Chapter IX. Transportation

Introduction

Transportation issues in Herndon are shaped by a location near the western end of the Dulles Technology Corridor, a concentration of high technology companies expanding westward from the Capital Beltway, and significant levels of residential growth in Loudoun County. The Town's transportation environment is characterized by direct links to major metropolitan area highway, air, and rail transportation facilities. A network of major highways and arterial streets interconnects Herndon and surrounding communities in Fairfax and Loudoun counties.

This plan element includes strategies addressing Greater Herndon area transportation links as well as strategies recommended within the Town itself. The document also sets forth a Proposed Major Street Network and recommends numerous specific facility improvement projects. The Town's annual capital improvement program (CIP) document sets forth a number of specific transportation projects.

Incorporated by reference into this chapter, the Herndon Bicycle Network Master Plan is the first long-range plan to guide the multimodal approach to transportation within the Town. This plan was developed by the Town's staff in partnership with the Pedestrian & Bicycle Advisory Committee and adopted through resolution by the Town Council on August 13, 2019. It provides clear and consistent guidelines for bicycle network improvements, promotes and encourages cycling as a viable alternative mode of travel, and improves the level of service for cyclists.

Also, incorporated by reference within this chapter, the Herndon Pedestrian Plan was adopted by the Town Council on October 29, 2019. This document is a strategic plan which outlines ways in which the Town of Herndon can make walking to everyday destinations safer, more desirable, and more convenient. The Pedestrian Plan defines and provides clear and consistent direction for pedestrian network improvements, promotes and encourages walking as a viable alternative mode of travel, and improves the level of service for pedestrians

The Town seeks multimodal solutions within an integrated transportation system that balances the service levels of the various users and meet Complete Streets best practices and policies.

Street Classifications

Town streets are designated within categories that are consistent with the functional classifications used by the Virginia Department of Transportation and the Federal Highway Administration. These categories are based on three urban street systems: the Urban Principal Arterial System, the Urban Minor Arterial System and the Urban Collector System. For the purposes of additional planning specificity within the Town, Minor Arterials and Collectors have each been subdivided into two types. The following Functional Classifications Chart displays the functions and features of each classification and its federal/state equivalent.

Principal Arterial roadways such as the Dulles Access Toll Road and the Fairfax County Parkway border the Town. Urban Minor Arterials such as South Elden, East Elden and East Spring Streets carry high volumes and a significant amount of through traffic. Town Minor Arterials such as Worldgate Drive and Spring Street west of Herndon Parkway are also very important to the circulation pattern within the Town. Collector streets provide access within residential, commercial, and industrial areas, channel traffic from local residential streets into the arterial system, and provide circulation within the downtown.

2015 TRANSPORTATION PLAN – FUNCTIONAL CLASSIFICATIONS

Town Functional Classification	Typical Functions and Appropriate Policies	Typical Road Section Features	Maximum Volume (VPD)	Typical R.O.W. Width	FHWA/VDOT Equivalent
Principal Arterial Roadways (none lie within the Town boundaries) Example: Fairfax County Parkway	Highest volume, longest trips; connects major metropolitan centers. Appropriate for truck traffic.	**Limited access, grade-separated interchanges 4+ travel lanes, wide medians and shoulders.**	40,000 +	200' + (60m +)	Urban Principal Arterial System (Interstates, Other Freeways and Expressways, Other Urban Principal Arterials)
Urban Minor Arterial Streets (significant through movement) Example: South Elden Street	Higher volume, through movements connecting major suburban centers; major bus routes; interconnects with Principal Arterial system. Appropriate for truck traffic.	**4 to 6 travel lanes, large medians, dedicated turning lanes, pedestrian / bicycle facilities on both sides of the street.**	40,000	100' + (30m +)	Urban Minor Arterial Street System (Urban Minor Arterials are not subdivided)
Town Minor Arterial Streets (predominantly intro-Town movement) Example: Worldgate Drive	Moderate length trips, somewhat lower mobility, land use access, local bus routes; interconnects with Principal Arterial system. Regional through movement in generally discouraged. Appropriate for truck traffic.	**4 travel lanes, medians, dedicated turn lanes, pedestrian / bicycle facilities on both sides of the street.**	30,000	80' + (24m +)	
Major Collector Streets Example: Old Elden Street (between Sterling Rd and Monroe St)	Direct service to local areas, circulation within residential, commercial or industrial areas; channels residential streets on to arterials. Facilitate traffic flow; limited driveway access.	**Generally 2 travel lanes*, dedicated turn lanes, parking lanes in some cases; pedestrian facilities on both sides of the street where feasible.**	20,000	60' + (18m +)	Urban Collector Street System (Collectors are not subdivided)
Minor Collector Streets Example: Alabama Drive	Land access service, channels residential streets on to Major Collectors and Arterials. Support moderate mobility, parking can usually be accommodated.	**2 travel lanes, parking lanes in some cases, pedestrian facilities on at least one side of the street.**	10,000	50-60' (15-18m)	
Local Streets Example: Magnolia Lane	Direct access to abutting land use, lowest mobility, usually no bus routes. Discourage through movement; support appropriate traffic calming devices.	**2 travel lanes, parking lanes except in older areas; pedestrian facilities on at least one side of the street.**	5,000	40-60' (12-15m)	Urban Local Street System

*Any four lane streets should be divided with a median.

KEY: VPD = Vehicles Per Day (24 hour period)
R.O.W. = Full street right of way
FHWA = Federal Highway Administration
VDOT = Virginia Department of Transportation

Existing Conditions

Table 1 displays 24-hour traffic counts for 2006, giving an indication of existing conditions on the Town's major streets. In general, it is likely that traffic on these streets will continue to increase in the future. The extent of this increase in traffic will depend mostly upon:

1. Increased resident and workforce population associated mainly with new residential and commercial developments in and around the Town;

2. What is done to improve (or reduce) the capacity of these streets; and

3. What is done to provide (or reduce) capacity on other streets that traffic could use, in and around the Town; and

4. What is done to influence the use of various modes of transportation?

TABLE 1: Traffic at the Town Limits (*Two-way volumes in vehicles per day, VPD*)

Count Station Name	Station Number #	2000 Base Year	2001	2004	2005	2006	Net Change 2000-2006	Percent Change 2000-2006
Dranesville Road	1	26,151	23,210	18,329	17,588	18,637	-7,514	-28.7%
Elden St. (East)	2	31,201	32,976	34,590	30,630	31,285	84	0.3%
Spring St. (East)	3	47,213	46,049	38,978	35,617	35,714	-11,499	-24.4%
Van Buren St. (South)	4	19,042	18,571	19,608	23,095	23,236	4,194	22.0%
Elden St. (South)	5	41,450	41,581	41,098	36,475	N/A*	N/A*	N/A*
Sterling Road	6	30,874	30,937	31,366	34,586	34,423	3,549	11.5%
Crestview Drive	7	14,495	14,654	14,347	14,212	18,703	4,208	29.0%
Totals		210,426	207,978	198,316	192,203	161,998	-6,978	9.7%

* Data not available due to major construction on South Elden Street.
Source: Town of Herndon, Department of Public Works Traffic Counts

For comparison, examples of traffic counts on other major area roadways are listed below, in annual average vehicles per day for 2004.

Route 267 (Dulles Toll Road), From Route 7 to Route 674 (Hunter Mill Road)	90,000
Route 267, from Route 602 (Reston Parkway) to Centreville Road	78,000
Route 7, from Route 228 (Dranesville Road) to Route 28	48,000
Route 602 (Reston Parkway) from Sunrise Valley Dr. to Sunset Hills Rd.	32,000

Source: Fairfax County Economic Development Authority, Area Business Reports, February 2007.

Goals for Transportation

1. To provide a transportation system that safely accommodates all modes of local traffic.

2. To encourage the use of major regional roads and highways outside of the Town for regional traffic.

3. To establish a Complete Streets policy that aligns the Town with the current practices in the regional and national levels;

4. To plan, design, and operate needed transportation systems consistent with the Town's character and in accord with Complete Streets principles to include maintaining a peaceful and harmonious environment.

5. To use the transportation system to help guide growth and development within the Town.

6. To divert through traffic away from local streets and from the downtown.

7. To facilitate active modes of transportation in accord with the Town'sBicycle Network Master Plan and Pedestrian Plan

8. Provide safe and convenient streets that are friendly to pedestrians and bicyclists

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Objectives for Transportation

1. To manage the great majority of through traffic movement within the Minor Arterial Street System.

2. Design and construct road improvements that preserve the small-town character and scale of Herndon, to include traffic management, landscaping and noise abatement amenities conducive to minimize disruption and maintain quiet neighborhoods.

3. Provide efficient and safe flows of traffic on major streets through careful design and use of modern traffic signal technology.

4. Identify and program sufficient resources to complete major elements or upgrades to the planned road network.

5. Continue to support the Herndon Metrorail Station of the Dulles Corridor rail system and develop plans for surrounding access to the station.

6. Continue to integrate pedestrian and bicycle facilities and connections across the transportation network through the Multimodal Transportation and Enhancement Program and other project components of the Town's capital improvement program involving transportation improvements, in accordance with Complete Streets principles.

7. Apply appropriate traffic calming techniques and improvements to enhance vehicular and pedestrian safety and to preserve neighborhood character. Develop a policy regarding speed bumps and seek creative solutions to calm traffic.

8. Minimize conflicting traffic movements by means of improved road design on arterial streets.

9. Identify opportunities to promote and provide safe, healthy, and convenient access and travel for all user of the transportation network while reducing crash rates and severity of crashes

10. Encourage mode shift to non-motorized transportation and transit by enhancing safety and provision and maintenance of bicycle and pedestrian facilities.

Transportation Strategies

The following strategies reflect specific courses of action in support of the goals and objectives outlined above. Transportation policies for the Town are not simply based on projections of future demand and a program of improvements to meet that demand. Rather, plans and policies reflect an approach which balances mobility and efficiency with other expressed community goals such as retaining a small-town atmosphere and quality of life. Greater Herndon Strategies focus on promotion of county, regional and state level efforts to improve the arterial network outside the Town. Town wide Strategies focus on the transportation system within the town limits.

Greater Herndon Strategies

1. Support the continued funding, design and construction for transportation improvements to and from the Herndon Metrorail Station.

2. Support continued funding to ensure safe and convenient operations of the completed Metrorail Silver Line and Fairfax Connector operations

3. Support the completion by Fairfax County and VDOT of the extension of Wiehle Avenue to Lincoln Avenue.
4. Promote the interconnection of arterial street systems in Loudoun and Fairfax Counties to improve the availability of truck routes without heavy dependence on Herndon Parkway.

5. Promote the connection over the Dulles Access Toll Road of Sunrise Valley Drive to Rock Hill Road. This connection is included in the Fairfax County Comprehensive Plan and physical space for this connection touchdown has been provided within new development at the south side of the Dulles Toll Road.

6. Monitor/coordinate transportation planning activities west of the Town in Loudoun County (Route 606, Rock Hill Road, Shaw Road, Davis Drive. Potential connections to Innovation Drive).

7. Promote pedestrian and bicyclist safety through better diversion of through traffic and possible bike lanes integration as depicted in the Bicycle Network Master Plan

Townwide Strategies

1. Investigate transportation system management techniques to alleviate future traffic congestion and delay, including the following:

    a. Continue implementation and manage the automated traffic signal technology project to provide efficient flows of traffic on major streets;

    b. Develop incentives to encourage transportation demand management by employers, property owners, and developers (e.g. carpools, flex hours, membership in the Dulles Area Transportation Association, etc.);

    c. Support independent transportation associations, such as the Dulles Area Transportation Association, which attempt to reduce commuter traffic;

    d. Participate in planning for feeder bus service to regional commuting facilities including the Herndon and Route 28 Metrorail stations;

    e. Support telecommuting to reduce trip generation, including telecommuting centers located within the Town;

    f. Advocate for Fairfax Connector routes and coordinate with local transit agencies in implementing the strategy to provide convenient and timely access for Town residents, (both regional commuters and residents needing to access services and employment within Fairfax County and other nearby employment areas) to transit connections and commercial, employment and recreational destinations within and outside of the Town, to include a convenient loop connecting the HTOC, Downtown, and Worldgate developments.

2. Accept high levels of congestion during peak traffic periods where additional street capacity could be provided only on widened streets that would adversely affect the Town's character.

3. Implement appropriate traffic calming measures through the work of the Town's Traffic Engineering Improvement Committee; a variety of appropriate measures should be considered, consistent with the Manual of Uniform Traffic Control Devices, to mitigate traffic impacts and retain the small-town scale and urban character

4. Provide protected left turn and right turn lanes at major intersections as warranted with appropriate techniques to maintain safe operating conditions for active transportation models.

5. Avoid the use of unprotected center lanes painted with left turn arrows for opposing directions of traffic (two-way left turn lanes).

6. In accord with the Town's adopted Bicycle Network Master Plan and Pedestrian Plan, provide an attractive, safe, and convenient pedestrian and bicycle trail network within the Town which connects to the regional trail network:

a. Continue use of a capital improvement program to improve the pedestrian environment along major streets and complete the missing sections of trails and bicycle network as designated in the Bicycle Network Master Plan and Pedestrian Plan;

b. Follow sidewalk and trail construction standards appropriate to pedestrian patterns and types of streets, as indicated by the Downtown Streetscape Overlay Policy, the Bicycle Network Master Plan, Pedestrian Plan, the Fairfax County Public Facilities Manual, and the Virginia Department of Transportation;

c. Provide crosswalk striping, pedestrian signals, cyclist signals as appropriate, and corner curb cuts where sidewalks function as trails;

d. Continue to pursue grant funding to supplement town resources for trails and sidewalks;

e. Provide suitable accommodations for bicycles in accord with state and local standards and in accord with national guidelines for best practices;

f. Use Complete Streets principles and Bicycle Network Master Plan and Pedestrian Plan, as a general reference guide for enhancing pedestrian and bicycle connectivity between the Herndon Transit-Oriented Core and the Washington and Old Dominion Railroad Regional Park.

7. Evaluate all street, trail, or sidewalk improvement projects for conformance with applicable planning and policy documents including but not limited to the Pedestrian Plan, Bicycle Network Master Plan, Streetscape Manual, Sustainability Plan and Complete Street policies.

8. Encourage use of the Herndon Parkway by through traffic and discourage new curb cuts and median breaks; provide signal synchronization and intersection improvements.

Major Street Network

The proposed Major Street Network depicted on MAP G is designed to achieve the Town's goals. Through traffic should be encouraged to utilize Herndon Parkway and the arterial streets on the Town's periphery. Elden Street inside of the loop formed by the Herndon Parkway should be used by local traffic. Through traffic should be discouraged from using this section of Elden Street. A network of smaller streets will handle traffic in the downtown. This is consistent with the unique character of downtown Herndon, which is designed to slow traffic down and spread it on to local streets, where the destination Land uses are located. This contrasts with the high-speed, limited-access arterial concept which has detracted from many other older downtowns.

The projects listed below are needed to achieve the proposed Major Street Network over a planning horizon stretching to the year 2030. Projects which are included within the capital improvements program are denoted by "(CIP)" at the end of the description. In some cases, this is indicative only of funds programmed for traffic study/concept plan efforts, or of out-year funding listed as "to be determined."

1. Dulles Corridor Rail Station: Pedestrian, bus and bicycle access to the proposed rail transit station to be located within the Dulles Airport Access Road median. Metrorail plans for the Herndon Station are to include a pedestrian bridge with escalators and elevators landing within the Town of Herndon at its southern boundary along the Dulles Toll Road. The plans provide for a sidewalk extending northward from the landing area to Herndon Parkway. In addition to projects shown in the Capital

Improvement Program, use, as a general reference guide for enhancing pedestrian and bicycle connectivity between the Herndon Transit-Oriented Core and the Washington and Old Dominion Railroad Regional Park. The Town will seek enhanced Metrorail Station access by constructing additional bike and pedestrian links in the station vicinity in accord to the Bicycle Network Master Plan and Pedestrian Plan. The Town will maintain limited areas for vehicles to safely drop passengers for the Metrorail station. All of the north side access facilities shall be considered part of the Herndon Metrorail Station, a feature shown on the 2030 Land Use Plan map. (CIP) See the Herndon Transit-Oriented Core Plan, Chapter 6 of the Herndon Metro Station Area Study, for specific multimodal features to be implemented;

2. Solicit Fairfax County for an improved internal transit system to facilitate trips to Metrorail through the Fairfax Connector bus transit service~~;~~

3. East Elden Street: (Urban Minor Arterial) Fairfax County Parkway interchange to Herndon Parkway; The project scope is to reconstruct East Elden Street to 6 lanes with raised median between Fairfax County Parkway and Herndon Parkway as well as a bridge upgrade and flood mitigation measures. The project is also to include cycle tracks on both sides of Elden Street from Herndon Parkway to the town limits This is a Virginia Department of Transportation Six-Year Plan project and the project is also included in Metropolitan Washington Council of Government's (MWCOG) Constrained Long Range Plan. (CIP);

4. East Elden Street: (Town Minor Arterial) turning lanes and street section improvements from Monroe Street to Herndon Parkway. The project scope is to construct a 4-lane section with a raised median and dedicated turning lanes between Herndon Parkway and Van Buren Street, and then transitioning to a 2-lane section with a left-turn lane when reaching Monroe Street. The project is to include bike lanes on both sides of Elden Street from Herndon Parkway to Van Buren Street. This is a Virginia Department of Transportation Six-Year Plan project and the project is also included in MWCOG's Constrained Long Range Plan. (CIP);

5. East Spring Street: (Urban Minor Arterial) widen to six lanes from Herndon Parkway to the East Town Line. The project is also to include turning lane capacity improvements and a 2-way cycle track on the south side of Herndon Parkway from the W&OD Trail towards Fairbrook Drive. See the Herndon Metro-Oriented Core Plan, Chapter 6 of the Herndon Metro Station Area Study for specific features to be implemented;

6. South Elden Street: (Town Minor Arterial) Herndon Parkway to Sterling Road, improve to divided four lane section. Project study area to encompass Elden Street/Sterling Road and Elden Street/Ferndale Avenue intersections. (CIP);

7. Worldgate Drive Extension: (Town Minor Arterial) construct a four-lane section from Van Buren Street to Herndon Parkway as shown on the Herndon Transit-Oriented Core Plan, Chapter 6 of the Herndon Metro Station Area Study.

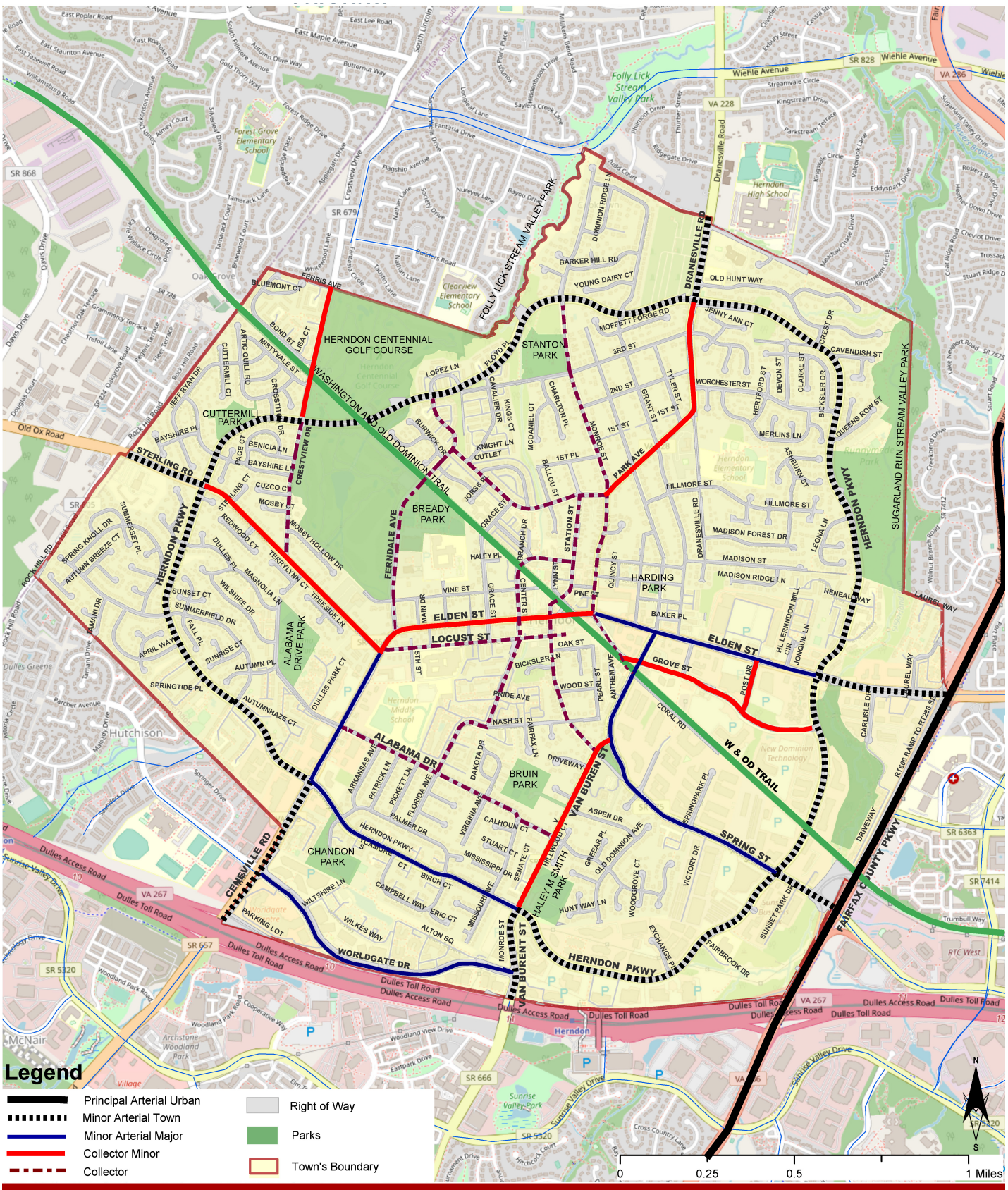
8. Herndon Parkway Improvements at Worldgate Drive Extension: (Town Minor Arterial) adds dedicated turning lane and LED traffic signalizations to improve road capacity and enhance safety. The intersection improvement connects to the existing ADA sidewalks and cycle tracks on the Herndon Parkway/Van Buren intersection and the bus bay drop-off/pick-up area of Herndon's Metrorail Station by the provision of additional ADA sidewalks.

9. Sterling Road Complete Street Improvements: (Town Minor Arterial) reconfigure the road as a multimodal corridor by converting the existing, undivided, three-lane section from Elden Street to Herndon Parkway to a two-lane roadway with a middle lane for turning movements, improved pedestrian, and bicycle facilities and, where appropriate, a landscaped median.

Longer term projects or projects anticipated to be financed and/or built mainly by private developers or other funding sources:

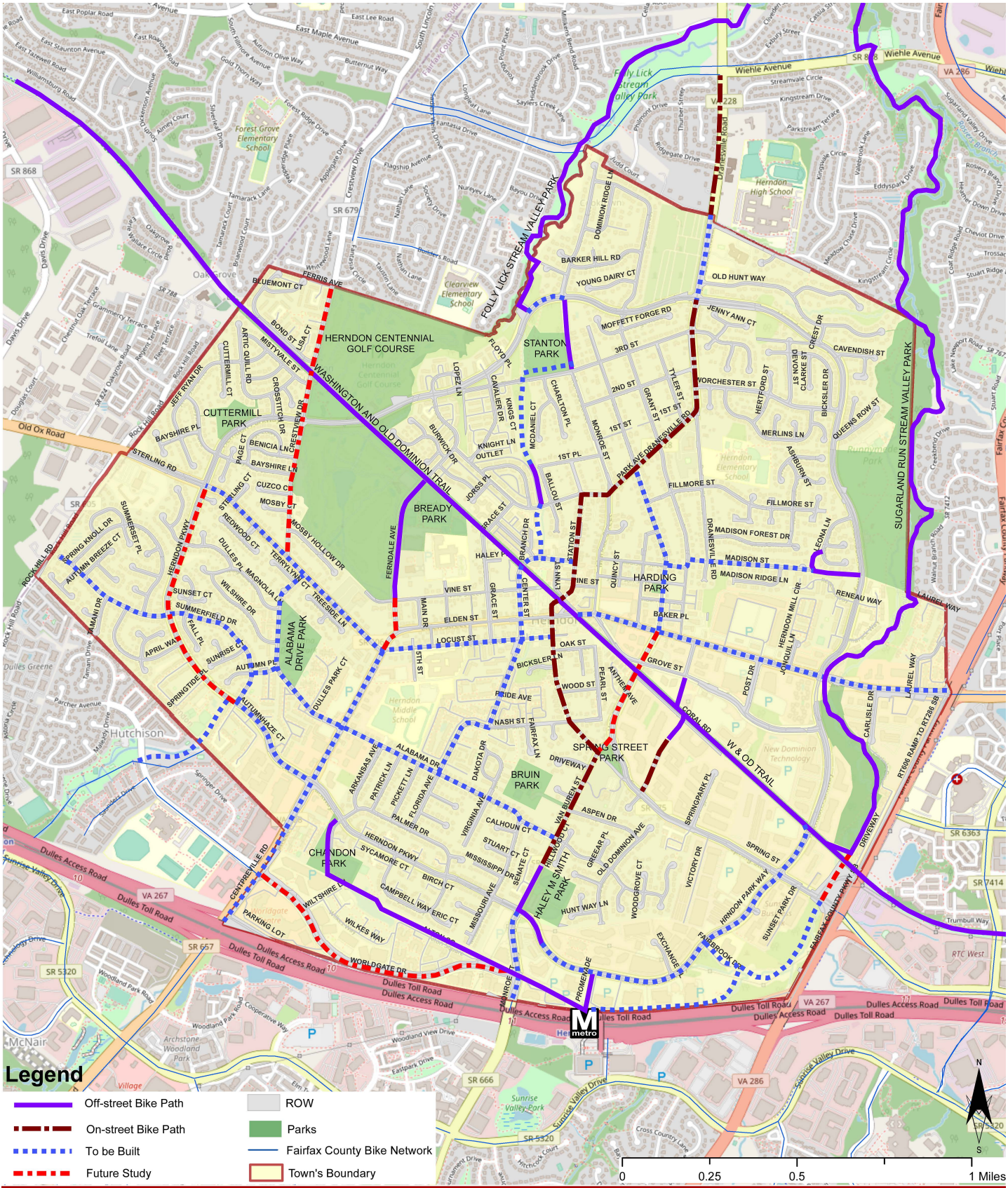
1. Fairbrook Drive: (Major Collector, approximately 1,500 feet) anticipated two travel lanes from end of the existing section of Fairbrook Drive to Spring Street, with additional turning lanes.

Map G: Town of Herndon Proposed Major Street Network *(Full scale map available at **www.herndon-va.gov** or through the Department of Community Development)*



Major Street Network

Map H: Town of Herndon Bicycle Network Master Plan *(Full-scale map available at **www.herndon-va.gov** or through the Department of Community Development)*



Bicycle Network Plan