

US I-66 FREEWAY WIDENING ARLINGTON, VIRGINIA

MOVEABLE BARRIER FOR CONSTRUCTION
OUTSIDE WIDENING



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VDOT FINISHES WIDENING PROJECT 5 MONTHS EARLY USING QMB

The Virginia Department of Transportation (VDOT) widened I-66 just outside Washington D.C. for a distance of almost three miles. This six-lane highway is a critical east/west corridor into the District of Columbia and carries approximately 175,000 vehicles a day. Heavy traffic volumes prompted concerns about congestion management and safety. This resulted in the state specifying the Quickchange® Moveable Barrier System (QMB®). The contract stipulated that all work was to be done behind concrete barrier and that lane closures would be restricted to 4 hours during the day and 8 hours at night.

Lane Construction Company began the project by constructing a 6 foot asphalt shoulder in the median. Upon completion, the road was restriped and traffic was rerouted four feet toward the center of the road. Approximately 14,000 linear feet of QMB was deployed to the outside shoulder and a full depth concrete widening, fifteen feet in width, was initiated.

Using the Quickchange Moveable Barrier system to create lane closures affected the staging of the project in several ways:

- Lane closures, which had averaged over two hours in the median (where the QMB was not initially used), were reduced to about 30 minutes. This time savings made it cost effective to take advantage of the 4 hour work window during mid-day.
- Having a paved surface to access and reconstruct the

project allowed the contractor to use larger and more efficient equipment. In this case, jigs were built to install as many as six rebar dowels at once, and the concrete was slip formed rather than the traditional hand pour method. As reported by VDOT, a 30% reduction in construction time was realized due to the increased speed of creating the lane closure. Lane Construction averaged over 3,000 linear feet of concrete per evening. (Had the QMB not been used, a hand pour method would have been required where production might have been only 700 to 800 feet per evening.)

- The QMB also allowed for continuous inspection and easier placement of sub base materials and transverse load joint baskets. Lane Construction stated that, "It allowed us to build the road as if it were a new highway without interference from existing traffic."
- The QMB reduced the impact of these lane closures on the public. The area people were so intrigued that the equipment was taken to the county fair and put on display.

Ms. Cher Kennedy, the Project Engineer, stated that although there were changes to the contract, "When the plans called for us to be at about 40%, we were over 90% complete." The project finished about 5 months ahead of schedule. The Quickchange Moveable Barrier System facilitated the safer building of a better quality road in less time.

