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Sources of Roadway Data for IntelliDrive Applications

Presenter

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The U.S. Department of Transport IntelliDrive initiative seeks to improve transportation safety and mobility, while reducing the environmental impacts of surface transportation, through the use of networked wireless communication among vehicles, roadway infrastructure, and travelers' personal communication devices. The applications developed through the IntelliDrive initiative will require current and locationally accurate information on roadway geometry and specific roadway features, including the locations of curves, number and width of travel lanes, roadway shoulder and median characteristics, speed limits, intersection characteristics, etc.

This presentation highlights the findings from a recently completed study of existing and emerging sources of roadway geometry and inventory data, including both public and commercial databases, as well as technologies and methods for collecting, maintaining, and updating roadway data. These data sources were compared along several technical dimensions including geographic coverage, network connectivity, feature resolution, positional accuracy, included attributes, data format and size, and methods and frequency of updates; and were evaluated relative to potential near-term IntelliDrive data needs. The study also examined the workflow practices and business models of current data providers, and their capacity for delivering the roadway data needed for future IntelliDrive applications.

Based on the study findings, current roadway geometry and inventory data gaps have been identified, and specific recommendations are proposed for research activities, as well as institutional and regulatory strategies to address those data gaps. The identified data gaps and potential strategies to address them may have significant impacts on future roadway inventory data collection practices at all levels of government.