

This topic is “practice ready.” Yes No

Iowa Standardized Model Structure (ISMS)

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Abstract

The Iowa Standardized Model Structure (ISMS – pronounced as ‘isthmus’) is a project funded by the Iowa Department of Transportation (DOT) and is being led by the Modeling, Forecasting, and Telemetrics team in the Office of Systems Planning. This joint effort between the Iowa DOT, consultant team and the nine Iowa Metropolitan Planning Organizations (MPO) is being developed to standardize the development and application of travel demand models (TDM) in Iowa for transportation planning purposes.

Federal legislation originally passed in the 1970’s, and most recently updated in the current MAP-21 funding bill requires that any urbanized area with a population greater than 50,000 have a MPO in place to ensure that existing and future transportation expenditures are based on a continuing, cooperative and comprehensive planning process. In that process, MPOs coordinate with state and local governments, public transportation operators, and tribal agencies to set spending levels for Federal transportation funds. MPOs have six core functions including but not limited to the identification and evaluation of transportation improvements, preparation and maintenance of a Metropolitan Transportation Plan (MTP) and development of a Transportation Improvement Program (TIP). While travel demand modeling is not specifically referenced within the federal legislation, its use is typically viewed as the state of the

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practice for achieving the identification and evaluation of transportation improvement options, along with an evaluation platform for prioritizing projects to develop the MTP and TIP.

The partnership between the Iowa DOT and the MPO's across Iowa has been successful in developing and maintaining the TDMs for more than 30 years, and all indicators point to a need for this partnership to continue into the foreseeable future. However, over the last 10 years, the MPO's have seen more turnover in travel demand modeling staff, leading to a deficit of seasoned professionals that are able to develop, maintain and apply the TDMs. Over time, we have seen MPO TDMs being developed differently, thus leading to a possible lack of credibility.

The standardization of TDMs through the ISMS project provides the following benefits: 1) Reduced learning curve for Iowa DOT and MPO staff, 2) Transferability of data between MPO's, 3) Credibility of process across MPO's, 4) Comparability of outputs across MPO's, 5) Flexibility to add more detailed analysis features, and 6) Defensibility to analysis challenges.

The ISMS embraces the continued partnership of DOT and MPO staff, and defines travel demand modeling roles and responsibilities for both Iowa DOT and MPO staff. To that end, ISMS provides a work plan to accomplish each task in TDM development, including an overview and details of the step, guidance on data and data processing, and timeline and level of effort estimates. ISMS also provides guidance on the use of TDM data in various planning and forecasting applications.

Iowa DOT's vision for ISMS is to provide continued guidance and assistance to the MPO's across the state. As the needs of the MPO's evolve, so too can the ISMS standards and components. The expected completion date for the ISMS project is August 2017.

Keywords: Travel Demand Modeling Standardization Policy