



Bicycle Facility Selection Toolkit

Board Transportation Committee

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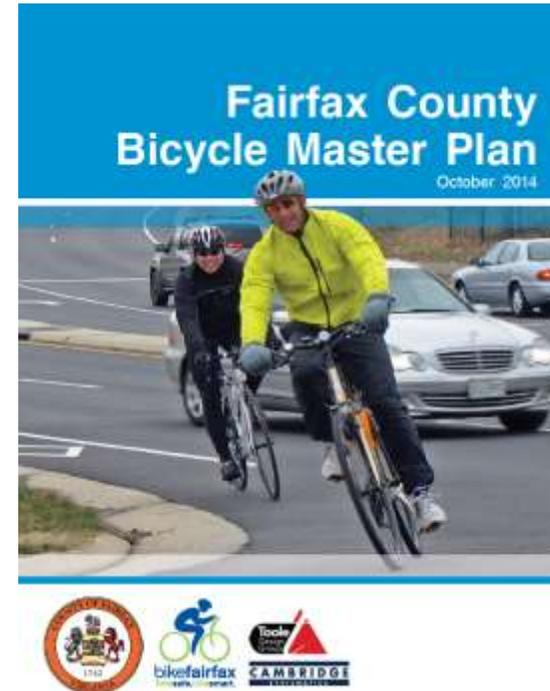
Overview

- Background
- Bicycle Planning
- Implementation Issues
- Facility Selection Toolkit
- Real World Implementation
- Next Steps
- Summary



Background

- Bicycle Master Plan adopted in 2014
- Bike plan adoption a five year process
- Countywide network based on:
 - Existing conditions at the time
 - Some field verification
 - Community input and values
- Recommended different facilities based on roadway characteristics, for example: signed routes, bike lanes, separated bike lanes and trails



Background

- 3 years experience implementing the plan and noticing repeated issues
 - Recommendations between the trails plan and bike plan sometimes overlap, and aren't always consistent
 - While implementing bike lanes during repaving, we've found opportunities for better bike lanes
 - Direction for new road projects has not been clear in some cases
 - Lack of direction if roadway widened

Background

- To address implementation issues there is a need for a Facility Selection Toolkit
- Facility selection toolkit-Guidance for best facility type based on a variety of roadway characteristics
- Goals of Facility Selection Toolkit:
 - Create bicycle facilities that more people will use
 - Provide flexibility in roadway design that will provide safety benefits to drivers and bicyclists

Background

- Goals of Facility Selection Toolkit (continued):
 - Design projects that will provide needed facilities, but also reduce right of way impacts, lower costs
 - Guide discussions with communities about how to best meet needs and balance with local concerns

Bicycle Planning

- Bicycle planning & design rapidly changing and flexibility needed to stay up to date
- 8 – 80 Design is current goal: Build facilities that would be comfortable for ages 8 and 80
- Need buffer or physical separation to appeal to more people
- Protected/Separated bike lanes growing in popularity and success in U.S.

Bicycle Planning



Annandale Rd

Bike Lane



Telegraph Rd

Buffered Bike Lane



Arlington, VA

Separated Bike Lane

Implementation Issues

- Bicycle Master Plan, adopted by the Board in 2014, recommendations at planning level
- Based on a snapshot in time
- Real world conditions provide opportunities to re-evaluate and work with community for safer facilities that more people would use

Implementation Issues

- 4 different scenarios implementing plan
 - 1) Repaving, based on existing pavement width, traffic volumes, work directly with community and supervisor to come up with recommended plans
 - 2) Policy Road-No direct recommendation, staff makes recommendation based on roadway and land use characteristics

Implementation Issues

- 4 different scenarios implementing plan (continued)
 - 3) New Roads/Roadway Widening-Bike master plan recommendations did not plan for these, need additional guidance
 - Example: Bike Plan recommendation for 2 lane 25 mph road and widening to 4 lane 35 mph
 - 4) Development and Capital Project Implementation-Follow bike master plan recommendation

Facility Selection Toolkit

- Based on other similar toolkits in Washington County, OR, and Montgomery County, MD
- Looks at speed and volume to recommend facilities that appeal to widest potential group of people
- Focused on bike lane recommendations only, not shared use paths

Facility Selection Toolkit

- “Minimum” of bike lanes usually preferred, but sharrows or signage appropriate for low volume, low speed streets
- The desirability of separation from vehicle traffic increases, with increased speed & volume
- Provides recommended facility types, but allows flexibility depending on context
- Shared Use Paths are an option for most streets

Facility Selection Toolkit

Green text indicates preferred facility type

85th% Speed (Posted if 85th% N/A)	<3,000 ADT	>3,000,<=8,000 ADT	>8,000,<=15,000 ADT	>15,000 ADT
<=25 mph	Sharrows, Bike lanes , Buffered bike lanes-2'+, Separated bike lanes	Sharrows, Bike lanes , buffered bike lanes 2'+, separated bike lanes	Bike lanes , Buffered bike lanes-2'+ , Separated bike lanes	Bike lanes , Buffered bike lanes-3'+ , Separated bike lanes
26 mph - 30 mph	Sharrows, Bike lanes , Buffered bike lanes-2'+, Separated bike lanes	Sharrows, Bike lanes , Buffered bike lanes- 2'+ , Separated bike lanes	Bike lanes , Buffered bike lanes-3' , Separated bike lanes	Bike lanes , Buffered bike lanes-3'+ , Separated bike lanes
31 mph - 35 mph	Sharrows, Bike lanes , Buffered bike lanes-2'+, Separated bike lanes	Sharrows, bike lanes , buffered bike lanes- 2'+ , separated bike lanes	Bike lanes , Buffered bike lanes-3'+ , Separated bike lanes	Buffered bike lanes- 3'+ , Separated bike lanes
36 mph - 40 mph	Bike lanes , Buffered bike lanes-2'+ , Separated bike lanes	Bike lanes , Buffered bike lanes-3'+ , Separated bike lanes	Bike lanes , Buffered bike lanes-4'+ , Separated bike lanes	Bike lanes , Buffered bike lanes-4'+ , Separated bike lanes
41 mph+	Separated bike lanes	Separated bike lanes	Separated bike lanes	Separated bike lanes

Facility Selection Toolkit

Volume (ADT)						
15,000	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane
8,000	Buffered or Separated Bike Lane	Buffered or Separated Bike Lane	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane	Separated Bike Lane
3,000	Bike Lane	Buffered or Separated Bike Lane	Buffered or Separated Bike Lane	Buffered or Separated Bike Lane	Separated Bike Lane	Separated Bike Lane
	Bike Lane	Bike Lane	Bike Lane	Buffered or Separated Bike Lane	Separated Bike Lane	Separated Bike Lane
	0 mph	25 mph	30 mph	35 mph	40+ mph	Speed (85 th %)

Real World Implementation

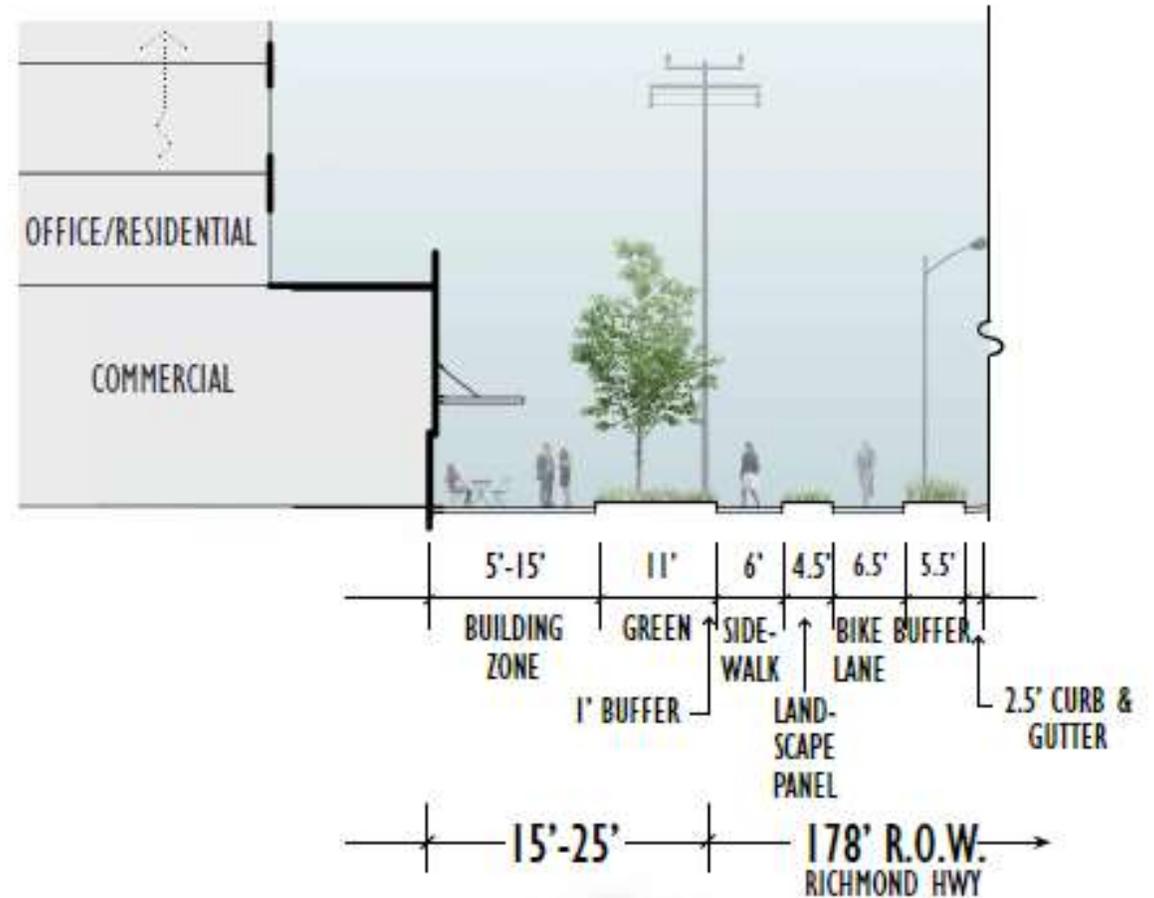
Road Name	Lanes	Posted Speed (85th %)	Volume	Bike Plan Rec	Toolkit Rec	Existing Bike Facility	Implementation Strategy
New Dominion Parkway	4+	35	14,000	Bike Lanes	Buffered or Separated Bike Lanes	None	Narrow travel lanes/narrow median
Franconia Road	5	35	18,000	Bike Lanes	Separated Bike Lanes	4' Bike Lanes	Capital Project
Kingstown Village Parkway	4 before road diet, 3 after	35 (50)	6,000	Bike Lanes	Separated Bike Lanes	6' Bike Lanes	Restriping + Flexiposts
Route 1	4 before road widening, 6 after	35	35,000+	Policy Road	Separated Bike Lanes	None	Road Widening
Ravensworth Rd	4 before road diet, 3 after	35 (39)	12,500	Bike Lanes	Separated Bike Lanes	Buffered Bike Lanes	Restriping + Parking Protected Bike Lane

Real World Implementation (example)

- Richmond Highway: Mt Vernon Hwy to Napper Rd
 - 4 lanes today, planned for 6+BRT
- Bike Plan called for Shared use path + on-road bike lanes each direction
- On-road bike lanes = 5' of pavement
- Shared-use path = 8' buffer, 10' path, 3' buffer
- Total width for bike/ped = 26' each side
- Facility Selection Toolkit recommends separated bike lane

Real World Implementation

- Facility Selection Toolkit recommends separated bike lane
- Embark process provided opportunity to vet the concept with the public
- Separated bike lane + sidewalk = 22.5' each side = 7' ROW reduction



Next Steps

- Gather feedback from this Committee
- Finalize guidelines and produce draft document for public review and comment
- Bring a Board Item for the Board to vote on endorsing the Facility Selection Toolkit
- Toolkit would be incorporated into next update of the Bicycle Master Plan

Summary

- Bicycle Master Plan was a significant first step
- Bicycle facility design rapidly progressing to appeal to more users
- Multiple situations where additional guidance for proper facility would be beneficial
- Facility Selection Toolkit based on speed + volumes provides recommendations for designs that will attract more users
- Result is better facilities, less property impacts, greater ROI (more users)

Thank you

Questions?

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