

## 4. Transportation

*A keystone policy for future planning and facilities includes achievement of a multi-modal transportation system to reduce excessive reliance upon the automobile. Regional and local efforts will focus on planning and developing a variety of transportation options. Sidewalks, trails and on-road bicycle routes should be developed as alternate transportation facilities leading to mass transit, high density areas, public facilities and employment areas.*

– Excerpt from the Transportation element of the Policy Plan

### **Pedestrian and Bicycle Systems**

Transportation Policy Plan guidance encourages multiple modes of transportation including pedestrian and bicycle facilities and recognizes that roadway improvements alone cannot provide the needed transportation capacity for the future. Land use and transportation policies should be complementary to reduce the demand for roadway capacity and plan for multimodal options.

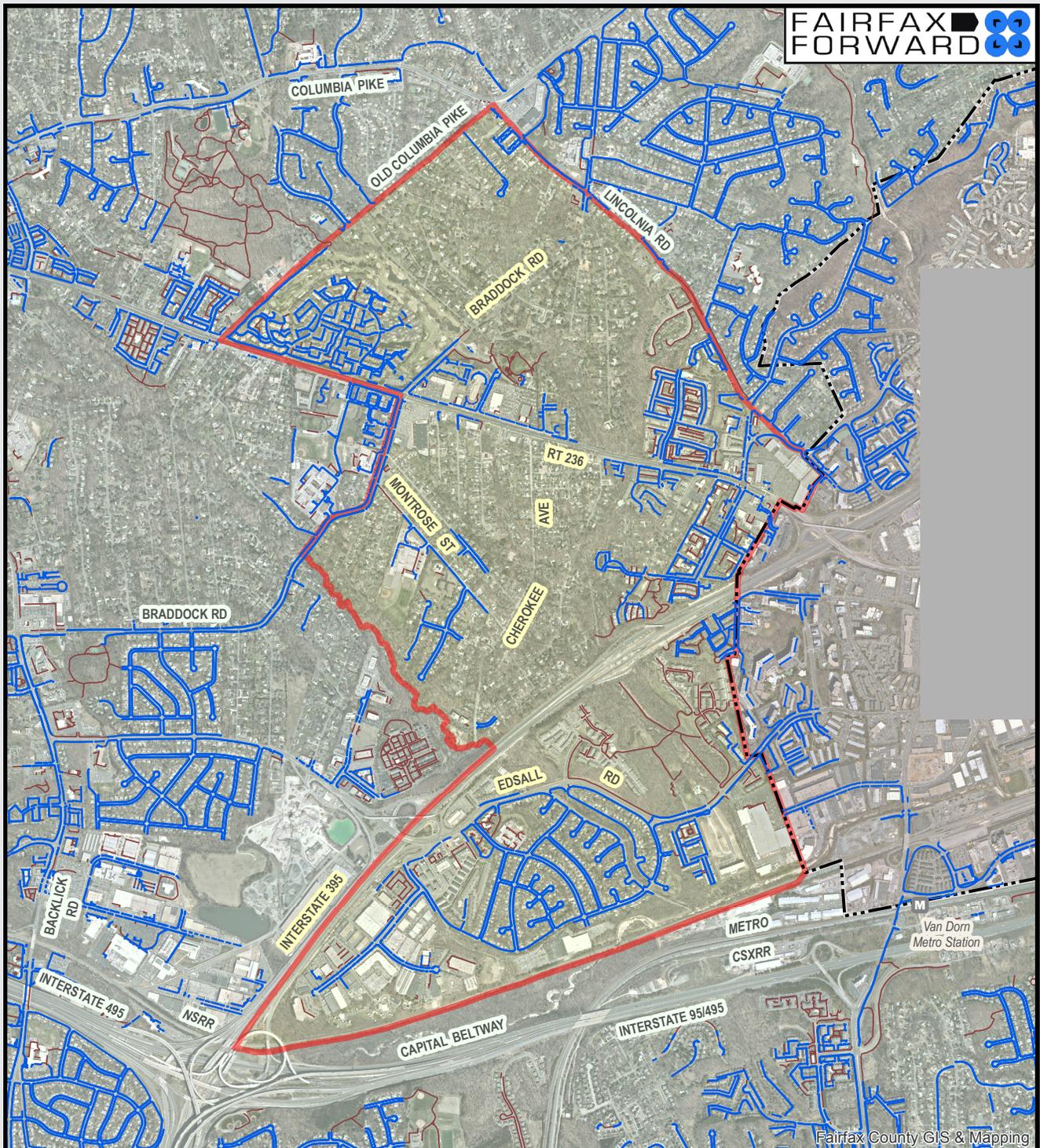
Current countywide policies addressing multimodal connectivity should be applied to the Lincolnia Planning District (PD). Sidewalks, trails and/or on-road bicycle routes which link residential areas with development centers, shopping districts, recreational facilities, and major public facilities should be provided. In addition, all new developments should mitigate adverse impacts upon the transportation system by facilitating transit access and promoting transit use and non-motorized transportation options.

#### *Existing Pedestrian and Bicycle Connectivity*

The presence of a trail or sidewalk network provides an opportunity for walking and bicycling, which can be convenient forms of transportation for local trips or as the first and last leg of a transit trip. An analysis of existing trails, bike lanes and sidewalks indicates pedestrian and bicycle connectivity throughout the Lincolnia PD is present to the greatest extent in the eastern and southern portion of the area, and could be improved overall.

Existing local and regional trails and sidewalks can be viewed at <http://www.fairfaxcounty.gov/parks/trails>. Details about existing bicycle routes in the county, including an interactive map, can be found on the Fairfax County Department of Transportation (FCDOT) website at <http://www.fairfaxcounty.gov/fcdot/bike/bikemap>.

As shown in the Walkability Map (Figure 4.1), there are few sidewalks or trails in the residential neighborhoods north of I-395 (L1 Pinecrest and L2 Lincolnia CPS compared to the neighborhoods south of I-395 (L3 Bren Mar Park CPS). North of I-395, many streets that provide vehicular connectivity to the greater transportation network do not have sidewalks. South of I-395, pedestrian facilities are present in a majority of the neighborhoods connecting residents to the greater transportation network. In general, neighborhoods that have few pedestrian facilities may result in pedestrians experiencing a difficult or unsafe walk to destinations such as retail areas, parks, or bus stops. The lack of facilities may also contribute to an auto-reliant environment.



**FAIRFAX  
FORWARD**

# Walkability

## Lincolnia Planning District

- Key
- Existing Sidewalks
  - Other Existing Walkways and Trails

↑

0 2000 Feet

Prepared by DPZ, July 2014

**Figure 4.1** Lincolnia PD Walkability Map.  
Source: Fairfax County GIS/DPZ

Little River Turnpike (Route 236) serves as a primary east/west pedestrian connection north of I-395 in the Lincolnia PD. Sidewalks and trails are present along the segment that serves the study area; however these facilities are not contiguous on both sides of the roadway. Pedestrians and bicyclists have to cross the roadway multiple times to travel along the length of Little River Turnpike safely. Pedestrian and bicycle access is particularly difficult in the vicinity of North Beauregard Street and Little River Turnpike. While this area has sidewalks and crosswalks, there are numerous curb cuts, wide intersections, and heavy vehicular traffic, which create a challenging pedestrian and bicyclist experience.

Edsall Road serves as a major east/west pedestrian connection south of I-395. Edsall Road has better sidewalk connectivity on both sides of the roadway compared to Little River Turnpike; however there are some missing links such as the area near the Bowl America and Edsall Garden Apartments in proximity to the interchange with I-395. For both roadways, breaks in connectivity can be partially attributed to the development of the area prior to county policies requiring the presence of pedestrian accommodations on both sides of roads.

Intersections at the major thoroughfares throughout the Lincolnia PD are large and need pedestrian and bicycle-oriented improvements to ensure a safe and pleasant experience for pedestrians and cyclists. The addition of elements such as uniform landscaping and lighting, buffering between vehicles and sidewalks or trails, and sitting areas in strategic locations may contribute to more attractive, viable, and enjoyable pedestrian or bicycle travel in the future.

#### *Countywide Trails Plan and Bicycle Master Plan*

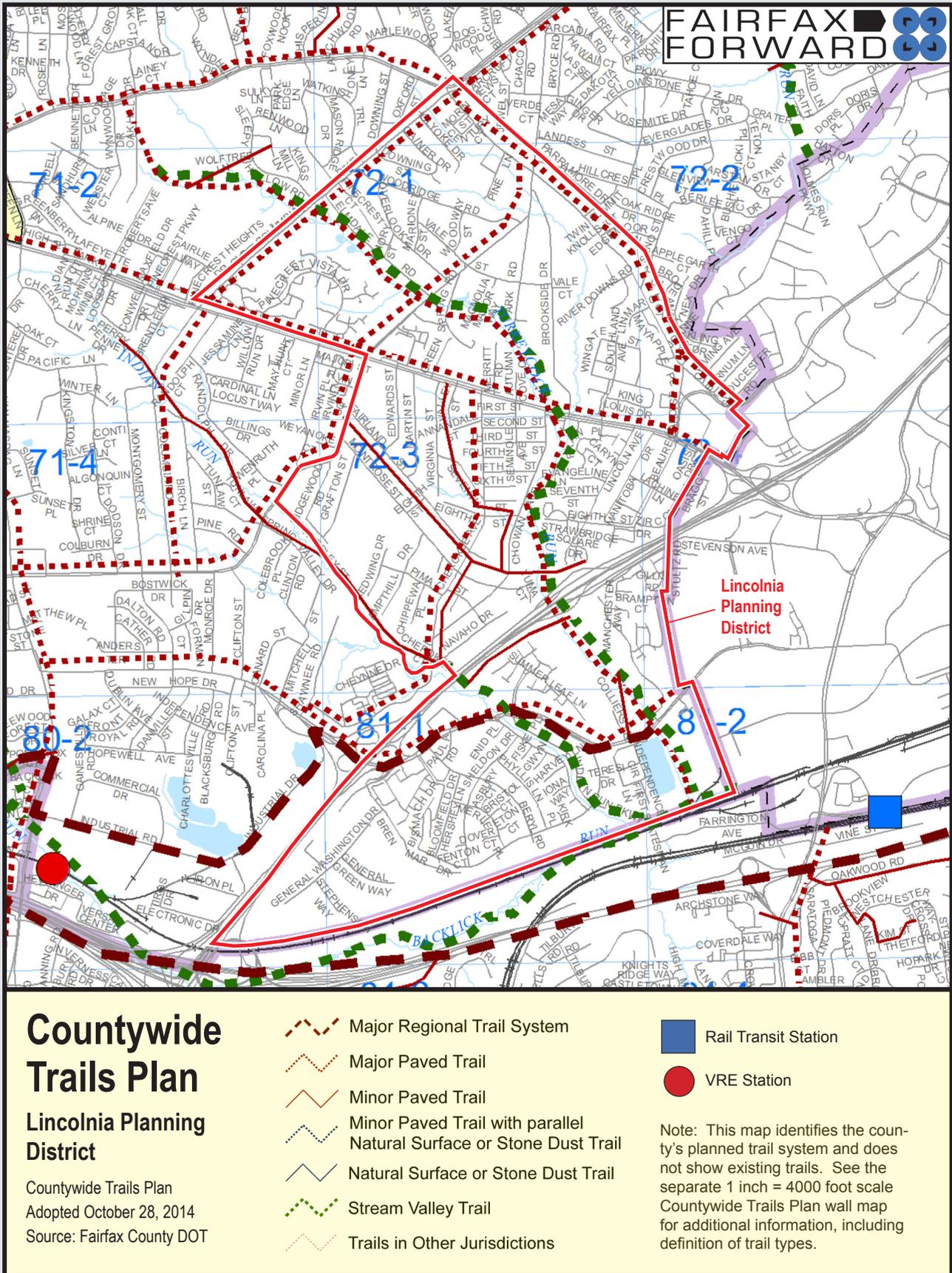
The Countywide Trails Plan Map and the Bicycle Master Plan contain recommendations for pedestrian and bicycle facilities and connectivity. Currently, the Countywide Trails Plan Map shows planned improvements for various trails and sidewalks. A detailed map of the planned trails in the study area is shown in the Countywide Trails Plan Map (Figure 4.2). Additional details about the different types of trails is contained in Appendix C. As shown on the map, a Major Regional Trail is recommended along Edsall Road. Major Paved Trails are recommended on Little River Turnpike, Braddock Road,



The intersection of Little River Turnpike and Beauregard Street is a large intersection in the Lincolnia PD.  
Source: Fairfax County



Deteriorating sidewalk conditions along Little River Turnpike pose safety concerns for pedestrians.  
Source: Fairfax County



**Figure 4.2** Lincolnia Planning District portion of the Countywide Trails Plan Map  
Source: Fairfax County Department of Transportation

Old Columbia Pike, Lincolnia Road, Cherokee Avenue and along Turkeycock Run. Stream valley trails are shown for Turkeycock Run and Indian Run. Minor paved trails are also recommended, primarily in the L2 Lincolnia CPS.

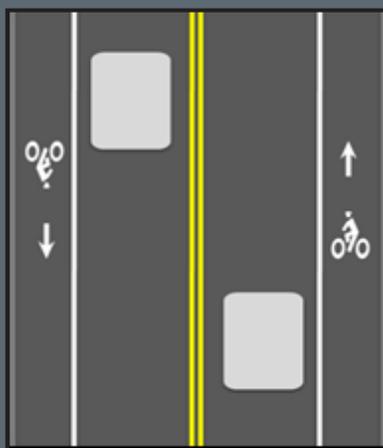
The Bicycle Master Plan was adopted by the Board of Supervisors on October 28, 2014. The Bicycle Master Plan includes revisions to the Countywide Trails Plan Map, and also:

- » Recommends improvements to the existing transportation system with the goal of creating a more bicycle-friendly transportation network;
- » Outlines how bicycle infrastructure can be incorporated into future roadway and transit projects; and
- » Develops policy guidelines recommending ways both the public and private sectors can establish and promote bicycling as a mode of transportation.

In the Lincolnia PD, the Bicycle Master Plan recommends bike lanes on Lincolnia Road and Edsall Road as shown in the Recommended Bicycle Network Map (Figure 4.5). Bicycle lanes include pavement markings that designate a portion of the roadway space exclusively for cyclists as illustrated below in Figure 4.3.

Recommended shared facilities in the Lincolnia PD include shared roadways, shared roadways with safety treatments, shared use paths, and sharrows. Shared facilities are recommended on Old Columbia Pike, Elmdale Road, Braddock Road, Vale Street, Brookside Drive, North Beauregard Street and Edsall Road.

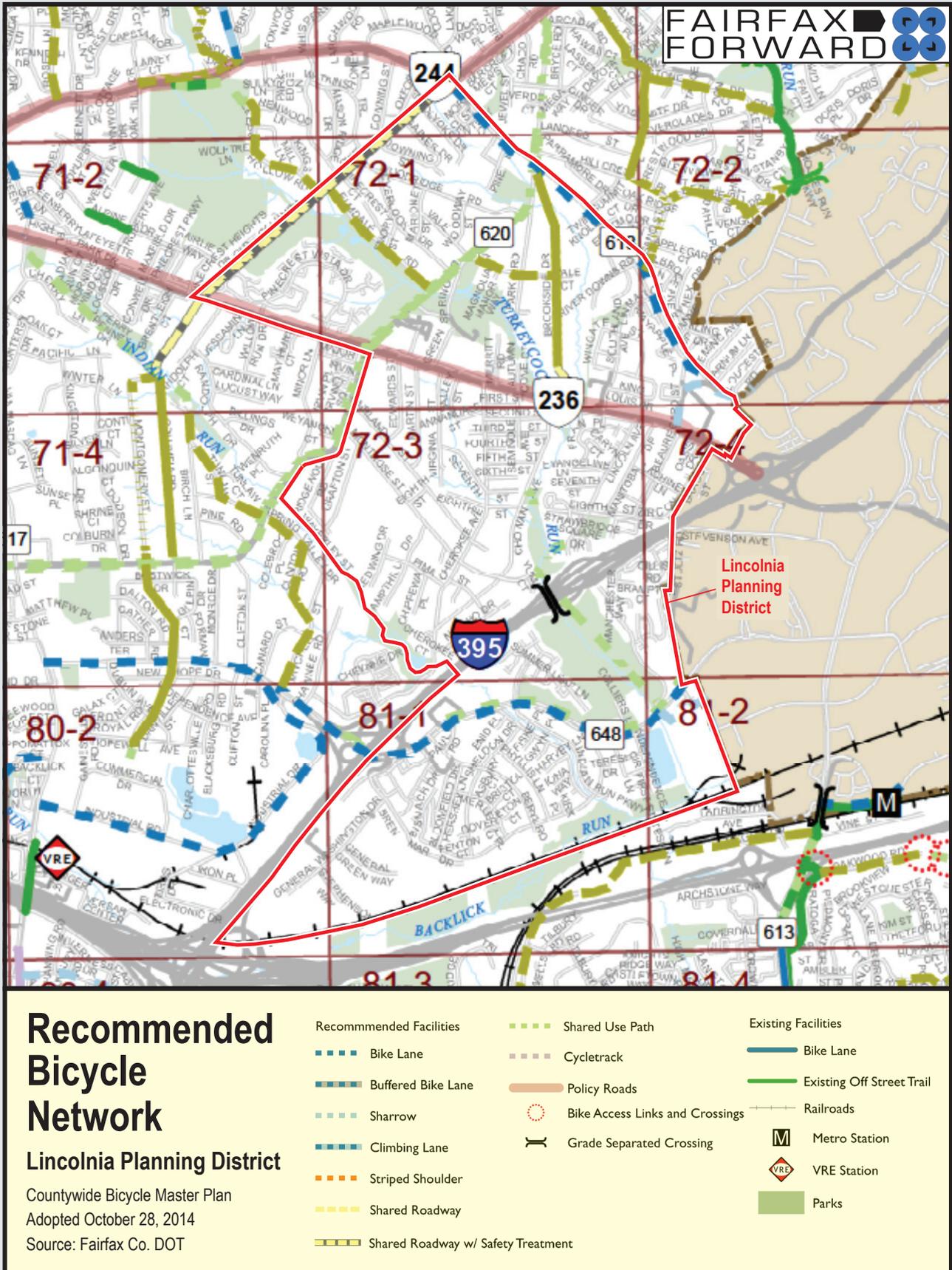
Shared roadways may have safety treatments such as signs that emphasize a cyclist's right to use the roadway, as shown below in Figure 4.4. These roads usually have a lower vehicle volume, and the roadways do not have any special bike treatments such as a separate bicycle lane. When needed, signs or other safety treatments are installed along sections of narrow, hilly, and/or curved roads to enhance a bicyclists' safety.



**Figure 4.3:** Illustration of bicycle lanes.  
Source: Fairfax County Bicycle Master Plan



**Figure 4.4:** Shared roadways with safety treatment concepts.  
Source: Fairfax County Bicycle Master Plan



**Figure 4.5** Lincolnia Planning District portion of the Countywide Bicycle Master Plan Recommended Bicycle Network.  
 Source: Fairfax County DOT/DPZ

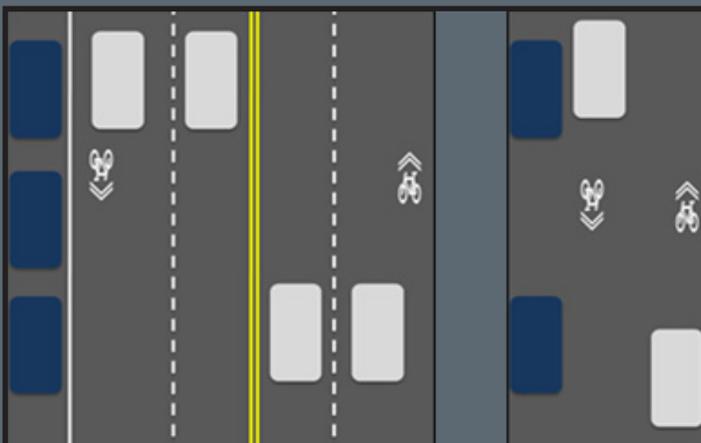
Shared-use paths are off-street multi-use facilities physically separated from vehicles, and are intended for use by bicyclists and pedestrians. Sharrowrows allow bicyclists and motor vehicles share the same travel lane. The markings help position bicyclists in the appropriate location on the road and provide a visual cue to motorists that bicyclists have the right to use the street.

All of the facilities mentioned are intended to help bicyclists travel safely in and through the Lincolnia PD to reach destinations such as shops, restaurants, offices, schools and parks. The implementation of the recommendations in the Bicycle Master Plan will help achieve the county's goal of accommodating all travel mode types within Fairfax County.

### Existing and Planned Transit Service

Transit service in the Lincolnia PD is offered by three providers: Fairfax County Connector; Washington Metropolitan Transit Authority (WMATA) Metrobus; and Driving Alexandria Safely Home (DASH). Buses use Little River Turnpike as a major cross-county connection which results in a high level of transit service in the study area. Proximity to the Mark Center and I-395 also contributes to the larger number of bus routes that serve the study area. Service in the Lincolnia PD can be broken down into two main service areas: north of I-395 and south of I-395. The Transit Existing Conditions Map (Figure 4.7) shows Metrobus, Fairfax Connector, and DASH bus routes.

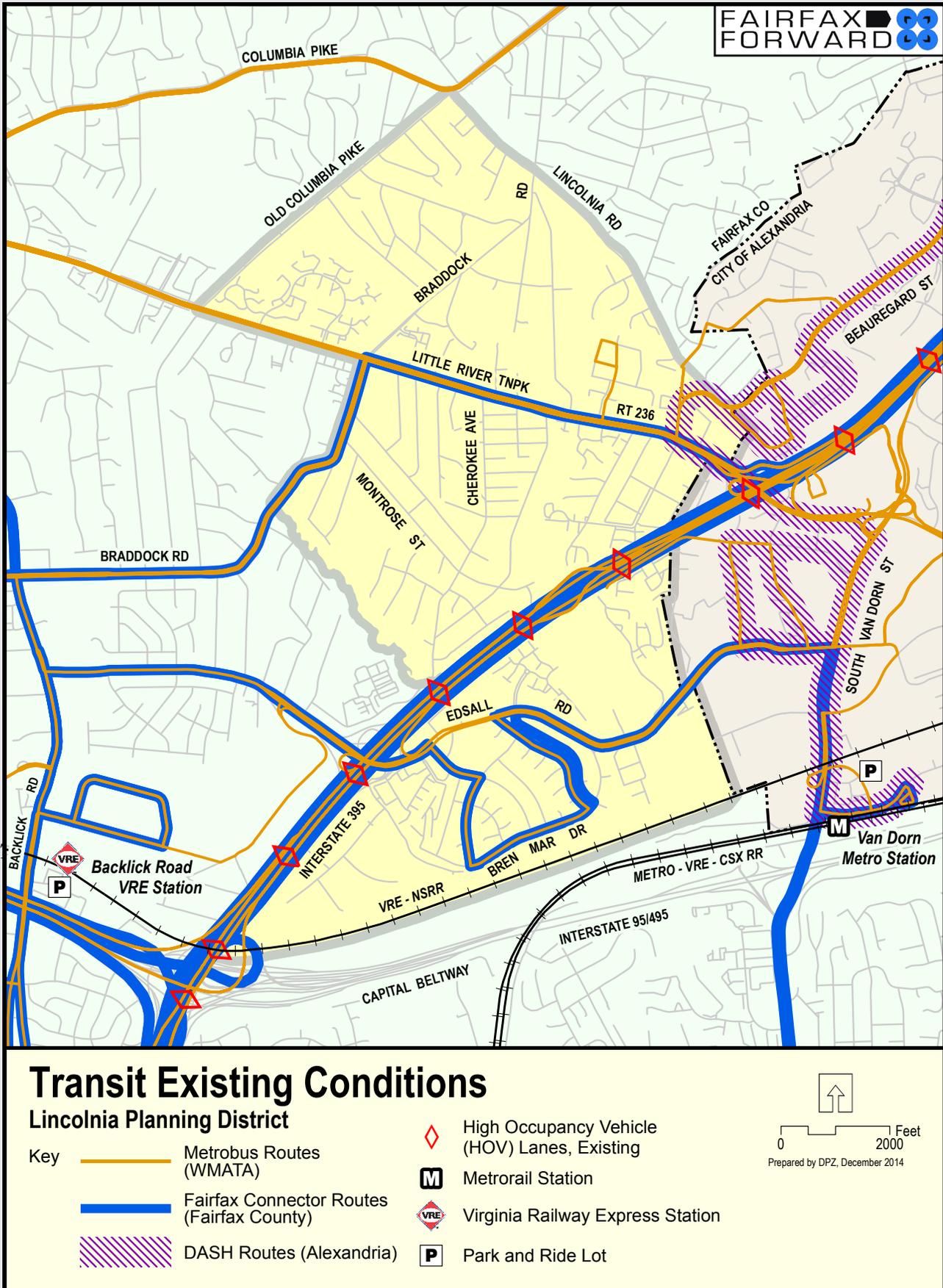
The table in Appendix C lists bus route numbers, peak headways, and general description of the route. The most up-to-date WMATA bus route information can be viewed online at <http://wmata.com/bus/timetables/>. Fairfax Connector bus route information can be viewed online at <http://www.fairfax-county.gov/connector/>, and information about DASH bus service can be found online at <http://www.dashbus.com/>.



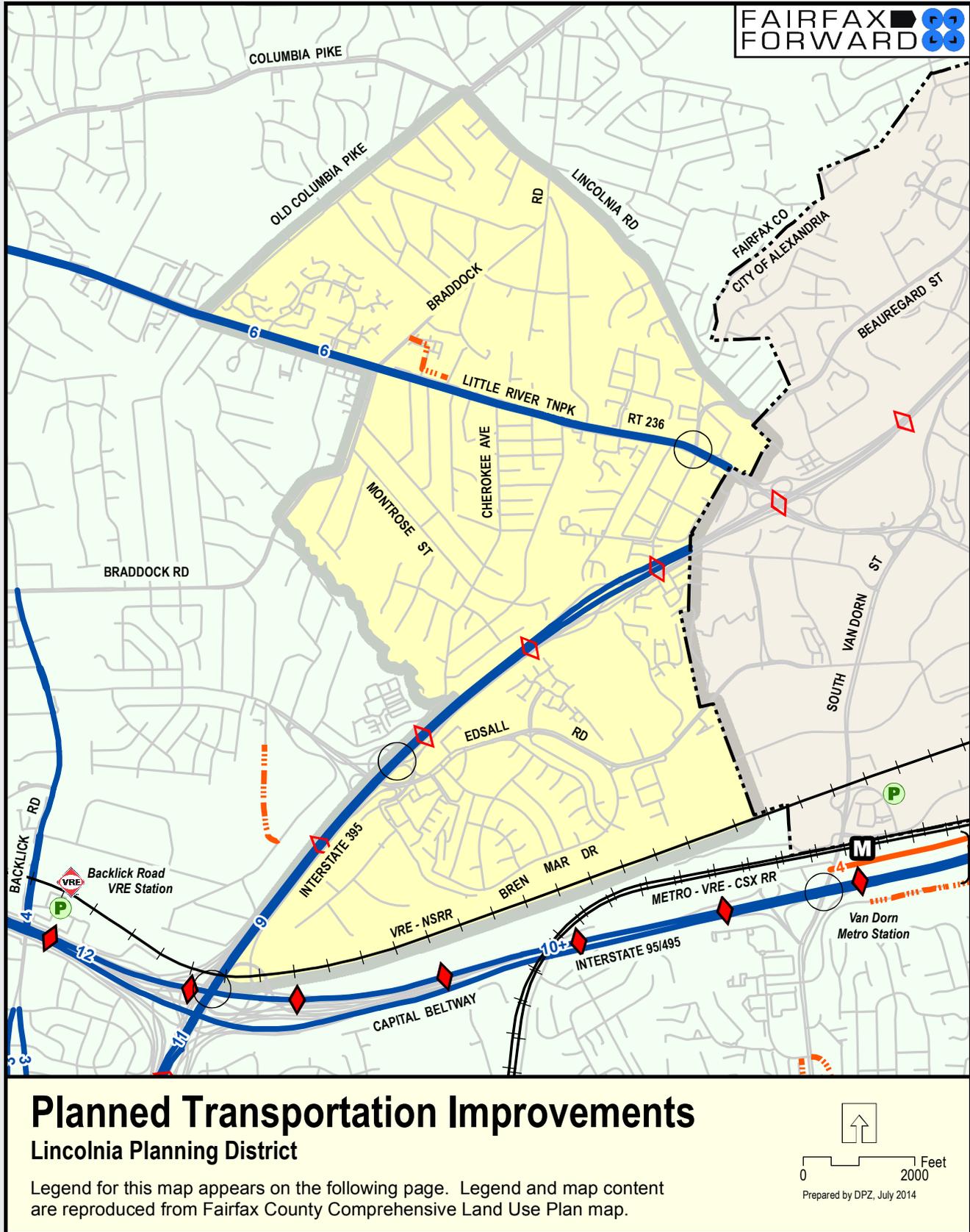
**Figure 4.6:** Shared lane marking concepts (sharrowrows)  
Source: Toole Design Group, Fairfax County Bicycle Master Plan



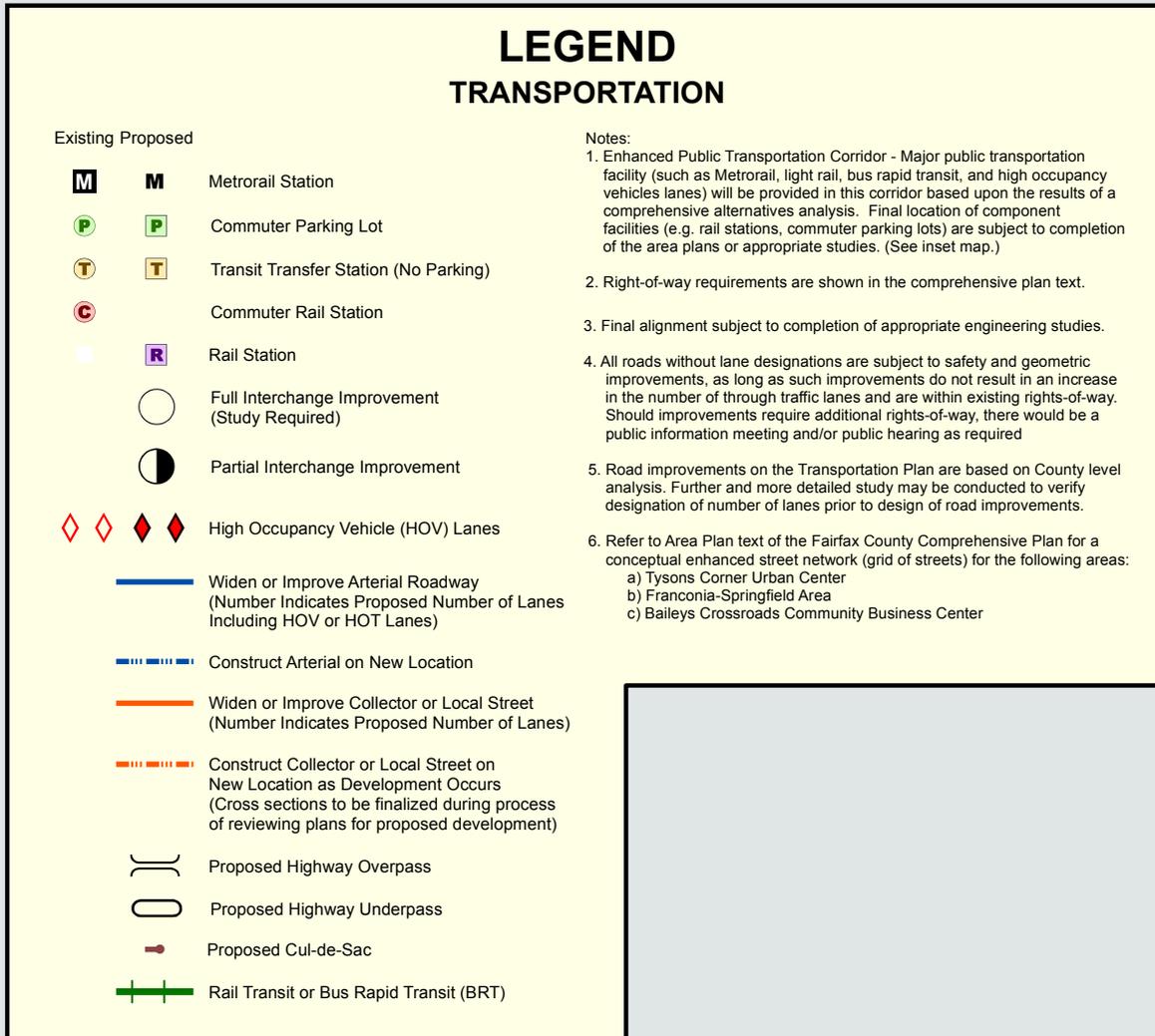
Sharrow along City of Fairfax's "Mason to Metro" bicycle route  
Source: City of Fairfax



**Figure 4.7** Lincolnia Planning District Transit Existing Conditions Map.  
Source: Fairfax County DOT/DPZ



**Figure 4.8** Planned Transportation Improvements Map for the Lincolnia Planning District.  
 Source: Fairfax County DOT/DPZ



**Figure 4.9:** Planned Transportation Improvements Map Legend.  
Source: Fairfax County DOT/DPZ

FCDOT has developed a ***Transit Development Plan (TDP)*** which is a ten-year fiscally unconstrained plan for Fairfax Connector and Metrobus service within the county. As such, the plan does not take into account financial or budgetary limitations. The TDP recommends enhanced bus service on Little River Turnpike.

The ***Countywide Transit Network Study (CTNS)*** is a long range planning effort in which the county is examining the types of high-quality transit options needed to accommodate the desired long term economic growth within the county. The study is considering locations for Metrorail extensions, light-rail, and bus rapid transit (BRT). The study is also identifying gaps in the transit network, and determining where connections should occur. The study's draft recommendations include express bus along Little River Turnpike. Information about the CTNS can be viewed at <http://www.fairfaxcounty.gov/fcdot/2050transitstudy>. Final recommendations are anticipated in the spring of 2015.

East of the Lincolnia PD, the City of Alexandria is conducting a ***West End Transitway*** study. The study considers a BRT line connecting the Van Dorn Street Metrorail Station, Landmark Mall, Mark Center, and Pentagon Metrorail Station, with possible service to the Northern Virginia Community College campus and Shirlington Transit Center. This study will provide a detailed analysis of the Transitway and determine an alignment of the route. In the future, possible connections to the Lincolnia PD could be evaluated, resulting in increased available transit options in the planning district. More information about the West End Transitway project can be viewed at <http://alexandriava.gov/WestEndTransitway>.

## Roadways and Intersections

### *Road Maintenance*

In general, roads with route numbers associated with them are maintained by the Virginia Department of Transportation (VDOT). For example, Little River Turnpike (Route 236) is maintained by the VDOT. VDOT is responsible for potholes, traffic signals and signs (except street name signs), trees/branches, curbs and gutters, and snow removal. Overall, there are very few miles of public roadway maintained by Fairfax County.

### *Countywide Transportation Plan*

The current Comprehensive Plan for the Lincolnia PD recommends transportation improvements related to roadways and intersections. These improvements as shown on Planned Transportation Improvements Map on page 56 (Figure 4.8). The map legend is shown in Figure 4.9 on page 57.

### *Interchanges*

- » Construct a new interchange at Little River Turnpike and Beaugard Street.
- » Improve the existing interchange at I-395 and Edsall Road.

### *At-Grade Improvements/Construction*

- » Widen Little River Turnpike to six lanes.
- » Widen I-395 to nine lanes within the study area; 11 lanes south of I-495.
- » Construct a collector road between Green Spring Road and Braddock Road (Route 620).

### *Multimodal Transportation*

- » Construct High Occupancy Toll (HOT) lanes on I-395. VDOT has determined that the northern terminus of the HOT lanes will be at Edsall Road, and not extend into the City of Alexandria.

## **Regional Transportation Planning**

The roadways in the Lincolnia PD function as part of a regional transportation network. There are two regional plans with recommendations for the Lincolnia PD: the Constrained Long Range Plan (CLRP) and TransAction 2040.

### *Constrained Long Range Plan*

The Regional Constrained Long Range Plan (CLRP) is a transportation plan developed by the National Capital Regional Transportation Planning Board (TPB) in cooperation with local jurisdictions. This plan contains projects that can realistically be funded over a 30-year time frame, ensuring that its recommendations can be implemented. Regional CLRP projects are also drawn from Fairfax County's Comprehensive Plan. The CLRP includes one recommendation in the Lincolnia PD, which is to widen Little River Turnpike to six lanes.

### *TransAction 2040*

The Northern Virginia Transportation Authority (NVTA) identifies transportation needs in Arlington, Fairfax, Loudoun and Prince William counties, as well as the cities of Alexandria, Fairfax, Falls Church, Manassas and Manassas Park. Unlike the CLRP, TransAction 2040 is not constrained by project funding. TransAction 2040 has one recommendation in the Lincolnia PD, which is the implementation of the priority bus service on Little River Turnpike from the City of Fairfax to the City of Alexandria. Priority bus service often indicates limited stop service, with fewer stops that are spaced farther apart resulting in a faster travel time.

## **Fairfax County Roadway Functional Classification**

Roadway functional classifications are groupings of streets and highways based on the types of services they provide. The classifications define the role of a roadway in serving the flow of vehicles through the roadway network. There are five distinctive roadway types in Fairfax County:

- » **Freeways and Expressways** provide fast, high-volume travel. These roadways have four or more lanes, are limited access, and have no signals or at-grade intersections.
- » **Principal Arterials** function as main travel corridors carrying traffic through an area rather than local traffic. They are high capacity roads with four to six lanes and a median. Principal Arterials should have adequate and safe pedestrian and bicycle accommodations along the corridor.

- » **Minor Arterials** carry a mix of local traffic and traffic moving through the area, and are typically two to four lanes. There are two types of minor arterials in Fairfax County:
  - ◇ **Type A Minor Arterials** are similar to principal arterials since they carry significant amounts of traffic daily and connect to principal arterials and freeways via interchanges.
  - ◇ **Type B Minor Arterials** are shorter in length compared to Type A minor arterials and serve less densely developed areas.
- » **Collector Streets** are typically two lane roadways that provide direct services to and from local areas, connecting traffic to the arterial system.

The current classifications of the major roadways in the Lincolnia PD are shown in Table 4.1. There are no Type A minor arterials in the Lincolnia PD.

Table 4.1: Roadway Functional Classification		
Roadway Functional Type	From	To
<b>Freeways/Expressways</b>		
I-95/I-395 (Shirley Highway)	Prince William County Line	Alexandria City Line
<b>Other Principal Arterials</b>		
Little River Turnpike	Fairfax City Line	Alexandria City Line
<b>Minor Arterials (Type B)</b>		
Beauregard Street	Little River Turnpike	Alexandria City Line
Braddock Road	Backlick Road	Columbia Pike
Edsall Road	Backlick Road	Alexandria City Line
Lincolnia Road	Columbia Pike	Beauregard Street

#### *Lincolnia PD Existing Levels of Service*

Fairfax County roadways are planned, designed, constructed and improved based on the volume demand, future anticipated capacity needs, and travel time delays of the roadway. A roadway's operations are typically measured through level-of-service (LOS) standards. LOS measures how well traffic moves along the roadway, including through its intersections. LOS is generally defined in terms of speed, travel time, freedom to maneuver, and traffic interruptions.

These standards are measured using a letter rating system with "A" representing the least amount of congestion and "F" the most amount of congestion. A LOS of "D" or better is considered acceptable in the peak hours as described in the Transportation section of the Policy Plan.

The types of LOS are defined as follows:

- » **LOS A** describes free-flow conditions. Vehicles are not affected by the presence of other vehicles.
- » **LOS B** indicates reasonably free-flow conditions. Drivers are aware of the presence of other vehicles and have slightly less room to maneuver.

- » **LOS C** represents stable traffic flow. The ability to maneuver with in traffic is reduced, but traffic flows at or near free flow speeds.
- » **LOS D** describes high density flow in which speed and freedom to maneuver are severely restricted. Driver comfort is reduced, though the traffic flow remains stable.
- » **LOS E** represents unstable flow that is near or at capacity levels. Drivers experience difficult maneuvering and reduced speeds.
- » **LOS F** indicates that demand exceeds the capacity of the roadway. Traffic experiences break down conditions, queues form behind choke points in the network. LOS F is characterized by stop-and-go conditions, diminished travel times and driver discomfort.

Examining the operation of major intersections in the Lincolnia PD creates a picture of the overall condition of traffic in the study area. The study area's morning traffic peak hour is 7:30 AM to 8:30 AM, and the evening traffic peak hour is 5:15 PM to 6:15 PM. These are the hours during the mornings and evenings that experience the heaviest levels of traffic. The Lincolnia PD also experiences heavy traffic Saturday mid-day, between 11:30 AM and 2:30 PM. Table 4.2 shows the operation of key intersections during the weekday and Saturday peak hours.

Table 4.2: Existing Peak Hour Intersection Level of Service (LOS)						
Intersection	AM		PM		Saturday	
	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
<b>Little River Turnpike @</b>						
Old Columbia Pike	14.0	B	14.5	B	9.6	A
Pinecrest Vista Drive	16.4	B	23.3	C	18.8	B
Braddock Road	56.1	E	52.5	D	43.6	D
Southland Avenue	35.4	D	26.1	C	19.5	B
Beauregard Street	64.8	E	73.7	E	79.9	E
Oasis Drive	11.6	B	14.3	B	19.9	B
<b>Beauregard Street @</b>						
Chambliss Street	29.9	C	44.6	D	55.1	E
<b>Lincolnia Road @</b>						
N. Beauregard Street	19.3	B	17.2	B	19.2	B
N. Chambliss Street	18.6	B	18.7	B	15.7	B
Braddock Road	49.5	D	44.9	D	38.9	D
Columbia Pike	23.1	C	24.5	C	16.5	B
<b>Edsall Road @</b>						
Bren Mar Drive	14.7	B	23.1	C	15.1	B
Bloomfield Drive	6.5	A	7.2	A	6.7	A
Beryl Road	6.5	A	6.2	A	4.5	A

Source: Virginia Department of Transportation (VDOT) Synchro Files, June 2014

Many of the intersections in the Lincolnia PD operate at an acceptable LOS, with the exception of a few intersections along Little River Turnpike. The evening peak hour generally experiences heavier delays than the morning peak hour, while Saturday mid-day experiences heavier delays at the intersections surrounding the retail areas on Beauregard Street. During the morning peak hour, the intersections on Little River Turnpike with Braddock Road and Beauregard Street operate at LOS E. During the evening peak the intersection of Beauregard Street at Little River Turnpike operates at LOS E. On Saturdays the two intersections close to the Plaza at Landmark Shopping Center operate at LOS E. These intersections are Little River Turnpike at Beauregard Street and Chambliss Street at Beauregard Street.

The intersection of Little River Turnpike at Beauregard Street consistently operates at an unacceptable LOS. This intersection is affected by the trips to the retail uses around it, as well as the high volume of vehicles traveling through the intersection to access I-395 and the City of Alexandria.