LOUDOUN COUNTY ON-STREET BIKEWAY GAP ANALYSIS AND ASSESSMENT:

A PROOF OF CONCEPT FOR A NEW WAY TO MEASURE BICYCLE SAFETY AND ACCESS ON LOUDOUN COUNTY ROADWAYS

Prepared for Loudoun County

JULY 2022

ON-STREET BIKEWAY GAP ANALYSIS AND ASSESSMENT:

A PROOF OF CONCEPT FOR A NEW WAY TO MEASURE BICYCLE SAFETY AND ACCESS ON LOUDOUN COUNTY ROADWAYS

ACKNOWLEDGMENTS

ABOUT GAP-TA

Visit vtrans.org/about/GAP-TA for information about the Growth and Accessibility Planning Technical Assistance program.
OIPI will provide a blurb describing the GAP-TA program

CONTACT INFORMATION

CONTENTS

CONTENTS, CONT.

APPENDIX

FIGURES

FIGURES, CONT.

TABLES

1 - INTRODUCTION

The Loudoun County On-Street Bikeway Gap Analysis and Assessment was completed as part of the Office of Intermodal Planning and Investment's Grant Assistance Program (GAP). The objective of this study is to assess the County's collector and arterial roadways for the implementation of dedicated bicycle facilities. As a data-driven approach, this report provides both the recommendations for the county and the details of the GIS analysis tool itself.

This study supports bicycle and pedestrian components of Loudoun's existing transportation programs including the Capital Improvement Program VDOT's repaving program, and the 2019 Countywide Transportation Plan (CTP). ` study, a GIS tool was developed to automate on-road bicycle recommendations. This tool is based on an enhanced form of an emerging traffic safety measure for bicyclists, known as The Level of Traffic Stress (LTS). A modified version, referred to as StreetScore+, adds additional variables to the LTS methodology that was developed a decade ago by the Mineta Transportation Institute. Through the use of a GIS tool, the recommendation process for CTP roadways in urban and suburban areas was automated, covering 357 miles of County roadways. The tool is flexible and can be refined indefinitely to meet the needs and expectations of the County.

The GIS tool uses VDOT and County data to calculate LTS. LTS scores are combined with conditions of the road such as lane count, lane width, and design speed, the GIS tool provides a recommendation for each segment that would bring the LTS to a more acceptable comfort level. This process is detailed in chapter 2.

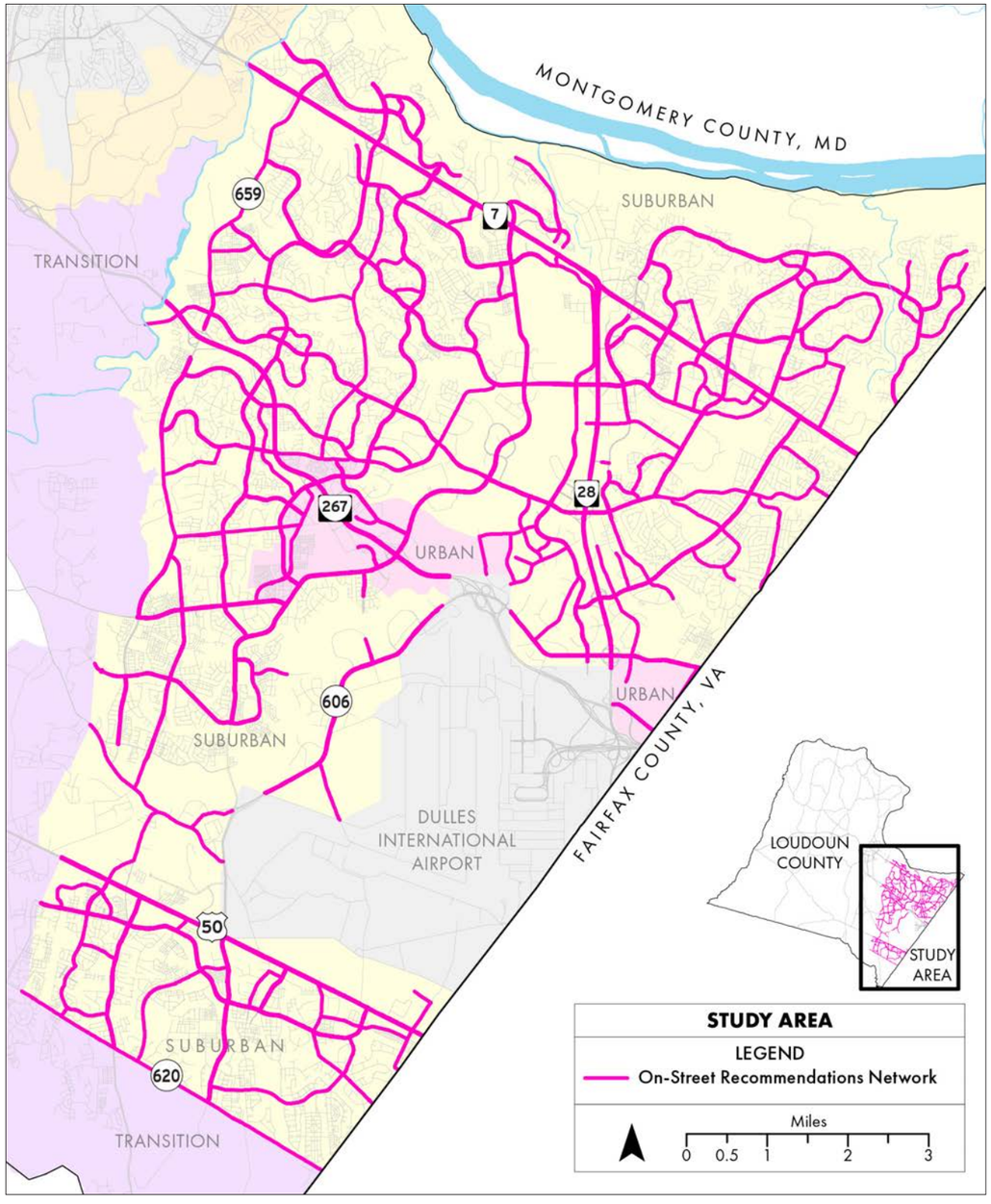
The recommendations of this tool may be used to inform the CTP and may be implemented systemically though the County's Capital Improvement Program with an approach similar to that used for the County's Intersection Improvement Program (IIP) and the Sidewalk and Trail Program. The recommendations can also be used to inform data driven funding programs such as Transportation Alternatives, VDOT Revenue Sharing, and SMART SCALE. These recommendations could be used for local and regional planning and funding programs. Finally, the recommendations can be used for discussions with interested private developers. Next steps are detailed in the final chapter of this report.

Table 1 provides a summary of the recommendations by facility type.

Table 1: Summary of Recommended Facilities in Miles, by Election District

Recommendation	Miles by Election District						
	1	2	3	6	7	8	Total
Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	10.9	5.7	3.3	12.8	6.3	7.8	46.9
Raised Cycle Track; ROW Available	1.1	0.0	0.0	0.0	0.0	0.0	1.1
Raised Cycle Track; ROW Not Available	0.4	0.8	0.3	0.7	2.2	1.3	5.7
Shared Lanes	3.1	3.9	0.7	4.5	0.6	3.6	16.4
Shared Use Path; ROW Available	3.2	0.0	3.7	3.9	1.2	1.6	13.5
Shared Use Path; ROW Not Available	21.6	12.3	10.0	41.9	18.7	15.0	119.5
Two-way Protected Bike Lanes	0.0	0.3	0.0	0.0	0.0	0.3	0.6
Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	13.7	4.0	5.7	15.6	1.1	8.6	48.7
Grand Total	54.0	27.1	23.6	79.4	30.1	38.1	252.4

Figure 1: Study Area



2 - DATA ROADMAP

Introduction

This chapter provides a description of the data sources used for the Loudoun County On-Street Bikeway Gap Analysis and Assessment project. During the course of this project, the project team used this data to assess Loudoun County's roadways for cyclist comfort (LTS) and developed a Geographic Information System (GIS)-based tool to identify and recommend suitable facilities to bridge network gaps. Project output data was compiled across a variety of data sources, and per the requirements set by Office of Intermodal Planning and Investment (OIPI), the final output for this analysis was aligned to the Virginia Department of Transportation's (VDOT's) Linear Referencing System (LRS) roadway network.

In 2019, the Loudoun County Board of Supervisors adopted the Countywide Transportation Plan (CTP) to inform future transportation planning. The CTP assigns various types of bicycle and pedestrian facilities to Loudoun County's roadways. These include on-street bicycle facilities and shared travel lanes between motor vehicles and bicycles. As per the guidance of Loudoun County staff, the area of study for this project was limited to all roadways in designated "Suburban" and "Urban" policy areas in the last board-approved version of the CTP (2019).

Approach Summaries

Data Alignment

The Roadway Inventory Management System (RIMS) Travelways data layer, provided by VDOT, was used as the "base" layer for the analysis, and two additional layers were aligned to this network using an automated alignment tool ("Align Features" in ArcGIS Pro 2.8.2). These two additional layers are the Sidewalks and Trails layer and the VDOT ADT layer. Functional classification was manually copied to the RIMS Travelways network from the CTP (2019) layer. The CTP layer includes the future envisioned connections/enhancements to existing condition road layers.

The RIMS Travelways layer was chosen as the base layer because it provides the most detailed data layer available, which is necessary to inform the LTS methodology used. Other layers were also chosen based on the sensitivity of the analysis to their attributes. The LTS assessment is particularly sensitive to the presence and type of pedestrian or bicycle facility. The VDOT ADT layer was chosen because the volume-to-capacity (v/c) ratio of the roadway is used to determine the feasibility of facility recommendations.

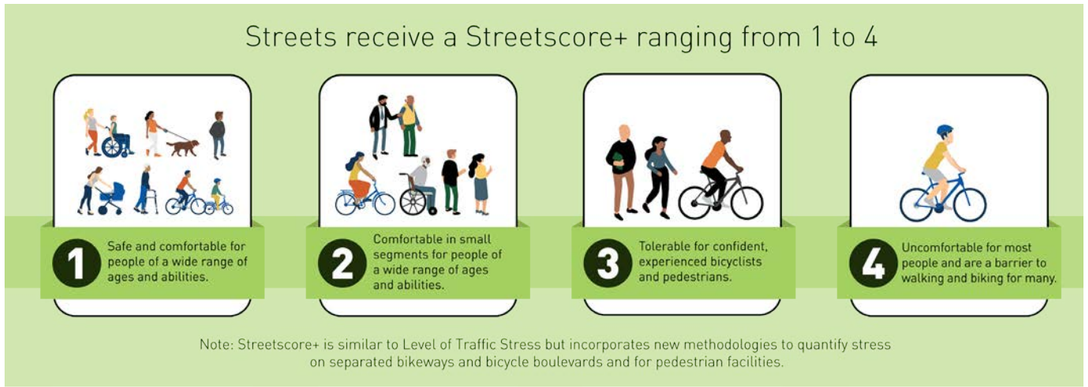
The sidewalks and trails layer and the VDOT ADT layer were aligned and joined to the base layer through an automated alignment tool. Alignments are when polylines or roadways are shifted in the GIS shapefiles so that lines representing the same roadway overlap perfectly. Joins are when data that is associated with one shapefile is transferred to another shapefile. A misalignment can occur when the automated tool understands two or more different roadways to represent the same roadway segment. The project team did not perform manual corrections of any misalignments or missing links at this stage. ArcGIS Pro's automated alignment tool relies on search distance and any roadway segments within the search distance may incorrectly be assumed to be representing the same road. For example, the alignment tool may link X Street to Y Drive if the search distance is set to 20 feet and the two are represented by lines situated only 15 feet apart in GIS shapefiles. This will force the line representing X Street to align perfectly with Y Drive, despite these being two distinct roadways. Attribute gaps caused by misalignment of the additional layers were treated as general gaps in the network. A limited number of these gaps were investigated and ground-truthed in subsequent stages of this study. Because of misalignments, parts of a roadway may be associated with incorrect values for the attributes being used to determine recommendations. This could result in recommendations that differ from sections of the roadway that have correct attributes. The team expected that gaps that impact recommendations would be investigated in subsequent stages of this project.

LTS and Streetscore+

Bike LTS and the Streetscore+ tool were used to determine cyclist comfort on Loudoun County's roadways. Streetscore+ is a methodology for assessing comfort-based indices based on active transportation infrastructure and is detailed graphically in Figure 2. For bicycle facilities, this builds upon the LTS methodology developed by Mekuria, Furth, and Nixon (2012) in Low Stress Bicycling and Network Connectivity, with targeted enhancements to address cyclist comfort. For unprotected bicycle facilities and mixed traffic (bicyclists mix with automobile traffic because of lack of designated facilities), the Streetscore+ tool runs the Bike LTS methodology. User documentation for specific details in execution of these methodologies have been provided to the County. Permission has been granted by the creator of Streetcore+, Fehr and Peers, that the tool developed for this effort can be replicated and expanded by the county and provider or consultant of its choice.

The output of this assessment is in the form of a score, ranging from 1 to 4, where a 1 represents a roadway that bicyclists of all ages and abilities are comfortable riding on. A score of 4 represents a roadway that is a barrier to bicycling for most, and on which only the most skilled and confident of bicyclists can comfortably ride. The "target score" – or desired level of comfort for bicyclists – for the purpose of this project is 1 or 2. A facility with a score of 1 or 2 indicates that it can be comfortably used by the majority of bicyclists of varying age groups and abilities.

Figure 2: Streetscore+ score descriptions



Intersection Analysis

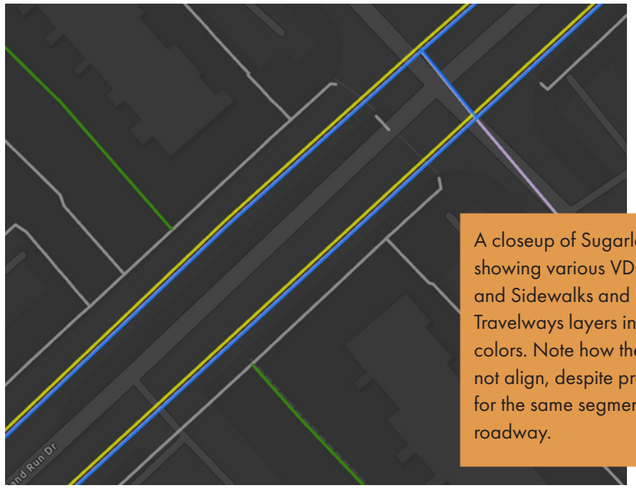
The Streetscore+ approach focused on roadway segments only. There was insufficient data available for Streetscore+ to accurately determine cyclist comfort at intersections. Therefore, the project team flagged intersections that were "high priority" based on attributes of the surrounding roadway network and the initial GIS portion of this project would not develop detailed recommendations at intersections. Field reviews are a subsequent study step that will further inform select intersection assessments. However, the project team notes that to achieve LTS 2, enhanced crosswalks should be provided at non-signalized intersections and "mixing zones" in which bicycle and pedestrian traffic mixes with right turning vehicles should be avoided.

GIS Referencing System

During the course of this project, the project team received several spatial datasets from VDOT and Loudoun County that contained roadway attributes needed to assess roadways for cyclist comfort. Despite many of them being VDOT products, these data layers did not spatially align with each other or with the VDOT LRS roadway network (see Figure 3). All spatial project outputs are required to be in LRS format in accordance with GAP Program guidance. LRS allows project segments to be identified from any point rather than from intersection to intersection. Combining attributes from all data layers would mean a significant portion of the project schedule/budget would be consumed in spatially aligning and joining all layers, and then aligning the output with the LRS roadway network. The project team initially anticipated to carry out the entire data analysis with minimal external data inputs. After reviewing the extent and level of detail available in the County's data, the project team decided to incorporate this data. This resulted in an extensive data alignment and cleanup tasks in order to develop a more robust tool.[1]

1 Data layers that exhibited this issue are denoted in tables with an asterisk "*".

Figure 3: Depiction of Data Layers not Aligning with LRS



Therefore, to resolve the data alignment issue, the consultant and Loudoun County project team collaboratively decided to remove some data layers that would be further inform the GIS tool in order to balance project resources. Also, not all data elements that could be used in a StreetScore+ methodology (detailed in Table 4) would be considered in this study. This chapter outlines those compromises and details how the data will be used as well as other assumptions/proxies that maintain the integrity of analysis desired.

Data Sources

A small number of roads are in the project study area but not present in the LRS or the RIMS Travelways datasets as they have yet to be accepted by VDOT into the secondary roadway system. Although these roads are outside the scope of this project, the project team flagged several in a shapefile for the County to investigate independently.

The final output of the analysis will be presented in the VDOT LRS below:

- VDOT LRS version 21.1 – VDOT's standardized roadway GIS network
  - Source: VDOT; Updated Jun 28, 2021; Retrieved Aug 6, 2021

All other datasets that contain roadway attributes used for the analysis have been listed below, along with their sources, dates last modified at time of retrieval, and date of retrieval.

- Bike Facilities 2019 CTP – Network of roadways flagged for bicycle facilities as part of the Countywide Transportation Plan.
  - Source: Loudoun County; Updated Feb 22, 2021; Retrieved Aug 6, 2021
- Loudoun County Policy Areas – County's policy areas serve as the basis for all future land use planning.
  - Source: Loudoun County; Updated Nov 24, 2020; Retrieved Aug 6, 2021
- RIMS Travelways Layer for Loudoun County – Roadway data inventory network maintained by VDOT for all VDOT-maintained roads.
  - Source: VDOT; Updated Jul 1, 2021; Retrieved Aug 6, 2021
- VDOT Traffic Volume 2020 – Traffic data gathered by VDOT for VDOT-maintained roads, including Average Daily Traffic (ADT).
  - Source: VDOT; Updated Nov 29, 2021; Retrieved Dec 7, 2021
  - Note: This layer includes volumes collected over the years preceding the Covid-19 pandemic and is the most complete version of this dataset.
- Loudoun Sidewalks & Trails – Depiction of sidewalks, trails, shared use paths, golf cart paths and crosswalks in Loudoun County.
  - Source: Loudoun County; Retrieved Dec 7, 2021
- Shared Use Path Level of Service (SUPLOS) – Estimation of activity along potential paths in Loudoun County, to determine separation of pedestrians and cyclists. Created by DTCI in November 2021 using FHWA SUPLOS formula.
  - Source: Loudoun County; Retrieved Dec 7, 2021; Retrieved Dec 7, 2021
- Mixed-Use Commercial – Depiction of potentially high pedestrian activity areas, to determine separation of pedestrians and cyclists.
  - Source: Loudoun County; Retrieved Dec 7, 2021; Retrieved Dec 7, 2021
- 2016 and 2040 Travel Demand Model Loaded Networks – Travel demand model networks, to determine overall, countywide traffic volume in the County.
  - Source: Loudoun County

Roadway Attributes

Table 2 lists all attributes that were utilized in the Streetscore+ approach to evaluation of existing conditions and recommendation of facilities. Data sources that directly provide the needed attributes are listed along with an assessment of any remaining quality/consistency aspects of the dataset. The RIMS Travelways dataset was used as the base network for the analysis and any attributes or assumptions based on it were the most complete. Potential alignment issues resulted from the automated alignment process (detailed previously).

Streetscore+ scores are based on the 'weakest link' methodology in which the lowest score of all variables determines the score. This means that exclusion of variables results in adoption of several assumptions regarding roadway design elements. These assumptions are provided in Table 3.

Table 2: Data Attributes Utilized for Analysis

Attribute	Source/Solution	Quality
ADT	VDOT Traffic Volume - 2020	Potential alignment issues*
Bicycle facility type	Sidewalks and trails shapefile	Potential alignment issues* Shapefile only depicts pavement type and not dedicated bicycle facilities. This analysis assumes asphalt paved trails are shared use facilities as path width information is not reliably available
Functional Classification	2019 CTP	Potential alignment Issues* Manually copied to shapefile
Lane count	RIMS Travelways shapefile	Complete
Median presence	RIMS Travelways shapefile	Complete
One-way	RIMS Travelways shapefile	Complete
Paved lane widths	RIMS Travelways shapefile	Complete
Shoulder width	RIMS Travelways shapefile	Complete
Sidewalk presence	Sidewalks and trails shapefile	Potential alignment issues* Shapefile only depicts pavement type. Concrete paved paths are assumed to be sidewalks.
Trail presence	Sidewalks and trails shapefile	Potential alignment issues*
Usable facility width	Sidewalks and trails shapefile	Potential alignment issues*Shapefile presents facility width as a range

*Potential alignment issues detailed in Initial Issues Encountered section of this chapter.

Table 3: Assumption and Proxy Values for Select Data AttributesTypical StreetScore+

Attribute	Assumption/Proxy	Quality
Capacity	Calculate based on area type and functional classification (See Table 4)	Complete
Posted speed	Using design speed as proxy, based on functional classification	Complete, proxy used
Facility buffer type	Assume landscape buffer	Potential alignment issues* based on Sidewalks and Trails shapefile
Facility buffer width	Assume 8 feet	Potential alignment issues* based on Sidewalks and Trails shapefile
Buffer continuity	All buffers assumed continuous	Potential alignment issues* based on Sidewalks and Trails shapefile
Peak bike volumes/hour	Assume low (<150 cyclists/hour)	Complete
Parking lane presence	Assume none	Complete
Right-of-way (ROW)	Assume based on functional classification	Complete

Table 4: Attributes Not Utilized for Analysis

Attribute	Reasoning
Curbside Management	Only applicable in high-density urban environments where multiple users are competing for curb space. Not applicable to the majority of Loudoun County, and needs to be assessed on a case-by-case basis, which is not conducive to the algorithmic approach for this project.
	Result: To achieve an acceptable LTS, vehicle loading will need to be planned through design so that blockages are not expected.
Clear Zone at Intersections and Driveways	Optional input to focus the assessment. Difficult to assess on a County-wide level and not conducive to the algorithmic approach for this project.
	Result: To achieve an acceptable LTS, appropriate sight distance should be provided for turning movement speeds.
Mid-block Conflicts	Optional input to focus the assessment. Difficult to assess on a County-wide level and not conducive to the algorithmic approach for this project.
	Result: To achieve an acceptable LTS, there should be 4 or less conflict points per block and the crossing is either raised or less than 150 bicycles per hour are expected.
Stops Signs Per Mile	Optional input to focus the assessment. Difficult to assess on a County-wide level and not conducive to the algorithmic approach for this project.
	Result: To achieve an acceptable LTS, there should be 4 or less stop signs per mile along the bicycle route.
Raised Cycle Track Buffer	Result: To achieve an acceptable LTS, a high-contrast visual separation (i.e. black asphalt vs light gray concrete) or a grass buffer should be provided.

Table 3 lists all attributes for which an assumption or proxy value was developed for this study, instead of directly derived from a dataset already identified. Developing proxies, informed by County and national practice, allowed for issues of data availability, alignment, or insufficiency to not preclude inclusion of such values in the analysis envisioned for this study. Assumptions and proxies may be revisited during the subsequent phases of the project as part of the iterative refinement process of reviewing the results of the GIS-based algorithm/methodology.

Assumption Details By Attribute

This section details attributes that are missing from the three data layers identified for use in the approach to performing the GIS analysis, along with additional background on how the assumptions were developed as a substitute for missing attributes.

Table 5: Assumption Values for Select Data Attributes

Functional Classification	Vehicles/lane/ hour (Urban)	Vehicles/lane/ hour (Suburban)
Principal Arterial – Freeway (Level 2)	1650	1800
Principal Arterial - Freeway (Level 2) With Median	1750	1900
Principal Arterial – Non-freeway/Other (Level 3)	1350	1450
Principal Arterial – Non-freeway/Other (Level 3) With Median	1400	1550
Minor Arterial (Level 4)	1150	1300
Minor Arterial (Level 4) With Median	1200	1350
Major Collector (Level 5)	1100	1250
Major Collector (Level 5) With Median	1150	1300
Minor Collector (Level 6)	950	1050
Minor Collector (Level 6) With Median	1000	1100
Neighborhood Collector (Level 7)	750	850
Neighborhood Collector (Level 7)With Median	800	900
Local Secondary Road (Level 8)	450	550
Local Secondary Road (Level 8) With Median	450	600

Table 6: Functional classification and corresponding design speed.

Functional Classification	Design Speed (MPH)
Principal Arterial – Freeway (Level 2)	60 MPH
Principal Arterial – Non-freeway/Other (Level 3)	50 MPH
Minor Arterial (Level 4)	50 MPH
Major Collector (Level 5)	40 MPH
Minor Collector (Level 6)	35 MPH
Neighborhood Collector (Level 7)	25 MPH
Local Secondary Road (Level 8)	25 MPH

Capacity
Capacity ideally would be calculated for each road based on its characteristics, however, this information was not available from Loudoun County at the time of the analysis. Therefore, capacity data is based on the area type and the functional classification of the roadway, which were manually copied over from the 2019 CTP data layer. Table 5 shows the capacity lookup table for roads within Loudoun County, modified to fit the area type data available.

Posted Speed
The StreetScore+ methodology uses Posted Speed Limit as the measure for speed data. This data was not readily available in the VDOT LRS, therefore, functional class of the roadway was used as a proxy for the design speed, which was then used to assume the Posted Speed. Functional classification levels and corresponding design speed data was provided in the Loudoun County 2019 CTP and depicted in Table 6. Functional classification values were manually copied from the 2019 CTP data layer.

Bicycle Facility Type
The presence of existing on-road bicycle facilities (bike lanes) were not accounted for under the existing conditions analysis in this study. However, existing shared use paths were used. The presence of striping is not as influential on bicyclist comfort as the physical space is. Therefore, the RIMS Travelways shapefile was used as a proxy. This shapefile contains pavement width, lane width and shoulder width, which help to more accurately recommend appropriate bicycle facilities and determine feasibility.

Facility Buffer Type And Width
For the purpose of this analysis, a uniform and continuous landscape buffer of 8 feet was assumed for all existing shared use paths, based on the VDOT Road Design Manual and County input. A landscape buffer of two feet was assumed when assessing the feasibility of road-adjacent facilities as it represents the minimum buffer required to achieve an acceptable LTS. Additional buffer space may be provided but may require additional right-of-way.

Peak Bike Volumes/Hour
It was assumed that peak bike volumes per hour were less than 150 on all roadways due to low density land use and lack of appropriate existing bicycle facilities for high posted speeds that may discourage the majority of bicyclists.

Parking Lane Presence
The presence of a parking lane was used to measure improved comfort as a result of the parking lane acting as a buffer between a bicyclist and automobile travel lanes. It was assumed that there are no such parking buffers in the study area. Any parking lanes that do not buffer bicyclists have no impact on the comfort assessment.

3 - METHODOLOGY AND RECOMMENDATIONS

Introduction

This chapter provides a description of the methodology for determining level of traffic stress (LTS) for bicyclists on Loudoun County's Roadways, under existing conditions and with future recommendations. In this document, "LTS," "level of comfort" and "score" are used interchangeably to refer to a bicyclist's level of comfort riding on a roadway, with or without a dedicated facility, as assessed through the Bike LTS and Streetscore+ methodologies described herein. This chapter also conveys how recommendations will be made for roadways that do not meet the minimum bicyclist level of comfort, as determined by the County.

Analysis Workflow

As shown in Figure 4, the general analysis workflow was as follows: the score for Loudoun County roadways in suburban and urban areas was determined under existing conditions, considering any on-street facilities that may be present. The target score of 2 was also set for each road segment, which represents the desired bicyclist level of comfort. If the road segment's existing score was greater than or equal to its target score, the analysis would recommend maintaining the existing bike facility and no further assessment or recommendations would be needed. This represents a road that is sufficiently comfortable for a bicyclist.

If the existing score was lower than the target score, road segments were evaluated for installation of a bike facility while maintaining the existing pavement width on the road. Various on-street bike facilities were assessed to determine which could achieve the target score on each roadway segment. The volume-to-capacity (V/C) ratios and level of service (LOS) (existing and future) were calculated to determine if these roadways could feasibly accommodate the recommended on-street bicycle facility, with or without lane reduction or narrowing. If the target score could not be achieved by an on-street facility, with or without lane reduction or narrowing, off-street facilities were assessed. Appropriate off-street facilities that achieve the target score were recommended, and the available right-of-way (ROW) was used to determine the feasibility of these off-street recommendations. To further understand this methodology, see Figure 5 in the "Facility Recommendation Flowchart" section.

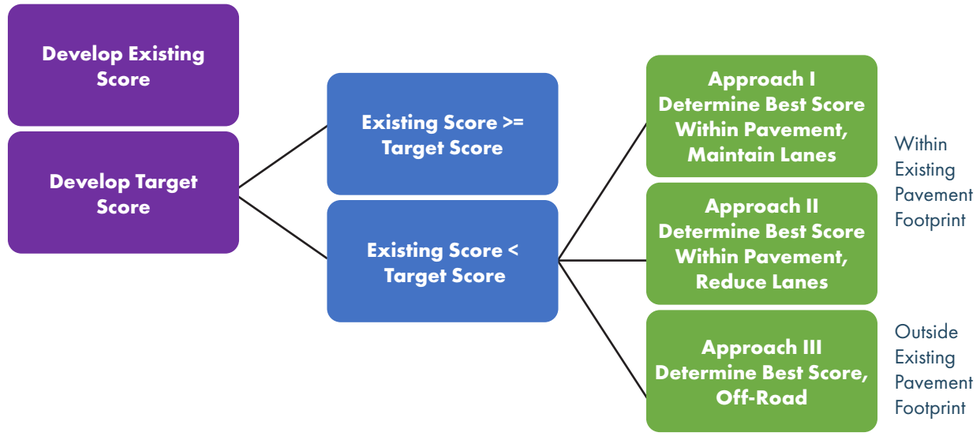
Facility Recommendation Flowchart

The facility recommendation flowchart in Figure 5 represents the methodology for assessing bicyclist comfort under existing conditions and determining recommended facilities that help roadway segments meet the target score. The flowchart offers a high-level view of the data inputs that will be needed to assess existing scores and form recommendations. These data inputs are detailed in the "Data Roadmap" chapter.

The possible facilities that can be recommended as part of this algorithm are as follows, in order of increasing level of comfort to bicyclists, along with width requirements for each. The following widths are for the facility and do not consider potentially present street gutters. A useable pavement width analysis could determine total widths needed if performed in the future:

1. Shared roads/mixed traffic/bike boulevards, where bicyclists share lanes with automobile traffic. It largely represents roadways with low traffic volumes and low automobile travel speeds. See Figure 6.
2. Unbuffered/unprotected bike lane (5 ft, one-way), where there is a dedicated on-road facility for cyclists that is separated from the travel lane through pavement markings. See Figure 7.
3. Buffered bike lanes (8 ft bike lane and 3 ft buffer, one-way), where a designated painted buffer space separates an on-road bike lane from automobile travel lane. See Figure 8.
4. Protected bike lanes (10 ft bikeway and 3 ft buffer, two-way), which are bicycle tracks that are at-grade with the roadway but physically protected from the automobile travel lane and separate from the pedestrian facility. A variety of physical barriers can be installed between the travel lane and the bicyclists, such as parked cars, raised curbs, planters, or posts. See Figure 9.
5. Raised cycle tracks (10 ft bikeway, 6 ft sidewalk, and 2 ft buffer, two-way), which are bicycle tracks raised above the grade of the roadway and provided adjacent and at-grade with the pedestrian facility (either sidewalk or shared use path). This will be recommended for roadways for which on-street facilities are not feasible and where high pedestrian volumes require a separation between pedestrian and bicyclists. See Figure 10.
6. Off-street shared use paths (10 ft, two-way with 2 ft buffer), where an off-road pathway is shared by pedestrians and bicyclists. This will be recommended for roadways for which on-road facilities are not feasible. See Figure 11.

Figure 4: Workflow for identifying roadways in the project study area for which on-street bicycle facilities will be assigned.



Ultimately, the output of this workflow was maps of the project study area showing recommended facilities. On-street facilities were recommended for roadways where a facility could fit within the pavement without lane reduction or lane narrowing – "roadway reconfiguration" – or where such roadway reconfiguration was feasible (see "Feasibility & Volume-to-Capacity Ratios"). Off-road shared use paths and cycle tracks within the ROW were recommended where on-street facilities cannot be implemented, and where off-road facilities do not currently exist. Any roadway segment that did not meet the target score and could not accommodate an on-street or off-road facility were flagged as not being suitable for bicyclists or for further study.

Feasibility Of On-Street Facilities

The process for determining the feasibility of roadway reconfiguration to install on-street facilities was determined using roadway V/C ratios and LOS. This process takes place in D8, D9 and D10 in Figure 5. The process is illustrated in Figure 12.

For roadways that could not accommodate the on-street recommended facility under existing conditions, V/C for the existing year were calculated. ADT was converted to peak hour volume using k factor and directional factor. Only V/C was used to determine if roadway reconfiguration was possible. See step 9 of the user guide for more details. Within this subset, roadways that have a ratio of 0.9 (representing LOS D) or above under existing conditions were assessed for off-road facilities instead as these cannot undergo lane reduction or narrowing. Roadways that have an existing ratio below the operational cutoff were candidates for roadway reconfiguration. For these, V/C ratios were calculated after roadway reconfiguration for the horizon year. The horizon year traffic volumes were obtained using a networkwide linear annual percentage growth of 1.45%. While this growth rate was based on the County's travel demand model, the growth rate can be edited in the code as per step 9 of the user guide. Roadways that have a V/C ratio below the cutoff after roadway reconfiguration in the future year were recommended for on-street facilities.

Feasibility Of Off-Road Facilities

For roadways that could not accommodate on-street bicycle facilities because of infeasibility of roadway reconfiguration, off-road facilities were recommended. A roadway segment's shared use path level of service (SUPLOS) indicates the level of pedestrian activity expected. If the SUPLOS is projected to be at or below a level "C" during peak hours, or if higher volumes of children, older

Figure 5: Facility recommendation flowchart that details inputs, decisions, and outputs.

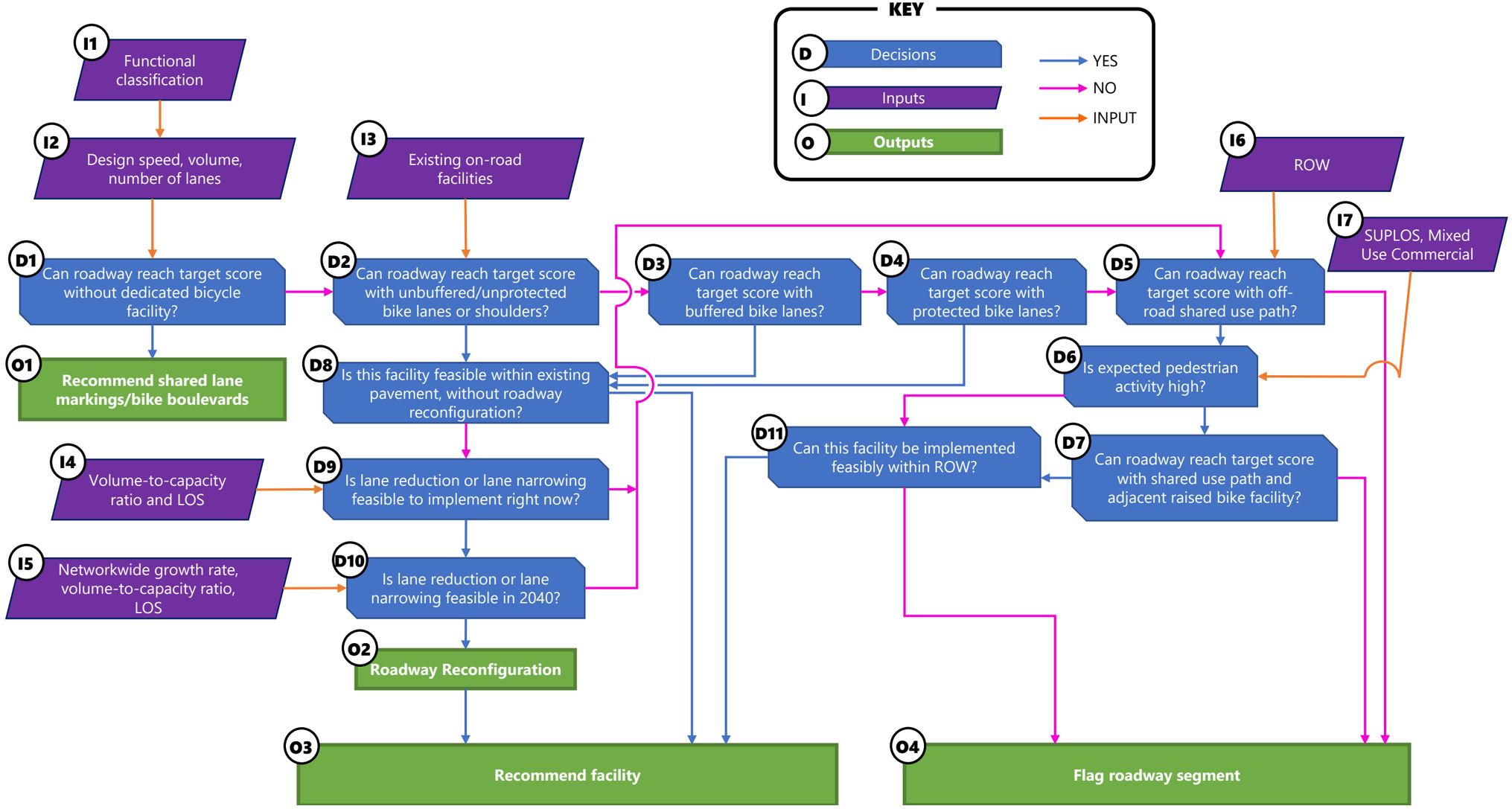


Figure 6: Cross-Section of Shared Lanes

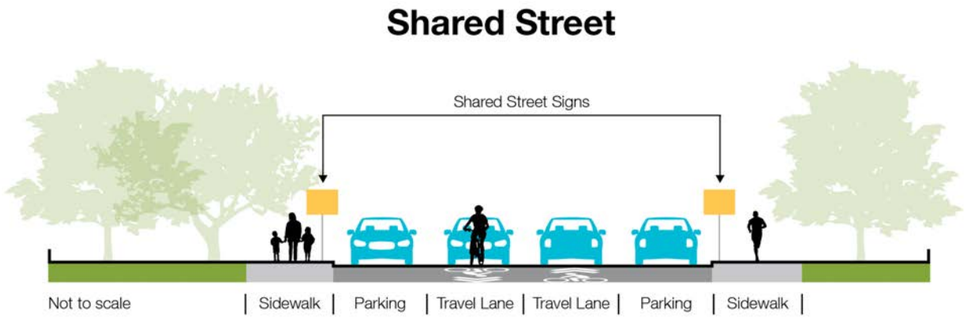


Figure 7: Cross-Section of Unprotected Bike Lanes

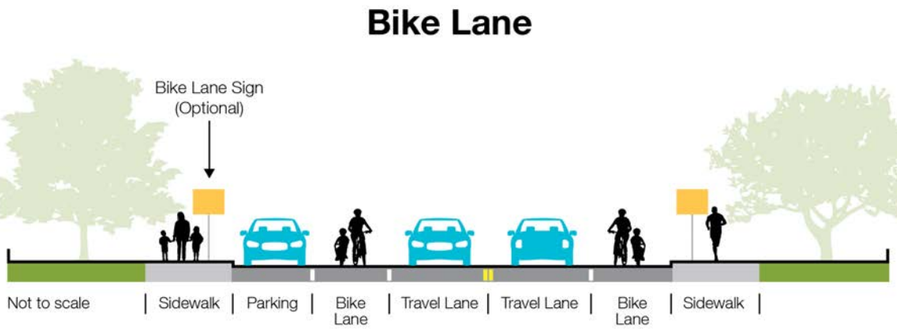


Figure 8: Cross-Section of Buffered Bike Lanes

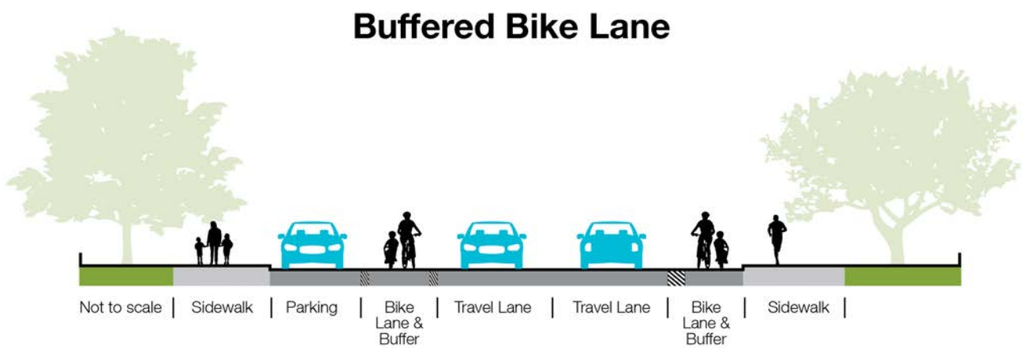


Figure 9: Cross-Section of Protected Two-Way Bike Lanes

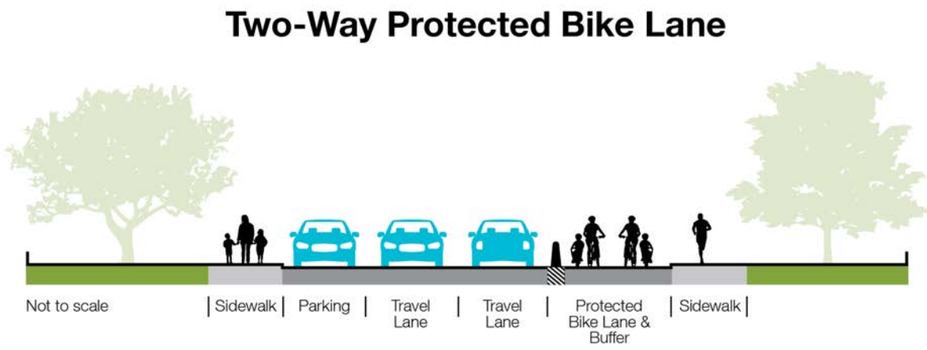


Figure 10: Cross-Section of Raised Cycle Tracks

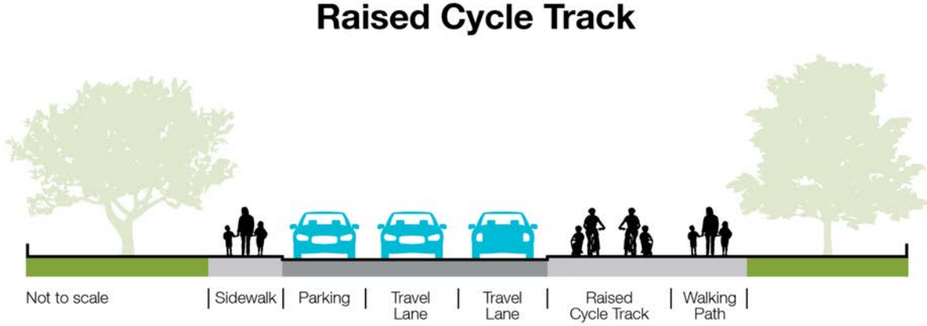


Figure 11: Cross-Section of Off-Street Shared Use Paths

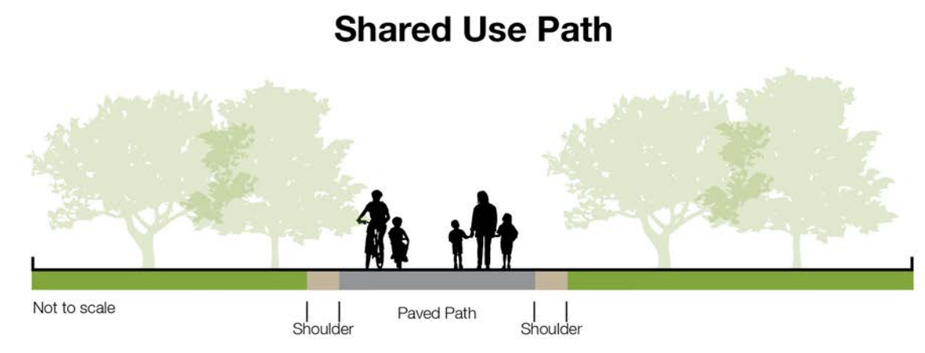
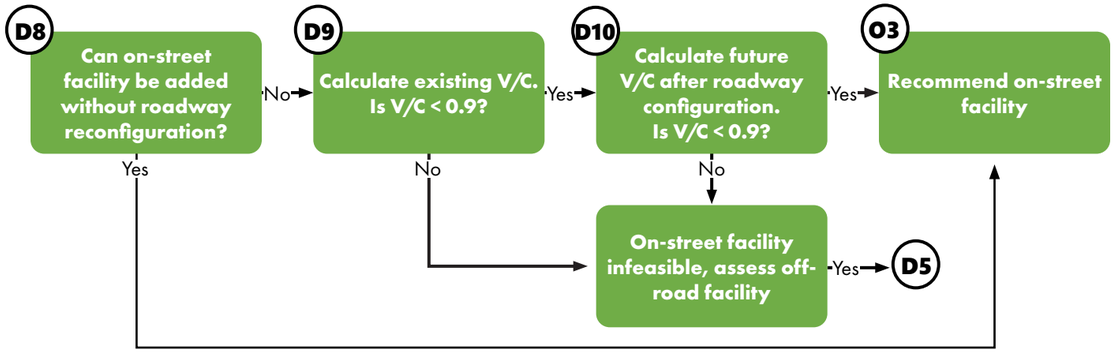


Figure 12: Workflow for determining the feasibility of an on-road bicycle facility on a roadway.



adults, or individuals with disabilities are likely to be present, a raised cycle track adjacent to a sidewalk will be recommended off-road facility. Raised cycle tracks act as extensions of any existing sidewalk facilities but ensure separation between pedestrians and bicyclists, as recommended in the FHWA's Bikeway Selection Guide for roadways with SUPLOS at or below "C". For all other roadways, shared use paths will be recommended where a shared use path does not currently exist.

ROW required to implement the recommended facility was compared to the existing ROW to determine feasibility. Any roadway segments where off-road facilities are being recommended but are not feasible were flagged as such. A detailed breakdown of ROW required by either type of off-road facility is below:

- Shared use path: 10 ft bicyclist and pedestrian shared through zone + 2 ft buffer between path and roadway
- Raised cycle track: 6 ft sidewalk + 10 ft cycle track + 2 ft buffer between facility and roadway

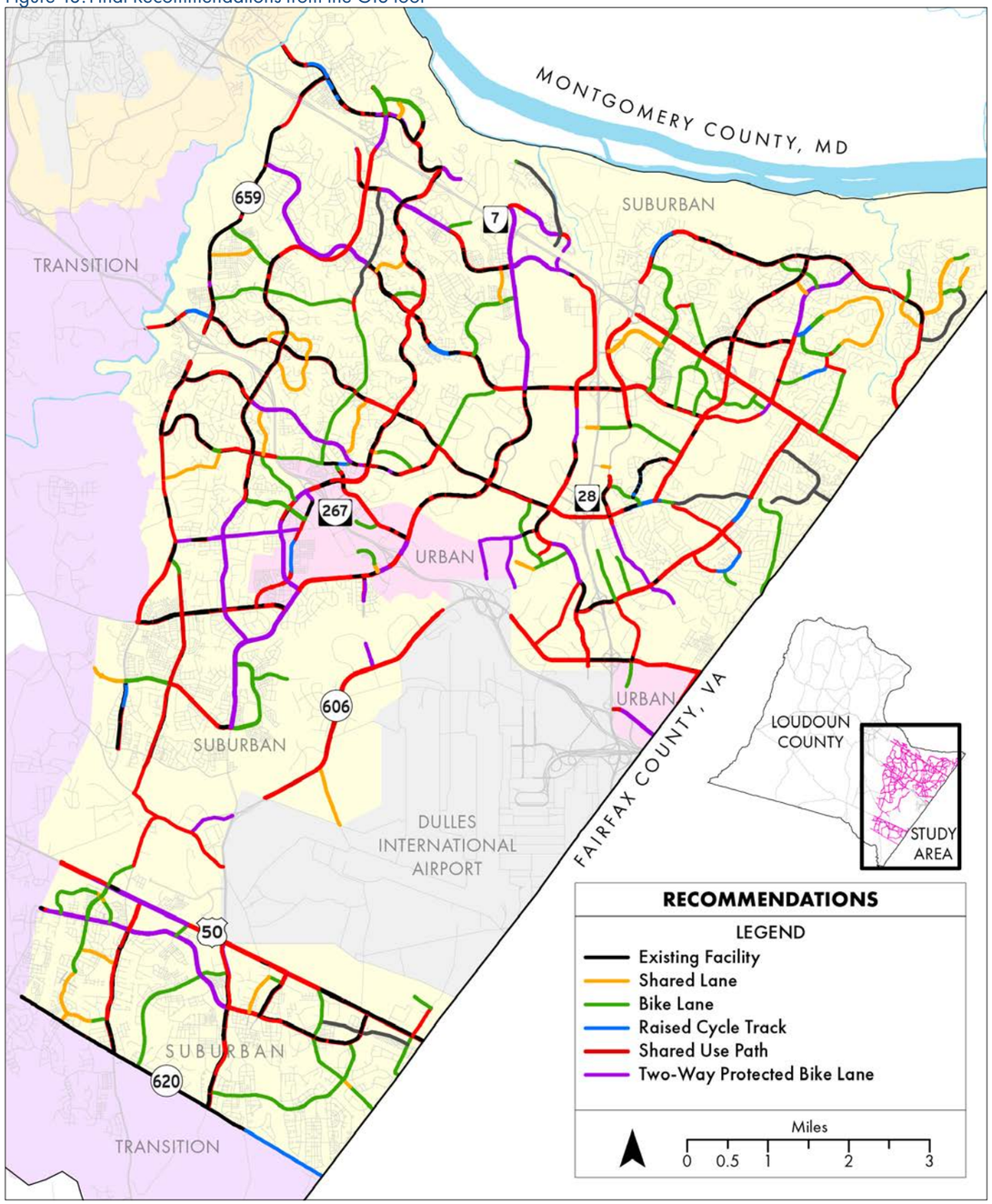
To achieve an acceptable LTS, a buffer should separate sidewalk from shared use path or there should be a high contrast visual separation (ie. black/dark grey asphalt bike path + light grey concrete sidewalk) is required. As outlined in Table 4, for the purposes of determining feasible right-of-way, high-contrast is assumed.

Results and Recommendations

The GIS tool produced a recommended bicycle network for suburban and urban areas. During this process, the tool was refined based on County staff feedback. That process is documented in Chapter 4: Implementation Overview. Many of the recommendations were expansions of the existing shared use path network, separated based on right-of-way availability. The GIS tool also recommended many miles of two-way protected bike lanes.

The County should expect to continue to refine the tool's recommendations as they move from the analysis stage to the planning phase. This will also be an opportunity to continue to examine the tool critically and fine tune it to the needs of the County as it grows. A map showing the recommendations can be found in Figure 13. Detailed maps at the district-level are available in Appendix B.

Figure 13: Final Recommendations from the GIS tool



4 - IMPLEMENTATION REVIEW

Introduction

The recommendations that the GIS tool generated were validated through ground truth exercises. The goal of which is to confirm that its outputs align to real-world conditions and expectations that may have not been captured in available data or in the tool's assumptions. This section presents various case studies on the issues that Loudoun County staff identified. The case studies are intended to highlight expected issues and provide potential solutions to further refine tool outputs. Each case study has one or more specific examples to define the issue. The case studies identify subsequent research and analysis needed to justify overriding the specific tool outputs, as well as suggested data changes and inputs that ensure the tool will correctly factor in this issue in future iterations.

Observed Output Issue - Directionality

Identified Issue

Loudoun County staff noted that the GIS tool did not produce results expected of a road with heavy directionality. Directionality is a traffic condition where one direction is measurably more congested than the opposing direction during a peak period. This is common in suburban areas where drivers are commuting towards an urban center. If directionality is not captured, then the average daily traffic (ADT) is evenly dispersed throughout the day. Through this assumption, the GIS tool makes recommendations by using the road's volume-to-capacity (v/c) ratio, which is a comparison of the number of vehicles a road is designed to carry versus the number of vehicles that actually travel on the road. Incorporating directionality as an additional factor would provide more context to a road's v/c ratio by illustrating if the number of vehicles travel during smaller, highly congested windows.

Case Study: Tall Cedars Parkway

Loudoun County staff flagged a segment of Tall Cedars Parkway between South Riding Boulevard and Poland Road. This segment of Tall Cedars Parkway is a four-lane divided highway with connections to US 50 and Loudoun County Parkway. Both are major transportation routes through the county. The road connects to several points of access to residential developments. The road has an ADT well over 7,000.

The GIS tool rated the on-street level of stress on the segment as a four – the most stressful rating. To improve the LTS, the tool recommended the removal of one traffic lane to install a two-way bicycle lane. The County noted that this segment has heavy directional traffic during peak hours and that roadway reconfiguration is likely not feasible. When this analysis was initially completed, the GIS tool did not incorporate directionality factors. Using the travel demand model, the GIS tool assessed v/c ratio, the level of service, and the network-wide growth rate. This method did not distinguish peak periods from off-peak periods.

Two factors were added from VDOT's Annual Average Daily Traffic (AADT) dataset and Loudoun's travel demand model to determine the level of directionality. The K-factor is a multiplier that projects how much of a segment's AADT is peak hour traffic. The Dir-factor is a multiplier that projects how much of a segment's AADT is moving in the peak direction in the peak hour.

For networks that have highly directional traffic patterns, K-factors and Dir-factors could be incorporated into the GIS tool. An example of this would be adding a step to the tool that assesses if the segment meets a directionality threshold using the K- and Dir-factors. For highly directional segments, the tool could preclude recommendations that reconfigure the lane count of the roadway.

Incorporating K- and Dir-Factors

The GIS tool's volume-to-capacity calculations were refined through an iterative process that involved three separate runs of the tool. In the first run, ADT values were used as-is and capacity was calculated for 24 hours to determine daily volume-to-capacity ratios. This resulted in the majority of roads in the project study area having a volume-to-capacity ratio of less than 0.9. In the context of the analysis, this meant that these roads could become candidates for roadway reconfiguration (that is, reducing the number of lanes). After reviewing results with the client, the consultant team instead pivoted to a peak hour volume-to-capacity ratio, applying a 0.10 peak hour factor to ADT to get peak hour volume, and calculating peak hour capacity using capacity values consistent with Loudoun County's Travel Demand Model. This significantly increased the number of roads in the project study area that had volume-to-capacity ratios above 0.9, and therefore disqualified these roads as candidates for roadway reconfiguration.

Figure 14: Tall Cedars Parkway with on-street facility prior to the incorporation of K- and Dir-Factors

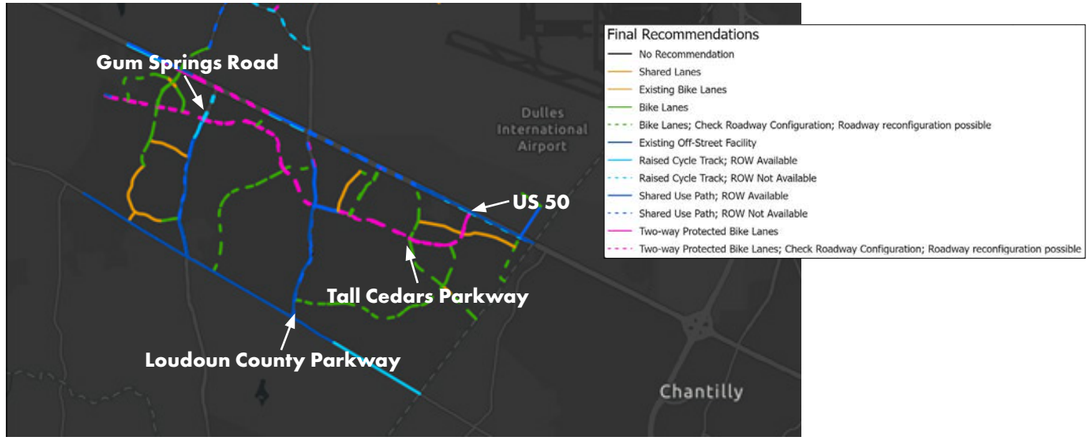
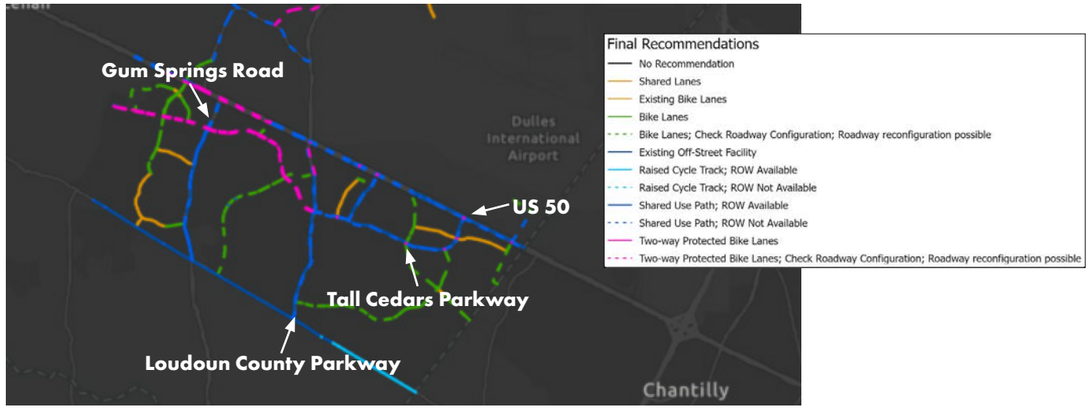


Figure 15: Tall Cedars Parkway with off-street facility after to the incorporation of K- and Dir-Factors



To refine this process further and get a more accurate value for peak hour volume from ADT, the County provided k-factors and bidirectional factors that vary based on existing ADT values. Table 7 shows the factors applied by range of ADT.

The appropriate k-factor was applied to ADT to get the initial peak hour volume for all segments. Since capacity is calculated for the entire roadway, both directions of travel, directional factors needed to be applied to every segment. To achieve this, the directional factor was multiplied by 2, to create conditions where both directions of travel are experiencing peak hour congestion. This directional factor * 2 was then multiplied by the peak hour volume calculated earlier to get the final peak hour volume (ADT * k-factor * directional factor * 2). This value was then divided by peak hour capacity to get volume-to-capacity ratios.

Figure 14 shows the tool's recommendations prior to the network-wide incorporation of K- and Dir-Factors. Figure 15 shows the tool's recommendations after incorporating K- and Dir-Factors. Note the changes to the network on Tall Cedars Parkway and Gum Springs Road. The recommendation for Tall Cedars Parkway changed from a two-way protected bike lane to shared use path. Gum Springs Road changed from a raised cycle track to a shared use path.

Table 7: Directional Factors and K-Factors by ADT

ADT	Directional Factor	K-Factor
Under 20,000	0.67	0.11
20,000 to 45,000	0.64	0.11
Over 45,000	0.61	0.09

Results: Tall Cedars Parkway

After incorporating Dir- and K-Factors into the GIS tool, the segments were run a second and third time. For the second run, the peak hour volume was calculated by multiplying the ADT with a K-factor of 0.10, applied to all roads. The recommendation from this run is an on-street bicycle facility after roadway reconfiguration. In the third run, the peak hour volume was calculated by multiplying the ADT with a K-factor of 0.11 and a bidirectional factor of 0.67, based on the existing ADT. The volume-to-capacity ratio is too high to reconfigure the roadway, and the algorithm recommended an off-street facility that meets the target LTS.

Results: Study Area

The study area results indicate a significant decrease in the number of roadways that are candidates for roadway reconfiguration because of an increase in volume-to-capacity ratios for many roads. This makes the roadway reconfiguration inviable, and results in an off-street recommendation. Overall, more off-street facilities were recommended once the volume-to-capacity calculation process was refined to more accurately reflect congestion.

Observed Output Issue - Incongruity

Identified Issue

Incongruity refers to a misalignment between contiguous facility types that can result in user confusion and/or dangerous conditions. An example of incongruity would be the transition between bicycle lanes on both sides of the roadway into a cycle track on only one side of the roadway. This transition can be accomplished in many ways, but if undefined, the proposed facilities are incongruent to each other. The GIS tool could be improved if it could also consider the transitions between facilities on the same segment and intersecting segments.

Loudoun County staff flagged multiple intersections where they believed that transitioning between different types of bicycle facilities would be an issue. These flagged intersections can be divided into two categories: contiguous transitions and perpendicular transitions. Contiguous transitions are when a facility type is different on each side of an intersection on the same road. Perpendicular transitions are when two different facility types on two different roads intersect each other. These intersection improvements can be implemented through capital projects (see Figure 17 and Figure 18) or through short-term painted solutions (see Figure 19 and Figure 20) The flagged transitions are detailed in Table 8. Two of these intersections are presented as case studies below.

Case Study: George Washington Boulevard and Bles Park Drive

George Washington Boulevard is a four-lane divided highway that mostly serves the George Washington University's Virginia Science and Technology Campus. The road begins at the northern terminus of Loudoun County Parkway and has quick access to Route 7 (Harry Byrd Highway). Bles Park Drive is a two-lane road with on-street bicycle lanes. Bles Park Drive connects the George Washington University Virginia campus with Bles Park and medium density residential. The GIS tool recommended multiple facilities, diagrammed in Figure 16. The recommendations included two-way protected bicycle lanes on the western side of Bles Park Drive and recommended a shared-use path on the eastern side, requiring a contiguous transition. Considering Bles Park Drive's existing bicycle lanes, a perpendicular transition would be required as well. An added challenge to these transitions is the channelized right-turn lane on eastbound George Washington Boulevard to southbound Bles Park Drive. An example of a transition from a two-way bicycle lane to a shared use path is depicted in Figure 17. An example of a transition between bicycle lanes and a two-way facility is depicted in Figure 18. An example of a transition across a channelized intersection is depicted in Figure 19.

Table 8: Intersections Flagged as Incongruous with Recommended Intersection Treatments

Intersection	Facilities Proposed	Intersection Recommendations
George Washington Boulevard and Bles Park Drive	The tool proposed a two-way protected bike lane on George Washington Boulevard west of Bles Park Drive with a transition to a Shared Use Path east of that intersection. These facilities would intersect existing bicycle lanes on Bles Park Drive.	A combination of intersection treatments depicted in Figure 17 and Figure 18 would allow a transition between these three types of facilities. This would require bicycle signals to allow safe movement across George Washington Boulevard when the facility changes from a single side to both sides. A painted treatment would increase safety at the channelized right-turn lane on George Washington Boulevard, as depicted in Figure 19. All improvements (except for signal changes) could be accomplished with painted treatments in the short term, as depicted in Figure 20.
Potomac View Road and Sugarland Run Drive	The tool proposed a shared use path on Potomac View Road approaching Sugarland Run Drive from the south, two-way protected bicycle lanes approaching that intersection from the north, and a rasied cycle track on Sugarland Run Drive approaching Potomac View Road from the east.	A combination of intersection treatments depicted in Figure 17 and Figure 18 would allow a transition between these three types of facilities. This would require bicycle signals to allow safe movement across Potomac View Road when the facility changes from a single side to both sides. All improvements (except for signal changes) could be accomplished with painted treatments in the short term, as depicted in Figure 20.
Claiborne Parkway between Vestals Gap Drive and Waxpool Road	Prior to the incorporation of K- and Dir-Factors, this segment recommended a transition from two-way protected bike lanes and a shared use path. This segment currently has an existing, but incomplete shared use path network.	Since the incorporation of K- and Dir-Factors, the tool has removed the recommendation for a two-way protected bike lane and has replaced it with a shared use path recommendation. The current recommendation would complete the shared use path network on both sides of Claiborne Parkway.
US 50 and Stone Springs Road	The tool proposed on-street bicycle lanes on Stone Springs Road across a 230-foot wide intersection at US 50. The tool proposed two-way protected bicycle lanes on the southern side of US 50 and a shared use path on the northern side.	A combination of intersection treatments depicted in Figure 17 and Figure 18 would allow a transition between these three types of facilities. Because these transitions require bicycle signals to allow safe crossings when the facility changes from a single side to both sides, this signal could be used to extend the crossing time across US 50 when actuated by a cyclist. All improvements (except for signal changes) could be accomplished with painted treatments in the short term, as depicted in Figure 20.
Gloucester Parkway and Ashburn Road	The tool proposed two-way protected bike lanes on Gloucester Parkway approaching Ashburn Road from the west and a shared use path on the south side of Gloucester Parkway approaching the intersection from the east. There is an existing bike lane north of the intersection on the eastern side of Ashburn, with a shared use path on the eastern side. The shared use path continues south of the intersection.	This transition could be served best by the treatment depicted in Figure 18. Because this transition requires bicycle signals to allow safe crossings when the facility changes from a single side to both sides, this signal could be used to extend the crossing time across Gloucester Parkway when actuated by a cyclist.
Evergreen Ridge Drive and Loudoun Reserve Drive	The tool proposed two-way protected bike lanes on Evergreen Ridge Drive intersecting with bike lanes on Loudoun Reserve Drive. The County asked if this intersection would require a widening to accommodate the facilities.	Loudoun Reserve Drive would likely need a road diet to accommodate this crossing. Currently the road is four lanes wide with two eastbound lanes, one westbound turn lane to southbound Evergreen Ridge Drive and one westbound right-turn lane. The removal of one lane would allow enough clearance for the proposed bicycle facilities.

Figure 16: George Washington Boulevard and Bles Park Boulevard

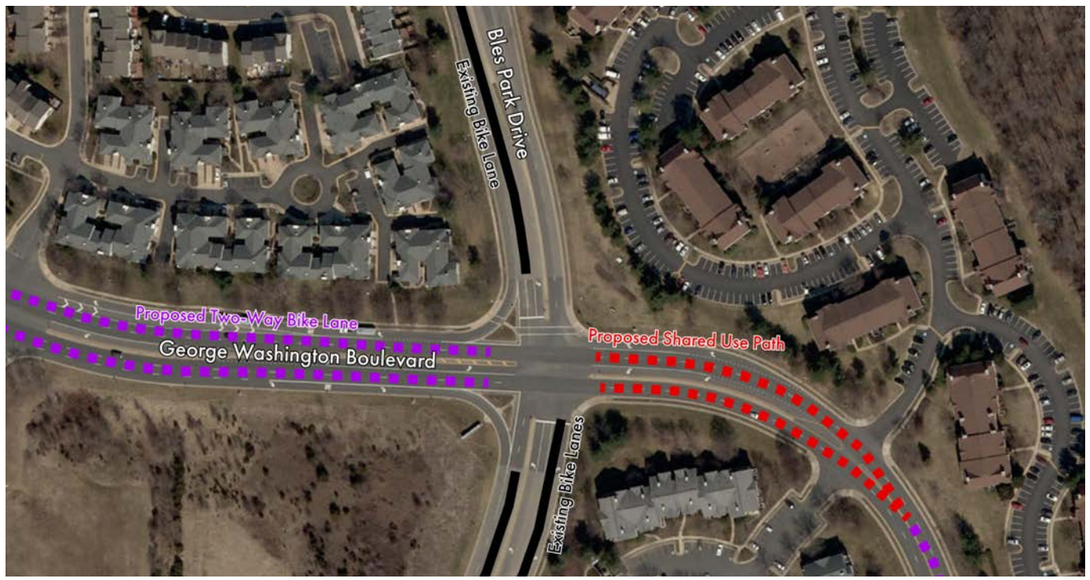
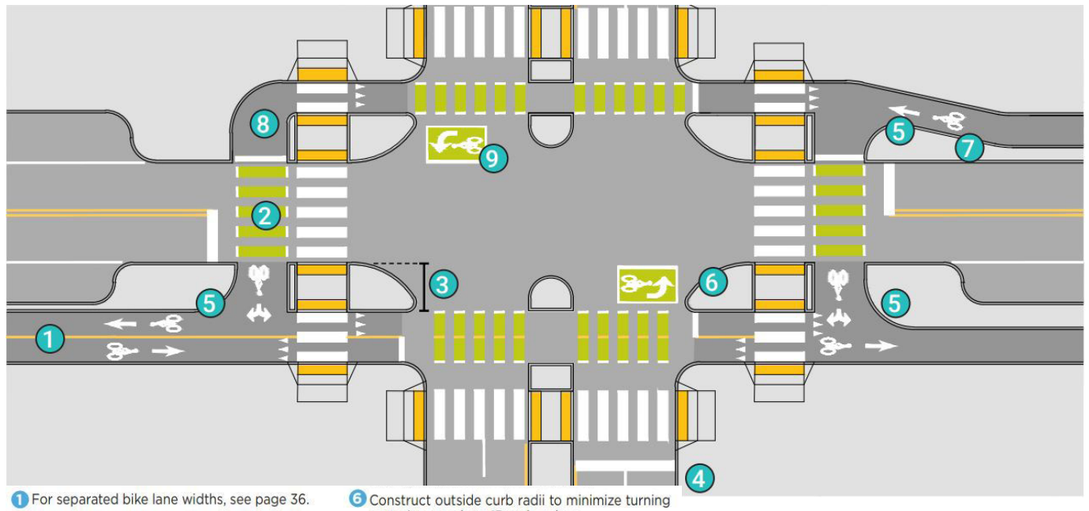


Figure 17: Transition from Two-Way Separated Bike Lane to One-Way Separated Bike Lane on Same Street. Source: Montgomery County.



1. For separated bike lane widths, see page 36.
2. For crossings, see page 32.
3. Bicycle crossing is offset from the outside travel lane edge by 6 feet (min) and 20 feet (preferred).
4. Use "No Turn on Red" sign restrictions where bicycle turn queue box or bike box is present.
5. Provide minimum 10-foot curb radius to allow turning bicyclists to enter bike lane.
6. Construct outside curb radii to minimize turning motorist speeds to 15 mph or less.
7. Separated bike lane should taper to create more space between turning vehicles and bicycle crossing.
8. Provide bicycle queuing space to enable transition to two-way bikeway.

Figure 18: Transition between Two-Way Separated Bike Lane to One-Way Separated Bike Lane on Intersecting Street. Source: Montgomery County.

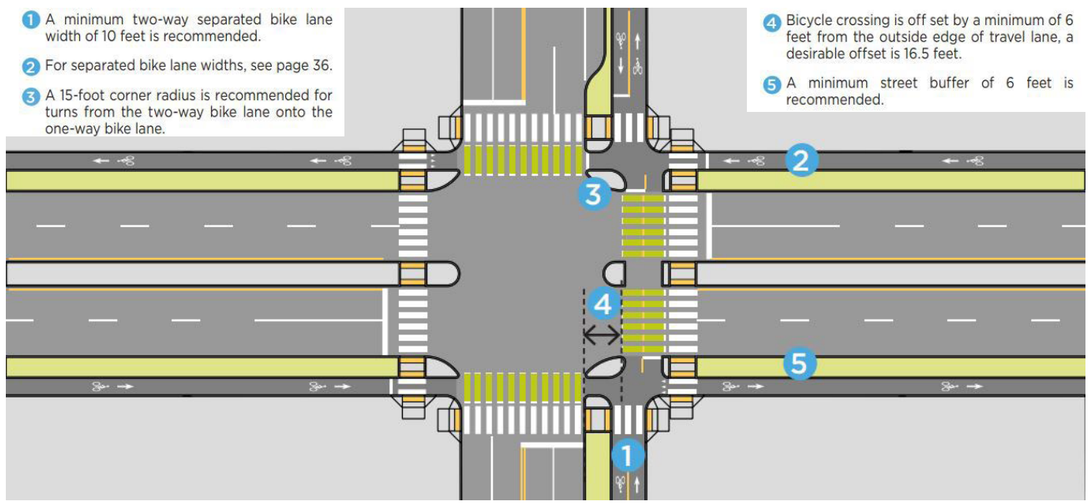


Figure 19: Bike Lane with Channelized Right-Turn Lane. Source: National Cooperative Highway Research Program.

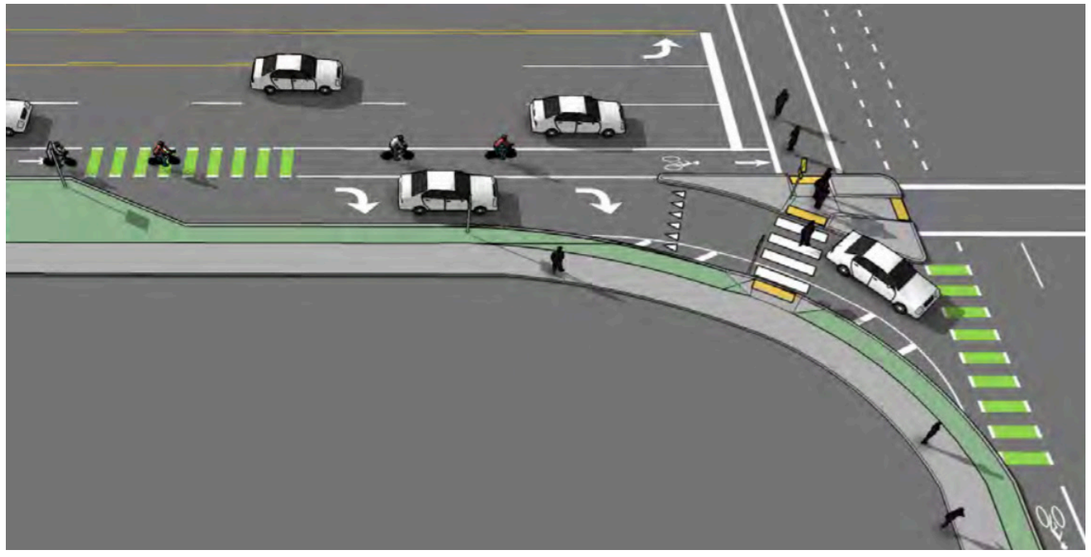


Figure 20: Painted Bicycle Infrastructure at an Intersection. Source: National Association of City Transportation Officials.

Case Study: US 50 and Stone Springs Road

Loudoun County staff also flagged the intersection of Route 50 and Stone Springs Road. This intersection is about 230 feet wide when crossing Route 50. The intersection is close to several medium density residential developments, a library, and the Stone Springs Hospital Center. The GIS tool recommended on-street bike lanes on Stone Springs Road on both sides of Route 50. The tool recommended two-way bicycle lanes connecting to shared use paths across this intersection on US 50. Loudoun County staff requested more information on how such a long crossing could be made safely. Figure 21 depicts the width of the crossing.

Route 50 provides a challenge for safe crossing. The road is high-capacity and high-speed. If the treatments depicted in Figure 17 and Figure 18 were implemented at this intersection, then the total crossing distance could be reduced. These treatments would require bicycle signals that could extend the crossing time when actuated by a cyclist. Points of refuge in the median would also increase the safety of this crossing.

Incorporating Congruity

The GIS tool highlights potential facilities at the jurisdictional scale. The GIS tool does not determine the physical manifestation of these facilities in terms of widths, paint treatments, transitions, etc. One option for adjusting the GIS tool to minimize facility type transitions would be to add a preference to match adjacent facility types. This would mean that if a segment north of the proposed facility was a two-way cycle track, then the GIS tool would favor a two-way cycle track south of that segment when feasible. This would be especially beneficial to prevent frequent changes between two-way facilities and separated facilities.

There are many sources for bicycle facility transition methods. Figure 17 and Figure 18 are sourced from nearby Montgomery County, Maryland's bicycle facility design toolkit that addresses such transitions. Figure 19 is sourced from the National Cooperative Highway Research Program's (NCHRP) Design Guidance for Channelized Right-Turn Lanes. Finally, the National Association of City Transportation Officials (NACTO) offers a wealth of resources on bicycle facilities and is the source of Figure 20.

Figure 21: US 50 and Stone Springs Boulevard

Observed Output Issue - ROW Width

Identified Issue

Accurate right-of-way (ROW) widths are essential for planning roadway reconfigurations. Some roads are built with enough width to accommodate on-street bicycle lanes by modifying the widths and configurations of the travel lanes, turn lanes, and shoulders. ROW can extend beyond the roadbed as well. This condition would enable a reconstruction or widening of the road to accommodate additional facilities. If ROW measurements are incorrect, data-based tools will not provide accurate outputs.

Case Study: Ashburn Road

Loudoun County staff flagged segments that had insufficient ROW for the GIS tool's proposed recommendations. One segment was Ashburn Road approaching the W&OD Trail. This part of Ashburn Road is a narrow, two-lane road with rural design characteristics. Initially, the GIS tool proposed on-street bicycle lanes. This would require over 26 feet of ROW. During this run, the GIS tool did not have accurate widths for these particular segments, which likely led to the recommendation as the total width (when measured on Google Earth) averages 21 feet. See Figure 22 for an image of Ashburn Road.

ROW and parcel boundaries were incorporated into the analysis for segment recommendations. This helped correct many of the recommendations that the County flagged as having insufficient ROW. However, because the tool was not developed to provide intersection-level recommendations, ROW cannot be used to improve anything beyond segments. See step 12 in the user guide for details on ROW calculation. After the incorporation of parcel boundaries, the GIS tool now recommends a shared use path on this segment of Ashburn. However, it flags this segment as having insufficient ROW. Appendix B includes a table of segments with insufficient ROW. Figure 23 depicts the tool's initial and refined ROW assumptions.

Improving ROW data

The GIS tool formerly determined ROW through the following process:

1. Determine ROW Location
   a. Use the centerline and the ROW assumptions from the CTP Table (see Appendix 1: Planning Guidelines for Major Roadways Countywide in the CTP) to determine the ROW lines
   b. Buffer the centerline based on the table in the CTP, which generates those values based on roadway classification and number of lanes
2. Determine ROW need
   a. Buffer from the centerline based on Road Classification, considering:
      a. Typical section by road type
      b. Median requirements
      c. Buffers and sidewalks
3. STEP 3 – Determine ROW availability
   a. Compare the Need to the Availability – if the value of the Need exceeds the value of the Availability – it is flagged as POTENTIALLY INSUFFICIENT ROW

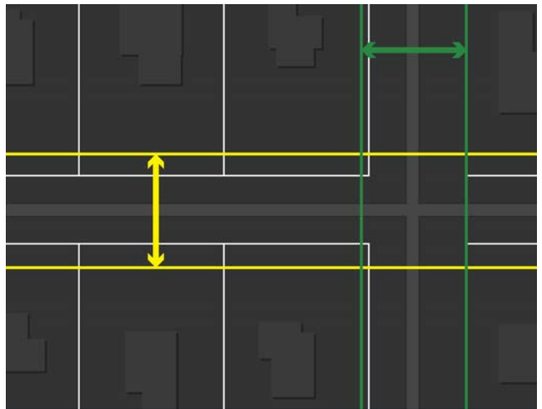
Because ROW is not consistent along a road and the CTP ROW requirements are conservative and not restrictive, the GIS tool will almost always return a sufficient ROW width even if the road does not have the required widths in reality. Locations where ROW is identified as insufficient will likely require enhanced land acquisition activities.

Based on County recommendations, the following approach was incorporated into the tool to resolve this issue:

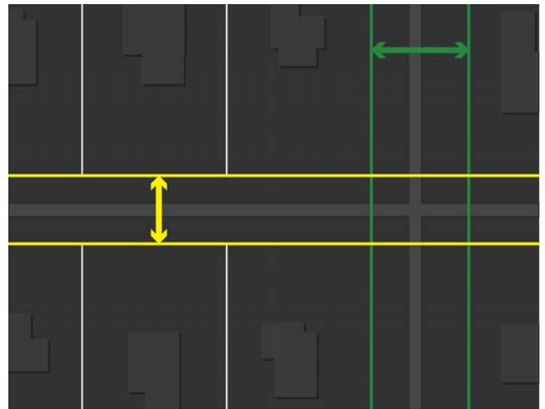
1. STEP 1 – Determine ROW Location
   a. Use the polygon layer for the parcels to determine the ROW line
2. Determine ROW need
   a. Run a buffer from the centerline based on the Roadway Classification
3. Determine ROW Availability
   a. Run a spatial analysis to find the overlapping shapes. Where the Parcel Polygon overlaps with the Buffered Centerline.
   b. Flag overlapping shapes as those parcels that are POTENTIALLY INSUFFICIENT ROW

Figure 22: Ashburn Road Showing the Lack of ROW. Google.

Figure 23: ROW Assumptions Diagram



This diagram depicts the tool's initial ROW assumptions. Using the functional class of the road, the tool drew a bufferbased on a corresponding width (shown here with arrows and colored lines). This method resulted in ROW conflicts with actual parcel boundaries (white lines).



This diagram depicts the tool's refined ROW assumptions. The tool creates a buffer from the centerline of the road and removes the overlap of the buffer and parcels (shown here with arrows and colored lines). This method results in a more accurate measurement of ROW.

Observed Output Issue - Speed

Identified Issue

Travel speed greatly affects safety- especially the safety of cyclists and pedestrians. Taking travel speed into account will determine what sort of bicycle facility will be the safest in respect to the road. Road network data typically includes a road's posted speed. This does not always reflect the actual – or observed – speeds of a road. Both posted speed and observed speeds can also be in conflict with design speeds, which are the speeds that the road's geometry enables.

Case Study: Lowes Island Boulevard

Loudoun County staff identified one such case where they believed that the observed speeds would be too high for the proposed recommendation. Lowes Island Boulevard is a four lane road with a median that fluctuates from intersection to intersection. The road has wide lanes and few points of access with no traffic controls except at its terminus at Algonkian Parkway. While the posted speed is 35 miles per hour, data collected by the County indicates the 85th percentile speed is 45 miles per hour, and some drivers could be going as fast as 60 mph. The GIS tool proposed a shared lane facility, which will most likely not provide a suitable level of traffic stress.

This GIS tool determines speed based on functional classification to determine level of stress. The design speed is more representative of driver behavior than posted speeds, but they may not reflect actual, or observed, speeds. Observed speeds are typically gathered through traffic studies which can be time consuming and resource intensive. If a traffic study has been recently completed, it should be incorporated into the GIS tool and should override the design speed. If observed speeds or the 85th percentile speed were incorporated into network for a re-run of the tool, it would likely produce a more appropriate off-road or protected facility recommendation.

Incorporating Speed Considerations

When a recent traffic study is unavailable, the GIS tool could incorporate some processes that help alter recommendations on roads with the potential to host speeding drivers. Flagging four-lane, median divided roads would aid in this as this type of road is typically designed to have higher speed traffic. On these roads, the tool could preclude any on-street and unprotected options. The tool could also flag road segments of a particular length with the assumption that speeding is more likely when there is a greater distance between points of access along a road. A final process that could be incorporated into the GIS tool would be to assess the level of curvature on the road. Vertical curves tend to induce speeding during daylight hours and therefore would be a potential speeding location.

Observed Output Issue - Future Volumes

Identified Issue

The conditions of a road in the present may not reflect the projected conditions of the future. Land use changes along a road can significantly alter that road's traffic volumes. Planned land use changes are captured in a jurisdiction's comprehensive plan. This document is a primary component in the development of traffic volume projections.

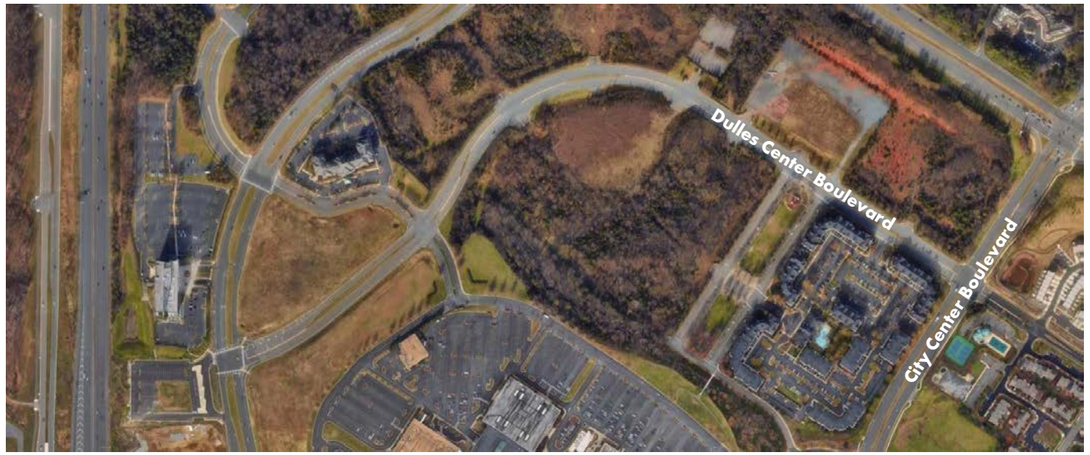
Case Study: Dulles Center Boulevard

Loudoun County staff flagged a recommendation for Dulles Center Boulevard. Today, the segment runs through mostly cleared or undeveloped land. The road is on the far western end of the rapidly densifying Dulles Town Center. Over the coming decades, the surrounding lots on Dulles Center Boulevard will likely host high-density, mixed-use development. The GIS tool proposed a shared lane facility on Dulles Center Boulevard. This recommendation likely comes from the speeds, widths, and low v/c ratios. The future v/c ratio shows only minor growth, increasing from 0.04 to 0.11.

The Colonnade Traffic Impact Study examines a planned residential development on City Center Boulevard. This study provided some insights on the future traffic conditions of Dulles Center Boulevard. The traffic study assumed a 0.5% annual growth rate for City Center Boulevard, contrasting with the tool's 1.5% annual growth rate. The traffic study's rate was sourced from 2019 traffic counts where the tool sources its growth rate from the County's travel demand model. The traffic study discusses three "pipeline" developments – two of which are on Dulles Center Boulevard. The daily trips projected from these developments greatly exceeds the tool's growth rate. The traffic study estimates 3,167 daily trips generated from these two developments by 2026 where the tool would project an ADT of around 700 based on the existing ADT and growth rate in that same period of time.

Figure 24: Lowes Island Boulevard Typical Configuration. Google.

Figure 25: Dulles Center Boulevard and its Undeveloped Surroundings. Google.



If the findings of this traffic study were incorporated into the network for a re-run of the tool, it would likely produce a more appropriate off-road or protected facility recommendation.

Incorporating Future Volume Considerations

One solution for a future v/c that does not represent a jurisdiction's expectations would be to manually enter the results of traffic studies, such as the Colonnade Traffic Impact Study. Another option that may be less resource-intensive would be to designate "zones" of expected density increases. These polygons could encapsulate areas of proposed development and then be plugged into the GIS tool. The GIS tool could read these "zones" as an additional input that provides facility recommendations that better serve the future population. A third option would be to incorporate the Traffic Demand Model's volumes into the analysis instead of an area-wide growth rate.

5 - CONCLUSION

Study Results

This study is an effort to enhance the County's Bicycle Facility Planning process through the use of a data-driven GIS tool. One of the main outcomes of the study is that the County has better guidance for interim improvements for where bicycle lanes could be implemented in the short-term. The other main outcome is that the County has better guidance for where raised cycle tracks should be implemented. This study provides Loudoun County with valuable insight into the data requirements, refinement, and future expansion capabilities of this tool to support bicycle-network analysis and coordination. The full recommendations of the tool are available in Appendix B (tables) and Appendix C (maps). These recommendations should provide the County with a framework for the expansion of its on-street bicycle network. Because it is solely data-driven, the tool will not always be able to provide the expected facility and may result in conflicting recommendations. However, the implementation review (detailed in Chapter 4) demonstrates methods that helped improve the tool and identifies future actions to provide more refined recommendations. As with all data-driven processes, the entire recommendations output must be reviewed and vetted by the County to ensure it aligns with the County's transportation goals.

Per GAP Program requirements, all project outputs have been provided in VDOT's LRS indicating recommended facilities and specifications. The GIS tool remains fully scalable, meaning the scoring criteria can be applied to larger geographies than just the study area. Finally, where the recommendations for network segments or intersections are not readily achievable, these locations are flagged for further analysis. For flagged segments, the County should complete a manual review of potential recommendations.

Next Steps

The recommendations and refinement of the GIS tool will continue to evolve as Loudoun County incorporates additional data and processes to address the observed output issues. This is an iterative process and the County should expect to continue to modify the assumptions of the tool to meet the expectations of Loudoun communities. This will increase the County's confidence in the tool and its recommendations and maintain a continued analysis and review on the implementation of the recommendations. The tool will be responsive to processes that address data gaps and will be able to expand to larger geographical areas of the County in the future. Because the techniques used in this study are not proprietary, Loudoun County will be able to maintain the tool and address data needs internally or through further study refinement efforts at its sole discretion.

The County should consider using different LTS scores to create different outcomes. The goal score for the tool is currently set to an LTS of 2, which provides a comfortable walk to most users. In high-activity pedestrian areas such as schools, the County should consider modifying the tool to produce recommendations for LTS 1 scores. Coordination should be conducted with Loudoun County Public Schools to identify areas most appropriate for LTS 1 consideration.

The County should also continue to synthesize the priority of these potential projects within the context of the project selection processes from the Sidewalk and Trails and Intersection Improvement programs, identifying improvements based on the primary or collector roadways in the CTP. The CTP is informed by the County's General Plan, which guides land uses and growth in the County. The GIS tool may potentially be used to validate and inform the further evolution of planned bicycle facilities formulated in the CTP. The tool will continue to inform the methodical assessment of location-specific and practical on-street roadway transformation strategies such as reducing the number of lanes, reducing lane widths, striping of bike lanes and repurposing of shoulders. This will be implemented through coordination with VDOT's Resurfacing Program.

Once vetted, the County should place the tool's recommendations within the established bicycle facility prioritization process. Key projects should be advanced to the planning and design phase based on their priority. Once the appropriate level of engineering is completed, these recommendations can be used to support funding pursuits. The inclusion of bicycle and pedestrian infrastructure can often increase the likelihood of funding, as is the case with SMART SCALE. Because these improvements are on-street, incorporating them into reconfigurations and repaving programs as they come online will ensure that the recommendations are implemented in a logical sequence.

A summary table of next steps is available in Table 9.

Table 9: Next Steps

Step	Description
Review recommendations	The County should review all of the tool's recommendations. Because this is a data-driven process, there will be instances where local knowledge should take precedent over computer outputs. The vetted recommendations should be shared with Supervisors and the public.
Incorporate traffic data	The County should incorporate Traffic study data for ADT and observed speeds into the network whenever a study is completed.
Flag incongruities and establish intersection transition preferences	The County should flag incongruous intersections during the recommendations review. These intersections will require specific treatments as described in Chapter 4. The County should establish which intersection treatments are preferred within short- and long-term timelines.
Develop zones or segments with differing LTS goals	The County should experiment with different LTS goals to create different outcomes. An example of this would be striving for an LTS of 1 around schools and other areas of high bicycle and pedestrian activity.
Identify candidates for road diets	The County should refer to Table 1 in Appendix B for recommendations that could be candidates for road diets. These recommendations require human review for certainty.The Transportation and Mobility Planning Division (TMPD) of VDOT's Road Diet Guidance considers road diet candidates to be any road that is four lanes or wider and has an ADT under 20,000.
Identify land acquisition needs	The County should refer to Table 3 in Appendix B for segments that may require land acquisition. This table can assist in establishing feasibility-based priorities.
Prioritize projects	The County should prioritize the vetted list of recommendations based on the CTP and the General Plan.
Seek funding	The County should take the fully vetted and prioritized list of projects and determine which funding sources are most appropriate for their implementation.

APPENDIX A - GIS TOOL USER GUIDE

This guide details all steps of the algorithm that make up the Loudoun County On-Street Bikeway GIS analysis. In order to follow this guide and carry out these steps, the user should have some proficiency in ArcGIS Pro, including being able to navigate the software and create and calculate fields. Steps 1-3 of this guide walk the user through the data and tools required to successfully run the analysis. The remaining steps detail calculations in code blocks with transcribed pseudocode for all ArcGIS Pro code files provided. Pseudocode is an algorithm or code written in plain English.

1. This methodology requires a polyline shapefile representing roadways in Loudoun County. The shapefile should have the following data fields, with null values set to 0 for any numeric inputs. All width values are in feet, and speed values in mph.
    a. Area type (urban, suburban)
    b. Curb-to-curb width, or total pavement width
    c. Number of lanes, by direction
    d. Speed (prevailing, posted or design)
    e. Paved shoulder width, by direction
    f. ADT
    g. ADT year
    h. Existing on-street bicycle facility type
        a. Through zone width
        b. Buffer width (between through zone and travel lanes)
    i. Existing off-street bicycle facility type (adjacent to roadways)
        a. Through zone width
        b. Buffer width (between through zone and roadway)
        c. Shared use path level of service (SUPLOS)
        d. Sidewalk width, if separate
    j. Median
    k. Predominant median width
2. The additional fields in table 1 should be created in the roadway shapefile. If any of the values in these fields are already known, skip the step pertaining to its calculation and populate the field manually:
3. The remaining steps in this section allow the user to calculate values for each field sequentially. To run each step, the user may do the following in ArcGIS Pro:
    a. In the geoprocessing pane, navigate to the "Fields" toolbox under "Data Management Tools" in ArcGIS Pro.
    b. Open the "Calculate Field" tool. At the time of this analysis, ArcGIS Pro 2.9.1 was used by the consultant, but this tool is available in all versions of ArcGIS Pro and under all licenses.
    c. Under the "Input Table" and "Field Name" parameters, select the relevant roadway shapefile and the field being calculated.
    d. For "Expression Type," select Python 3.
    e. Below the "code block" space, click the import icon.
    f. Browse for and select the relevant .cal file. The naming convention for each .cal provided is the step number followed by the field being calculated (e.g. STEP4_lts_no_facility.cal). The step numbers correspond to the numbers in this section for the calculation of each field.
    g. The "expression" space will be populated with the name of the function and the input fields required for calculation, in the following format: FunctionName(!InputField1!, !InputField2!, !InputField3!)
    h. Update the names of the fields in the "expression" space if the user's field names do not correspond to the field names prepopulated by the consultant.
        a. For example, if the existing field name for speed in the expression is Design_Speed, but the user wants the analysis to consider a field named Posted_Speed instead, the user can replace "Design_Speed" in the expression with "Posted_Speed." In this way, the expression function(!ADT!, !Design_Speed!) will become function(!ADT!, !Posted_Speed!) to reflect the user's input data. Do not change the order of the fields in the expression.
    i. Do not make any other changes to the expression or the code block, unless specified in the step relevant to that calculation.
    j. Click "Run" to calculate values in the field.

Table 1: Additional fields to be created in the roadway shapefile by the user

Field Description	Data Type	Field Name
Level of traffic stress, no facility	Short	LTS_No_Facility
Level of traffic stress, existing on-street facility	Short	LTS_On_Street
Level of traffic stress, existing off-street facility	Short	LTS_Off_Street
On-street recommendation	Text	On_Street_Rec
Existing roadway capacity	Long	Capacity_Existing
Existing volume-to-capacity ratio	Double	VC_Existing
Future reconfigured roadway capacity	Long	Capacity_Future
Future reconfigured volume-to-capacity ratio	Double	VC_Future
Reconfiguration	Text	Reconfiguration
Off-street recommendation	Text	Off_Street_Rec
Right-of-way needed	Short	ROW_Needed
Existing right-of-way (optional)	Short	ROW_Existing
Right-of-way availability	Text	ROW_Availability
Final recommendation	Text	Final_Recommendation

4. "Level of traffic stress, no facility" represents the LTS for bicyclists mixing with automobile traffic on the road. The code block below uses the existing speed, lanes and ADT values to calculate this value. This LTS field is applicable everywhere. It should never be Null. If it is null, ensure that all inputs are non-null.

```
Inputs: number of lanes, existing ADT, posted speed

If total number of lanes or less than or equal to 1 then
        If ADT is less than or equal to 750 then
                If speed is less than or equal to 25 MPH then
                        LTS is 1
                If speed is less than or equal to 35 MPH then
                        LTS is 2
                If speed is greater than 35 MPH then
                        LTS is 3
        If ADT is less than or equal to 1500 then
                If speed is less than or equal to 25 MPH then
                        LTS is 1
                If speed is less than or equal to 30 MPH then
                        LTS is 2
                If speed is less than or equal to 45 MPH then
                        LTS is 3
                If speed is greater than 45 MPH then
                        LTS is 4
        If ADT is less than or equal to 3000 then
                If speed is less than or equal to 30 MPH then
                        LTS is 2
                If speed is less than or equal to 35 MPH then
                        LTS is 3
                If speed is greater than 35 MPH then
                        LTS is 4
        If ADT greater than 3000 then
                If speed is less than or equal to 20 MPH then
                        LTS is 2
                If speed is less than or equal to 35 MPH then
                        LTS is 3
                If speed is greater than 35 MPH then
                        LTS is 4
If total number of lanes is less than or equal to 2 then
        If ADT is less than or equal to 750 then
                If speed is less than or equal to 25 MPH then
                        LTS is 1
                If speed is less than or equal to 35 MPH then
                        LTS is 2
                If speed is greater than 35 MPH then
                        LTS is 3
        If ADT is less than or equal to 1500 then
                If speed is less than or equal to 30 MPH then
                        LTS is 2
                If speed is less than or equal to 45 MPH then
                        LTS is 3
                If speed is greater than 45 MPH then
                        LTS is 4
        If ADT is less than or equal to 3000 then
                If speed is less than or equal to 25 MPH then
                        LTS is 2
                If speed is less than or equal to 35 MPH then
                        LTS is 3
                If speed is greater than 35 MPH then
                        LTS is 4
        If ADT is greater than 3000 then
                If speed is less than or equal to 35 MPH then
                        LTS is 3
                If speed is greater than 35 MPH then
                        LTS is 4
If total number of lanes is less than or equal to 4 then
        If ADT is less than or equal to 8000 then
                If speed is less than or equal to 35 MPH then
                        LTS is 3
                If speed is greater than 35 MPH then
                        LTS is 4
        If ADT is greater than 8000 then
                If speed is less than or equal to 25 MPH then
                        LTS is 3
                If speed is greater than 25 MPH then
                        LTS is 4
If total number of lanes is greater than 4 then
        If speed is less than or equal to 25 MPH then
                LTS is 3
        If speed is greater than 25 MPH then
                LTS is 4
```

5. Calculate LTS for roadways with existing bike lanes. For the existing code, it's assumed that Loudoun County only has bike lanes or buffered bike lanes.

```
Inputs: number of lanes, vehicle speeds, bike lane width, buffer
width

1.      If there is an existing on-road bicycle facility then
2.              If number of lanes is less than or equal to 2 then
3.                      If speed is less than or equal to 25 MPH then
4.                              LTS is 1
5.                      If speed is less than or equal to 35 MPH then
6.                              LTS is 2
7.                      If speed is greater than 35 MPH then
8.                              LTS is 3
9.              If number of lanes is less than or equal to 4 then
10.                     If speed is less than or equal to 35 MPH then
11.                             LTS is 2
12.                     If speed is greater than 35 MPH then
13.                             LTS is 3
14.             If number of lanes is greater than 4 then
15.                     If speed is less than or equal to 35 MPH then
16.                             LTS is 3
17.                     If speed is greater than 35 MPH then
18.                             LTS is 4
19.      If there is no existing on-road bicycle facility then
20.             LTS is 99
```

6. Calculate LTS for existing off-street facilities. Ensure that off-street facility width is set to 0 where no off-street facility exist.

```
Inputs: off-street facility width

1.      If existing off-street facility width is greater than or equal
        to 6.5 ft then
2.              LTS is 1
3.      If existing off-street facility width is greater than or equal
        to 5 ft then
4.              LTS is 2
5.      If existing off-street facility width is 0 ft then
6.              LTS is 99
7.      If existing off-street facility width is less than 5 ft then
8.              LTS is 4
```

7. If existing on-road infrastructure (shared lanes or existing on-road facility) does not meet target score, check if other on-road facilities can bring LTS up to the target score. This is the initial on-road recommendation. Ensure shoulder widths are set to 0 ft, not Null, where no paved shoulder exists.
   a. Protected bike facilities are 13 ft wide (10 ft cycle track + 3 ft protected buffer) and located on one side of the road
   b. Buffered bike lanes are 8 ft wide (5 ft bike lane + 3 ft painted buffer) and are situated on both sides of the roadway
   c. Bike lanes/shoulders are 5 ft wide and located on both sides of the roadway

```
Inputs: paved shoulders widths, number of lanes, LTS without facility, LTS
existing on-street facility, vehicles speeds

1.      If on-street LTS with no facility is 1 or 2 then
2.              Recommend shared lanes
3.      If existing on-street facility LTS is 1 or 2 then
4.              Recommend existing on-street facility
5.      If total number of lanes is less than or equal to 2 then
6.              If speed is less than or equal to 35 MPH then
7.                      Consider bike lanes
8.      If total number of lanes is less than or equal to 4 then
9.              If speed is less than or equal to 35 MPH then
10.                     Consider bike lanes
11.     If total number of lanes is greater than 4 then
12.             If speed is less than or equal to 30 MPH then
13.                     Consider buffered bike lanes
14.             If speed is greater than 30 MPH then
15.                     Consider protected bike lanes
16.
17.     If bike lanes are being considered then
18.             If paved shoulder widths are 5 ft or greater on both sides then
19.                     Recommend "Bike Lanes Both Sides"
20.             If paved shoulder width is 5 ft or greater on one side then
21.                     Recommend "Bike Lanes One Side"
22.             If paved shoulder widths are less than 5 ft on both
                sides then
23.                     Recommend "Bike Lanes; Check Roadway Configuration"
24.     If buffered bike lanes are being considered then
25.             If paved shoulder widths are 8 ft or greater on both sides then
26.                     Recommend "Buffered Bike Lanes Both Sides"
27.             If paved shoulder width is 8 ft or greater on one side then
28.                     Recommend "Buffered Bike Lane One Side"
29.             If paved shoulder widths are less than 8 ft on both sides then
30.                     Recommend "Buffered Bike Lanes; Check Roadway Configuration"
31.     If protected bike lanes are being considered then
32.             If paved shoulder width is 13 ft or greater on one side then
33.                     Recommend "Two-way Protected Bike Lanes"
34.             If paved shoulder widths are less than 13 ft on both sides then
35.                     Recommend "Two-way Protected Bike Lanes; Check Roadway
                        Configuration"
```

8. Calculate the roadway capacity per hour under existing conditions using functional classification and area type. Ensure that median widths are set to 0 ft, not Null, where no median exists.

```
Inputs: functional classification, number of lanes, median width, area type

If area type is urban then
        If functional classification is 2 then
                If roadway is 1-way or if median present then
                        Capacity is 1750 * total number of lanes
                Else
                        Capacity is 1650 * total number of lanes
        If functional classification is 3 then
                If roadway is 1-way or if median present then
                        Capacity is 1400 * total number of lanes
                Else
                        Capacity is 1350 * total number of lanes
        If functional classification is 4 then
                If roadway is 1-way or if median present then
                        Capacity is 1200 * total number of lanes
                Else
                        Capacity is 1150 * total number of lanes
        If functional classification is 5 then
                If roadway is 1-way or if median present then
                        Capacity is 1150 * total number of lanes
                Else
                        Capacity is 1100 * total number of lanes
        If functional classification is 6 then
                If roadway is 1-way or if median present then
                        Capacity is 1000 * total number of lanes
                Else
                        Capacity is 950 * total number of lanes
        If functional classification is 7 then
                If roadway is 1-way or if median present then
                        Capacity is 800 * total number of lanes
                Else
                        Capacity is 750 * total number of lanes
        If functional classification is 8 then
                If roadway is 1-way or if median present then
                        Capacity is 450 * total number of lanes
                Else
                        Capacity is 450 * total number of lanes
    If area type is suburban then
        If functional classification is 2 then
                If roadway is 1-way or if median present then
                        Capacity is 1900 * total number of lanes
                Else
                        Capacity is 1800 * total number of lanes
        If functional classification is 3 then
                If roadway is 1-way or if median present then
                        Capacity is 1550 * total number of lanes
                Else
                        Capacity is 1450 * total number of lanes
        If functional classification is 4 then
                If roadway is 1-way or if median present then
                        Capacity is 1350 * total number of lanes
                Else
                        Capacity is 1300 * total number of lanes
        If functional classification is 5 then
                If roadway is 1-way or if median present then
                        Capacity is 1300 * total number of lanes
                Else
                        Capacity is 1250 * total number of lanes
        If functional classification is 6 then
                If roadway is 1-way or if median present then
                        Capacity is 1100 * total number of lanes
                Else
                        Capacity is 1050 * total number of lanes
        If functional classification is 7 then
                If roadway is 1-way or if median present then
                        Capacity is 900 * total number of lanes
                Else
                        Capacity is 850 * total number of lanes
        If functional classification is 8 then
                If roadway is 1-way or if median present then
                        Capacity is 600 * total number of lanes
                Else
                        Capacity is 550 * total number of lanes
```

9. If step 7's output includes checking roadway configuration, use v/c for existing and future years to determine if roadway configuration can be explored to accommodate the recommended bicycle facility.
   a. Calculate existing V/C. As part of this calculation, existing peak hour volume will also be calculated using ADT. Within the code block, directional factor (df) and k factor (kf) are determined through ADT ranges. The user can change these factors' values in the code block if needed.

```
Inputs: existing ADT, roadway capacity (per hour)

1.      If ADT is less than 20,000 then
2.              Directional factor is 0.67, k-factor is 0.11
3.      If ADT is greater than or equal to 20,000 and less than or equal to
        45,000 then
4.              Directional factor is 0.65, k-factor is 0.11
5.      If ADT is greater than 45,000 then
6.              Directional factor is 0.61, k-factor is 0.09
7.
8.      Peak hour volume is ADT * k-factor * (directional factor *2)
9.      Volume-to-capacity ratio is peak hour volume / roadway capacity
```

   b. Calculate future capacity with lane removed. If the roadway only has one lane, roadway reconfiguration is not possible and future capacity will be 0 to reflect this.

```
Inputs: functional classification, number of lanes, median width, area type
1.      If area type is urban then
2.              If functional classification is 2 then
3.                      If roadway is 1-way or if median present then
4.                              Capacity is 1750 * total number of lanes minus one
5.                      Else
6.                              Capacity is 1650 * total number of lanes minus one
7.              If functional classification is 3 then
8.                      If roadway is 1-way or if median present then
9.                              Capacity is 1400 * total number of lanes minus one
10.                     Else
11.                             Capacity is 1350 * total number of lanes minus one
12.             If functional classification is 4 then
13.                     If roadway is 1-way or if median present then
14.                             Capacity is 1200 * total number of lanes minus one
15.                     Else
16.                             Capacity is 1150 * total number of lanes minus one
17.             If functional classification is 5 then
18.                     If roadway is 1-way or if median present then
19.                             Capacity is 1150 * total number of lanes minus one
20.                     Else
21.                             Capacity is 1100 * total number of lanes minus one
22.             If functional classification is 6 then
23.                     If roadway is 1-way or if median present then
24.                             Capacity is 1000 * total number of lanes minus one
25.                     Else
26.                             Capacity is 950 * total number of lanes minus one
27.             If functional classification is 7 then
28.                     If roadway is 1-way or if median present then
29.                             Capacity is 800 * total number of lanes minus one
30.                     Else
31.                             Capacity is 750 * total number of lanes minus one
32.             If functional classification is 8 then
33.                     If roadway is 1-way or if median present then
34.                             Capacity is 450 * total number of lanes minus one
35.                     Else
36.                             Capacity is 450 * total number of lanes minus one
37.     If area type is suburban then
38.             If functional classification is 2 then
39.                     If roadway is 1-way or if median present then
40.                             Capacity is 1900 * total number of lanes minus one
41.                     Else
42.                             Capacity is 1800 * total number of lanes minus one
43.             If functional classification is 3 then
44.                     If roadway is 1-way or if median present then
45.                             Capacity is 1550 * total number of lanes minus one
46.                     Else
47.                             Capacity is 1450 * total number of lanes minus one
48.             If functional classification is 4 then
49.                     If roadway is 1-way or if median present then
50.                             Capacity is 1350 * total number of lanes minus one
51.                     Else
52.                             Capacity is 1300 * total number of lanes minus one
53.             If functional classification is 5 then
54.                     If roadway is 1-way or if median present then
55.                             Capacity is 1300 * total number of lanes minus one
56.                     Else
57.                             Capacity is 1250 * total number of lanes minus one
58.             If functional classification is 6 then
59.                     If roadway is 1-way or if median present then
60.                             Capacity is 1100 * total number of lanes minus one
61.                     Else
62.                             Capacity is 1050 * total number of lanes minus one
63.             If functional classification is 7 then
64.                     If roadway is 1-way or if median present then
65.                             Capacity is 900 * total number of lanes minus one
66.                     Else
67.                             Capacity is 850 * total number of lanes minus one
68.             If functional classification is 8 then
69.                     If roadway is 1-way or if median present then
70.                             Capacity is 600 * total number of lanes minus one
71.                     Else
72.                             Capacity is 550 * total number of lanes minus one
```

c. Calculate future V/C. If needed, the directional factor (df), k-factor (kf) and future year (future_yr) values can be updated withing the code block. The default values are below. If future capacity is 0, future V/C will default to 0, indicating that roadway reconfiguration is not possible.

```
Inputs: existing ADT, existing ADT year, roadway capacity (per hour)

1.      Set linear annual percentage growth rate to 1.45%
2.      Set future year to 2040
3.      Future ADT is ADT + (ADT * annual growth rate * number of years)
4.
5.      If future ADT is less than 20,000 then
6.              Directional factor is 0.67, k-factor is 0.11
7.      If future ADT is greater than or equal to 20,000 and less than or
equal to 45,000 then
8.              Directional factor is 0.65, k-factor is 0.11
9.      If future ADT is greater than 45,000 then
10.             Directional factor is 0.61, k-factor is 0.09
11.
12.     Peak hour volume is ADT * k-factor * (directional factor *2)
13.     Future V/C is peak hour volume / reconfigured roadway capacity
```

d. Assess if roadway reconfiguration is possible or not. The volume-to-capacity ratio cut-off for roadway reconfiguration in this code is 0.9, but this can be changed by the user if needed.

```
Inputs: number of lanes, existing V/C, future V/C, on-street recommendation

1.      If on-street recommendation includes "check roadway configuration"
then
2.              If total number of lanes is less than or equal to 1 then
3.                      Roadway reconfiguration is not possible
4.              If existing volume-to-capacity ratio is less than 0.9 then
5.                      If future volume-to-capacity ratio is less than 0.9
                        then
6.                              Roadway reconfiguration is possible
7.                      If future volume-to-capacity ratio is greater than or
                        equal to 0.9 then
8.                              Roadway reconfiguration is not possible
9.                      If future volume-to-capacity ratio is null then
10.                             Roadway reconfiguration is not possible
11.             If existing volume-to-capacity ratio is greater than or
                equal to 0.9 then
12.                     Roadway reconfiguration is not possible
13.     Else
14.                     Roadway reconfiguration is not needed
```

10. Assess for off-street facilities if existing and on-street facilities are not suitable for the roadway or cannot raise LTS to the target score. Use SUPLOS in this step to determine whether that off-street facility is a shared use path or a raised cycle track.

```
Inputs: on-street recommendation, reconfiguration, SUPLOS

1.      If on-street recommendation includes "Check Roadway Configuration"
        then
2.                      If roadway reconfiguration is not possible then
3.                              If SUPLOS is A or B then
4.                                      Recommend "Shared Use Path"
5.                              Else
6.                                      Recommend "Raised Cycle Track"
```

11. Determine right-of-way needed for the recommended off-street facility to be installed, including existing sidewalk widths. Pavement width and median width are used to calculate the existing curb-to-curb width. Shoulder width is not included in this calculation because it is assumed that these do not need to be preserved.

```
Inputs: pavement width, median width, sidewalk width, off-street
recommendation
1.      If off-street recommendation is "Shared Use Path" then
2.              If existing sidewalk width is less than or equal to 12 ft
                then
3.                      Right-of-way needed is curb-to-curb width + 12 ft
4.              If existing sidewalk width is greater than or equal to 12 ft
                then
5.                      Right-of-way needed is curb-to-curb width + existing
                        sidewalk width
6.      If off-street recommendation is "Raised Cycle Track" then
7.              If existing sidewalk width is less than or equal to 18 ft
                then
8.                      Right-of-way needed is curb-to-curb width + 18 ft
9.              If existing sidewalk width is greater than or equal to 18 ft
                then
10.                     Right-of-way needed is curb-to-curb width + existing
                        sidewalk width
11.     If there is no off-street recommendation then
12.             Right-of-way needed is null
```

12. Check if the ROW needed is greater than or equal to the existing ROW. This can be done in two ways:
    a. Through a spatial analysis that involves creating a buffer around roadways equal to the ROW needed width, and then selecting locations where this buffer overlaps with the surrounding parcels as not having enough ROW available, and those where it does not having sufficient ROW available.
    b. By creating a field for ROW_Existing (Long) and populating this with the existing right-of-way for all roadways where off-street recommendations are relevant. If this approach is used, use the code block associated with Step 12 in the deliverables folder and described below.

```
Inputs: right-of-way needed, existing right-of-way

1.      If right-of-way needed is less than existing right-of-way then
2.              Right-of-way is available
3.      Else
4.              Right of-way not available
```

13. Final recommendation, based on on-street recommendation, off-street recommendation, roadway reconfiguration options and ROW availability.

```
Inputs: LTS existing off-street facility, on-street recommendation,
reconfiguration, off-street recommendation, right-of-way availability

1.
2.      If recommendation includes "Check Roadway Configuration" then
3.              If roadway reconfiguration is possible then
4.                      Recommend facility + "Roadway Reconfiguration
                        Possible"
5.              Else
6.                      If an existing off-street facility meets LTS target
                        then
7.                              Recommend existing off-street facility
8.                      Else
9.                              If right-of-way is available then
10.                                     Recommend off-street facility
11.                             Else
12.                                     Recommend off-street facility + "ROW
                                        Not Available"
13.     Else
14.             Final recommendation is the same as on-street recommendation
```

APPENDIX B - RECOMMENDATION TABLES

Table 1: Recommendations By Segment

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Acacia Dr	0.23mi W of Moran Rd to Moran Rd	Shared Lanes		6	0.236
Algonkian Pkwy	Winding Rd to Countryside Blvd	Shared Use Path; ROW Not Available	E	2	0.231
Algonkian Pkwy	Winding Rd to Worthington Ct	Shared Use Path; ROW Not Available	W	2	0.371
Algonkian Pkwy	Lindenwood Ct to Powell Ct	Raised Cycle Track; ROW Not Available	W	2	0.392
Algonkian Pkwy	Newland Ct to 0.08mi W of Westmoreland Dr	Shared Use Path; ROW Not Available	E	2	0.214
Algonkian Pkwy	Powell Ct to Westmoreland Dr	Shared Use Path; ROW Not Available	W	2	0.305
Algonkian Pkwy	Westmoreland Dr to Falcons Landing Cir	Shared Use Path; ROW Not Available	E	2	1.888
Algonkian Pkwy	Hardwood Forest Dr to Fauquier County Line	Shared Use Path; ROW Not Available	E	7	0.955
Algonkian Pkwy	Hardwood Forest Dr to Fauquier County Line	Shared Use Path; ROW Not Available	E	2	0.205
Algonkian Pkwy	Falcons Landing Cir to Hardwood Forest Dr	Shared Use Path; ROW Not Available	W	2	1.366
Algonkian Pkwy	Great Falls Forest Dr to Fauquier County Ln	Shared Use Path; ROW Not Available	W	7	0.842
Algonkian Pkwy	Great Falls Forest Dr to Fauquier County Ln	Shared Use Path; ROW Not Available	W	2	0.000
Alwater Dr	Russell Branch Pw to Lexington Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.300
Arcola Rd	Arcola Mills Drive to Loudoun County Parkway	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.588
Ashburn Farm Pkwy	Belmont Ridge Rd to Fernridge Way	Shared Use Path; ROW Not Available	E	8	0.552
Ashburn Farm Pkwy <Old Rt 900>	Belmont Ridge Rd to Fernridge Way	Shared Use Path; ROW Not Available	E	8	0.156
Ashburn Farm Pkwy <Old Rt 900>	0.01mi E of Fernridge Way to Deer Run Way	Shared Use Path; ROW Not Available	E	8	0.160
Ashburn Farm Pkwy <Old Rt 900>	Claiborne Pw to Golden Meadow Cir	Shared Use Path; ROW Not Available	E	8	0.901
Ashburn Farm Pkwy <Old Rt 900>	Deer Run Way to Claiborne Pw	Shared Use Path; ROW Not Available	W	8	0.167
Ashburn Farm Pkwy <Old Rt 900>	0.01mi E of Golden Meadow Cir to Summerwood Cir	Shared Use Path; ROW Not Available	E	8	0.120
Ashburn Farm Pkwy <Old Rt 900>	Summerwood Cir to Ashburn Rd	Shared Use Path; ROW Not Available	W	8	0.140
Ashburn Rd	Stubble Rd to Glen Castle Ct	Shared Use Path; ROW Not Available		8	0.177
Ashburn Rd	Stubble Rd to Glen Castle Ct	Shared Use Path; ROW Not Available		6	0.005
Ashburn Rd	Glen Castle Ct to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	1.897
Ashburn Rd	Glen Castle Ct to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.158
Ashburn Village Blvd	Riverside Pw to Ashbrook Common Plz	Shared Use Path; ROW Not Available	S	8	0.181
Ashburn Village Blvd	Riverside Pw to Ashbrook Common Plz	Shared Use Path; ROW Not Available	S	6	0.258
Ashburn Village Blvd	Harry Byrd Hwy to Courtland Dr	Shared Use Path; ROW Not Available	N	6	0.598
Ashburn Village Blvd	0.05mi S of Courtland Dr to Louisa Dr	Shared Use Path; ROW Not Available	N	6	0.170
Ashburn Village Blvd	0.07mi N of Louisa Dr to 0.03mi S of Bristow Cir	Shared Use Path; ROW Not Available	S	6	0.340
Ashburn Village Blvd	0.04mi N of Bristow Cir to Fincastle Dr	Shared Use Path; ROW Not Available	N	6	0.338
Ashburn Village Blvd	0.11mi N of Fincastle Dr to Paget Ter	Shared Use Path; ROW Not Available	S	6	0.256
Ashburn Village Blvd	Quiet Walk Ter to 0.04mi S of Quiet Walk Ter	Shared Use Path; ROW Not Available	N	6	0.044
Ashburn Village Blvd	0.04mi S of Paget Ter to 0.05mi N of W&OD Trail	Shared Use Path; ROW Not Available	S	6	0.898
Ashburn Village Blvd	0.07mi N of Pavilion Pw to 0.05mi S of Rainsboro Dr	Shared Use Path; ROW Not Available	N	6	0.257

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Ashburn Village Blvd	0.04ni N of Apollo Ter to 0.05mi S of Tippecanoe Ter	Shared Use Path; ROW Not Available	N	6	0.621
Ashburn Village Blvd	0.09mi N of Bruceton Mills Cir to Bruceton Mills Cir	Shared Use Path; ROW Not Available	N	6	0.089
Ashburn Village Blvd	0.04mi S of Bruceton Mills Cir to 0.7mi N of Sawgrass Pl	Shared Use Path; ROW Not Available	N	6	0.041
Ashburn Village Blvd	Sawgrass Pl to Cheltenham Cir	Shared Use Path; ROW Not Available	N	6	0.149
Ashburn Village Blvd	0.09mi N of Cheltenham Cir to Michner Dr	Shared Use Path; ROW Not Available	S	6	0.588
Ashburn Village Blvd	0.09mi N of Cheltenham Cir to Michner Dr	Shared Use Path; ROW Not Available	S	8	0.187
Ashburn Village Blvd	0.06mi N of Fultonham Cir to Farmwell Rd	Shared Use Path; ROW Not Available	N	6	0.412
Ashburn Village Blvd	Michner Dr to Waxpool Rd	Shared Use Path; ROW Not Available	N	8	0.546
Ashburn Village Blvd	Michner Dr to Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.429
Ashburn Village Blvd	Waxpool Rd to 0.13mi W of Shellhorn Rd	Shared Use Path; ROW Not Available	S	8	0.002
Ashburn Village Blvd	Waxpool Rd to 0.13mi W of Shellhorn Rd	Shared Use Path; ROW Not Available	S	6	0.545
Ashburn Village Rd	NB Dulles Greenway Ramp to 0.07mi W of Dulles Greenway	Shared Use Path; ROW Not Available	N	6	0.148
Ashburn Village Rd	NB Dulles Greenway Ramp to 0.07mi W of Dulles Greenway	Shared Use Path; ROW Not Available	S	6	0.149
Atlantic Blvd	Harry Byrd Hwy ramp to 0.03mi S of Dulles Eastern Plaza	Shared Use Path; ROW Not Available	N	7	0.370
Atlantic Blvd	Harry Byrd Hwy ramp to 0.03mi S of Dulles Eastern Plaza	Shared Use Path; ROW Not Available	N	6	0.989
Atlantic Blvd	Harry Byrd Hwy ramp to E Severn Wy	Shared Use Path; ROW Not Available	S	7	0.461
Atlantic Blvd	Harry Byrd Hwy ramp to E Severn Wy	Shared Use Path; ROW Not Available	S	6	1.011
Augusta Dr	Seneca Ridge Dr to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.782
Bears School Rd	Old Ox Road to 0.75 Miles South of Old Ox Road	Shared Lanes		1	0.750
Belmont Ridge Rd	North Star Drive to Highgate Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.201
Belmont Ridge Rd	North Star Drive to Highgate Terrace	Shared Use Path; ROW Available		1	0.342
Belmont Ridge Rd	Riverside Pw to Freedom Trail Rd	Shared Use Path; ROW Not Available	N	8	0.835
Belmont Ridge Rd	Highgate Terrace to Legacy Park Drive	Shared Use Path; ROW Available	N	3	0.459
Belmont Ridge Rd	Highgate Terrace to Legacy Park Drive	Shared Use Path; ROW Available	N	1	0.165
Belmont Ridge Rd	Highgate Terrace to Ryan Road	Shared Use Path; ROW Not Available	S	1	0.166
Belmont Ridge Rd	Heartford Ln to 0.07mi S of Heartford Ln	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.068
Belmont Ridge Rd	0.057 Miles South of Legacy Park Drive to 0.01 Miles South of Creighton Road	Shared Use Path; ROW Available	N	3	0.367
Belmont Ridge Rd	0.08mi S of Heartford Ln to 0.1mi N of Dulles Greenway	Shared Use Path; ROW Available	S	8	0.596
Belmont Ridge Rd	Ryan Road to Nickens Place	Shared Use Path; ROW Available	S	3	1.043
Belmont Ridge Rd	0.036 Miles South of Creighton Road to 0.01 Miles South of Nickens Place	Shared Use Path; ROW Available		3	0.131
Belmont Ridge Rd	0.1mi N of Dulles Greenway to 0.17mi N of Dulles Greenway	Shared Use Path; ROW Available	N	8	0.066
Belmont Ridge Rd	Nickens Place to 0.10 Miles North of Myan Gold Drive	Shared Use Path; ROW Not Available	S	3	0.375
Belmont Ridge Rd	0.01 Miles North of Belmont Ridge Road to 0.15 Miles South of Evergreen Mills Road	Shared Use Path; ROW Available		3	0.167
Belmont Ridge Rd	0.1 Miles North of Myan Gold Drive to 0.15 Miles South of Evergreen Mills Road	Shared Use Path; ROW Available	S	3	0.547
Belmont Ridge Rd	0.15 Miles South of Evergreen Mills Road to Arcola Mills Drive	Shared Use Path; ROW Not Available		3	0.343
Belmont Ridge Rd	0.22mi N of Polen Farm Blvd to 0.11mi N of Polen Fam Blvd	Shared Use Path; ROW Available	S	8	0.085

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Belmont Ridge Rd	0.22mi N of Polen Farm Blvd to 0.11mi N of Polen Fam Blvd	Shared Use Path; ROW Available	S	3	0.023
Belmont Ridge Rd	0.1mi N of Broadlands Blvd to Broadlands Blvd	Shared Use Path; ROW Available	N	8	0.200
Belmont Ridge Rd	Broadlands Blvd to 0.05mi N of Belmont Glen Pl	Shared Use Path; ROW Not Available	N	6	0.302
Belmont Ridge Rd	Sungrove Ter to 0.04mi N of Belmont Glen Pl	Shared Use Path; ROW Available	S	6	0.036
Belmont Ridge Rd	Sungrove Ter to 0.04mi N of Belmont Glen Pl	Shared Use Path; ROW Available	S	3	0.097
Belmont Ridge Rd	0.03mi N of Belmont Glen Pl to 0.13mi S of Truro Parish Dr	Shared Use Path; ROW Available	N	6	0.582
Belmont Ridge Rd	0.11mi N of Corro Pl to Corro Pl	Shared Use Path; ROW Available	S	3	0.109
Belmont Ridge Rd	Truro Parish Dr to 0.13mi S of Truro Parish Dr	Shared Use Path; ROW Available	S	6	0.006
Belmont Ridge Rd	Truro Parish Dr to 0.13mi S of Truro Parish Dr	Shared Use Path; ROW Available	S	3	0.138
Belmont Ridge Rd	0.13mi S of Truro Parish Dr to Waxpool Rd	Shared Use Path; ROW Available		6	0.052
Belmont Ridge Rd	0.13mi S of Truro Parish Dr to Waxpool Rd	Shared Use Path; ROW Available		3	0.358
Belmont Ridge Rd	Waxpool Rd to 0.08mi S of Mt Hope Rd	Shared Use Path; ROW Not Available		6	0.013
Belmont Ridge Rd	Waxpool Rd to 0.08mi S of Mt Hope Rd	Shared Use Path; ROW Not Available		3	0.190
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Available		3	0.239
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		6	0.032
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		3	0.285
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		1	0.001
Benedict Dr	Bartholomew Fair Dr to Potomac View Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.200
Braddock Rd	Donovan Drive-Bullrun Postoffice Road to East County Line	Raised Cycle Track; ROW Available		1	1.108
Breezthill Dr	Belmont Ridge Rd to end of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.553
Breezthill Dr	Belmont Ridge Rd to end of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.552
Breezthill Dr	End of divided road to Claiborne Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.151
Broadlands Blvd	Belmont Ridge Rd to Stonewheel Wy	Shared Use Path; ROW Not Available	E	6	0.362
Broadlands Blvd	Education Ct to Chickacoan Trail Dr	Shared Use Path; ROW Not Available	W	6	0.188
Broadlands Blvd	Chickacoan Trail Dr to Old Wood Wy	Shared Use Path; ROW Not Available	E	6	0.292
Broadlands Blvd	Van Metre Dr to Claiborne Pw	Shared Use Path; ROW Not Available	W	8	0.125
Broadlands Blvd	Van Metre Dr to Claiborne Pw	Shared Use Path; ROW Not Available	W	6	0.017
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.250
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.345
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.375
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.225
Broadmore Dr	Cascades Pw to Potomac View Rd	Shared Lanes		2	0.194
Broderick Dr	Waxpool Rd to Moran Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.904
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	7	0.602
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	2	1.803

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	7	0.164
Cascades Pkwy	0.01 Miles South of Maries Road to Woodland Road	Shared Use Path; ROW Not Available	N	7	0.271
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	6	0.644
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	2	0.185
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	7	1.177
Cascades Pkwy	Woodland Rd to Cabin Branch Dr	Shared Use Path; ROW Available	N	7	0.295
Cascades Pkwy	Cabin Branch Dr to W Church Rd	Shared Use Path; ROW Not Available	N	7	0.371
Centergate Dr	Vinegar Hill Dr to Flagstaff Plz	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.307
Centergate Dr	Vinegar Hill Dr to Flagstaff Plz	Shared Lanes		6	0.000
Centergate Dr	Flagstaff Plz to Loudoun County Pw	Shared Lanes	N	6	0.107
Centergate Dr	Flagstaff Plz to Loudoun County Pw	Shared Lanes	S	6	0.108
Chesterton St	Belmont Ridge Rd to Portsmouth Blvd	Shared Lanes		8	0.567
Christiana Dr	Gloucester Pw to Ashburn Village Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.377
Church Rd West	0.17mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	E	7	0.208
Church Rd West	0.12mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	W	7	0.214
Church Rd West	Morgan Way to end of divided road	Raised Cycle Track; ROW Not Available	E	7	0.435
Church Rd West	Magnolia Rd to end of divided road	Raised Cycle Track; ROW Not Available	W	7	0.240
Church Rd West	End of divided road to W Holly Ave	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.155
Circle Dr	N Sterling Blvd to E Holly Ave	Shared Use Path; ROW Not Available		7	0.326
Circle Dr	E Holly Ave to S Fillmore Ave	Raised Cycle Track; ROW Not Available	S	7	0.316
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.751
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.001
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.747
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	0.000
Claiborne Pkwy	Harry Byrd Hwy to Weatherwood Dr	Shared Use Path; ROW Not Available	N	8	2.784
Claiborne Pkwy	Harry Byrd Hwy to Weatherwood Dr	Shared Use Path; ROW Not Available	N	6	0.022
Claiborne Pkwy	Harry Byrd Hwy to Greyswallow Ter	Shared Use Path; ROW Not Available	S	8	2.235
Claiborne Pkwy	Whisperwood Ter to 0.05mi S of Whisperwood Ter	Shared Use Path; ROW Not Available	S	8	0.053
Claiborne Pkwy	Weatherwood Dr to Marshfield Dr	Shared Use Path; ROW Not Available	S	8	0.479
Claiborne Pkwy	Crossroads Dr to 0.02mi N of Belgreen Dr	Shared Use Path; ROW Not Available	N	8	0.359
Claiborne Pkwy	Windmill Dr to Small Branch Pl	Shared Use Path; ROW Not Available	N	8	0.557
Claiborne Pkwy	Windmill Dr to Small Branch Pl	Shared Use Path; ROW Not Available	N	6	0.112
Claiborne Pkwy	Small Branch Pl to Ridgway Dr	Shared Use Path; ROW Not Available	S	6	1.140
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.547
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.450
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.917

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.540
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	0.467
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.901
Claude Moore Ave	Mooreview Pw to Old Ryan Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.238
Claude Moore Ave	Mooreview Pw to Old Ryan Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.234
Cottage Rd S	Potomac View Rd to Lindsay Ct	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.328
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		7	0.266
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		2	0.000
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		7	0.062
Cottage Rd S	Seneca Ridge Dr to Sugarland Run Dr	Shared Use Path; ROW Not Available		2	0.130
Countryside Blvd	Algonkian Pw to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	1.079
Countryside Blvd	Algonkian Pw to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	1.057
Creighton Rd	Belmont Ridge Road to Loudoun County Parkway	Shared Use Path; ROW Not Available	E	3	0.965
Creighton Rd	Belmont Ridge Road to Loudoun County Parkway	Shared Use Path; ROW Not Available	W	3	0.840
Creighton Road	0.43 Miles West of North Star Boulevard to 0.2 Miles West of North Star Boulevard	Shared Lanes		3	0.276
Creighton Road	North Star Boulevard to Belmont Ridge Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	3	0.550
Creighton Road	North Star Boulevard to Belmont Ridge Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	3	0.553
Creighton Road	0.2 Miles West of North Star Boulevard to North Star Boulevard	Shared Lanes	E	3	0.205
Creighton Road	0.2 Miles West of North Star Boulevard to North Star Boulevard	Shared Lanes	W	3	0.202
Cromwell Rd	Countryside Blvd to Edds Ln	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.049
Cromwell Rd	Edds Ln to Tripleseven Rd	Shared Use Path; ROW Not Available		2	0.195
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.001
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	1	0.166
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.109
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	1	0.059
Croson Lane	Claiborne Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.002
Croson Lane	Claiborne Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.941
Croson Ln	Northstar Blvd to 0.03mi E of Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.219
Croson Ln	0.03mi E of Claiborne Pw to Lonsdale Dr	Shared Use Path; ROW Not Available	E	1	0.195

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Crossroads Dr	Claiborne Pw to Ashburn Farm Pw	Shared Lanes		8	0.532
Davis Dr	Northrup Grumman Entrance to end of divided road	Shared Use Path; ROW Not Available	N	7	0.606
Davis Dr	Northrop Grumman Entrance to 0.02mi S of Norhtrop Grumman Entrance	Shared Use Path; ROW Not Available	S	7	0.025
Davis Dr	Church Rd to end of Divided Rd	Shared Use Path; ROW Available	S	7	0.010
Davis Dr	Church Rd to end of Divided Rd	Shared Use Path; ROW Not Available	S	7	0.084
Davis Dr	End of divided road to Glenn Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.921
Davis Dr	End of divided road to Glenn Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.378
Deerfield	Woodridge Pw to Riverside Pw	Shared Lanes	N	8	0.239
Deerfield	Woodridge Pw to Riverside Pw	Shared Lanes	S	8	0.229
Defender Dr	Elk Lick Road to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.186
Demott Dr	Broadlands Blvd to Waxpool Rd	Shared Lanes		6	0.526
Demott Dr	Broadlands Blvd to Waxpool Rd	Shared Lanes		6	0.065
Demott Dr	Waxpool Rd to Mooreview Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.722
Destiny Way	Mineral Springs Circle to Diligence Court	Shared Lanes		1	0.890
Destiny Way	Diligence Court to Gum Springs Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.210
Devin Shafron Dr	Metro Center Dr to Shellhorn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.295
Dresden St	Pacific Blvd to Broderick Dr	Shared Use Path; ROW Not Available		6	0.233
Dulles Center Blvd	from Atlantic Blvd to City Center Blvd	Shared Lanes	E	6	0.806
Dulles Center Blvd	from Atlantic Blvd to City Center Blvd	Shared Lanes	W	6	0.810
E Maple Ave	Sterling Blvd to S Dickenson Ave	Shared Use Path; ROW Not Available		7	0.362
E Maple Ave	S Dickenson Ave to S Fillmore Ave	Raised Cycle Track; ROW Not Available		7	0.118
Edgewater St	Loudoun County Parkway to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	2.310
Elk Lick Rd	Amberwood Plaza to Tall Cedars Parkway	Shared Lanes		1	0.513
Evergreen Mills Rd	Briarfield Lane to Loudoun County Parkway	Shared Use Path; ROW Not Available		3	1.491
Evergreen Ridge Drive	Loudoun County Parkway to Logans Ridge Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	3	0.368
Evergreen Ridge Drive	Loudoun County Parkway to Evergreen Ridge Drive	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	3	0.378
Evergreen Ridge Drive	Logans Ridge Terrace to 0.103 Miles South of Loudoun Reserve Drive	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.420
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.102
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.341
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	0.433
Exchange St	Russell Branch Pw to Marblehead Dr	Shared Lanes		6	0.425
Farmwell Rd <Old Rt 640>	Ashburn Rd to Ashburn Village Blvd	Shared Use Path; ROW Not Available	E	8	0.544
Farmwell Rd <Old Rt 640>	Hemingway Dr to Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	8	0.001
Farmwell Rd <Old Rt 640>	Hemingway Dr to Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	6	0.387
Farmwell Rd <Old Rt 640>	0.13mi W of Estate Pl to Smiths Switch Rd	Shared Use Path; ROW Not Available	W	8	0.275
Farmwell Rd <Old Rt 640>	0.13mi W of Estate Pl to Smiths Switch Rd	Shared Use Path; ROW Not Available	W	6	0.176

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Faulkner Pkwy	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.421
Faulkner Pkwy	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.414
Fincastle Dr	Gloucester Pw to Ashburn Village Blvd	Shared Lanes		6	0.421
Fort Evans Rd, Riverside Pkwy	0.07mi S of McDowell Sq to 0.02mi N of Xerox Dr	Shared Use Path; ROW Not Available	S	8	0.079
George Washington Blvd	Loudoun County Pw to 0.18mi E of Loudoun County Pw	Shared Use Path; ROW Not Available	E	2	0.184
George Washington Blvd	Loudoun County Pw to 0.18mi E of Loudoun County Pw	Shared Use Path; ROW Not Available	W	2	0.191
George Washington Blvd	0.18mi E of Loudoun County Pw to Riverside Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	2	0.566
George Washington Blvd	0.18mi E of Loudoun County Pw to Riverside Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	2	0.569
George Washington Blvd	Riverside Pw to end of divided road	Shared Use Path; ROW Not Available	E	2	0.104
George Washington Blvd	Riverside Pw to end of divided road	Shared Use Path; ROW Not Available	W	2	0.110
George Washington Blvd	End of divided road to Research Pl	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.188
Glenn Dr	0.46 mi N of S Sterling Blvd to S Sterling Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.469
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	2.319
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.000
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	2.323
Gloucester Pkwy	Ashburn Rd to Grottoes Dr	Shared Use Path; ROW Not Available	E	6	0.338
Gloucester Pkwy	Christiana Dr to 0.07mi E of Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	6	0.354
Gloucester Pkwy	0.06mi W of Ashburn Village Blvd to Mistletoe Terrace	Shared Use Path; ROW Not Available	E	6	0.208
Gloucester Pkwy	Rainsboro Dr to 0.05mi S of Runnymeade Terrace	Shared Use Path; ROW Not Available	W	6	0.273
Gloucester Pkwy	0.05mi E of Runnymeade Ter to 0.04mi E of Winola Ter	Raised Cycle Track; ROW Not Available	E	6	0.434
Gloucester Pkwy	0.01mi W of Cohasset Ter to 0.05mi W of Winoia Ter	Raised Cycle Track; ROW Not Available	W	6	0.257
Gloucester Pkwy	0.01mi W of Cohasset Ter to 0.05mi W of Winola Ter	Raised Cycle Track; ROW Not Available	W	6	0.004
Gloucester Pkwy	0.04mi E of Winola Ter to 0.07mi W of Marblehead Dr	Shared Use Path; ROW Not Available	E	6	0.124
Gloucester Pkwy	0.06mi E of Winola Ter to Marblehead Dr	Shared Use Path; ROW Not Available	W	6	0.181
Gloucester Pw	Marblehead Dr to 0.13mi E of Marblehead Dr	Shared Use Path; ROW Not Available	E	6	0.128
Gloucester Pw	0.13mi E of Marblehead Dr to 0.17mi E of Marblehead Dr	Shared Use Path; ROW Available	E	6	0.043
Gloucester Pw	0.17mi E of Marblehead Dr to Loudoun County Pw	Shared Use Path; ROW Not Available	E	6	0.698
Gloucester Pw	Smith Switch Rd to Loudoun County Pw	Shared Use Path; ROW Not Available	W	6	0.352
Gloucester Pw	Loudoun County Pw to 0.05mi W of Pacific Blvd	Shared Use Path; ROW Not Available	E	6	0.572
Gloucester Pw	0.12mi E of Loudoun Water Way to 0.07mi W of Pacific Blvd	Shared Use Path; ROW Not Available	W	6	0.254
Gloucester Pw	0.05mi W of Pacific Blvd to Pacifi Blvd	Shared Use Path; ROW Available	E	6	0.043

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Gloucester Pw	Pacific Blvd to Sully Rd	Shared Use Path; ROW Not Available	E	6	0.221
Greenstone Dr	Stone Springs Boulevard to Gum Springs Road	Shared Lanes		1	0.471
Gum Spring Rd	0.15 Miles East of Medical Drive to US 50	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.047
Gum Spring Rd	Arcola Mills Drive to 0.15 Miles East of Medical Drive	Shared Use Path; ROW Not Available		3	0.683
Gum Spring Rd	US 50 to 0.01 Miles North of Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	3	0.003
Gum Spring Rd	US 50 to 0.01 Miles North of Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	1	0.353
Gum Spring Rd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available	S	3	0.004
Gum Spring Rd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available	S	1	0.367
Gum Spring Rd	0.01 Miles North of Tall Cedars Parkway to 0.02 Miles South of Tall Cedars Parkway	Shared Use Path; ROW Available	N	1	0.024
Gum Spring Rd	0.02 Miles South of Tall Cedars Parkway to Myers Glen Place	Shared Use Path; ROW Available	S	1	0.199
Gum Spring Rd	0.03 Miles South of Myers Glen Place to Greenstone Drive	Shared Use Path; ROW Available	S	1	0.197
Gum Spring Rd	Greenstone Drive to Destiny Drive	Shared Use Path; ROW Not Available	S	1	0.698
Gum Spring Rd	Destiny Drive to Braddock Road	Shared Use Path; ROW Available	S	1	0.426
Gum Spring Rd	0.1 Miles South of Frontier Spring Drive to Destiny Drive	Shared Use Path; ROW Not Available	N	1	0.121
Hardwood Forest Dr	Algonkian Pw to Hardwood Forest Dr	Shared Lanes		7	0.467
Hardwood Forest Dr	Algonkian Pw to Hardwood Forest Dr	Shared Lanes		2	0.000
Hay Rd	Belmont Ridge Rd to Ashburn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	1.807
Hemingway Dr	Farmwell Rd to Faulkner Pw	Shared Lanes		8	0.759
Ladbrook Dr	0.3 M N of Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.172
Ladbrook Dr	0.3 mi N of Old Ox Rd to 0.09 mi N of Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.044
Ladbrook Dr	0.09mi N of Old Ox Rd to Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.088
Ladbrook Dr	0.09mi N of Old Ox Rd to Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.089
Lansdowne Blvd	Riverpoint Dr to Riverside Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.366
Lansdowne Blvd	Riverpoint Dr to Riverside Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.343
Lansdowne Blvd	Riverside Pw to Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.398
Lansdowne Blvd	Riverside Pw to Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.392
Lincoln Ave	E Church Rd to Fairfax County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	1.351
Lockridge Rd	Prentice Dr to 0.48mi S of Prentice Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.475
Loudoun County Pkwy	Gloucester Pw to Beaumeade Cir (N)	Shared Use Path; ROW Not Available	S	6	0.773
Loudoun County Pkwy	Gloucester Pw to Beaumeade Cir (N)	Shared Use Path; ROW Not Available	S	6	0.015
Loudoun County Pkwy	Beaumeade Cir (N) to 0.03mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.035

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Loudoun County Pkwy	US 50 to Riding Center Drive	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.371
Loudoun County Pkwy	Beaumeade Cir (N) to 0.03mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.570
Loudoun County Pkwy	Overland Drive to Pebble Run Drive	Shared Use Path; ROW Not Available	S	1	0.367
Loudoun County Pkwy	US 50 to Riding Center Drive	Shared Use Path; ROW Not Available	S	3	0.000
Loudoun County Pkwy	US 50 to Riding Center Drive	Shared Use Path; ROW Not Available	S	1	0.380
Loudoun County Pkwy	Bears School Road to 0.273 Miles West of Pebble Run Drive	Shared Use Path; ROW Available	N	1	0.439
Loudoun County Pkwy	Riding Center Drive to Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	1	0.437
Loudoun County Pkwy	Beaumeade Cir (S) to 0.08mi S of Beaumeade Cir (S)	Shared Use Path; ROW Not Available	S	6	0.079
Loudoun County Pkwy	Pebble Run Drive to 0.276 Miles West of Pebble Run Drive	Shared Use Path; ROW Available	W	1	0.276
Loudoun County Pkwy	0.276 Miles West of Pebble Run Drive to 0.327 Miles West of Pebble Run Drive	Shared Use Path; ROW Not Available		1	0.327
Loudoun County Pkwy	0.273 Miles West of Pebble Run Drive to 0.591 Miles West of Pebble Run Drive	Shared Use Path; ROW Not Available	N	1	0.318
Loudoun County Pkwy	Ramp to WB Waxpool Rd to Waxpool Rd	Shared Use Path; ROW Not Available	S	6	0.077
Loudoun County Pkwy	0.05mi S of Waxpool Rd to 0.34mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.291
Loudoun County Pkwy	Tall Cedars Parkway to Center Street	Shared Use Path; ROW Not Available	N	1	0.227
Loudoun County Pkwy	0.34mi S of Waxpool Rd to Shellhorn Rd	Shared Use Path; ROW Not Available	N	6	1.020
Loudoun County Pkwy	Center Street to 0.004 Miles North of Donegal Drive	Shared Use Path; ROW Not Available	N	1	0.464
Loudoun County Pkwy	Center Street to 0.01 Miles North of Donegal Drive	Shared Use Path; ROW Not Available	N	1	0.149
Loudoun County Pkwy	0.43mi N of Shelhorn Rd to Shelhorn Rd	Shared Use Path; ROW Not Available	S	6	0.436
Loudoun County Pkwy	Donegal Drive to 0.01 Miles North of Edgewater Street	Shared Use Path; ROW Not Available	N	1	0.227
Loudoun County Pkwy	Shelhorn Rd to Dulles Greenway Ramp	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.202
Loudoun County Pkwy	Shelhorn Rd to Dulles Greenway Ramp	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.182
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	N	6	0.091
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	N	1	0.110
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	S	6	0.197
Loudoun County Pkwy	Edgewater Street to Braddock Road	Shared Use Path; ROW Not Available	N	1	0.190
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.023
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.146
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.163
Loudoun County Pkwy	0.06mi E of Hamilton Chapel Ter to Mooreview Pw	Shared Use Path; ROW Not Available	S	6	0.709
Loudoun County Pkwy	0.09mi E of Westwind Dr to Westwind Dr	Shared Use Path; ROW Not Available	S	6	0.089
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	6	0.837
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	6	0.000
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	1	0.000

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	1	0.165
Loudoun County Pkwy	Freedom Street to Dabner Drive	Shared Use Path; ROW Not Available	S	1	0.146
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.793
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	1.284
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	1.130
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.955
Loudoun Reserve Drive	Evergreen Ridge Drive to 0.18 Miles East of Hanworth Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.102
Loudoun Reserve Drive	Evergreen Ridge Drive to 0.18 Miles East of Hanworth Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.349
Loudoun Tech Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.158
Loudoun Tech Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.161
Lowes Island Blvd	Tappahannock Pl to Dunkirk Sq	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.166
Lowes Island Blvd	Dunkirk Sq to Algonkian Pkwy	Shared Lanes	N	2	0.911
Lowes Island Blvd	Dunkirk Sq to Algonkian Pkwy	Shared Lanes	S	2	0.908
Magnolia Rd	Atlantic Blvd to W Church Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.464
Marblehead Dr	Loudoun County PW to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.137
Marblehead Dr	Loudoun County PW to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	1.147
Marshfield Dr	Ashburn Farm Pw to 0.03 M W of Claiborne Pw	Shared Lanes		8	0.228
Marshfield Dr	0.03mi W of Claiborne Pw to Claiborne Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.035
Middlefield Dr	Algonkian Pw to Potomac View Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.587
Millstream Dr	Tall Cedars Parkway to 0.07 Miles West of Stone Springs Boulevard	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.751
Millstream Dr	0.07 Miles West of Stone Springs Boulevard to 0.05 Miles East of Stone Springs Boulevard	Shared Lanes	E	1	0.130
Millstream Dr	0.07 Miles West of Stone Springs Boulevard to 0.05 Miles East of Stone Springs Boulevard	Shared Lanes	W	1	0.133
Millstream Dr	0.05 Miles East of Stone Springs Boulevard to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.302
Moorefield Blvd	Mooreview Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.126
Mooreview Pkwy	Demott Dr to Wynridge Dr	Shared Use Path; ROW Not Available	N	6	0.128
Mooreview Pkwy	Demott Dr to Wynridge Dr	Shared Use Path; ROW Not Available	S	6	0.128
Mooreview Pkwy	Wynridge Dr to Candice Dr	Shared Use Path; ROW Available	S	6	0.140
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.337
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.620
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.168

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.808
Mooreview Pw	0.07mi W of Dulles Greenway to Demott Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.243
Mooreview Pw	0.07mi W of Dulles Greenway to Demott Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.233
Moran Rd	Acacia Ln to Pacific Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.471
Nokes Blvd	Sully Rd to Ramp Sully Rd ramp to Atlantic Blvd	Shared Use Path; ROW Available	E	7	0.129
Nokes Blvd	Sully Rd to Ramp Sully Rd ramp to Atlantic Blvd	Shared Use Path; ROW Available	E	6	0.012
Nokes Blvd	Sully Rd Ramp to Atlantic Blvd to Cascades Pw	Shared Use Path; ROW Not Available	E	7	0.844
Nokes Blvd	Sully Rd Ramp to Atlantic Blvd to Cascades Pw	Shared Use Path; ROW Not Available	E	6	0.391
Nokes Blvd	Atlantic Blvd to 0.11mi E of Windmill Parc Dr	Shared Use Path; ROW Not Available	W	6	0.579
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	N	3	0.869
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	N	1	0.000
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	S	3	0.872
North Star Boulevard	0.028 Miles South of Creighton Road to Winter Haven Drive	Raised Cycle Track; ROW Not Available	N	3	0.281
North Star Boulevard	Creighton Road to 0.278 Miles South of Creighton Road	Raised Cycle Track; ROW Not Available	N	3	0.028
North Star Boulevard	Winter Haven Drive to Evergreen Mills Road	Shared Use Path; ROW Not Available	N	3	0.539
Old Ox Rd	Dulles property boundary to Sully Rd Interchange	Shared Use Path; ROW Not Available	E	1	1.408
Old Ox Rd	Commerce Center Court to Trade Center Place	Shared Use Path; ROW Not Available	N	1	1.867
Old Ox Rd	Stukely Drive-Weather Service Road to Overland Drive	Shared Use Path; ROW Available	S	1	0.713
Old Ox Rd	0.082 Miles North of Commerce Center Court to Stukely Drive-Weather Service Road	Shared Use Path; ROW Not Available	S	1	1.745
Old Ox Rd	Dulles property boundary to Pacific Blvd	Shared Use Path; ROW Not Available	W	6	0.125
Old Ox Rd	Dulles property boundary to Pacific Blvd	Shared Use Path; ROW Not Available	W	1	1.073
Old Ox Rd	Trade Center Place to Beaver Meadow Road	Shared Use Path; ROW Available	N	1	0.306
Old Ox Rd	Shaw Rd to 0.08mi W of Rock Hill Rd	Shared Use Path; ROW Not Available	W	6	0.764
Old Ox Rd	SB Sully Rd to EB Old Ox Rd ramp to Shaw Rd	Shared Use Path; ROW Available	E	6	0.241
Old Ox Rd	SB Sully Rd to EB Old Ox Rd ramp to Shaw Rd	Shared Use Path; ROW Available	E	1	0.072
Old Ox Rd	Beaver Meadow Road to Bears School Road	Shared Use Path; ROW Not Available	N	1	0.421
Old Ox Rd	0.05mi W of Rock Hill Rd to Rock Hill Rd	Shared Use Path; ROW Not Available	W	6	0.046
Old Ox Rd	Shaw Rd to Rock Hill Rd	Shared Use Path; ROW Not Available	E	6	0.851
Old Ryan Rd	Winter Lake Ct to Claude Moore Ave	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.055
Old Ryan Rd	Winter Lake Ct to Wynridge Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.005
Old Ryan Rd	Claude Moore Ave to Allisons Ridge Terrace	Shared Use Path; ROW Available		6	0.071
Old Ryan Rd	Allisons Ridge Terrace to Croson Ln	Shared Use Path; ROW Not Available		6	0.054
Old Ryan Rd	Croson Ln to Grandmoore St	Shared Use Path; ROW Available		6	0.127
Old Ryan Rd	Grandmoore St to beginning of divided road	Raised Cycle Track; ROW Not Available		6	0.026
Old Ryan Rd	Grandmoore St to beginning of divided road	Raised Cycle Track; ROW Not Available		1	0.377

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Old Ryan Rd	Beginning of divided road to amendola Ter	Shared Use Path; ROW Not Available	S	6	0.000
Old Ryan Rd	Beginning of divided road to amendola Ter	Shared Use Path; ROW Not Available	S	1	0.195
Old Ryan Rd	Beginning of divided road to Mooreview Pw	Shared Use Path; ROW Available	N	6	0.129
Old Ryan Rd	Mooreview Pw to Amendola Ter	Shared Use Path; ROW Not Available	N	1	0.074
Old Ryan Rd	Amendola Ter to E side of traffic circle	Shared Use Path; ROW Not Available		1	0.103
Old Ryan Rd	E side of traffic circle to W side of traffic circle	Shared Use Path; ROW Available	E	1	0.007
Old Ryan Rd	E side of traffic circle to W side of traffic circle	Shared Use Path; ROW Not Available	E	1	0.051
Old Ryan Rd	E side of traffic circle to W side of traffic circle	Shared Use Path; ROW Not Available	W	1	0.057
Old Ryan Rd	W side of traffic circle to Ryan Rd	Shared Use Path; ROW Not Available		1	0.308
Pacific Blvd	Gloucester Pw to end of divided road	Shared Use Path; ROW Not Available	N	6	0.213
Pacific Blvd	Gloucester Pw to end of divided road	Shared Use Path; ROW Not Available	S	6	0.213
Pacific Blvd	End of divided road to beginning of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.430
Pacific Blvd	Beginning of divided road to W&OD Trail	Shared Use Path; ROW Not Available	S	6	0.320
Pacific Blvd	W&OD Trail to Dresden St	Shared Use Path; ROW Not Available	N	6	1.133
Pacific Blvd	Auto World Cir to Waxpool Rd	Shared Use Path; ROW Not Available	S	6	0.456
Pacific Blvd	Prentice Dr to 0.13mi S of Dresden St	Shared Use Path; ROW Not Available	S	6	0.369
Pacific Blvd	Dresden St to Relocation Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.656
Pacific Blvd	0.14mi S of Dresden St to Relocation Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.524
Pacific Blvd	Relocation Dr to Catalina Ct	Shared Use Path; ROW Not Available	S	6	1.011
Pacific Blvd	Relocation Dr to Catalina Ct	Shared Use Path; ROW Not Available	S	1	0.069
Pacific Blvd	S Sterling Blvd to Catalina Ct	Shared Use Path; ROW Not Available	N	6	0.612
Pacific Blvd	S Sterling Blvd to Catalina Ct	Shared Use Path; ROW Not Available	N	1	0.069
Palisade Pkwy	Harry Byrd Hwy to 0.06mi N of Harry Byrd Hwy	Shared Use Path; ROW Not Available	E	2	0.062
Palisade Pkwy	Harry Byrd Hwy to Tripleseven Rd	Shared Use Path; ROW Not Available	W	2	0.111
Palisade Pkwy	Tripleseven Rd to Potomac View Rd	Shared Use Path; ROW Not Available	E	7	0.000
Palisade Pkwy	Tripleseven Rd to Potomac View Rd	Shared Use Path; ROW Not Available	E	2	1.093
Pinebrook Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.001
Pinebrook Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.183
Pleasant Valley Rd	Wade Drive to US 50	Shared Use Path; ROW Not Available		1	0.405
Pleasant Valley Rd	US 50 to East County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.553
Poland Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.615
Poland Rd	Tall Cedars Parkway to Edgewater Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.678
Poland Rd	Spring Farm Circle to East County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.399
Potomac View Rd	Algonkian Pw to Kentwell Pl	Shared Use Path; ROW Not Available	N	2	0.176
Potomac View Rd	Algonkian Pw to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	7	0.001

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Potomac View Rd	Algonkian Pw to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	1.170
Potomac View Rd	Kentwell Pl to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.944
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	S	7	0.449
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	S	2	0.108
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	N	7	0.566
Potomac View Rd	0.05mi N of S Cottage Rd to S Cottage Rd	Shared Use Path; ROW Available	N	7	0.045
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	N	7	0.257
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	S	7	0.111
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	S	2	0.144
Potomac View Rd	Harry Byrd Hwy to 0.19mi S of Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.187
Potomac View Rd	0.19mi S of Harry Byrd Hwy to divided road	Shared Use Path; ROW Not Available		7	0.642
Potomac View Rd	Beginning of divided road to Cascades Pw	Shared Use Path; ROW Not Available	N	7	0.104
Potomac View Rd	Beginning of divided road to Cascades Pw	Shared Use Path; ROW Available	S	7	0.098
Potomac View Rd	0.04mi W of Cascades Pw to Cascades Pw	Shared Use Path; ROW Not Available	W	6	0.042
Prentice Dr	Lockridge Rd to Broderick Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.549
Prentice Dr	.03mi W of Pacific Blvd to Pacific Blvd	Shared Use Path; ROW Not Available		6	0.036
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.956
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.308
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	1.958
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	0.296
Randolph Dr	Prentice Dr to Moran Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.634
Red Rum Dr	Ashburn Village Dr to end of divided road	Shared Lanes	E	8	0.053
Red Rum Dr	Ashburn Village Dr to end of divided road	Shared Lanes	W	8	0.050
Red Rum Dr	End of divided rd to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.531
Relocation Dr	Pacific Blvd to 0.59mi S of Pacific Blvd	Shared Use Path; ROW Not Available		6	0.603
Relocation Dr	0.59mi S of Pacific Blvd to Executive Dr	Shared Use Path; ROW Available		6	0.123
Relocation Dr	Executive Dr to Old Ox Rd	Shared Use Path; ROW Not Available		6	0.238
Ridgetop Circle	Nokes Blvd to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	1.318
Riding Center Dr	Loudoun County Parkway to Braddock Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.266
Riding Center Dr	Braddock Road to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.005
Riding Center Dr	Loudoun County Parkway to Braddock Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	1.640

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
River Bank St	River Crest St to Algonkian Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.366
Riverside Pkwy	Goose Creek to .0.3mi E of Kipheart Dr	Shared Use Path; ROW Not Available	N	8	0.430
Riverside Pkwy	0.03mi E of Kipheart Dr to Belmont Ridge Rd	Raised Cycle Track; ROW Not Available	N	8	0.287
Riverside Pkwy	0.05mi S of Diamond Lake Dr to 0.07mi S of Diamond Lake Dr	Raised Cycle Track; ROW Not Available	S	8	0.027
Riverside Pkwy	Belmont Ridge Rd to 0.04mi S of Diamond Lake Dr	Raised Cycle Track; ROW Not Available	S	8	0.189
Riverside Pkwy	0.06mi N of McDowell Sq to McDowell Sq	Raised Cycle Track; ROW Not Available	S	8	0.063
Riverside Pkwy	Xerox Dr to 0.07mi S of Xerox Dr	Shared Use Path; ROW Not Available	S	8	0.072
Riverside Pkwy	0.1mi W of Heatherstone Ter to 0.02mi E of Heatherstone Ter	Shared Use Path; ROW Not Available	N	8	0.128
Riverside Pkwy	Heatherstone Ter to Sandridge Way	Shared Use Path; ROW Not Available	S	8	0.135
Riverside Pkwy	0.02mi E of Golf Vistal Plz to Landsdowne Blvd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.108
Riverside Pkwy	Landsdowne Blvd to Wellness Blvd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.260
Riverside Pkwy	Wellness Blvd to Scholar Plz	Shared Use Path; ROW Not Available	S	8	0.494
Riverside Pkwy	Woodridge Pw to Church Entrance	Shared Use Path; ROW Not Available	N	8	0.121
Riverside Pkwy	Scholar Plz to Ashburn Village Blvd	Shared Use Path; ROW Available	S	8	0.304
Riverside Pkwy	Ashburn Village Blvd to Riverside Commons Plz	Two-way Protected Bike Lanes	N	8	0.191
Riverside Pkwy	Ashburn Village Blvd to Riverside Commons Plz	Two-way Protected Bike Lanes	N	2	0.099
Riverside Pkwy	Ashburn Village Blvd to Riverside Commons Plz	Two-way Protected Bike Lanes	S	8	0.095
Riverside Pkwy	Ashburn Village Blvd to Riverside Commons Plz	Two-way Protected Bike Lanes	S	2	0.205
Riverside Pw	0.02mi S of McDowell Sq to 0.05mi S of McDowell Sq	Shared Use Path; ROW Not Available	S	8	0.027
Rock Hill Rd	Sterling Rd to 0.46 Miles South of Sterling Rd	Shared Use Path; ROW Not Available		6	0.460
Russell Branch Pkwy	0.07mi S of End of Russell Branch Pw to Ashburn Rd	Shared Use Path; ROW Not Available	S	8	0.459
Russell Branch Pkwy	0.07mi S of End of Russell Branch Pw to Ashburn Rd	Shared Use Path; ROW Not Available	S	6	0.154
Russell Branch Pkwy	Atwater Dr to Exchange St	Shared Use Path; ROW Not Available	N	6	0.956
Russell Branch Pkwy	Ashbrook Pl to 0.12mi S of Ashbrook Pl	Shared Use Path; ROW Not Available	N	6	0.135
Russell Branch Pkwy	Loudoun County Pw to end of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.570
Russell Branch Pkwy	Loudoun County Pw to end of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.574
Russell Branch Pkwy	End of divided road to 0.14mi S of Richland Way	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.198
Russell Branch Pw	N end of Russell Branch Pw to 0.07mi S of end	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.067
Russell Branch Pw	N end of Russell Branch Pw to Tournament Pw	Shared Use Path; ROW Not Available	N	8	0.394
Russell Branch Pw	Ashburn Rd to Atwater Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.006
Russell Branch Pw	Ashburn Rd to Atwater Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.992

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Russell Branch Pw	0.24mi S of Richland Way to beginning of divided road	Shared Use Path; ROW Not Available		6	0.232
Russell Branch Pw	Beginning of divided road to Gloucester Pw	Shared Use Path; ROW Not Available	N	6	1.355
Russell Branch Pw	Beginning of divided road to Gloucester Pw	Shared Use Path; ROW Not Available	S	6	1.351
Ryan Rd	North Star Blvd to Vickery Park Dr	Shared Use Path; ROW Not Available	E	3	0.366
Ryan Rd	Belmont Ridge Rd to Cotton Grass Wy	Shared Use Path; ROW Not Available	E	3	0.036
Ryan Rd	Belmont Ridge Rd to Cotton Grass Wy	Shared Use Path; ROW Not Available	E	1	0.120
Ryan Rd	Forest Run Dr to Loudoun County PW	Shared Use Path; ROW Not Available	E	1	0.909
Ryan Rd	0.08mi W of Willington Sq to 0.05mi E of Willington Sq	Shared Use Path; ROW Not Available	W	1	0.130
S Fillmore Ave	E Maple Ave to Forest Ridge Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.228
Saulty Dr	Hammerstone Wy to Northern Montessori School entrance	Shared Lanes		2	0.234
Saulty Dr	Northern Montessouri School entrance to Lowes Island Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.287
Seneca Ridge Dr	Cottage Rd to Augusta Dr	Shared Use Path; ROW Not Available		7	0.110
Seneca Ridge Dr	Cottage Rd to Augusta Dr	Shared Use Path; ROW Not Available		2	0.117
Severn Way W	Squire Ct to Atlantic Blvd	Shared Lanes		6	0.133
Shaw Rd	Belfort Park Dr to S Sterling Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.647
Shaw Rd	S Sterling Blvd to Old Ox Rd	Shared Use Path; ROW Available		6	0.000
Shaw Rd	S Sterling Blvd to 0.07 N of Old Ox Rd	Shared Use Path; ROW Not Available		6	0.405
Shaw Rd	S Sterling Blvd to Old Ox Rd	Shared Use Path; ROW Not Available		6	0.384
Shaw Rd	Old Ox Rd to 0.32 mi S of Old Ox Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.323
Shellhorn Rd	Waxpool Rd to beginning of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.001
Shellhorn Rd	Waxpool Rd to beginning of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.084
Shellhorn Rd	Beginning of divided road to Loudoun County Pw	Shared Use Path; ROW Not Available	S	6	1.279
Shellhorn Rd	0.07mi S of Ashburn Village Blvd to 0.25mi W of Loudoun County Pw	Shared Use Path; ROW Not Available	N	6	0.790
Shellhorn Rd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.527
Shellhorn Rd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.522
Smith Switch Rd	Farmwell Rd to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	1.103
South Riding Blvd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available		1	0.622
Spring Farm Circle	Edgewater Street to Spring Farm Circle	Shared Lanes		1	0.119
Sterling Blvd	Harry Byrd Hw to E Brunswick St	Shared Use Path; ROW Available	N	7	0.113
Sterling Blvd	Harry Byrd Hw to E Brunswick St	Shared Use Path; ROW Available	S	7	0.114
Sterling Blvd	E Brunswick St to E Church Rd	Shared Use Path; ROW Not Available	N	7	1.010
Sterling Blvd	E Brunswick St to E Church Rd	Shared Use Path; ROW Not Available	S	7	1.015
Sterling Blvd	E Church Rd to E Beech Rd	Raised Cycle Track; ROW Not Available	N	7	0.354
Sterling Blvd	E Church Rd to E Beech Rd	Raised Cycle Track; ROW Not Available	S	7	0.348
Sterling Blvd	E Beech Rd to Shaw Rd	Shared Use Path; ROW Not Available	N	7	1.173
Sterling Blvd	E Beech Rd to Shaw Rd	Shared Use Path; ROW Not Available	N	6	0.617
Sterling Blvd	E Beech Rd to W&OD Trail	Shared Use Path; ROW Not Available	S	7	1.169

Table 2: Recommendations Requiring Checks By Segment

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Alwater Dr	Russell Branch Pw to Lexington Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.300
Arcola Rd	Arcola Mills Drive to Loudoun County Parkway	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.588
Ashburn Rd	Glen Castle Ct to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	1.897
Ashburn Rd	Glen Castle Ct to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.158
Augusta Dr	Seneca Ridge Dr to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.782
Belmont Ridge Rd	North Star Drive to Highgate Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.201
Belmont Ridge Rd	Heartford Ln to 0.07mi S of Heartford Ln	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.068
Benedict Dr	Bartholomew Fair Dr to Potomac View Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.200
Breezthill Dr	Belmont Ridge Rd to end of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.553
Breezthill Dr	Belmont Ridge Rd to end of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.552
Breezthill Dr	End of divided road to Claiborne Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.151
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.250
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.345
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.375
Broadlands Blvd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.225
Broderick Dr	Waxpool Rd to Moran Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.904
Centergate Dr	Vinegar Hill Dr to Flagstaff Plz	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.307
Christiana Dr	Gloucester Pw to Ashburn Village Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.377
Church Rd West	End of divided road to W Holly Ave	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.155
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.751
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.001
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.747
City Center Blvd	Harry Byrd Hwy to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	0.000
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.547
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.450
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.917
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.540
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	0.467

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Claiborne Pkwy	Ridgeway Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.901
Claude Moore Ave	Mooreview Pw to Old Ryan Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.238
Claude Moore Ave	Mooreview Pw to Old Ryan Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.234
Cottage Rd S	Potomac View Rd to Lindsay Ct	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.328
Countryside Blvd	Algonkian Pw to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	1.079
Countryside Blvd	Algonkian Pw to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	1.057
Creighton Road	North Star Boulevard to Belmont Ridge Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	3	0.550
Creighton Road	North Star Boulevard to Belmont Ridge Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	3	0.553
Cromwell Rd	Countryside Blvd to Edds Ln	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.049
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.001
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	1	0.166
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.109
Croson Lane	Lonsdale Dr to Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	1	0.059
Croson Lane	Claiborne Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.002
Croson Lane	Claiborne Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.941
Croson Ln	Northstar Blvd to 0.03mi E of Claiborne Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.219
Davis Dr	End of divided road to Glenn Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.921
Davis Dr	End of divided road to Glenn Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.378
Defender Dr	Elk Lick Road to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.186
Demott Dr	Waxpool Rd to Mooreview Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.722
Destiny Way	Diligence Court to Gum Springs Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.210
Devin Shafron Dr	Metro Center Dr to Shellhorn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.295
Edgewater St	Loudoun County Parkway to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	2.310
Evergreen Ridge Drive	Loudoun County Parkway to Logans Ridge Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	3	0.368
Evergreen Ridge Drive	Loudoun County Parkway to Evergreen Ridge Drive	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	3	0.378
Evergreen Ridge Drive	Logans Ridge Terrace to 0.103 Miles South of Loudoun Reserve Drive	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.420
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.102
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.341
Evergreen Ridge Drive	0.103 Miles South of Loudoun Reserve Drive to Loudoun County Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	0.433

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Faulkner Pkwy	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.421
Faulkner Pkwy	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.414
George Washington Blvd	0.18mi E of Loudoun County Pw to Riverside Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	2	0.566
George Washington Blvd	0.18mi E of Loudoun County Pw to Riverside Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	2	0.569
George Washington Blvd	End of divided road to Research Pl	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.188
Glenn Dr	0.46 mi N of S Sterling Blvd to S Sterling Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.469
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	2.319
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.000
Gloucester Pkwy	Belmont Ridge Rd to Ashburn Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	2.323
Gum Spring Rd	0.15 Miles East of Medical Drive to US 50	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.047
Hay Rd	Belmont Ridge Rd to Ashburn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	1.807
Ladbrook Dr	0.3 M N of Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.172
Ladbrook Dr	0.3 mi N of Old Ox Rd to 0.09 mi N of Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.044
Ladbrook Dr	0.09mi N of Old Ox Rd to Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.088
Ladbrook Dr	0.09mi N of Old Ox Rd to Old Ox Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.089
Lansdowne Blvd	Riverpoint Dr to Riverside Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.366
Lansdowne Blvd	Riverpoint Dr to Riverside Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.343
Lansdowne Blvd	Riverside Pw to Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.398
Lansdowne Blvd	Riverside Pw to Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.392
Lincoln Ave	E Church Rd to Fairfax County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	1.351
Lockridge Rd	Prentice Dr to 0.48mi S of Prentice Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.475
Loudoun County Pkwy	US 50 to Riding Center Drive	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.371
Loudoun County Pkwy	Shelhorn Rd to Dulles Greenway Ramp	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.202

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Loudoun County Pkwy	Shelhorn Rd to Dulles Greenway Ramp	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.182
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.023
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.146
Loudoun County Pkwy	EB Dulles Greenway Ramps to Barrister St	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.163
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.793
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	1.284
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	1.130
Loudoun County Pkwy	Mooreview Pw to Creighton Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.955
Loudoun Reserve Drive	Evergreen Ridge Drive to 0.18 Miles East of Hanworth Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.102
Loudoun Reserve Drive	Evergreen Ridge Drive to 0.18 Miles East of Hanworth Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.349
Loudoun Tech Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.158
Loudoun Tech Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.161
Lowes Island Blvd	Tappahannock Pl to Dunkirk Sq	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.166
Magnolia Rd	Atlantic Blvd to W Church Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.464
Marblehead Dr	Loudoun County PW to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.137
Marblehead Dr	Loudoun County PW to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	1.147
Marshfield Dr	0.03mi W of Claiborne Pw to Claiborne Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.035
Middlefield Dr	Algonkian Pw to Potomac View Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.587
Millstream Dr	Tall Cedars Parkway to 0.07 Miles West of Stone Springs Boulevard	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.751
Millstream Dr	0.05 Miles East of Stone Springs Boulevard to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.302
Moorefield Blvd	Mooreview Pw to Old Ryan Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.126
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.337
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.620
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.168
Mooreview Pkwy	Candice Dr to Loudoun County Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.808
Mooreview Pw	0.07mi W of Dulles Greenway to Demott Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.243

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Mooreview Pw	0.07mi W of Dulles Greenway to Demott Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.233
Moran Rd	Acacia Ln to Pacific Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.471
Old Ryan Rd	Winter Lake Ct to Claude Moore Ave	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.055
Old Ryan Rd	Winter Lake Ct to Wynridge Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.005
Pacific Blvd	End of divided road to beginning of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.430
Pacific Blvd	Dresden St to Relocation Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.656
Pacific Blvd	0.14mi S of Dresden St to Relocation Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.524
Pinebrook Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.001
Pinebrook Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.183
Pleasant Valley Rd	US 50 to East County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.553
Poland Rd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.615
Poland Rd	Tall Cedars Parkway to Edgewater Street	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.678
Poland Rd	Spring Farm Circle to East County Line	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.399
Potomac View Rd	Algonkian Pw to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	7	0.001
Potomac View Rd	Algonkian Pw to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	1.170
Potomac View Rd	Kentwell Pl to Sugarland Run Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.944
Potomac View Rd	Harry Byrd Hwy to 0.19mi S of Harry Byrd Hwy	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.187
Prentice Dr	Lockridge Rd to Broderick Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.549
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.956
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	2	0.308
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	1.958
Presidential Dr	George Washington Blvd to Gloucester Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	2	0.296
Randolph Dr	Prentice Dr to Moran Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.634
Red Rum Dr	End of divided rd to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.531
Ridgetop Circle	Nokes Blvd to Nokes Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	1.318
Riding Center Dr	Loudoun County Parkway to Braddock Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.266
Riding Center Dr	Braddock Road to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.005

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Riding Center Dr	Loudoun County Parkway to Braddock Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	1.640
River Bank St	River Crest St to Algonkian Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.366
Riverside Pkwy	0.02mi E of Golf Vistal Plz to Landsdowne Blvd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.108
Riverside Pkwy	Landsdowne Blvd to Wellness Blvd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.260
Russell Branch Pkwy	Loudoun County Pw to end of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	0.570
Russell Branch Pkwy	Loudoun County Pw to end of divided road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.574
Russell Branch Pkwy	End of divided road to 0.14mi S of Richland Way	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.198
Russell Branch Pw	N end of Russell Branch Pw to 0.07mi S of end	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.067
Russell Branch Pw	Ashburn Rd to Atwater Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	6	1.006
Russell Branch Pw	Ashburn Rd to Atwater Dr	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	6	0.992
S Fillmore Ave	E Maple Ave to Forest Ridge Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.228
Saulty Dr	Northern Montessouri School entrance to Lowes Island Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.287
Shaw Rd	Belfort Park Dr to S Sterling Blvd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.647
Shaw Rd	Old Ox Rd to 0.32 mi S of Old Ox Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.323
Shellhorn Rd	Waxpool Rd to beginning of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.001
Shellhorn Rd	Waxpool Rd to beginning of divided road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.084
Shellhorn Rd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	8	0.527
Shellhorn Rd	Claiborne Pw to Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	8	0.522
Smith Switch Rd	Farmwell Rd to Gloucester Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	1.103
Stone Springs Blvd	0.15 Miles East of Medical Drive to US 50	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		3	0.371
Stone Springs Blvd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	3	0.003
Stone Springs Blvd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.480
Stone Springs Blvd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	3	0.003
Stone Springs Blvd	US 50 to Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	1	0.486
Stone Springs Blvd	Tall Cedars Parkway to 0.04 Miles South of Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.045
Stone Springs Blvd	0.04 Miles South of Tall Cedars Parkway to Destiny Drive	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.642
Stone Springs Blvd	Tall Cedars Parkway to 0.04 Miles South of Tall Cedars Parkway	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.045
Sugarland Run Dr	Richland Cir to Penny Ln	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	2	0.201
Sugarland Run Dr	Richland Cir to Penny Ln	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	2	0.202
Sugarland Run Dr	S Fox Rd to Park Hill Ln	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.134
Sugarland Run Dr	0.04mi W of Park Hill Ln to Sugarland Run Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	7	0.026

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Sugarland Run Dr	0.04mi W of Park Hill Ln to Sugarland Run Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	2	0.515
Sugarland Run Dr	0.04mi W of Park Hill Ln to Sugarland Run Dr	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	2	0.528
Tall Cedars Pkwy	Marshy Hope Street to Loudoun County Parkway	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.000
Tall Cedars Pkwy	0.5 Miles West of Marshy Hope Street to Marshy Hope Street	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	1	0.066
Tall Cedars Pkwy	Marshy Hope Street to Loudoun County Parkway	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	1	2.827
Tall Cedars Pkwy	Marshy Hope Street to Loudoun County Parkway	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	1	2.825
Tripleseven Rd	Cromwell Rd to Palisade Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.572
Truro Parish Dr	Stillbrook Farm Dr to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.111
Truro Parish Dr	Stillbrook Farm Dr to Waxpool Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.101
US 50 John S Mosby Hwy	0.23 Miles West of Stone Springs Boulevard to Pinebrook Road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	3	1.316
US 50 John S Mosby Hwy	0.13 Miles East of Stone Springs Boulevard to Pinebrook Road	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	3	0.949
VA 209 Innovation Ave	Ramp to Fairfax County Line	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.537
VA 209 Innovation Ave	Ramp to Fairfax County Line	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.541
Wade Dr	0.24 Miles West of Pleasant Valley Road to Pleasant Valley Road	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		1	0.245
Waverly Rd	End of road to Russell Branch Pw	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.134
Waxpool Rd	Dulles Greenway to Ashburn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.398
Waxpool Rd	Dulles Greenway to Ashburn Rd	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.168
Waxpool Rd	0.03mi W of Faulkner Pw to Faulkner Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.000
Waxpool Rd	0.03mi W of Faulkner Pw to Faulkner Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.032
Waxpool Rd	Ladyslipper Sq to 0.05mi W of Ashburn Village Blvd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.078
Waxpool Rd	Regency Dr to 0.06mi E of Waxpool Rd	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.061
Westwind Dr	State St to Virginia Manor Terrace	Two-way Protected Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	1	0.235
Woodland Rd	Sully Rd to Cascades Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	1.119
Woodridge Pw	Landsdowne Blvd to Silverpalm Grove Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		8	0.195
Woodridge Pw	Landsdowne Blvd to Silverpalm Grove Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	N	8	0.406
Woodridge Pw	Landsdowne Blvd to Silverpalm Grove Terrace	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	S	8	0.583
Woodshire Dr & Bartholomew Fair Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		7	0.531
Woodshire Dr & Bartholomew Fair Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		6	0.266

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Woodshire Dr & Bartholomew Fair Dr	Ridgetop Cir to Harry Byrd Hwy	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible		2	0.003
Wynridge Dr	Claiborne Pw to Mooreview Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	E	6	0.571
Wynridge Dr	Claiborne Pw to Mooreview Pw	Bike Lanes; Check Roadway Configuration; Roadway Reconfiguration Possible	W	6	0.572

Table 3: Recommendations Where ROW Is Not Available

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Algonkian Pkwy	Winding Rd to Countryside Blvd	Shared Use Path; ROW Not Available	E	2	0.231
Algonkian Pkwy	Winding Rd to Worthington Ct	Shared Use Path; ROW Not Available	W	2	0.371
Algonkian Pkwy	Lindenwood Ct to Powell Ct	Raised Cycle Track; ROW Not Available	W	2	0.392
Algonkian Pkwy	Newland Ct to 0.08mi W of Westmoreland Dr	Shared Use Path; ROW Not Available	E	2	0.214
Algonkian Pkwy	Powell Ct to Westmoreland Dr	Shared Use Path; ROW Not Available	W	2	0.305
Algonkian Pkwy	Westmoreland Dr to Falcons Landing Cir	Shared Use Path; ROW Not Available	E	2	1.888
Algonkian Pkwy	Hardwood Forest Dr to Fauquier County Line	Shared Use Path; ROW Not Available	E	7	0.955
Algonkian Pkwy	Hardwood Forest Dr to Fauquier County Line	Shared Use Path; ROW Not Available	E	2	0.205
Algonkian Pkwy	Falcons Landing Cir to Hardwood Forest Dr	Shared Use Path; ROW Not Available	W	2	1.366
Algonkian Pkwy	Great Falls Forest Dr to Fauquier County Ln	Shared Use Path; ROW Not Available	W	7	0.842
Algonkian Pkwy	Great Falls Forest Dr to Fauquier County Ln	Shared Use Path; ROW Not Available	W	2	0.000
Ashburn Farm Pkwy	Belmont Ridge Rd to Fernridge Way	Shared Use Path; ROW Not Available	E	8	0.552
Ashburn Farm Pkwy <Old Rt 900>	Belmont Ridge Rd to Fernridge Way	Shared Use Path; ROW Not Available	E	8	0.156
Ashburn Farm Pkwy <Old Rt 900>	0.01mi E of Fernridge Way to Deer Run Way	Shared Use Path; ROW Not Available	E	8	0.160
Ashburn Farm Pkwy <Old Rt 900>	Claiborne Pw to Golden Meadow Cir	Shared Use Path; ROW Not Available	E	8	0.901
Ashburn Farm Pkwy <Old Rt 900>	Deer Run Way to Claiborne Pw	Shared Use Path; ROW Not Available	W	8	0.167
Ashburn Farm Pkwy <Old Rt 900>	0.01mi E of Golden Meadow Cir to Summerwood Cir	Shared Use Path; ROW Not Available	E	8	0.120
Ashburn Farm Pkwy <Old Rt 900>	Summerwood Cir to Ashburn Rd	Shared Use Path; ROW Not Available	W	8	0.140
Ashburn Rd	Stubble Rd to Glen Castle Ct	Shared Use Path; ROW Not Available		8	0.177
Ashburn Rd	Stubble Rd to Glen Castle Ct	Shared Use Path; ROW Not Available		6	0.005
Ashburn Village Blvd	Riverside Pw to Ashbrook Common Plz	Shared Use Path; ROW Not Available	S	8	0.181
Ashburn Village Blvd	Riverside Pw to Ashbrook Common Plz	Shared Use Path; ROW Not Available	S	6	0.258
Ashburn Village Blvd	Harry Byrd Hwy to Courtland Dr	Shared Use Path; ROW Not Available	N	6	0.598
Ashburn Village Blvd	0.05mi S of Courtland Dr to Louisa Dr	Shared Use Path; ROW Not Available	N	6	0.170
Ashburn Village Blvd	0.07mi N of Louisa Dr to 0.03mi S of Bristow Cir	Shared Use Path; ROW Not Available	S	6	0.340
Ashburn Village Blvd	0.04mi N of Bristow Cir to Fincastle Dr	Shared Use Path; ROW Not Available	N	6	0.338
Ashburn Village Blvd	0.11mi N of Fincastle Dr to Paget Ter	Shared Use Path; ROW Not Available	S	6	0.256
Ashburn Village Blvd	Quiet Walk Ter to 0.04mi S of Quiet Walk Ter	Shared Use Path; ROW Not Available	N	6	0.044
Ashburn Village Blvd	0.04mi S of Paget Ter to 0.05mi N of W&OD Trail	Shared Use Path; ROW Not Available	S	6	0.898
Ashburn Village Blvd	0.07mi N of Pavilion Pw to 0.05mi S of Rainsboro Dr	Shared Use Path; ROW Not Available	N	6	0.257
Ashburn Village Blvd	0.04ni N of Apollo Ter to 0.05mi S of Tippecanoe Ter	Shared Use Path; ROW Not Available	N	6	0.621
Ashburn Village Blvd	0.09mi N of Bruceton Mills Cir to Bruceton Mills Cir	Shared Use Path; ROW Not Available	N	6	0.089
Ashburn Village Blvd	0.04mi S of Bruceton Mills Cir to 0.7mi N of Sawgrass Pl	Shared Use Path; ROW Not Available	N	6	0.041
Ashburn Village Blvd	Sawgrass Pl to Cheltenham Cir	Shared Use Path; ROW Not Available	N	6	0.149
Ashburn Village Blvd	0.09mi N of Cheltenham Cir to Michner Dr	Shared Use Path; ROW Not Available	S	6	0.588
Ashburn Village Blvd	0.09mi N of Cheltenham Cir to Michner Dr	Shared Use Path; ROW Not Available	S	8	0.187
Ashburn Village Blvd	0.06mi N of Fultonham Cir to Farmwell Rd	Shared Use Path; ROW Not Available	N	6	0.412

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Ashburn Village Blvd	Michner Dr to Waxpool Rd	Shared Use Path; ROW Not Available	N	8	0.546
Ashburn Village Blvd	Michner Dr to Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.429
Ashburn Village Blvd	Waxpool Rd to 0.13mi W of Shellhorn Rd	Shared Use Path; ROW Not Available	S	8	0.002
Ashburn Village Blvd	Waxpool Rd to 0.13mi W of Shellhorn Rd	Shared Use Path; ROW Not Available	S	6	0.545
Ashburn Village Rd	NB Dulles Greenway Ramp to 0.07mi W of Dulles Greenway	Shared Use Path; ROW Not Available	N	6	0.148
Ashburn Village Rd	NB Dulles Greenway Ramp to 0.07mi W of Dulles Greenway	Shared Use Path; ROW Not Available	S	6	0.149
Atlantic Blvd	Harry Byrd Hwy ramp to 0.03mi S of Dulles Eastern Plaza	Shared Use Path; ROW Not Available	N	7	0.370
Atlantic Blvd	Harry Byrd Hwy ramp to 0.03mi S of Dulles Eastern Plaza	Shared Use Path; ROW Not Available	N	6	0.989
Atlantic Blvd	Harry Byrd Hwy ramp to E Severn Wy	Shared Use Path; ROW Not Available	S	7	0.461
Atlantic Blvd	Harry Byrd Hwy ramp to E Severn Wy	Shared Use Path; ROW Not Available	S	6	1.011
Belmont Ridge Rd	Riverside Pw to Freedom Trail Rd	Shared Use Path; ROW Not Available	N	8	0.835
Belmont Ridge Rd	Highgate Terrace to Ryan Road	Shared Use Path; ROW Not Available	S	1	0.166
Belmont Ridge Rd	Nickens Place to 0.10 Miles North of Myan Gold Drive	Shared Use Path; ROW Not Available	S	3	0.375
Belmont Ridge Rd	0.15 Miles South of Evergreen Mills Road to Arcola Mills Drive	Shared Use Path; ROW Not Available		3	0.343
Belmont Ridge Rd	Broadlands Blvd to 0.05mi N of Belmont Glen Pl	Shared Use Path; ROW Not Available	N	6	0.302
Belmont Ridge Rd	Waxpool Rd to 0.08mi S of Mt Hope Rd	Shared Use Path; ROW Not Available		6	0.013
Belmont Ridge Rd	Waxpool Rd to 0.08mi S of Mt Hope Rd	Shared Use Path; ROW Not Available		3	0.190
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		6	0.032
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		3	0.285
Belmont Ridge Rd	Alford Rd to Belmont Ridge Rd	Shared Use Path; ROW Not Available		1	0.001
Broadlands Blvd	Belmont Ridge Rd to Stonewheel Wy	Shared Use Path; ROW Not Available	E	6	0.362
Broadlands Blvd	Education Ct to Chickacoan Trail Dr	Shared Use Path; ROW Not Available	W	6	0.188
Broadlands Blvd	Chickacoan Trail Dr to Old Wood Wy	Shared Use Path; ROW Not Available	E	6	0.292
Broadlands Blvd	Van Metre Dr to Claiborne Pw	Shared Use Path; ROW Not Available	W	8	0.125
Broadlands Blvd	Van Metre Dr to Claiborne Pw	Shared Use Path; ROW Not Available	W	6	0.017
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	7	0.602
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	2	1.803
Cascades Pkwy	Algonkian Pw to Maries Rd	Shared Use Path; ROW Not Available	N	7	0.164
Cascades Pkwy	0.01 Miles South of Maries Road to Woodland Road	Shared Use Path; ROW Not Available	N	7	0.271
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	6	0.644
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	2	0.185
Cascades Pkwy	0.05mi S of Westlake Dr to W Church Rd	Shared Use Path; ROW Not Available	S	7	1.177
Cascades Pkwy	Cabin Branch Dr to W Church Rd	Shared Use Path; ROW Not Available	N	7	0.371
Church Rd West	0.17mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	E	7	0.208
Church Rd West	0.12mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	W	7	0.214
Church Rd West	Morgan Way to end of divided road	Raised Cycle Track; ROW Not Available	E	7	0.435
Church Rd West	Magnolia Rd to end of divided road	Raised Cycle Track; ROW Not Available	W	7	0.240
Circle Dr	N Sterling Blvd to E Holly Ave	Shared Use Path; ROW Not Available		7	0.326

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Circle Dr	E Holly Ave to S Fillmore Ave	Raised Cycle Track; ROW Not Available	S	7	0.316
Claiborne Pkwy	Harry Byrd Hwy to Weatherwood Dr	Shared Use Path; ROW Not Available	N	8	2.784
Claiborne Pkwy	Harry Byrd Hwy to Weatherwood Dr	Shared Use Path; ROW Not Available	N	6	0.022
Claiborne Pkwy	Harry Byrd Hwy to Greyswallow Ter	Shared Use Path; ROW Not Available	S	8	2.235
Claiborne Pkwy	Whisperwood Ter to 0.05mi S of Whisperwood Ter	Shared Use Path; ROW Not Available	S	8	0.053
Claiborne Pkwy	Weatherwood Dr to Marshfield Dr	Shared Use Path; ROW Not Available	S	8	0.479
Claiborne Pkwy	Crossroads Dr to 0.02mi N of Belgreen Dr	Shared Use Path; ROW Not Available	N	8	0.359
Claiborne Pkwy	Windmill Dr to Small Branch Pl	Shared Use Path; ROW Not Available	N	8	0.557
Claiborne Pkwy	Windmill Dr to Small Branch Pl	Shared Use Path; ROW Not Available	N	6	0.112
Claiborne Pkwy	Small Branch Pl to Ridgway Dr	Shared Use Path; ROW Not Available	S	6	1.140
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		7	0.266
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		2	0.000
Cottage Rd S	Lindsay Ct to Seneca Ridge Dr	Raised Cycle Track; ROW Not Available		7	0.062
Cottage Rd S	Seneca Ridge Dr to Sugarland Run Dr	Shared Use Path; ROW Not Available		2	0.130
Creighton Rd	Belmont Ridge Road to Loudoun County Parkway	Shared Use Path; ROW Not Available	E	3	0.965
Creighton Rd	Belmont Ridge Road to Loudoun County Parkway	Shared Use Path; ROW Not Available	W	3	0.840
Cromwell Rd	Edds Ln to Tripleseven Rd	Shared Use Path; ROW Not Available		2	0.195
Croson Ln	0.03mi E of Claiborne Pw to Lonsdale Dr	Shared Use Path; ROW Not Available	E	1	0.195
Davis Dr	Northrup Grumman Entrance to end of divided road	Shared Use Path; ROW Not Available	N	7	0.606
Davis Dr	Northrop Grumman Entrance to 0.02mi S of Norhtrop Grumman Entrance	Shared Use Path; ROW Not Available	S	7	0.025
Davis Dr	Church Rd to end of Divided Rd	Shared Use Path; ROW Not Available	S	7	0.084
Dresden St	Pacific Blvd to Broderick Dr	Shared Use Path; ROW Not Available		6	0.233
E Maple Ave	Sterling Blvd to S Dickenson Ave	Shared Use Path; ROW Not Available		7	0.362
E Maple Ave	S Dickenson Ave to S Fillmore Ave	Raised Cycle Track; ROW Not Available		7	0.118
Evergreen Mills Rd	Briarfield Lane to Loudoun County Parkway	Shared Use Path; ROW Not Available		3	1.491
Farmwell Rd <Old Rt 640>	Ashburn Rd to Ashburn Village Blvd	Shared Use Path; ROW Not Available	E	8	0.544
Farmwell Rd <Old Rt 640>	Hemingway Dr to Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	8	0.001
Farmwell Rd <Old Rt 640>	Hemingway Dr to Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	6	0.387
Farmwell Rd <Old Rt 640>	0.13mi W of Estate Pl to Smiths Switch Rd	Shared Use Path; ROW Not Available	W	8	0.275
Farmwell Rd <Old Rt 640>	0.13mi W of Estate Pl to Smiths Switch Rd	Shared Use Path; ROW Not Available	W	6	0.176
Fort Evans Rd, Riverside Pkwy	0.07mi S of McDowell Sq to 0.02mi N of Xerox Dr	Shared Use Path; ROW Not Available	S	8	0.079
George Washington Blvd	Loudoun County Pw to 0.18mi E of Loudoun County Pw	Shared Use Path; ROW Not Available	E	2	0.184
George Washington Blvd	Loudoun County Pw to 0.18mi E of Loudoun County Pw	Shared Use Path; ROW Not Available	W	2	0.191
George Washington Blvd	Riverside Pw to end of divided road	Shared Use Path; ROW Not Available	E	2	0.104
George Washington Blvd	Riverside Pw to end of divided road	Shared Use Path; ROW Not Available	W	2	0.110
Gloucester Pkwy	Ashburn Rd to Grottoes Dr	Shared Use Path; ROW Not Available	E	6	0.338
Gloucester Pkwy	Christiana Dr to 0.07mi E of Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	6	0.354
Gloucester Pkwy	0.06mi W of Ashburn Village Blvd to Mistletoe Terrace	Shared Use Path; ROW Not Available	E	6	0.208

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Gloucester Pkwy	Rainsboro Dr to 0.05mi S of Runnymeade Terrace	Shared Use Path; ROW Not Available	W	6	0.273
Gloucester Pkwy	0.05mi E of Runnymeade Ter to 0.04mi E of Winola Ter	Raised Cycle Track; ROW Not Available	E	6	0.434
Gloucester Pkwy	0.01mi W of Cohasset Ter to 0.05mi W of Winoia Ter	Raised Cycle Track; ROW Not Available	W	6	0.257
Gloucester Pkwy	0.01mi W of Cohasset Ter to 0.05mi W of Winola Ter	Raised Cycle Track; ROW Not Available	W	6	0.004
Gloucester Pkwy	0.04mi E of Winola Ter to 0.07mi W of Marblehead Dr	Shared Use Path; ROW Not Available	E	6	0.124
Gloucester Pkwy	0.06mi E of Winola Ter to Marblehead Dr	Shared Use Path; ROW Not Available	W	6	0.181
Gloucester Pw	Marblehead Dr to 0.13mi E of Marblehead Dr	Shared Use Path; ROW Not Available	E	6	0.128
Gloucester Pw	0.17mi E of Marblehead Dr to Loudoun County Pw	Shared Use Path; ROW Not Available	E	6	0.698
Gloucester Pw	Smith Switch Rd to Loudoun County Pw	Shared Use Path; ROW Not Available	W	6	0.352
Gloucester Pw	Loudoun County Pw to 0.05mi W of Pacific Blvd	Shared Use Path; ROW Not Available	E	6	0.572
Gloucester Pw	0.12mi E of Loudoun Water Way to 0.07mi W of Pacific Blvd	Shared Use Path; ROW Not Available	W	6	0.254
Gloucester Pw	Pacific Blvd to Sully Rd	Shared Use Path; ROW Not Available	E	6	0.221
Gum Spring Rd	Arcola Mills Drive to 0.15 Miles East of Medical Drive	Shared Use Path; ROW Not Available		3	0.683
Gum Spring Rd	US 50 to 0.01 Miles North of Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	3	0.003
Gum Spring Rd	US 50 to 0.01 Miles North of Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	1	0.353
Gum Spring Rd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available	S	3	0.004
Gum Spring Rd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available	S	1	0.367
Gum Spring Rd	Greenstone Drive to Destiny Drive	Shared Use Path; ROW Not Available	S	1	0.698
Gum Spring Rd	0.1 Miles South of Frontier Spring Drive to Destiny Drive	Shared Use Path; ROW Not Available	N	1	0.121
Loudoun County Pkwy	Gloucester Pw to Beaumeade Cir (N)	Shared Use Path; ROW Not Available	S	6	0.773
Loudoun County Pkwy	Gloucester Pw to Beaumeade Cir (N)	Shared Use Path; ROW Not Available	S	6	0.015
Loudoun County Pkwy	Beaumeade Cir (N) to 0.03mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.035
Loudoun County Pkwy	Beaumeade Cir (N) to 0.03mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.570
Loudoun County Pkwy	Overland Drive to Pebble Run Drive	Shared Use Path; ROW Not Available	S	1	0.367
Loudoun County Pkwy	US 50 to Riding Center Drive	Shared Use Path; ROW Not Available	S	3	0.000
Loudoun County Pkwy	US 50 to Riding Center Drive	Shared Use Path; ROW Not Available	S	1	0.380
Loudoun County Pkwy	Riding Center Drive to Tall Cedars Parkway	Shared Use Path; ROW Not Available	N	1	0.437
Loudoun County Pkwy	Beaumeade Cir (S) to 0.08mi S of Beaumeade Cir (S)	Shared Use Path; ROW Not Available	S	6	0.079
Loudoun County Pkwy	0.276 Miles West of Pebble Run Drive to 0.327 Miles West of Pebble Run Drive	Shared Use Path; ROW Not Available		1	0.327
Loudoun County Pkwy	0.273 Miles West of Pebble Run Drive to 0.591 Miles West of Pebble Run Drive	Shared Use Path; ROW Not Available	N	1	0.318
Loudoun County Pkwy	Ramp to WB Waxpool Rd to Waxpool Rd	Shared Use Path; ROW Not Available	S	6	0.077
Loudoun County Pkwy	0.05mi S of Waxpool Rd to 0.34mi S of Waxpool Rd	Shared Use Path; ROW Not Available	N	6	0.291
Loudoun County Pkwy	Tall Cedars Parkway to Center Street	Shared Use Path; ROW Not Available	N	1	0.227
Loudoun County Pkwy	0.34mi S of Waxpool Rd to Shellhorn Rd	Shared Use Path; ROW Not Available	N	6	1.020
Loudoun County Pkwy	Center Street to 0.004 Miles North of Donegal Drive	Shared Use Path; ROW Not Available	N	1	0.464
Loudoun County Pkwy	Center Street to 0.01 Miles North of Donegal Drive	Shared Use Path; ROW Not Available	N	1	0.149
Loudoun County Pkwy	0.43mi N of Shelhorn Rd to Shelhorn Rd	Shared Use Path; ROW Not Available	S	6	0.436
Loudoun County Pkwy	Donegal Drive to 0.01 Miles North of Edgewater Street	Shared Use Path; ROW Not Available	N	1	0.227

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	N	6	0.091
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	N	1	0.110
Loudoun County Pkwy	WB Dulles Greenway Ramps to EB Dulles Greenway Ramps	Shared Use Path; ROW Not Available	S	6	0.197
Loudoun County Pkwy	Edgewater Street to Braddock Road	Shared Use Path; ROW Not Available	N	1	0.190
Loudoun County Pkwy	0.06mi E of Hamilton Chapel Ter to Mooreview Pw	Shared Use Path; ROW Not Available	S	6	0.709
Loudoun County Pkwy	0.09mi E of Westwind Dr to Westwind Dr	Shared Use Path; ROW Not Available	S	6	0.089
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	6	0.837
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	6	0.000
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	1	0.000
Loudoun County Pkwy	Westwind Dr to Mooreview Pw	Shared Use Path; ROW Not Available	N	1	0.165
Loudoun County Pkwy	Freedom Street to Dabner Drive	Shared Use Path; ROW Not Available	S	1	0.146
Mooreview Pkwy	Demott Dr to Wynridge Dr	Shared Use Path; ROW Not Available	N	6	0.128
Mooreview Pkwy	Demott Dr to Wynridge Dr	Shared Use Path; ROW Not Available	S	6	0.128
Nokes Blvd	Sully Rd Ramp to Atlantic Blvd to Cascades Pw	Shared Use Path; ROW Not Available	E	7	0.844
Nokes Blvd	Sully Rd Ramp to Atlantic Blvd to Cascades Pw	Shared Use Path; ROW Not Available	E	6	0.391
Nokes Blvd	Atlantic Blvd to 0.11mi E of Windmill Parc Dr	Shared Use Path; ROW Not Available	W	6	0.579
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	N	3	0.869
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	N	1	0.000
North Star Blvd	Belmont Ridge Rd to Ryan Rd	Shared Use Path; ROW Not Available	S	3	0.872
North Star Boulevard	0.028 Miles South of Creighton Road to Winter Haven Drive	Raised Cycle Track; ROW Not Available	N	3	0.281
North Star Boulevard	Creighton Road to 0.278 Miles South of Creighton Road	Raised Cycle Track; ROW Not Available	N	3	0.028
North Star Boulevard	Winter Haven Drive to Evergreen Mills Road	Shared Use Path; ROW Not Available	N	3	0.539
Old Ox Rd	Dulles property boundary to Sully Rd Interchange	Shared Use Path; ROW Not Available	E	1	1.408
Old Ox Rd	Commerce Center Court to Trade Center Place	Shared Use Path; ROW Not Available	N	1	1.867
Old Ox Rd	0.082 Miles North of Commerce Center Court to Stukely Drive-Weather Service Road	Shared Use Path; ROW Not Available	S	1	1.745
Old Ox Rd	Dulles property boundary to Pacific Blvd	Shared Use Path; ROW Not Available	W	6	0.125
Old Ox Rd	Dulles property boundary to Pacific Blvd	Shared Use Path; ROW Not Available	W	1	1.073
Old Ox Rd	Shaw Rd to 0.08mi W of Rock Hill Rd	Shared Use Path; ROW Not Available	W	6	0.764
Old Ox Rd	Beaver Meadow Road to Bears School Road	Shared Use Path; ROW Not Available	N	1	0.421
Old Ox Rd	0.05mi W of Rock Hill Rd to Rock Hill Rd	Shared Use Path; ROW Not Available	W	6	0.046
Old Ox Rd	Shaw Rd to Rock Hill Rd	Shared Use Path; ROW Not Available	E	6	0.851
Old Ryan Rd	Allisons Ridge Terrace to Croson Ln	Shared Use Path; ROW Not Available		6	0.054
Old Ryan Rd	Grandmoore St to beginning of divided road	Raised Cycle Track; ROW Not Available		6	0.026
Old Ryan Rd	Grandmoore St to beginning of divided road	Raised Cycle Track; ROW Not Available		1	0.377
Old Ryan Rd	Beginning of divided road to amendola Ter	Shared Use Path; ROW Not Available	S	6	0.000
Old Ryan Rd	Beginning of divided road to amendola Ter	Shared Use Path; ROW Not Available	S	1	0.195
Old Ryan Rd	Mooreview Pw to Amendola Ter	Shared Use Path; ROW Not Available	N	1	0.074

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Old Ryan Rd	Amendola Ter to E side of traffic circle	Shared Use Path; ROW Not Available		1	0.103
Old Ryan Rd	E side of traffic circle to W side of traffic circle	Shared Use Path; ROW Not Available	E	1	0.051
Old Ryan Rd	E side of traffic circle to W side of traffic circle	Shared Use Path; ROW Not Available	W	1	0.057
Old Ryan Rd	W side of traffic circle to Ryan Rd	Shared Use Path; ROW Not Available		1	0.308
Pacific Blvd	Gloucester Pw to end of divided road	Shared Use Path; ROW Not Available	N	6	0.213
Pacific Blvd	Gloucester Pw to end of divided road	Shared Use Path; ROW Not Available	S	6	0.213
Pacific Blvd	Beginning of divided road to W&OD Trail	Shared Use Path; ROW Not Available	S	6	0.320
Pacific Blvd	W&OD Trail to Dresden St	Shared Use Path; ROW Not Available	N	6	1.133
Pacific Blvd	Auto World Cir to Waxpool Rd	Shared Use Path; ROW Not Available	S	6	0.456
Pacific Blvd	Prentice Dr to 0.13mi S of Dresden St	Shared Use Path; ROW Not Available	S	6	0.369
Pacific Blvd	Relocation Dr to Catalina Ct	Shared Use Path; ROW Not Available	S	6	1.011
Pacific Blvd	Relocation Dr to Catalina Ct	Shared Use Path; ROW Not Available	S	1	0.069
Pacific Blvd	S Sterling Blvd to Catalina Ct	Shared Use Path; ROW Not Available	N	6	0.612
Pacific Blvd	S Sterling Blvd to Catalina Ct	Shared Use Path; ROW Not Available	N	1	0.069
Palisade Pkwy	Harry Byrd Hwy to 0.06mi N of Harry Byrd Hwy	Shared Use Path; ROW Not Available	E	2	0.062
Palisade Pkwy	Harry Byrd Hwy to Tripleseven Rd	Shared Use Path; ROW Not Available	W	2	0.111
Palisade Pkwy	Tripleseven Rd to Potomac View Rd	Shared Use Path; ROW Not Available	E	7	0.000
Palisade Pkwy	Tripleseven Rd to Potomac View Rd	Shared Use Path; ROW Not Available	E	2	1.093
Pleasant Valley Rd	Wade Drive to US 50	Shared Use Path; ROW Not Available		1	0.405
Potomac View Rd	Algonkian Pw to Kentwell Pl	Shared Use Path; ROW Not Available	N	2	0.176
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	S	7	0.449
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	S	2	0.108
Potomac View Rd	Sugarland Run Dr to 0.05mi N of S Cottage Rd	Shared Use Path; ROW Not Available	N	7	0.566
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	N	7	0.257
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	S	7	0.111
Potomac View Rd	S Cottage Rd to Harry Byrd Hwy	Shared Use Path; ROW Not Available	S	2	0.144
Potomac View Rd	0.19mi S of Harry Byrd Hwy to divided road	Shared Use Path; ROW Not Available		7	0.642
Potomac View Rd	Beginning of divided road to Cascades Pw	Shared Use Path; ROW Not Available	N	7	0.104
Potomac View Rd	0.04mi W of Cascades Pw to Cascades Pw	Shared Use Path; ROW Not Available	W	6	0.042
Prentice Dr	.03mi W of Pacific Blvd to Pacific Blvd	Shared Use Path; ROW Not Available		6	0.036
Relocation Dr	Pacific Blvd to 0.59mi S of Pacific Blvd	Shared Use Path; ROW Not Available		6	0.603
Relocation Dr	Executive Dr to Old Ox Rd	Shared Use Path; ROW Not Available		6	0.238
Riverside Pkwy	Goose Creek to .0.3mi E of Kipheart Dr	Shared Use Path; ROW Not Available	N	8	0.430
Riverside Pkwy	0.03mi E of Kipheart Dr to Belmont Ridge Rd	Raised Cycle Track; ROW Not Available	N	8	0.287
Riverside Pkwy	0.05mi S of Diamond Lake Dr to 0.07mi S of Diamond Lake Dr	Raised Cycle Track; ROW Not Available	S	8	0.027
Riverside Pkwy	Belmont Ridge Rd to 0.04mi S of Diamond Lake Dr	Raised Cycle Track; ROW Not Available	S	8	0.189
Riverside Pkwy	0.06mi N of McDowell Sq to McDowell Sq	Raised Cycle Track; ROW Not Available	S	8	0.063
Riverside Pkwy	Xerox Dr to 0.07mi S of Xerox Dr	Shared Use Path; ROW Not Available	S	8	0.072

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Riverside Pkwy	0.1mi W of Heatherstone Ter to 0.02mi E of Heatherstone Ter	Shared Use Path; ROW Not Available	N	8	0.128
Riverside Pkwy	Heatherstone Ter to Sandridge Way	Shared Use Path; ROW Not Available	S	8	0.135
Riverside Pkwy	Wellness Blvd to Scholar Plz	Shared Use Path; ROW Not Available	S	8	0.494
Riverside Pkwy	Woodridge Pw to Church Entrance	Shared Use Path; ROW Not Available	N	8	0.121
Riverside Pw	0.02mi S of McDowell Sq to 0.05mi S of McDowell Sq	Shared Use Path; ROW Not Available	S	8	0.027
Rock Hill Rd	Sterling Rd to 0.46 Miles South of Sterling Rd	Shared Use Path; ROW Not Available		6	0.460
Russell Branch Pkwy	0.07mi S of End of Russell Branch Pw to Ashburn Rd	Shared Use Path; ROW Not Available	S	8	0.459
Russell Branch Pkwy	0.07mi S of End of Russell Branch Pw to Ashburn Rd	Shared Use Path; ROW Not Available	S	6	0.154
Russell Branch Pkwy	Atwater Dr to Exchange St	Shared Use Path; ROW Not Available	N	6	0.956
Russell Branch Pkwy	Ashbrook Pl to 0.12mi S of Ashbrook Pl	Shared Use Path; ROW Not Available	N	6	0.135
Russell Branch Pw	N end of Russell Branch Pw to Tournament Pw	Shared Use Path; ROW Not Available	N	8	0.394
Russell Branch Pw	0.24mi S of Richland Way to beginning of divided road	Shared Use Path; ROW Not Available		6	0.232
Russell Branch Pw	Beginning of divided road to Gloucester Pw	Shared Use Path; ROW Not Available	N	6	1.355
Russell Branch Pw	Beginning of divided road to Gloucester Pw	Shared Use Path; ROW Not Available	S	6	1.351
Ryan Rd	North Star Blvd to Vickery Park Dr	Shared Use Path; ROW Not Available	E	3	0.366
Ryan Rd	Belmont Ridge Rd to Cotton Grass Wy	Shared Use Path; ROW Not Available	E	3	0.036
Ryan Rd	Belmont Ridge Rd to Cotton Grass Wy	Shared Use Path; ROW Not Available	E	1	0.120
Ryan Rd	Forest Run Dr to Loudoun County PW	Shared Use Path; ROW Not Available	E	1	0.909
Ryan Rd	0.08mi W of Willington Sq to 0.05mi E of Willington Sq	Shared Use Path; ROW Not Available	W	1	0.130
Seneca Ridge Dr	Cottage Rd to Augusta Dr	Shared Use Path; ROW Not Available		7	0.110
Seneca Ridge Dr	Cottage Rd to Augusta Dr	Shared Use Path; ROW Not Available		2	0.117
Shaw Rd	S Sterling Blvd to 0.07 N of Old Ox Rd	Shared Use Path; ROW Not Available		6	0.405
Shaw Rd	S Sterling Blvd to Old Ox Rd	Shared Use Path; ROW Not Available		6	0.384
Shellhorn Rd	Beginning of divided road to Loudoun County Pw	Shared Use Path; ROW Not Available	S	6	1.279
Shellhorn Rd	0.07mi S of Ashburn Village Blvd to 0.25mi W of Loudoun County Pw	Shared Use Path; ROW Not Available	N	6	0.790
South Riding Blvd	US 50 to Tall Cedars Parkway	Shared Use Path; ROW Not Available		1	0.622
Sterling Blvd	E Brunswick St to E Church Rd	Shared Use Path; ROW Not Available	N	7	1.010
Sterling Blvd	E Brunswick St to E Church Rd	Shared Use Path; ROW Not Available	S	7	1.015
Sterling Blvd	E Church Rd to E Beech Rd	Raised Cycle Track; ROW Not Available	N	7	0.354
Sterling Blvd	E Church Rd to E Beech Rd	Raised Cycle Track; ROW Not Available	S	7	0.348
Sterling Blvd	E Beech Rd to Shaw Rd	Shared Use Path; ROW Not Available	N	7	1.173
Sterling Blvd	E Beech Rd to Shaw Rd	Shared Use Path; ROW Not Available	N	6	0.617
Sterling Blvd	E Beech Rd to W&OD Trail	Shared Use Path; ROW Not Available	S	7	1.169
Sterling Blvd	0.07mi S of W&OD Trail to Shaw Rd	Shared Use Path; ROW Not Available	S	7	0.541
Sterling Blvd	Ramp from Sully Rd S to Sterling Blvd to Pacific Blvd	Shared Use Path; ROW Not Available	N	6	0.227
Sugarland Run Dr	Potomac View Rd to Richland Cir	Raised Cycle Track; ROW Not Available	E	7	0.081
Sugarland Run Dr	Potomac View Rd to Richland Cir	Raised Cycle Track; ROW Not Available	E	2	0.164
Sugarland Run Dr	Potomac View Rd to Richland Cir	Raised Cycle Track; ROW Not Available	W	2	0.244

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Sugarland Run Dr	Park Hill Ln to 0.04mi W of Park Hill Ln	Shared Use Path; ROW Not Available	E	2	0.043
Sugarland Run Dr	Park Hill Ln to 0.04mi W of Park Hill Ln	Shared Use Path; ROW Not Available	W	2	0.041
Sycolin Rd	Goose Creek to 0.08mi W of Houseman Ter	Shared Use Path; ROW Not Available		3	0.261
Sycolin Rd	Dulles Greenway to beginning of divided road	Shared Use Path; ROW Not Available		8	0.055
Sycolin Rd	0.05 mi E of Generation Dr to Belmont Ridge Rd	Raised Cycle Track; ROW Not Available	E	8	0.295
Sycolin Rd	0.05 mi E of Generation Dr to Belmont Ridge Rd	Raised Cycle Track; ROW Not Available	W	8	0.301
Tall Cedars Pkwy	Loudoun County Parkway to US 50	Shared Use Path; ROW Not Available	E	1	2.013
Tall Cedars Pkwy	Loudoun County Parkway to S Riding Boulevard	Shared Use Path; ROW Not Available	W	1	0.391
Tall Cedars Pkwy	0.05 Miles East of Edgewater Street to US 50	Shared Use Path; ROW Not Available	E	1	0.009
Truro Parish Dr	Belmont Ridge Rd to Stillbrook Farm Dr	Shared Use Path; ROW Not Available	E	6	0.952
US 50 John S Mosby Hwy	0.65 Miles West of Stone Springs Boulevard to 0.23 Miles West of Stone Springs Boulevard	Shared Use Path; ROW Not Available	E	3	0.416
US 50 John S Mosby Hwy	0.65 Miles West of Stone Springs Boulevard to 0.01 Miles East of Stone Springs Boulevard	Shared Use Path; ROW Not Available	W	3	0.650
US 50 John S Mosby Hwy	Pinebrook Road to 1.17 Miles East of Loudoun County Boulevard	Shared Use Path; ROW Not Available	E	3	0.266
US 50 John S Mosby Hwy	Pinebrook Road to 1.17 Miles East of Loudoun County Boulevard	Shared Use Path; ROW Not Available	E	1	0.758
US 50 John S Mosby Hwy	Pinebrook Road to Poland Road	Shared Use Path; ROW Not Available	W	3	0.502
US 50 John S Mosby Hwy	Pinebrook Road to Poland Road	Shared Use Path; ROW Not Available	W	1	1.298
US 50 John S Mosby Hwy	1.2 Miles West of Elk Lick Road to 0.03 Miles East of Poland Road	Shared Use Path; ROW Not Available	E	1	0.719
US 50 John S Mosby Hwy	0.32 Miles West of Tall Cedars Parkway to Tall Cedars Parkway	Shared Use Path; ROW Not Available	E	1	0.320
US 50 John S Mosby Hwy	Tall Cedars Parkway to Pleasant Valley Road	Shared Use Path; ROW Not Available		1	0.616
US 50 John S Mosby Hwy	Pleasant Valley Road to East County Line	Shared Use Path; ROW Not Available		1	0.144
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	E	7	1.317
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	E	6	0.853
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	E	2	1.071
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	W	7	1.313
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	W	6	0.007
VA 7 Harry Flood Byrd Hwy	0.06mi E of Atlantic Blvd to Fairfax County line	Shared Use Path; ROW Not Available	W	2	1.898
Victoria Station Dr	Shortleaf Terrace to Cascades Pw	Shared Use Path; ROW Not Available		7	0.078
W Church Rd	0.17mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	E	7	0.120
W Church Rd	0.12mi E of Sully Rd to Morgan Wy	Shared Use Path; ROW Not Available	W	7	0.160
W Holly Ave	W Church Rd to N Sterling Blvd	Shared Use Path; ROW Not Available		7	0.722
Waxpool Rd	Demott Dr to Dulles Greenway	Shared Use Path; ROW Not Available	E	6	0.138
Waxpool Rd	Truro Parish Dr to Dulles Greenway	Shared Use Path; ROW Not Available	W	6	0.660
Waxpool Rd	Shellhorn Rd to 0.03mi W of Faulkner Pw	Raised Cycle Track; ROW Not Available		8	0.136
Waxpool Rd	Shellhorn Rd to 0.03mi W of Faulkner Pw	Raised Cycle Track; ROW Not Available		6	0.013
Waxpool Rd	Waxpool Rd to Ladyslipper Sq	Shared Use Path; ROW Not Available	E	8	0.080
Waxpool Rd	0.05mi W of Ashburn Village Blvd to Ashburn Village Blvd	Shared Use Path; ROW Not Available	W	8	0.054
Waxpool Rd	Broderick Dr to 0.15mi W of Sully Rd	Shared Use Path; ROW Not Available	E	6	0.536

Road Name	Endpoints	Recommendation	Travel Direction	Supervisor District	Estimated Length (Miles)
Waxpool Rd	0.06mi E of Regency Dr to Waxpool Rd	Shared Use Path; ROW Not Available	E	8	0.121
Waxpool Rd	0.06mi E of Regency Dr to Waxpool Rd	Shared Use Path; ROW Not Available	E	6	0.599
Waxpool Rd	Pacific Blvd to 0.15mi W of Sully Rd	Shared Use Path; ROW Not Available	W	6	0.294
Waxpool Rd	Lockbridge Rd to Uunet Dr	Shared Use Path; ROW Not Available	W	8	0.279
Waxpool Rd	0.08mi E of Uunet Dr to Farmwell Rd	Shared Use Path; ROW Not Available	W	8	0.237
Westwind Dr	State St to Loudoun County Pw	Shared Use Path; ROW Not Available	S	6	0.001
Westwind Dr	State St to Loudoun County Pw	Shared Use Path; ROW Not Available	S	1	0.298
Woodridge Pw	Silverpalm Grove Terrace to Iridium entrance	Shared Use Path; ROW Not Available	N	8	0.157

APPENDIX C - RECOMMENDATION MAPS

Figure 1: District 1 (South) Recommendations

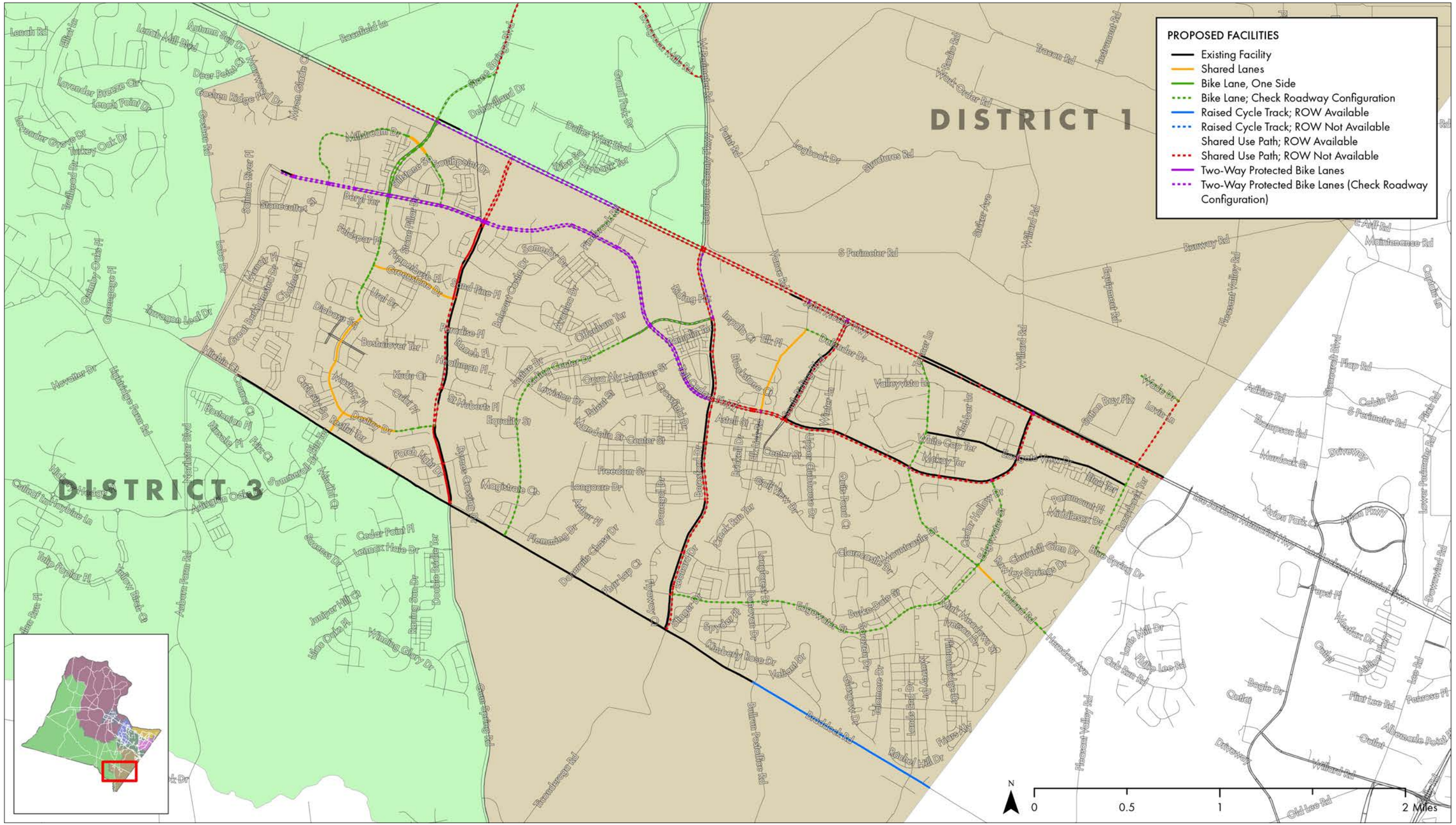


Figure 2: District 1 (North) and District 3 Recommendations

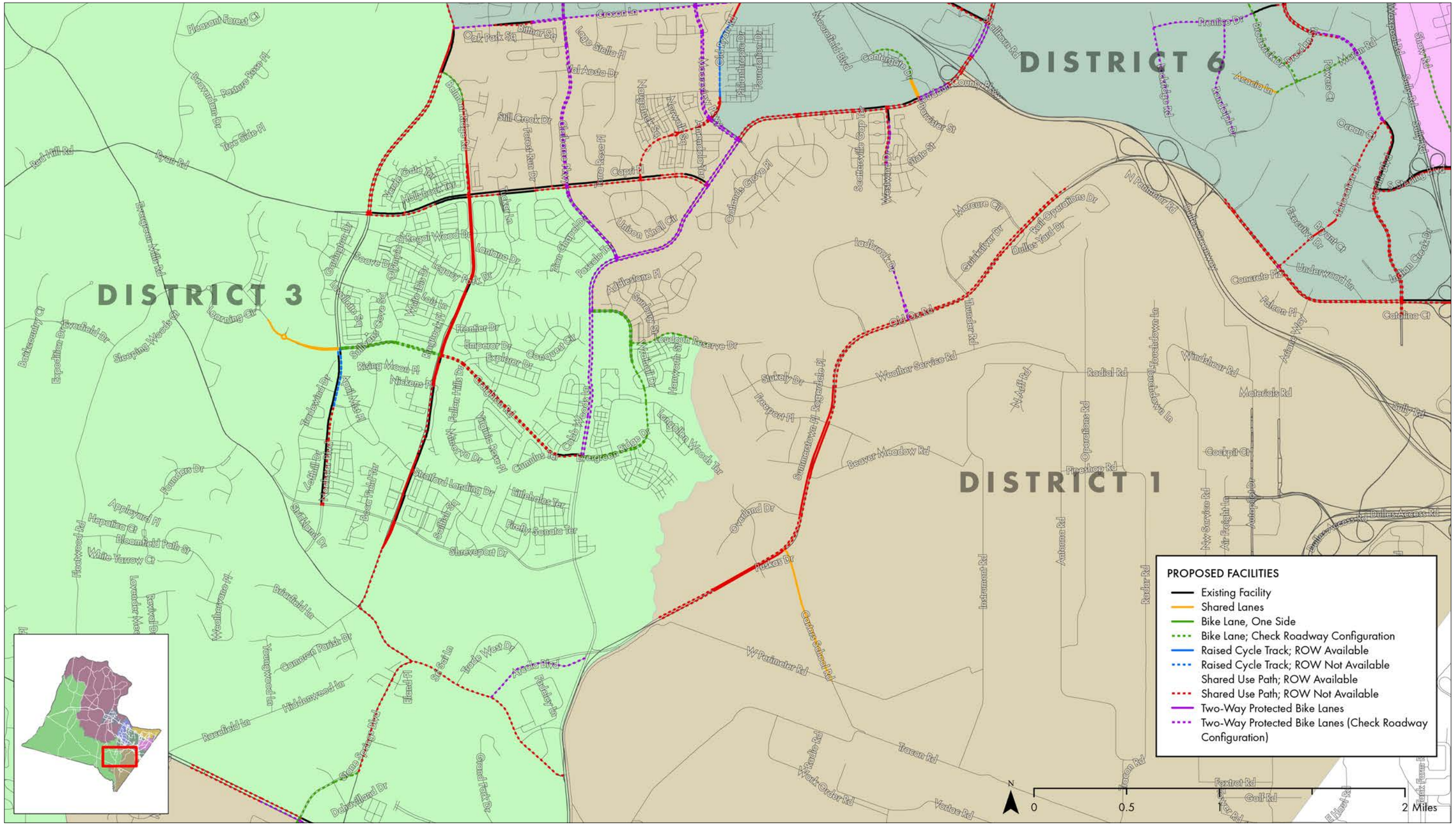


Figure 3: District 2 Recommendations

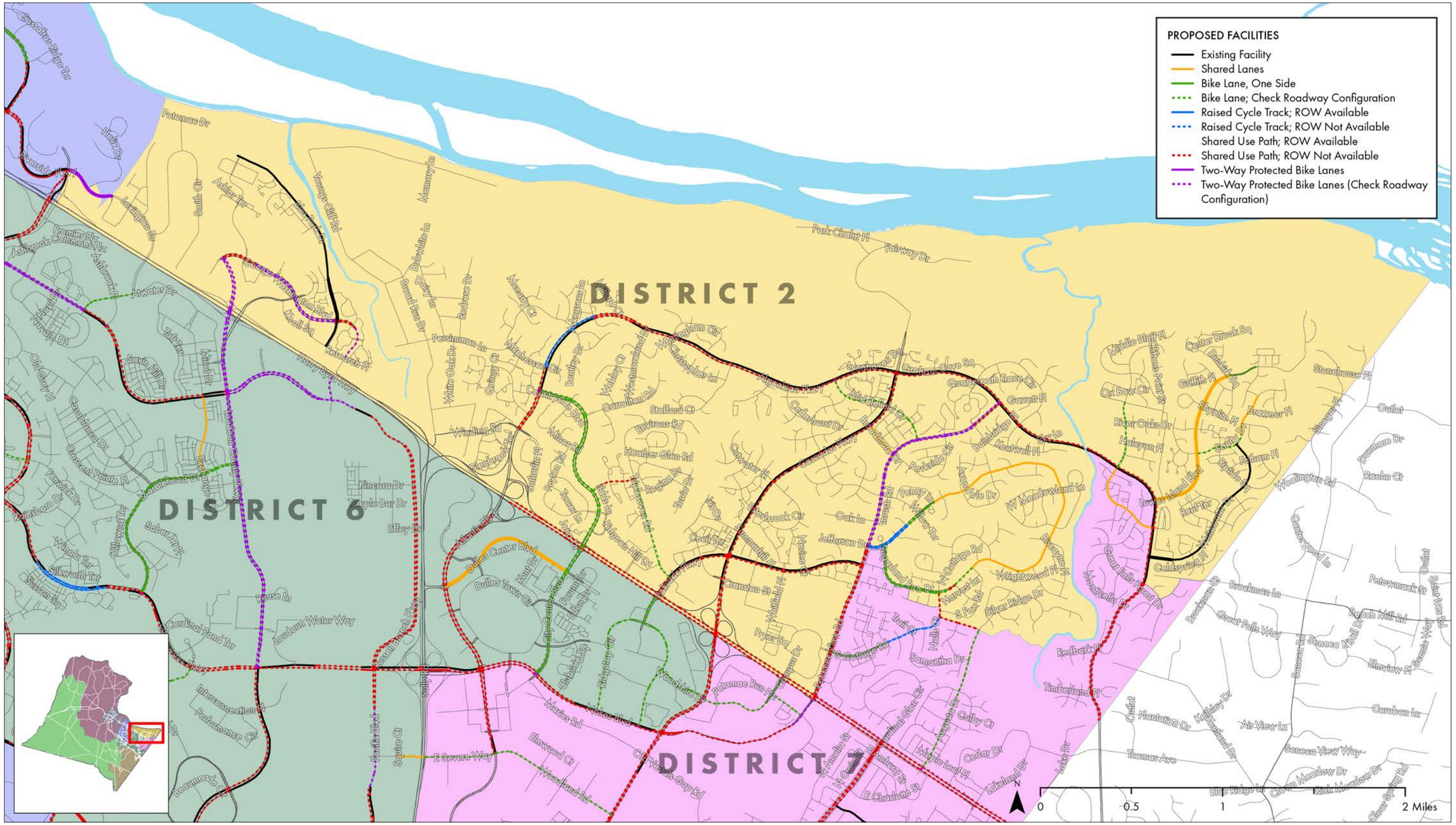


Figure 4: District 6 Recommendations

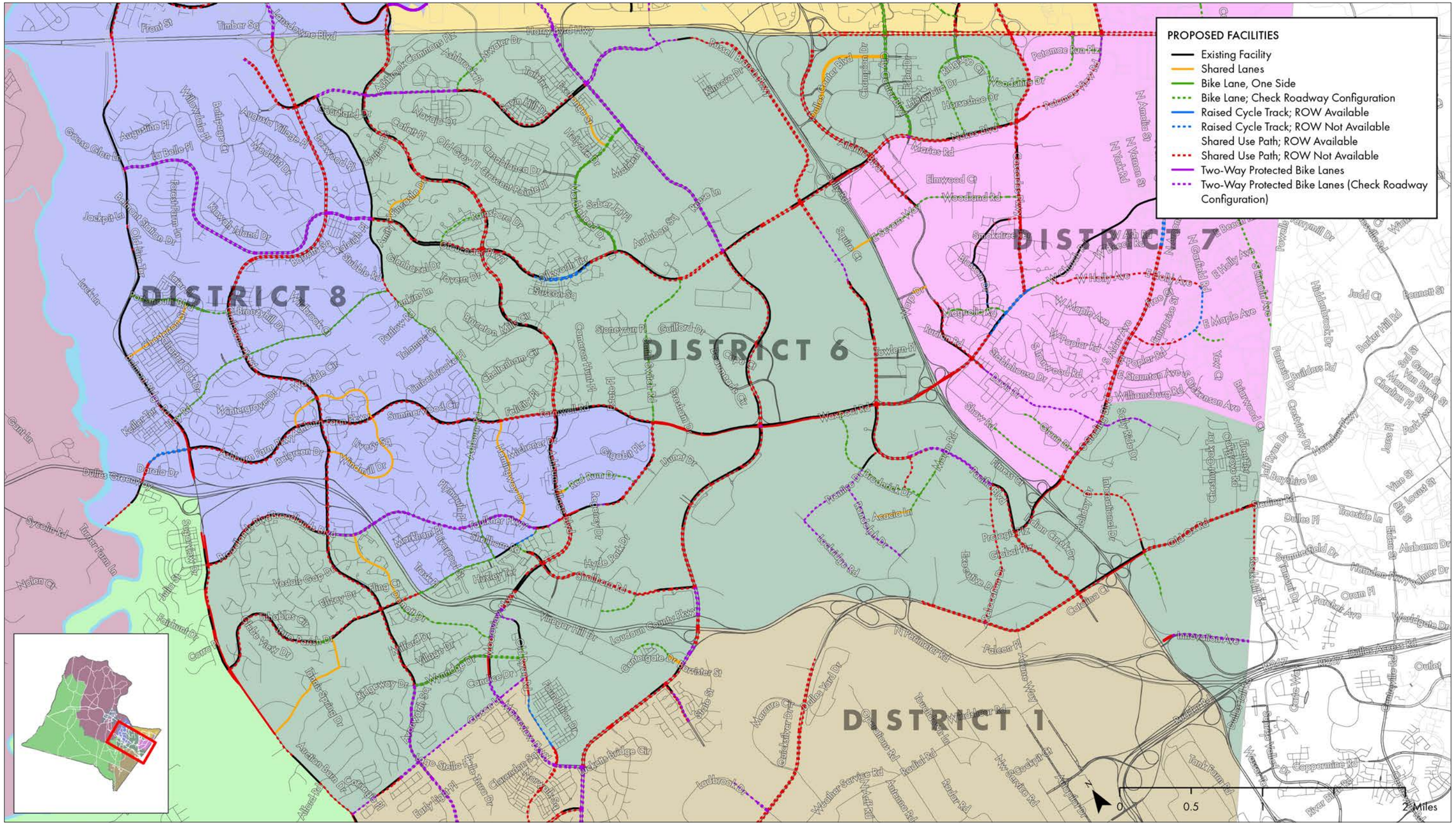


Figure 5: District 7 Recommendations

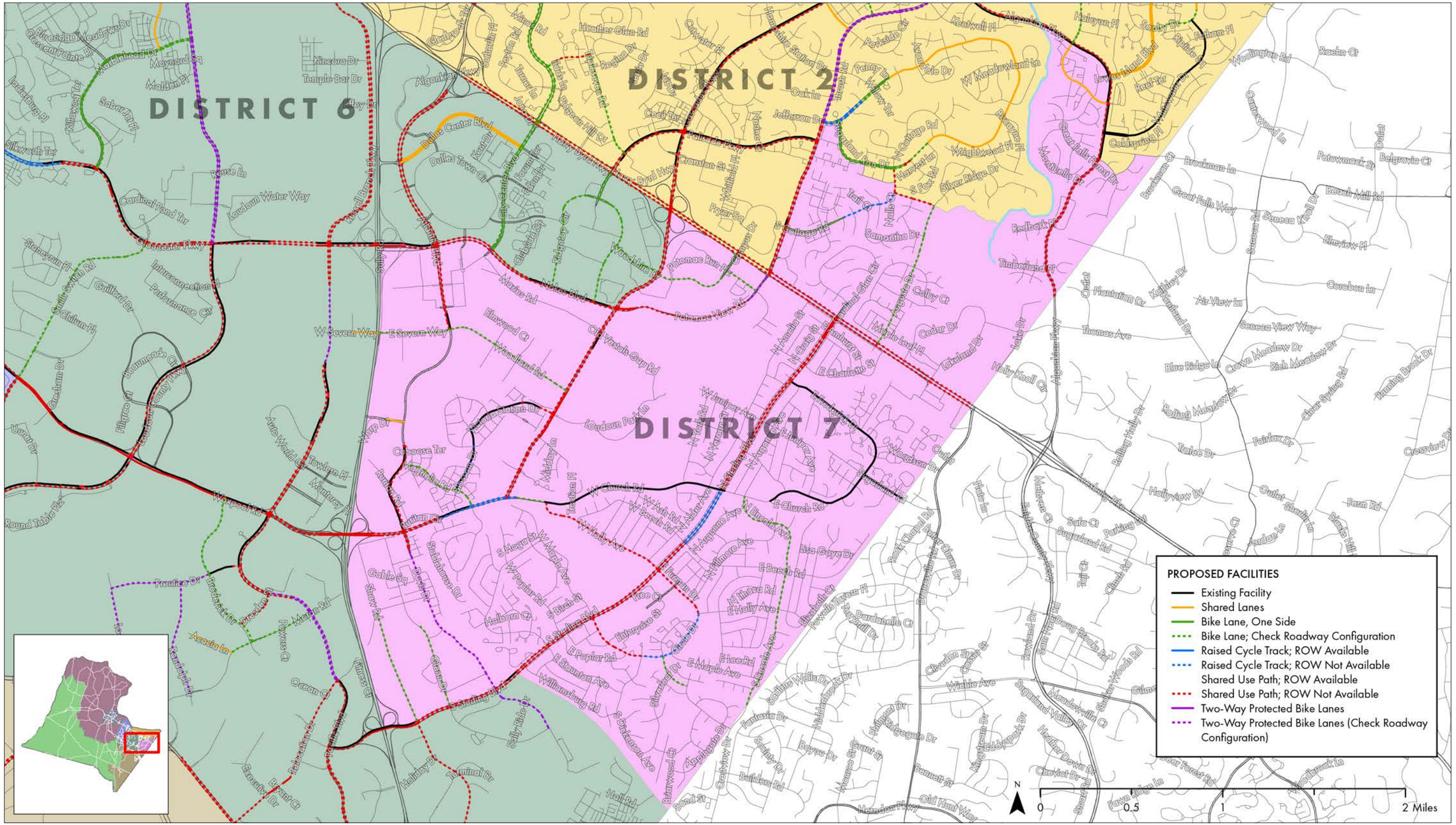
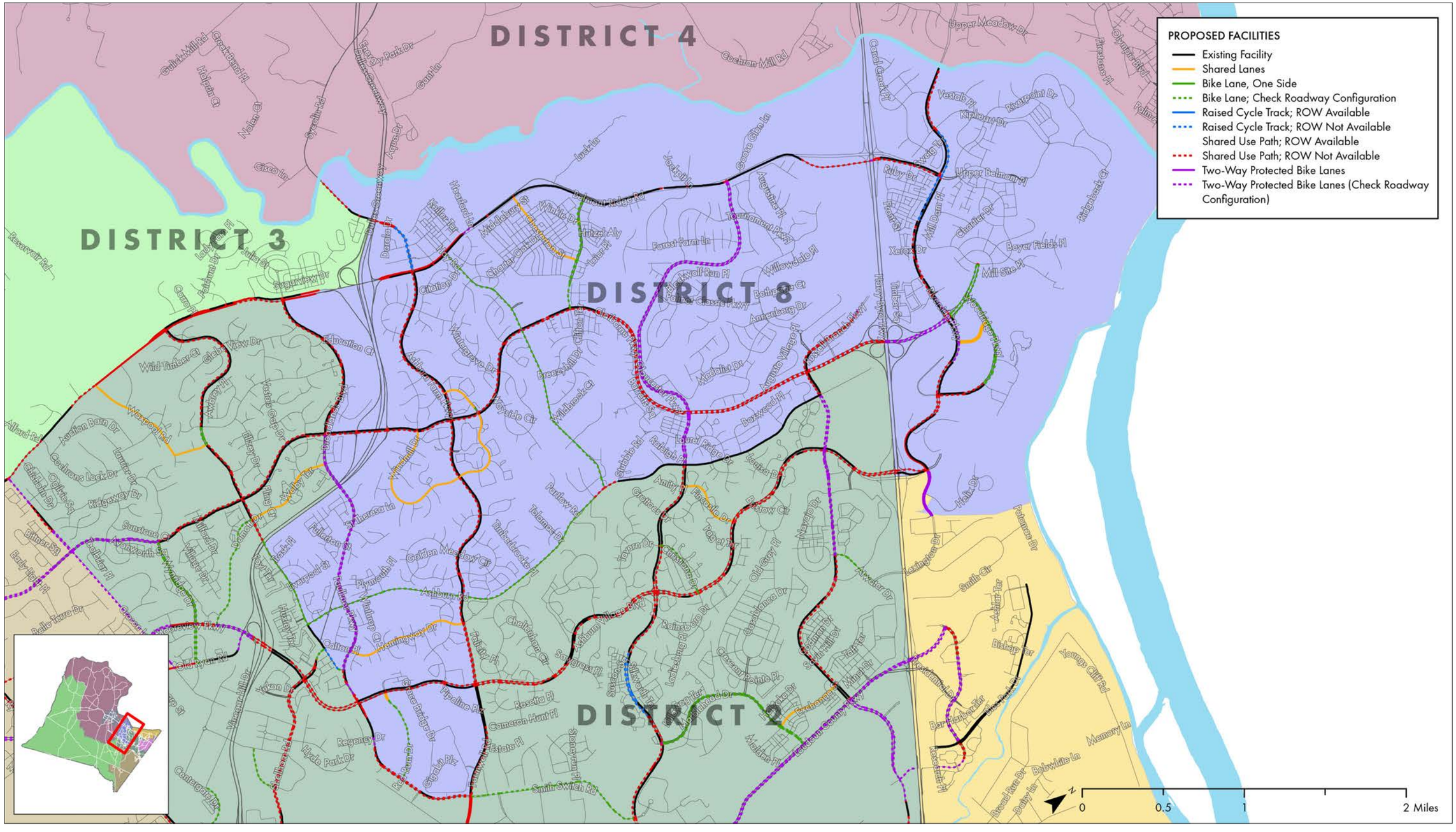


Figure 6: District 8 Recommendations



On-Street Bikeway Gap Analysis and Assessment