



NC Capital Area Metropolitan Planning Organization

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Legislation Text

File #: TIP 16-253, **Version:** 2

TIP PROJECT I-5710 - RAMP METERING on I-540

Battle Whitley/Jamille Robinson - NCDOT staff

The North Carolina Department of Transportation (NCDOT) completed an in-depth analysis of traffic operations along I-540 based on the Ramp Metering Study completed in 2013. Based on the study NCDOT determined that implementation of on-ramp signals for congestion relief (i.e., “ramp metering,” the use of stop-and-go signals to regulate the flow of on-ramp traffic when merging onto the freeway) is a viable option to address increasing congestion and improve efficiency on this major freeway. Based on this analysis, four westbound ramps along I-540 have been selected as North Carolina’s first on-ramp signal sites.

The NCDOT State Transportation Improvement Program (STIP) Project I-5710 is the installation of the state’s first ramp metering signals on four existing on-ramps to westbound I-540 in the City of Raleigh in Wake County at:

- Exit 14 - Falls of Neuse Road (SR 2000).
- Exit 11 - Six Forks Road (SR 1005)
- Exit 9 - Creedmoor Road (NC 50)
- Exit 7 - Leesville Road (SR 1839)

Construction activities will involve the addition of pavement to some ramps, extension of guardrail, additional signing and pavement markings, and installation of ramp metering signals and Intelligent Transportation Systems (ITS) elements (CCTV cameras, fiber-optic communications cable, and server and communications equipment). All work will occur within the existing right-of-way, with some minor pavement widening and extension of existing ramp lanes. The on-ramp signals will be operational during peak times (rush hour) and activated through sensors when congestion is present.

The project is scheduled for completion within Fiscal Year 2016 at an estimated total cost of \$1.1 million. It is anticipated that the proposed on-ramp signals will be operational in spring 2017.

“Ramp metering” also known as “on ramp signals” is a traffic management concept and form of Intelligent Transportation Systems (ITS) that has been used successfully for decades in cities to improve the flow of vehicles entering busy freeway facilities. On-ramp signals can significantly improve conditions on the freeway resulting in benefits to both the mobility and productivity of the roadway system.

The use of on-ramp signals for congestion relief is a relatively new approach in this region of the country and this project will be the NCDOT’s first implementation of this technology in the state.

Mr. Battle Whitley-NCDOT Division 5 Maintenance Engineer and Mr. Jamille Robinson-NCDOT Public Involvement Group Leader will give the presentation.

Requested Action: Receive as Information