Connect & Prosper Listings
Sustainable Transportation Initiatives and Enterprises Across Michigan

Ford Motor Company
Urban Mobility Project

Locations include Ann Arbor; Dearborn; Cape Town, South Africa; Chennai, India; Atlanta, GA; Brazil and Turkey.

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Description:

Pilot Urban Mobility Projects
During 2008, we worked on pilot projects including the following:

**Cape Town, South Africa** is the capital of the Western Cape Province. It is a popular tourist destination and was host to the World Cup in 2010. In preparation for the tournament, local officials sought to upgrade the city’s transportation systems, from its aging taxi fleet to its bus and rail systems. The city also wants to build on the legacy created by the World Cup to provide solutions to persistent problems of congestion and access to mobility for the poor, and develop a whole new industry around business opportunities in connecting the transportation dots. The project has an economic, systems and accessibility approach by focusing on how people meet their needs, rather than how to move people from point A to point B.

Ford and the University of Michigan’s Sustainable Mobility and Accessibility Research and Transformation (SMART) program have been working since early 2007 to engage private-sector leaders, local thought leaders and government and transportation officials, as well as taxi, minibus and bike entrepreneurs, in planning for a new mobility project. Planning is under way for a network of mobility hubs. A hub is a transfer point where multiple mobility options and services come together. In turn, one hub connects with an integrated system of hubs to provide seamless, convenient, sustainable, safe and affordable door-to-door trips for everyone – rich and poor.

In Cape Town, the hubs will link multiple mobility services, including buses and metro trains, minibuses, taxis, car-share vehicles and bike-share vehicles. They will also include
restaurants and shops. Travelers will eventually be able to use a software device, connected through a cell phone or information kiosk, to access integrated, multi-modal, real-time travel information. A leading NGO, IDASA, is coordinating meetings of larger forums and smaller working groups and facilitating deeper democratic engagement around the project.

In **Chennai, India**, inadequate infrastructure and congestion are creating air quality and safety problems in the urban center. Ford has helped catalyze a pilot project to provide mobility hubs and feeder services along the IT business corridor for bus and light rail customers. This pilot will help integrate various modes of transportation and greatly improve travelers' opportunities to transfer seamlessly from one mode to another, especially from MRTS and other vehicles to buses that ply the corridor. Working together in an integrated manner, these services will become a model system that can be replicated across the city, promoting the use of public transportation and helping create a world-class public transport system for Chennai.

In **Atlanta, Georgia**, Ford has worked with the Sustainable Design and Manufacturing Program at Georgia Tech to develop and test mobility solutions for one of the United States' most mobility-challenged cities. These efforts have included identifying technical options for improved urban mobility in Atlanta area; assessing their potential impact in terms of financial, environmental and social benefits and costs; and creating an engineering design framework to invent and test solutions.

One pilot project placed a solar-powered information kiosk on the Georgia Tech campus. Travelers could use the kiosk to plan a route to their destination using various transportation options. The kiosk provided information about route alternatives, schedules, costs and real-time tracking of buses, shuttles and other conveyances. Researchers gathered feedback from users to refine the system. They also tested a similar, cell-phone-based information technology application.

The insights from these pilot projects are contributing to a better understanding of sustainable mobility challenges and solutions. The researchers are viewing urban mobility as a complex system and are looking at how best to integrate:

- Vehicles
- Powertrain Technologies
- Fuels
- Fleets
- Information Technology
- Systems Design
- Revenue and Marketing
- Sustainability Attributes
Collaboration to Support Electrification

Through work on these pilot projects, we have gained insight into the mobility needs of urban residents, the institutions that must work together to forge solutions and the range of technical solutions and their strengths and weaknesses. These insights come together in our urban mobility methodology that can be applied to a variety of settings and challenges. This equips us as a company to respond to rapidly changing needs for mobility by offering new products and services.

For example, we are using what we’ve learned in diverse global locations to support the effort to build markets for electric vehicles in the United States. These vehicles will play an important role in reducing CO2 emissions from the transportation sector. They can be deployed in various ways as part of urban mobility solutions. But, like the creation of integrated mobility systems, the manufacturing, distribution and sales of electric vehicles will require new business models.

Multiple technologies and industries will need to converge to marry vehicles and infrastructure, utility services and information technology. Transportation and utilities will become interdependent. City leaders will need to take a system-wide approach to develop clean, green, "cool" and sustainable cities.

Several Ford functions – including the sustainable business strategies group, fleet sales and sustainable mobility technologies – are working together with a range of partners to deploy fleets of electric vehicles over the next two to five years.

With rising concern over carbon emissions from private vehicles and renewed emphasis on green transportation and infrastructure, urban leaders are looking for creative solutions to enhance transit use and reduce car use by linking bicycles, electric bikes and scooters, car sharing, car rental and ridesharing. With help from economic stimulus funds, they are poised to increase investment in electric and plug-in hybrid-electric vehicles including cars, trucks, conventional buses, trolley buses, express buses, and all forms of rail including streetcars, light rail and heavy rail.

We are working in several cities to put together coalitions of city and state agencies, utilities, transportation providers and others to pursue stimulus funding for electric vehicle fleets. This will help build the critical mass of electric vehicle sales that will be needed to help overcome a range of challenges to widespread electric vehicle use including infrastructure, affordability, battery technology and public policy (see "Electrification: A Closer Look" for more discussion of challenges and solutions).

How This Relates to New Mobility / Sustainable Transportation:

Ford’s Approach to Urban Mobility: Catalyst for Learning, Collaboration and Action
As mobility models change, so do the needs of our customers and potential customers. For several years, Ford has worked with a wide range of academic and public and private sector partners to explore sustainable mobility issues, advance thinking and catalyze on-the-ground projects to test different approaches to urban mobility. The insights we gain from this work help us to understand the forces that are shaping our markets, our role in addressing mobility challenges and the opportunities these trends present for us.

**Next Steps:**

**Continuing Learning and Engagement**

We are also continuing urban mobility research in the Brazil, Africa and India. In addition, we have learned from our involvement in the Center for Sustainable Transport Turkey (SUM-Türkiye), has the goal of delivering sustainable transport solutions to Turkish cities. Its efforts have centered on improving air quality and reducing travel times by promoting mass transit. SUM Turkey has completed Istanbul’s first emissions inventory and has provided technical advice to the city on its new Bus Rapid Transit system, Metrobus, which has now added an additional line. More information is available at the [EMBARQ Istanbul Web site](#).