



Telegraph Road Pedestrian Alternatives Concept Development

Existing Conditions Technical Memo

Final – September 2024

Table of Contents

1	INTRODUCTION	1
1.1	Study Background and Purpose.....	1
1.2	Study Area.....	1
2	RELEVANT PLANNED PROJECTS	3
2.1	Alexandria Fourth Track	3
2.2	Duke Street in Motion.....	3
2.2.1	Duke Street transitway.....	3
2.3	Duke Street/West Taylor Run Project.....	3
2.4	Eisenhower East Small Area Plan	6
2.4.1	Street Network	6
2.4.2	Pedestrian/Bicycle Recommendations	7
2.5	Active Development Projects.....	9
2.5.1	Hoffman Coordinated Development District	10
2.5.2	Witter Place	11
3	EXISTING CONDITIONS	12
3.1	Mobility Network.....	12
3.1.1	Roadway	12
3.1.2	Active Transportation Network	13
3.1.3	Safety and Comfort.....	22
3.2	Parcels.....	27
3.3	Utilities.....	28
3.4	Environmental.....	28
3.4.1	Natural Resources	28
3.4.2	Socioeconomic Resources	30
3.4.3	Historic and Cultural Resources	31
3.4.4	Hazardous Materials Sites	31
4	SUMMARY OF CHALLENGES AND CONSTRAINTS	33

1 Introduction

1.1 Study Background and Purpose

As part of the implementation of the Transforming Rail in Virginia program, the Virginia Passenger Rail Authority (VPRA) is leading the Alexandria Fourth Track project to relieve an existing bottleneck and expand rail capacity along a critical portion of the railroad corridor between Washington and Richmond. The Alexandria Fourth Track project will design and construct six miles of track and other rail infrastructure in the City of Alexandria and Arlington County.

The existing freight and passenger rail corridor serves as an impediment to pedestrian and bicycle connectivity between the Eisenhower East neighborhood and the Witter Fields recreational fields in central Alexandria. Currently, there are two routes available to pedestrians and bicyclists traveling between these locations: one is a pedestrian tunnel connection under the railroad tracks and the other is a sidewalk along the Telegraph Road bridge over the rail corridor. The Alexandria Fourth Track project will necessitate the permanent closure of the pedestrian tunnel, as the substantial investments needed to bring the tunnel up to modern design standards and meet Americans with Disabilities Act (ADA) requirements are not viable. Therefore, once construction begins and the tunnel is closed, pedestrians will be left with only the Telegraph Road bridge route to access Witter Fields from the south and vice-versa.

The purpose of this study is two-fold:

1. Develop one or more alternatives for short-term enhancements to the existing Telegraph Road pedestrian connection, with the aim to identify relatively low-cost, tactical improvements that can be implemented in advance of the closure of the pedestrian tunnel.
2. Identify options for more substantial investments in pedestrian and bicycle infrastructure to further enhance the comfort and safety of this connection in the longer term.

1.2 Study Area

The study area, located in the central portion of the City near the southern border with Fairfax County, centers on the Telegraph Road bridge over the rail corridor, the southern portion of the Telegraph Road/Duke Street interchange on the north side of the tracks, and the northwesternmost corner of the Eisenhower East neighborhood on the south side of the tracks. The rail corridor serves as a significant impediment to north-south connectivity, particularly for pedestrians and bicyclists. Aside from the Telegraph Road bridge, the nearest roadway and sidewalk connections across the rail corridor are one-half mile to the east and nearly two miles to the west.

The northwest portion of the study area includes Witter Fields, which consist of recreational space and athletic fields owned by the City, and multiple light-industrial properties along the south side of Duke Street. The southern portion of the study area features multiple large, vacant parcels slated for development as part of the further build-out of Eisenhower East. **Figure 1** shows a map of the study area.

FIGURE 1. STUDY AREA



2 Relevant Planned Projects

2.1 Alexandria Fourth Track

The Alexandria Fourth Track project will extend from AF Interlocking in southern Alexandria, where five tracks converge into three, to RO Interlocking in Arlington County just south of the Potomac River. As noted in Section 1 above, the addition of the fourth track will necessitate the permanent closure of the Telegraph Road pedestrian tunnel, as the substantial investments needed to bring the tunnel up to modern design standards are not viable, including but not limited to the following constraints:

- Current tunnel is beyond useful life (original portion constructed around 1947)
- Constructability concerns to re-build under active rail and Metro tracks
- Significant drainage/flooding issues
- Safety and visibility concerns
- ADA accessibility in limited space under Telegraph Road bridge structure
- Clearance in tunnel too low for bikes
- Cost prohibitive, especially in relation to existing and likely future usage

The Alexandria Fourth Track project is currently in the final engineering design stage. The nearest pedestrian access points that cross the tracks lie 0.5 miles to the east and over 1.5 miles to the west. The tunnel has needed repairs for many years now, but the announcement of the addition of the Alexandria Fourth Track highlights the necessity for providing a safe alternative route on Telegraph Road.

2.2 Duke Street in Motion

The Duke Street in Motion project, led by the City, is a large-scale effort consisting of multiple phases intended to reduce congestion and prioritize active transportation and public transit, primarily through dedicated bus rapid transit (BRT) infrastructure and a new BRT route on the corridor. The need for changes to the corridor was first identified in the 2008 Transportation Master Plan and was subsequently featured in the 2012 Transit Corridors Feasibility Study and the 2021 Alexandria Mobility Plan, as peak hour traffic congestion on Duke Street and nearby side streets, poor pedestrian and bicycle connectivity, and more were all deemed significant issues.

2.2.1 DUKE STREET TRANSITWAY

The Duke Street Transitway is the central element of Duke Street in Motion and will provide dedicated BRT infrastructure to support the City's vision to create a city-wide, high frequency bus network by 2030. The Duke Street Transitway project will include dedicated BRT lanes along much of Duke Street with separate paths for pedestrians and bicyclists. In the study area, the transitway will feature a dedicated westbound BRT lane, with eastbound buses running in mixed traffic. As depicted in Figure 2, a BRT station will be located on the near side of the West Taylor Run intersection for westbound traffic, and a bus station will be located for eastbound traffic on the southside of Duke Street on the far side of the intersection. The City is currently in the process of procuring a design consultant, and the project is expected to complete construction in 2027.

2.3 Duke Street/West Taylor Run Project

The Duke Street/West Taylor Run intersection improvement project seeks to improve mobility and reduce congestion, with a particular focus on multimodal safety and limiting cut-through traffic in the vicinity of the intersection. The project features substantial investments to address mobility

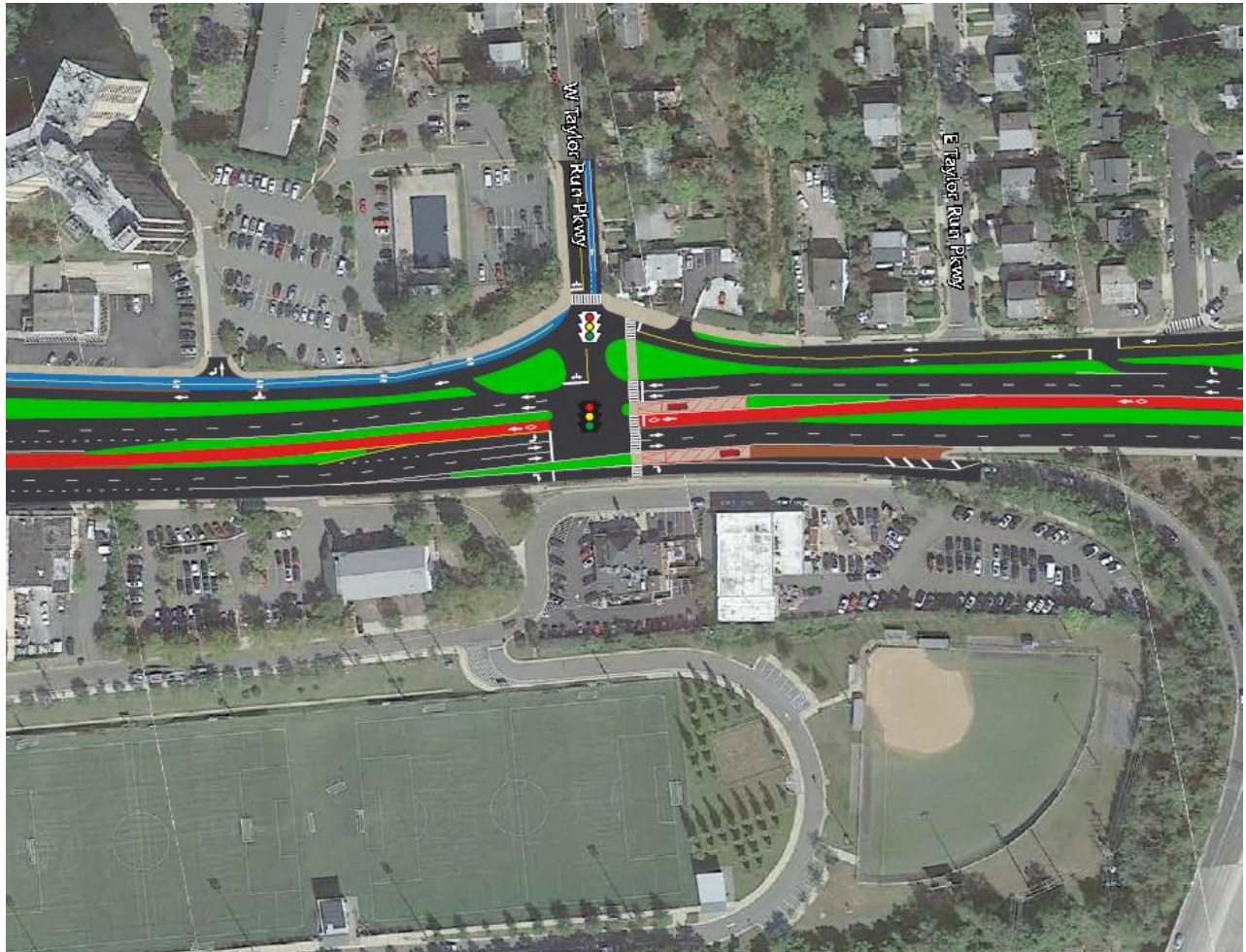
and safety at the intersection at West Taylor Run Parkway, located just west of the Duke Street / Telegraph Road interchange. The intersection was identified as one of the highest crash intersections in Alexandria in the City's Vision Zero program. In 2021, the City began implementation of a two-phase pilot to test traffic signal timing and intersection design options.

Two project components will directly benefit pedestrians accessing Duke Street via Telegraph Road:

1. A permanent hardening of the separation between eastbound Duke Street and the eastbound ramp onto southbound Telegraph Road will restrict vehicular access to the ramp from West Taylor Run Parkway. This will improve pedestrian safety and comfort by eliminating an existing point of cross-modal conflict and confusion.
2. Pedestrians traveling on the south side of Duke Street will cross the eastbound on-ramp at the signalized West Taylor Run intersection rather than at the existing mid-ramp crosswalk location, which features a Rectangular Rapid Flashing Beacon (RRFB). This improvement, which will tie into the eastbound BRT station infrastructure that will connect seamlessly with the sidewalk segment under Telegraph Road, will substantially reduce pedestrian exposure by providing a protected phase to cross the on-ramp.

Figure 2 shows the planned changes to transit and active transportation infrastructure along Duke Street in the study area.

FIGURE 2. DUKE STREET IN MOTION CONCEPT



2.4 Eisenhower East Small Area Plan

Located south of the tracks, Eisenhower East is a high-density neighborhood that has seen considerable new development in recent years. Completed in 2020, the Eisenhower East Small Area Plan (EESAP) acts as a blueprint for future development in the community. The EESAP provides design and implementation guidance to enhance pedestrian and bicyclist safety and connectivity in the neighborhood.

2.4.1 STREET NETWORK

The EESAP recommends a street network that features human-scale blocks and supports connectivity across all transportation modes – consistent with the City's Complete Street Design Guidelines, Vision Zero Action Plan, Transit Vision Plan, and Environmental Action Plan – with developers tasked with implementing these improvements. The plan features street typologies designed to guide future land development, street enhancements, and road design projects, which are anticipated to occur over short- to long-term phases. Within the study area, Mill Road, Pershing Avenue, and Stovall Street are designated as Neighborhood Connectors featuring on-street parking and bike lanes running in both directions with landscaped buffers between the road and pedestrian sidewalks.

The recommended Complete Streets typology and cross-sections for Neighborhood Connector streets are shown in **Figure 3** and **Figure 4**, respectively.

FIGURE 3. EESAP RECOMMENDED COMPLETE STREETS TYPOLOGY

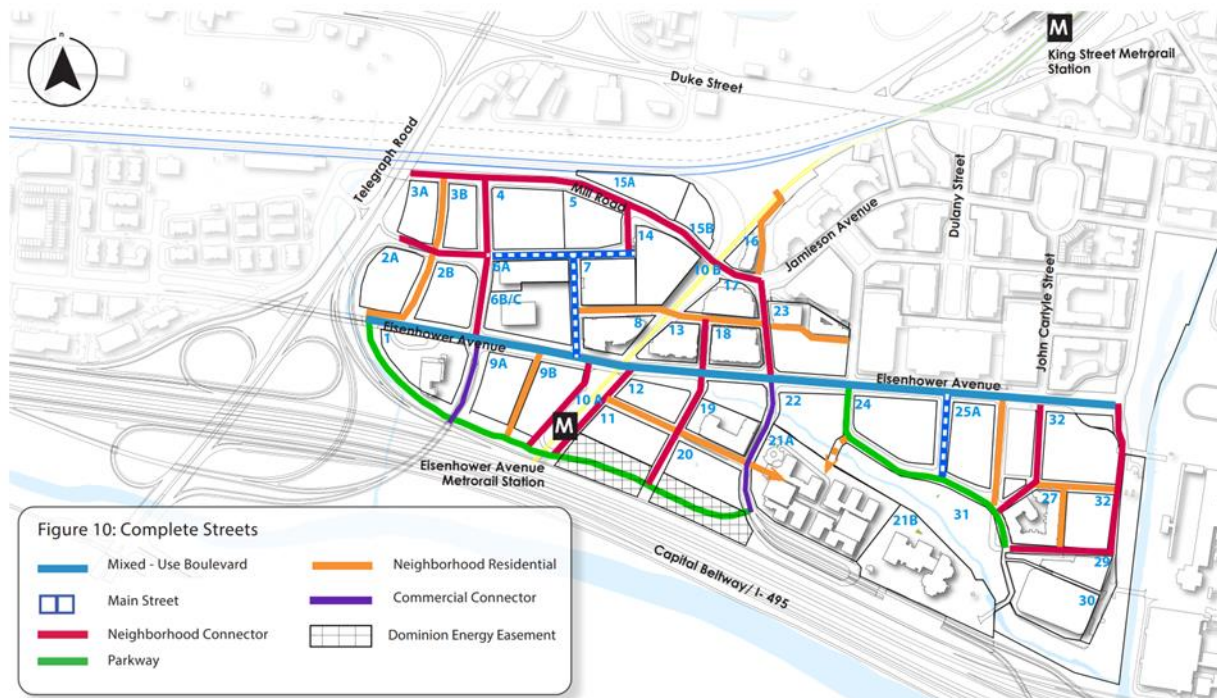
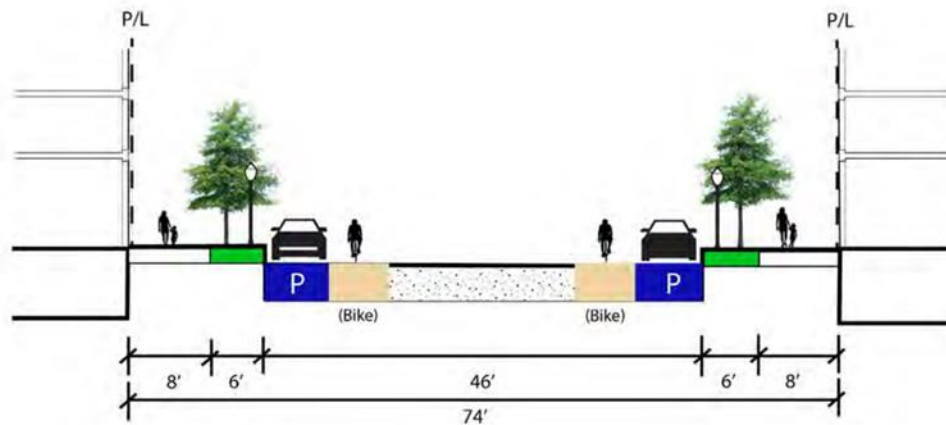


FIGURE 4. RECOMMENDED CROSS SECTION FOR NEIGHBORHOOD CONNECTOR STREET TYPOLOGY

Neighborhood Connector



2.4.2 PEDESTRIAN/BICYCLE RECOMMENDATIONS

The EESAP outlines a comprehensive approach to enhancing pedestrian and bicycle connectivity and mobility within the study area, recommending the following improvements as detailed in **Figure 5** and **Figure 6** for pedestrian network improvements and bicycle network improvements, respectively:

Mill Road is proposed to feature a multi-use trail along the north side and eight-foot sidewalks along the south side as part of redevelopment plans.

Pershing Avenue is slated to include widened sidewalks along the north side and a new sidewalk along the south side as part of redevelopment plans. The EESAP recommends that Pershing Avenue include shared-lane markings for bicycle use.

Stovall Street includes a widened sidewalk on the west side as part of redevelopment plans and a dedicated bike facility.

Safety enhancements at the existing signalized intersections may include leading pedestrian intervals, high visibility crosswalks, raised crosswalks, new signalized pedestrian crosswalks, and slip lane removal.

FIGURE 5. EESAP RECOMMENDED PEDESTRIAN NETWORK IMPROVEMENTS

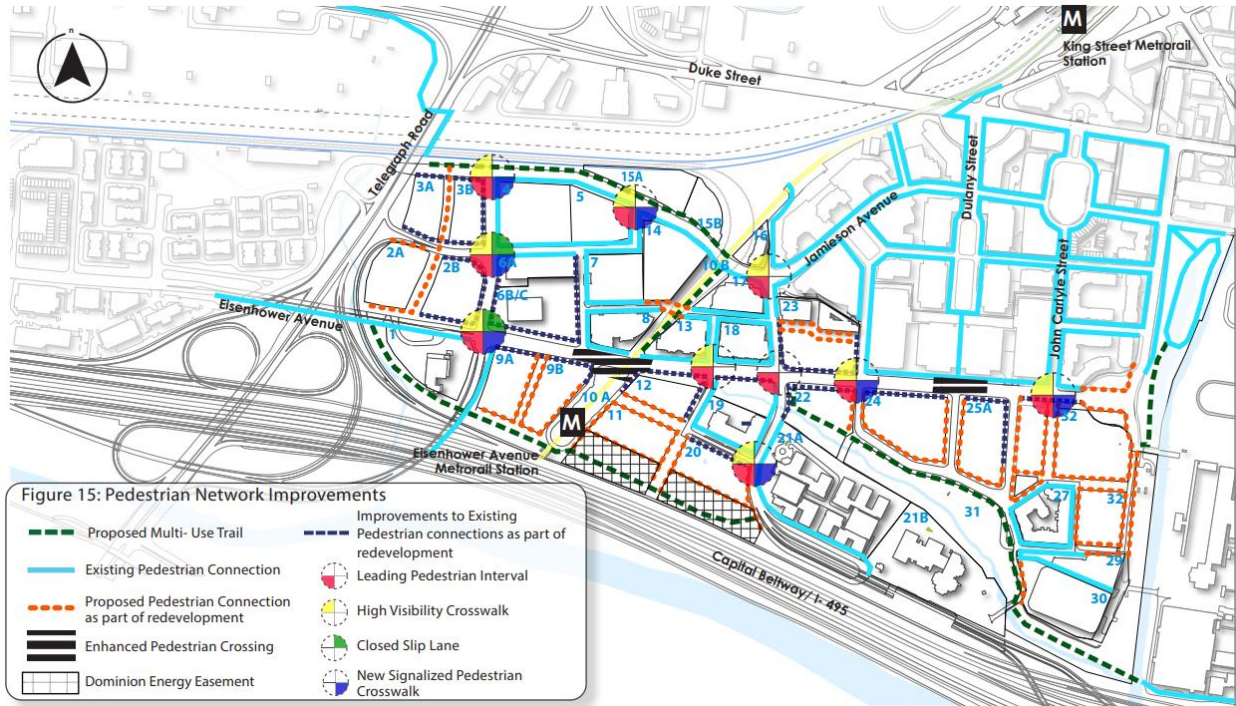
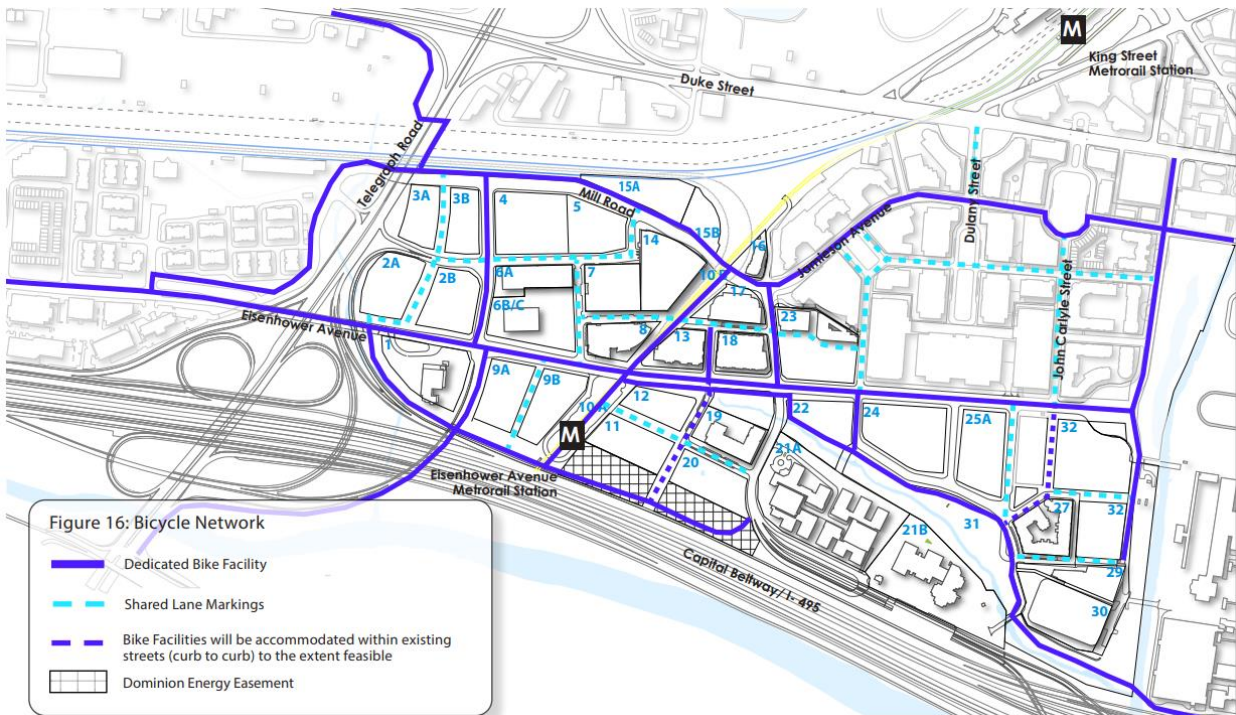


FIGURE 6. EESAP RECOMMENDED BICYCLE NETWORK



The EESAP also prioritizes enhancing mobility and connectivity to surrounding neighborhoods for pedestrians and bicyclists, with a focus on enhancing the north-south connection.

The EESAP calls for exploring investments to upgrade the existing pedestrian tunnel for improved connectivity between Eisenhower East and Witter Fields and other neighborhoods north of the rail corridor (note that the plan was finalized prior to VPRRA's determination that the pedestrian tunnel would be closed permanently). As an alternative, the plan calls to explore using Telegraph Road or other options for safe pedestrian and bike access to Duke Street and neighborhoods to the north. The EESAP recommends the provision of a "safe and accessible pedestrian and bicycle connection for people of all ages and abilities" between Eisenhower East and Witter Fields, with responsibility for such improvements shared among both developers and the City over a 25- to 30-year timeframe.

2.5 Active Development Projects

There are several active development projects within the study area as illustrated in **Figure 7**, summarized in **Table 1**, and described in more detail in the subsections below.

FIGURE 7. RELEVANT PLANNED PROJECTS



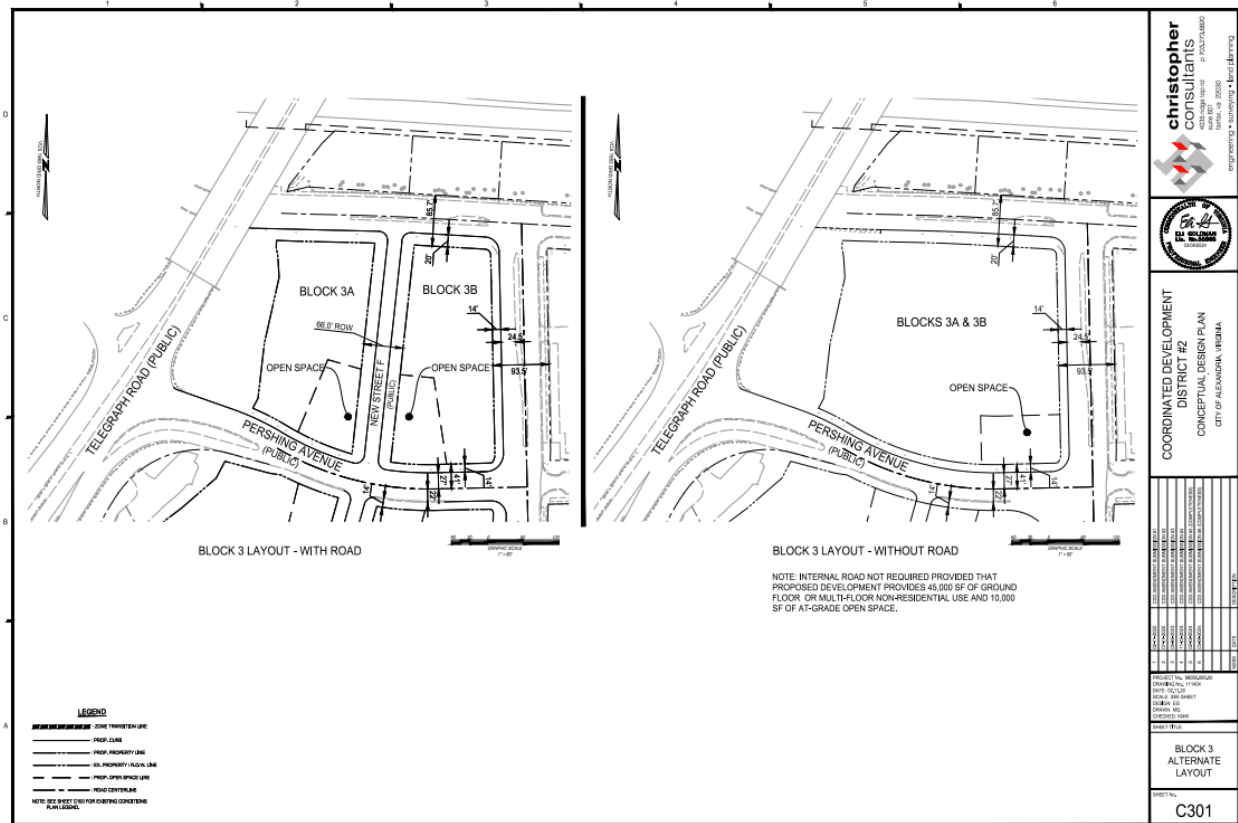
TABLE 1. RELEVANT PLANNED PROJECTS

	Project	Description	Status
1	Alexandria Fourth Track	Addition of a northern most train track to relieve a bottleneck.	Engineering – Final Design
2A	Duke Street Transitway	Bus Rapid Transit along a high-traffic corridor, with improvements to pedestrian and bicyclist safety and mobility.	Procurement of design consultant
2B	Duke Street/West Taylor Run Intersection	Pedestrian and motorist safety improvements to an intersection that sees heavy residential cut-through traffic.	Design
3	Eisenhower East Small Area Plan	Community plan to improve the neighborhood with emphasis on mobility and connectivity.	
4A	Hoffman Coordinated Development District	Residential redevelopment that would provide improved pedestrian and bicyclist mobility.	Preliminary Concept Design Plan
4B	Witter Place	Residential redevelopment that would provide affordable housing.	Construction slated to begin late 2024

2.5.1 HOFFMAN COORDINATED DEVELOPMENT DISTRICT

The two blocks that sit between Telegraph Road, Stovall Street, Eisenhower Ave, and Mill Road are being proposed for redevelopment as part of the Coordinated Development District #2 (CDD #2) Conceptual Design Plan. Open space, bike connections, and complete streets will be provided in the CDD per the EESAP guidelines to promote growth and connectivity between the blocks within the Eisenhower East area. The approved CDD Conceptual Design Plan for the study area is illustrated in **Figure 8**.

FIGURE 8. HOFFMAN CDD #2 CONCEPTUAL DESIGN PLAN



2.5.2 WITTER PLACE

The car dealership between Duke Street and Witter Fields is planned for redevelopment into 94 family-sized affordable rental units for 40-60 percent of Area Median Income. In addition to the residential building, the developer, Community Housing Partners, plans to make streetscape enhancements along Duke Street and Witter Drive and a pedestrian connection between the two streets.

The development aims to increase affordable housing and offer access to recreation, transportation, shopping, and commercial activities. Construction is planned to begin in Fall 2024 and finish by December 2026. The development will add residents who are expected to rely on active and public transportation along Duke Street and Telegraph Road.

3 Existing Conditions

3.1 Mobility Network

This section summarizes data collected and compiled as part of this study effort from the City, VDOT, and other agencies to describe the physical condition of the mobility network within the study area.

3.1.1 ROADWAY

The roadway network within the study area influences both local and regional mobility, shaping the daily travel patterns of commuters and residents alike. In addition to a desktop review using available GIS data and aerial imagery, field observations were conducted to enhance the understanding of existing bicycle and pedestrian facilities. These qualitative assessments aim to establish existing conditions at a planning level to facilitate identifying potential pedestrian and bicycle improvements. This review does not attempt to fully document all network characteristics or evaluate these features against current design standards but rather provides a summary of the existing conditions experienced by active transportation users within the study area.

Telegraph Road, classified by VDOT as a Minor Arterial roadway, serves as a key north-south corridor for both local and regional travel. It is a primary route for daily commuters, facilitating access between Alexandria and the Capital Beltway (I-495). From Pershing Avenue north, the road is divided with a raised-curb landscaped median, which then transitions to a raised-curb concrete median at the Telegraph Road bridge over the rail corridor. Telegraph Road intersects with Duke Street via a Trumpet Urban Interchange. In this configuration, Telegraph Road acts as an overpass that terminates at Duke Street. The roadway has an average daily traffic (ADT) of 58,000 vehicles and a posted speed limit of 35 miles per hour.

Duke Street is classified by VDOT as an Other Principal Arterial roadway with a posted speed limit of 25 miles per hour. Within the study area, it features six lanes and has an ADT of 29,000 vehicles west of Telegraph Road and 18,000 vehicles east of Telegraph Road. The roadway is divided by either a raised-curb landscaped median or a raised-curb concrete median at locations with a left-turn lane. Running east-west, Duke Street provides a critical link between Alexandria and Fairfax County to the west.

Mill Road, a four lane Major Collector roadway, primarily serves commercial and residential areas within the Eisenhower East neighborhood. It has an ADT of 6,000 vehicles and a posted speed limit of 25 miles per hour. Near the Telegraph Road overpass, Mill Road is undivided, but transitions to provide a raised-curb landscaped median at the Stovall Street intersection.

Stovall Street, a Major Collector roadway with four lanes, effectively links the Eisenhower East neighborhood to Eisenhower Avenue. Additionally, the eastbound Capital Beltway (I-495) off-ramp connects to Stovall Street at the intersection with Eisenhower Avenue. The road accommodates an ADT of 9,000 vehicles and has a posted speed limit of 25 miles per hour. From Mill Road to Pershing Avenue, Stovall Street features a raised-curb landscaped median. South of Pershing Avenue, the roadway is undivided.

Pershing Avenue is an undivided Major Collector roadway with two lanes that serves as a connector between the Eisenhower East neighborhood and Telegraph Road, with a midblock connection from the westbound Capital Beltway (I-495) off-ramp between Telegraph Road and Stovall Street. It has an ADT of 6,000 vehicles and a posted speed limit of 25 miles per hour.

Witter Drive is classified as a local roadway with two undivided lanes and a posted speed limit of 25 miles per hour. The roadway provides access to the Witter Fields recreational facilities and local businesses.

On-street parking is not permitted on any of the roadways within the study area.

3.1.2 ACTIVE TRANSPORTATION NETWORK

Pedestrian/Bicycle Facilities

Pedestrian and bicycle facilities provide essential connectivity within the study area and between the Eisenhower East neighborhood and the Witter Fields recreational area. Pedestrian facilities consist of a network of sidewalks, paved multi-use trails/sidepaths, and marked and unmarked pedestrian crossings. Bicycle facilities are limited to paved multi-use trails/sidepaths and bike routes, which are roadways identified as bicycle-friendly or providing important connections to the bicycle network but lacking dedicated bicycle infrastructure. The existing pedestrian facilities are shown in **Figure 9**, while the existing bicycle facilities are illustrated in **Figure 10**.

FIGURE 9. EXISTING PEDESTRIAN FACILITIES

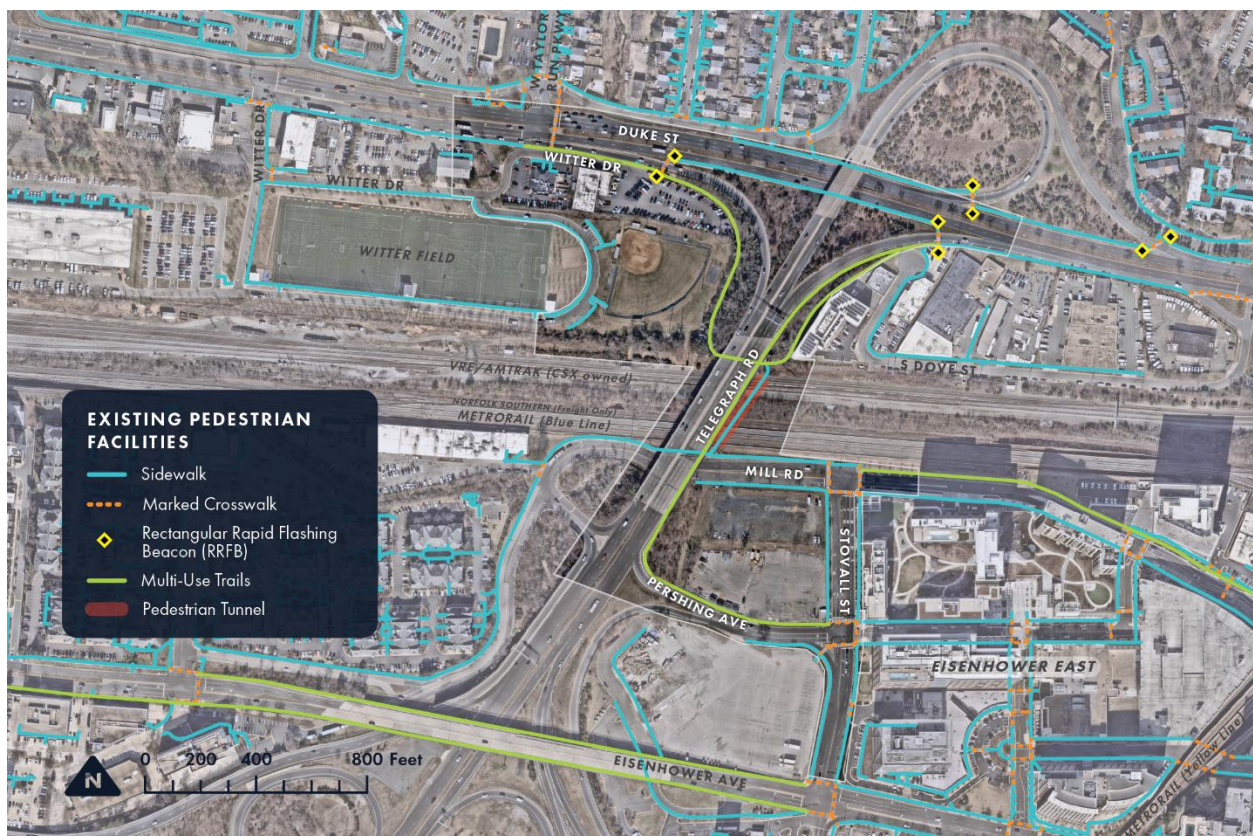


FIGURE 10. EXISTING BICYCLE FACILITIES



While pedestrian and bicycle facilities are present throughout the study area, their varying characteristics affect overall connectivity. Substandard sections can impede accessibility for vulnerable users such as individuals with disabilities, seniors, and other mobility-impaired users. Additionally, substandard design can also impact parents with strollers and young children as well as bicyclists. **Table 2** provides a summary of the existing pedestrian facilities highlighting key attributes such as surface type, approximate width, condition, and presence of buffers, while the existing bicycle facilities characteristics are summarized in **Table 3**.

TABLE 2. EXISTING PEDESTRIAN FACILITIES

Location		Surface		Approximate Width		Meets Accessibility Requirements?
		Type	Condition	Facility	Buffer	
Sidewalks						
Duke Street	South side from Witter Drive to midblock crossing across Duke Street eastbound ramp to southbound Telegraph Road	Concrete	Average	5'	3' (Landscaped)	X

Location		Surface		Approximate Width		Meets Accessibility Requirements?
		Type	Condition	Facility	Buffer	
	South side between ramps to/from Telegraph Road	Concrete	Average	8'	-	X
Mill Road	North side	Concrete	Average	4'-5'	-	X
	South side	Asphalt	Poor	3'	8' (Landscaped)	X
Pershing Avenue	South side	Concrete	Average	4'	7' (Landscaped)	X
Stovall Street	West Side North of Pershing	Asphalt	Poor	4'-5'	10' (Landscaped)	X
	West Side South of Pershing	Concrete	Poor	10'	-	X
	East Side North of Pershing	Concrete	Good	8'	8' (Brick with Integrated Greenery and Stormwater Management)	✓
	East Side South of Pershing	Concrete	Good	4'-6'	4'-5' (Landscaped)	X
Telegraph Road NB ramp to Duke Street EB	East side	Concrete	Average	6'	4' (Landscaped)	X
Witter Drive	East Side	Concrete	Average	4'	6'-7' (Landscaped)	X
	South side	Concrete	Good	6'	-	X
Paved Multi-Use Trails/Sidepaths						
Pershing Avenue	North side	Concrete	Average	4'-5'	-	X
Telegraph Road	East Side from Pershing Avenue to	Concrete	Average	5'	5' (Landscaped)	X

Location	Surface		Approximate Width		Meets Accessibility Requirements?	
	Type	Condition	Facility	Buffer		
	bridge over rail corridor					
	East Side along bridge over rail corridor	Concrete	Average	10'	-	X
Duke Street/Telegraph Road Underpass Trail	Generally, runs parallel to the Duke Street EB ramp to Telegraph Road SB before turning west and passing underneath Telegraph Road, parallel to the rail corridor. Proceeds north to generally run parallel to the Telegraph Road NB ramp to Duke Street EB.	Concrete	Average	5'	-	X
Telegraph Road Bridge Trail/Sidepath	Runs parallel to the east side of Telegraph Road, through the pedestrian tunnel underneath the rail corridor which extends from the north side of Mill Road to the north side of the CSX ROW.	Concrete	Average	4'-6.5'	-	X

TABLE 3. EXISTING BICYCLE FACILITY CHARACTERISTICS

Location		Surface		Approximate Width		Meets Accessibility Requirements?
		Type	Condition	Facility	Buffer	
Paved Multi-Use Trails/Sidepaths						
Mill Road	North side	Concrete	Mill Road	10'	6' (Landscaped)	X
Pershing Avenue	North side	Concrete	Average	4'-5'	-	X
Telegraph Road	East Side from Pershing Avenue to bridge over rail corridor	Concrete	Average	5'	5' (Landscaped)	X
	East Side along bridge over rail corridor	Concrete	Average	10'	-	X
Duke Street/Telegraph Road Underpass Trail	Generally, runs parallel to the Duke Street EB ramp to Telegraph Road SB before turning west and passing underneath Telegraph Road, parallel to the rail corridor. Proceeds north to generally run parallel to the Telegraph Road NB ramp to Duke Street EB.	Concrete	Average	5'	-	X
Telegraph Road Bridge Trail/Sidepath	Runs parallel to the east side of Telegraph Road, through the pedestrian tunnel underneath the rail corridor which extends from the north side of Mill Road to the north side of the CSX ROW.	Concrete	Average	4'-6.5'	-	X
Bike Routes						
Mill Road	Study limits to Stovall Street	Bike Route	Asphalt (Existing Roadway)	-	-	-

As emphasized in Section 1.1, Study Background and Purpose, the current rail corridor hinders pedestrian and bicycle connectivity between the Eisenhower East neighborhood and the Witter Fields recreational area. Currently, pedestrians traveling between these locations have two options: one route that utilizes the Telegraph Road pedestrian tunnel to facilitate access under the rail corridor and a longer route that crosses the rail corridor via the multi-use sidepath on the Telegraph Road bridge.

The existing tunnel route, as depicted in **Figure 11**, uses the Telegraph Road pedestrian tunnel which runs parallel to the east side of Telegraph Road, extending from the north side of Mill Road to the north side of the CSX right-of-way (ROW). From there, the route follows the multi-use trail under the Telegraph Road bridge and continues west along the trail to Duke Street where the multi-use trail transitions to sidewalk along the south side of Duke Street. The route continues west to Witter Drive. The route proceeds south along the sidewalk on the east side of Witter Drive and crosses an unmarked crosswalk to turn back east, utilizing the sidewalk along the south side of Witter Drive to reach the Witter Fields recreational area.

Pedestrians following the tunnel route used to use a shorter, unauthorized path that extended west from the multi-use trail under the Telegraph Road bridge instead of following the trail north also shown in **Figure 11**. Desire lines indicate that pedestrians then used a gap in the fence surrounding the baseball fields to access Witter Fields and Business Center Drive. However, with the commencement of pre-construction activities for the Alexandria Fourth Track project, the gap in the fence has been closed, making the unauthorized route obsolete.

The existing authorized pedestrian route, illustrated in **Figure 11**, is considerably longer than the tunnel route and requires multiple high-traffic crossings. This route starts by traveling west on the multi-use trail along Pershing Avenue to Telegraph Road, then proceeds north over the rail corridor along the Telegraph Road multi-use sidepath, continuing along the off-ramp towards eastbound Duke Street. It then follows the south side of Duke Street west to Witter Drive, turns south on Witter Drive, and finally proceeds east to reach the Witter Fields recreational area. Pedestrians using this route cross vehicular traffic at both the on-ramp to westbound Duke Street and the on-ramp from Duke Street to southbound Telegraph Road, using marked crosswalks equipped with pedestrian-actuated Rectangular Rapid Flashing Beacons (RRFBs).

FIGURE 11. EXISTING PEDESTRIAN ROUTES



Existing Pedestrian Volumes

(Placeholder until volume data comes in)

Transit Facilities

Alexandria is well-served by multiple rail systems, including Amtrak, Virginia Railway Express (VRE), and Metrorail. Located approximately 0.4 miles northeast of the study area, Alexandria Union Station serves Amtrak and VRE trains. Amtrak routes include the Northeast Regional, Cardinal, Crescent, and Silver Meteor, connecting Alexandria to cities along the East Coast. VRE's Fredericksburg Line offers commuter rail service to and from Washington, D.C., and other parts of Northern Virginia.

The closest Metrorail stations to the study area are Eisenhower Avenue, which is located approximately 600 feet south of Pershing Avenue on the Yellow Line, and King Street–Old Town, which is located approximately one-half mile east of the Telegraph Road/Duke Street interchange and is served by the Blue and Yellow Lines. These lines facilitate travel to destinations throughout the Washington, D.C. metropolitan area.

Within the study area, bus service is provided by DASH (Alexandria Transit Company) and Metrobus (WMATA) which facilitate key connections across the region. The Duke Street corridor serves four routes: DASH Line 30, Metrobus 28A, and Metrobus 29K/29N, though the Metrobus routes operate limited-stop service and do not serve the stops within the study area.

Additionally, two other routes, DASH Line 32 and Metrobus REX, have stops just outside the study area on Eisenhower Avenue.

DASH Line 30 operates between the Van Dorn Metrorail station and the Braddock Road Metrorail station in Old Town Alexandria. The DASH Line 30 combines with DASH Line 31 in Old Town to function as the Old Town Circulator (OTC).

DASH Line 32 runs between the Landmark Transit Center and the King Street–Old Town Metro Station via Eisenhower Avenue. This line also offers additional transit connections at both the Van Dorn and Eisenhower Metrorail Stations linking to various residential and commercial areas along the route.

WMATA Metrobus 28A (Leesburg Pike Line) provides regular bus service that serves as a connection between Tysons Corner and Alexandria. It operates mainly along Leesburg Pike between the Tysons Metrorail station and the King Street-Old Town Metrorail station. Along Duke Street the route functions as an express bus service with limited stops.

WMATA Metrobus routes 29K and 29N (Alexandria-Fairfax Lines) provide service between Old Town Alexandria and various destinations in Fairfax County. The 29K route terminates at George Mason University, while the 29N route ends at Fairfax Circle. Along Duke Street the routes function as an express bus service with limited stops.

Metrobus REX (Richmond Highway Express) provides express bus service with limited stops along Richmond Highway between Fort Belvoir and the King Street-Old Town Metrorail station. It also includes key stops such as the Huntington and Eisenhower Avenue Metrorail stations, linking Alexandria and Fairfax County.

Figure 12 illustrates the existing transit facilities within the study area including bus routes and bus stop locations, and **Table 4** offers a summary of the existing bus routes including the peak period headway and the distance from the study area to the nearest bus stop.

FIGURE 12. EXISTING TRANSIT FACILITIES

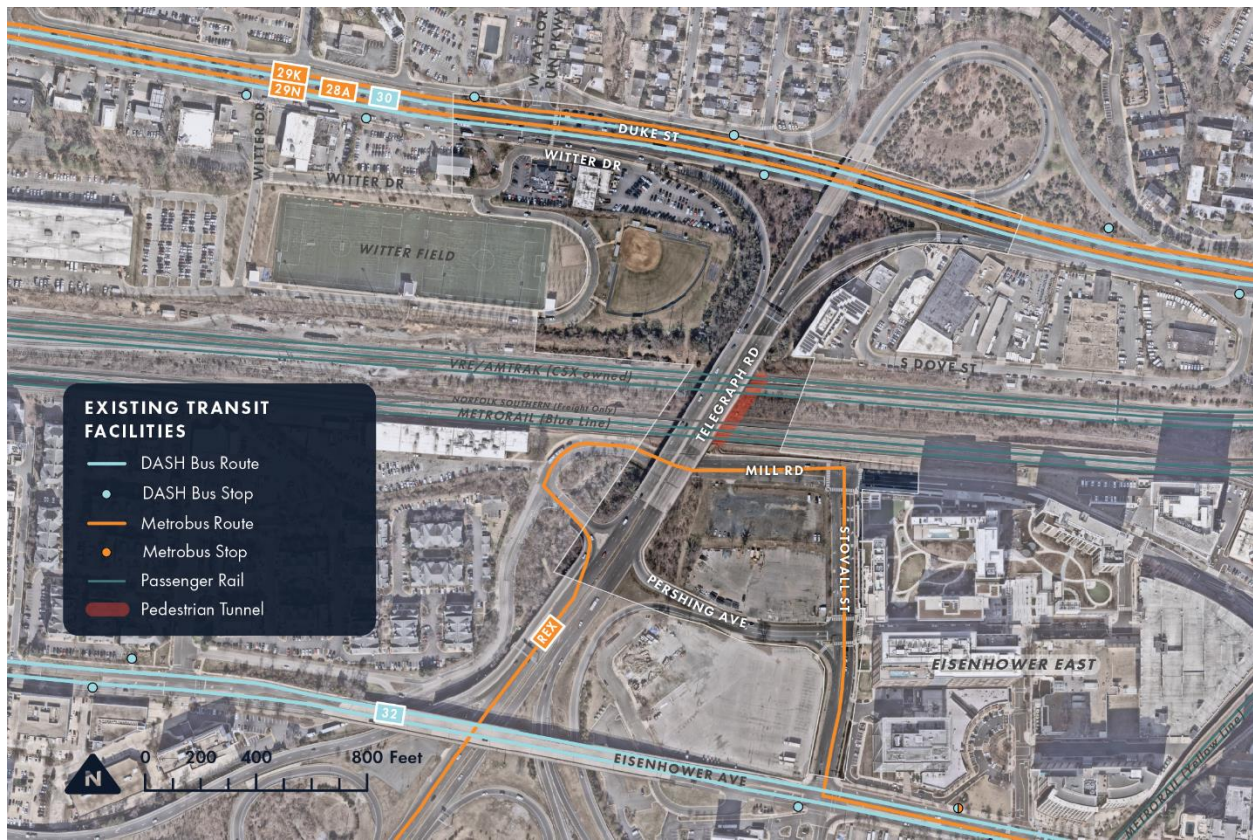


TABLE 4. EXISTING BUS ROUTE INFORMATION

Service/Route	Name	Peak Period Headway (minutes)	Nearest Bus Stop
DASH Line 30	Old Town Circulator	10	Within the project area
Metrobus 28A	Leesburg Pike Line	12	Outside the project area
Metrobus 29K, 29N	Alexandria-Fairfax Lines	20	Outside the project area
DASH Line 32	-	30	Eisenhower Ave & Stovall St
Metrobus REX	Richmond Highway Express	15	Eisenhower Ave & Hoffman St

Source: Dash, WMATA

3.1.3 SAFETY AND COMFORT

The *Telegraph Road Tunnel and Holmes Run Trail Tunnel Existing Conditions and Recommendations Study* (Toole Design Group, 2016) highlights numerous deficiencies in the Telegraph Road pedestrian tunnel, particularly regarding pedestrian safety and accessibility. The tunnel's dimensions, with a height of 7.5 feet and a width ranging from 4.5 feet at the north end to 6 feet at the south end, do not meet national design standards.¹ Additionally, the tunnel suffers from inadequate lighting, which makes it uncomfortable and potentially unsafe, especially outside daylight hours. Drainage issues, marked by standing water and debris, pose further hazards for pedestrians. Neither entrance to the tunnel meets accessibility standards; the north entrance features a steep, angled staircase hindered by dense foliage, and the south entrance is similarly restricted by a staircase.

VHB performed a qualitative assessment of pedestrian comfort for the pedestrian facilities along the existing pedestrian tunnel and authorized pedestrian routes within the study area. Comfort levels were screened as follows: comfortable, somewhat comfortable, and uncomfortable. For pedestrian facilities, the screening factors included:

- **Facility Width:** Sidewalks: $\geq 5'$, $< 5'$; Multi-Use Trails/Sidepaths: $\geq 10'$, $< 10'$
- **Buffer Width:** $> 3'$, $0-3'$, none
- **Surface Condition:** Good, Average, Poor

A summary of the existing pedestrian crossing comfort is shown in **Table 5**.

TABLE 5. EXISTING PEDESTRIAN FACILITY COMFORT SCREENING

Location		Surface Condition	Facility Width	Buffer Width	Meets Accessibility Requirements?	Challenges
Sidewalks						
Duke Street	South side from Witter Drive to midblock crossing across Duke Street eastbound ramp to southbound Telegraph Road	○	●	○	X	Adjacent railing, utilities and fire hydrant within sidewalk, wide/angled driveway access point for pedestrians to cross
	South side between ramps to/from Telegraph Road	○	●	⊗	X	

¹ AASHTO Pedestrian Guide states that a minimum width of 14 to 16 feet is desirable in urban locations, with a minimum vertical clearance of 8 feet and a desired vertical clearance of 10 feet.

Location		Surface Condition	Facility Width	Buffer Width	Meets Accessibility Requirements?	Challenges
Mill Road	North side	○	⊗	⊗	X	
	South side		⊗	●	X	
Pershing Avenue	South side	○	⊗	●	X	
Stovall Street	West Side North of Pershing	⊗	⊗	●	X	
	West Side South of Pershing	⊗	●	⊗	X	
	East Side North of Pershing	●	●	●	✓	
	East Side South of Pershing	●	⊗	●	X	
Telegraph Road NB ramp to Duke Street EB	East side	○	⊗	●	X	
Witter Drive	East Side	○	⊗	●	X	challenging grade (though follows road grade), uneven surface that presents tripping hazards, lack of pedestrian ramps at driveway access, overgrown vegetation (adjacent trees, grass/weeds)
	South side	●	●	⊗	X	no sidewalk along Witter Drive from the Witter Fields driveway to the eastern limit of Witter Drive/ no connection to Duke Street at

Location	Surface Condition	Facility Width	Buffer Width	Meets Accessibility Requirements?	Challenges
					the eastern end of Witter Drive, although a desire line is evident through the car dealership property
Pershing Avenue	North side	○	⊗	⊗	X
Telegraph Road	East Side from Pershing Avenue to bridge over rail corridor	○	⊗	●	X
	East Side along bridge over rail corridor	○	●	⊗	X
Paved Multi-Use Trails/Sidepaths					
Duke Street/Telegraph Road Underpass Trail	-	○	⊗	⊗	X Ramp sections limited by steep grades along the trail and the bordering dense vegetation and challenging grades/terrain. The underpass section is limited by the fence/ROW on the south side along the rail corridor and the bridge abutment on the north side.

Location	Surface Condition	Facility Width	Buffer Width	Meets Accessibility Requirements?	Challenges	
Telegraph Road Bridge Trail/Sidepath	-	○	⊗	⊗	X	Lack of lighting, drainage, staircases at both entrances, dense foliage

Comfort Level

- Comfortable
- Somewhat Comfortable
- ⊗ Uncomfortable

VHB also performed a qualitative assessment of pedestrian comfort for the pedestrian crossings along the existing pedestrian tunnel and authorized pedestrian routes within the study area. Comfort levels were screened as follows: comfortable, somewhat comfortable, and uncomfortable. For pedestrian crossings, the screening factors included:

- **Number of Lanes Crossed:** 1-3 lanes, 4-5 lanes, 6+ lanes
Note: Total number of lanes was used (not lanes per direction); variable does not change with the presence of a raised refuge island.
- **Posted Speed Limit:** ≤25 mph, 30-35, ≥40 mph
- **Median Type:** Raised Refuge Island, Raised/Hardened Centerline, Painted/None
- **Crosswalk Type:** High Visibility, Standard, Unmarked

A summary of the existing pedestrian crossing comfort is shown in **Table 6**.

TABLE 6. EXISTING PEDESTRIAN CROSSING COMFORT SCREENING

Location	Leg	Crossing Type	No. of Lanes	Posted Speed Limit	Median Type	Crosswalk Marking Type	Lighting	ADA Curb Ramps
Mill Road at Stovall Street	West	Signalized	○	●	○	●	●	✓
	East		●	●	⊗	●	⊗	X
	South		○	●	⊗	●	○	X
Pershing Avenue at Stovall Street	West	Signalized	Absent though pedestrian facilities present					
	East		●	●	⊗	●	○	✓
	North		○	●	⊗	●	⊗	✓
	South		○	●	⊗	●	⊗	✓
Telegraph Road NB ramp to Duke Street EB	-	RRFB	○	○	-	●	⊗	X

Location	Leg	Crossing Type	No. of Lanes	Posted Speed Limit	Median Type	Crosswalk Marking Type	Lighting	ADA Curb Ramps
Duke Street EB ramp to Telegraph Road SB	-	RRFB	○	○	-	●	⊗	X
Witter Drive at Witter Drive	East	Unsignalized	●	●	⊗	●	●	X

Comfort Level

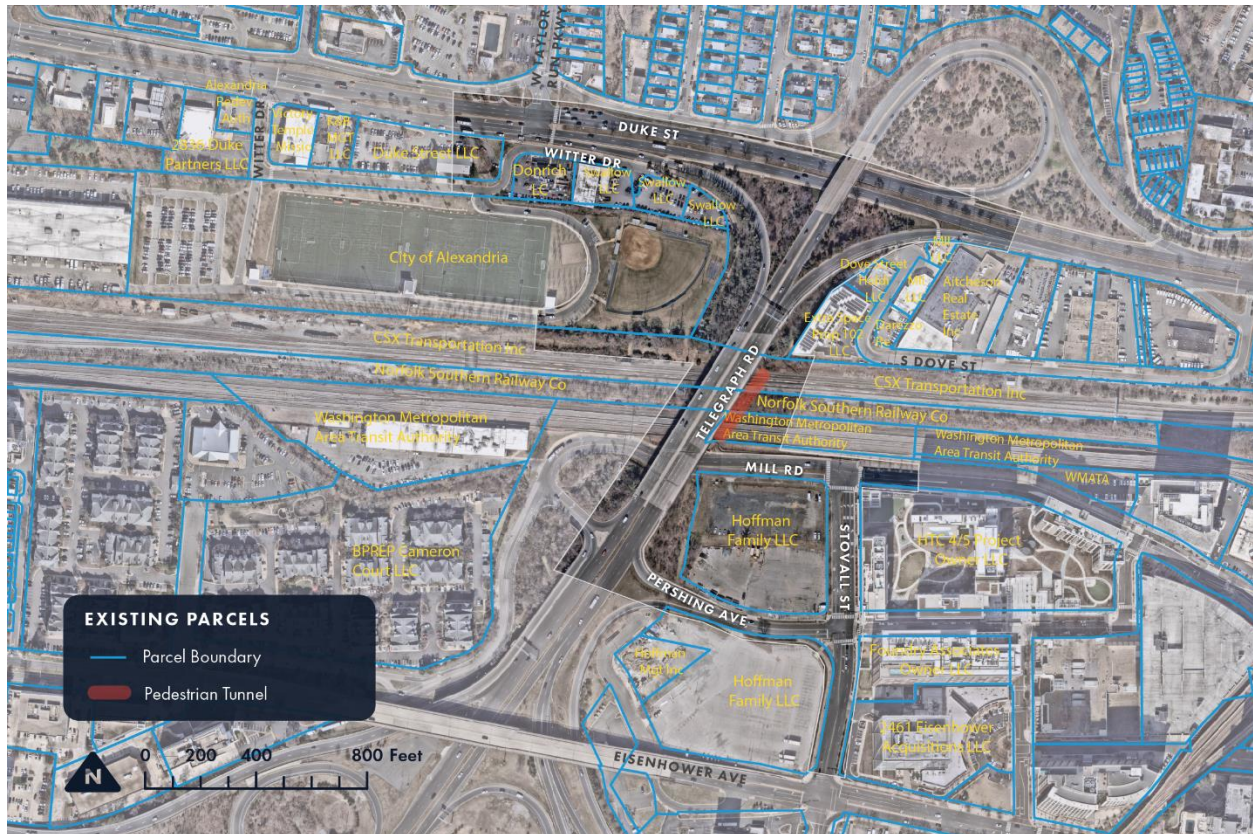
- Comfortable
- Somewhat Comfortable
- ⊗ Uncomfortable

3.2 Parcels

The study area features large swaths of public right-of-way on and adjacent to roadways, including the Telegraph Road bridge and Telegraph Road/Duke Street interchange, Duke Street, Witter Drive, Mill Road, Stovall Street, and Pershing Avenue. Ownership of the rail corridor that bisects the study area and runs under the Telegraph Road bridge is divided among CSX, Norfolk Southern, and WMATA. The remainder of the parcels in and adjacent to the study area are privately owned, with the exception of the Witter Fields parcel, which is owned by the City.

Figure 13 shows parcel boundaries and ownership in and near the study area.

FIGURE 13. PARCEL BOUNDARIES AND OWNERSHIP



In considering the feasibility of enhanced and/or new pedestrian connections in the study area, particular attention should be paid to the following locations:

- The boundaries between City of Alexandria property at Witter Fields, the CSX property to the south, and public right of way surrounding the Telegraph Road bridge, which could have implications for a potential new shared-use path connection on the south side of the Witter Fields softball field.
- The Hoffman-owned parcels on Pershing Avenue, at the southern end of the existing authorized route.
- The privately-owned parcels along the northeast edge of the study area, including the self-storage facility, adjacent to the existing sidewalk connection on the east side of the Telegraph Road bridge.

3.3 Utilities

(Placeholder until utilities data comes in)

3.4 Environmental

This section presents the environmental regulations that apply to natural resources, socioeconomic resources, cultural resources, and hazardous materials for the proposed project and presents existing conditions for each category. The study area is defined as the anticipated Limits of Disturbance (LOD) of proposed improvements. Sources of data for the environmental conditions assessment include the Virginia Department of Environmental Quality's (VDEQ) Environmental Data Hub, Virginia Department of Historic Resources, U.S. Census, City of Alexandria GIS and Maps, and Federal Emergency Management Agency (FEMA).

3.4.1 NATURAL RESOURCES

Floodplains

A desktop survey of FEMA's Flood Insurance Rate Maps (FIRM) was performed to determine the extent of floodplains within the study area. FEMA FIRM mapped floodplains show the presence of 100-year floodplains within the study area. Impacts to floodplains may require permitting under Sec 6-300 of the City Ordinance.

Wetlands and Waterways

A desktop survey of publicly available data was performed to identify potential environmental features at the project site. The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, National Hydrography Dataset (NHD), United States Department of Agriculture (USDA), National Resources Conservation Service (NRCS), Soil Survey Geographic database (SSURGO), and Alexandria Streams and Rivers GIS layer were reviewed for hydric soils, waterways, and wetlands.

One waterway, Taylor Run, was depicted in the NHD, NWI, and Alexandria Streams and Rivers layer. NWI classified this system as R4SBC, which is a riverine, intermittent, streambed, seasonally flooded system. A wetland, classified as PEM1Cx (palustrine, emergent, persistent, seasonally flooded, excavated wetland), was shown in the NWI layer near the boundary of the project site.

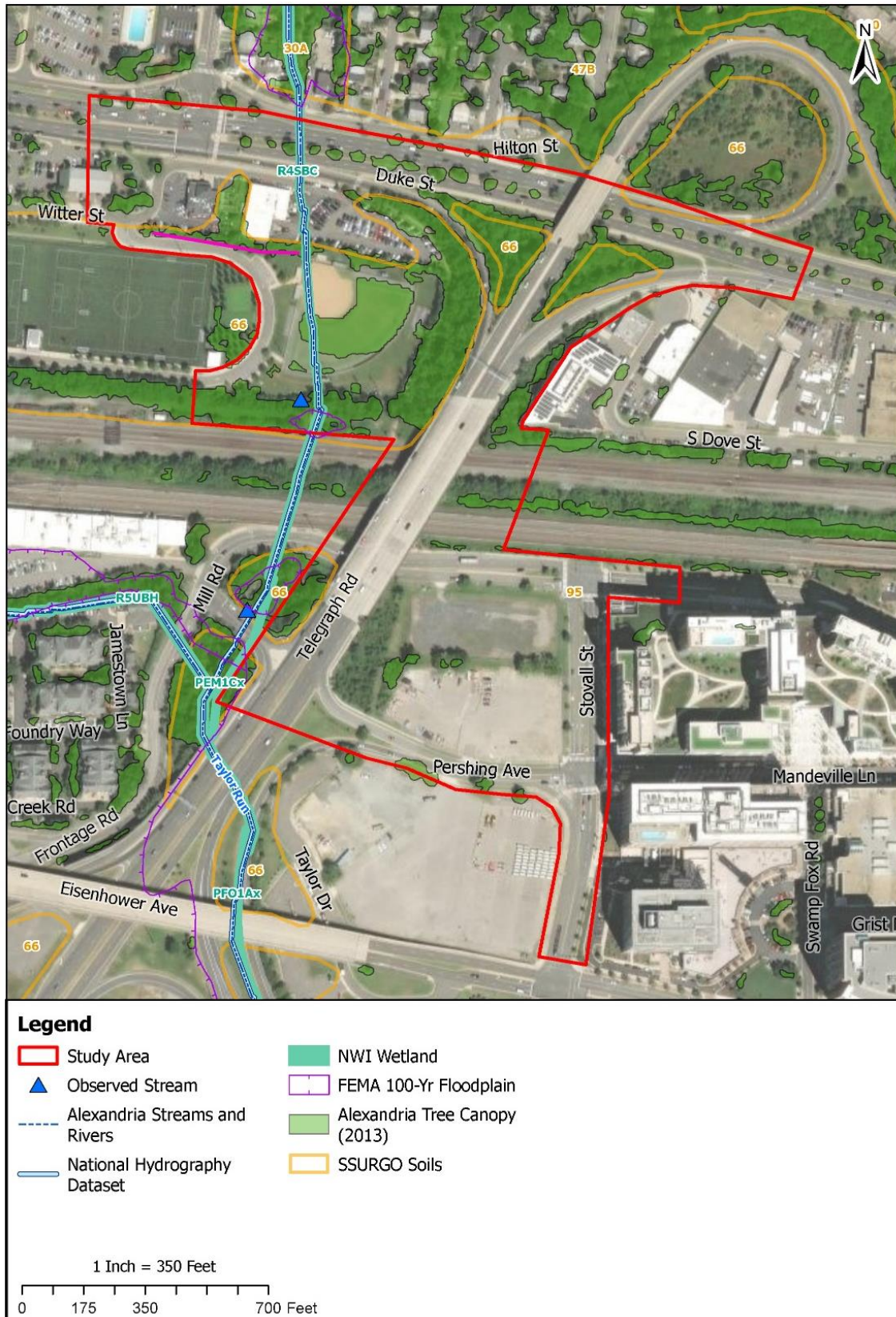
If jurisdictional resources are impacted, permits through the U.S. Army Corps of Engineers and VDEQ may be required. The project may qualify under the Virginia Water Protection General Permit WP1, which allows the state to authorize specific activities into Waters of the U.S. within the State of Virginia if impacts are under one-half acre of wetlands or up to 300 linear feet of stream channel. VDEQ grants Section 401 certification through compliance with VWPP Program.

Forested Areas

Several forest stands were observed within the project area. The City regulates trees and forests under the Urban Forestry Management Program. Additionally, alterations to the landscape should abide by the City of Alexandria Landscape Guidelines and Natural Resource Management Plan. Site observations confirmed the Alexandria Canopy (2013) GIS layer to be mostly accurate in its depiction of canopies; however, there were no trees present within the baseball diamond as depicted in the 2013 GIS data.

Figure 14 shows natural resource features in and adjacent to the study area.

FIGURE 14. NATURAL RESOURCES MAP



3.4.2 SOCIOECONOMIC RESOURCES

Implementation of pedestrian improvements would potentially benefit residents, including low-income and minority populations, by maintaining pedestrian connections across the rail corridor.

Parklands and Recreational Facilities

The proposed project has the potential to impact Witter Fields. Additional coordination with the Alexandria Department of Recreation, Parks & Cultural Activities would be required if there are impacts. An evaluation in accordance with Section 4(f) of the U.S. Department of Transportation Act of 1966 would be required if funding or approvals are anticipated through the U.S. Department of Transportation. Section 6(f) assessment would not be required because Land and Water Conservation Act funds were not used to acquire or improve the park.

Demographics

The study area is located adjacent to Census Tract 2007.01 Block Group 1, Census Tract 2007.04 Block Groups 2 and 3, and Census Tract 2008.02 Block Groups 2 and 3. The population percentages of minority residents within the block groups vary from 10 percent to 68 percent. Overall, the percentage of minority residents is higher than the City as a whole and comparable to the state of Virginia. The percentage of households in poverty is 8 percent for study area block groups, comparable to the percentage in Alexandria as a whole and lower than the percentage in the state of Virginia.

Census Tract 2008.002 Block Group 2, however, exceeds both the City and state in percentages of minorities and households in poverty. Demographic data for study area Census tracts and block groups is presented in **Table 7**.

TABLE 7. STUDY AREA DEMOGRAPHIC SUMMARY

	Population	% Minority	% Hispanic	% Black	% Asian	% Two or more races	Median Household Income	% of Households in Poverty
Block Group 1; Census Tract 2007.01; Alexandria city; Virginia	764	39%	6%	8%	10%	14%	131,125	4%
Block Group 2; Census Tract 2007.04; Alexandria city; Virginia	845	51%	8%	21%	8%	15%	130,874	1%
Block Group 3; Census Tract 2007.04; Alexandria	1,205	35%	2%	23%	5%	5%	118,359	6%

	Population	% Minority	% Hispanic	% Black	% Asian	% Two or more races	Median Household Income	% of Households in Poverty
city; Virginia								
Block Group 2; Census Tract 2008.02; Alexandria city; Virginia	1,194	68%	39%	14%	7%	2%	74,063	22%
Block Group 3; Census Tract 2008.02; Alexandria city; Virginia	886	10%	5%	1%	2%	1%	149,688	2%
Study Area Block Group Total	4,894	42%	13%	14%	6%	7%	N/A	8%
Alexandria, VA	155,525	50%	17%	20%	6%	6%	111,955	8%
Virginia	8,683,619	41%	10%	18%	7%	5%	85,873	11%

3.4.3 HISTORIC AND CULTURAL RESOURCES

The rail corridor, which was part of the Richmond, Fredericksburg and Potomac Railroad (DHR ID #500-0001), has been identified as eligible for listing in the National Register of Historic Places (NRHP). Two archeological sites have been identified within or adjacent to the study area at Witter Fields. A multi-component prehistoric and historic archeological site (44Ax0127) was determined not eligible for the NRHP in 2004. The Bloxham Family Cemetery (44AX0128), has not been evaluated for NRHP eligibility.

The visual assessment of the study area completed on July 9, 2024, indicated that the study area has been heavily graded and it is largely paved to accommodate transportation and vehicle storage functions. Non-paved areas in the vicinity of Telegraph Road have been graded by road and ramp construction associated with Duke Street, Telegraph Road, and railroad construction. There is limited potential for archaeological resources to be located within undeveloped portions of the site.

3.4.4 HAZARDOUS MATERIALS SITES

An Environmental Data Resources' Radius Map with GeoCheck was obtained to identify properties within one mile of the study area that are listed in state or federal databases with

known past or current incidents, storage, or generation of hazardous materials, wastes, and substances. Properties within the study area include current and former industrial facilities, service stations, auto repair facilities, and other properties considered by EPA to have high potential for environmental concern.

Table 8 lists the properties on databases within, partially within, or adjacent to the study area.

TABLE 8. PROPERTIES WITH POTENTIAL FOR ENVIRONMENTAL CONCERN

Site Name	Address	Databases
Jensen Manufacturing	2644 Duke St	LUST,LTANKS,RGA LUST,UST FINDER RELEASE
Hodges Lynwood C Rear	2612 Duke St	EDR HIST CLEANER
Stegall S Shell Service Center	601 Telegraph Rd	EDR HIST AUTO
Renault Specialists	2612 Duke St	EDR HIST AUTO
Hoffman Town Center Blocks 4 & 5	2460 Mill Rd	VCP, FINDS
James Steel Fabricators Inc	238 Telegraph Rd	UST,RCRA NONGEN / NLR,FINDS,ECHO
Taylor S Garage	120 Telegraph Rd	EDR HIST AUTO
James Steel Fabricators Inc	238 Telegraph Rd	UST FINDER
Hoffman Town Centre Blocks 4 And 5	2410 And 2460 Mill Rd	LTANKS, ECHO
VCA Alexandria Animal Hospital	2660 Duke Street	ECHO, AIRS
Sinclair Service Station	254 Telegraph Rd	EDR HIST AUTO
Alexandria Animal Hospital	2660 Duke St	RCRA NONGEN / NLR, FINDS
Burgundy Esso Station	611 Telegraph Rd	EDR HIST AUTO
Surface Deployment Distribution Command	(Not Provided)	PFAS ECHO
Wegmans Food Markets #142	150 Stovall Street	ECHO

4 Summary Of Challenges and Constraints

Table 9 summarizes the primary study area challenges and constraints identified through the existing conditions assessment. These challenges and constraints will be investigated further in the concept development phase of the study.

TABLE 9. SUMMARY OF CHALLENGES AND CONSTRAINTS

Resource Area/Element	Challenge/Constraint	Description
Natural Resources	Culverted stream at/near Witter Fields	The desktop review of environmental conditions indicates the presence of a culverted stream through the east side of the Witter Fields property, which could have implications for a shared-use path connection in that portion of the study area.
Utilities	[Potential utility conflicts at/near Witter Fields]	[Pending receipt of utility data]
Active Transportation	Substandard pedestrian facilities – multiple locations	Narrow sidewalk widths and sidewalk obstructions impede accessibility and degrade pedestrian comfort in multiple locations in the study area.
Parcel Ownership	Private property considerations	Multiple large, privately-owned parcels in the study area – namely the CSX parcels and the Hoffman Family parcels – represent constraints that need to be accounted for and accommodated in the concept development and design phases for any improved or new pedestrian facilities.
Multimodal Transportation	Telegraph Road traffic operations	Traffic data was not received in time for inclusion in this draft Existing Conditions technical memo; however, potential impacts to traffic operations will need to be assessed as part of any concept that contemplates reducing roadway capacity on Telegraph Road or other study area roadways.