THE BICYCLE MASTER PLAN

MWCOG, Pedestrian Bicycle Subcommittee
November 11, 2016

The Montgomery County Planning Department
David Anspacher, Project Manager

Topics

[1] What is Level of Traffic Stress?

[2] Interactive Bicycle Stress Map

[3] Bike Plan Goals and Objectives

[4] Small Area Plans

Level of Traffic Stress

- Uses attributes of road/path to determine amount of traffic stress bicyclists experience
- Streets are ranked from LTS 1 (very low stress) to LTS 4 (high stress)
- Treats links differently from crossings

Uses of Level of Traffic Stress

- Enables connectivity analysis of the network at different stress levels.
- It will also allow us to target investment so that they'll have the biggest impact on the network.

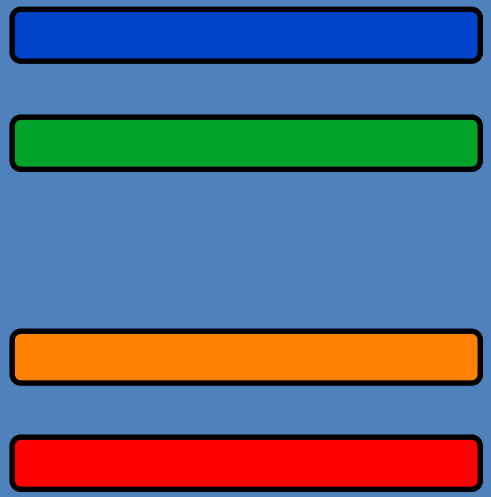
Shows Networks Available

- LTS assumes that each cyclist will tolerate a certain amount of stress. If a street is above that threshold, they won't use it.

- Parts of the network are unavailable to cyclists in the lower stress tolerant levels.

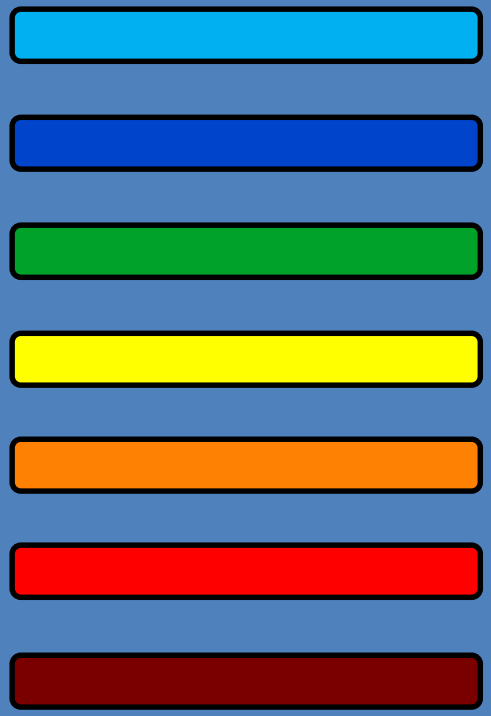
Level of Traffic Stress

- Original LTS:
  - LTS 1: Very Low Stress
  - LTS 2: Low Stress
  - LTS 3: Moderate Stress
  - LTS 4: High Stress



Level of Traffic Stress

- Revised LTS:
  - LTS 0: No Traffic Stress
  - LTS 1: Very Low Stress
  - LTS 2: Low Stress
  - LTS 2.5: Moderate Stress
  - LTS 3: Moderate Stress
  - LTS 4: High Stress
  - LTS 5: Very High Stress



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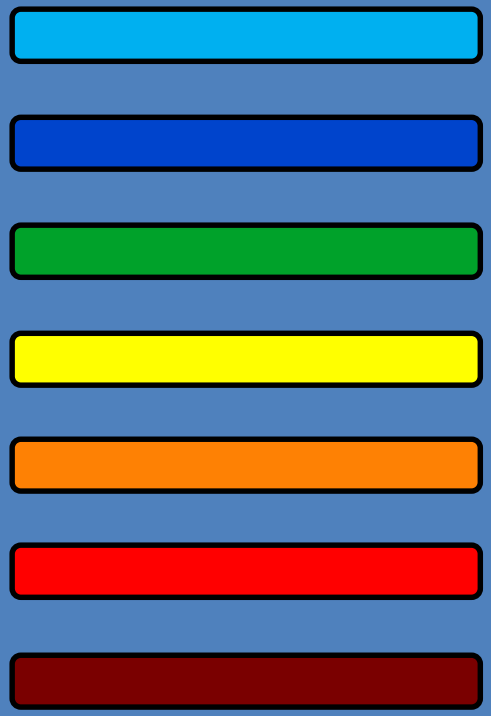
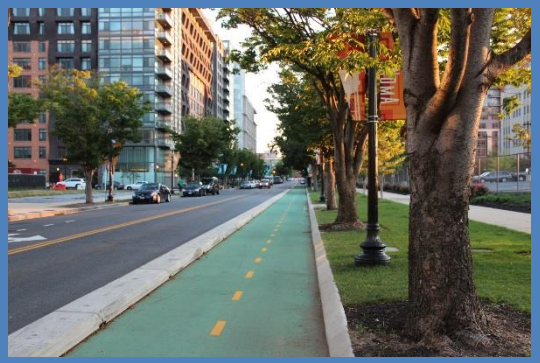


Attributes: Original Furth Method

Number of Travel Lanes

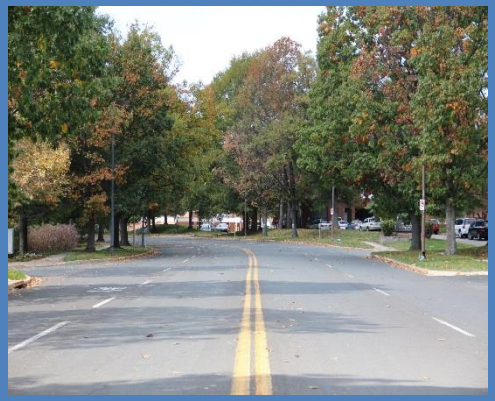


Type of Bike Facility

Bike Lane Width

Posted
Speed Limit

Parking Turnover



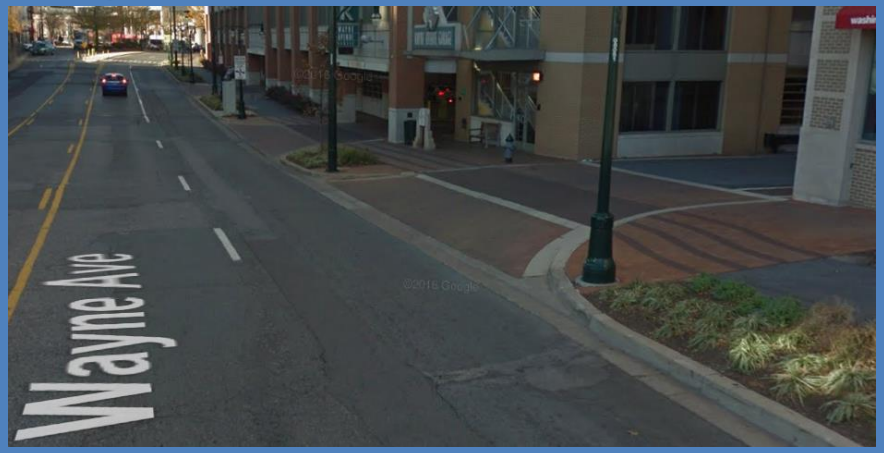
Striped Center Line

Attributes: Revised Method

Added attributes

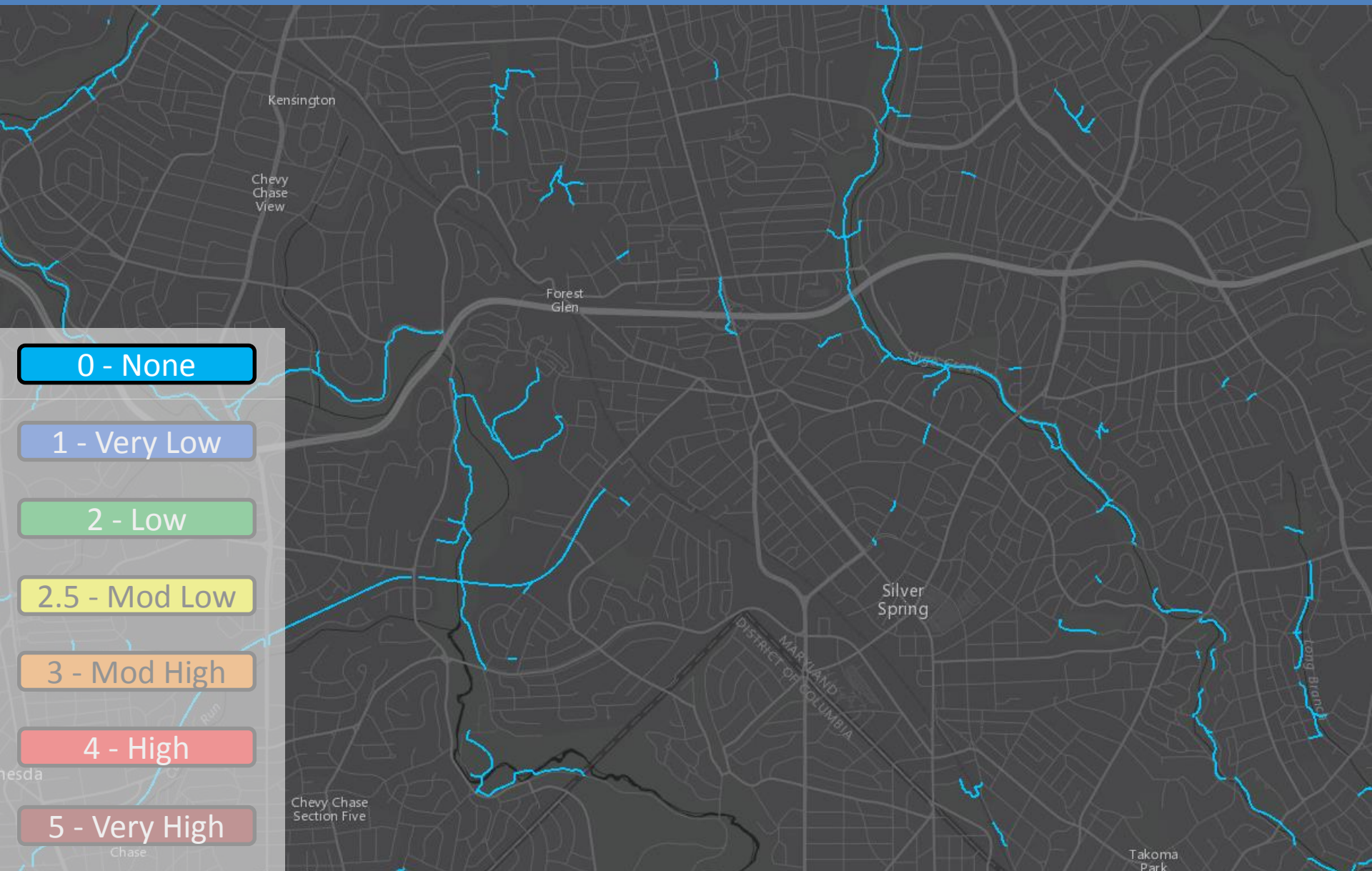
Buffer Type for Bike Facility

Industrial Street

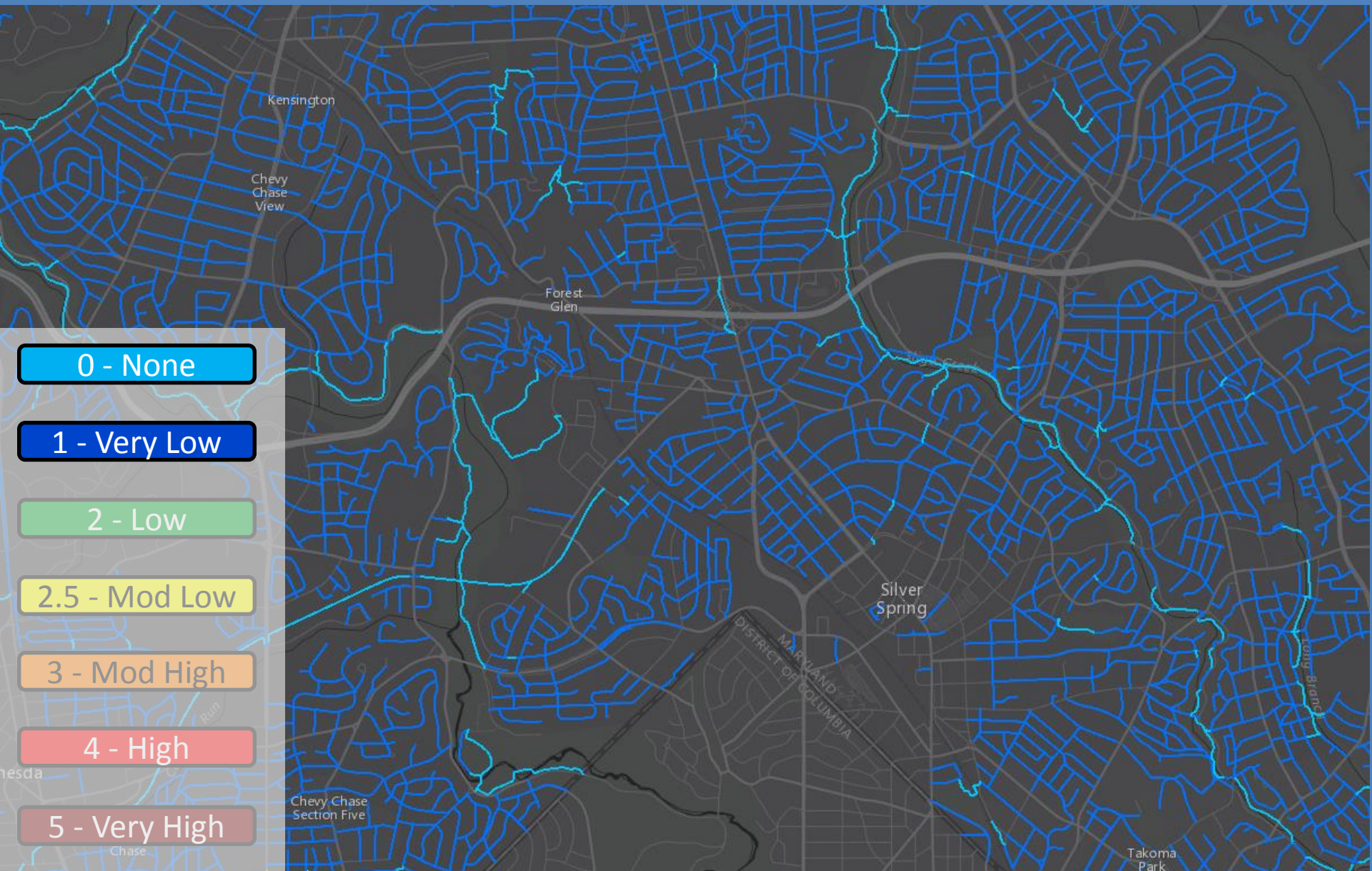


Driveway Frequency

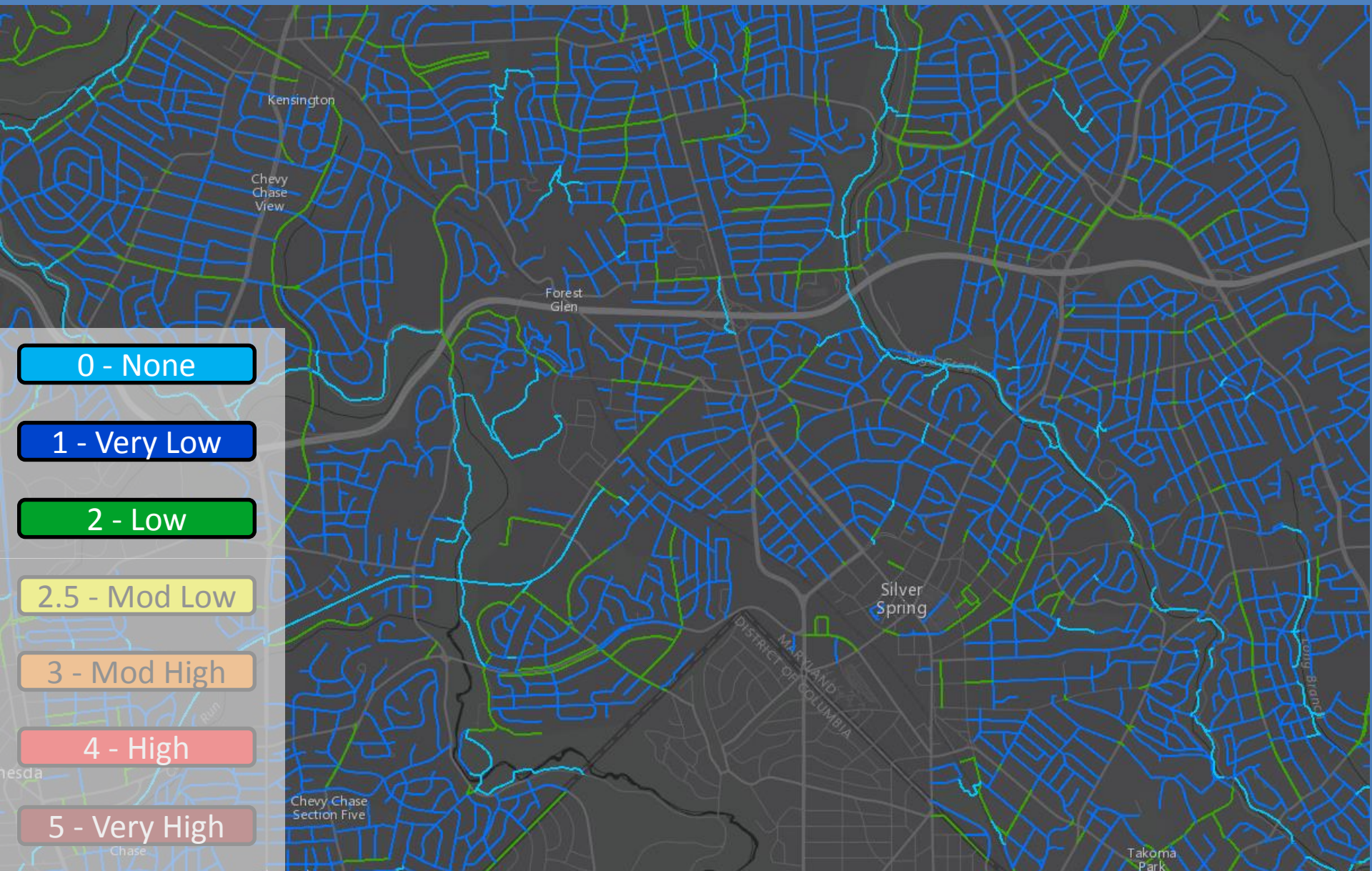
Traffic Stress Tolerance: None



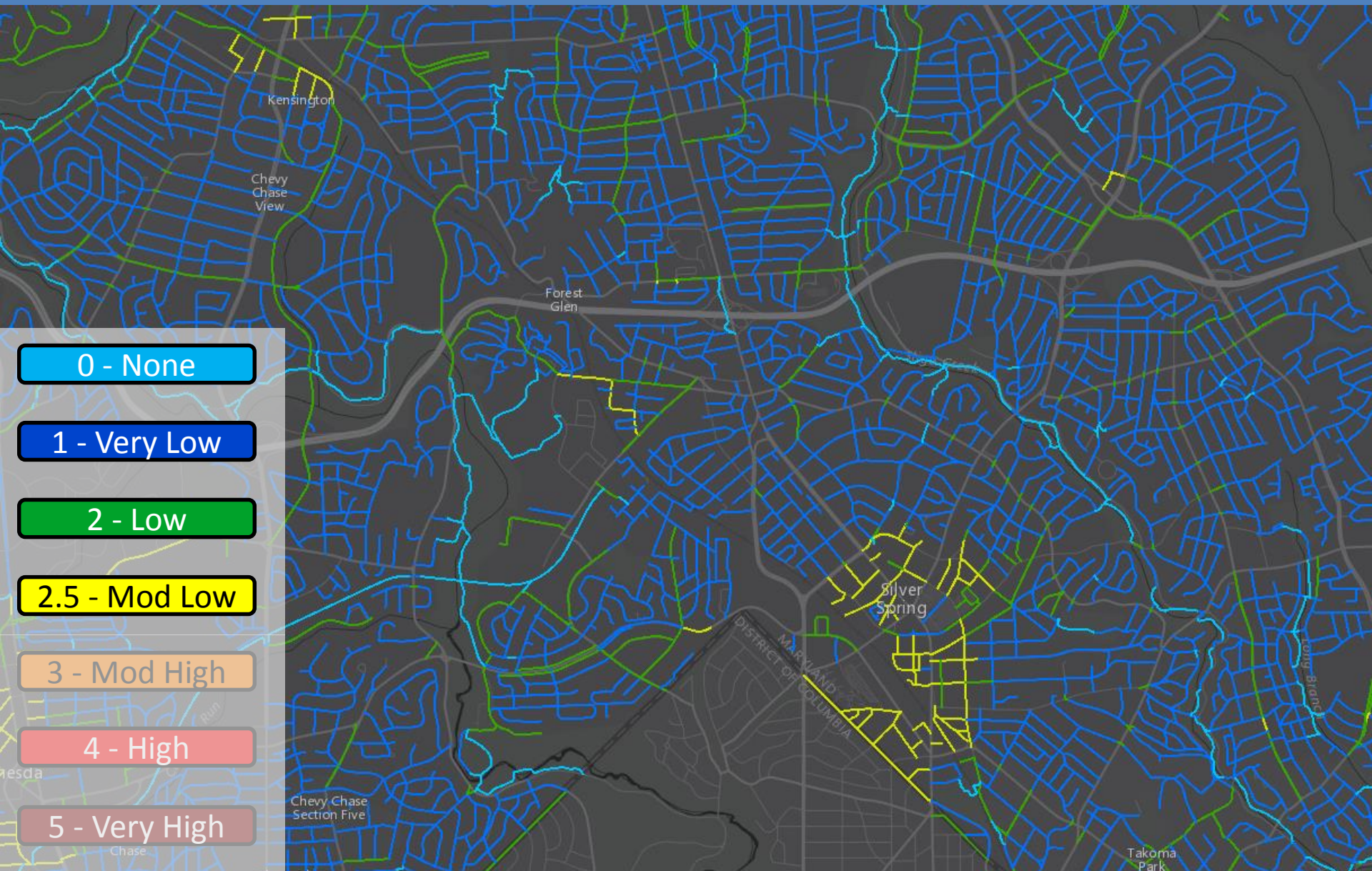
Traffic Stress Tolerance: Very Low



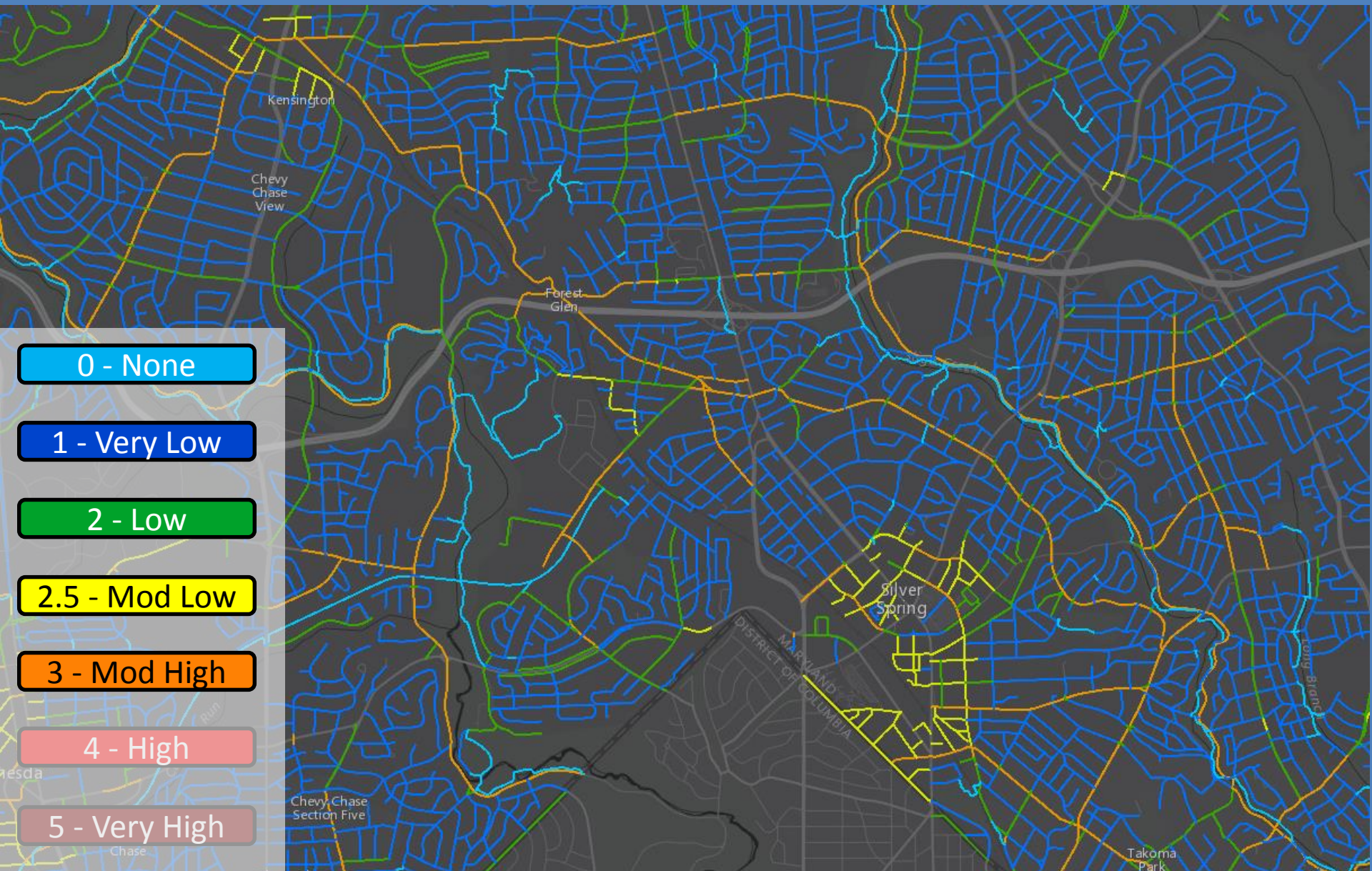
Traffic Stress Tolerance: Low



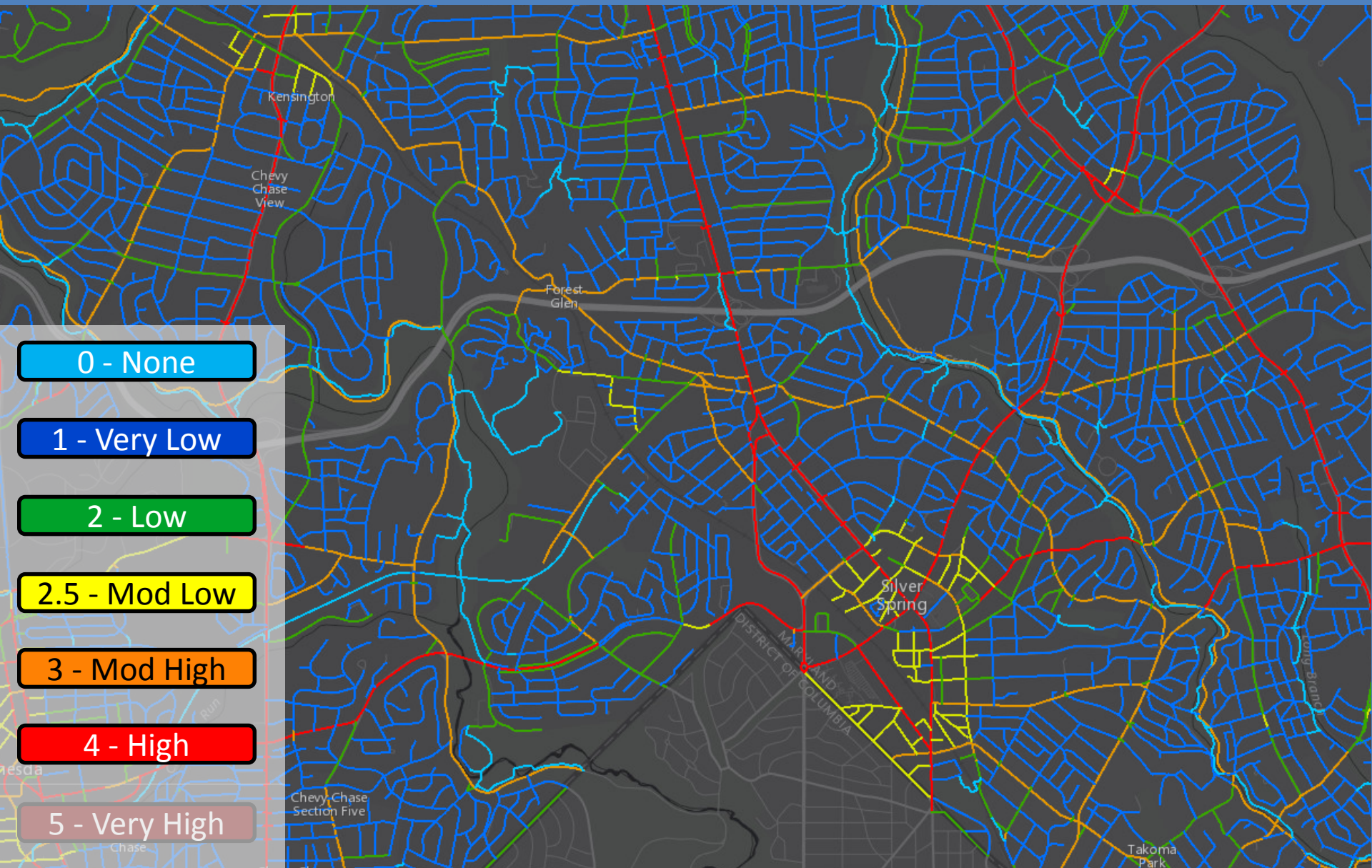
Traffic Stress Tolerance: Moderate Low



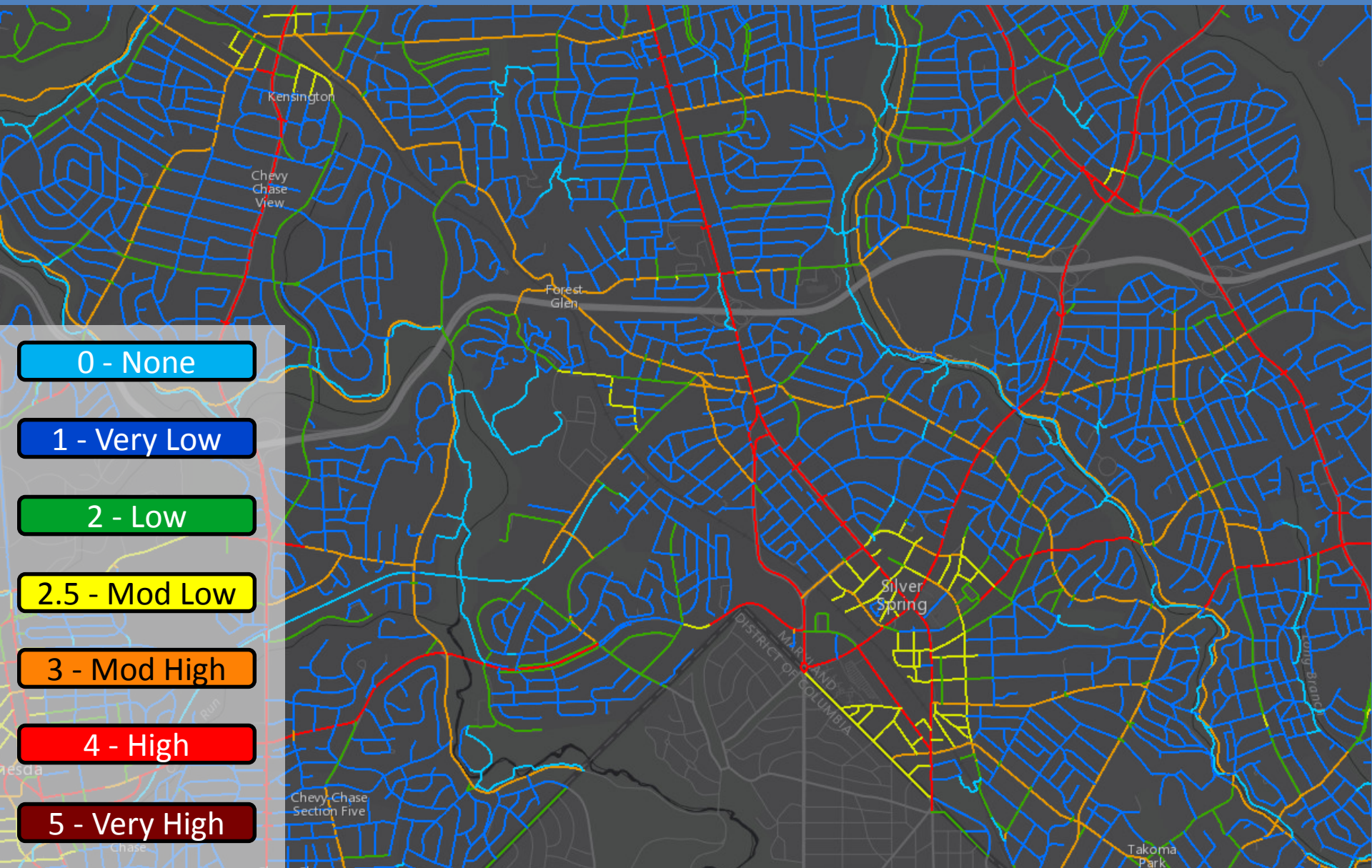
Traffic Stress Tolerance: Moderate High



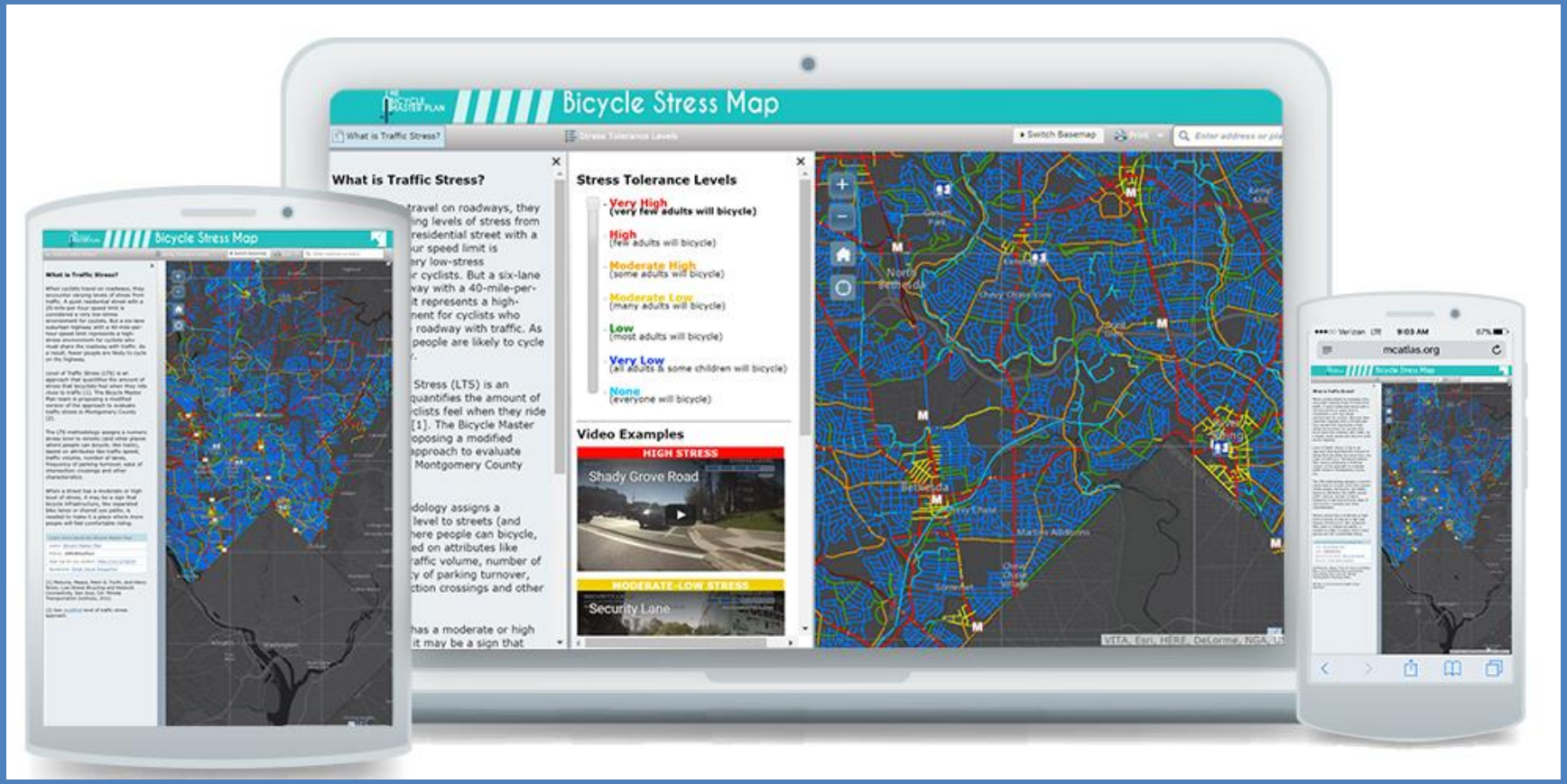
Traffic Stress Tolerance: High



Traffic Stress Tolerance: Very High

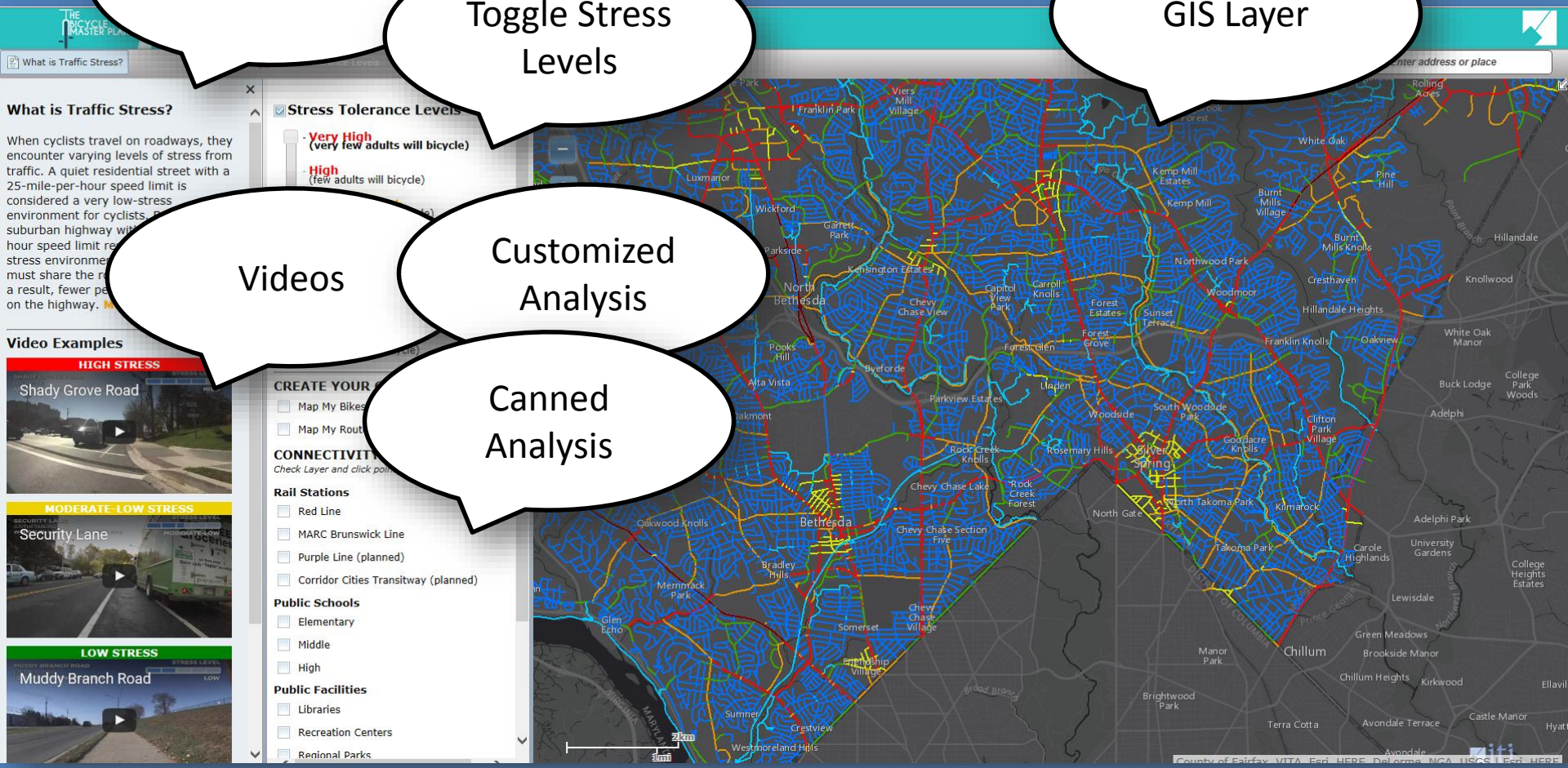


Level of Traffic Stress Interactive Map



www.mcatlas.org/bikestress

Level of Traffic Stress Interactive Map

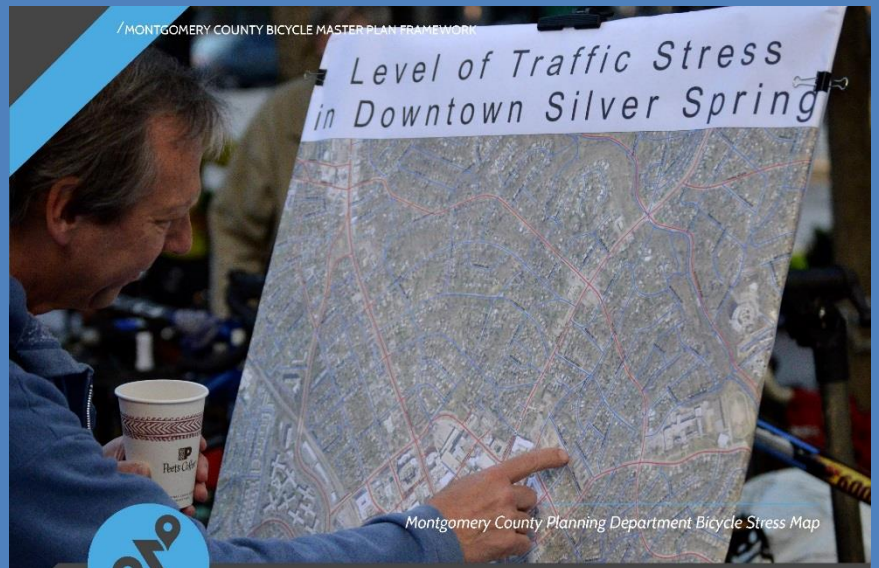


www.mcatlas.org/bikestress

Plan Goals

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

Plan Objectives



Montgomery County Planning Department Bicycle Stress Map

GOAL 2

Create a highly connected, convenient and low-stress bicycling network

Bicycling can become a mainstream mode of transportation in Montgomery County if a low-stress network is developed that enables people to travel to the places they want to go by bicycle. While about 70 percent[3] of the roads in the County are already low-stress, they are often surrounded by high speed and high volume roads, effectively creating "islands" of connectivity. Where feasible, reductions in traffic lanes and speeds can link these "islands;" where infeasible, bicycle infrastructure, such as sidepaths, separated bike lanes and conventional bike lanes, are needed.

Simply providing a comfortable bicycling network is insufficient if people do not have a secure place to leave their bicycles when they get to their destinations. This goal also considers bicycle parking at major destinations, such as transit stations, commercial areas and public facilities, including schools, libraries, recreation centers and parks.

[3] Based on a Level of Traffic Stress evaluation of all roads where it is legal to bicycle in Montgomery County.

2.1 OBJECTIVE

percent of potential bicycle trips can be made through a low-stress bicycle network by 20##.

METRIC

Percentage of potential bicycle trips that can be made on a low-stress bicycle 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 or other source).
- Location of dwelling units (M-NCPPC).

2.2 OBJECTIVE

percent of dwelling units located within 2.0 miles of each Red Line, Brunswick Line, Purple Line and Corridor Cities Transitway station that will be connected to the rail station through a low-stress bicycling network by 20##.

METRIC

Percentage of dwelling units within 2.0 miles of Red Line, Brunswick Line, Purple Line, and Corridor Cities Transitway stations that can access the 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).

Plan Objectives

/MONTGOMERY COUNTY BICYCLE MASTER PLAN FRAMEWORK

2.3 OBJECTIVE

percent of dwelling units located within the attendance zone of elementary, middle and high schools will be connected to the school through a low-stress bicycle network by 20##.

METRIC

Percentage of dwelling units located within the attendance zone of elementary, middle and high schools that are connected to each school through a low-stress bicycle network.

DATA REQUIREMENT & SOURCE

- Level of Traffic Stress network (M-NCPPC).
- Location of Montgomery County public schools (M-NCPPC).
- School boundaries (M-NCPPC).
- Location of dwelling units (M-NCPPC).

2.4 OBJECTIVE

percent of dwelling units located within 2.0 miles of public facilities will be connected to that facility through a low stress bicycling network by 20##.

METRIC

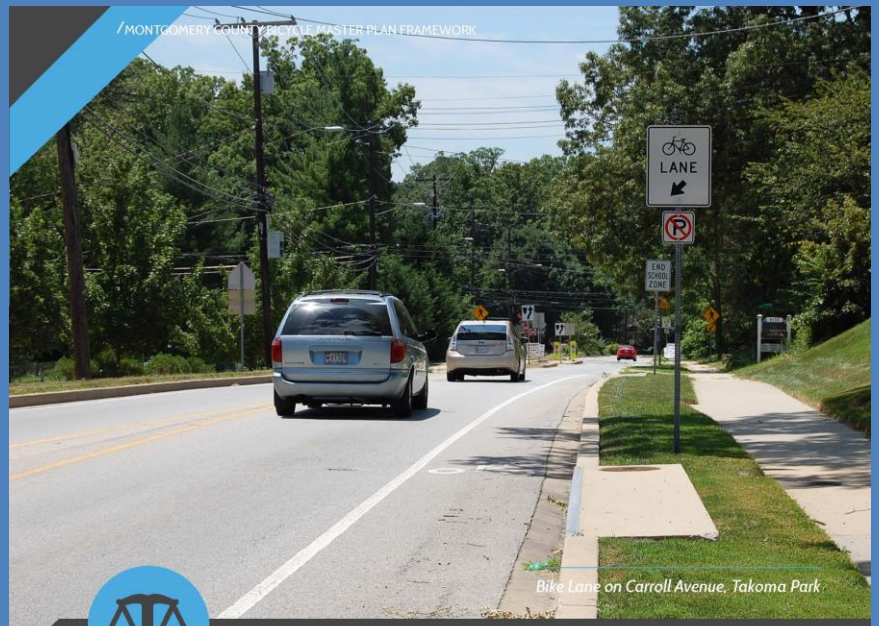
Percentage of dwelling units within 2.0 miles of each public library, recreation center and regional/ recreational park that can access the library on a low-stress bicycling network.

DATA REQUIREMENT & SOURCE

- Level of Traffic Stress network (M-NCPPC).
- Locations of public libraries (M-NCPPC).
- Locations of recreation centers (M-NCPPC).
- Locations of regional and recreational parks (M-NCPPC).
- Location of dwelling units (M-NCPPC).

20

Plan Objectives



Bike Lane on Carroll Avenue, Takoma Park

GOAL 3

Provide equal access to low-stress bicycling for all members of the community

Equal access to low-stress bicycling for all members of the community, including people with incomes below the average median income for the County, is a critical aspect of a world-class bike plan. Since many of these areas may be far from a Red Line, Brunswick Line or future Purple Line station, this goal also considers the ability of residents in these areas to access bus stops on a low-stress bicycling network.

3.1 OBJECTIVE

The percentage of bicycle trips that can be made on a low-stress bicycling network in Census tracts where the median income is below 60 percent of the County average median income will be the same as or greater than the County overall.

METRIC

Percentage of potential bicycle trips that can be made on a low-stress bicycling network in Census tracts where the median income is below 60 percent of the County average median income.

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).
- Census tracts where the median income is below 60 percent of the County average median income (US Census).

3.2 OBJECTIVE

The # percentage of dwelling units within 0.5 miles of the nearest Metrobus or RideOn bus stop that will be connected to the bus stop through a low-stress bicycling network in areas where the median income is below ## percent of the County average median income will be the same as or greater than the County overall.

METRIC

Percentage of dwelling units within 0.5 miles of the nearest Metrobus or RideOn bus stop that will be able to access the bus stop on a low-stress bicycling network in areas where the median income is below ## percent of the County average median income.

DATA REQUIREMENT & SOURCE

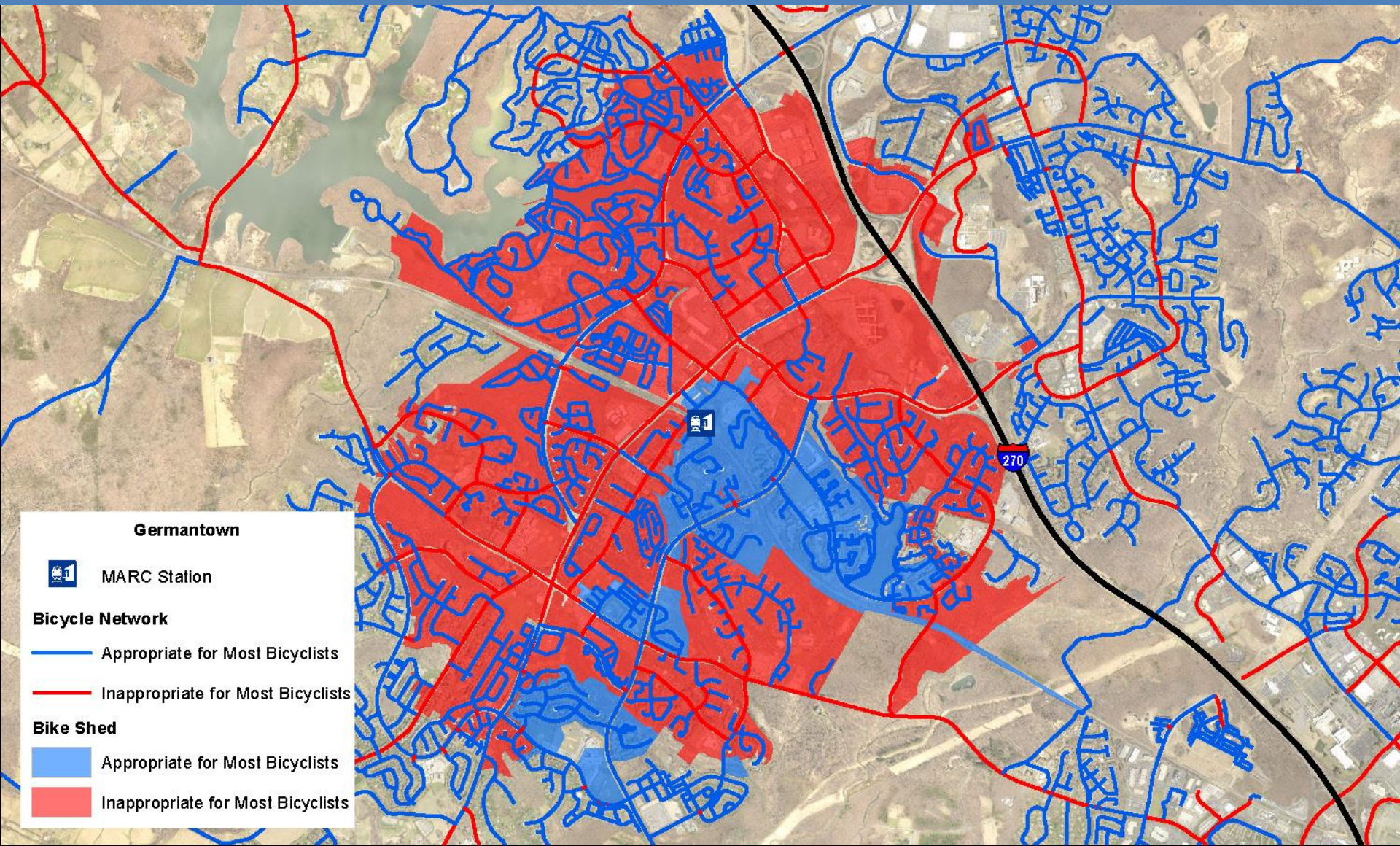
- Level of Traffic Stress network (M-NCPPC).
- Location of bus stops (Montgomery County).
- Location of dwelling units (M-NCPPC).
- Areas where the median income is below ## percent of the County average median income (US Census).

Monitoring Report

OBJECTIVE	METRIC		ACTUAL		TARGET	
			2017 (BASELINE)	2019 (FUTURE YEAR)	2022 (5-YEAR TARGET)	2027 (10-YEAR TARGET)
GOAL 2: CREATE A HIGHLY-CONNECTED, CONVENIENT AND LOW-STRESS BICYCLING NETWORK						
2.1	Percentage of potential bicycle trips that can be made on a low-stress bicycle network.		TBD			
2.2	Percentage of dwelling units within 2.0 miles of Red Line, Brunswick Line, Purple Line, and Corridor Cities Transitway stations that can access the station on a low-stress bicycling network.	Red Line	18%			
		Brunswick Line	12%			
		Purple Line	15%			
		Corridor Cities Transitway	23%			
2.3	Percentage of dwelling units located within the attendance zone of elementary, middle and high schools that are connected to each school through a low-stress bicycle network.	Elementary Schools	20%			
		Middle Schools	10%			
		High Schools	5%			
2.4	Percentage of dwelling units within 2.0 miles of a public facility will be connected to that facility through a low-stress bicycling network.	Public Libraries	11%			
		Recreation Centers	22%			
		Recreational and Regional Parks	31%			

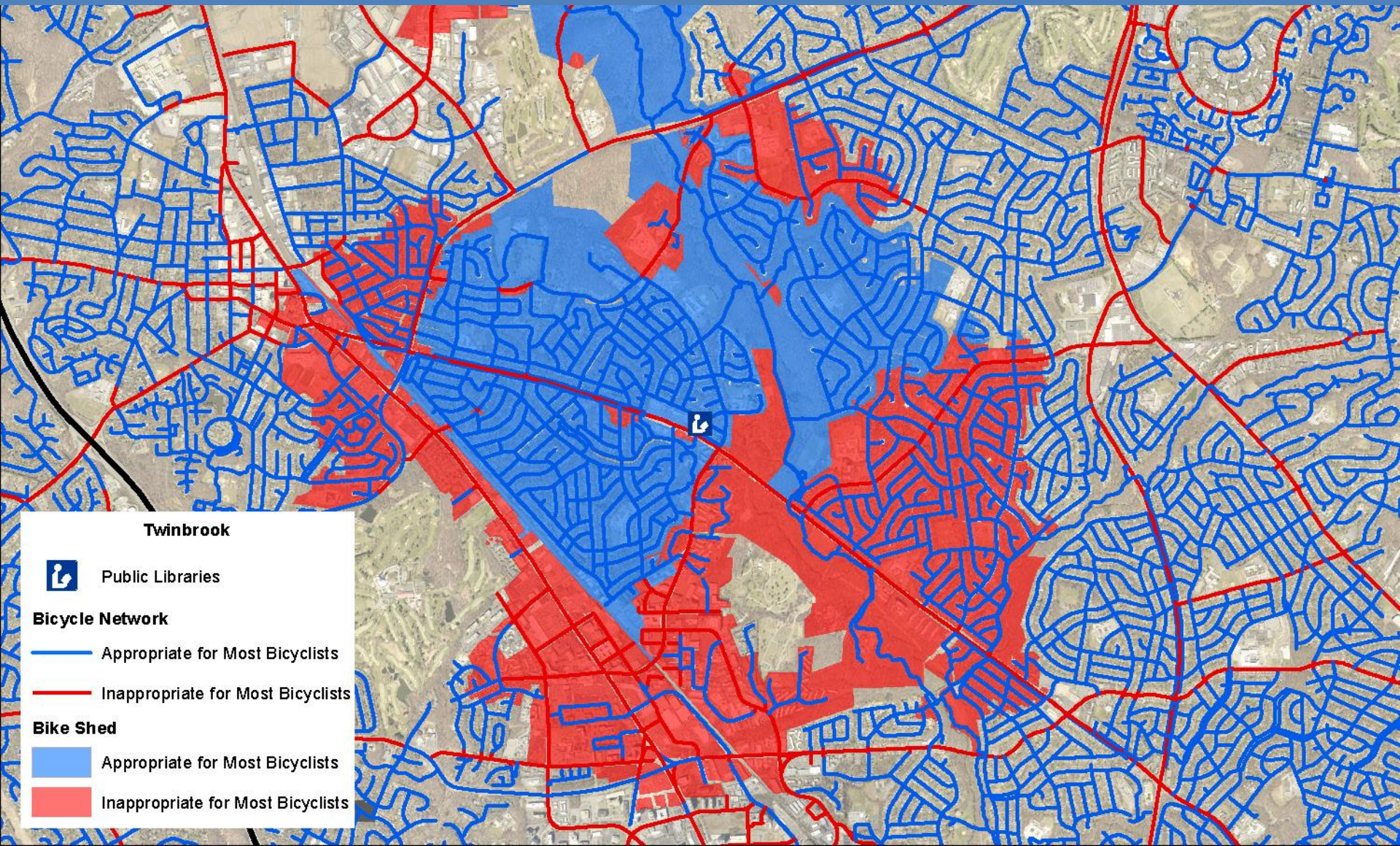
Monitoring Report

Measure of Connectivity at Germantown MARC Station: 18%



Monitoring Report

Measure of Connectivity at Twinbrook Library: 35%



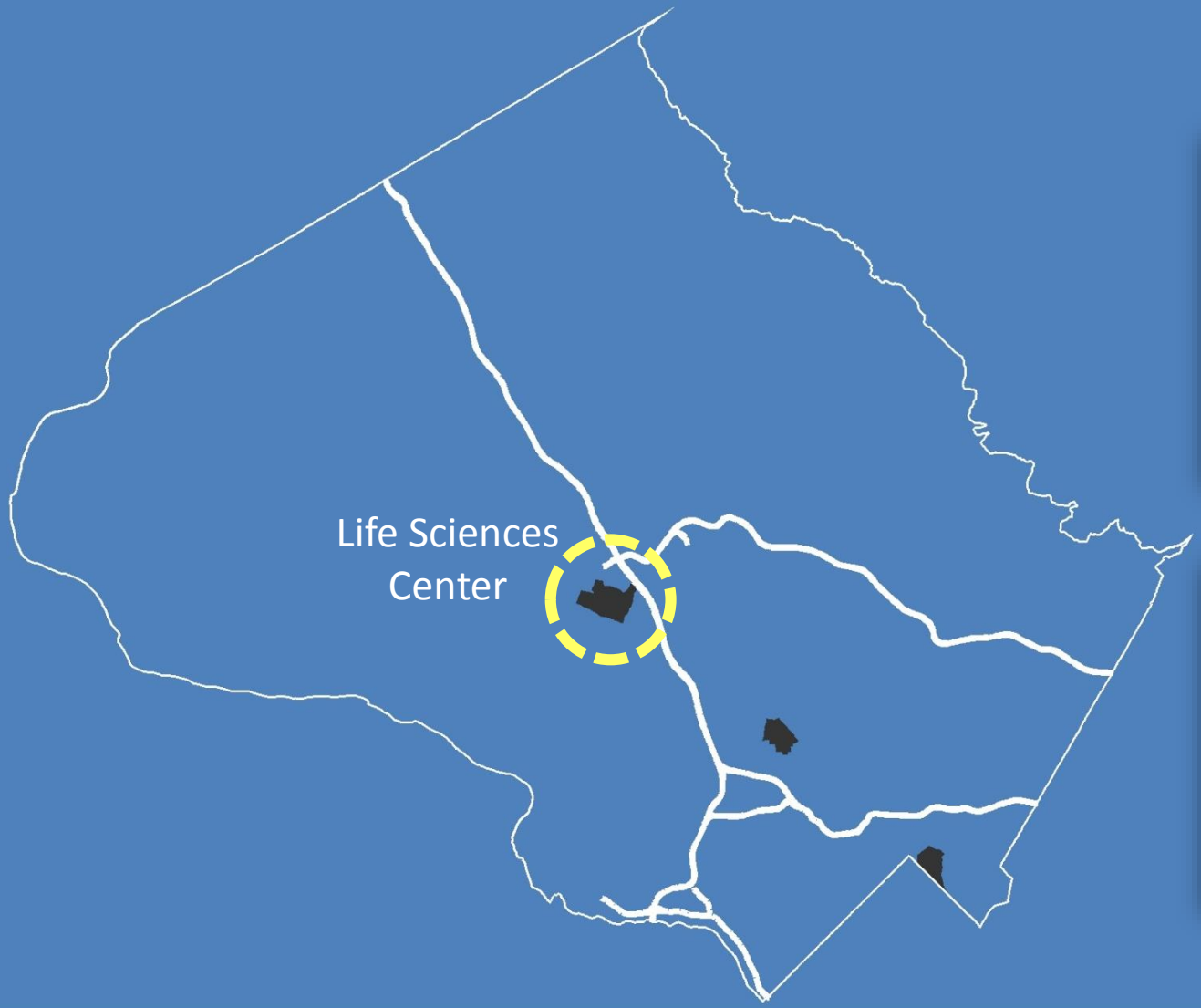
Monitoring Report

OBJECTIVE	METRIC	ACTUAL		TARGET	
		2017 (BASELINE)	2019 (FUTURE YEAR)	2022 (5-YEAR TARGET)	2027 (10-YEAR TARGET)
GOAL 3: PROVIDE EQUAL ACCESS TO LOW-STRESS BICYCLING FOR ALL MEMBERS OF THE COMMUNITY					
3.1	Percentage of potential bicycle trips that can be made on a low-stress bicycling network in Census tracts where the median income is below 60 percent of the County average median income.	TBD			
3.2	Percentage of dwelling units within 0.5 miles of the nearest Metrobus or RideOn bus stop that will be able to access the bus stop on a low-stress bicycling network in areas where the median income is below ## percent of the County average	TBD			

Redevelopment Opportunities

THE BICYCLE MASTER PLAN

Life Sciences Center



Life Sciences Center

White Flint

White Flint

THE BICYCLE MASTER PLAN

PROPOSED WHITE FLINT SEPARATED BIKE LANE

NETWORK

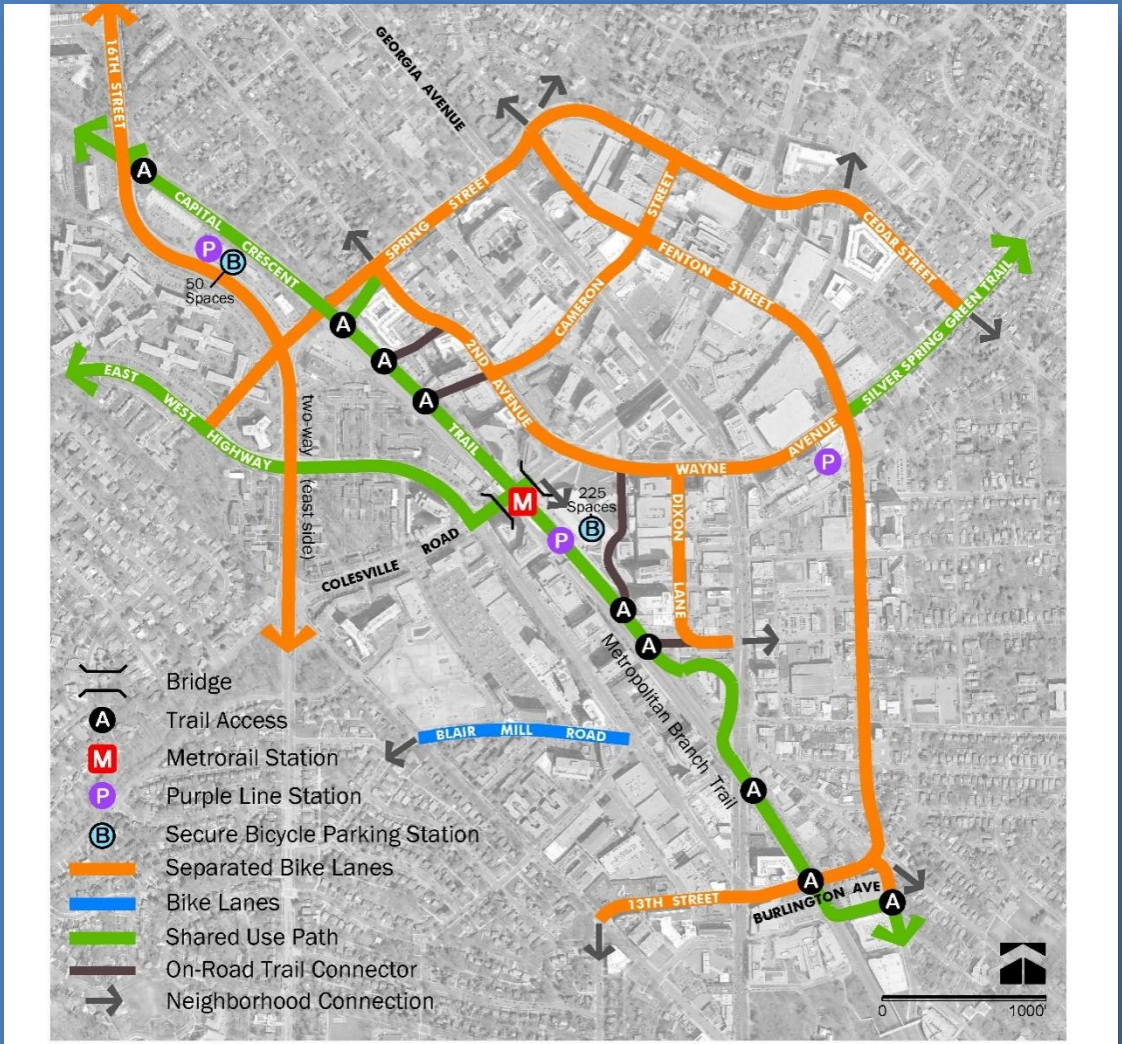
DRAFT

NOVEMBER 2015

THE MONTGOMERY COUNTY PLANNING DEPARTMENT

Silver Spring

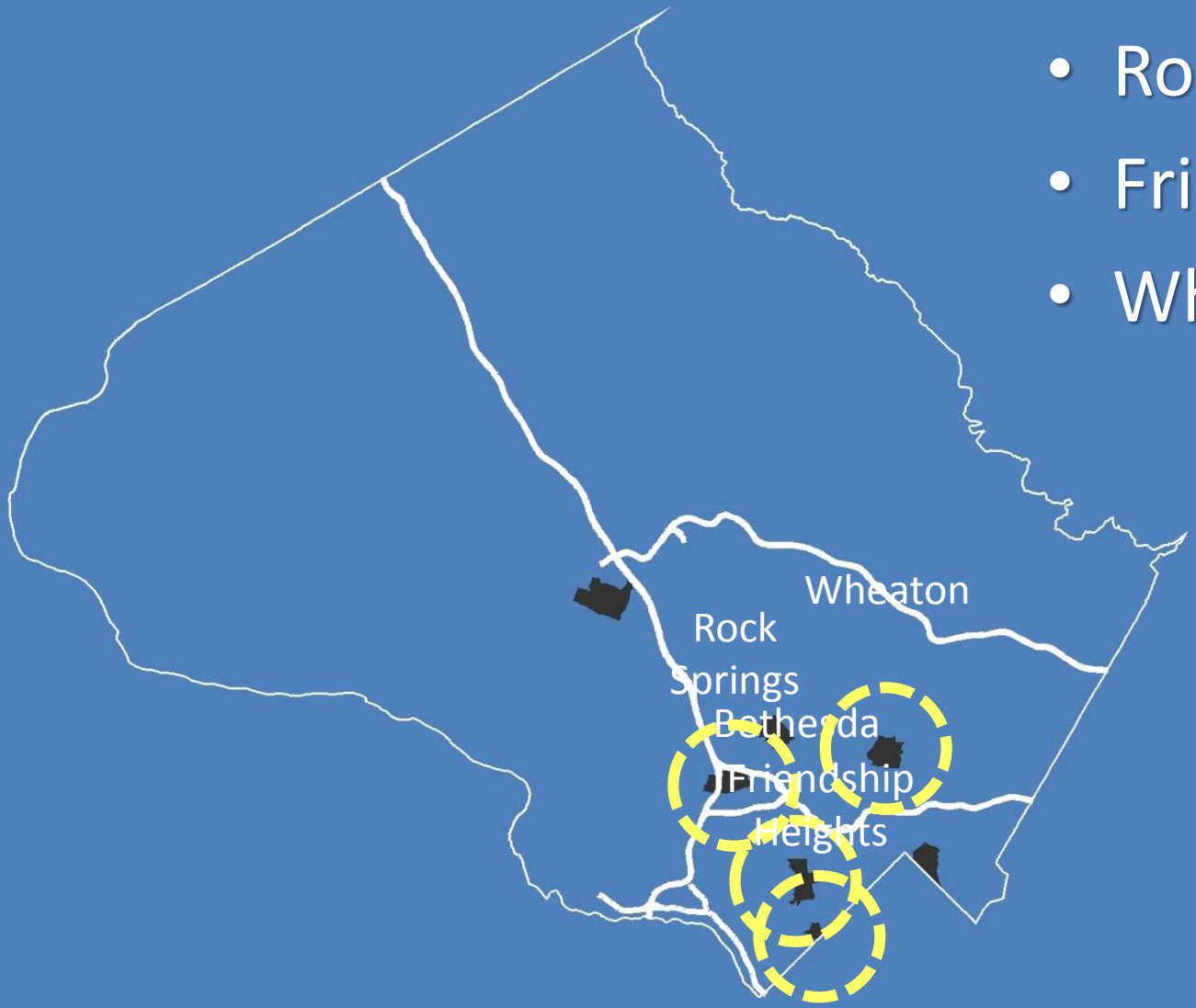
Silver Spring



Notes
1. Cameron Street to be constructed as a conventional bike lane in the short term.
2. Requires evaluation of impact to traffic and parking.

MNCPPC MCDOT February 2016

In Progress



- Bethesda
- Rock Springs
- Friendship Heights
- Wheaton

THE BICYCLE MASTER PLAN

Questions?

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www.montgomeryplanning.org/bikeplan