

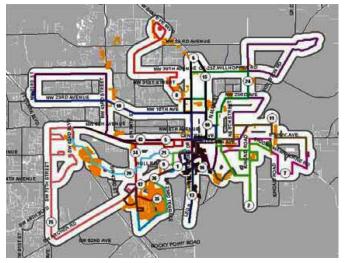
Florida Department of Transportation Research

Expanded Transportation Performance Measures to Supplement Level of Service (LOS) for Growth Management and Transportation Impact Analysis BDK77 977-14

Florida's transportation infrastructure must continually evolve to meet the demands of its growing population. Many jurisdictions are moving toward multimodal transportation systems that utilize existing infrastructure more efficiently, providing users with travel options and minimizing economic, social, and environmental costs associated with a purely vehicular system. To support these efforts, measures of how well the transportation system serves its users must also evolve. The most widely used measure, level of service (LOS), is itself based on other measures of a community, such as population density, parking supply, bus shelter locations, and many others. However, LOS now focuses on automobiles. So, performance measures are needed that will supplement the vehicle-based LOS.

University of Florida researchers began this project by surveying the literature. They identified numerous performance measures in five major categories: infrastructure and environment; system utilization; user perception; safety; and sustainability. They found measures for all modes and combinations of modes. Ideally, these measures should aid a community in achieving its desired quality of life goals. Accordingly, measures were grouped by the agency and community goals they support. The researchers developed guidance and examples for agencies to use in selecting measures appropriate to their goals.

To demonstrate how performance measures can be applied to create successful multimodal systems, the researchers described four Florida community systems and their review methods. Gainesville uses an impact area review system that focuses on multimodal analysis of the surrounding area most affected by its projects. St. Petersburg uses a prescriptive system that specifies project infrastructure characteristics but requires no impact analysis. Alachua County combines these approaches, prescribing multimodal infrastructure and land use requirements in urbanized areas;



This map shows bus routes of Gainesville's Regional Transit System and the quarter-mile buffer around each route — one possible measure of the system's reach and its impact.

minor operational reviews are conducted in the immediate vicinity of the project, while an impact area review is required in rural areas. Orlando uses a geography-based review, allocating available vehicle trips geographically on an annual basis depending on infrastructure availability. All four systems analyze the pedestrian environment in areas that will support multimodal travel. In general, within multimodal areas, design and review refocus from congestion management to provision of safe and useful multimodal facilities.

Finally, the researchers reviewed two development scenarios to compare how different land use forms affect the results of various performance measures. A comparison of the impact was based on whether measures were used that supported congestion management or mobility choice. For example, the two development scenarios performed similarly when congestion management was the primary objective, but differed dramatically in their ability to support multimodal choices.

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