

REVERSIBLE TRAFFIC LANES

Reversible traffic lanes add capacity to a road and decrease congestion by borrowing capacity from the other (off-peak) direction. Reversing lanes reduces congestion during morning and evening commutes, when there is an incident blocking a lane of traffic, or when construction or maintenance is being done on the road.

Roads can be adjusted to become a one-way street or have one middle lane operate in the peak direction. These adjustments, indicated by changeable message signs and arrows, occur at specified times of the day or when volume exceeds certain limits.



Example Three Lane Application- (Off Peak Hours)



WHAT IS OFF-PEAK AND PEAK DIRECTION?

During a “Peak” period of traffic demand, more commonly referred to as “rush hour,” one direction of travel on some commuter routes carry a heavier amount of the traffic volume than the other. This direction is referred to as the *Peak Direction* of travel and is normally associated with a time of day, either AM or PM. For Wythe Creek Road, the *AM Peak Direction* is southbound (towards Langley) and the *PM Peak Direction* is Northbound (towards Poquoson).

General Target Market Applications-

- Roads with highly directional congestion based on the time of day (Wythe Creek Road)
- Congested work zone areas or during incidents.
- During severe weather events, such as hurricane evacuations.
- Bridges, tunnels, and toll booth areas difficult to widen.
- Surrounding or leading to/from special event centers.

Reversible lanes work well in corridors where traffic flow is heavily imbalanced for a short period of time, and there are few other solution options without exceeding funding or taking of additional right-of-way.

How Will This Help?

- Reduce congestion by temporarily “borrowing” capacity from the middle lane.
- Increase safety in work zones during maintenance activities.
- Hasten evacuation during weather events or other natural disasters.
- Postpone the need to add capacity through conventional lane additions.

REVERSIBLE TRAFFIC LANES- HOW IT WILL WORK

Wythe Creek Operations- AM Peak Hour



Wythe Creek Operations- Off-Peak



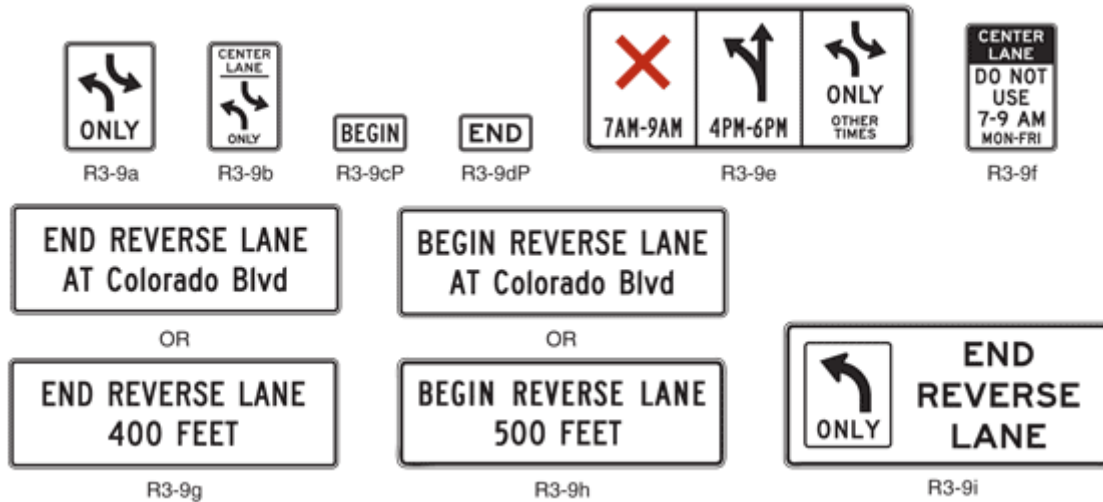
Wythe Creek Operations- PM Peak Hour



REVERSIBLE TRAFFIC LANES- HOW IT WILL WORK

The reversible lanes that will be proposed for Wythe Creek Road will use a combination of Static Signs, Dynamic Message Signs, Dynamic Lane Use Control Signals, and Pavement Markings. Using a combination of these traffic control devices, motorists will be told which lanes are open or closed for their given direction of travel.

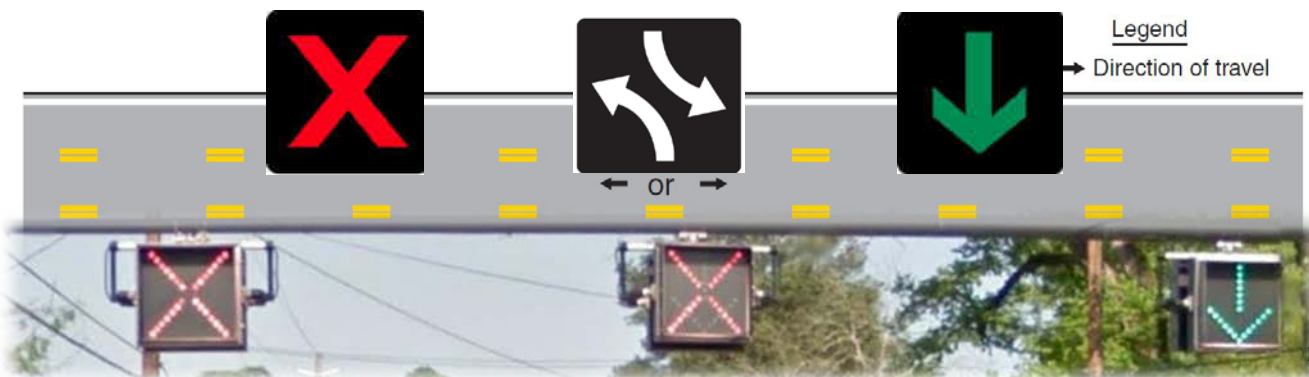
Static Signs- These are your normal street signs that are not electrical and will always show the same message. These will be placed along the corridor at specific locations to convey to the motorists information pertaining to



the operations of the middle reversible lane. A sample of a few Static Signs that may be used are shown below.

Pavement Markings- In transportation engineering design, roadway pavement markings and signs are governed by a federal design document called the Manual on Uniform Traffic Control Devices. Within this manual are accepted practices for engineering design that are used throughout the United States. In 2009, this guidebook provided standard guidelines and details for the implementation of Reversible Lanes. The pavement markings must meet certain standards and these standards will be applied to Wythe Creek Road. A sketch of these standard pavement markings for a reversible lane operation is shown below.

Dynamic Lane Use Control Signals- Lane-use control signals are special overhead signals that permit or prohibit the use of specific lanes of a street or highway or that indicate the impending prohibition of their use. Lane-use control signals are distinguished by placement of special signal faces over a certain lane or lanes of the roadway and by their distinctive shapes and symbols. For urban roadways such as this, these signals will be suspended over the lanes using traffic signal poles. Sample lane use control signals are shown below.



REVERSIBLE TRAFFIC LANES- HOW IT WILL WORK



river road- newport news, virginia



georgia ave- silver spring, maryland



vineville avenue- macon, georgia

A Few Other Locations Using Reversible Lanes-

1. 16th Street, Washington, D.C.
2. Canal Road, Washington, D.C.
3. Chain Bridge Road, Washington, D.C.
4. Georgia Avenue, Silver Spring, Maryland
5. FM 157/Collins Street & SH 180/Division Street, Arlington, Texas