LOUISIANA TRANSPORTATION RESEARCH CENTER

Technical Summary

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Statewide Lane Reconfiguration "Road Diet" Screening for Louisiana

Introduction

Reducing the number or width of vehicle through lanes and dedicating the space to other uses, such as parking, multimodal infrastructure, or turning lanes (i.e., "road diets"), has become more popular due to its cost-effectiveness as a strategy to increase multimodal accessibility and safety for all road users. However, methodological challenges and data gaps make it difficult to quickly assess opportunities for statewide implementation.

Objective

This research investigated the opportunities and feasibility of implementing road diets statewide to help Louisiana develop a network that accommodates non-motorized travel and meets other needs, such as parking and speed management.

Scope

The opportunity and feasibility evaluation was completed for the entire state of Louisiana, where sufficient data exists. It is noted that the research relied on roadway geometry data collected by the Automated Road Analyzer (ARAN) and published in 2020 for methodological demonstration. Future projects may want to use more recent data to obtain more robust results. Additionally, the evaluation was conducted at the planning level rather than the design or operational level to provide a preliminary overview of potential areas of interest for project identification and prioritization. Follow-up analysis may be needed at the project level, including additional data collection, to support in-depth evaluation, verify feasibility, and develop specific design alternatives for roadway reconfiguration.

Methodology

A data-driven framework for evaluating the opportunity and feasibility of road diets throughout Louisiana is presented in this study. A scalable, replicable, and flexible method was developed to assess more than 1.8 million 0.1-mi. roadway segments by combining state agency design guidelines with roadway geometry, traffic operations, land use, human activities, crash data, and speed data. Traffic thresholds, design standards, and geometric compliance were used to evaluate feasibility. Results show that 1.8% (3,091 mi.) of the road segments qualified for lane width adjustment, and 0.5% (569 mi.) for lane reduction. Opportunity measures were developed from mobility analytics to reflect active transportation demand, spatial relationships with nearby businesses to reflect parking needs, and historical crash and speeding data analysis to reflect safety improvement potential. Among eligible segments, opportunity priority was assigned based on the calculated active transportation investment score, parking need score, road diet-related crash rate, and speeding rate. The findings are compared against recently completed and proposed road diet projects, and three case studies are included to illustrate the effectiveness of the framework.

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Conclusions

This research establishes a replicable framework for statewide road diet screening that combines regulatory compliance, technical feasibility, and evidence-based opportunity assessment. The framework's application in Louisiana identified over 3,600 mi. of potential road diet treatments, with priority corridors demonstrating the convergence of feasibility and documented needs across safety, mobility, and economic dimensions. By demonstrating how emerging datasets can enhance traditional screening approaches, this work provides a pathway for transportation agencies to systematically identify and prioritize road diet investments that advance multiple policy objectives while maintaining alignment with state design standards and engineering best practices.

Recommendations

The following are several recommendations based on the study results:

1. Establish consistent statewide guidance and a data-driven screening framework
2. Integrate road diets into pavement preservation and routine project delivery
3. Continue to update and improve roadway network geospatial data
4. Expand post-implementation evaluation and long-term data collection
5. Advance research on economic impacts, parking, and non-traditional applications

Figure 1. Lakeshore Drive, New Orleans, LA. Before (left): Google Street View, January 2019. After (right): Google Street View, April 2025.

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