

## Chapter 7 Planned Road Improvements

### *Planned or Programmed Roadway Improvements*

A number of major road improvement projects are either planned or programmed within the West Piedmont Planning District. These projects will promote safety and efficiency on the region's transportation system, but economic development is a significant by-product of these activities. Planned or programmed road projects in the rural portion of the West Piedmont Planning District include the following:

#### *Interstate 73*

Interstate 73 is a planned interstate highway extending from South Carolina north to Michigan, which would be constructed through the West Piedmont Planning District. Specifically, the interstate would begin at the North Carolina state line, continue north through Henry County in close proximity to the City of Martinsville, then extend north through Franklin County just east of the Town of Rocky Mount, before passing through Roanoke County and Roanoke City. The project cost was estimated at \$4 billion, and an economic impact analysis found that the interstate would indirectly create over 53,000 permanent jobs. Currently, no funding is available for the project, however, in 2016 localities which comprise the I-73 Coalition including Henry, Franklin, and Roanoke counties, and the cities of Martinsville and Roanoke, contracted with Alcalde & Fay, a Washington D.C.-based lobbying firm, to lobby Congress for federal funding for the project. In recent years, however, \$8.5 million, which had been earmarked to the I-73 project, was repurposed for improvements to U.S. Route 220. There is currently no timeline for construction of I-73.

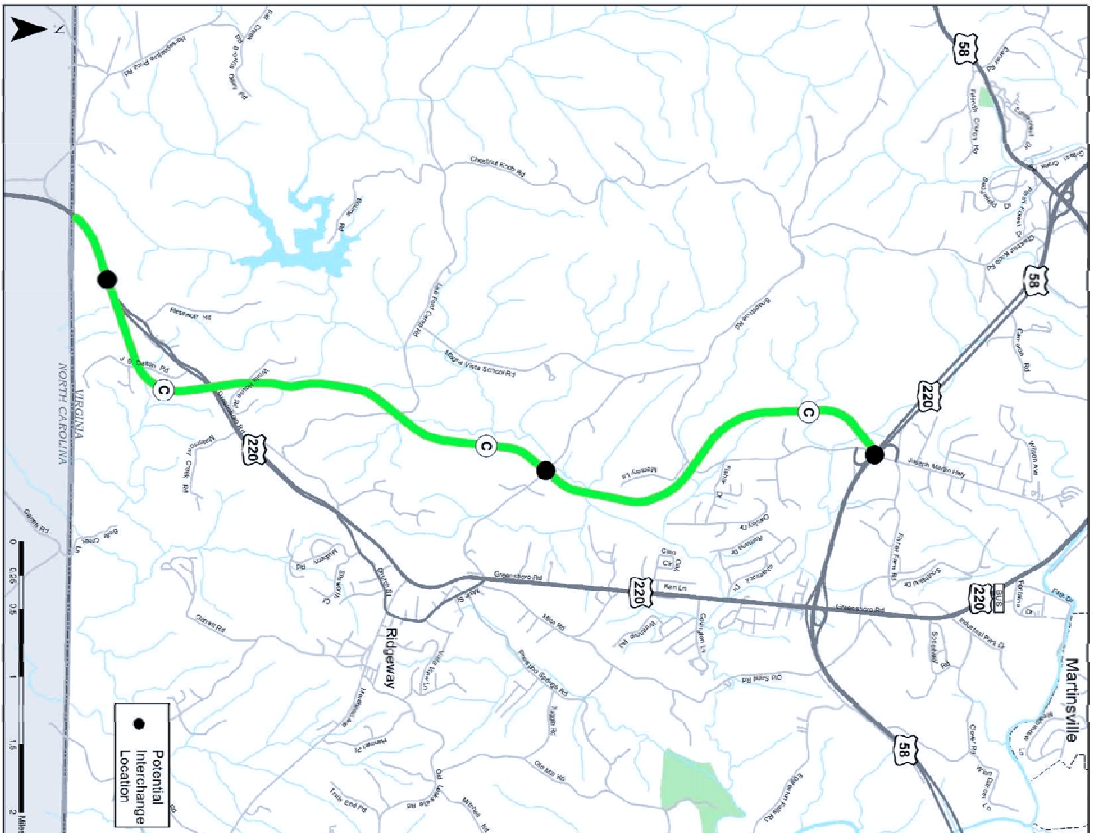
#### *Martinsville Southern Connector*

VDOT initiated the Martinsville Southern Connector Environmental Impact Study for a proposed limited-access roadway extending from the North Carolina state line north to the U.S. Route 220/58 Bypass south of Martinsville. The purpose of this project is to facilitate efficient movement of both local and regional traffic, as well as to address inconsistencies and geometric deficiencies on U.S. Route 220 south of Martinsville. Existing U.S. Route 220 in this section of Henry County is characterized by variable speed limits, numerous signalized intersections, many vehicular access points, and narrow or nonexistent shoulders in some areas. Several alternative route alignments were presented on which to construct the new roadway, and "Alternative C" was chosen. The alignment (see Figure 7.1) would be 7.4 miles in length, and would require three interchanges, including one at the U.S. 220/58 Bypass. The estimated cost of this new roadway is \$616 million. The northern-most section of the proposed alignment is planned to be re-routed so as to minimize impacts to residential and other uses.

Figure 7.1

**Martinsville Southern Connector Study**  
Route 220 Environmental Impact Statement

Figure 2-10: Alternative C (Preferred Alternative)



***U.S. Route 220 Arterial Preservation Plan***

The Virginia Department of Transportation (VDOT) is in the process of developing the U.S. Route 220 Arterial Preservation Plan as a means to preserve capacity of the roadway, improve its function, and enhance safety between the U.S. Route 220 Bypass in Henry County and Interstate 581 in Roanoke. Many of the proposed intersection improvements along this corridor are recommended to incorporate innovative intersection designs, which increase both roadway safety and efficiency (see the section below on Innovative Intersections). Draft proposals for the corridor in the West Piedmont Planning District include the following:

- Reconfiguration of U.S. Route 220 and Morehead Avenue in Henry County to a Continuous Green-T.
- Reconfiguration of U.S. Route 220 and Soapstone Road in Henry County to a through-cut.
- Reconfiguration of U.S. Route 220 and Water Plant Road in Henry County to a through-cut.
- Reconfiguration of U.S. Route 220 and Dyer Street in Henry County to a through-cut.
- Reconfiguration of U.S. Route 220 and Henry Road in Franklin County to an Unsignalized Continuous Green-T.
- Reconfiguration of U.S. Route 220 and Pleasant Hill Road as a Restricted Crossing U-Turn (R-CUT). Note: This project has been funded by Smart Scale.
- Reconfiguration of U.S. Route 220 and Cassell Road/Sontag Road as a through-cut. Note: This project has been funded by Smart Scale.
- Reconfiguration of U.S. Route 220 and Iron Ridge Road in Franklin County as a Restricted Crossing U-Turn (R-CUT).
- Reconfiguration of U.S. Route 220 and Wirtz Road as a through-cut.
- Corridor-wide enhancements such as access spacing improvements, geometric improvements, improved signage, installation of rumble strips, turn lane improvements, and other enhancements.

For additional information about the *U.S. Route 220 Preservation and Improvement Plan*, please visit [http://www.virginiadot.org/projects/salem/route\\_220\\_preservation\\_and\\_improvement\\_plan.asp](http://www.virginiadot.org/projects/salem/route_220_preservation_and_improvement_plan.asp). See Figure 7.2 for an illustration of some of these project proposals.

Figure 7.2



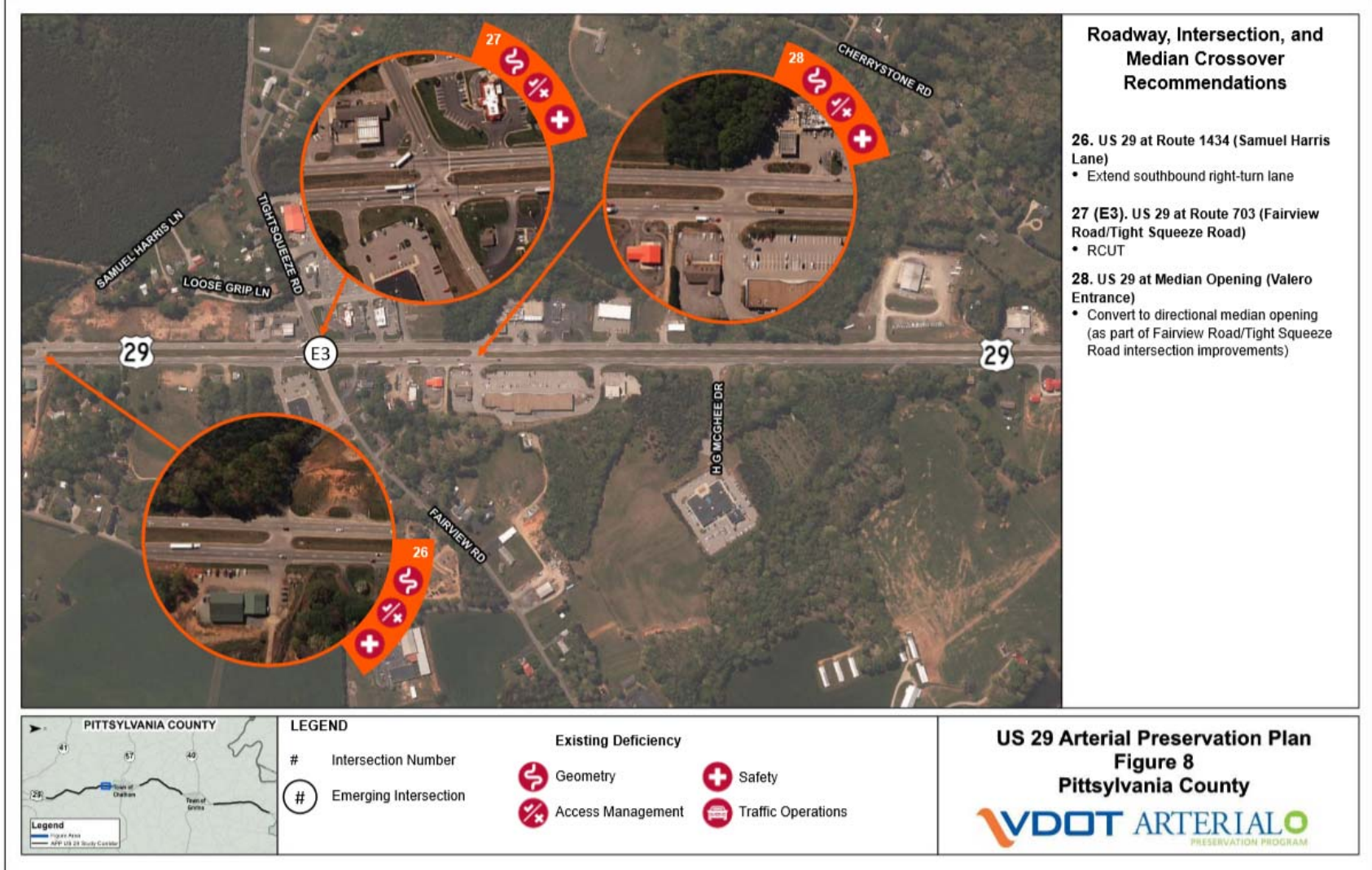
***U.S. Route 29 Arterial Preservation Plan***

VDOT is in the process of developing the U.S. Route 29 Arterial Preservation Plan as a means to preserve capacity of the U.S. Route 29 corridor, improve its function, and enhance safety of the in Pittsylvania and Campbell counties between the cities of Danville and Lynchburg. See Figure 7.3 for an example of proposed corridor-wide improvements. Draft improvements for this corridor within the rural portion of Pittsylvania County include the following:

- Reconfiguration of U.S. Route 29 and Tightsqueeze Road in Pittsylvania County to a Restricted Crossing U-Turn (R-CUT).
- A variety of corridor-wide improvements such as median closures, shoulder improvements, and signage improvements.



Figure 7.3



***U.S. Route 58 Corridor Improvement Program***

The U.S. Route 58 Corridor Improvement Program was initiated in 1989 by the Virginia General Assembly to enhance the U.S. Route 58 corridor from two lanes to four. This corridor is imperative to transportation and commerce, as it is the only east-west arterial providing continuous access along its nearly 680 mile length from Cumberland Gap, Tennessee, east to Virginia Beach and the Port of Virginia – one of several major East Coast international seaports which serves as one of the mainstays of Virginia commerce. While most of the corridor between Virginia Beach and Interstate 77 in Hillsville has been widened to four lanes, a key 10.8-mile segment extending from Meadows of Dan to the Town of Stuart remains as two lanes. This section is a major priority, since it is mountainous and characterized by significant elevation change, hairpin-like turns, and little to no shoulder.

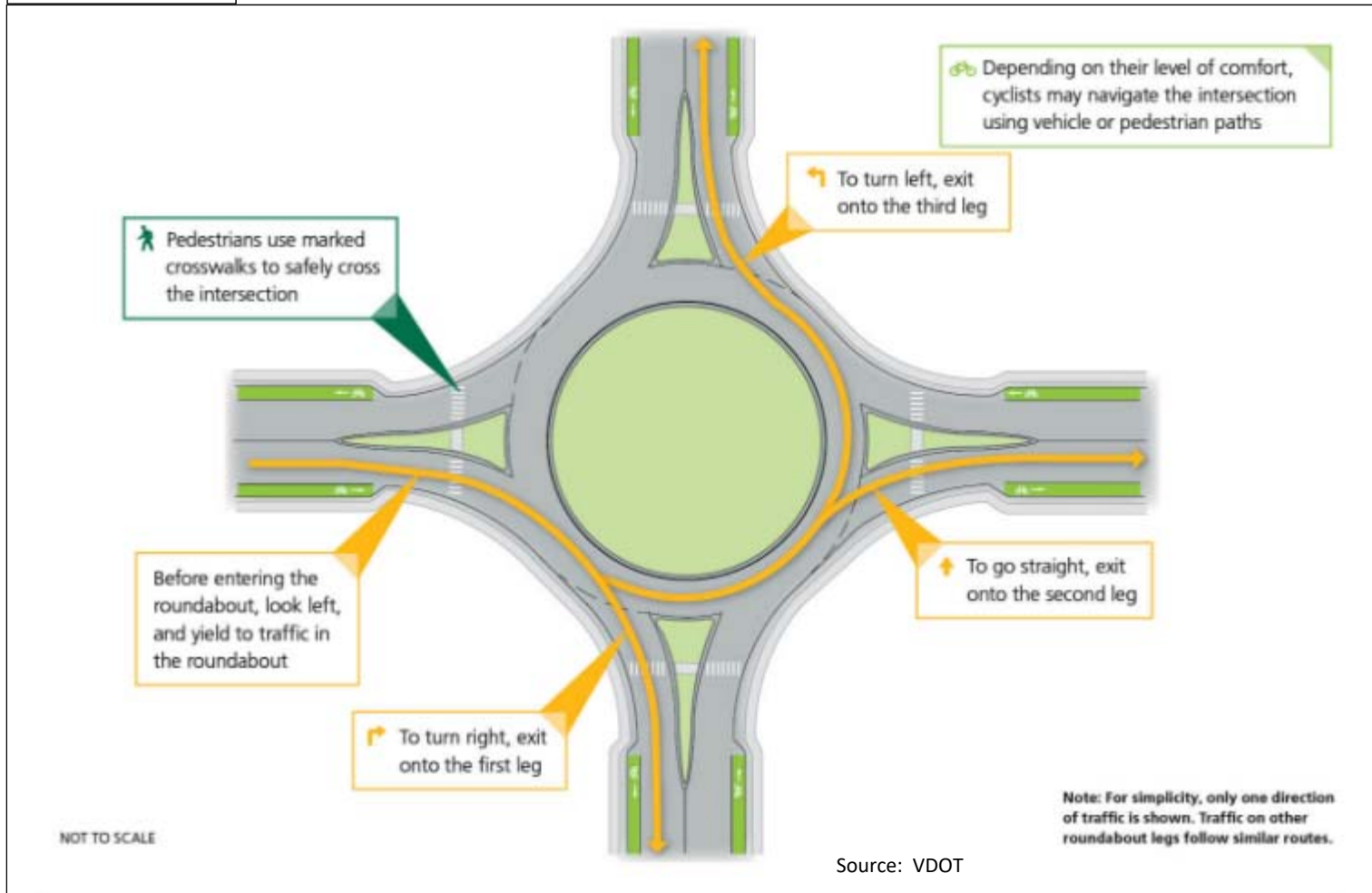
In 2013, the Virginia House of Delegates passed legislation altering the U.S. Route 58 Corridor Development Program’s bond measures, which will enable upgrades to this critical portion of U.S. Route 58 to take place. According to the VDOT Six-Year Improvement Program (SYIP), which documents funded transportation improvement programming, this project is scheduled to begin during Fiscal Year 2021. The project will widen the existing alignment from two lanes to four lanes with a median. Wide shoulders will also be incorporated into the roadway, which will provide an extra margin of safety for the traveling public, as well as to enable the road to serve as a safer route for bicyclists who wish to ride between the Town of Stuart and the Blue Ridge Parkway. The project will also remedy deficiencies at the intersections of U.S. Route 58 and 8 as well as U.S. Route 58 and Blue Ridge Street, both located just west of the Town of Stuart.

***Innovative Intersection Designs***

In recent years, VDOT has adopted innovative intersection designs as an alternative to traditional intersections such as signalized three and four-way intersections. These innovative designs can preserve roadway capacity while promoting safety at intersections. Common innovative intersection configurations include the following:

- **Roundabouts and Mini Roundabouts.** This is probably the most recognized form of the innovative intersection throughout the United States. Benefits associated with Roundabouts and Mini Roundabouts include the reduction of vehicular conflict points from 32 to 8 (compared to a traditional intersection), dramatically reducing opportunities for collisions; forcing traffic to slow down while approaching intersections; keeping traffic moving, in comparison to full-stop and signalized intersections; and serving as distinctive gateways to neighborhoods and districts. Figure 7.4 is an example of a roundabout.

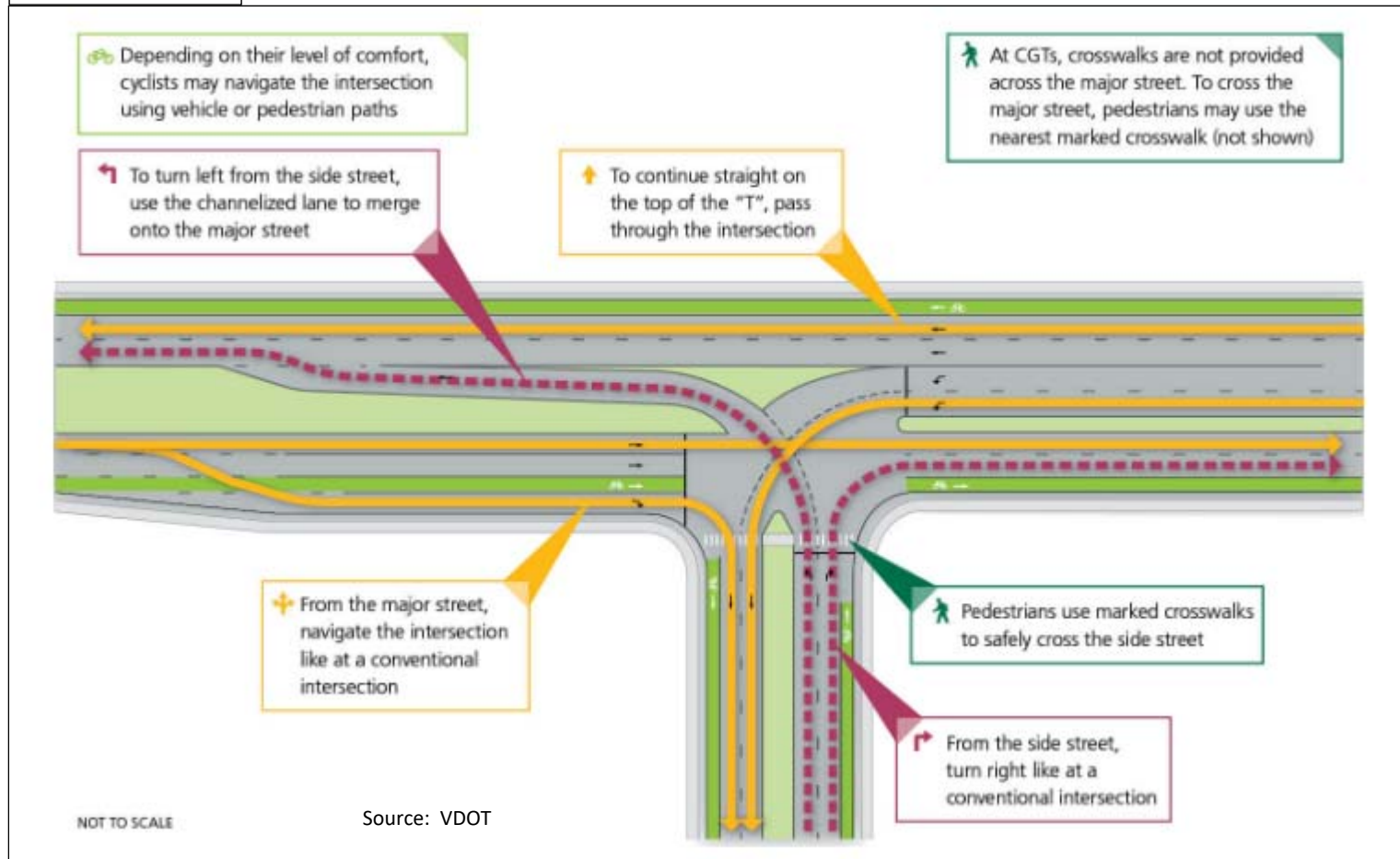
Figure 7.4





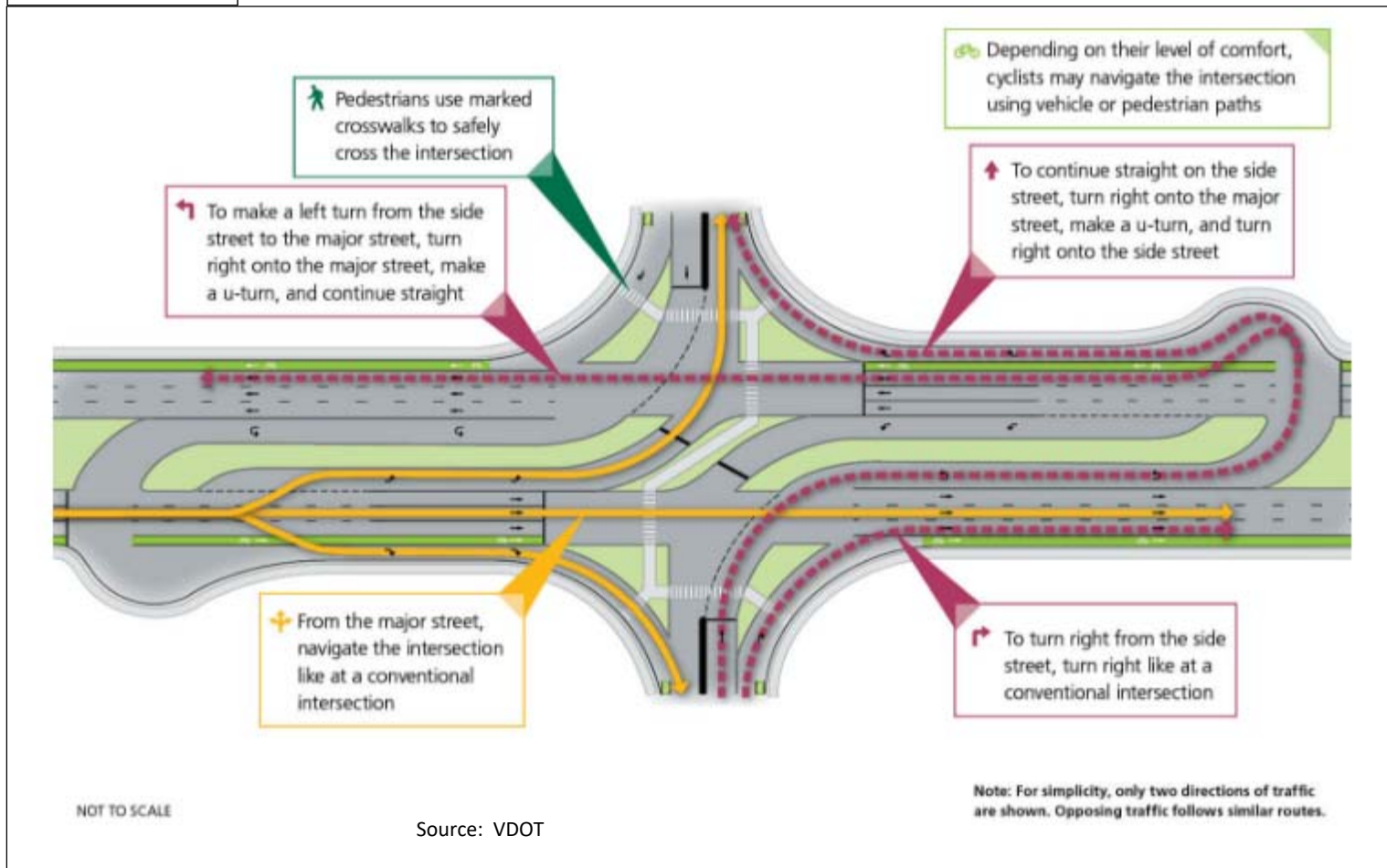
- **Continuous Green-T.** This innovative intersection design is typically implemented at three-way intersections on multi-lane roadways having a median. All turn movements require a merge rather than simply turning into traffic. This provides an extra margin of safety to drivers, as it dramatically reduces the possibility of a 90-degree (t-bone) impact, while minimizing the wait time of left-turning vehicles from the minor approach. Figure 7.5 is an example of a Continuous Green-T.

Figure 7.5



- **Restricted Crossing U-Turn (R-CUT).** This innovative intersection design is typically implemented at four-way intersections on multi-lane highways having a median. The design prohibits left turns from the minor approaches, but permits them from the major approaches to the minor approaches. Drivers seeking to turn left from the minor approaches must first turn right before making a U-Turn at a designated nearby location. This configuration improves safety by eliminating left turns across multiple lanes of roadway, while reducing the wait time of vehicles on the minor approach. See Figure 7.6 for an example of an R-CUT.

Figure 7.6



- **Through-Cut.** The Through-Cut is a relatively simple and low-cost means of improving roadway efficiency and safety at four-way intersections with little through traffic from one minor intersection approach to the other. The main benefit of this design is that the through-cycle of the traffic signal is eliminated at the minor approaches, thereby allowing a greater duration of time for through traffic on the major approaches. The elimination of through-traffic from the minor approaches also reduces opportunities for angular collisions. The driver who wishes to proceed from one minor intersection to another would turn right and make a U-turn, as is the case with the R-CUT. Figure 7.7 illustrates the typical configuration of a Through-Cut. For additional information about innovative intersections, see <http://www.virginiadot.org/innovativeintersections/>.

Figure 7.7

