

## Chittenden County Advanced Traffic Monitoring System using Bluetooth Technology

### PROJECT TITLE

Chittenden County Advanced Traffic Monitoring System using Bluetooth Technology

### STUDY TIMELINE

May 2016 – May 2022

### INVESTIGATORS

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This fact sheet was prepared to highlight recent Accelerated Innovation Deployment (AID) Grants and State Transportation Innovation Council (STIC) Incentive Awards.

More information about the VTrans Research Program, including additional Fact Sheets, can be found at:  
<http://vtrans.vermont.gov/planning/research>

### Introduction

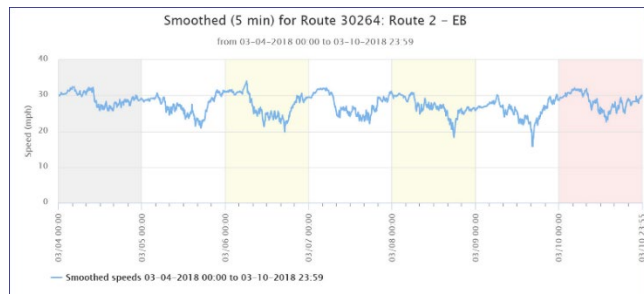
In coordination with the Vermont Agency of Transportation (VTrans), the Chittenden County Regional Planning Commission (CCRPC) received federal funding to implement corridor level real-time traffic monitoring and management using Bluetooth technology, for five (5) congested corridors in the county (tabulated below).

Corridor Number	Municipality	Route	Average Annual Daily Traffic (AADT)
1	South Burlington	I-89 Exit 14, US 2	40,500
2	Essex	VT 289, Susie Wilson Rd. & VT15	21,000
3	Williston	I-89 Exit 12, US 2/VT 2A	26,700
4	Colchester	I-89 Exit 17	14,400
5	Colchester	I-89 Exit 16, US 2	22,700

The CCRPC embarked on this project to collect real-time travel data to assist in transportation planning and implementation of improvements to address congestion, safety and other issues in the selected corridors.

### Methodology and Action Taken

Bluetooth sensors were installed strategically at key locations along the 5 study corridors in Chittenden County. The Bluetooth sensors detect and register Media Access Control (MAC) addresses of permanently installed or hand-held devices in vehicles, in an encrypted format which is virtually impossible to track. The system matches MAC addresses as they pass through different sensors and calculates travel times from the attached time stamps. The collected data is then processed through a series of algorithms and procedures, filtering inaccurate data, and finally feeding it into the back end of a web application.



### Next Steps

Real-time travel time data will be reviewed, monitored, and used by the CCRPC and Chittenden County municipalities and ultimately integrated with the VTrans Advanced Transportation Management System (ATMS) and Traveler Information System (TIS) for NewEngland511 through the State Transportation Operations Center (TOC).

### Potential Impacts and VTrans Benefits

The implementation of real-time traffic monitoring system in the county will assist VTrans, the CCRPC and municipalities to improve the efficiency, safety, mobility, and reliability of the transportation system. Real-time travel data will inform planning and design for safety and capacity improvements, including signal timing updates; assist with early incident detection and management, and use the information to develop safe and efficient work zone traffic plans.