



2024 ARLINGTON COUNTY BICYCLE COMFORT INDEX METHODOLOGY

Helping All Riders Find the Best Routes to Get
Around Arlington by Bike

[Abstract](#)

This document explains the numerical rating system for determining bicycle comfort levels for street and trail segments on the 2024 Arlington County Bicycle Comfort Level Map.

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Purpose and Goals

This document explains how Arlington County, Va., developed the [2024 Bicycle Comfort Level Map](#). The map uses data collected by several Arlington County departments to numerically score the suitability of Arlington roads and trails for bicycling.

We hope cyclists of all abilities and experience levels will use this map to find bicycling routes that are comfortable for them, and that they will feel encouraged to ride more.

Defining Bicycle Comfort

Bicycle comfort refers to how easy it is for a cyclist to bike with confidence on a particular street or trail. Several factors influence how confident a cyclist may feel riding on a given road. Traffic volume, topography, land use, vehicle speeds, and the presence of bicycle infrastructure all influence a person's experience. Context is important, too. Riding on a flat, wide road with a bike lane sounds easy, but if that road happens to be in a mixed-use neighborhood with significant traffic, and if the bike lane is frequently blocked by delivery trucks, it may not feel as safe and comfortable as it initially sounds.

The Bicycle Comfort Index (BCI) captures the interplay among factors affecting bicycle comfort that fall into three categories: Context, Traffic, and Bicycle Infrastructure. Inputs in each of these categories combine to form that category's subscore. The subscores are then added together to arrive at comfort scores, which identify trails and Arlington County roads as "Most Comfortable," "Comfortable," "Less Comfortable," and "Not Recommended." Limited-access highways, interstates, and airport roads are categorized as "Major Traffic Thoroughfares," considered unacceptable for bicycling.

Bicycle Comfort Index Framework

Arlington County's BCI Framework is influenced by the Mineta Transportation Institute's 2012 [Level of Traffic Stress Methodology](#) and the San Francisco Municipal Transportation Agency's [Bike Comfort Index Methodology](#).

The BCI Framework uses inputs gathered from the Arlington County Geographic Information System database that can have a positive or negative impact on bicyclists' comfort. These are grouped into three subscores (Figure 1) to arrive at a BCI Composite Score for most County roadway segments and trails. Segments scoring higher are considered most comfortable for bicycling, while those scoring lower are considered less comfortable or not recommended.

Figure 1: BCI Framework Subscores



**Context
Subscore**

- Pavement Quality
- Reported Behavioral Violations
- Land Use
- Slope



**Traffic
Subscore**

- Level of Traffic Stress
- Presence of Heavy Vehicles
- Number of Travel Lanes
- Traffic Control Type at Intersection
- 85th Percentile Speed



**Bicycle
Infrastructure
Subscore**

- Bicycle Facility Type
- Intersection Bicycle Facility Type
- Fair-weather Crossing

Context Subscore



The Context Subscore consists of four factors that impact a person's bicycling experience:

1. Pavement Condition (e.g., cracked, brand-new, has potholes)
2. Reported Behavioral Violations (e.g., blocked bike lanes)
3. Land Use (e.g., residential, mixed-use, industrial)
4. Slope (percent grade of a hill)

To arrive at the Context Subscore, scores for pavement quality, reported behavioral violations, and land use are added together and then multiplied by the slope score, as shown in the following table. The highest possible score for the Context Subscore is 50 points. The lowest possible score is 0 points.

Table 1: Context Subscore Contributing Factors

Factor	Impact on Score	Point Range
Pavement Condition	Additive/Subtractive	-2 to 4
Reported Behavioral Violations	Subtractive	-5 to 0
Land Use	Additive	16 to 46
Slope	Multiplier	*1 to *.5

Pavement Condition

The pavement condition can impact the safety and comfort of a ride.

The Pavement Condition Index (PCI) is a rating scale developed by the [American Society for Testing and Materials](#) and used by the Department of Environmental Services' Water, Sewer, Streets (WSS) division to capture the condition of each County-owned street segment. PCI scores range from Failed (a street in the worst possible condition) to Good (brand-new pavement free of distresses). The County uses PCI data to generate a

priority-based needs system for resurfacing and develop an annual paving schedule. You can view the most recent PCI GIS map for Arlington [here](#).

PCI data was not available for all streets and trails in the County. For segments without PCI data, a score of 0 was given, meaning this factor had no impact on that segment's Context score or overall BCI.

Table 2: PCI Rating and BCI Point Allocation

PCI Rating	PCI Index Range	Point Allocation
Good	86–100	4 pts
Satisfactory	71–85	0 pts
Fair	56–70	0 pts
Poor	41–55	-1 pts
Very Poor	26–40	-2 pts
Serious	11–25	-2 pts
Failed	0–10	-2 pts

A "Good" PCI rating contributes to cycling safety and comfort, so it raises a road segment's Context Subscore. "Satisfactory" and "Fair" PCI ratings add no points to the Context Subscore while ratings of "Poor," "Very Poor," "Serious," and "Failed" reduce the Context Subscore.

Reported Behavioral Violations

Behavioral violations by automobile drivers (e.g., blocking bike lanes, speeding) are collected from the County's [Request Service/Report a Problem](#) platform and through the annual [Vision Zero Survey](#). While these do not represent a comprehensive list of behavioral violations experienced by bicyclists, they provide insights into areas where cycling safety and comfort may be compromised. The lack of a report does not necessarily mean there are no issues on a given roadway.

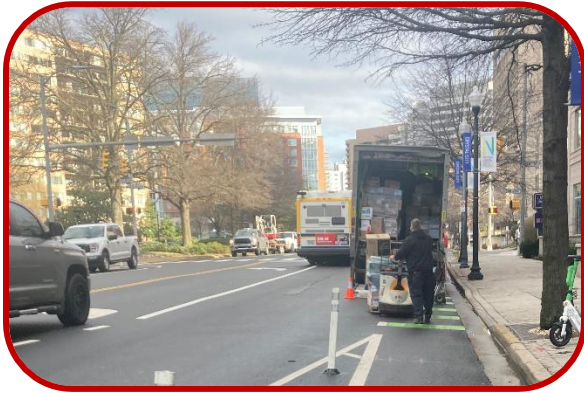
If there is space in the right of way, community reports of behavioral violations can lead to a study of the location and result in tactical improvements (lower cost changes that

are relatively quick to implement, such as bike boxes and other painted roadway markings) or permanent treatments (separated bike lanes) to improve bicyclist safety and comfort.

Table 3: Reported Behavioral Violations

Number of Complaints Received	Impact on Context Subscore
More than 4 complaints reported	-5
1–4 complaints reported	-1
No complaints reported	0

Where delivery vehicles, buses, and automobiles block bike lanes, and a complaint is received, 1 to 5 points may be deducted from the score.



In this image a delivery truck driver is blocking access to a separated bike lane. This would cause a bicyclist to stop or force them onto the sidewalk or into traffic. Reports of this sort of behavioral violation would have a negative impact on a segment's Context Subscore.



The County investigates complaints of vehicles blocking bike lanes and seeks to make improvements in that area, if possible. In this example, flex posts were replaced with a permanent island preventing vehicles from blocking the bike lane.

Land Use

Land use designations inform bicycle levels of comfort in relation to on- and off-street activity, urban design (lighting, street trees, etc.), and desirability to travel there. For the purposes of this project, land use categories in the [Arlington County General Land Use Plan \(GLUP\)](#) were consolidated into four generalized categories (Residential, Public and Government, Mixed Use, and Service Commercial/Service Industrial).

Being in a Residential land use area has the most positive impact on a segment's Context Subscore, while being in a Service Commercial/Service Industrial area has a less positive effect. Overall, the Context Subscore may increase by 16–46 points, depending on land use. Street segments bordered by several different land uses were assigned the least comfortable land use designation.

The following photos and explanations show the different land uses being considered in the Context Subscore.

**Most
Comfortable**



**Less
Comfortable**

Residential Land Use



Neighborhood streets are some of the most comfortable areas for bicyclists to ride. Typically, they have lower traffic volumes and lower speeds. **(46 points)**

Public and Government Land Use

These areas include parks, libraries, government offices, schools, and community centers. They are desirable destinations and are sometimes located along neighborhood streets. There is a higher level of on-street and off-street activity around these destinations. **(40 points)**

Mixed-Use Land Use

Mixed use areas include places where people shop, dine, work, and live. They have higher levels of on- and off-street activity. They are desirable destinations typically located along arterial corridors and have features that make bicycling more comfortable and safer, such as street trees, streetlights, and benches. **(34 points)**

Service Commercial and Service Industrial Land Use



These areas can be uncomfortable for some bicyclists. They may have heavy truck or delivery vehicle activity and lack regularly spaced street trees and streetlights. **(16 points)**

Slope

Steep slopes, both uphill and downhill, can be uncomfortable for many bicyclists. Slopes of 7 percent or greater over a distance can make a route challenging for some riders. Slopes more than 8 percent are challenging and make for some of the most difficult rides. For this reason, slope is used as a multiplier in this category. Slopes of 3 percent or more have an impact on the overall Context Subscore.

Most Comfortable



Flat section of bike lanes along N. Quincy Street near Wilson Boulevard.



Steep bike lanes at the bottom of South Walter Reed Drive and Four Mile Run Drive aka "Superman Hill."

Less Comfortable

Table 4: Slope Score

Slope	Score
$\leq 2\%$	x 1
2–4%	x 0.8
> 4–6%	x 0.5
6–8%	x 0.2
> 8%	x 0

Traffic Subscore



The Traffic Subscore consists of five factors that can positively or negatively impact a person's bicycling experience.

1. Level of Traffic Stress
The Level of Traffic Stress is a composite score of several factors, including the following:
 - the presence of a bike facility
 - the posted speed limit
 - observed traffic volume
 - the direction of travel lanes
2. The Presence of Heavy Vehicles
3. The Number of Travel Lanes
4. The Presence and Type of Traffic Control at an Intersection
5. 85th Percentile Speed (also known as observed speed, this is the speed at or below which 85 percent of drivers travel on a road segment)

Table 5: Traffic Subscore Inputs

Factor	Impact on Score	Point Range
Level of Traffic Stress	Additive	20 to 50 points
Heavy Vehicles	Subtractive	-5 to 0
Number of Travel Lanes	Subtractive	-5 to 0
Traffic Control	Subtractive	-5 to 0
85 th Percentile Speed	Subtractive	-10 to 0

Traffic Subscore = Level of Traffic Stress + Heavy Vehicles + Number of Travel Lanes + Traffic Control + 85th Percentile Speed

The following pages contain detailed descriptions for each of the factors listed above and include example images (where appropriate) and scoring. The highest possible Traffic Subscore that a segment could receive is 50. The lowest is 0.

Level of Traffic Stress

Considered the original measure of bike comfort, the Level of Traffic Stress (LTS) Methodology numerically scores roads based on how uncomfortable they may be for bicycling due to interactions with vehicles. The [LTS Methodology](#) was first developed in 2012 by a team of university researchers associated with the Mineta Transportation Institute, a research and training unit at San Jose State University in California.

The LTS is the most heavily weighted input in the Traffic Subscore. Several factors play a role in determining the LTS score:

- Bike Facilities
- Posted Speed Limit
- Traffic Volume (Average Daily Traffic or ADT)

- Direction of Lanes
- Presence of Parking

Average Daily Traffic (ADT) and speed were not available for all streets and were not available for trails. Therefore, these factors were not included for trail segments.

If streets didn't have ADT and speed data, ADT and speed were assigned to that road segment based on the average ADT and speed for the street classification of that road. For example, a neighborhood street with no speed information was given the average speed of all neighborhood streets in the County.

**Table 6: Level
of Traffic Stress**

			Speed Limit			Separated Bike Lane
Vehicle Volumes			20	25	30+	
< 1,000	<i>Bike Lane</i>	<i>No Parking</i>	LTS 1	LTS 1	LTS 2	LTS 1
		<i>Parking</i>	LTS 1	LTS 1	LTS 3	LTS 1
	<i>No Bike Lane</i>		LTS 1	LTS 2	LTS 3	LTS 1
1500–3K	<i>Bike Lane</i>	<i>No Parking</i>	LTS 2	LTS 2	LTS 2	LTS 1
		<i>Parking</i>	LTS 2	LTS 2	LTS 3	LTS 1
	<i>No Bike Lane</i>		LTS 2	LTS 2	LTS 3	LTS 1
3K–6K	<i>Bike Lane</i>	<i>No Parking</i>	LTS 2	LTS 2	LTS 2	LTS 1
		<i>Parking</i>	LTS 2	LTS 2	LTS 3	LTS 1
	<i>No Bike Lane</i>		LTS 3	LTS 3	LTS 4	LTS 1
>6K	<i>Bike Lane</i>	<i>No Parking</i>	LTS 3	LTS 3	LTS 4	LTS 1
		<i>Parking</i>	LTS 3	LTS 4	LTS 4	LTS 1
	<i>No Bike Lane</i>		LTS 3	LTS 4	LTS 4	LTS 1

This table details the number of points allocated to a segment based on the LTS.

Table 7: Level of Traffic Stress Points Allocation

Level of Traffic Stress Facility Description	LTS Score	Points
Trails	LTS 0	50
Streets with lower traffic volume, lower speed limits, and bike facilities	LTS 1	50
Streets that have some combination of factors, which are comfortable (LTS 1) and not comfortable (LTS 4) to bicyclists of all ages and abilities	LTS 2	40
	LTS 3	30
Streets with higher traffic volume, higher speed limits, no bike facilities, and parking	LTS 4	20

Trails are a unique feature in Arlington’s network and are not captured by the LTS Methodology. In Arlington’s BCI Framework, trails have been assigned an LTS Score of 0 and receive 50 points. This is because trails are separated from traffic and are safe and comfortable places for people to ride their bicycles. Other trail-specific factors captured in this methodology may either add or subtract points from the overall BCI of a trail segment.

Heavy Vehicles (Buses)

Connecting bicyclists to bus routes is an important component of multimodal transportation. In some instances, though, bus and bike routes overlap. The frequent stops made by a bus create conflict with bicyclists who are trying to maintain their momentum and navigate through traffic. Bus stops are sometimes shared with bike lanes or sharrows, making the conflict unavoidable. Floating bus islands help alleviate the conflict by separating the bus stop from a bike lane.

The impact of other heavy vehicles, such as delivery trucks or construction vehicles, is reflected in the Land Use category of the Context Subscore.

Table 8: Heavy Vehicles

Bus Stops	Points Assigned
No Bus Stops	0 points
Bus Stops	-5 points



Floating Bus Islands like this one at the intersection of Wilson Blvd and N. Pierce Street create separation between bicyclists and buses stopping to load and unload passengers. This reduces conflict between buses and bicyclists.



Bus stops, like the one in the picture here, sometimes share the roadway with bicyclists. Buses that stop frequently along a bike route can make a bicycle ride more difficult and less comfortable.

Traffic Control

Intersections create a conflict point for riders. Traffic control devices—yield signs, stop signs, traffic signals, and traffic circles—can make intersections safer for all users. However, bicyclists (unpowered) must use additional strength and energy every time they leave an intersection from a stopped position.

Traffic signals are the safest form of traffic control. They offer the clearest directions for traffic and are scored to have the least impact on comfort. Other types of traffic control, such as stop and yield signs, can create confusion at an intersection. These result in points being subtracted from the score.

Table 9: Traffic Control Devices

Traffic Control Device	Points Subtracted
Traffic Signal	0 points
Roundabout	0 points
Traffic Circle	0 points
Stop signs (All-way stop)	-1 point
Stop Signs (two way, other)	-2 points
Yield	-3 points
Uncontrolled intersection	-5 points

The Traffic Control score does not consider the size and the traffic volume of an intersection. This is mitigated by the Bike Infrastructure Subscore, where additional design features, such as protected intersections, bike boxes, and bike lane markings, can make crossing large intersections more comfortable and add points to a segment's score.

Observed Speed (85th Percentile Speed)

Biking along streets with high vehicle speeds can be uncomfortable and unsafe for many bicyclists. As traffic volumes and speeds increase so too does the chance of a crash. The data used for this part of the Traffic Subscore is collected from [StreetLight Data](#). The Observed Speed (85th Percentile Speed) is the speed at or below which 85 percent of drivers travel on a road segment.

Segments in the lowest speed limit in the County (20 mph) received no negative points. Segments without speed data were given the average speed of that road. The National

Association of City Transportation Officials (NACTO) [Designing for All Ages & Abilities](#) guidelines use 20 mph vehicle speeds as a threshold for bike comfort. Any speed above 20 mph was scored negatively.

Table 10: Observed Speed (85th Percentile Speed)

Observed Speed (85th Percentile Speed)	Points Subtracted
< 20mph	0 points
20–25mph	-1 point
25–30mph	-5 points
30mph +	-10 points

Bicycle Infrastructure Subscore



Bicycle infrastructure is anything that helps make a roadway safer and more comfortable for people on bicycles who are using that roadway for transportation. Also referred to as “bicycle facilities,” bicycle infrastructure includes conventional bike lanes, separated bike lanes, buffered bike lanes, multi-use trails/pathways, two-stage turn boxes, sharrows (shared lane markings), and bike boxes. Bicycle infrastructure provides

cyclists with separation from cars and offers a visual reminder to drivers that bicycles will be sharing the road with them. In most situations, these features make it easier for bicyclists to travel alongside cars on the road.

Bicycle infrastructure in Arlington is accounted for in the Bicycle Infrastructure Subscore, which breaks these roadway features down into three broad categories: bicycle facilities, intersection bicycle facilities, and fair-weather crossings, which only pertain to trails.

The highest possible Bicycle Infrastructure Subscore is 50. The lowest is 0.

Table 11: Bicycle Infrastructure Subscore

Factor	Mathematical Formula	Point Range	Relative Weight in Subscore
Bicycle Facility Type	Additive	5–50, adjusted for traffic volume	Highest
Intersection Bicycle Facility Type	Additive	0–5	Medium
Fair-weather Crossing	Subtractive	-2.5–0	Lowest

Bicycle Facilities

Bicycle facilities are the most heavily weighted component of the Bicycle Infrastructure Subscore. If a road segment has bike lanes or any of the other road markings that increase the safety and visibility of bicyclists, those features help make that segment more attractive to bicyclists and significantly increase its score. However, the number of points a segment receives for having bicycle facilities is adjusted based on traffic volume. Bike lanes on quiet neighborhood streets score higher than bike lanes on busy, higher-speed roads in mixed-use neighborhoods where bicycling may not feel as comfortable for some riders.

Being a “Recommended Route” also has a positive impact on a segment’s bicycle facility score. In Arlington, Recommended Routes are streets considered to be bicycle friendly that provide important connections within the bicycle network. Many of these routes were identified in 2019 when the [Bicycle Element](#) of Arlington’s [2019 Master Transportation Plan](#) was approved. Recommended Routes, such as “bike boulevards” are signed throughout the County and marked with “Bike Route” signs.



The following table details the points assigned to different types of bicycle facilities, adjusted for traffic conditions.

Table 12: Bicycle Facility Type Adjusted for Traffic

Bicycle Facility Type	Heavy Traffic (0-10)	Neutral Traffic (11-39)	Light Traffic (40-50)	No Traffic (50)
Recommended Route	5	10	15	N/A
Separated Bike Lane	30	35	40	N/A
Buffered Bike Lane	16	20	25	N/A
Conventional Bike Lane	10	16	20	N/A
Multi-use trails/pathways	N/A	N/A	N/A	50
Sharrows (Shared lane markings)	5	10	15	N/A

Intersection Bicycle Facilities

Intersections can be challenging for bicyclists. Some of the most common crashes between bicycles and vehicles occur at intersections. Motorists who collide with people riding bicycles in these instances often claim that they didn't see the person on the bike before the crash occurred. Intersection bicycle facilities mitigate this risk by providing space for bicyclists at intersections, typically in the form of painted roadway markings. These intersection markings designate space for bicycles, increasing cyclists' visibility and helping them to move through an intersection more safely.

This table provides information on the points allocated to the Bicycle Infrastructure Subscore for different types of bicycle facilities at intersections. These scores were not adjusted based on traffic volume. Each intersection facility type is hyperlinked to a definition explaining what it is.

Table 13: Intersection Bicycle Facility Type

Intersection Facility Type	Points
<u>Protected Intersection</u>	0 to 10
<u>Green Pavement Markings</u>	0 to 2
<u>Bike Box</u>	0 to 5
<u>Two Stage Turn Box</u>	0 to 5



Fair-Weather Crossings

Fair-weather crossings also factor into the Bicycle Infrastructure Subscore. These pertain only to trails, and capture situations in which a trail floods and becomes impassable after heavy rain. A fair-weather crossing reduces a segment's Bicycle Infrastructure Subscore, as detailed in Table 14.

Table 14: Fair-Weather Crossings

	Present	Not Present
Fair-Weather Crossing	-2.5	0

Arriving at Final BCI Scores

A road or trail segment's final BCI score—the composite score—combines the Context, Traffic, and Bicycle Infrastructure Subscores.

This table provides detail on the range of final BCI Scores.

Table 15: Bicycle Comfort Index Subscores

Subscore	Lowest Possible Points	Highest Possible Points
Context	0	50
Traffic	0	50
Bicycle Infrastructure	0	50

Composite scores for road and trail segments are shown on the map with different colored routes representing different levels of bicycle comfort.

While all Arlington street segments received BCI scores, only certain streets are highlighted as colored routes on the map.

If a street did not have a bike facility and/or a recommended route AND the segment was rated LTS 1, 2, or 3 (very low to moderate stress for most riders), the street was rendered as a white background street. This was done to highlight streets where there are bicycle facilities and to also call attention to LTS 4 streets that are considered dangerous. Purely showing comfort ratings based off of BCI numbers would have resulted in too many streets being shown.

Solid and patterned green routes scored highest and are considered most comfortable for bicycling. Blue routes are also comfortable but may have one or two slightly unfavorable qualities, such as limited bicycle infrastructure and reported behavioral violations. Maroon routes are less comfortable due to the presence of several factors that make cycling less enjoyable, such as higher vehicle speeds, steep hills, and a less favorable land use designation. Two different types of gray routes (one light gray and the other gray with a border around it) are not recommended for bicycling. These routes may either be highways or routes that do not have space to safely accommodate bicycles.

The following table shows how the score ranges correspond with route colors as well as common characteristics of routes that fall into each category.

Table 16: How BCI Scores Are Depicted on the Map

Composite Score	Category	Color	Characteristics
85 points or more	Most Comfortable	Green or Green Patterned	These segments include trails and quiet neighborhood streets with little traffic.
60-84 points	Comfortable	Blue	Roads with moderate traffic volume that require riders to interact with moving vehicles.
< 60 points + have bicycle facilities	Less Comfortable	Maroon	Segments with higher traffic volumes and speeds. Only recommended for confident riders.
< 60 points + no bicycle facilities	Not Recommended	Gray	Roads recommended only when no alternatives are available. They often have a high volume of fast-moving traffic.
Not rated	Major Traffic Thoroughfare	Gray with Black Outline	Roads where riding a bicycle is extremely dangerous or illegal, such as interstates or limited access highways.

Examples of Different BCI Scores

Most Comfortable (> 85 Composite Score)

Four Mile Run Trail



This segment of Four Mile Run Trail is an example of a patterned green trail route recommended as one of the most comfortable places for bicycling in Arlington. It scored high because it's a multi-use trail where riders do not have to interact with motorized vehicles.

Most Comfortable (> 85 Composite Score)

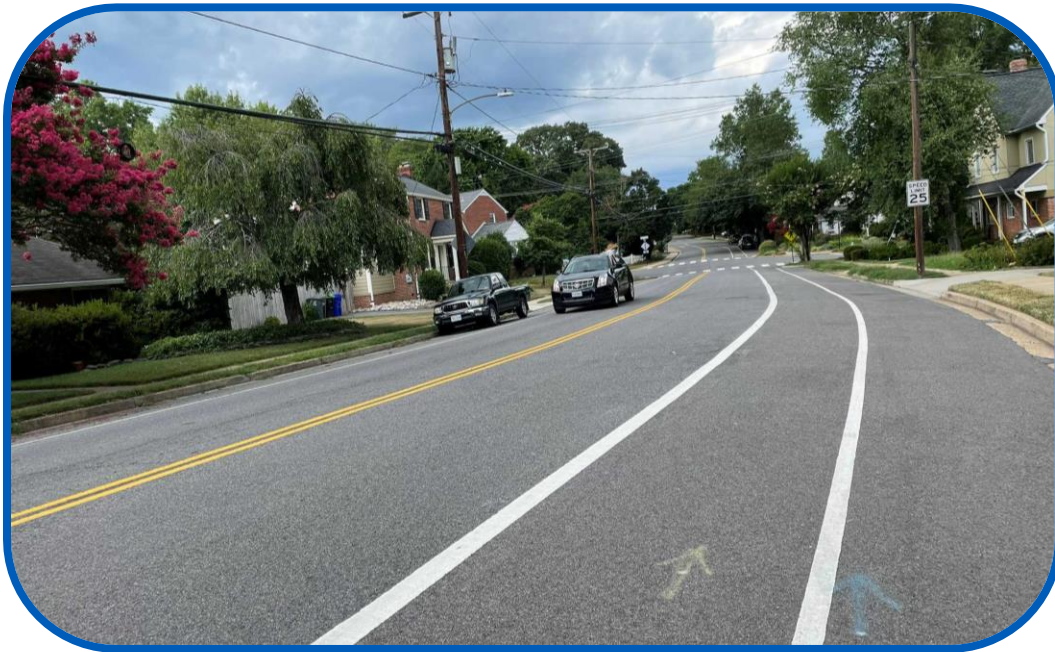
North Woodstock Street



This part of North Woodstock Street in the Waverly Hills neighborhood of Arlington is an example of a street that scored as one of the most comfortable places for bicycling. It is color-coded green on the map. It has a bike lane, is designated as a residential land-use area, and has lower traffic volume and speeds.

Comfortable (60-84 Composite Score)

North Harrison Street near Patrick Henry Drive



This segment of North Harrison Street is an example of a blue route that falls into the second tier of comfort for bicycling. While it still feels low-stress for most people, it has some features that may not make it ideal. This particular stretch of road gains points for being in a residential area and for having good quality pavement. However, it may lose some points for having more traffic than some other neighborhood streets and for having an uphill slope.

Less Comfortable (< 60 + Bicycle Facilities)

Fairfax Drive at North Monroe Street



Fairfax Drive at North Monroe Street in Virginia Square is an example of a segment that has many favorable aspects that support bicycling—a standard bike lane, even slope, and good pavement quality—but also has some factors making it less comfortable, including high traffic volumes and higher vehicle speeds. Being in a mixed-use area is also considered less favorable for bicycling. The presence of buses and the more frequent turnover of parking spaces in mixed-use areas create conditions in which cyclists may feel stressed by a higher level of interactions with vehicles. Maroon (Less Comfortable) segments like this one still support bicycling but should be approached with caution. Newer riders may want to feel fully confident riding green and blue routes before riding here.

Not Recommended (< 60 + No Bicycle Facilities)

Washington Boulevard at North Stafford Street



This segment of Washington Boulevard, which is at Washington-Liberty High School, is not recommended for bicycling. Routes that are not recommended are gray on the map. Most of Washington Boulevard scored “Not Recommended” on the map, although a few segments that had bicycle facilities scored higher. This particular section of Washington Boulevard lacks bicycle facilities and often has high volumes of traffic moving a bit faster than traffic on neighborhood streets. While biking on the sidewalk near here is an option—one that is frequently chosen by students who bike to school and who do not feel safe on the road—riding on the sidewalk can create conflict with pedestrians. It is legal to ride on the sidewalk in Arlington, but in areas like this, finding an alternate route that eliminates or minimizes time spent riding on the sidewalk may be preferable.

Major Vehicle Thoroughfare (Not Rated)

Arlington Boulevard/Route 50



Limited access highways and interstates like Arlington Boulevard, I-66, The George Washington Memorial Parkway, and I-395 are listed on the map as “Major Traffic Thoroughfares.” Riding a bicycle on the interstate is prohibited. On other major highways, high vehicle speeds and traffic volumes make riding extremely dangerous and therefore definitely not recommended. These roads are also gray on the map with a dark border around them. They are wider than the Not Recommended routes.

Mathematical Formulas

These are all the mathematical formulas used in the Bicycle Comfort Index Framework:

Context Subscore Formula

(Reported Behavioral Violations Score + Land Use Score + Pavement Condition Index Score) x Slope Score

Traffic Subscore Formula

Level of Traffic Stress Score + Travel Lane Score + 85th Percentile Speed Score + Heavy Vehicle (Bus) Presence Score + Traffic Control Score

Bicycle Infrastructure Subscore Formula

Protected Intersection Score + Bike related Pavement Markings Score + LTS Bike Lane Score + Fair-Weather Crossing Score

Bicycle Comfort Index Formula

BCI = Context Subscore + Traffic Subscore + Bicycle Infrastructure Subscore

Credits and Acknowledgements

The 2024 Arlington County Bicycle Comfort Level Map was created through a partnership among Arlington County's Department of Environmental Services' Transportation, Engineering, and Operations Bureau, the Transportation Planning & Capital Project Management Bureau, and Arlington County Commuter Services' BikeArlington with support from the County's Vision Zero Program.

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