Traffic Data Collection and Analysis Training

Description

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This course is designed to help bring together traffic data collection and pavement engineering personnel in the development of traffic data collection plans, traffic data management, and data analysis.

Pavement Engineering Perspective

Traffic data are usually a major data element that is a supplied externally to pavement engineers. As such, traffic data are often considered by pavement professionals as information to be collected and supplied to others and over reliability of traffic data, pavement professionals need to know how the data are collected and managed.

Traffic Data Collection Perspective

The nature of traffic data collection and usage is changing in response to changing traffic monitoring technology, data collection and management practices, and user requirements. One of the major changes is coming from the new traffic data requirements for pavement design. The new mechanistic-empirical (M-E) pavement design guide uses axle load spectra as the direct input to its pavement performance models. This will affect the future practices of pavement engineers because their design will rely more strongly on the availability and quality of the axle loading data. These new data requirements may result in the review and modifications of the existing traffic data collection plans, as well as analysis methodologies implemented by the agencies.

Integrated Approach to Traffic Data Use

Many highway agencies have developed or are developing agency-wide traffic monitoring programs. These programs integrate various traffic monitoring functions using effective statistical and procedural methods. Pavement managers need to be aware of the capabilities of the area-wide traffic monitoring systems and need to be able to communicate effectively as to what type of traffic data are required for pavement engineering purposes

Course Objective

The purpose of this course is to introduce the new developments in traffic data collection and management and to review the main aspects of collecting, managing, and utilizing traffic data for pavement engineering applications. Emphasis will be placed on the new developments in traffic data collection, as presented in the FHWA Traffic Monitoring Guide (TMG), and the new traffic data needs introduced by the M-E PDG procedure. The seminar will provide an overview of these guidelines and address how to accommodate new traffic data requirements under the budgetary constraints. At the end of the seminar, you will have a clear understanding of the new traffic data requirements and how they affect traffic data collection, analysis, and use. You will receive a notebook with a complete set of all the slides presented in the class, plus additional seminar references for more detailed reading.

Course Outline

- Introduction to traffic engineering
- Data collection techniques and equipments
- Classified traffic count
- Intersection survey
- Speed and delay measurements
- Parking survey
- Pedestrian survey
- Analysis of traffic data
- Assessment of traffic performance
- Forecasting traffic volumes