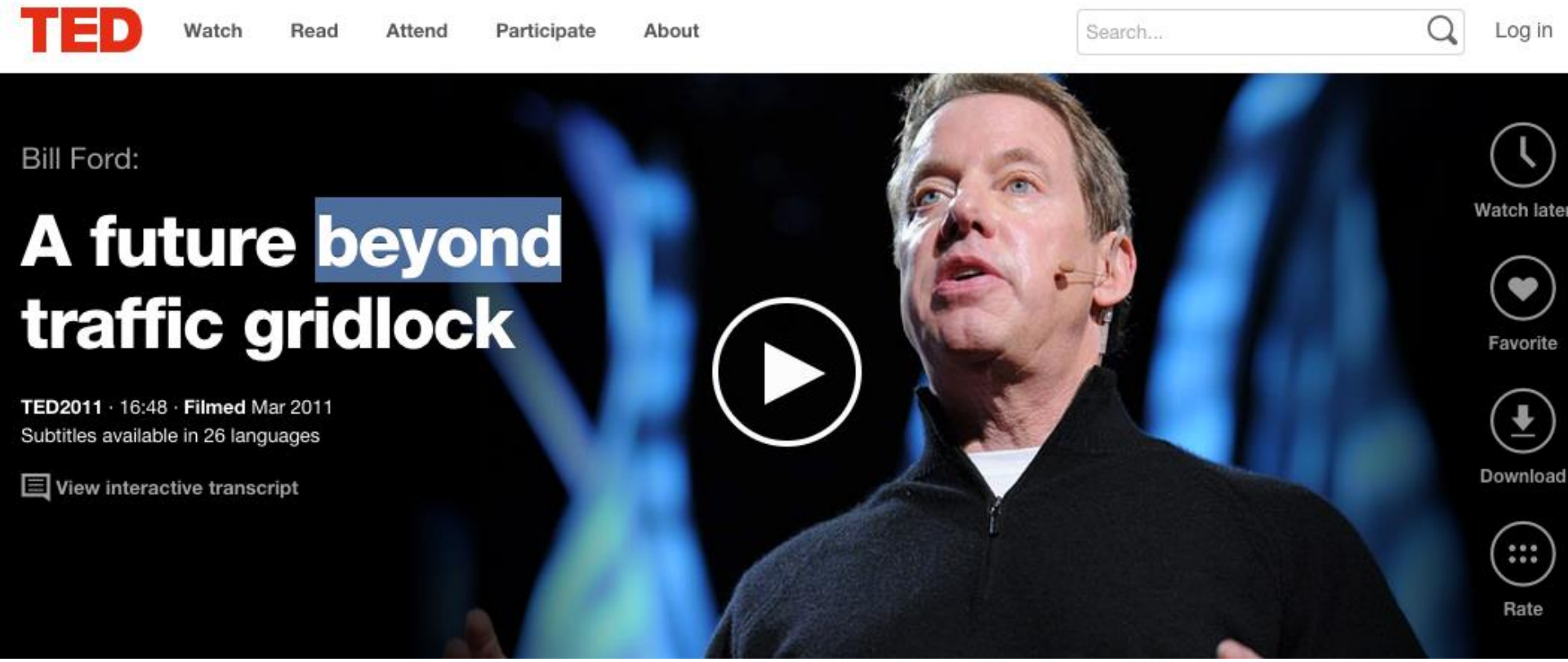
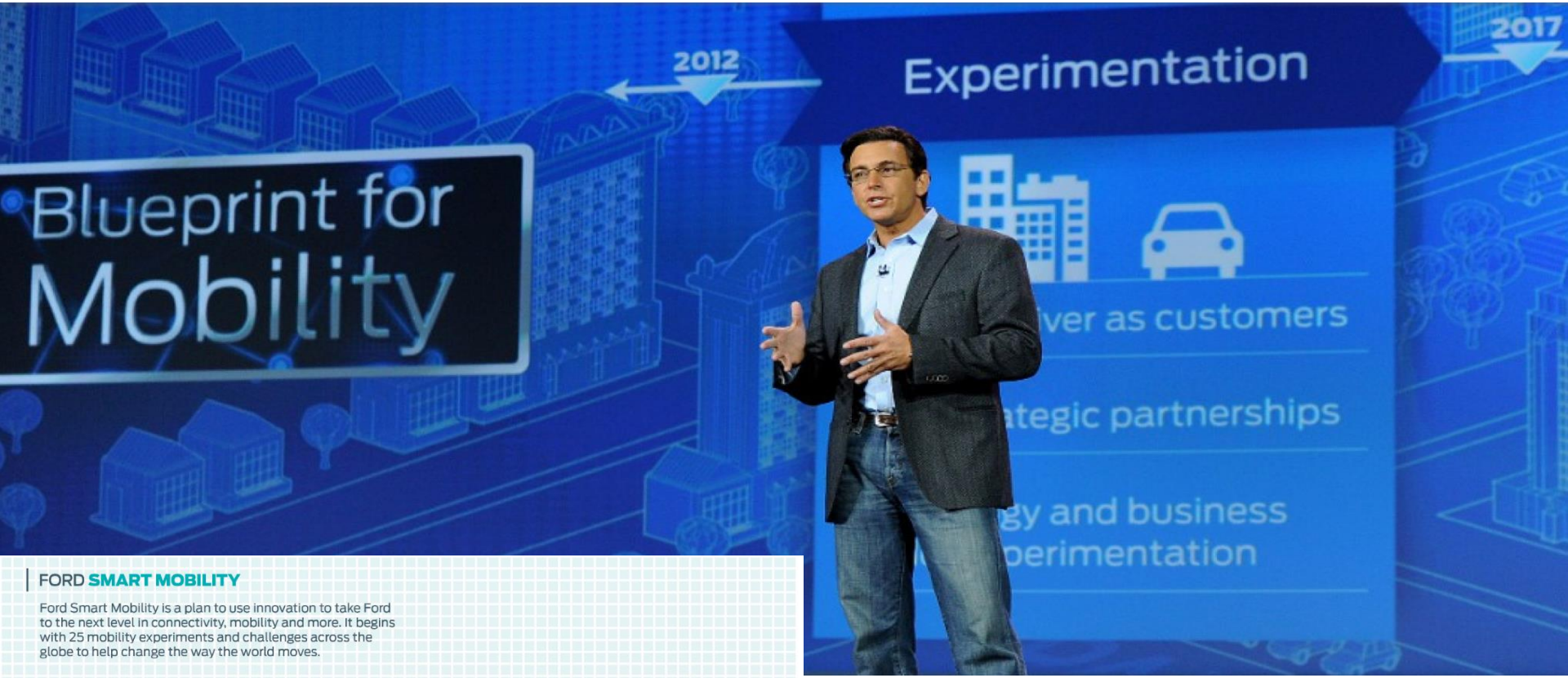
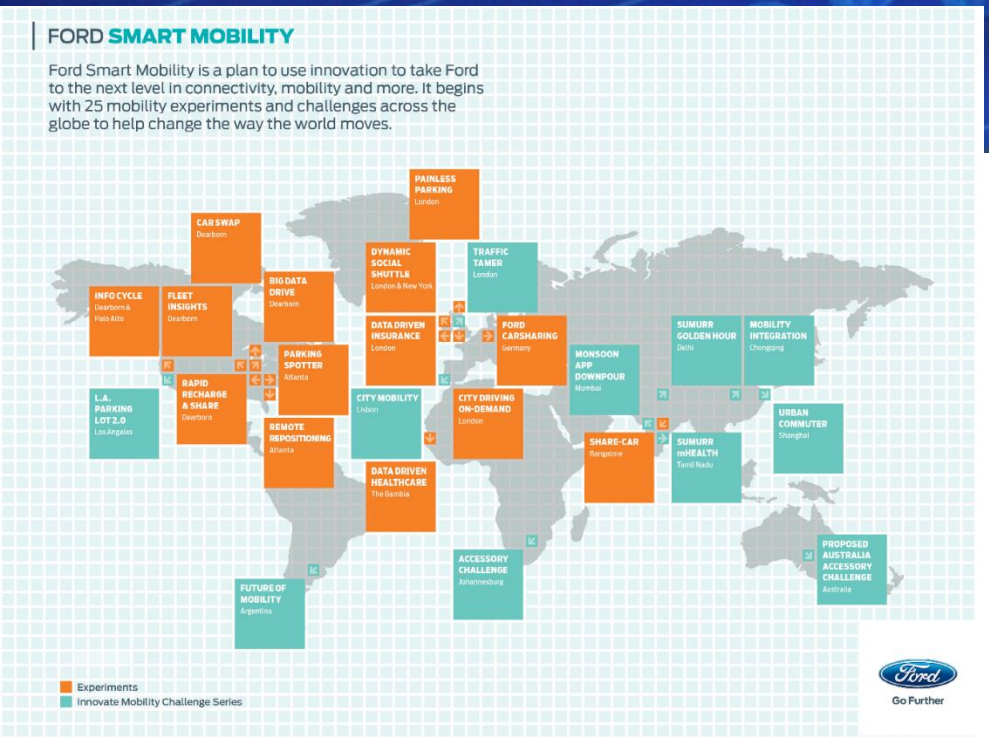
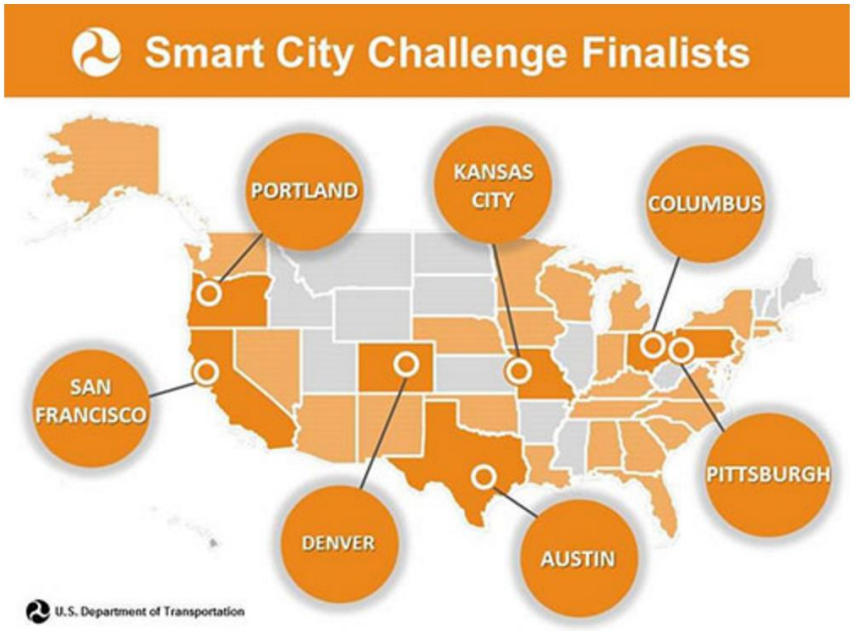


INDUSTRY LEADERSHIP





City Driving On-Demand; Car Swap; Dynamic Social Shuttle; Share Car; Remote Positioning; Ford Carsharing; Painless Parking; Parking Spotter; Data Driven Insurance; Big Data Drive; Info Cycle; Fleet Insights; Rapid Recharge & Share; Data Driven Health Care; LA Parking Lot 2.0; Traffic Tamer; City Mobility; Future of Mobility; Accessory Challenge; Australia Accessory



The European Mobility as a Service Alliance

Working to create a seamless, demand-based travel experience

Launched at the 2015 ITS World Congress in Bordeaux

NATIONAL LEADERSHIP

All Grappling With THE FOUR SOLITUDES

SERVICE
Car Share / Car Pool/ Peer to Peer
Lyft / Uber
Home Delivery
Senior Chauffeur
Auto Rickshaw
Taxi / Pedicab
Etc

PRODUCT / MODE
Car / Bus / Train
Plane / Boat
Bike / Trike
Shoes / Skates / Skateboards
Etc

PERSON / USER / CUSTOMER

TECHNOLOGY
Fare Payment / Parking
Wayfinding
Traffic Management
Congestion Pricing
Mesh Network / Cloud
Border Crossing / Security
Connectivity / Automation
Etc.

DESIGN / INFRASTRUCTURE/ REAL ESTATE
Urban Design
Product Design
Real Estate
Roads
Network Design
Etc.