THE BICYCLE MASTER PLAN

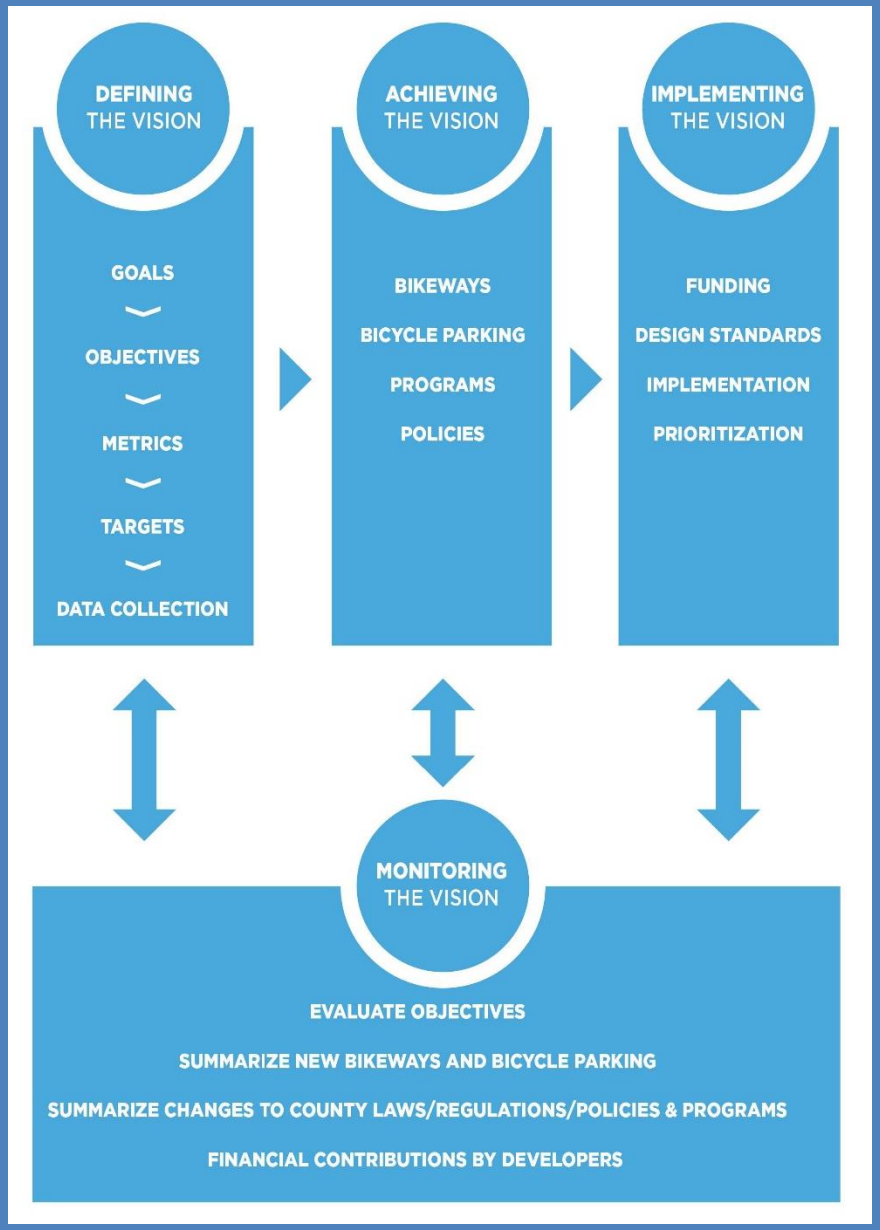
Montgomery County Bicycle Master Plan

June 18, 2018

Montgomery County Planning Department
David Anspacher, Project Manager

Master Plan Framework

Master Plan Framework



Master Plan Framework

Montgomery County will become a world-class bicycling community.

Everyone in Montgomery County will be able to travel by bicycle on a comfortable, safe and connected bicycle network. Bicycling will become a viable transportation option and will elevate the quality of life in the county.

Master Plan Framework

Four Goals

1. Increase bicycling rates in Montgomery County.
2. Create a highly-connected, convenient and low-stress bicycling network.
3. Provide equal access to low-stress bicycling for all members of the community.
4. Improve the safety of bicycling.

Master Plan Framework

2.1 OBJECTIVE

By 2043, 65 percent of potential bicycle trips will be able to be made on a low-stress bicycling network.

METRIC

Percentage of potential bicycle trips will be able to be made on a low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Regional Travel Demand Model Trip table (M-NCPPC).
- Bicycle trip length decay function (MWCOG Household Travel Survey).
- Location of dwelling units (M-NCPPC).

Note: See Appendix D for a description of Level of Traffic Stress.

2.2 OBJECTIVE

By 2043, the level of low-stress connectivity to each transit service, defined as the percentage of dwelling units within two miles of each transit station that are connected to the transit station on a low-stress bicycling network, will be:

- 65 percent for Red Line stations, up from 10 percent in 2018.
- 60 percent for Brunswick Line stations, up from 12 percent in 2018.
- 70 percent for Purple Line stations, up from 4 percent in 2018.
- 70 percent for Corridor Cities Transitway stations, up from 0 percent in 2018.

METRIC

Percentage of dwelling units within 2 miles of each Red Line, Brunswick Line, Purple Line and Corridor Cities Transitway station that are connected to the transit station on a low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Location of existing and planned Metrorail, MARC and Purple Line stations (M-NCPPC).
- Location of dwelling units (M-NCPPC).

Master Plan Framework

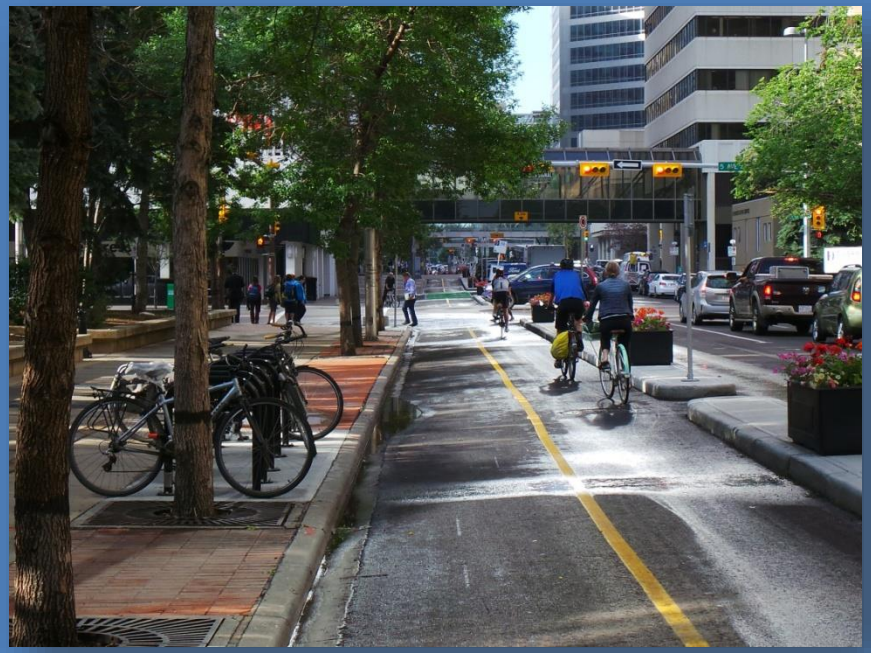
ACHIEVING
THE VISION

BIKEWAYS

BICYCLE PARKING

PROGRAMS

POLICIES



Two-Way Separated Bike Lanes

Master Plan Framework

ACHIEVING THE VISION

BIKEWAYS

BICYCLE PARKING

PROGRAMS

POLICIES

Bicycle Parking Station

Master Plan Framework

ACHIEVING
THE VISION

BIKEWAYS

BICYCLE PARKING

PROGRAMS

POLICIES

DC Public Schools Bike Curriculum

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ACHIEVING THE VISION

BIKEWAYS

BICYCLE PARKING

PROGRAMS

POLICIES

Lower speed limits on neighborhood greenways

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BPPA
Bicycle and Pedestrian Priority Areas

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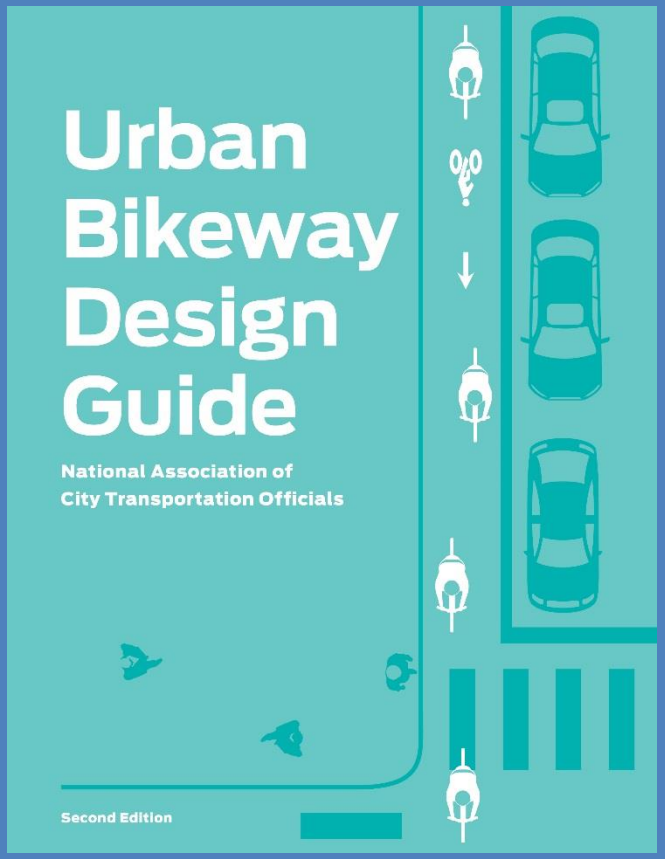
IMPLEMENTING THE VISION

FUNDING

DESIGN STANDARDS

IMPLEMENTATION

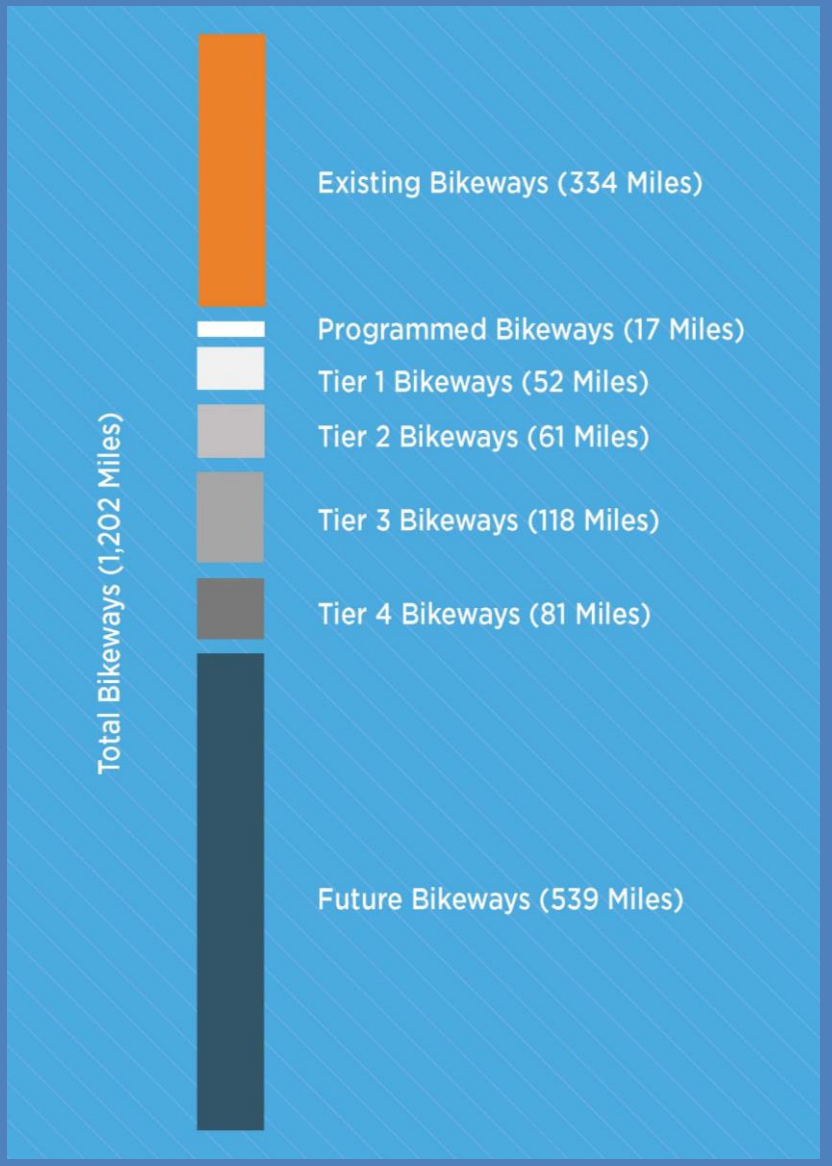
PRIORITIZATION



Master Plan Framework

Construction of Spring Street Separated Bike Lanes

Master Plan Framework



Master Plan Framework

Master Plan Framework

OBJECTIVE	METRIC		EXISTING	TARGET		FULL BUILD
			2018	2033	2043	
GOAL 2: CREATE A HIGHLY-CONNECTED, CONVENIENT AND LOW-STRESS BICYCLING NETWORK						
2.1	Percentage of potential bicycle trips will be able to be made on a low-stress bicycling network.		17%	35%	65%	85%
2.2	Percentage of dwelling units within 2 miles of each Red Line, Brunswick Line, Purple Line and Corridor Cities Transitway station in Montgomery County that are connected to the transit station on a low-stress bicycling network.	Red Line	10%	35%	65%	80%
		Brunswick Line	12%	35%	60%	75%
		Purple Line	4%	35%	70%	75%
		Corridor Cities Transitway	0%	35%	70%	75%
2.3	Percentage of dwelling units within one mile of elementary schools, 1.5 miles of middle schools and 2 miles of high that are connected to the transit station on a very low-stress bicycling network.	Elementary Schools	26%	30%	30%	60%
		Middle Schools	11%	15%	20%	50%
		High Schools	6%	10%	15%	30%

Level of Traffic Stress

Level of Traffic Stress

- An approach to quantify the amount of stress that people feel when they ride a bike.
- Uses attributes of roadways
  - Speed
  - Number of traffic lanes
  - On-street parking turnover
  - Presence of a bikeway
- Assumes that bicyclists will tolerate a certain amount of stress and will not ride in conditions that exceed that level.

Level of Traffic Stress

Tolerate High Stress (~7%)

Very comfortable on non-residential streets without bike lanes

Tolerate Moderate Stress (~5%)

Very comfortable on non-residential streets with bike lanes

Tolerate Lower Stress (~51%)

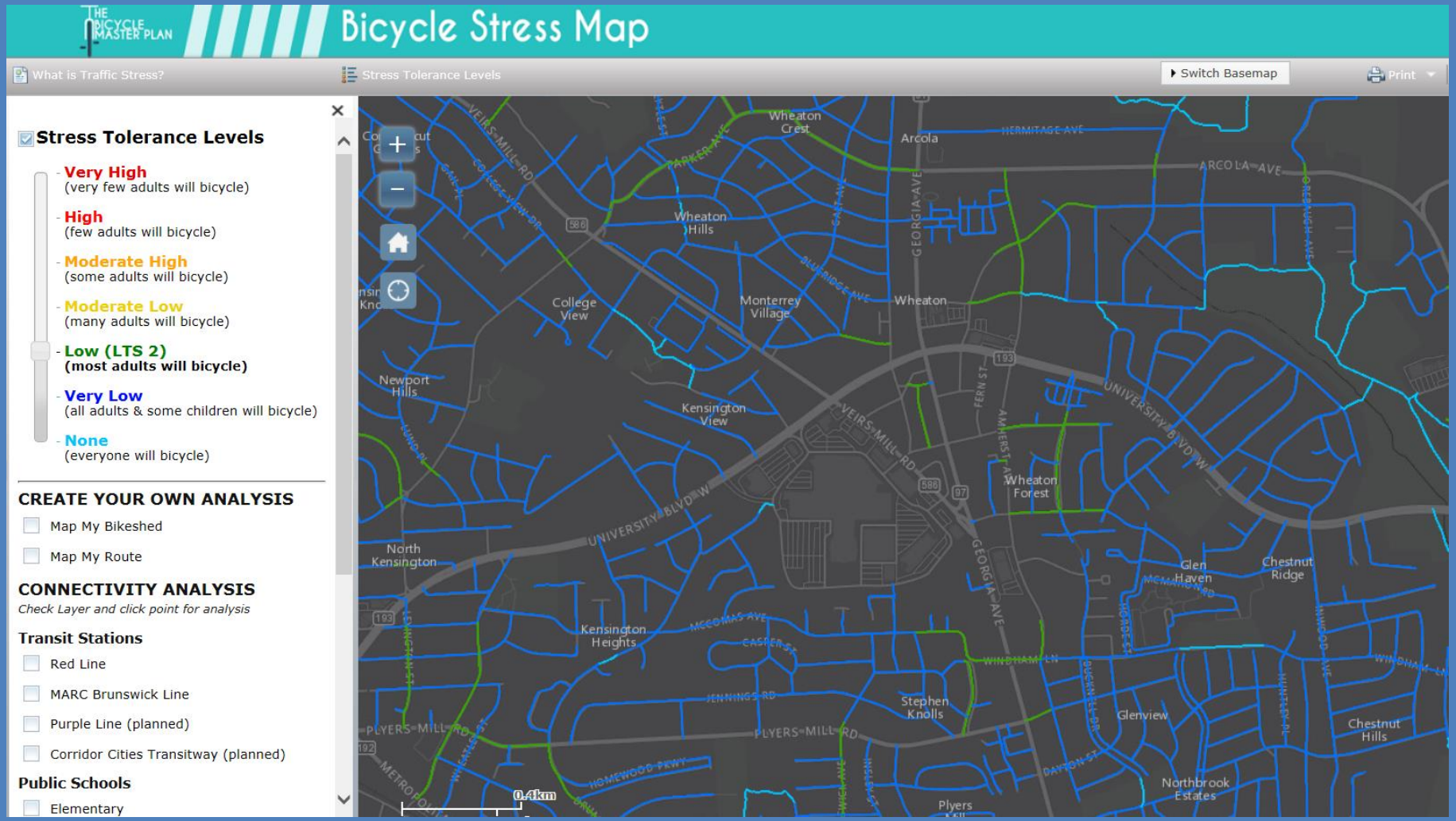
Less than very comfortable on non-residential street with or without bike lanes

Do Not Bicycle (~37%)

Everyone else

Source: Jennifer Dill and Nathan McNeil, "Revisiting the Four Types of Cyclists: Findings from a National Survey," Transportation Research Record: Journal of the Transportation Research Board, Volume 2587, 2017.

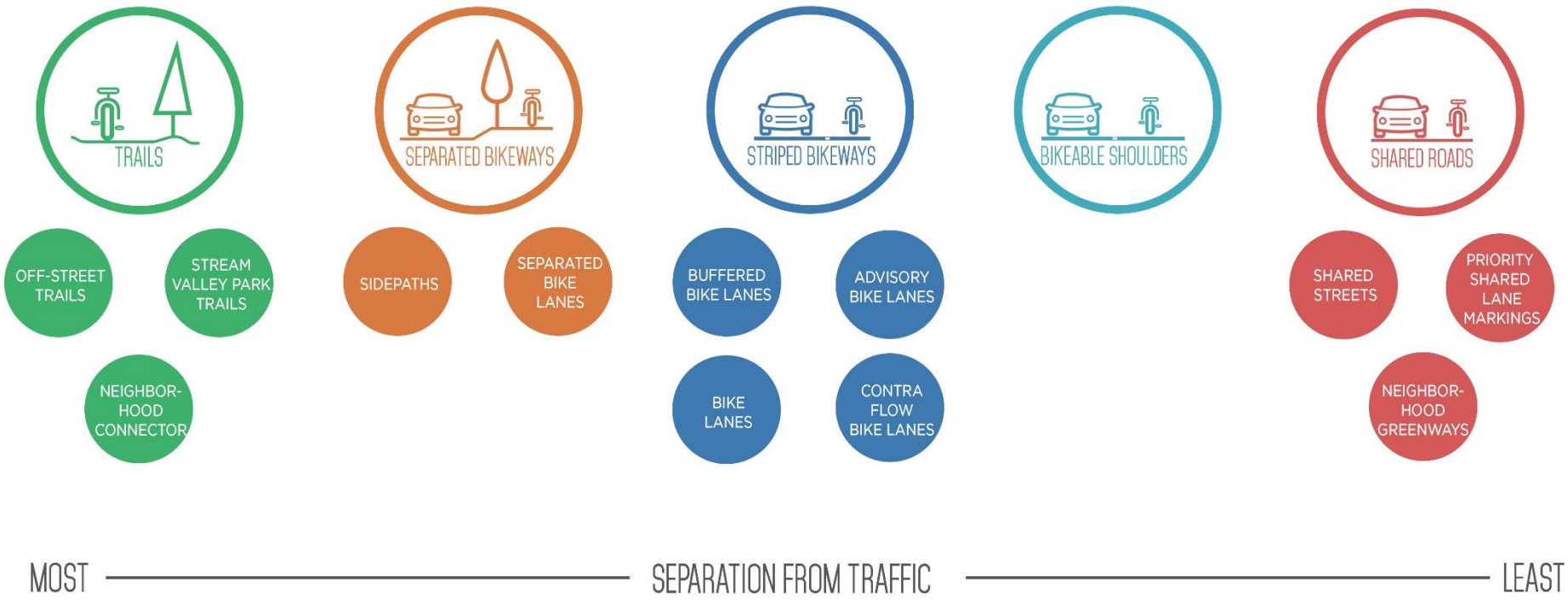
Level of Traffic Stress



www.mcatlas.org/bikestress

Bikeway Classification

Proposed Bikeway Classification



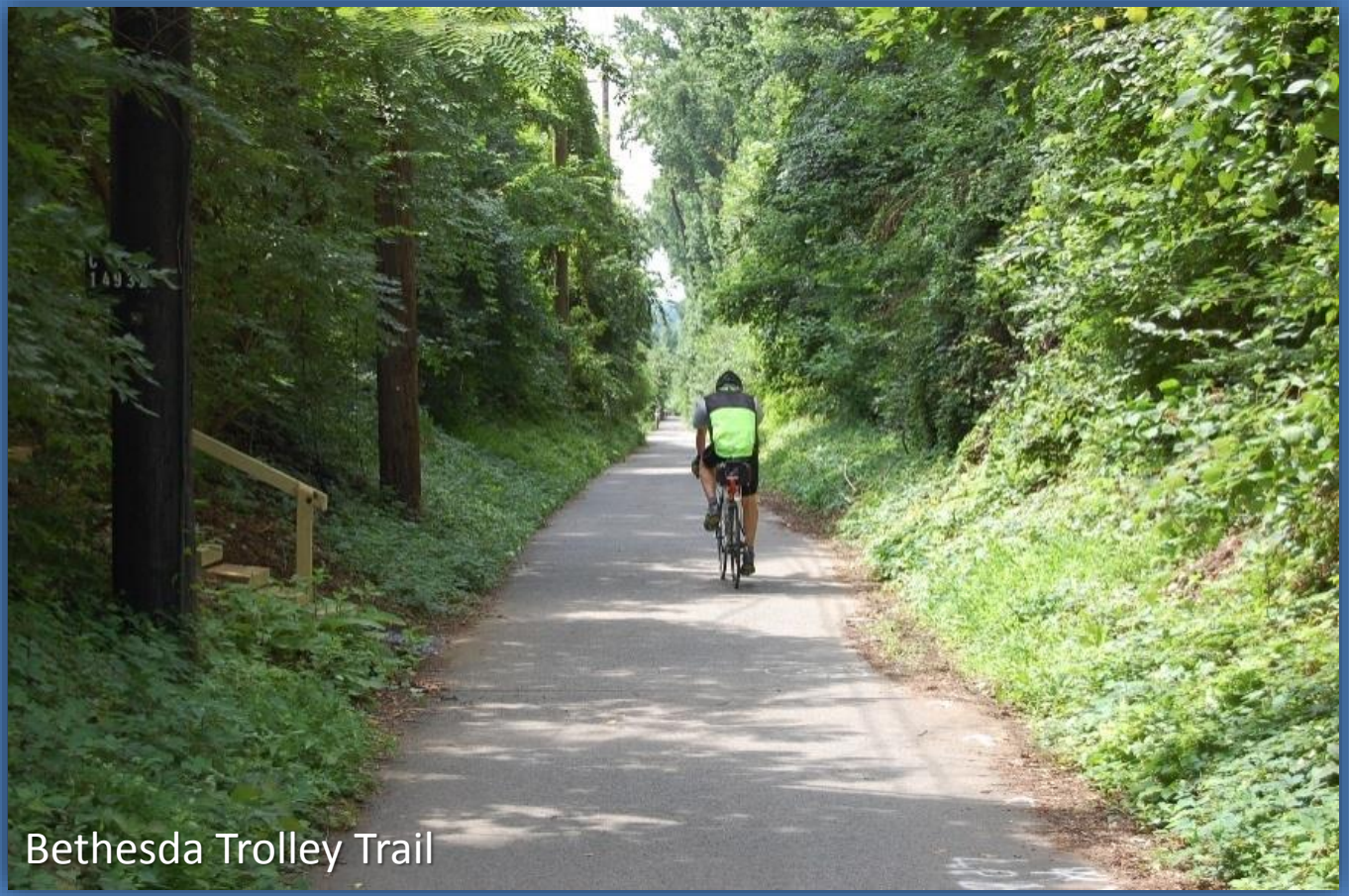
Trails

off-street trails | stream valley park trails

MOST — SEPARATION FROM TRAFFIC — LEAST

Trails

off-street trails | stream valley park trails

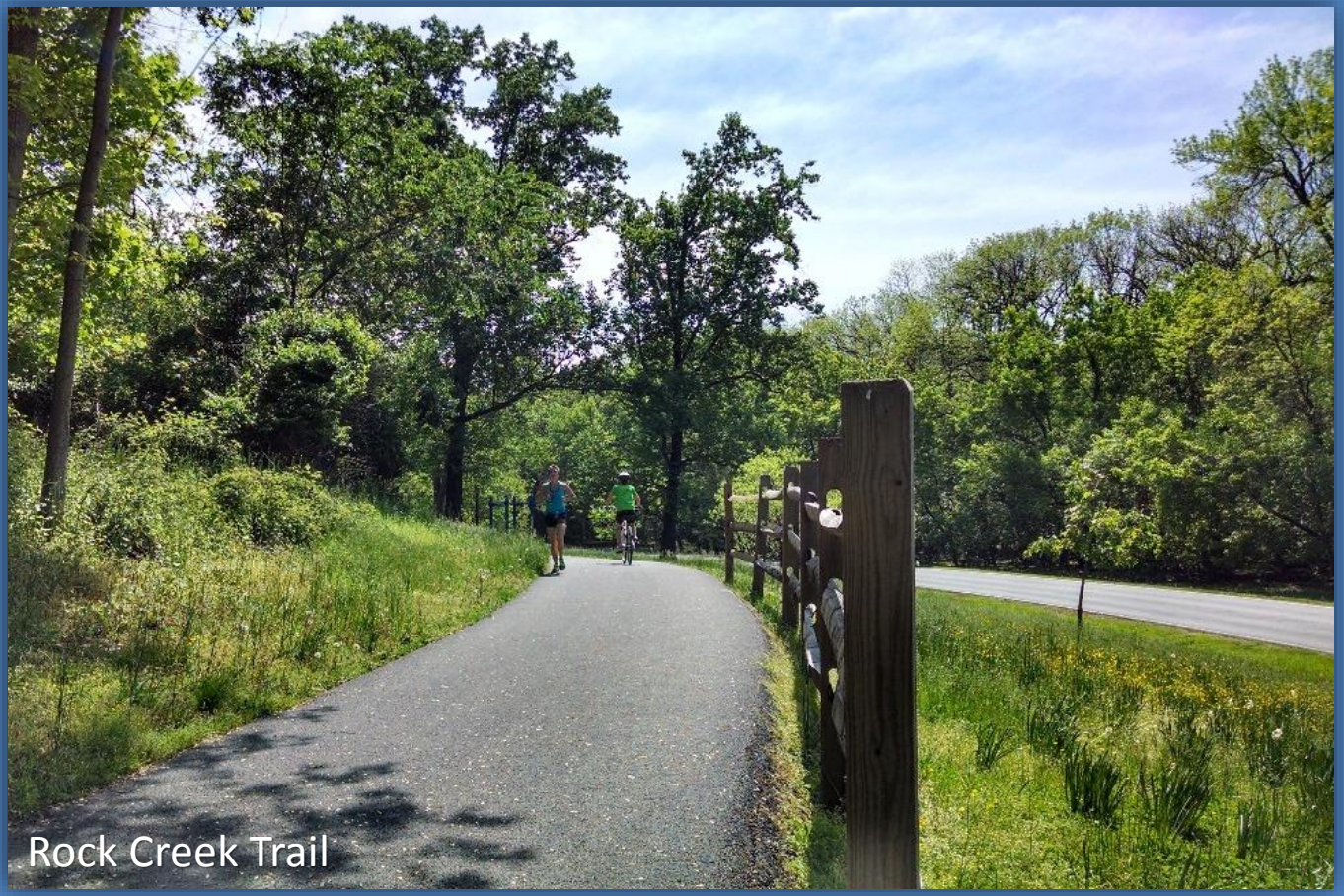


Bethesda Trolley Trail

MOST — SEPARATION FROM TRAFFIC — LEAST

Trails

off-street trails | stream valley park trails



MOST — SEPARATION FROM TRAFFIC — LEAST

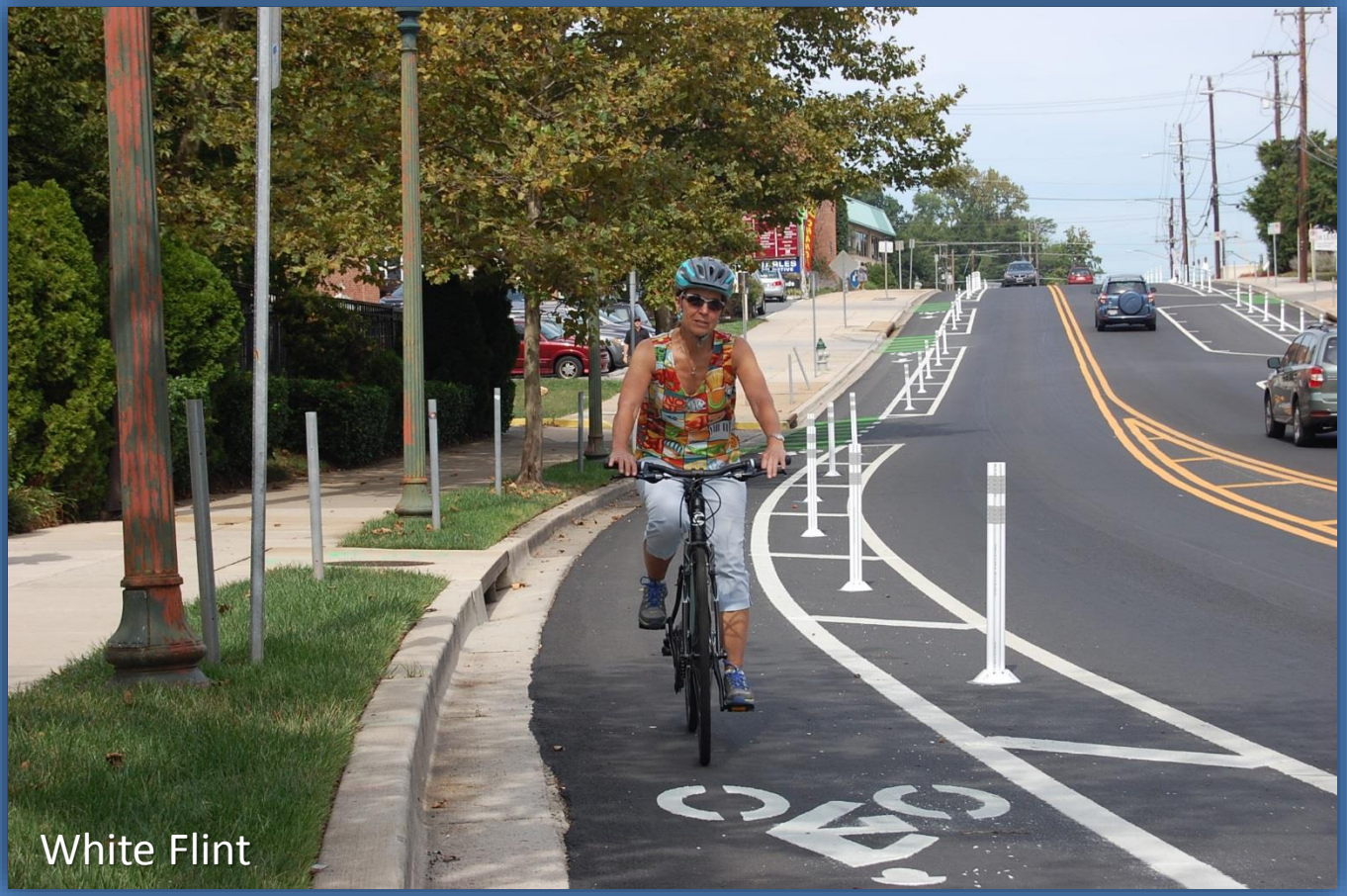
Separated Bikeways

separated bike lanes | sidepaths

MOST — SEPARATION FROM TRAFFIC — LEAST

Separated Bikeways

separated bike lanes | sidepaths



MOST — SEPARATION FROM TRAFFIC — LEAST

Separated Bikeways

separated bike lanes | sidepaths

MOST — SEPARATION FROM TRAFFIC — LEAST

Striped Bikeways

buffered bike lanes | conventional bike lanes
advisory bike lanes | contra-flow bike lanes

MOST — SEPARATION FROM TRAFFIC — LEAST

STRIPED BIKEWAYS

Striped Bikeways

buffered bike lanes |conventional bike lanes

Washington DC

MOST — SEPARATION FROM TRAFFIC — LEAST

STRIPED BIKEWAYS

Striped Bikeways

buffered bike lanes |conventional bike lanes

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MOST — SEPARATION FROM TRAFFIC — LEAST

STRIPED BIKEWAYS

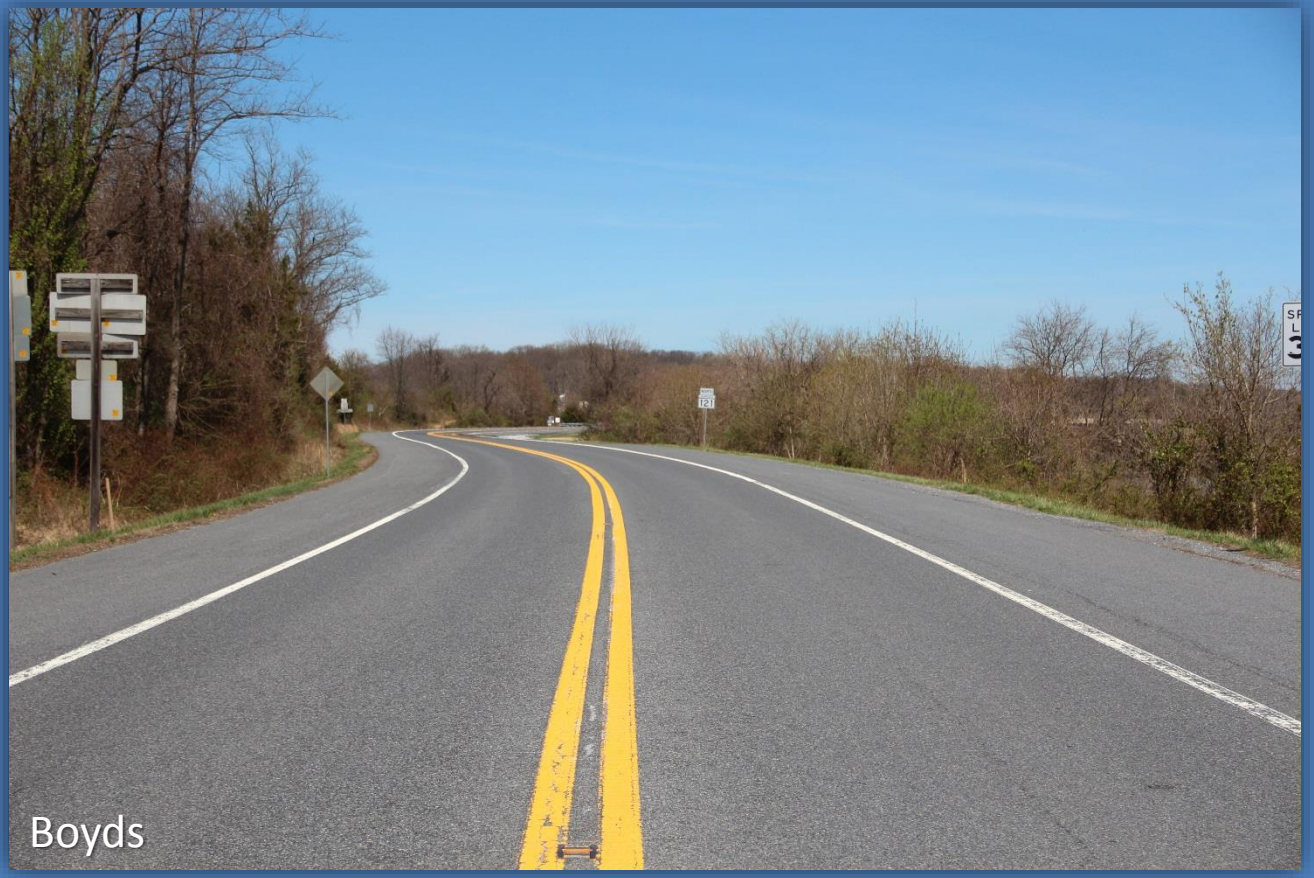
Striped Bikeways

advisory bike lanes | contra-flow bike lanes

MOST — SEPARATION FROM TRAFFIC — LEAST

SHOULDERS

Bikeable Shoulders



MOST — SEPARATION FROM TRAFFIC — LEAST

Shared Roads

neighborhood greenways| shared streets

MOST — SEPARATION FROM TRAFFIC — LEAST

SHARED ROADS

Shared Roads

neighborhood greenways| shared streets

Portland, Oregon

MOST — SEPARATION FROM TRAFFIC — LEAST

SHARED ROADS

Shared Roads

neighborhood greenways| shared streets

MOST — SEPARATION FROM TRAFFIC — LEAST

SHARED ROADS

Shared Roads

priority shared lane markings

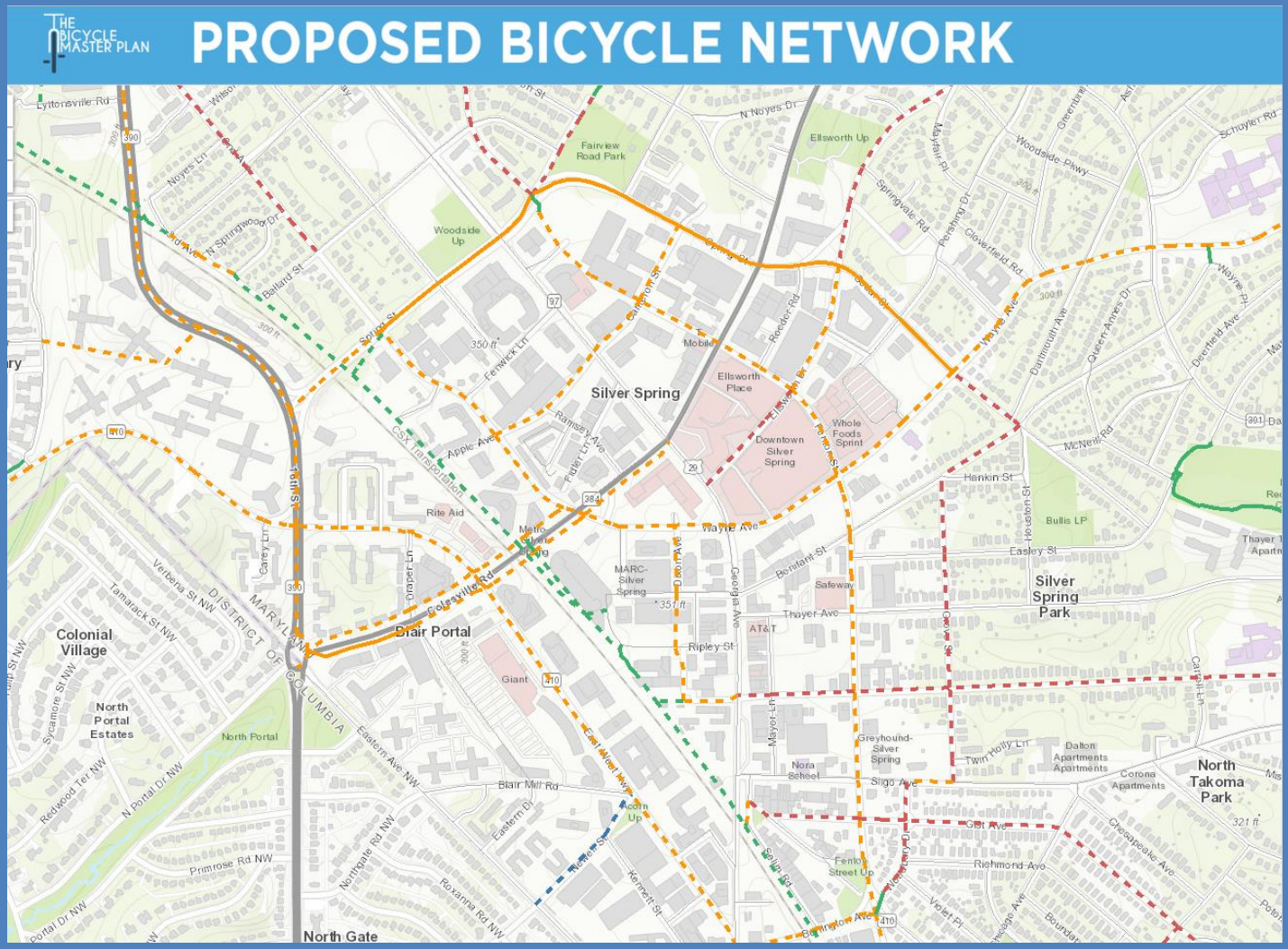
source: Toole Design Group

MOST — SEPARATION FROM TRAFFIC — LEAST

Bikeway Recommendations

CATEGORY	BIKEWAY TYPE	EXISTING	PROPOSED	TOTAL
Trails	Off-Street Trails	99	73	**172**
	Stream Valley Park Trails	28	0	**28**
	Neighborhood Connectors	11	3	**14**
Separated Bikeways	Shared Use Paths	117	456	**573**
	Separated Bike Lanes	2	97	**99**
Striped Bikeways	Buffered Bike Lanes	0	7	**7**
	Conventional Bike Lanes	10	15	**25**
	Advisory Bike Lanes	0	0	**0**
	Contra-Flow Bike Lanes	1	5	**6**
Bikeable Shoulders	Bikeable Shoulders	0	128	**128**
Shared Roads	Neighborhood Greenways	0	48	**48**
	Shared Streets	0	1	**1**
	Priority Shared Lane Markings	0	5	**5**
Total		**266**	**839**	**1,105**

Bikeway Recommendations



www.mcatlas.org/bikeplan

Abundant and Secure Bicycle Parking

Short-Term Bicycle Storage

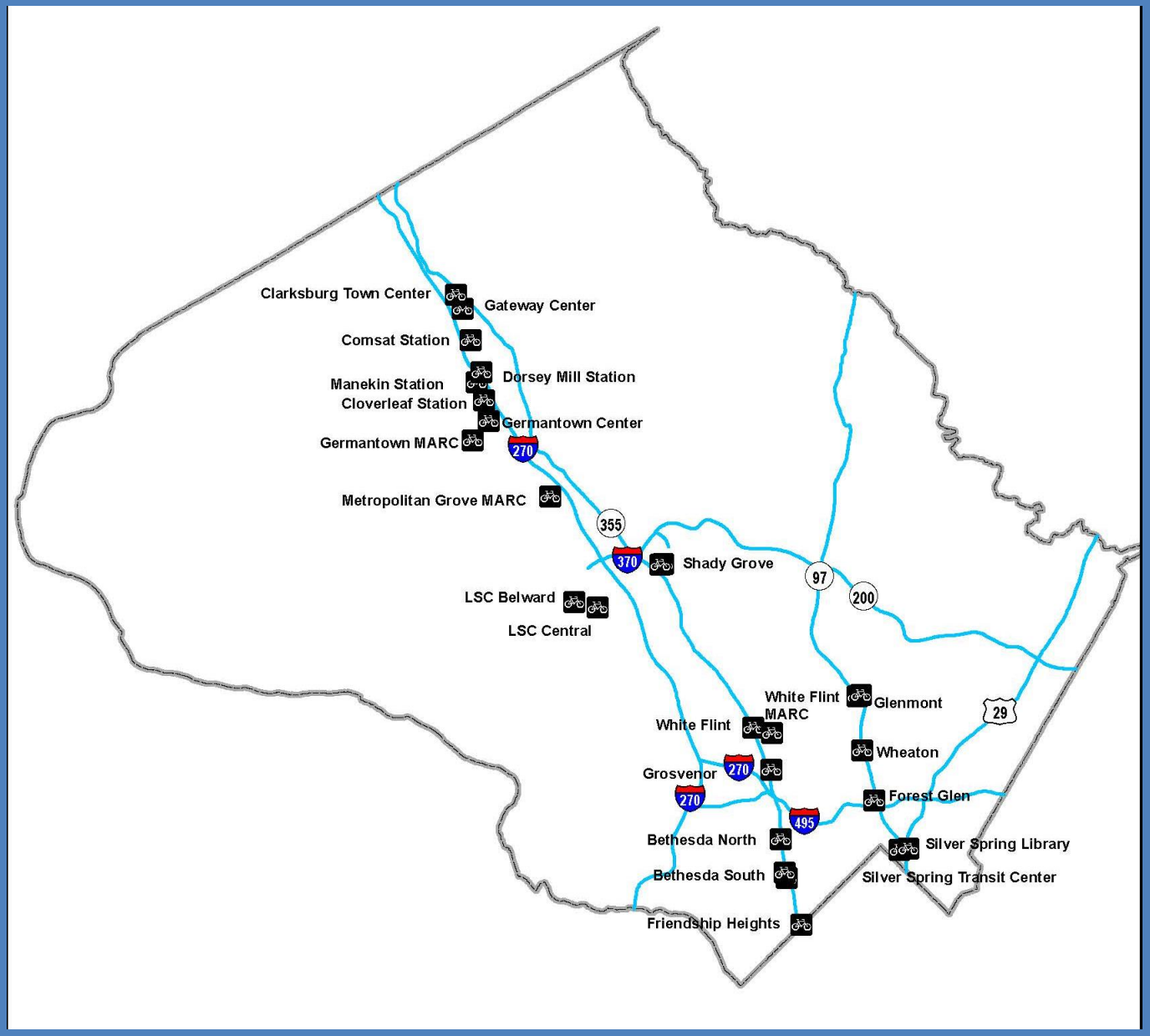
Short-Term Bicycle Storage

Long-Term Bicycle Storage

Suburban Location
Boulder, Colorado

Urban Location
Berkeley, California

Long-Term Bicycle Storage



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