RESEARCH
PROJECT CAPSULE [19-3SA]
September 2019
TECHNOLOGY TRANSFER PROGRAM

Pedestrians and Bicyclists Count, Phase 2: Implementing and Applying Multimodal Demand Data

JUST THE FACTS:

Start Date:
March 15, 2019

Duration:
24 months

End Date:
March 14, 2021

Funding:
SPR: TT-Fed/TT-Reg

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Sponsored jointly by the Louisiana Department of Transportation and Development and Louisiana State University

POINTS OF INTEREST:

Problem Addressed / Objective of Research / Methodology Used / Implementation Potential

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PROBLEM

The Federal Highway Administration (FHWA) has clearly asserted support for walking and bicycling as part of an efficient and equitable multimodal transportation system, and has also developed guidance to support non-motorized data collection.

Currently, no state (or region) has fully implemented a pedestrian and bicyclist monitoring program as described in the FHWA Traffic Monitoring Guide. However, some states follow its guidance with modifications to meet local needs and resource constraints. The guide is based on methods for counting motorized vehicles.

Non-motorized traffic is inherently more variable than motorized traffic, and longer-duration data is required in order to make inferences or conduct statistical analyses. Recently published research (including LTRC 16-4SA: *Pedestrians and Bicyclists Count: Developing a Statewide Multimodal Count Program)* highlights the value of such data for developing, refining, and validating demand estimation models. This study will advance the preliminary research completed in the LTRC 16-4SA project.

OBJECTIVE

The purpose of this study is to implement key recommendations and address identified gaps in data availability from the LTRC 16-4SA project report, providing the Louisiana Department of Transportation and Development (DOTD) with a practical foundation for an efficient, cost-effective pedestrian and bicyclist count program. Specifically, the objectives are to: (1) Install

Figure 1
Infrared sensor and pneumatic tube counters collecting usage pattern data on Baton Rouge Mississippi River Levee Trail
Photo Credit: Tara Tolford

Figure 2
EcoCounter EZ-Zelt temporary inductive loop counter, installed on temporary protected cycletrack, Canal Street, New Orleans
Photo Credit: Tara Tolford

permanent counters at a set of pilot locations and collect one year of pedestrian and bicycle data representative of a variety of usage patterns and/or facility types; (2) develop roadway factor groups for Louisiana communities and preliminary expansion factors for adjusting short-duration multimodal counts; (3) identify, support, and inform opportunities for coordinated local and MPO-led data collection.

METHODOLOGY

After updating and expanding the literature review and technology/vendor database from LTRC 16-4SA, the research team will identify preliminary factor groups representative of Louisiana roadways. In addition, the team will identify potential count locations deemed to be representative of those factor groups in each of three locations: New Orleans, Baton Rouge, and one rural town to be selected in consultation with the Project Review Committee.

The research team will also conduct short-duration test counts to assess the suitability of locations for the installation of long-duration counters to be used in a pilot study involving the collection of one year of continuous pedestrian/bicyclist count data at 3-4 locations representing different usage patterns. Long-term automated data collection methodologies (with calibration and data validation) will be utilized.

The research team will also continue to refine the methodology for developing roadway factor groups and expansion factors for adjusting short-term multimodal counts across the roadway network, and refine the exposure and safety analysis framework and approach.

State engagement in existing data collection efforts and development of guidance for future local/regional data collection can ensure compatible data sets, collaboration, and efficient use of resources. To this end, the research team will support DOTD in advancing coordinated statewide multimodal data collection beyond the preliminary long-duration counts supported through this research.

IMPLEMENTATION POTENTIAL

This project represents the implementation phase for the actions recommended in the LTRC 16-4SA project report. Resultant data, products, and resources will be directly applicable for DOTD implementation. The study will also advance preliminary research into data management and use, resulting in practice-ready applications for agencies seeking to implement Complete Streets policies and evaluate performance.

Figure 3
EcoCounter UrbanZelt permanent inductive loop bicycle counter
Image Source: https://www.eco-compteur.com/en/produits/zelt-range/urban-zelt/

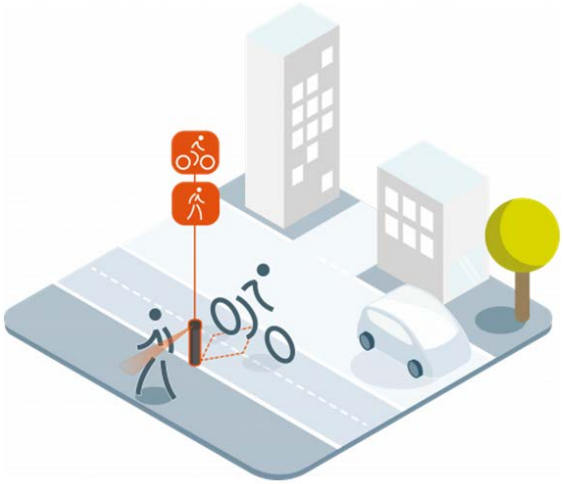

Figure 4
EcoCounter EcoMulti permanent infrared + inductive loop pedestrian and bicycle counter
Image Source: https://www.eco-compteur.com/en/produits/multi-range/urban-multi/

Figure 5
University of New Orleans students demonstrate installation of pneumatic tube bicycle counter on Basin Street, New Orleans
Photo Credit: Tara Tolford