

STRIDE

Southeastern Transportation Research,
Innovation, Development and Education Center

Technology Transfer Final Report

STRIDE Project D3

Developing a Methodology to Evaluate Detours for Major Construction Projects in the Era of Real-Time Route Guidance

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THE STRIDE CENTER

The STRIDE Center is the 2016 USDOT Region 4 (Southeast) University Transportation Center (UTC) housed at the University of Florida Transportation Institute (UFTI). Our mission is to develop novel strategies for Reducing Congestion. The Center has nine partners, representing seven states in the Southeastern U.S. The UFTI and its partners in the STRIDE Center are recognized leaders at state, regional, national, and international levels. The STRIDE Center is focused on assembling and integrating research projects throughout the region in a way that maximizes contributions to solving current and future transportation problems as well as strengthening expertise and developing new technologies. For more information see <https://stride.ce.ufl.edu/>.

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1. Project Overview

On major road construction projects, maintaining agencies typically designate detour routes and provide detour information to motorists. In the era of real-time traffic information and in-vehicle route guidance, it is not clear to what extent this detour information is received or followed by motorists. An example is the current project to reconstruct Interstate 20/59 in downtown Birmingham, in which a 1.5 mile segment of the interstate will be completely closed for a duration of over 1 year and resulted in significant traffic diversions. Using data from this construction project and a traveler survey, we will attempt to provide insights into how motorists make detour choices with the abundance of traffic information available to them and assess which aspects of detour planning were most effective in optimizing user travel and reducing system wide congestion. Understanding how and why motorists make detour decisions will help transportation officials make more informed and effective decisions in the future. The ultimate goal of this study is to develop a methodology for creating detour plans that can be used for future construction projects by public agencies across the country.

2. Research Goals

The following research goals have been defined:

- Determine what sources of information motorists typically use to make detour choices.
- Compare the actual detour patterns to those forecasted by planning models.
- After the interstate is re-opened in the spring of 2020, determine if patterns of congestion in the Birmingham region differ from those prior to the interstate closure.

3. Findings

The study found that motorists used a wide variety of information sources when selecting detour routes, not just route guidance apps. Motorists did tend to use designated detour routes initially, but as the project proceeded they tended to seek more efficient routes.

4. Performance Metrics

Metric	Completed
OUTPUTS	
Product(s): Number of new or improved tools, technologies, products, methods, practices, and processes created or improved	2
Technical Report: Number of client-based technical reports published	STRIDE Final Report
OUTCOMES	
Body of Knowledge: Number of trainings for transportation professionals	1
Professionals Trained: Number of professionals participating in trainings	34
IMPACTS	
Stakeholders: Number of stakeholders you met with to encourage adoption or implementation of product(s)	2
Adoption/Implementation: Number of incidences outputs of research have been implemented or adopted	NA

5. Product

Motorist survey

The survey asked motorists to list the information sources they used to select detour routes during construction. Though the data were collected for a Birmingham construction project, the information will prove useful to transportation agencies across the country. The survey is available in the [final report \(https://stride.ce.ufl.edu/wp-content/uploads/sites/153/2023/03/Project-D3-Final-Report-FORMATTED.pdf\)](https://stride.ce.ufl.edu/wp-content/uploads/sites/153/2023/03/Project-D3-Final-Report-FORMATTED.pdf).

6. Who benefits/will benefit from your product(s)?

State and local transportation agencies will be able to use the information in this study to plan detour routes for major construction projects.

7. Body of Knowledge & Professionals Trained

- 1) STRIDE Webinar: “Assessing Detour Routing for a Major Construction Project” presented by Andrew J. Sullivan, UAB on November 30, 2022. (34 Attendees). Recording: <https://youtu.be/v2kRfx45Ixs>

8. Journal Publications, Conference Presentations, & Posters

None

9. Stakeholder Engagement

STRIDE rep.	Andrew Sullivan	Met with Zeke Willis from the City of Birmingham Department of Transportation to discuss the project objectives and scope and discuss ways the City can contribute. He agreed to provide data the City and suggested other lines of analysis.
Date of Activity	February 2, 2020	
Type of Activity	in-person meeting	
Location	City of Birmingham	
Stakeholder(s)	Zeke Willis, City of Birmingham DOT	
STRIDE rep.	Andrew Sullivan	Met with Sain Associates staff to discuss the objectives and scope of the project and solicit their input. Sain Associates was heavily involved in the original detour planning and implementation. We discussed available data and participation. The PI said he would approach the Regional Planning Commission of Greater Birmingham for additional marching funds to allow Sain Associates to participate more actively in the project.
Date of Activity	February 18, 2020	
Type of Activity	in-person meeting	
Location	Sain Associates, Inc.	
Stakeholder(s)	Becky White (VP), Jeff Stephenson, Charles Cochran	
STRIDE rep.	Andrew Sullivan	Met with Brett Sellers, ALDOT TSMO section, to discuss the project objectives and scope and obtain information on available data. We discussed outcomes ALDOT would like to see result from the
Date of Activity	March 4, 2020	
Type of Activity	in-person meeting	
Location	UAB	

Stakeholder(s)	Brett J. Sellers, ALDOT TSMO	study, the format and content of the motorist survey, and data ALDOT is able to provide. Brett was able to provide several reports and data sets ALDOT has compiled on the interstate project.
STRIDE rep.	Andrew Sullivan	Met with Regional Planning Commission to discuss scope of the project and solicit their input for data analysis. The RPC-GB is very interested in the project findings and views it as a good “lessons learned” effort. We discussed involving Sain Associates in the project and they agreed that would be beneficial. Scott Tillman offered to provide CMAQ funding to bring Sain Associates in as a study partner.
Date of Activity	March 30, 2020	
Type of Activity	phone meeting	
Location		
Stakeholder(s)	Scott Tillman, Mike Kaczyrowski, Harry He – RPC-GB	
STRIDE rep.	Andrew Sullivan	Met with Regional Planning Commission to discuss scope of work for Sain Associates and estimated budget. Contacted Sain Associates to discuss scope of work. Began contract discussions.
Date of Activity	June 5, 2020	
Type of Activity	phone meeting	
Location		
Stakeholder(s)	Scott Tillman – RPCB Becky White – Sain Associates	
STRIDE rep.	Andrew Sullivan	Provided an update to ALDOT on project status and progress.
Date of Activity	July 2, 2020	
Type of Activity	in-person meeting	
Location	Birmingham	
Stakeholder(s)	Chris Hilyer, Brett Sellers – ALDOT TSMO	
STRIDE rep.	Andrew Sullivan	Met to discuss proposed budget and additional traffic data.
Date of Activity	October 10, 2020	
Type of Activity	phone meeting	
Location	Birmingham	
Stakeholder(s)	Charles Cochran, Sain Associates	
STRIDE rep.	Andrew Sullivan	Met to discuss additional scope, data, and analysis to be provided by Sain Associates.
Date of Activity	July 22, 2021	
Type of Activity	in-person meeting	
Location	Birmingham	
Stakeholder(s)	Charles Cochran, Jeff Stephenson, Paul Gilliam (Sain Associates)	

10. Adoption/Implementation

The Final Report is intended to be a data resource for other transportation agencies to use when planning detour routes for large construction projects.

11. Broader Impacts

The Final Report is intended to be a data resource for other transportation agencies to use when planning detour routes for large construction projects. It will assist planning agencies in determining the appropriate resources to devote to different media types (e.g., project websites, radio and television ads, call centers, and traditional variable message signs located in the field). It is not yet known the degree to which this resource is being used.