



Photo Source: USDOT

MOBILITY ON DEMAND (MOD)

“Transform the Way Society Moves”

MOD Fact Sheet #1: Overview

MOD is an innovative, user-focused approach which leverages emerging mobility services, integrated transit networks and operations, real-time data, connected travelers, and cooperative Intelligent Transportation Systems (ITS) to allow for a more traveler-centric, transportation system-of-systems approach, providing improved mobility options to all travelers and users of the system in an efficient and safe manner.



Why MOD?

The population of the United States is growing, aging, and urbanizing. Needs of travelers are shifting with current trends emphasizing the need for alternative forms of transportation and demand for more personal choice in mobility. Thus, the transportation system must be flexible. Travel and mobility demands are evolving from an emphasis on private automobile ownership to more flexible, public and private options which incorporate shared-use and multimodal integration. It is vital that these systems are further developed alongside existing services in an integrated fashion to foster a fluid and connected transport system incorporating all modes and people in a seamless fashion, enabling a true complete trip, or point-to-point journey.

The transportation landscape is changing, and research in new mobility options is necessary to document, evaluate, and adequately plan for growing mobility demands, new technologies, and changing demographics, amidst challenging financial realities. New business models and the demand for situational mobility choices offer new opportunities in shared-use mobility, ridesharing, bike sharing, and car sharing.

Likewise, there is a renewed interest in demand-responsive operations largely driven by mobile technologies and the nearly ubiquitous smartphone. Along with traditional transportation options, these new trends provide real opportunities to develop an integrated system of mobility choices focused on meeting the needs of a diverse cross section of users while enhancing the safety of all travelers. MOD is poised to contribute to this new ecosystem with connected travelers, infrastructure, innovative operations and personal mobility needs.

USDOT MOD Program

The MOD program is a new U.S. Department of Transportation (USDOT) initiative led by the ITS Joint Program Office (JPO) and the Federal Transit Administration (FTA). The mission of the program is to enable and leverage advancements in technology and



MOD Research Framework

Mission:

To enable and leverage advancements in technology and operations to create an environment where all travelers have safe mobility options, ensuring reliable, informed, and efficient travel in a multimodal network that prioritizes individual, on-demand mobility.

Vision:

Empowering all travelers with true individual mobility options through the use of multimodal, integrated, and connected transportation networked systems by creating opportunities to harness technological and operational advances in travel and infrastructure optimization to create a safe, seamless, and efficient transportation system.

Program Goals:

The MOD program's goals are to encourage, facilitate, and develop a dynamic supply of mobility services and operations by leveraging existing ITS technology, emerging mobility solutions, advances in transit service, and innovative business and operational models that focus on providing independent, seamless, and situationally appropriate mobility options that move people and goods.



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operations to create an environment where all travelers have safe mobility options, ensuring reliable, informed, and efficient travel in a multi-modal network that prioritizes individual, on-demand mobility.

The USDOT is changing its way of thinking in regards to the transportation system of the future, largely due to growing trends in mobility, limited budgets at all levels of government, and the onset of new technologies and demands on the current transportation infrastructure. One example of how the USDOT is responding to this new transportation ecosystem is the new *Beyond Traffic 2045* report. *Beyond Traffic 2045* aims to drive stakeholder discussion about the shape, size, and condition of the future transportation system and how it will meet the needs and goals of our nation for decades to come.

Emerging technologies, changing demographics, and new mobility services and business models pursuing Mobility as a Service (MaaS) are rapidly changing the existing transportation ecosystem. Transforming the way society moves and addressing concerns identified in *Beyond Traffic 2045* requires a deep understanding of current realities within today's transportation system and the vision and tools to guide transformative programs and concepts that will lay the foundation for a safe, connected, and integrated multimodal system of tomorrow.

The ITS JPO's *ITS Strategic Plan 2015-2019* identified a vision – "Transform the Way Society Moves" – and a mission of advancing research that cuts across all surface modes. One identified strategic theme in the plan describes ITS research efforts in enhancing mobility. Enhancing mobility research involves exploring methods and management strategies that increase system efficiency, optimize infrastructure utilization and improve individual mobility. MOD will work to address these concerns.

In the early stages of the program, activities will focus on foundational research and analytics to create a portfolio of MOD research areas. The MOD research program will seek to partner with the research community and stakeholders to identify and further develop high-impact research areas and to define concepts related to those research areas. In later phases of the program, selected research areas will be identified for further development, benefits assessment, potential prototyping, testing, and deployment of emerging technologies.

FTA MOD Sandbox

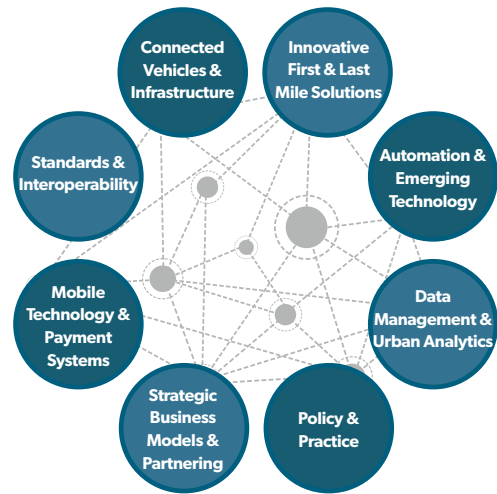
FTA, in collaboration with the ITS JPO, launches the MOD Sandbox program through a Notice of Funding Availability (NOFA) in 2016. The MOD Sandbox aims to provide a platform where integrated MOD concepts and solutions, supported through key local partnerships, are demonstrated in real-world settings. Four key guiding principles of the MOD Sandbox are that it encourages system integration, innovative business models, equity of service delivery, and partnerships. Through cooperative agreements, FTA and the ITS JPO will collaborate

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closely with selected transit agencies and communities across the country to implement and evaluate innovative approaches and business models to integrate MOD solutions within a public transportation framework.

MOD Enablers

The MOD program has identified eight enablers (see figure below) that crosscut the program's focus areas. These enablers are driving change within the transportation industry and align with research efforts proposed by MOD.



MOD Focus Areas

The MOD research program has identified six interrelated focus areas for further research activities (see figure below). These focus areas are expected to enable smarter, more efficient, and safer mobility within a multimodal ecosystem that benefits individual travelers, transportation operators, and system managers alike.



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