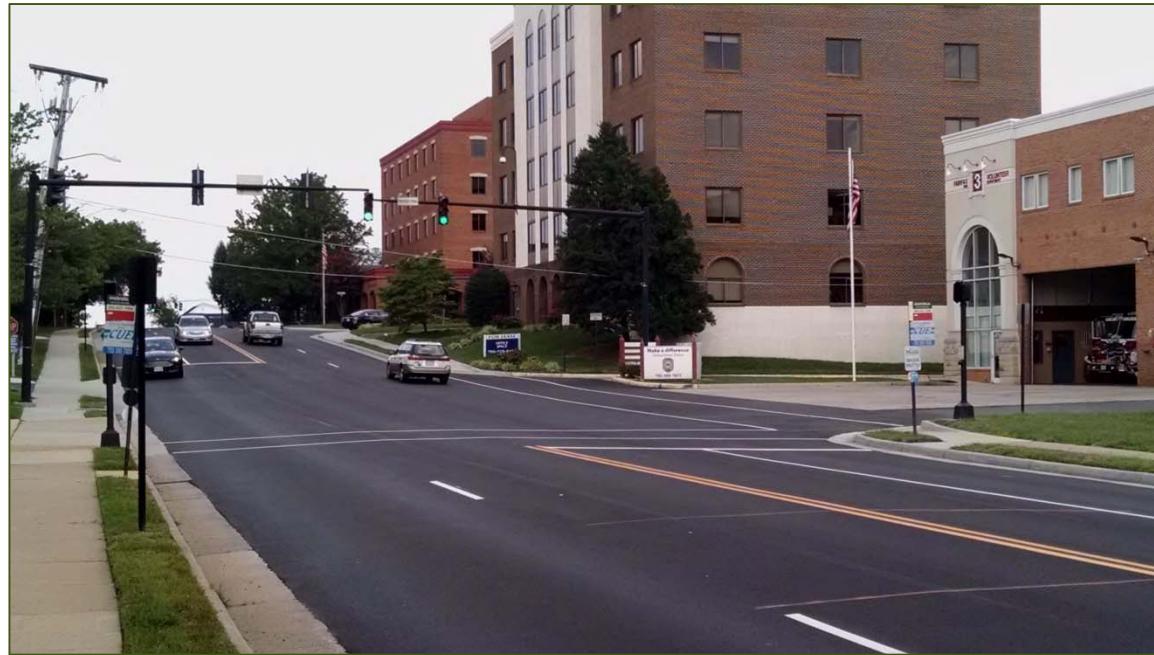


University Drive Road Diet

September 8, 2015





Goals and Objectives

- A. Reduce vehicular speed in the corridor.
- B. Provide an attractive bicycle accommodation on University Drive, identified as a bike-friendly street in the City's bicycle plan.
- C. Ensure that new roadway configuration will not have unacceptable negative impacts to traffic or to transit bus operations.



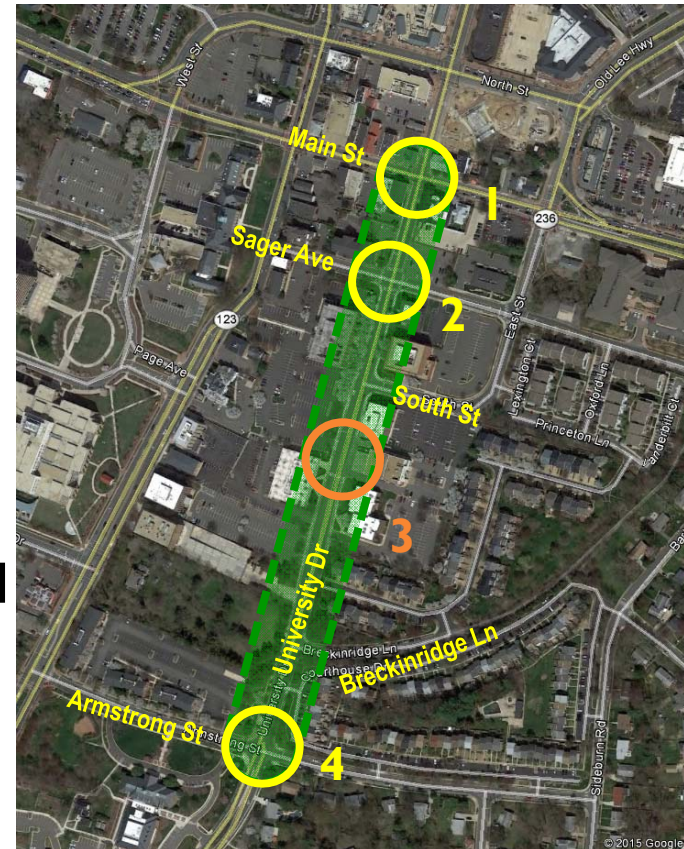


Study Area Intersections

University Drive (VA 6627) at

1. Main Street (VA 236)
2. Sager Avenue
3. Fire Station #3
4. Armstrong Street

Current land use is primarily business/ commercial, surrounded by low, medium, and high-density residential





University Drive in the City's Bike Plan

- University Drive considered an existing “on-street trail,” but no bike amenities exist in this section.
- “Missing Link” in the Mason to Metro to Mason Bike Trail.
- Roadway configuration – no signals between Sager & Armstrong.
- Few cyclists seen in field observations.





Road Diet Case Studies

Two comparable road diets:

- Reston, Virginia: Lawyers Road
- Bethesda, Maryland: Battery Lane

In both locations, a four-lane roadway was reduced to improve safety and provide accommodation for bikes.





Reston, Virginia: Lawyers Road

Objective

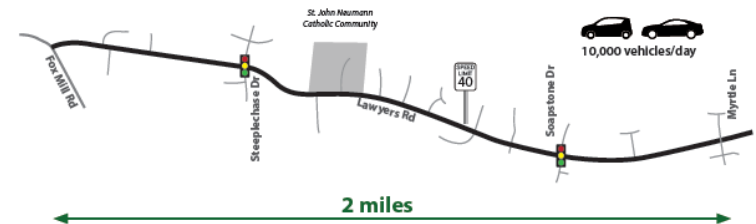
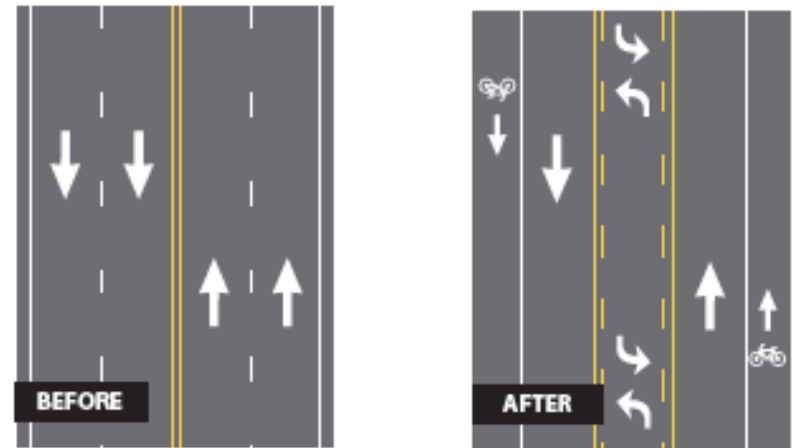
Reduce crashes and speeding
Improve safety and connectivity
for bicyclists

Features

2-mile section
Suburban Area
Low-density residential
No Curbs or Sidewalks

Average Daily Traffic (ADT)

10,000 vehicles per day





Reston, Virginia: Lawyers Road

Results

- Analysis of speeds confirmed operating speeds reduced after Road Diet implementation. In response, VDOT lowered the speed limit on the 2-mile section of Lawyers Road from 45 mph to 40 mph.
- Five years after, 70 percent reduction in crashes.



Key findings of road user survey (784 completed surveys):

- 69 percent thought Lawyers Road seemed safer.
- 47 percent bicycled more often.
- 69 percent perceived no significant increase in auto travel times.
- 59 percent perceived a reduction in auto speeds.
- 74 percent agreed the Road Diet improved Lawyers Road.





Bethesda, Maryland: Battery Lane

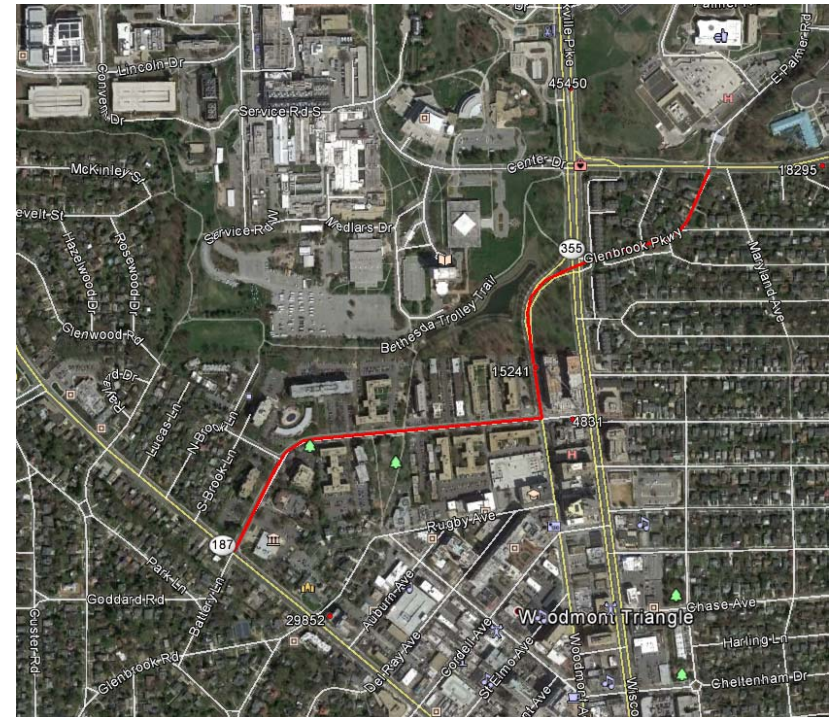
Objective

Support new bicycle route

Features

- 0.85-mile section
- Suburban Area
- Residential Apartments near downtown Bethesda
- Sidewalks and Bethesda Trolley Trail

Average Daily Traffic (ADT) of 4,820 vehicles per day after Road Diet (little to no change)





Bethesda, Maryland: Battery Lane



Battery Lane in 2009 with four-lane section






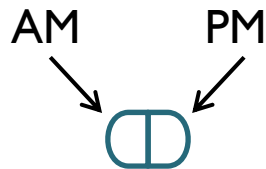
Battery Lane in 2014 with two-lane section, bicycle lanes, and parking on south side





Intersection Level of Service (Existing Four-Lane)

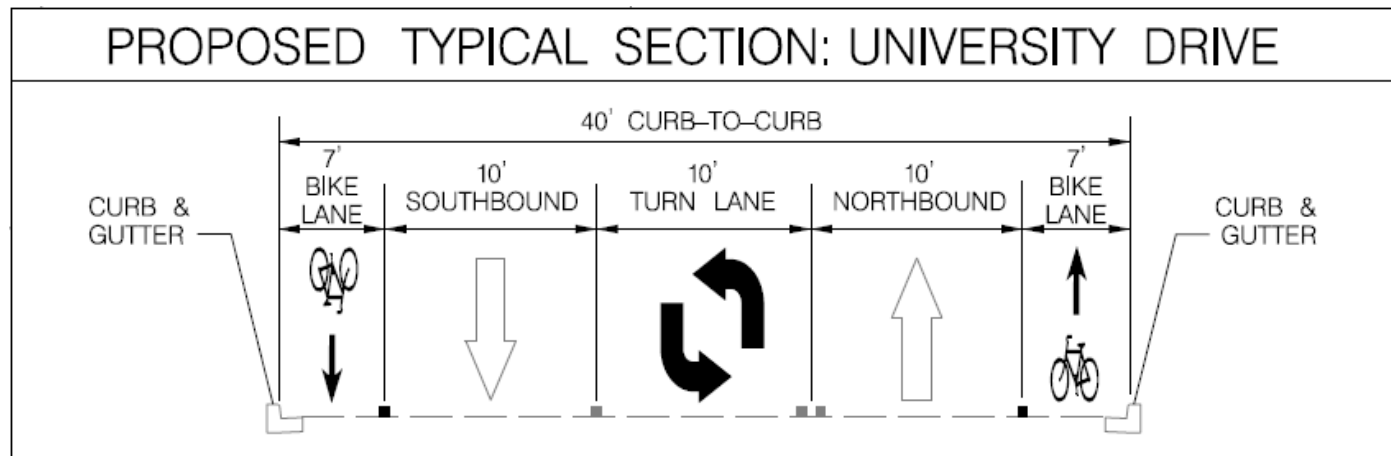
-  LOS A, B, or C
-  LOS D or E
-  LOS F





Recommended Road Diet Treatment

- Reduce the through lanes to one in either direction, with center two-way left-turn-lane (TWLTL) from Armstrong Street to South Street. *All lanes 10' wide.*
- Utilize extra space on either side of roadway for bike lanes in either direction.

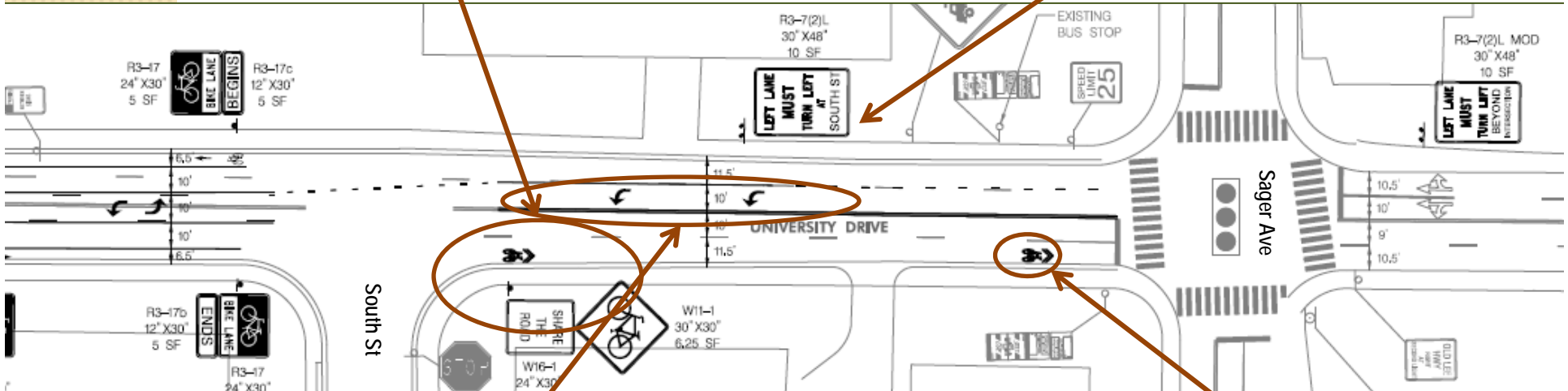




Recommended Road Diet Treatment

Ample turning space for emergency vehicles

Treatment does not continue past South Street due to conflicts with transit stop






Left lane SB at South Street becomes left-turn-only

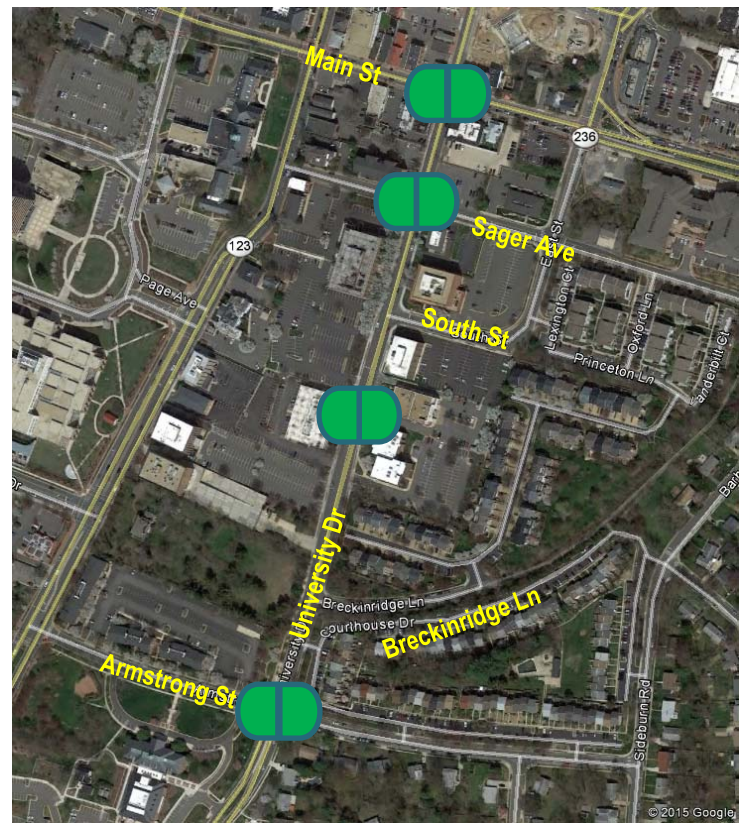
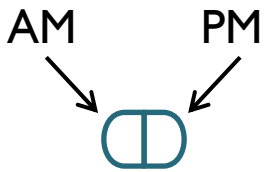
Sharrow treatment in the block between South & Sager





Intersection Level of Service (Future Two-Lane, TWLTL, & Bike Lanes)

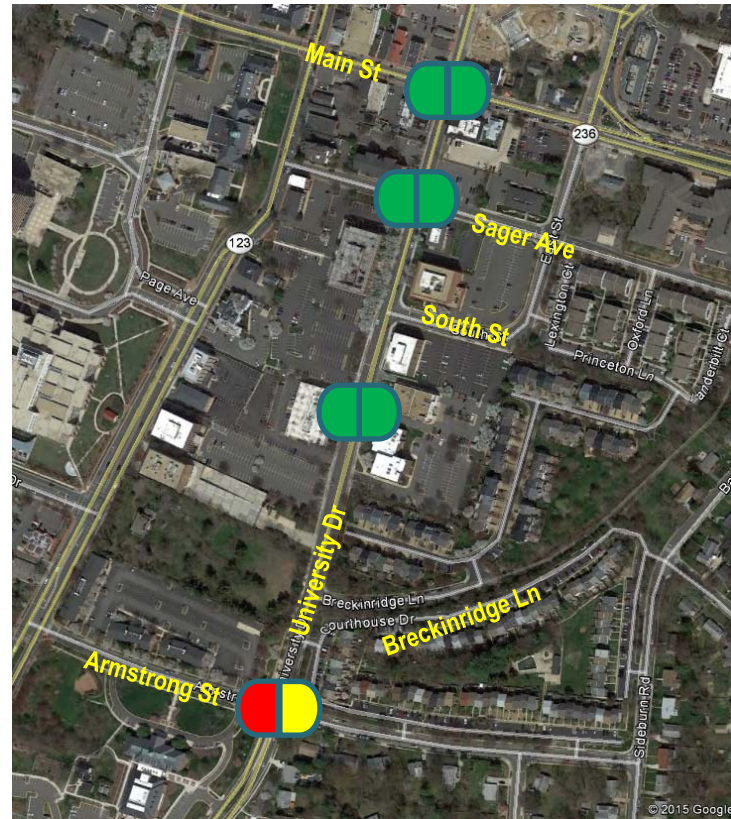
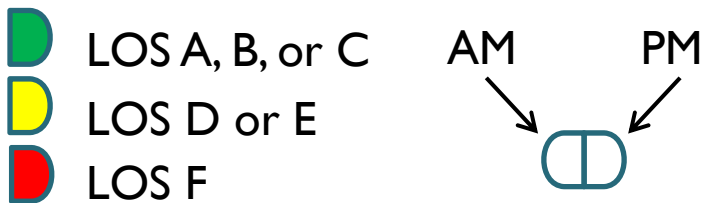
-  LOS A, B, or C
-  LOS D or E
-  LOS F

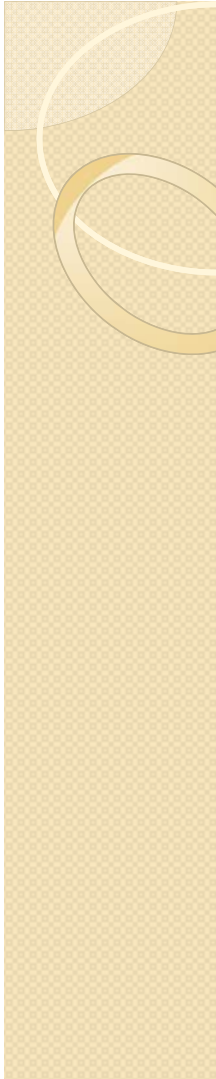




Intersection Level of Service Failure Analysis

- Analyzed road diet traffic impacts against potential increased traffic levels.
- It would take a 22% growth in through traffic on University Drive to create a failing intersection in the corridor.
 - ❑ Traffic volumes on University Drive have actually decreased since 2005.
 - ❑ If one did assume a steady growth rate, it would take about 20 years to get to 22% at 1% annual growth (or 10 years assuming 2% annual growth).





Questions / Comments?