5.0 Greenbelt Alternative

Chapter 5 describes existing conditions of the affected environment and identifies the environmental consequences associated with the Greenbelt Alternative. A detailed description of the methodologies employed to evaluate impacts for each resource and the relevant regulatory framework is given in chapter 3, *Methodology*.

The Greenbelt site consists of approximately 61 acres immediately adjacent to the Greenbelt Metro Station on Greenbelt Metro Drive in the City of Greenbelt, Prince George's County, Maryland, as shown in figure 5-1. It is bound on the north by Greenbelt Metro Drive and on the east by Cherrywood Lane. The southern and eastern boundaries are based on an option agreement signed with the Washington Metropolitan Area Transit Authority (WMATA) and the A.H. Smith Development Company (AKA: Renard Development Company, LLC) in 2014. Greenbelt Road (MD 193) is located less than 1 mile to the south, while the Capital Beltway is near the northeast site boundary. The Greenbelt Metro Station is located approximately 0.1 mile from the western site boundary. Approximately half of the site is currently used by WMATA as a parking lot for the adjacent Greenbelt Metro Station. The remainder of the site is an undeveloped riparian forest associated with Indian Creek, which crosses the site from northeast to southwest. Several residential communities are near the site, including the South Core Greenbelt Station development to the south, Franklin Park multifamily housing to the east, and the Hollywood subdivision to the west. Land use in the vicinity of the site is primarily residential and open space. Other development in proximity to the site includes suburban office parks, a WMATA rail yard, and a Federal courthouse. Concentrations of commercial uses occur approximately 1 mile west of the site along U.S. Route 1, while agricultural land associated with the Beltsville Agricultural Research Center (BARC) characterizes much of the landscape north of the site. BARC is the largest agricultural research complex in the world covering 6,600-acres of which several thousand acres is preserved as farmland. The research center house approximately 1,300 people in four buildings with more than 365,000 SF of space.

Figure 5-1: Greenbelt Conceptual Site Plan

GREENBELT EARTH RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- Parcel topography is generally flat, particularly in the area of the existing parking lot and Indian Creek riparian forest with a slight slope between these two areas.
- Surface physiography of the Crownsville Upland District, where the Greenbelt site is located, is characterized by flat to gently southeast-dipping sedimentary beds of Quaternary lluvium and Tertiary terraces consisting mainly of quartzitic sands, gravels, silts, and clays.
- Five different soils were found on the site, which is composed of part asphalt and part forest, including Udorthents, Highway complex; Udorthents, Loamy complex; Zekiah and Issue soils complex; Russet-Christiana-Urban land complex and Elkton–Urban Land complex.

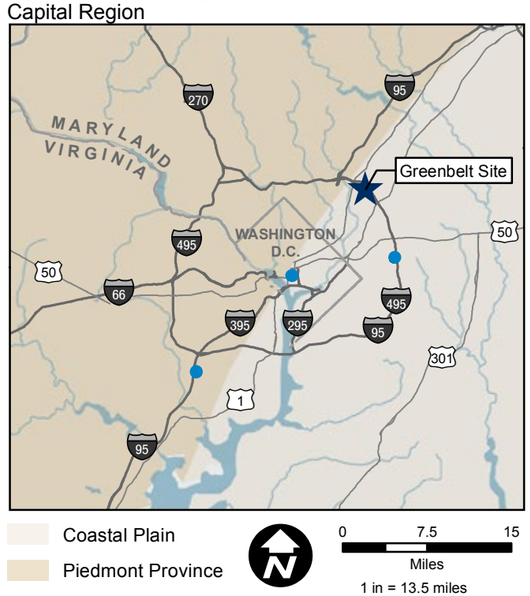
PHYSIOGRAPHIC PROVIDENCE

A geographic region with a characteristic geomorphology and often specific subsurface rock type or structural elements.

FALL LINE

The geomorrphologic break between an upland region of relatively hard, crystalline basement rock and a coastal plain of softer sedimentary rock.

Figure 5-2: Physiographic Provinces of the National Capital Region



The analysis of environmental impacts for the Greenbelt Alternative is based on the conceptual site plan shown in Figure 5-1. This site plan is informed by both site planning principles and design requirements based on FBI program needs. These site plans are conceptual in nature and represent a program-compliant layout that would yield the most conservative estimate of the environmental impacts associated with each alternative. Ultimately, the layout and design of the proposed FBI HQ could potentially be altered during the final design process with the selected exchange partner. GSA would perform supplemental NEPA analysis, as necessary, if there is substantial variance from what is considered in this EIS.

5.1 Affected Environment

The following sections describe the affected environment for the Greenbelt site and associated study areas for each resource topic evaluated in this Environmental Impact Statement (EIS).

5.1.1 Earth Resources

Earth resources encompass geology, topography, and soils.

5.1.1.1 Geology and Topography

The Greenbelt site is situated within the western shore uplands region Atlantic Coastal Plain physiographic province, as shown in figure 5-2 (NPS 2008) (Reger and Cleaves 2008). The Coastal Plain physiographic province is bordered by the Atlantic Ocean to the east and the Piedmont physiographic province to the west, and ranges from the southern portion of Florida to southern Massachusetts. The division between the Coastal Plain and Piedmont provinces is also referred to as the fall line (Froelich and Hack 1975).

The Coastal Plain is characterized by gently rolling hills and valleys and is underlain by a southeastwardly thickening sequence of sediments consisting of sand and gravel aquifers interlayered with silt and clay and confining units. The sediments of the Coast Plain dip eastward at a low angle, generally less than one degree, and range in age from Triassic (250 to 200 Mya) to Quaternary (2.6 million years ago [Mya] to present). Mineral resources of the coastal plain are chiefly sand and gravel that are used as aggregate materials by the construction industry (MGS 2014).

Within the Atlantic Coastal Plain and the western shore upland region, the Greenbelt site lies within the Crownsville Upland District, which is characterized by flat to gently southeast-dipping sedimentary beds of Quaternary alluvium and Tertiary terraces consisting mainly of quartzitic sands, gravels, silts, and clays. The Greenbelt site lies within a shallow valley formed by Indian Creek. Overall, the site is flat; however, there is a slight to moderate slope between the existing parking lot and Indian Creek riparian forest. The overall elevation ranges from approximately 70 to 80 feet above mean sea level (AMSL) as shown in figure 5-3.

The geology of the Greenbelt site is heavily influenced by Indian Creek. According to the geologic map of Prince George's County, Maryland, geologic deposits along the banks of Indian Creek consist of Pleistocene- and Holocene-aged interbedded sand, silt-clay, and gravel alluvium with an average thickness of approximately 15 feet, and a maximum of 40 feet (Glaser 2003). Surrounding the alluvium deposits are 20 to 25 feet thick early Quaternary-aged terrace deposits of interbedded sand, gravel, and silt-clay. The majority of the site is underlain by Cretaceous-aged sand and gravel of interbedded quartz sand, pebbly sand, gravel, and silt-clays with a maximum thickness of 1,000 feet. Superficial geologic features have been previously disturbed by the operation of a sand and gravel mining operation, and the subsequent introduction of fill from the construction of Lake Artemesia for the construction of the Greenbelt Metro Station surface parking lot (Prince George's County Planning Department 2012). Figure 5-4 illustrates the geology of the Greenbelt site and its environs.

Figure 5-3: Greenbelt Topography

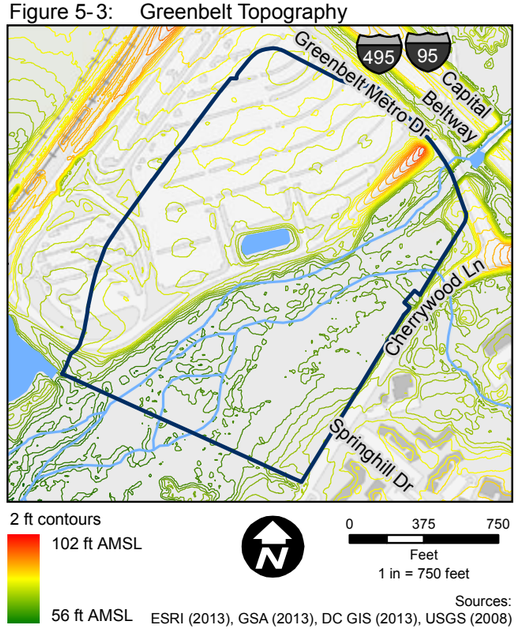
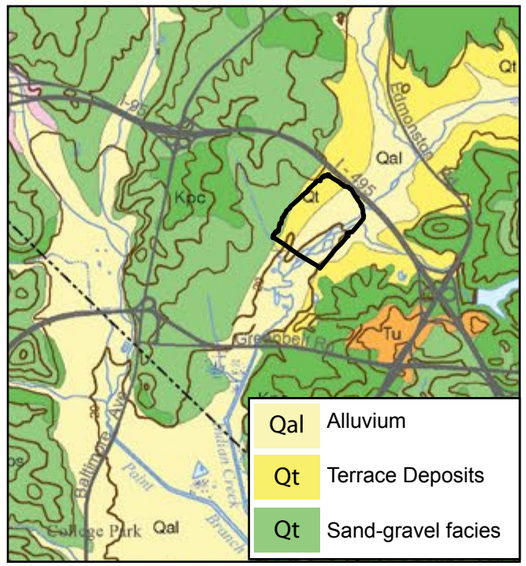


Figure 5-4: Greenbelt Geology Overview



Adapted from Geologic Map of Prince George's County

AMSL

Above mean sea level (AMSL) is the average level for the surface of one or more of Earth's oceans from which heights such as elevations may be measured.

Figure 5-5: Greenbelt Soils

5.1.1.2 Soils

The majority of the site northwest of Indian Creek is paved asphalt, while the southeastern half of the site is forested. Fill material from the construction of Lake Artemesia has been placed at the site for development of the surface parking lot. The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has identified five major soil associations within the Greenbelt site, as shown in figure 5-5 and table 5-1. None of the soils identified at the site are considered highly erodible soils, nor are any of the soils considered to be prime farmland (Prince George's Soils Conservation District 2013). Soil associations and their characteristics are listed from east to west in table 5-1.

Udorthents Associations

There are two Udorthent associations located on the Greenbelt site. The Udorthent, highway association soils, are located mainly along the western and northeastern site boundary and comprise approximately 14 percent of the site, while Udorthent, loamy association soils, are located primarily throughout the center of the site and along the southwestern and northern boundaries and comprise approximately 57 percent of the site. It is important to note that the buildable area for this site alternative is located exclusively within these two Udorthent associations.

Table 5-1: Greenbelt Site Soil Characteristics

Soil Type	Acres within Site	Slopes (percent)	Water Erosion Factor (K factor)	Wind Erosion Factor	Building Potential	Drainage and Flooding Potential	Hydric
Udorthents, Highway complex	12	0 - 65	N/A	N/A	N/A	Well-drained and nearly zero flooding potential	No
Udorthents, Loamy complex	49	0 – 5	0.37	5	Not limited	Well-drained and nearly zero flooding potential	No
Zekiah and Issue soils complex	23	0 - 2	0.37	5	Very limited	Poorly drained and high frequency of flooding	No
Russet-Christiana-Urban land complex	2	0 - 5	0.49	3	Somewhat limited	Moderately well-drained and nearly zero flooding potential	Yes
Elkton-Urban complex	1	0 - 2	0.43	5	Very limited	Moderately well-drained and nearly zero flooding potential	Yes

The larger overall Udorthent association consists of cuts and fills or disturbed soils, typically of adjacent soil types. USDA-NRCS indicates that the Udorthent association has problems associated with stability and subsidence. Both Udorthent associations within the site are considered to be well drained; water is removed from the soil readily but not rapidly, and both associations are estimated to have a nearly 0 percent chance of flooding in any given year, with flooding occurring on these soils less than once in 500 years (USDA 1967, 2015).

The Udorthent, Highway association soils map unit is primarily composed of human transported material/ urban land and has a wide range of slopes varying from 0 to 65 percent, with slopes within the site towards the lower bounds of this range. The Udorthent, loamy association soils, have a much more gradual slope, of 0 to 5 percent and are composed primarily of loamy deposits.

The potential of erosion for soil types is demonstrated using the erosion K factor, which indicates the susceptibility of a soil to erosion by water. K values range from 0.02 to 0.69. All other factors being equal, the higher the value, the more susceptible the soil is to erosion by water. Udorthent, highway association soils, do not have a K factor because they consist primarily of urban land. Udorthent, loamy association soils, have a K factor of 0.37. Susceptibility of soils to wind erosion is detailed using a wind erodibility group rating system, in which soils are assigned to a number ranging from 1 to 8, with soils assigned to group 1 having the greatest susceptibility to wind erosion and those in group 8 being the least susceptible. Udorthent, loamy association soils, have a rating of 5 and similar to water erosion Udorthent, highway association soils, have not been rated. Udorthent, loamy association soils, are generally not limited in construction potential (USDA 2015).

Zekiah and Issue Soils Complex

This soil complex is located within the eastern center and along the southern boundary, and comprises approximately 26 percent of the site. Zekiah and Issue soils consist primarily of loamy alluvium and are typically located along floodplains and drainage ways. Slopes generally range from 0 to 2 percent. This soil association is deep, poorly drained, and has a high frequency of flooding (i.e., a greater than 50 percent chance of flooding in any given year during normal weather conditions). These soils have very limited building potential as a result to their frequent flooding. The K factor of these soils is 0.37, with a wind erosion rating of 5.

The Russet-Christiana-Urban Land Complex

This soil complex is located in the southeastern portion of the site, and together with the Elkton-Urbana complex comprises the remaining 3 percent of the site.

The Russet-Christiana-Urban land complex is located in the southeast portion of the site and consists primarily of clay deposits with slopes ranging from 0 to 5 percent. This soil association is deep, moderately well drained, and has nearly a 0 percent chance of flooding, similar to the Udorthents. These soils have somewhat limited building potential as a result of their depth to the saturated zone. The K factor of these soils is 0.49 with a wind erosion rating of 3. These soils meet the criteria for hydric soils, which indicates past or present wetlands.

Elkton-Urban Complex

This soil complex is located in the southeastern portion of the site, and as noted previously, together with the Russet-Christiana-Urban land complex comprises 3 percent of the site.

The Elkton-Urban land complex consists primarily of silt loam with slopes ranging from 0 to 2 percent. This soil association is deep, poorly drained, and has nearly a 0 percent chance of flooding, similar to the Udorthents. These soils have very limited building potential as a result of their frequent ponding. The K factor of these soils is 0.43 and their wind erosion rating of 5. These soils meet the criteria for hydric soils, which indicates past or present wetlands.

The potential of erosion for soil types is demonstrated using the **erosion K factor**, which indicates the susceptibility of a soil to erosion by water. K values range from 0.02 to 0.69. All other factors being equal, the higher the value, the more susceptible the soil is to erosion by water.

LOAM

A fertile soil of clay and sand containing humus.

Figure 5-6: Greenbelt Surface Water and Wetland Resources

5.1.2 Water Resources

The following sections describe the affected environment for the water resources at the Greenbelt site. Water resources encompass surface water, groundwater, hydrology, wetlands, and floodplains.

5.1.2.1 Surface Water

The Greenbelt site is located within the Upper Anacostia River watershed and the larger Chesapeake Bay watershed. Indian Creek, a perennial freshwater stream and tributary to the Anacostia River, flows from northeast to southwest through the lower half of the site, as shown in figure 5-6. Indian Creek and its channels and wetlands are all classified as waters of the United States (U.S.) and are therefore under the protection of the 1972 Clean Water Act (CWA) (33 U.S.C. §1251 et seq.) In addition, Indian Creek is under the jurisdiction of the U.S. Capper-Cramton Act. The Capper-Cramton Act, which was enacted by the 71st Congress on May 29, 1930, provides authority to Maryland-National Capital Park and Planning Commission (M-NCPPC) and National Capital Planning Commission (NCPC) over the development within the park and playground system of the National Capital Region (NCR), including natural areas along the major tributaries of the Potomac and Anacostia Rivers. The land along Indian Creek is subject to the Act (46 Stat. 482), which specifies that "the development and administration [of lands acquired with funding under the Act] shall be under the M-NCPPC and in accordance with plans approved by the National Capital Planning Commission." Therefore, if this site were selected for consolidation of the FBI HQ, NCPC would have approval authority (and environmental review responsibility under the National Environmental Policy Act [NEPA]) for the development plan's compliance with the park's General Development Plan, and advisory authority for the project's compliance with the Comprehensive Plan of the National Capital: Federal Elements. Additional review authority would be granted to M-NCPPC, which has administrative jurisdiction over parklands in Montgomery and Prince George's Counties.

The streambed elevation of Indian Creek drops approximately 2 feet per 1,000 feet in longitudinal profile over the length of the site (FEMA 2013a). North of the site, several tributaries join Indian Creek, including Beaverdam Creek. Paint Branch, Narragansett Run and several unnamed tributaries flow into Indian Creek south of the site. Indian Creek has a braided stream channel within the site; the stream becomes channelized after it crosses Greenbelt Road approximately 4,000 feet south of the site. Indian Creek meets Paint Branch near the College Park Airport, approximately 2 miles south of the site, and becomes the Northeast Branch Anacostia River. The Northeast Branch eventually meets the mainstem Anacostia River, a tributary to the Potomac River, which flows into the Chesapeake Bay. There are numerous small perennial ponds located in the vicinity of the site, including one stormwater management pond located near the center of the site within the footprint of the existing parking lot, and another located adjacent to the southwestern site boundary. The largest water body near the site is Greenbelt Lake located less than a mile to the east. A perennial stream flows from this lake and joins Indian Creek within the site boundary.

Under the Code of Maryland Regulations, Indian Creek and its perennial stream tributaries are Use Class I. The designated uses for Use Class I are growth and propagation of fish and other aquatic life and wildlife, water contact sports, leisure activities involving direct contact with surface water, fishing, agricultural water supply, and industrial water supply. The Potomac and Anacostia Rivers, into which Indian Creek flows, are assigned Use Class II. In addition to the uses assigned to Use Class I, the designated uses for Use Class II include uses related to shellfish harvesting and habitat for estuarine and marine aquatic species.

According to Maryland's Draft 2014 Integrated Report of Surface Water Quality, Indian Creek is not impaired for water quality; however, the downstream Anacostia and Potomac Rivers are impaired and do not attain designated uses (MDE 2014). Channelization and the lack of riparian buffers are listed as major stressors to watershed health throughout the tidal freshwater portion of the Anacostia River basin. Additionally, fish caught in the Anacostia River have been found to have heptachlor epoxide levels above human health standards and chlorides and sulfates are impacting the health of the watershed as a result of the historic uses of the tidal portion of the Anacostia. The tidal and nontidal portions of the Anacostia River and the upper tidal Potomac River were listed as impaired for polychlorinated biphenyls (PCBs); however, a joint Total Maximum Daily Load (TMDL) with Maryland, Virginia, and the District of Columbia for PCBs was approved in 2008. Various designated uses of the tidal and nontidal portions of the Anacostia River are not attained and impaired due to nutrients, sediment, debris/trash, and pathogens. TMDLs have been approved for these pollutants. The upper tidal freshwater portion of the Potomac River into which the Anacostia flows does not attain fish and shellfish uses due to nutrients. The Chesapeake Bay TMDL, approved in 2012, addresses nutrients and other pollutants.

5.1.2.2 Hydrology

The hydrology of the Greenbelt site is composed of both stormwater and natural surface waters. Substantial clearing and alteration of the natural stream course south of the Greenbelt site has occurred in conjunction with the South Core portion of Greenbelt Station.

Stormwater runoff from the impervious surfaces associated with the existing Greenbelt Metro Station parking lot is conveyed to two stormwater management ponds and to Indian Creek. One stormwater management pond is located in the center of the site. A second, larger stormwater management pond is located outside of and adjacent to the southwestern corner of the site. Currently, stormwater from the impervious surfaces is directed to these detention ponds as well as through two culverts that outlet directly to Indian Creek. One is an approximately 115 foot culvert that outlets directly from the site to Indian Creek and the second is an approximately 45 foot box culvert located approximately 150 feet to the east of the site. The pervious surfaces within the riparian forest in the east and southeastern portions of the site allow stormwater infiltration.

5.1.2.3 Groundwater

Groundwater in the region of the site is contained generally within semi-consolidated sand or gravel aquifers of the North Atlantic Coastal Plain aquifer system (USGS 2003). Aquifers in Prince George's County include Aquia, Magothy, Patapsco, and Patuxent aquifers and the surficial aquifer (Richardson 1976; MGS 2014). Under natural conditions, shallow groundwater flow would be expected to move towards Indian Creek; however, groundwater flow direction may vary based on pumping, dewatering, underground utilities, and seasonal fluctuation. Based on the elevation of the site compared with that of Indian Creek, groundwater is anticipated to be encountered at less than 1 foot below ground surface in and around Indian Creek and at approximately 10 feet below ground surface in the developed western half of the site (GSA 2014b). A groundwater monitoring well located approximately 2 miles to the northwest within the local Patuxent Formation aquifer recorded water levels of 17.26 to 26.46 feet below land surface (USGS 2012).

Surface water withdrawals provide the majority of the water supply for Prince George's County; however, some smaller water systems in the southern part of the County use groundwater (MDE 2005; MWCOG n.d.). In the region, groundwater resources also can provide emergency backup water supplies for hospitals, government facilities, and embassies (USGS 2010).

A Phase I Environmental Site Assessment was performed at the site in November 2014 (GSA 2014b). No groundwater contamination was observed at the time, and future contamination is unlikely to occur as a result of former or current owners or operators because of the site's distance from other hazardous waste sites and/or the presence of hydraulic cross-gradients that would prevent contamination of groundwater at the site.

5.1.2.4 Wetlands

The U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) define jurisdictional wetlands as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3). USACE regulates development in jurisdictional wetlands pursuant to Section 404 of the CWA (33 CFR 320–330). The identification and delineation of jurisdictional wetlands is based on evidence of hydrophytic vegetation, hydric soils, and wetland hydrology.

Decisions regarding jurisdiction can be considered on a case-by-case basis, and the final decision is ultimately determined by USACE. Currently, there are three different wetland delineations that exist for the Greenbelt site, each of which was performed by a different agency with different assumptions and limitations. In addition to the wetland delineations listed in this section, a site-specific survey would be required for regulatory purposes under section 404 of the CWA if wetlands may be disturbed.

GREENBELT WATER RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- The Greenbelt site is located within the Upper Anacostia River watershed and the larger Chesapeake Bay watershed.
- Hydrology of Greenbelt site is composed of both stormwater and natural surface waters.
- Indian Creek, a perennial freshwater stream and tributary to the Anacostia River, flows through the site from northeast to southwest. The channel is braided within the site boundary.
- There are 27.9 acres with a 1% annual chance of flooding located within the site.
- NWI, MDDNR, and site surveys indicate the presence of between 5.4 and 32.8 acres of freshwater forested wetlands surrounding Indian Creek.

PERENNIAL PONDS

Generally refers to freshwater bodies of water that are full throughout the year.

TOTAL MAXIMUM DAILY LOAD (TMDL)

Describes the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards under the CWA.

HYDROPHYTIC VEGETATION

The dominant vegetation consists of species capable of growing in water or on substrate that is at least periodically deficient in oxygen as a result of the presence of water.

HYDRIC SOILS

Soils in the area are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth of hydrophytic vegetation.

WETLAND HYDROLOGY

The area is inundated permanently or periodically, or the soil is saturated to the surface for sufficient duration during the growing season to support hydrophytic vegetation.

PALUSTRINE

Relating to a system of inland, non-tidal wetlands characterized by the presence of trees, shrubs, and emergent vegetation (vegetation that is rooted below water but grows above the surface) (dictionary.com).

FLOODPLAIN DEFINITIONS

100-year flood – A flood event that has a 1% probability of occurring in any given year.

500-year flood – A flood event that has a 0.2% probablility of occurring in any given year.

National Wetlands Inventory

National Wetlands Inventory (NWI) data were developed by the U.S. Fish and Wildlife Service (USFWS) for the site in April 1981, predating the construction of the Greenbelt Metro Station, which opened in 1993 (USFWS 2015). This dataset is intended to provide reconnaissance-level information for wetlands, including location, size, and type (USFWS 2015). NWI wetlands are usually delineated at a small scale, meaning that large areas are intended to be shown in a relatively small space. The wetland representations are created through analysis of high altitude imagery that identifies vegetation, hydrology, and geography. Image analysis involves inherent errors and depends on image quality, analyst experience, supporting data quality and availability, and the amount of ground-truthed information available. Wetlands, as determined on NWI maps, are not based on USACE definitions and therefore may not be under USACE jurisdictional authority. Because this delineation was performed prior to the construction of the Greenbelt Metro Station, wetland location, size, and type may have changed since the date of analysis.

The NWI data identify several wetlands on the Greenbelt site. A 26.3-acre freshwater forested wetland is present throughout the eastern and southern portions of the site, as shown in figure 5-6 (USFWS 2010). This wetland, which is bisected by the braided Indian Creek, is classified as a palustrine forested, temporarily flooded wetland characterized by broad-leaved deciduous vegetation (PFO1A). This wetland extends south outside the boundaries of the site and is associated with several additional wetlands along Indian Creek, including other freshwater forested, freshwater emergent, freshwater unconsolidated shore, and pond wetlands characterized by varying flooding regimes. These wetlands have been disturbed previously by existing development (GSA 2014b).The NWI data also indicate that there is a 6.4-acre freshwater wetland (PEM5CH) classified as a palustrine, emergent, seasonally flooded wetland that has been formed through the presence of a dike or impoundment and is characterized by the perennial grass, Phragmites australis in the western portion of the site. This wetland has been previously disturbed and now is covered by a portion of the existing parking lot.

Maryland Department of Natural Resources

The second source for wetland information is the Maryland Department of Natural Resources (MDDNR) wetland inventory. MDDNR wetland delineations were created through manual interpretation of photos taken between 1988 and 1995. The minimum wetland size allowed by this analysis method is 0.5 acre. MDDNR has indicated that these data likely underestimate the amount of palustrine forested wetlands, and small wetlands could be missed as a result of dense forest cover (MDDNR n.d.).

The MDDNR wetland inventory data show a 15.0 acre wetland located east of the existing parking lot within the Greenbelt site (MDDNR 2005). The wetland effectively surrounds the braided Indian Creek system and widens to the southwest to accommodate the more complex channel structure. The wetland is classified as a combination of palustrine scrub-shrub characterized by broad-leaved deciduous vegetation and palustrine emergent with persistent vegetation that is temporarily flooded (PSS1/EM1A). This freshwater scrub-shrub/emergent wetland extends southward outside the boundaries of the site and is associated with other wetlands, including freshwater forested, emergent, scrub-shrub, and unconsolidated bottom wetlands characterized by varying flooding regimes.

American Land Title Association Survey

The third source for wetlands information at this site is a wetland delineation that is included in the American Land Title Association (ALTA) survey performed on the Greenbelt site in December 2014. This survey was performed in support of the exchange partner solicitation process. Typically, vegetation sampling and characterization for a wetland delineation should be performed during the growing season to obtain an accurate representation of the vegetative community. Indicators of wetland hydrology are also best observed during the growing season. The ALTA wetland delineation was performed outside the growing season thereby limiting the identifiable vegetation and hydrology indicators.

The ALTA wetland delineation identified six wetlands located entirely or partly within the Greenbelt site, as shown in figure 5-6. Each wetland was classified as palustrine forested. The total area of delineated wetlands on the Greenbelt site is 5.43 acres, as shown in table 5-2. Three wetlands are located to the west of the braided Indian Creek channel, and three are located on the east side. The large wetland in the southeastern portion of the site extends south outside of the site boundary.

Table 5-2: Greenbelt Wetland Acreage

Wetland Delineation	Acres within Site
National Wetland Inventory	32.8[a]
MDDNR	15.0
ALTA Survey	5.4

[a] *Of this, 6.3 acres are previously disturbed*

Table 5-3: Floodplain Acreage

100 Year Floodplain Delineation	Acres within Site
FEMA Effective FIRM (1989)	35.7
FEMA Revised Preliminary FIRM (2015)	27.9
Prince George's County Department of Permitting, Inspections, and Enforcement	Unknown at this time

5.1.2.5 *Floodplains*

Flooding has been a long-standing problem throughout the Anacostia River watershed, which historically has a wide, flat floodplain (FEMA 2013a). Development occurred in the watershed's floodplains before stormwater management regulations and controls were developed. Periodic flooding of Indian Creek occurs primarily in the middle and lower portions of the subwatershed from just upstream of the Capital Beltway down to the confluence with Paint Branch and along the U.S. Route 1 corridor in the upper portion of the subwatershed. The Greenbelt site falls within these areas of periodic flooding. Upstream of the site on Indian Creek there have been channel and culvert improvements and detention ponds have been created in an attempt to protect against flooding issues (FEMA 2013a).

Three sources of data, each using different base flood elevations, are used to describe existing floodplains on the Greenbelt site (see table 5-3). However, for all these sources, the 100-year floodplain is defined as an area with high flood risk and a 1 percent annual chance of flooding based on past meteorological data. The 500-year floodplain is an area that has a 0.2 percent chance of an annual flood. Delineation and refined mapping of the floodplains at this site have been ongoing for more than 10 years.

Federal Emergency Management Agency Effective Flood Insurance Rate Map

The Federal Emergency Management Agency (FEMA) publishes the effective Flood Insurance Rate Map (FIRM) for the area. The FIRM and associated data are the official floodplain, and all flood risks and National Flood Insurance Program rates are based on this information. The effective FIRM panel for this site is 452080015D, effective on December 15, 1989 (FEMA 1989), which predates the construction of the Greenbelt Metro Station. The effective FIRM indicates there are floodplains characterized as A6, A8, and B located throughout most of the site, as shown in figure 5-7 (FEMA 1989). Flood zones A6 and A8 encompass much of the eastern and southwestern portions of the site, and are defined as the 100-year floodplain (FEMA 1989), for which the base flood elevation has not been determined. However, the FIRM does show base flood elevations along Indian Creek of 67.5 to 72 feet above the National Geodetic Vertical Datum of 1929 (NGVD29). Flood zone B occurs mainly on the west side of the site and covers much of the existing surface parking lot. This flood zone is described as "areas between the limits of the 100-year flood and the 500-year flood; or certain areas subject to 100-year flooding with average depths less than 1 foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood" (FEMA 1989). Until the FEMA revised preliminary FIRM is finalized, this floodplain delineation is the legally applicable floodplain.

FEMA Revised Preliminary FIRM

The second source of floodplain information is from preliminary data that FEMA developed for a revised preliminary Flood Insurance Study and FIRM for Prince George's County in 2013, as shown in figure 5-7 (FEMA 2013b). According to these data, there are floodplains within the site, but they differ from those in the effective FIRM. A floodplain with flood zone AE, or the 100-year floodplain, for which the base flood elevation has been determined, is located mainly in the area south and east of Indian Creek, running from the northeast corner to the southwest corner of the site. The revised floodplain does not include any of the existing surface parking within the site boundaries. Base flood elevations for the floodplain are approximately 68.5 to 75 feet above North American Vertical Datum of 1988. Converted to NGVD29, these base flood elevations are 69.3 to 75.8 feet. No 500-year floodplain is indicated. Although the preliminary floodplain is the best available information concerning floodplains within the site, the preliminary floodplain does not have any legal authority and cannot be used for flood insurance purposes. Preliminary floodplain data are specifically intended to be used only for "review and guidance" purposes and are subject to change (FEMA 2014). A letter of map revision would be required to legally revise the floodplain prior to the approval of the revised preliminary floodplain.

Figure 5-7: Greenbelt Floodplain Resources Map

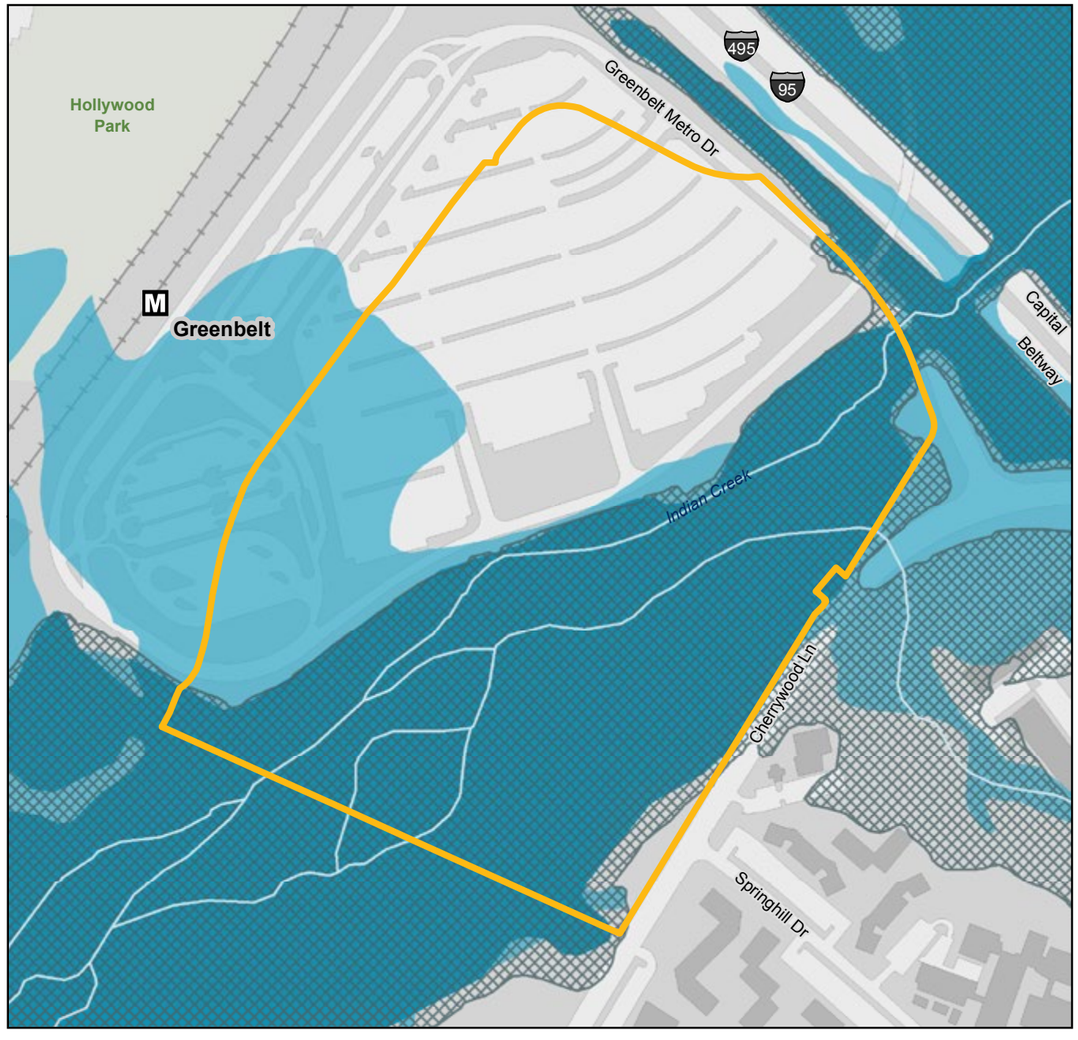
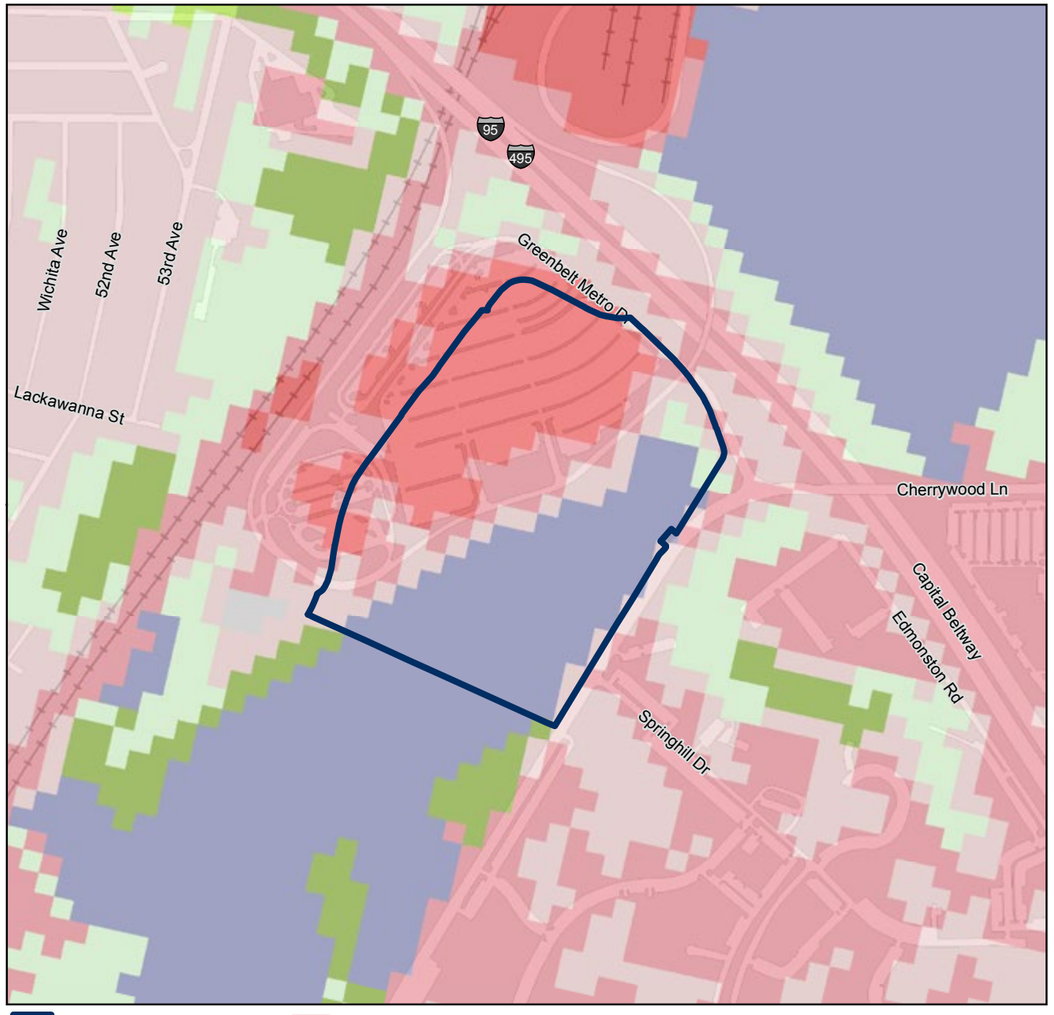


Figure 5-8: Land Cover Classes for the Greenbelt Site



Although the original revised preliminary Flood Insurance Study and FIRM for Prince George's County were released for public review in 2013, a letter of final determination has not been issued. A second revision was released in January 2015, and a public meeting on these revisions was held on June 10, 2015. A letter of final determination was expected to be signed on June 2, 2015, with a corresponding final effective FIRM projected for December 2, 2015 (FEMA 2015). However, these dates are contingent on the completion of the public involvement process and the resolution of outstanding appeals; the effective FIRM continues to have legal authority until the revised floodplains are approved.

Prince George's County Department of Permitting, Inspections, and Enforcement

According to scoping comments provided through the Maryland State Clearing House, Prince George's County Department of Permitting, Inspections, and Enforcement (DPIE) is the lead agency for determining the official 1 percent annual chance fund for permitting as part of development approval process. The base flood elevations of the upstream and downstream site boundaries provided by Prince George's County DPIE are 74.1 feet to 67 feet NGVD29, respectively (Babar 2015). The extent is similar to the revised preliminary floodplain. The Prince George's County Zoning Ordinance uses this floodplain, or at a minimum the effective FEMA floodplain. If the Greenbelt site were selected as the preferred alternative, the exchange partner would be responsible for ensuring compliance with this permitting requirement.

5.1.3 Biological Resources

The following sections describe the affected environment for biological resources for the Greenbelt site. Biological resources include vegetation, aquatic plant and animal species, terrestrial plant and animal species, and special status species.

5.1.3.1 Vegetation

The northwestern portion of the Greenbelt site contains limited vegetation because it is covered by impervious surface associated with the existing Metro Station parking. The southeastern portion contains undeveloped, wooded floodplains and wetlands. As shown in figure 5-8, the mapped National Land Cover Database (NLCD) land cover classes for the site include high-intensity developed, medium-intensity developed, and woody wetlands (USGS 2011). The land cover classes are defined by USEPA (2001) and range from impervious surfaces accounting for 50 to 100 percent of the total cover in the developed area, to vegetative cover periodically saturated with water in the undeveloped portion of the site. The site includes approximately half existing development and half woody wetlands.

A wetland delineation conducted in December 2014 as part of the ALTA survey identified the following vegetation at the Greenbelt site: red maple, American sweetgum (*Liquidambar styraciflua*), white oak (*Quercus alba*), American beech (*Fagus grandifolia*), American hornbeam (*Carpinus caroliniana*), American holly (*Ilex opaca*), American walnut (*Junglans nigra*), northern sea oat (*Chasmanthium latifolium*), common rush (*Juncus effusus*), poison ivy (*Toxicodendron radicans*), common greenbrier (*Smilax rotundifolia*), swamp Spanish oak (*Quercus palustris*), black gum, sedges (*Carex sp.*), tulip poplar, Virginia creeper (*Parthenocissus quinquefolia*), royal fern (*Osmunda regalis*), and black cherry (*Prunus serotine*).

Additionally, the Indian Creek Environmental Baseline Conditions and Restoration Report identified three major invasive plant problem areas within the vicinity of the site (MWCOG 2009). A survey by NatureServe documented the following invasive plant species within the Upper Anacostia River watershed: Japanese stiltgrass (*Microstegium vimineum*), Japanese barberry (*Berberis thunbergii*), oriental bittersweet (*Celastrus orbiculatus*), crabapple (*Malus sp.*), ornamental cherry (*Prunus subhirtella*), wineberry (*Rubus phoenicolasius*), garlic mustard (*Allaria petiolata*), mile-a-minute (*Polygonum perfoliatum*), oriental lady's thumb (*Polygonum cespitosum*), privet (*Ligustrum sinensis*), Japanese honeysuckle (*Lonicera japonica*), and hairy jointgrass (*Arthraxon hispidus*) (Teague et al. 2006).

Virginia Creeper

Red Maple

GREENBELT BIOLOGICAL RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- Land cover classes for the site include high-intensity developed, medium-intensity developed, and woody wetlands.
- Aquatic species that could potentially be present at the site are dependent on the amount of available habitat. Due to the presence of Indian Creek on the site, a number of species could be present including amphibians and reptiles, benthic macroinvertebrates, fish, and mollusks. Other terrestrial species on the site would be those common to forested areas such as white-tailed deer, red fox, and Virginia opossum.
- The site has 23 federally listed birds of conservation concern that might have migration patterns associated with its location and it is likely that some of these species may inhabit that area.

Eastern Box Turtle

Alewife

American Eel

Eastern Mudminnow

5.1.3.2 Aquatic Species

As discussed in section 5.1.2.1, the Greenbelt site is located within the Upper Anacostia River watershed. Indian Creek, a perennial freshwater stream and tributary to the Anacostia River, flows from northeast to southwest through the site. The eastern and southern portions of the site contain a freshwater forested wetland. Aquatic species that could potentially be present at the site are dependent on the amount of available habitat. The site contains forested and scrub shrub wetlands with soils that are periodically saturated with water (USGS 2011), adjacent upland mixed forests, and Indian Creek, which flows through the site. The area surrounding the Greenbelt site has been identified as a Green Infrastructure Corridor by Maryland's Environmental Resources and Land Information Network, connecting extensive natural areas immediately upstream and downstream of the site (State of Maryland 2015).

Aquatic species are likely present in the undeveloped portion of the property adjacent to Indian Creek. County-specific lists for aquatic species were not readily available; therefore, the discussion in this section relies heavily on statewide lists.

Amphibians and Reptiles

Frogs and toads are amphibians that typically prefer riparian areas with a mixture of wet and upland areas. There are 20 frog species that occur in Maryland (Boward et al. 1999). Salamanders, like frogs and toads, typically prefer wet and upland areas. Twenty-one species of salamanders are commonly found in Maryland (Boward et al. 1999). Turtles are reptiles that also prefer riparian and ponded areas, and 14 species of turtles (excluding sea turtles) occur in Maryland (Boward et al. 1999). Because of the on-site habitat and its connection to upstream and downstream water bodies and riparian areas, it is likely that aquatic amphibian and reptile species are present.

Benthic Macroinvertebrates

Benthic macroinvertebrates likely to be in the area include crayfish, clams, snails, aquatic worms, and aquatic insects such as mayflies, stoneflies, caddisflies, and dragonflies. Species specific information for Maryland was not readily available. However, these species typically inhabit a variety of aquatic habitats (e.g., streams and ponds). With the suitable habitat provided by Indian Creek and the surrounding vegetation, it is likely that benthic macroinvertebrates are present at the site.

Fish

There are nearly 100 species of freshwater fish in Maryland, with the total population exceeding 61 million (Boward et al. 1999). From tiny and reclusive shiners to big and brash catfish, these animals are key components of balanced aquatic ecosystems and inhabit a variety of aquatic habitats (Boward et al. 1999).

The lower Indian Creek downstream of the Greenbelt Metro Station has received a good rating from the Metropolitan Washington Council of Governments (MWCOG) in the 2009 Indian Creek Environmental Baseline Conditions and Restoration Report, indicating it supports a relatively healthy fish community (MWCOG 2009). The Indian Creek Environmental Baseline Conditions and Restoration Report noted that the resident fish population has changed over the past 70 to 80 years as the result of development in the watershed. It identified 60 different species of fish, as shown in table 5-4, that were thought to have once inhabited Indian Creek, of which approximately 45 species are currently present (MWCOG 2009).

According to consultation with MDDNR (Golden 2015), anadromous fish species, including alewife herring, blueback herring, and sea lamprey, have been documented migrating and spawning in reaches of Indian Creek near the Greenbelt Metro Station. Restoration efforts have targeted the improvement of fish passage access to and through these Indian Creek reaches. A Maryland Biological Stream Survey sampling station near the Greenbelt site documents the following warmwater species: American eel (*Anguilla rostrata*), blacknose dace (*Rhinichthys atratulus*), tessellated darter (*Etheostoma olmstedi*), eastern mudminnow (*Umbra pygmaea*), fallfish (*Semotilus corporalis*), redfin pickerel (*Esox americanus*), white sucker (*Catostomus commersonii*), creek chubsucker (*Erimyzon oblongus*), least brook lamprey (*Lampetra aepyptera*), redbreast sunfish (*Lepomis auritus*), longnose dace (*Rhinichthys cataractae*), pumpkinseed sunfish (*Lepomis gibbosus*), and swallowtail shiner (*Notropis procne*). Because Indian Creek provides suitable aquatic habitat, it is likely that fish species are present in Indian Creek at the Greenbelt site.

Mollusks

Freshwater mussels are a diverse group of bivalves that filter nutrients and sediment and provide habitat and food to other animals. They have a unique reproductive cycle that needs a host, usually a fish, to help them complete the cycle. They are also among the most imperiled groups of organisms in North America. There are 13 mussel species that occur in Maryland (MDDNR 2010a). Due to the suitable aquatic habitat provided by Indian Creek, it is likely that mollusk species such as freshwater mussels are present at the Greenbelt site.

Table 5-4: Indian Creek: Provisional List of Resident and Migratory Fishes Collected or Expected (1898–2006)

Species	Origin	Status	Collected or Expected (1898–2000)
Lampreys (Pteromyzontidae)			
1. American brook lamprey	N	R	H,●
2. Least brook lamprey	N	R	H,●
3. Sea lamprey	N	M	P,●
Eels (Anguillidae)			
4. American eel	N	M/R	H,●
Herrings (Clupeidae)			
5. Gizzard shad	N	R	H,●
6. Blueback herring	N	M	H,●
7. Alewife	N	M	H,●
Pikes (Esocidae)			
8. Chain pickerel	N	R	H,●
9. Redfin pickerel	N	R	P
Mudminnows (Umbridae)			
10. Eastern mudminnow	N	R	H,●
Minnows (Cyprinidae)			
11. Common carp	I	R	H,●
12. Goldfish	I	R	H,●
13. Silverjaw minnow	N	R	H,●
14. Cutlips minnow	N	R	H,●
15. River chub	N	R	P
16. Golden shiner	N	R	H,●
17. Rosyside dace	N	R	H,●
18. Ironcolor shiner	N	R	H,●
19. Bridle shiner	N	R	P
20. Swallowtail shiner	N	R	H,●
21. Rosyface shiner	N	R	P
22. Spotfin shiner	N	R	H,●
23. Satinfin shiner	N	R	H,●
24. Common shiner	N	R	H,●
25. Spottail shiner	N	R	H,●
26. Eastern silvery minnow	N	R	P
27. Bluntnose minnow	N	R	P
28. Blacknose dace	N	R	H,●
29. Longnose dace	N	R	H,●
30. Northern creek chub	N	R	P
31. Fallfish	N	R	H,●
Suckers (Catostomidae)			
32. Creek chubsucker	N	R	H,●
33. White sucker	N	R	H,●
34. Northern hogsucker	N	R	P
35. Shorthead redhorse	N	R	P,●
36. Golden redhorse	I	R	H,●
Catfishes (Ictaluridae)			
37. Channel Catfish	I	R	H,●
38. Yellow bullhead	N	R	H,●
39. Brown bullhead	N	R	H,●
40. Tadpole madtom	N	R	P
41. Margined madtom	N	R	P
Silversides (Atherinidae)			
42. Inland silversides	N	R	P
Killifishes (Fundulidae)			
43. Mummichog	N	R	P
44. Banded killifish	N	R	H,●
45. Sheepshead minnow	N	R	H,●
Livebearers (Poeciliidae)			
46. Eastern mosquitofish	N	R	P
Striped basses (Moronidae)			
47. White perch	N	R	P,●
Sunfishes (Centrarchidae)			
48. Bluespotted sunfish	N	R	P,●
49. Green sunfish	N	R	H,●
50. Bluegill sunfish	IP	R	H,●
51. Redbreast sunfish	N	R	H,●
52. Longear sunfish	N	R	H,●
53. Pumpkinseed sunfish	N	R	H,●

Table 5-4: Indian Creek: Provisional List of Resident and Migratory Fishes Collected or Expected (1898–2006) (continued)

Species	Origin	Status	Collected or Expected (1898–2000)
54. Largemouth bass	I	R	H,●
55. Smallmouth bass	I	R	H,●
56. Black crappie	N	R	H,●
Perches (Percidae)			
57. Tessellated darter	N	R	H,●
58. Shield darter	N	R	P
59. Log perch	N	R	P
60. Yellow Perch	N	M	H,●
Total No. of Historical/Current Species			**60/45**

Key Abbreviations:
N = native; I = introduced; IP = probably introduced; R = resident; M = migratory;
H= historical presence documented; P = probable historical presence; ● = collected since 1988

Source: MWCOG (2009)

5.1.3.3 Terrestrial Species

The presence of wildlife species in any particular location depends on the available habitat and resources as well as connectivity to nearby habitat. Half of the Greenbelt site is paved. The other half consists of forested wetlands around Indian Creek. Terrestrial wildlife would likely avoid the paved area; however, the forested wetland and riparian zone provide ideal habitat for certain wildlife species in Maryland. While a species survey has not been performed on this site, it is likely that common Maryland species that prefer forested wetlands may occur in the area. Common Maryland mammal species likely to occur include white-tailed deer (*Odocoilieus virginianus*), red fox (*Vulpes fulva*), Virginia opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), eastern chipmunk (*Tamias striatus*), striped skunk (*Mephitis mephitis*), squirrel (*Sciuridae spp.*), raccoon (*Procyon lotor*), and species of bat.

Avian species, especially common forest-dwelling birds (brown creeper [*Certhia americana*] and hairy woodpecker [*Picoides villosus*]) and other passerines birds, may occur within the forested wetland. Migratory songbird species, raptors (hawks and falcons) may fly overhead and occasionally perch or forage in this location. Canada geese (*Branta canadensis*) and signs (scat, tracks) of white-tailed deer were observed during a site visit on December 30, 2014.

Snakes, lizards, and turtles are likely to occur in this location because of the riparian habitats that exist on this site. Specific species or subspecies that may occur include eastern rat snake, five-lined skink (*Eumeces fasciatus*), and eastern box turtle (*Terrapene carolina carolina*) (MDDNR 2014).

Varieties of terrestrial insects are common to the Maryland area and include: ants, bees and wasps, beetles, moths and butterflies, and grasshoppers (Maryland State Archives 2014). Arachnid species, such as ticks and spiders, are also common in Maryland and may occur on the site (mostly in the forested wetland area), although lists were not readily available.

5.1.3.4 *Special Status Species*

Special status species are species of plants or animals that require special consideration and/or protection. These species are listed as rare, threatened, or endangered by Federal and/or state governments. State species of greatest conservation concern are also covered in this section and include rare, threatened, and endangered species, as well as species that have a declining population and are considered at risk.

The northern long-eared bat (*Myotis septentrionalis*) was listed as threatened in May 2015. Consultation with USFWS in December 2014 and with MDDNR confirmed that the northern long-eared bat does not occur within or adjacent to the Greenbelt site (Byrne 2015; USFWS 2014a).

The site has 23 federally listed birds of conservation concern that have migration patterns associated with its location. These species are detailed in table 5-5. Due to the presence of natural habitat, there is likelihood that some of these species may inhabit the area. The most likely of the birds of conservation concern to be observed at the site are forest-dwelling species, such as the warblers and wood thrush (*Hylocichla mustelina*).

Table 5-5: Federally listed Migratory Birds of Conservation Concern

Common Name	Scientific Name	Use of Site
American oystercatcher	*Haematopus palliatus*	Year-round
American bittern	*Botaurus lentiginosus*	Wintering
Bald eagle	*Haliaeetus leucocephalus*	Year-round
Black-billed cuckoo	*Coccyzus erythropthalmus*	Breeding
Blue-winged warbler	*Vermivora cyanoptera*	Breeding
Cerulean warbler	*Setophaga cerulea*	Breeding
Fox sparrow	*Passerella iliaca*	Wintering
Gull-billed tern	*Gelochelidon nilotica*	Breeding
Kentucky warbler	*Oporornis formosus*	Breeding
Least bittern	*Ixobrychus exilis*	Breeding
Pied-billed grebe	*Podilymbus podiceps*	Breeding
Prairie warbler	*Dendroica discolor*	Breeding
Prothonotary warbler	*Protonotaria citrea*	Breeding
Purple sandpiper	*Calidris maritima*	Wintering
Red-headed woodpecker	*Melanerpes erythrocephalus*	Year-round
Red knot	*Calidris canutus*	Wintering
Rusty blackbird	*Euphagus carolinus*	Wintering
Saltmarsh sparrow	*Ammodramus caudacutus*	Year-round
Short-billed dowitcher	*Limnodromus griseus*	Wintering
Short-eared owl	*Asio flammeus*	Wintering
Snowy egret	*Egretta thula*	Breeding
Wood thrush	*Hylocichla mustelina*	Breeding
Worm-eating warbler	*Helmitheros vermivorum*	Breeding

Source: USFWS (2014a)

Bald Eagle

Wood Thrush

White-tailed Deer

Figure 5-9: Greenbelt Existing Land Use Map

5.1.4 Land Use, Planning Studies, and Zoning

The following sections describe the affected environment for land use and zoning for the Greenbelt site, highlighting planning studies applicable to the site.

5.1.4.1 Land Use

The site is bordered by a wooded area on south, Cherrywood Lane and a residential neighborhood to the east, a rail corridor on the west, and an interstate highway to the north. Development near the site includes single family housing, low-rise apartment complexes, suburban office parks, a WMATA rail yard, and a Federal courthouse. Commercial strips and agricultural land use occur approximately 1 mile from the site. The site is situated in a fairly populated suburb of Washington, D.C. Figure 5-9 illustrates the land uses, within a quarter mile radius of the site, according Maryland Department of Planning Anderson Level II land use/land cover categories.

The northwest portion of the site is composed of the existing surface parking lot for the Greenbelt Metro Station. The southeast portion of the site, owned by the State of Maryland, consists of almost entirely woodlands and wetlands, and contains segments of the Indian Creek and associated unnamed tributaries, which ultimately feed into the Anacostia River (Maryland Environmental Trust 2014). This portion of the site is considered an important environmental resource that is used by area nature groups, including the Patuxent Bird Club and the Prince George's County Audubon Society, for passive recreation and nature observation, especially bird study (Schaffer 2015). Furthermore, this natural area connects to an extensive network of stream valley parkland in otherwise urban and suburban developed areas. During public scoping, several individuals and community naturalist and conservation groups advocated that public access remain available for these uses, due to the diversity of the wetland habitat and the variety of wildlife seen on the site. In fall of 2014, Maryland's Board of Public Works (BPW), composed of the Governor, Comptroller and Treasurer, approved the granting of an approximately 22-acre security easement to the Federal Government on this state-owned land that would preserve this land in its current state. BPW would consider extending approval for another year (Sanford 2015). If the Greenbelt site is selected for consolidation of the FBI HQ, the security easement would be recorded upon the signature of GSA and BPW.

5.1.4.2 Zoning

The Prince George's County zoning map divides the Greenbelt site between two distinct zoning designations. The majority of the site, comprising the northwest, east, and west portions owned by WMATA, is currently zoned as mixed-use transit-oriented (M-X-T). The M-X-T zone provides for a variety of residential, commercial, and employment uses. This zoning requires at least two of the following categories are present on the site: (1) retail businesses; (2) office/research/industrial; (3) dwellings, hotel/motel (Prince George's County Planning Department 2010). In addition, this zoning designation is intended to encourage 24-hour activity in an area, rather than provide uses that support only daytime or evening activities. Uses in designation M-X-T zone must be located near a major intersection or a major transit stop or station and provide adequate transportation facilities for the anticipated traffic. There are no restrictions for lot size and/or dwelling types for this zoning, and the maximum FAR is 0.4 without the optional method, and 8.0 with the optional method. The optional method provides an alternative choice of development that would allow for greater density to encourage a high degree of urban design, increased pedestrian-oriented activities and amenities, and provide uses that encourage 24-hour programming.

ZONING

Zoning is the legal power of government to regulate the use of private property. These regulations are codified in zoning ordinances which define use, lot size, placement, density, and height.

The southeast portion of the Greenbelt site, owned by the State of Maryland, is currently zoned Reserved Open Space (R-O-S). R-O-S zoning is described as providing permanent maintenance of certain areas of land in an undeveloped state, with the consent of the property owners. This type of zoning encourages preservation of large areas of trees and opens space; is designed to protect scenic and environmentally sensitive areas and ensure retention of land for non-intensive active or passive recreational uses; and provides for very low density residential development and a limited range of public, recreational, and agricultural uses. The minimum lot size is 20 acres, and the maximum dwelling units per net acre is 0.05 (Prince George's County Planning Department 2010).

The entirety of the site is within a Development District Overlay (D-D-O) associated with the Greenbelt Metro Area and MD 193 Corridor Sector Plan and Sectional Map Amendment (SMA). D-D-O zones are intended to ensure that development meets the goals established in a Master Plan, Master Plan Amendment, or Sector Plan. Development Districts may be designated for town centers, Metro areas, commercial corridors, employment centers, revitalization areas, historic areas and other special areas as identified in approved plans.

According to the Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and SMA building heights within 250 feet of the Greenbelt Metro Station shall range from four to eight stories. Building heights in the rest of the North Core shall range from 4 to 12 stories (70 to 190 feet). However, taller buildings may be appropriate within the maximum height zone upon justification from the applicant.

5.1.4.3 Regional and Local Land Use Studies

This section describes the regional planning, land use, and transportation studies that form the framework for understanding Prince George's County's vision and plans for the area containing the Greenbelt site.

Plan Prince George's 2035

Plan Prince George's 2035, initiated by the M-NCPPC, includes comprehensive recommendations for guiding future development within Prince George's County. The plan aims to direct the majority of the County's incentives and new infrastructure to a limited number of places in the near-term to accelerate their development as viable economic engines over the next 5 to 10 years (Prince George's County Planning Department 2014). By concentrating development in select locations, the County strengthens neighborhoods; enhances transit-rich centers; preserves environmentally sensitive and rural areas; and creates state-of-the-art public facilities, schools, and parks and recreations services.

Plan Prince George's 2035 mentions Greenbelt as one of the eight potential growth areas for projected development in Prince George's County, and specifically highlights the Greenbelt Alternative as a potential driver of economic growth and Federal employment hub. These centers have potential for extensive transit and transportation infrastructure and the long-term capacity to become mixed-use, economic generators for the County as Regional Transit Centers. The regional transit centers, currently medium- to high-density areas, are envisioned to feature high quality urban design, incorporate a mix of complementary uses and public spaces, provide a range of transportation options, and provide a range of housing options. With regard to Greenbelt, the plan supports the development of the Innovation Corridor around the College Park/University of Maryland and Greenbelt Metro Stations. To achieve this vision there would be targeted infrastructure improvements to retain existing and attract new employers, including advanced information and communication technology infrastructure, shared parking, bike amenities and lanes, sidewalks, public facilities, and other amenities to support research and development entities.

Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and Sectional Map Amendment

The Greenbelt Metro Area and MD 193 Corridor Sector Plan and SMA, was published in March 2014 to provide a comprehensive planning and zoning approach to properties and communities in proximity to the Greenbelt Metro Station (M-NCPPC 2013). The plan is a vision of an interconnected, vibrant, and diverse M-X-T eco-community that builds on the historic commitment to sustainability of the City of Greenbelt and the town of Berwyn Heights. The plan is composed of two parts: The Greenbelt Sector Plan and the SMA.

The Greenbelt Sector Plan updates the 2001 Approved Sector Plan and SMA for the Greenbelt Metro Area and amends portions of the 1989 Approved Master Plan for Langley Park-College Park-Greenbelt and Vicinity and the 1990 Adopted SMA for Planning Areas 65, 66, and 67, all of which were prepared and adopted by M-NCPPC.[1]

[1] M-NCPPC is a bi-county agency whose geographic authority includes the majority of Montgomery and Prince George's Counties. M-NCPPC prepares, adopts, and occasionally amends extensions of the General Plan for the physical development of the Maryland Washington Regional District. M-NCPPC operates in each county through a planning board appointed by and responsible to the county government. The planning boards are responsible for all local plans, recommendations on zoning amendments, administration of subdivision regulations, and general administration of parks. Comprehensive planning activities for the city of Greenbelt are carried out by M-NCPPC (Canan 1992). Other planning needs that are not addressed by M-NCPPC are carried out by the planning staff for the city of Greenbelt. The County Council of Prince George's County (1) sets policy, (2) approves the plan, and (3) implements the plan. The City of Greenbelt Advisory Planning Board participated in the development of the Greenbelt Sector Plan and SMA.

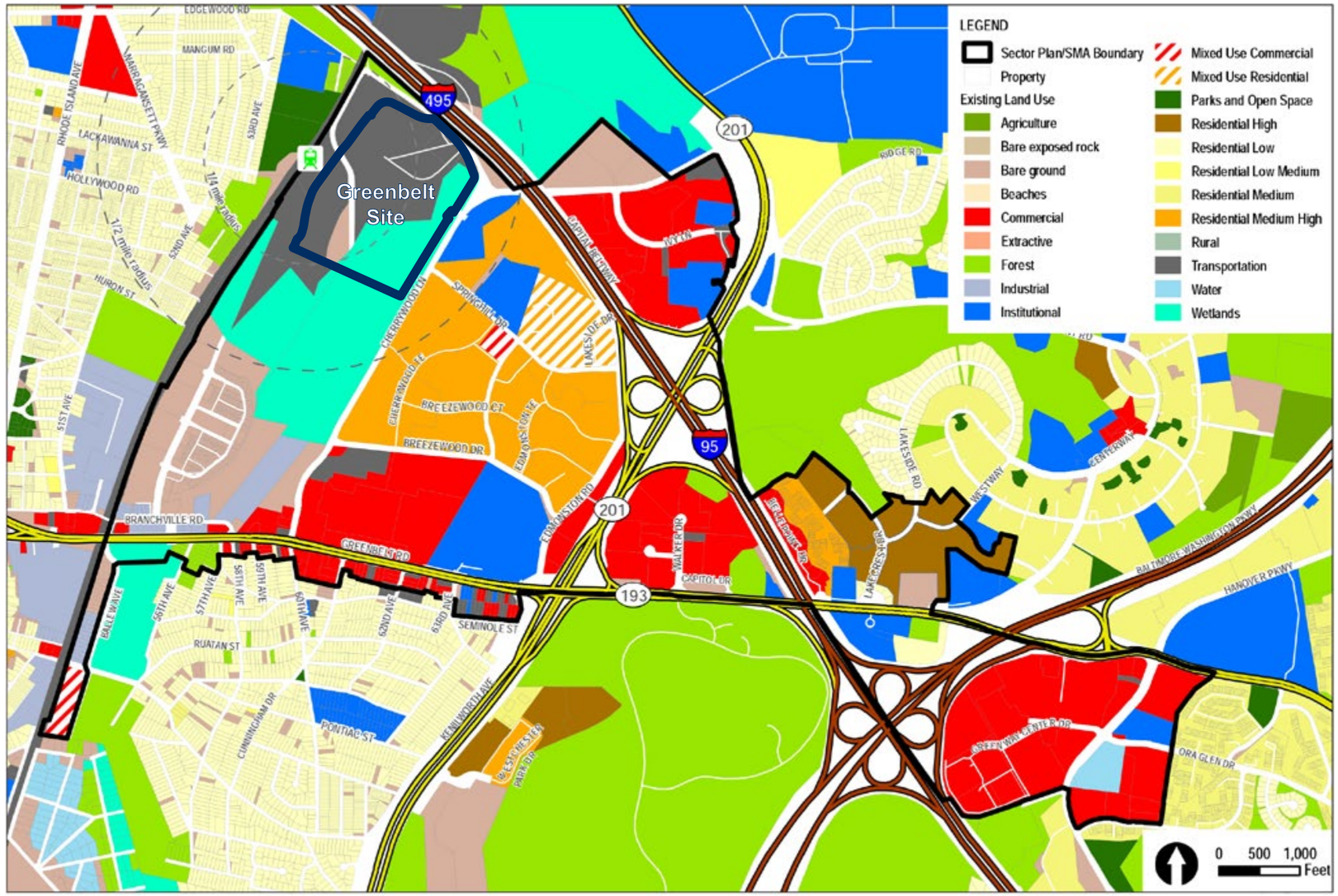
GREENBELT LAND USE AFFECTED ENVIRONMENT OVERVIEW

- Land uses in the study area include single family housing, low-rise apartment complexes, suburban office parks, a WMATA rail yard, commercial strips, and agricultural land use.
- The northwest portion of site is zoned as M-X-T and the southwestern portion of the site is zoned as R-O-S.
- Land use plans and studies that guide the development for the Greenbelt site and the surrounding area include Plan Prince George's 2035, the Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and SMA, the City of Greenbelt Pedestrian and Bicyclist Master Plan, the Comprehensive Plan for the National Capital Region: Federal Elements, and the Capper-Cramton Act.

FLOOR AREA RATIO (FAR)

Floor-to-Area Ratio (FAR) is the total square feet of a building divided by the total square feet of the lot on which the building is located. Higher FARs indicate a higher density of development.

Figure 5-10: Existing Land Use in the Greenbelt Sector Area



Source: Prince George's County (2013)

The Sector Plan and SMA encompasses approximately 1.79 square miles of land located in the northwestern portion of Prince George's County, Maryland, which includes the Greenbelt site. Figure 5-10 depicts the study area for the Greenbelt Sector Plan and SMA, and the existing land uses within the plan area. The Sector Plan area is bounded by the Capital Beltway (I-95/495), BARC, and the historic center of Greenbelt to the north; the city boundaries of College Park to the west; the residential portion of the town of Berwyn Heights, Greenbelt National Park, and the Hunting Ridge apartment complex to the south; and the Windsor Green and Greenbrook Residential communities to the east. The study area covered by the Sector Plan and SMA features a mix of commercial, multifamily residential, light industrial, and civic uses anchored by the Greenbelt Metro Station, Beltway Plaza Mall, and Greenway Center shopping center.

The Sector Plan

The Greenbelt Sector Plan establishes how the County would like land within the plan boundaries to be developed in the future, and defines a community vision that encourages quality, integrated, multimodal, and transit-oriented development while preserving existing vital features such as environmental and cultural assets. The Sector Plan builds on the following five planning principles: (1) Connectivity and Safety, (2) Sustainability, (3) Quality of Life, (4) Economic Development, and (5) Neighborhood Preservation and Conservation.

The Sector Plan is composed of six primary elements that contribute to achieving the goals of the planning principles. The goals and planning principles that would inform the Greenbelt Alternative are included in this section; additional goals and planning principles of these primary elements can be found in the Sector Plan. Figure 5-11 provides a comprehensive illustration of the vision for land use in the Greenbelt area, based on the Sector Plan.

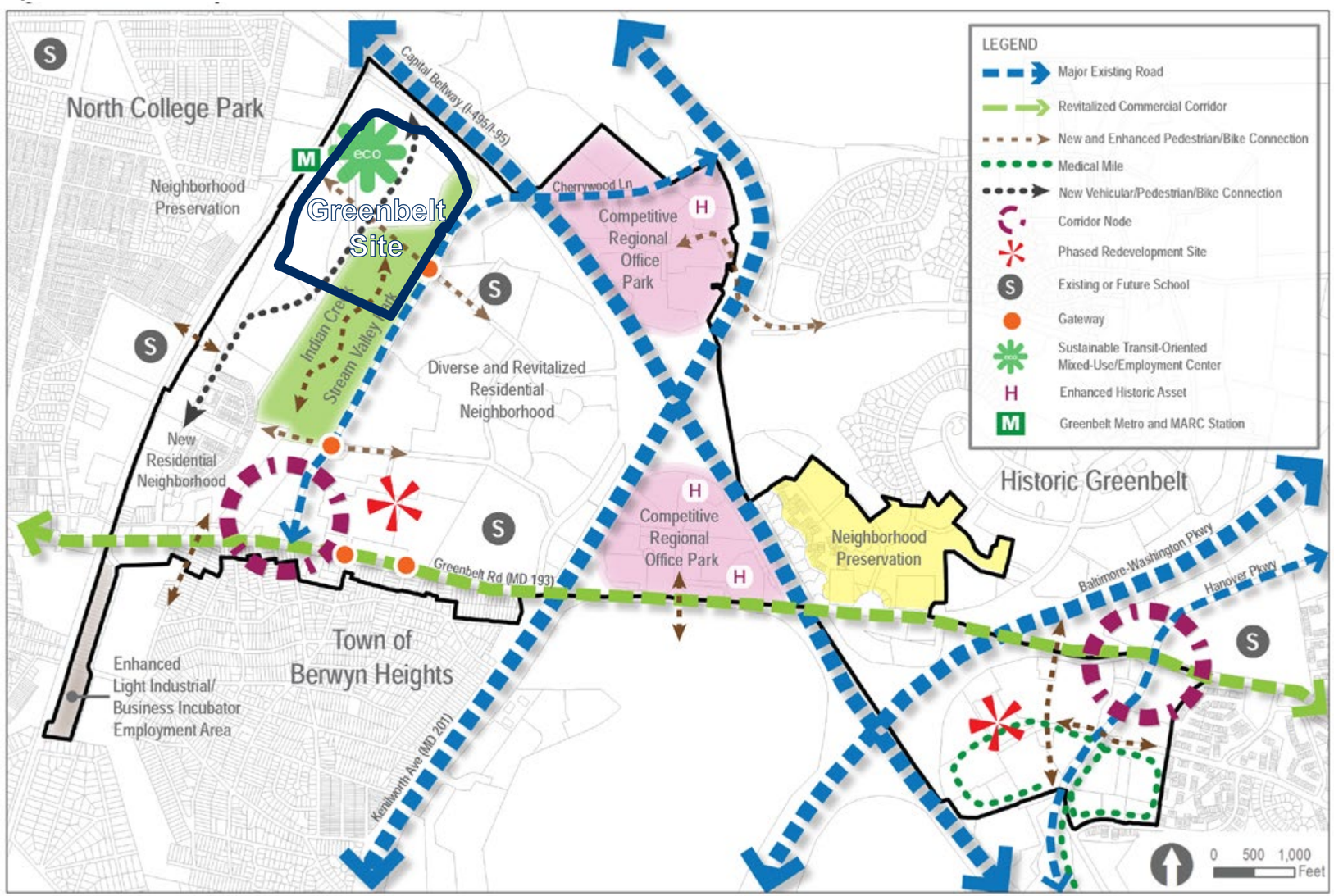
Land Use and Urban Design

The land use and urban design principles of the plan focus on creating an eco-community at the Greenbelt Metro Station; preserving and enhancing existing environmental corridors such as Indian Creek; implementing pedestrian and transit oriented mixed-use development; preserving the opportunity for a major employer or GSA employment campus; supporting mixed-use development; developing an integrated network of natural areas, public spaces, urban plazas, and civic amenities such as an archaeological interpretive center; providing a framework for vertical and horizontal mixed-use development over time; and recommending successful, regionally competitive office parks. In addition, the Sector Plan targets Cherrywood Lane/60th Avenue and Hanover Parkway as two primary locations for areas of concentrated activity or land use along a major thoroughfare.

Environmental Infrastructure

This principle provides guidance to preserve, enhance, and restore the natural environment to the fullest extent possible and ensure sustainability within the desired development pattern. Aspects of this design that would affect land use include integrating sustainable growth, implementing environmentally sensitive design building techniques, preserving and enhancing the existing urban tree canopy and recommending woodland and conservation bank sites, and reducing light pollution.

Figure 5-11: Vision for the Greenbelt Sector area



Source: Prince George's County (2013)

Transportation (Safety, Connectivity, Mobility, and Access)

The transportation principle intends to facilitate alternate forms of transportation by providing a continuous network of sidewalks, bikeways, and trails; encouraging transit use with coordinated operations and transit-oriented development; and enhancing street connectivity. In addition, the transportation principle outlines initiatives such as implementing reconfigured road lanes, dedicated bicycle facilities, and wide sidewalks along MD 193; constructing additional trail connections and facilities to connect neighborhoods to the Greenbelt Metro Station; and recommending a comprehensive managed parking program.

Economic Development

The economic development portion targets land use by recommending revitalized and redeveloped existing commercial properties to improve accessibility and connectivity, providing a state-of-the-art physical infrastructure network to complement the Greenbelt Metro Station, and encouraging infrastructure providers and developers to extend this network throughout the sector plan area.

Housing and Neighborhood Preservation

The Sector Plan targets housing and neighborhood preservation as an overarching principle to preserve the character of existing single family residential neighborhoods and protect existing residential communities from potentially adverse impacts of new, higher-density development at the Greenbelt Metro Station and along the MD 193 corridor.

Quality of Life

To enhance quality of life, the Sector Plan targets Hanover Park, Greenway Shopping Center, and the Maryland Trade Center as locations the could make up a "medical mile." In addition, the plan supports the relocation of the Greenbelt school bus maintenance and storage lot to be repurposed as a relocated elementary school or active park and recreation space and the relocation of the Greenbelt Volunteer Fire Station to MD Route 193. The plan also recommends pursuing property acquisition to develop an active recreation facility, and supports the development of small-scale urban parks, plazas, and other open spaces.

Sectional Map Amendment

An SMA defines rezoning amendments within the plan area. The SMA may change the existing zoning in the area to permit the land use recommendations in the Sector Plan. The SMA applicable to the Greenbelt site consists of development district standards that are specifically intended to address new development and redevelopment proposals in the Greenbelt Metro Area and MD 193 Corridor. The standards establish a consistent design framework to ensure quality in future development. These standards follow and implement the recommendation of the Greenbelt Metro Area and MD 193 Corridor Sector Plan. The SMA aims to regulate building form, architectural elements, sustainability and the environment, and streets and open spaces in six areas in the Greenbelt metropolitan area. The purpose of these standards is to shape high-quality public spaces with buildings and other physical features to create a strong sense of place for Greenbelt and Berwyn Heights. The six subareas of the Greenbelt Metro Area and MD 193 Corridor development district include the North Core, South Core, and Franklin Park at Greenbelt Metro Station, Capital Office Park, Beltway Plaza, and the MD 193 Corridor.

The SMA is composed of four basic components that will drive the design of the Sector Plan—building form, architectural elements, sustainability and the environment, and streets and open spaces. Building form provides appropriate building orientation standards as a defining element in creating great streets and great places. In terms of architectural elements, the amendment describes design elements common to all styles of architecture and building types, such as opening compositions, shop fronts, and overall façade articulation. It also designates that all future developments be designed with sustainability and the environment incorporated. Streets and open spaces is an essential element of urban design and place making and impacts land use. Streets are considered a major public place and careful attention must be paid to the design and configuration of streets, including the streetscape, bicycle facilities, street trees, street lighting, and amenities such as benches and trash receptacles. In order to achieve a unified street character, easements can be used where necessary to create a consistent build-to line, landscape area, sidewalk width, and bicycle facilities.

The Greenbelt site is in the North Core designated area of the Greenbelt Metro Area and MD 193 Corridor Sector Plan and SMA development district. Specific recommendations guided by the SMA and the basic contributing components that relate to land use include the following:

Building Form:

- Greenbelt Station Parkway and Greenbelt Metro Drive shall function as primary frontage streets (the public right-of-way [ROW] that serves as primary access to a property) within the North Core.
- Building heights immediately adjacent to the Greenbelt Metro Station are more constrained than for those more than 250 feet from the station, as described in section 5.1.4.2.

Sustainability and the Environment:

- All new development should have Leadership in Energy and Environmental Design (LEED) standards for building review and be integrated into the design and construction process. LEED-Silver or better certification is desired for all new development.
- The developer and property owners for any future major employer or GSA campus are encouraged to provide native species and landscaping to create naturalized habitats such as meadows and woodlands within any security buffer yards that may be required, if feasible and appropriate.

Streets and Open Space:

- Developers are required to install sidewalks for the entire frontage of the site.
- Street trees are required in all subareas at a spacing of approximately 30 feet on center.
- An interconnected network of public and private open spaces is an essential component of the Greenbelt metropolitan area. However, the development district standards recognize that a broad range of security requirements may be necessary with the development of a major employer or GSA campus, which may preclude public access to open spaces.

City of Greenbelt Pedestrian and Bicyclist Master Plan

The City of Greenbelt's Advisory Planning Board initiated a Greenbelt Pedestrian and Bicyclist Master Plan to guide improvements in the conditions for walking and cycling through the city of Greenbelt (City of Greenbelt 2014). The plan is divided into five sections based on recommendations for improving conditions for bicycling and walking in the city of Greenbelt. The sections include (1) General Recommendations, (2) Location-Specific Recommendations, (3) Location-Specific Concepts, (4) Pedestrian Recommendations, and (5) Bicyclist Recommendations.

Within the plan, the city provides recommendations for how future land use should be designated to improve conditions for bicycling and walking in the city of Greenbelt. General recommendations include providing a safe street environment for pedestrians, bicyclists, and drivers; developing pedestrian and bicycle networks that are accessible to everyone; designing pedestrian and bicycle networks so they are easy to use and provide direct connections; and establishing street environments that feel comfortable and inviting to pedestrians and bicyclists.

Comprehensive Plan for the National Capital Region

The Comprehensive Plan for the NCR is a document that guides future planning and development in Washington, D.C., and the surrounding region. The plan is divided into two components: the Federal Elements and the District Elements. The Federal Elements are prepared by NCPC and provide a policy framework for the Federal Government in managing its operations and activity in the NCR. The District Elements, which are applicable only in the District of Columbia, are developed by the District of Columbia to address traditional city planning issues such as land use, housing, and economic development. For this site, only the Federal Elements are applicable as they apply to the future development of Federal facilities.

Federal Elements

The Federal Elements address matters related to Federal properties and Federal interests in the NCR. The development of new Federal facilities affords the Federal Government an opportunity to locate new workplaces where improvements in operational efficiencies can be made while using existing resources, promoting the use of alternative transportation, and enhancing interactions with local communities to address regional and local problems (NCPC 2004).

In identifying locations for new facilities, the plan suggests that Federal agencies work to acknowledge the considerations outlined in the Federal Elements of the Comprehensive Plan for the NCR. These considerations include: encouraging the location of Federal workplaces to be in central cities, providing alternate modes of transportation, and taking into account the surrounding communities' contribution to the Federal workplace.

Policies from the **Federal Workplace Element** that are relevant to the FBI HQ consolidation include:

- Support regional and local agency efforts to coordinate land use with the availability or development of transportation alternatives to the private automobile.
- Utilize available federally owned land or space before purchasing or leasing additional land or building space.
- Consider the modernization, repair, and rehabilitation of existing federally owned facilities for Federal workplaces before developing new facilities.
- Plan Federal workplaces to be compatible with the character of the surrounding properties and community and, where feasible, to advance local planning objectives such as neighborhood revitalization.
- Develop sites and buildings consistent with local agencies' zoning and land use policies and development, redevelopment, or conservation objectives, to the maximum extent feasible.
- Minimize tree cutting and other vegetation removal to reduce soil disturbance and erosion, particularly in the vicinity of waterways. When tree removal is necessary, trees should be replaced to prevent a net tree loss.

Transportation Element policies that are relevant to the FBI HQ consolidation include:

- Outline employee parking ratios that determine the number of parking spaces available for employee use.
- Prepare a Transportation Management Plan (TMP) to encourage employee commuting by modes other than the single-occupancy vehicle (SOV).
- Develop a TMP that explore methods and strategies to meet prescribed parking ratios, and include a thorough rationale and technical analysis in support of all TMP findings.
- Provide parking that is only used by Federal employees who are unable to use other travel modes; that is located in parking structures, preferably below ground, and position parking so it does not obstruct pedestrian and bicycle access to buildings.
- The number of parking spaces available per employee population are divided into four categories depending on the urban character of each area as well as the availability of infrastructure that supports alternative commuting modes.
- Suburban areas within 2,000 feet of Metrorail: One parking space for every three employees (1:3).

Parks and Open Space Element policies that are relevant to the FBI HQ consolidation include:

- Maintain and conserve trees and other vegetation in the landscaped buffer areas on Federal installations in a natural condition.
- Preserve and protect stream valley parks and small urban forest areas in their natural conditions.
- Protect and maintain the narrow threads of natural areas throughout the District, such as Whitehaven Parkway, Klingle Valley Parkway, Glover-Archbold Park, Soapstone Valley Park, Piney Branch Parkway, and Oxon Run Parkway.

Relevant **Federal Environment Element** policies include:

- Use pervious surfaces and retention ponds to reduce stormwater runoff and impacts to off-site water quality.
- Encourage the use of innovative and environmentally Best Management Practices (BMPs) in site and building design and construction practice, such as green roofs, rain gardens, and permeable surface walkways to reduce erosion and avoid pollution of surface waters.
- Discourage development in areas of identified high erosion potential, on slopes with a gradient of 15 percent and above, and on severely eroded soils. Excessive slopes (25 percent and above) should remain undeveloped.
- Maintain and preserve woodlands and vegetated areas on steep slopes and adjacent to waterways, especially to aid in the control of erosion and sediment.

Relevant **Preservation and Historic Features Element** policies include:

- Sustain exemplary standards of historic property stewardship.
- Identify and protect both the significant historic design integrity and the use of historic landscapes and open space.
- Ensure that new construction is compatible with the qualities and character of historic buildings and their settings, in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties and the Guidelines for Rehabilitating Historic Buildings*.

Capper-Cramton Act

See section 5.1.2 for a description of the Capper-Cramton Act and the development review authority granted to NCPC and M-NCPPC.

5.1.5 Visual Resources

The northwest portion of the Greenbelt site is currently occupied by a portion of the Greenbelt Metro Station. Characterized by a large expanse of asphalt paving, greenery in this area is provided primarily by the planting islands between parking bays and roadside green spaces. Mature trees are located at regular intervals along the islands and road edges, which relieve the stark, barrenness of the parking area. The entire south and east sides of the existing surface parking area is bound by Greenbelt Station Road, an access road connecting the parking lot with the regional highway I-495/I-95 on the northeast. A stormwater management pond enclosed by black chain-link fences is located between Greenbelt Station Road and the parking area.

The eastern and southern portions of the Greenbelt site are located within the undeveloped Indian Creek stream valley, which consists of wetlands, floodplains, upland forest, and the braided stream channel of Indian Creek that traverses the site from northeast to southwest. This portion of the site is heavily wooded and bucolic and serves as a visual buffer between the facilities at the Greenbelt Metro Station and nearby residential communities and office parks to the east/southeast.

The general visual character of the surrounding area is an urban landscape composed of commercial and industrial warehouses, office parks, transportation facilities and residential neighborhoods buffered by green spaces and community parks common to suburban areas. Across the Capital Beltway and north of the proposed site is the Greenbelt Metrorail maintenance yard, surrounded by woodlands associated with the BARC. BARC contributes a rural character to the visual character of the area. To the east of Cherrywood Lane is Springhill Lake Recreation Center and Elementary School, surrounded by the Franklin Park multi-family residential development. To the south of the site is a scrap yard buffered by a wooded area, beyond which lies Phase I of the South Core Greenbelt Station residential development; Beltway Plaza Mall is located southeast of the site. The Hollywood community is located west of the proposed site, across the elevated Metrorail and CSX rail lines, and is characterized by single family residential development set around commercial and recreational establishments.

Aside from the elevated rail line at the Greenbelt Metro Station, building height is only one story above ground in the immediate area of the Greenbelt site, and the site currently is devoid of structures attaining any substantial height. Development east of Cherrywood Lane generally ranges from one to three stories in height as does development in the Hollywood community. The Greenbelt National Historic Landmark (NHL) District is located approximately 1 to 2 miles from the site. Currently, views of the Greenbelt site are limited for areas not directly adjacent to the site or separated from the site by woodlands or landscape trees because of the lack of notable building heights present on the site.

Greenbelt Metro Station surface parking, looking towards the site

South Core

GREENBELT VISUAL RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- The Greenbelt site is characterized by a large expanse of asphalt with greenery provided primarily by the planting islands between parking bays and roadside green spaces on the northwest portion.
- The eastern and southern portions of the site are located within the undeveloped Indian Creek stream valley, which is heavily wooded and serves as a visual buffer between the Greenbelt Metro Station and the nearby residential communities.
- The general visual character of the surrounding area is an urban landscape composed of commercial and industrial warehouses, office parks, transportation facilities, and residential neighborhoods buffered by green spaces and community parks common to suburban areas.

Indian Creek looking toward parking lot

GREENBELT CULTURAL RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- An archaeological survey of the Greenbelt site was performed in the 1980s for the development of the Greenbelt Metro Station; the survey showed that no archaeological resources were present.
- The Greenbelt site contains no historic structures or districts.

AREA OF POTENTIAL EFFECT (APE)

A geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties.

Franklin Park multi-family residential development

5.1.6 Cultural Resources

GSA, in consultation with the Maryland Historical Trust (MD SHPO or MHT) and in accordance with the regulations implementing Section 106 of the National Historic Preservation Act (NHPA), has determined the Area of Potential Effect (APE) of the Proposed Action on historic properties in the vicinity of the Greenbelt site. The APE for the Greenbelt site is illustrated in figure 5-12.

5.1.6.1 Archaeological Resources

An archaeological survey of the Greenbelt site was performed in the 1980s for the development of the Greenbelt Metro Station. The survey showed that all of the Greenbelt site west of Indian Creek had been entirely disturbed by sand and gravel mining, and that no archaeological resources were present (Gardner 1976). The eastern bank of the creek was not investigated, and it is possible that sites survive in that area. A significant archaeological site was identified about 500 feet north of the Greenbelt site, north of the Beltway in what is now the Greenbelt Metrorail maintenance yard. That site, 18PR94, a prehistoric camp dating to between 8,000 and 1,000 B.C. was mitigated by data recovery excavations (LeeDecker and Koldehoff 1991).

5.1.6.2 Historic Resources

The Greenbelt site contains no historic structures or districts. Standing structures on the site date from the development of the Greenbelt Metro Station between 1988 and 1993.

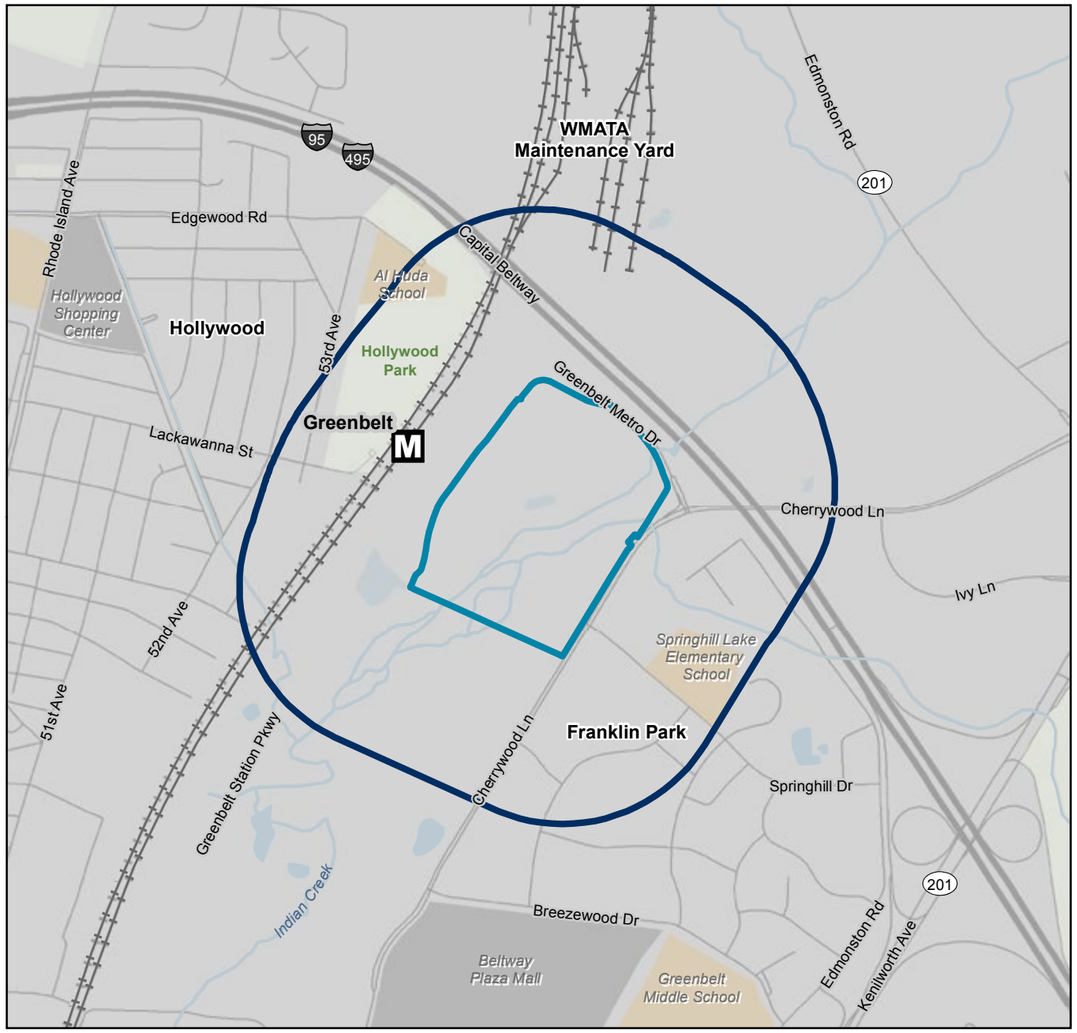
There has been only one architectural survey within the Greenbelt viewshed APE. The Hollywood subdivision (PG:66-39), a post-World War II residential development composed of post-World War II tract housing, is located along the northwest periphery of the APE. Hollywood was determined not eligible for listing in the NRHP with MHT (MD SHPO) concurrence in 2001 (Kermes 2001).

Along the northeast side of the Hollywood subdivision and within Hollywood Park is the former Holly Park School (now the Al-Huda School). John G. Scheibel, Inc., built the eight-classroom school circa 1957. The school and its 10-acre site, together with the adjacent 15-acre Hollywood Park, were part of the M-NCPPC park-school plan (Washington Post 1957). The school was not included in the evaluation of the Hollywood subdivision, and therefore has not been formally evaluated for NRHP eligibility.

On the southeast edge of the APE, on the southeast side of Cherrywood Lane, is the Springhill Lake apartment complex, currently known as Franklin Park. This large complex was built between 1964 and 1972 and consists of groupings of three-story garden apartments. The Springhill Lake Elementary School, located within the complex, was erected in 1969–1972. The complex appears to be common of garden apartment development from the latter decades of the twentieth century. Neither the complex nor the school have been evaluated for NRHP eligibility.

The Greenbelt, Maryland Historic District, located outside the APE, was designated an NHL in 1997. Greenbelt, developed in 1935–1946, is the first government-sponsored, planned community in the U.S. built on “garden city” principles and embodies the regional planning principles and architectural ideals of the mid-1930s. The Greenbelt Middle School (Rural High School), one of four discontinuous parcels of the NHL district, is approximately 0.5 mile southeast of the Greenbelt site. The largest portion of the historic district (also known as Parcel 1) is approximately 0.5 to 0.75 mile east of the Greenbelt site.

Figure 5-12: Greenbelt Historic Resource Map



Hollywood Subdivision

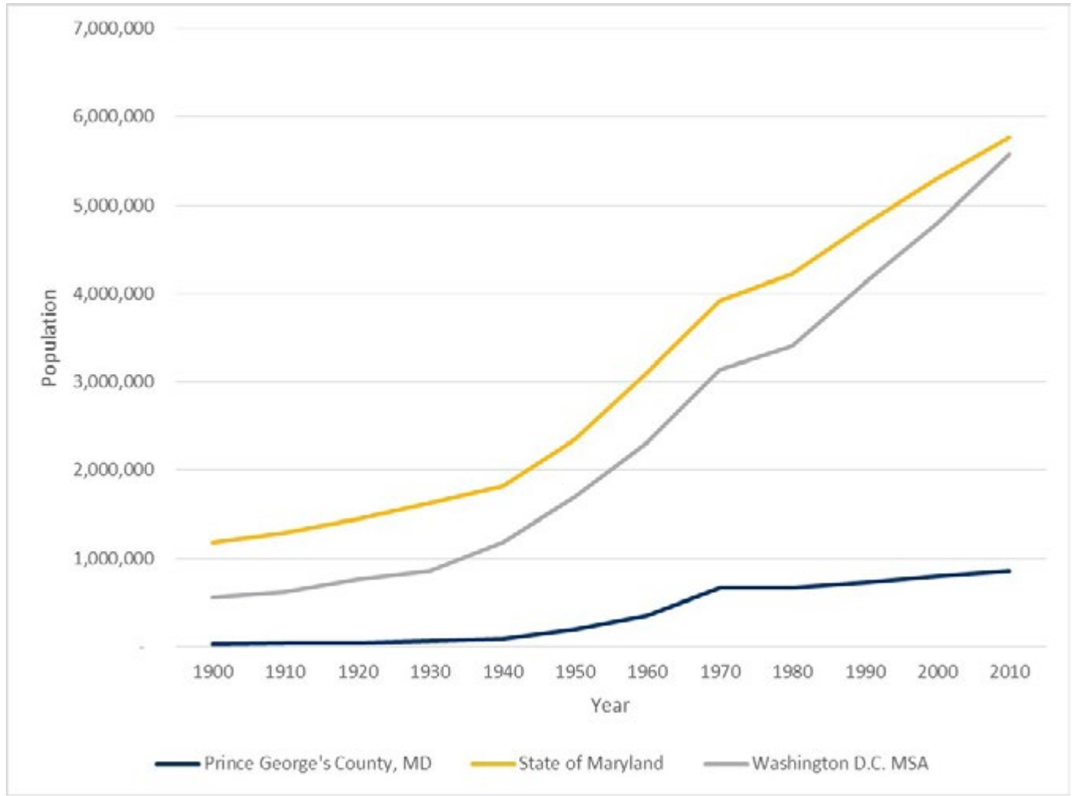
GARDEN APARTMENT

Generally, a low-rise apartment building surrounded by landscaped grounds and arranged around courtyards.

GARDEN CITIES

Garden cities are a modern urban planning trend whereby planned, self-contained communities are surrounded by greenbelts of undeveloped or agricultural land.

Figure 5-13: Greenbelt Historic Population Trends, 1900-2010



Source: U.S. Census (1990,2000, 2010a)

5.1.7 Socioeconomic and Environmental Justice

The following sections describe the affected environment for socioeconomics and environmental justice at the Greenbelt parcel. Socioeconomic and environmental justice covers these subtopics: population, housing, employment, income, taxes, schools, community facilities, community services, recreation, environmental justice and protection of children. The region of influence (ROI) for socioeconomics and environmental justice is defined as the Washington-Arlington-Alexandria Metropolitan Statistical Area (Washington, D.C., MSA). See section 3.8 for more detailed information on the Washington, D.C., MSA and the methodology used for this section.

5.1.7.1 Population and Housing

Population

The population in Prince George's County doubled every decade from 1940 until 1970. The population continued to rise steadily through 2010 when the most recent decennial census occurred, as shown in figure 5-13. The population in the Washington, D.C., MSA and the State of Maryland all increased at greater rates than the rate of population increase in Prince George's County over the same period.[2]

Between 2000 and 2013, the total population in Prince George's County increased by 9 percent to 873,481. This rate of population growth was lower than the rate of growth of the population in the Washington D.C., MSA (12.5 percent) over the same period, as shown in table 5-6.

MWCOG,[3] which does not share the same boundary as the Washington, D.C., MSA, projects that the population of the metropolitan area would grow by 1.8 million people by 2040, resulting in a total population of 7,042,966 in 2040, which represents a 34 percent increase in population from 2010 (table 5-7).The population of Prince George's County is projected to grow by 15 percent between 2010 and 2040, which is less than the 24 percent projected growth for the State of Maryland and 34 percent projected growth for the Washington, D.C., MSA over the same period (MWCOG 2014).

Between 2009 and 2013, 64 percent of Prince George's County's inhabitants identified themselves as Black or African American. This percentage is almost three times greater, as a percentage of total population, of this same demographic in the Washington, D.C., MSA, and nearly twice as high, as a percentage of total population, of this demographic in the entire State of Maryland, as shown in table 5-7.

[2] The current geographic boundaries for the MSA represent the boundaries as they existed in 2010. However, the geographic boundaries for counties and cities included in these combined area statistics have likely changed between 1900 and 2010. Therefore, the statistics in figure 5-13 and in the supporting paragraph are reflective of the total population of these areas as their boundaries existed at the time their statistics were recorded and are not based on the boundaries that existed in 2010.

[3] The population projection model is based on the 1983 definition of the Metropolitan Statistical Area (MSA) that includes the District of Columbia, Calvert County, Charles County, Frederick County, Montgomery County, and Prince George's County in Maryland; and Alexandria, Arlington County, Fairfax, Fairfax County, Falls Church, Loudoun County, Manassas, Manassas Park, Prince William County, and Stafford County in Virginia (MWCOG 2015). The 1983 definition of the MSA is not the current Washington, D.C., MSA definition used in this document.

Table 5-6: Population Growth for Prince George's County, Region of Influence, and Washington D.C., MSA, and State of Maryland, 2000, 2009-2013

County/Area	2000	2009-2013[a]	Percent Change, 2000 - 2013
Washington, D.C., MSA	5,119,490	5,759,330	12.5%
State of Maryland	5,296,486	5,834,299	10.2%
Prince George's County, MD	801,515	873,481	9.0%

[a] *This statistic is an annual average statistic from 2009-2013.*
Source: U.S. Census Bureau (2013, 2000)

Table 5-7: Population Projections, 2020-2040

Geographic Area	Year					2010 - 2040	
	2020	2025	2030	2035	2040	Total Change	Percent Change
Washington, D.C., MSA	5,945,206	6,277,833	6,564,198	6,820,892	7,042,966	1,775,715	34%
State of Maryland	2,502,194	2,610,279	2,709,301	2,792,695	2,861,980	556,232	24%
Prince George's County, MD	899,912	926,944	950,030	973,126	995,503	132,083	15%

Source: MWCOG (2014)

Table 5-8: Racial Characteristics, 2009-2013[a]

Geographic Area	Total Population	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race or two or more races	Minority Population[b]
State of Maryland	5,834,299	58.4%	29.4%	0.3%	5.7%	0.0%	6.1%	45.9%
Washington, D.C., MSA	5,759,330	56.1%	25.5%	0.4%	9.3%	0.1%	8.7%	51.7%
Prince George's County, MD	873,481	21.3%	64.2%	0.3%	4.2%	0.0%	10.0%	85.2%

[a] *Note: This statistic is an annual average statistic from 2009-2013.*
[b] *Note: This is the total population minus the population of persons identifying themselves as non-Hispanic white alone. Minority population is separate from race and includes the Hispanic ethnicity.*
Source: U.S. Census Bureau (2013)

Table 5-9: Housing Supply, 2009-2013[a]

Geographic Area	Total Number of Housing Units	Percent Change in Number of Housing Units (2000 to 2013)	Total Number of Occupied Housing Units	Total Number of Vacant Housing Units	Percent of Vacant Housing Units	Total number of Renter-Occupied Units	Percent of Housing Units Available for Rent
State of Maryland	2,387,285	11.30%	2,146,240	241,045	1.90%	669,102	7.40%
Washington, D.C., MSA	2,249,459	N/A	2,091,301	158,158	1.50%	725,793	5.30%
Prince George's County, MD	328,432	8.60%	303,441	24,991	1.80%	110,663	7.20%

[a] *This statistic is an annual average statistic from 2009-2013.*
Note: "N|A" indicates 2000 housing data not available for Washington,, D.C., MSA.
Source: U.S. Census Bureau (2013b, 2010c, 2000a)

Housing

Prince George's County and the State of Maryland both have rental vacancy rates of approximately 7 percent (see table 5-8). These rates are higher than the average vacancy rate in the Washington, D.C., MSA. Prince George's County contains approximately 14 percent of all housing units in the Washington, D.C., MSA.

As noted in section 3.8.3.1, regional economic growth is expected to continue to attract new residents and increase the general demand for new housing. According to MWCOG, between 2005 and 2040, the number of households would grow in Prince George's County by 20 percent (MWCOG 2010). Current housing vacancy levels, at 22,637 vacant housing units, are around the levels last seen in 2007 prior to the onset of the national recession. The number of housing vacancies in Prince George's County has decreased since 2011, which was an eight year high at 28,101 vacant housing units (U.S. Census Bureau 2000, 2005, 2006, 2007, 2008, 2009, 2010d, 2011, 2012, 2013c).

GREENBELT SOCIOECONOMICS AFFECTED ENVIRONMENT OVERVIEW

- The population in Prince George's County increased by 9% to 873,481 between 2000 and 2013, and is expected to grow by 15% between 2010 and 2040.
- In 2013, the total employed labor force in Prince George's County was 299,713 people, and the average, annual median wage between 2009 and 2013 for all occupations was $73,623.
- Between 2000 and 2013, total unemployment in Prince George's County increased from a low of 3.6% of the total labor force in 2007 to a high of 8% in 2010. In 2013, Prince George's County's annual unemployment rate was 6.8%.
- In 2013, in Prince George's County, approximately 15% of the total jobs were in state and local government industry and almost 11% were in the retail trade industry.
- Between 2005 and 2040, the number of households would grow in Prince George's County by 20%.
- Prince George's County Public Schools is one of the nation's 25 largest school districts, with 205 schools, more than 124,000 students, and more than 18,000 employees.

Figure 5-14: Greenbelt Unemployment Rates, 2000-2013

Source: BLS (2014)

5.1.7.2 Employment and Income

Total employment, unemployment, and income information is presented by place-of-residence in this section. Between 2001 and 2013, the total employed labor force (including Armed Forces) increased by 9 percent in Prince George's County, Maryland, which had a lower employment growth rate than the Washington, D.C., MSA (16 percent) during this period. In 2013, the total employed labor force in Prince George's County was 451,466 people (BLS 2013). Table 5-10 presents employed labor force, median household income, and percentage of people living below poverty in Prince George's County; the Washington, D.C., MSA; and the State of Maryland.

Unemployment

Between 2000 and 2013, total unemployment in Prince George's County increased from a low of 3.6 percent of the total labor force in 2007 to a high of 8 percent in 2010 (BLS 2014). Since 2000, unemployment levels as a percent of the total labor force in Prince George's County have trended slightly above those at the Washington, D.C., MSA and the State of Maryland's levels. In 2013, Prince George's County's annual unemployment rate was 6.8 percent, 0.6 percent lower than the national average of 7.4 percent. Figure 5-14 illustrates the trends in unemployment rates for the years 2000-2013.

Table 5-10: Greenbelt Employment and Income, 2001, 2009-2013[a]

Geographic Area	Employed Labor Force 2013 (number)	Employment Change 2001 - 2013 (percent)	Median Household Income, 2009-2013*	Percentage of People Living Below Poverty, 2009-2013[a]
Washington, D.C., MSA	3,078,147	+ 16.4%	$90,540	8.2%
State of Maryland	2,917,212	+ 7.1%	$73,538	9.8%
Prince George's County, MD	451,466	+ 9.0%	$73,623	9.4%

[a] *This statistic is an annual average statistic from the years 2009-2013.*
Source: U.S. Census Bureau (2013a); BLS (2001, 2013)

Jobs by Industry

In 2013, in Prince George's County, approximately 15 percent of all jobs were in state and local government industry and almost 11 percent were in the retail trade industry. Employment in the construction industry made up approximately 8 percent of total employment, which is 4 percent lower as a percentage of total employment than it was in 2001. In 2013, the total number of construction industry jobs in the State of Maryland was approximately six times larger than total employment in the construction industry in Prince George's County.

As of 2013, the largest industry by total employment in Maryland was the health care and social assistance industry (12 percent), followed by the retail trade and professional, scientific, and technical services industries (10 percent each). The construction industry accounted for 6 percent of total employment in Maryland. Table 5-11 summarizes employment by industry in 2013 and the total change in employment for each industry since the year 2001 (BEA 2013, 2013a).

Table 5-11: Greenbelt Jobs by Industry, 2013

	Prince George's County, MD		Washington, D.C., MSA		State of Maryland	
Industry	**2013**	**Percent Change 2001-2013**	**2013**	**Percent Change 2001-2013**	**2013**	**Percent Change 2001-2013**
Total employment	433,769	8.1%	4,019,399	16%	3,474,596	11.6%
Farm employment	437	(D)	10,752	-12.5%	16,580	-12.2%
Forestry, fishing, and related activities	206	-5.1%	3,273	(D)	6,220	-3.7%
Mining	222	-7.9%	(D)	(D)	4,971	66.1%
Utilities	957	(D)	8,309	(D)	10,623	-4.7%
Construction	35,657	-4.0%	(D)	(D)	211,050	-1.6%
Manufacturing	8,039	-38.9%	57,571	(D)	116,000	-33.5%
Wholesale trade	11,676	-16.6%	71,248	(D)	95,262	-6.2%
Retail trade	46,612	-3.9%	316,461	4%	342,329	-2.1%
Transportation and warehousing	15,351	(D)	86,532	(D)	97,776	6.9%
Information	7,013	-34.6%	93,241	(D)	52,893	-24.2%
Finance and insurance	12,189	3.3%	160,815	(D)	167,661	20.1%
Real estate and rental and leasing	19,955	53.9%	188,198	(D)	166,173	42.4%
Professional, scientific, and technical services	33,554	6.3%	(D)	(D)	339,028	20.5%
Management of companies and enterprises	1,605	-33.7%	(D)	(D)	28,029	148.8%
Administrative and waste management services	28,568	15.9%	251,942	(D)	217,470	14.6%
Educational services	8,222	61.7%	129,519	(D)	93,146	35.6%
Health care and social assistance	39,473	27.8%	347,852	(D)	417,644	31.5%
Arts, entertainment, and recreation	9,282	35.1%	(D)	(D)	85,634	38.8%
Accommodation and food services	28,651	42.0%	(D)	(D)	229,057	21.9%
Other services, except public administration	27,959	14.3%	285,699	21%	208,592	16.9%
Federal, civilian	26,731	6.1%	389,596	15%	173,770	15.0%
Military	7,958	-11.0%	66,531	-15.9%	49,956	0.1%
State and local	63,452	18.8%	314,560	17.0%	344,732	8.4%

Note: (D) indicates information collected by BEA that is protected against public disclosure by the International Investment and Trade in Services Survey Act (P.L. 94–472, 90 Stat. 2059, 2 u.s.c. 3101–3108, as amended).
Source: BEA (2013, 2013a)

5.1.7.3 Taxes

Prince George's County, MD, taxes real property at $0.96 per $100 of 91.8 percent of the assessed value of the property (State of Maryland 2015). Additionally, the State of Maryland imposes a property tax at 92.3 percent of assessed value of the property, $0.112 per $100. In Maryland, general sales tax is defined as the sales and use tax, the effective rate of this tax is 6 percent (State of Maryland, 2015). Sales tax revenues were approximately $481 million for Prince George's County in 2013 (State of Maryland 2015).

Both Maryland and Prince George's County impose personal and income tax. Prince George's County's local income tax rate is 3.20 percent as of 2013. Income taxes at the state level follow a progressive rate structure based on eight income brackets. Net state taxes for Prince George's County totaled approximately $678 million in 2013, while local income taxes were $468 million for that same year (State of Maryland 2015).

Table 5-12: Number of Schools in Prince George's County

Type of School	Prince George's County, MD
Elementary Schools	122
Middle Schools	24
Secondary Schools[a]	n/a
High Schools	23
Academies[b]	12
Education Campuses	n/a
Adult Education Schools	n/a
Special Education Schools	9
Youth Engagement Schools	n/a
Vocational Centers	2
Alternative Schools	5
Public Charter Schools	8
Total	**205**

[a] Secondary schools include grades 7 through 12.
[b] Academies include grades from pre-kindergarten through 8th grade.
Sources: DCPS (2014); FC (2014); Prince George's County Public Schools (2014)
**n|a: This means that data for these was not available.*

Currently, the Greenbelt site is owned by WMATA and the State of Maryland. According to U.S. Public Law, WMATA real property is tax exempt in all jurisdictions (U.S. Code 1966).

5.1.7.4 Schools

Prince George's County Public Schools in Maryland is one of the nation's 25 largest school districts, with 205 schools, more than 124,000 students, and more than 18,000 employees. The district serves a student population from urban, suburban, and rural communities with a host of programs and initiatives, including the expansion of Advanced Placement courses and partnerships with businesses and institutions of higher learning.

Currently, schools in the northern portion of Prince George's County are over utilized at a rate of 116 percent, which includes the Greenbelt site. In the central portion of Prince George's County, there is an underutilization rate of 82 percent. These utilizations numbers are based on existing floor plans and existing State Rated Capacity maximum enrollment numbers. Over the next 20 years, the Master Plan Support Project, initiated by Prince George's County Public Schools as a part of the County's Capital Improvement Plan, would construct 8 new schools and close 29 schools to balance utilization of schools throughout the County (Prince George's County Public Schools 2015). Table 5-12 summarizes the number of schools in Prince George's County.

5.1.7.5 Community Services, Facilities and Recreation

The following sections describe the existing conditions for a variety of community facilities, including police services, fire and emergency services, medical facilities, libraries, schools, childcare facilities, and houses of worship.

Police Services

All 800,000 citizens of Prince George's County are served by the Prince George's County Police Department. The department currently has an authorized strength of 1,420 officers and 263 civilians (Prince George's County 2014). This results in 1.6 officers per 1,000 residents of Prince George's County. The City of Greenbelt is protected by Greenbelt Police Station (located approximately 1.6 miles from the site and shown in figure 5-15), a subsidiary beat of the District 2 Prince George's County Police. District 2 employs 54 sworn officers and 15 support personnel who serve a community of approximately 22,000 residents over 6.5 square miles. Further details on police services for the Greenbelt site is provided in section 5.1.8.1.

Fire and Emergency Services

Prince George's County Fire/Emergency Medical Services Department is apportioned into seven community response areas (battalions) and each battalion operates like a smaller fire department within the department, and includes up to seven fire rescue stations (Prince George's County 2014). The Fire Department currently has 842 total firefighters, resulting in 0.95 firefighters per 1,000 residents. The goal of the operations department is to have 1,300 firefighters for the residents in Prince George's County, which would result in approximately 1.5 firefighters per 1,000 residents of Prince George's County. The fire department's current hiring rate is about 50 hires per year; however, recent budget cutbacks have lowered this rate. The department also has volunteer firefighters that contribute, but the number of volunteers has been shrinking each year, which requires the department to be more reliant on hiring paid personnel (Wood, pers. comm. 2015).

Battalion 6 serves the Greenbelt site location. The closest fire stations to the site are: Station 814 - Berwyn Heights Station (1 mile from site and shown in figure 5-15), Station 11 - Branchville Volunteer Fire Company (1.2 miles from site), and Station 35 - Greenbelt Volunteer Fire Department (1.7 miles from site). The Greenbelt Volunteer Fire Department and Rescue Squad are staffed with both volunteer firefighters and Emergency Medical Technicians (Greenbelt Volunteer Fire Department 2015). Further details on fire and emergency services for the Greenbelt site are provided in section 5.1.8.1.

Medical Facilities

Doctors Community Hospital, located 4.3 miles to the east of the Greenbelt site, is the closest hospital to the Greenbelt site and is shown in figure 5-15. The hospital is a 198-licensed bed institution that provides medical care at offices in Greenbelt, Bowie, Clinton, Camp Springs, and Largo in Prince George's County. In 2014, Doctors Community Hospital employed 1,439 employees, 858 of whom resided in Prince George's County, and 446 whom were medical staff. The hospital had 51,446 emergency room visits and 9,709 total admissions in 2014 (Doctors Community Hospital 2014).

Other Community Facilities

In addition to schools, police, fire and emergency, and recreation facilities, there are numerous other community facilities within 1 mile of the Greenbelt site that are commonly located in suburban environments, such as childcare centers, houses of worship, universities, and libraries.

There are four childcare centers catering to the suburban population and concentration of employment in Greenbelt within 1 mile of the Greenbelt site: Children's Choice Inc. located at 9601 Baltimore Avenue, College Park; Al-Huda Day Care located at 5301 Edgewood Road, College Park; Mentor Learning Center at 4925 Edgewood Road, College Park; and USDA Small Wonders at 5601 Sunnyside Avenue, Beltsville.

The U.S. Court Library located at 6500 Cherrywood Lane in Greenbelt is the only library located within a mile of the site. At this time, it is not clear if this library is accessible to the public.

Several houses of worship are located within a mile of the site. In addition, UMD, College Park, is located just outside the 1-mile radius of the site in College Park, Maryland.

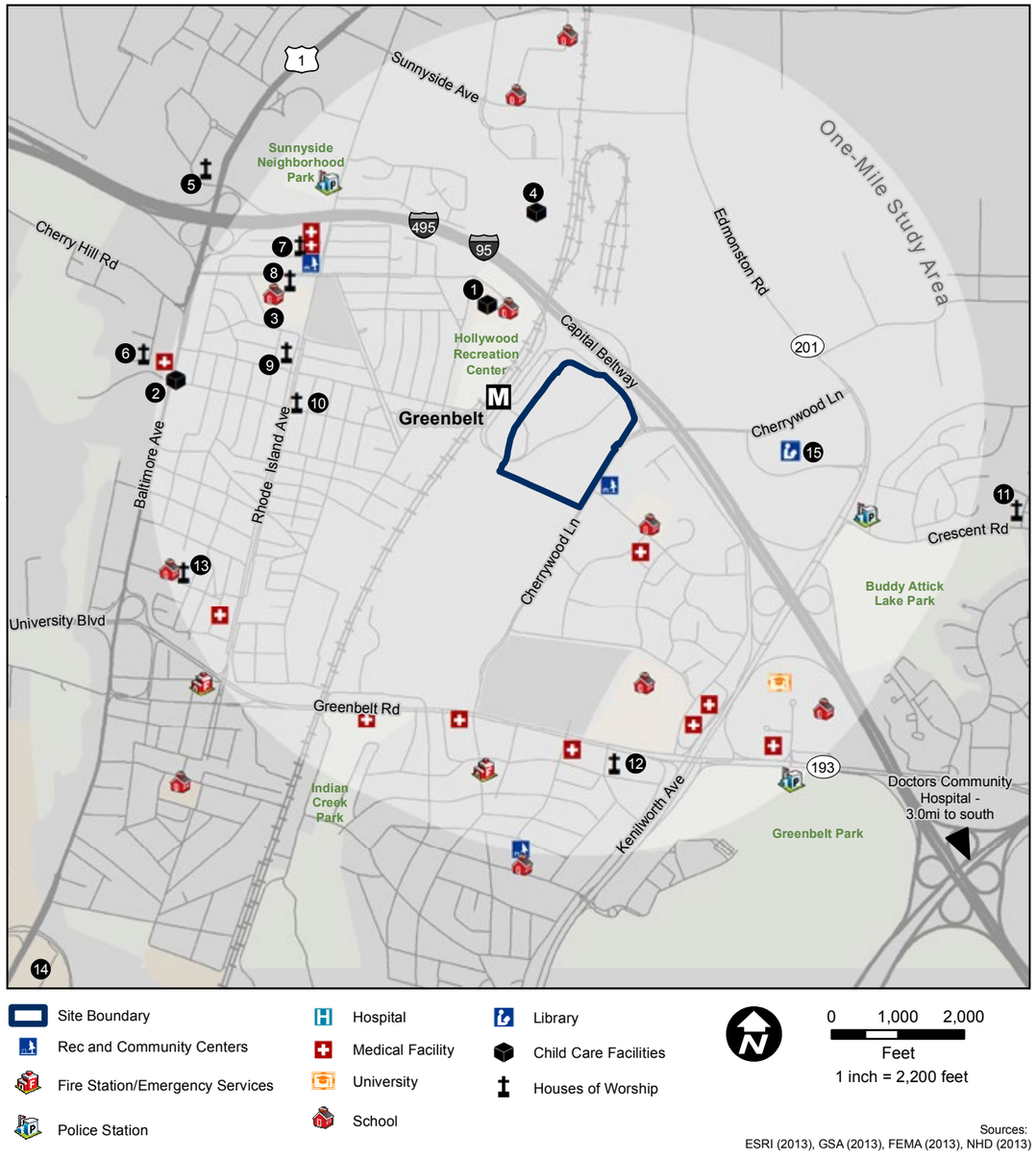
Table 5-13 provides a comprehensive list of all the community facilities found within the study area, and figure 5-15 illustrates their location.

Table 5-13: Greenbelt Community Facilities

Facility	Map ID	Description
Child Care	1	Al-Huda Day Care
	2	Children's Choice Inc.
	3	Mentor Learning Center
	4	USDA Small Wonders
Houses of Worship	5	The Redeemed Christian Church
	6	Chinese Bible Church of College
	7	Holy Redeemer Metro Community Church
	8	College Park Wesleyan Church
	9	College Park Church of the Nazarene
	10	Living Word Church of God
	11	Greenbelt Baptist Church
	12	Berwyn Presbyterian Church
	13	Berwyn Baptist Church
University	14	University of Maryland, College Park
Library	15	U.S. Court Library

Source: Google Maps (2014); ESRI (2013)

Figure 5-15: Greenbelt Community Services, Facilities, and Recreation



GREENBELT COMMUNITY SERVICES, FACILITIES, AND RECREATION

- All 800,000 citizens of Prince George's County are served by the Prince George's County Police Department. The city of Greenbelt is protected by Greenbelt Police Station, a subsidiary beat of the District 2 Prince George's County Police.
- Of the seven response areas (battalions) of Prince George's County, Battalion 6 serves the Greenbelt site location. There are three fire rescue stations within two miles of the site.
- Doctors Community Hospital, located 4.3 miles east, is the closest hospital to the Greenbelt site. This hospital is a 198-licensed bed institution with 1,439 employees, 446 who are medical staff.
- The Prince George's County Department of Parks and Recreation operates and maintains more than 27,000 acres of parkland throughout the county. The nearest park to the Greenbelt site is the Hollywood Recreation Center, located across the Metrorail and CSX rail lines from the site.
- Within a mile of the site, there are four childcare centers, nine houses of worship, one university, and one library.

Recreation

The Prince George's Department of Parks and Recreation operates and maintains more than 27,000 acres of parkland throughout the County, including land developed to provide parks, picnic areas, athletic fields, historic sites, community centers, and recreation facilities. The department also offers programs and facilities such as live performances, teen and senior activities fitness/sports and art/nature, and more than 40 miles of hiker/biker/equestrian trails (PGParks 2014). There are several parks and recreational facilities within the study area for the Greenbelt site.

The nearest park to the Greenbelt site is the Hollywood Recreation Center, located across the Metrorail and CSX rail lines from the site. Planet Fitness, a private gym, is located less than 1 mile south of the site. Springhill Lake Recreation Center is located less than 0.5 mile east of the site. The center offers a basketball court, computer lab, game room, and a gym (City of Greenbelt 2015a). Buddy Attick Lake Park is located approximately 1 mile east of the site and includes a 23-acre lake with a walking path. The park offers picnic areas with tables, grills, and restrooms; a playground; and a basketball court (City of Greenbelt 2015b).

The National Park Service's (NPS') Greenbelt Park is located at 6565 Greenbelt Road, just over 1 mile southeast of the Greenbelt site. This park is open all year round and has 174 camping sites. In addition, Greenbelt Park has four hiking trails and picnic areas (NPS 2015). Berwyn Neighborhood Playground is located approximately 2 miles southwest of the project site and contains a tennis court, basketball court and playground. Lake Artemesia Natural Area and Indian Creek Park and Paint Branch Stream Valley Park are located approximately 1 mile south of the project site and contain a lake, streams sand trails to walk along. Lake Artemesia also contains a fishing dock and sitting areas. Paint Branch Golf Complex is a nine-hole golf course and driving range located approximately 1.2 miles west of the project site. College Park Dog Park is a fenced in off-leash dog park located approximately 1.5 miles southwest of the project site. Cherry Hill Road Recreation Center is a park that contains trails and Little Paint Branch Stream. This park is located 1.3 miles west of the project site. Sunnyside Neighborhood Park is located less than 1 mile northwest of the site, across the Capital Beltway, and contains a skating park, basketball court, playground and greenspaces. Figure 5-15 shows parks that are within a 1-mile radius of the Greenbelt site.

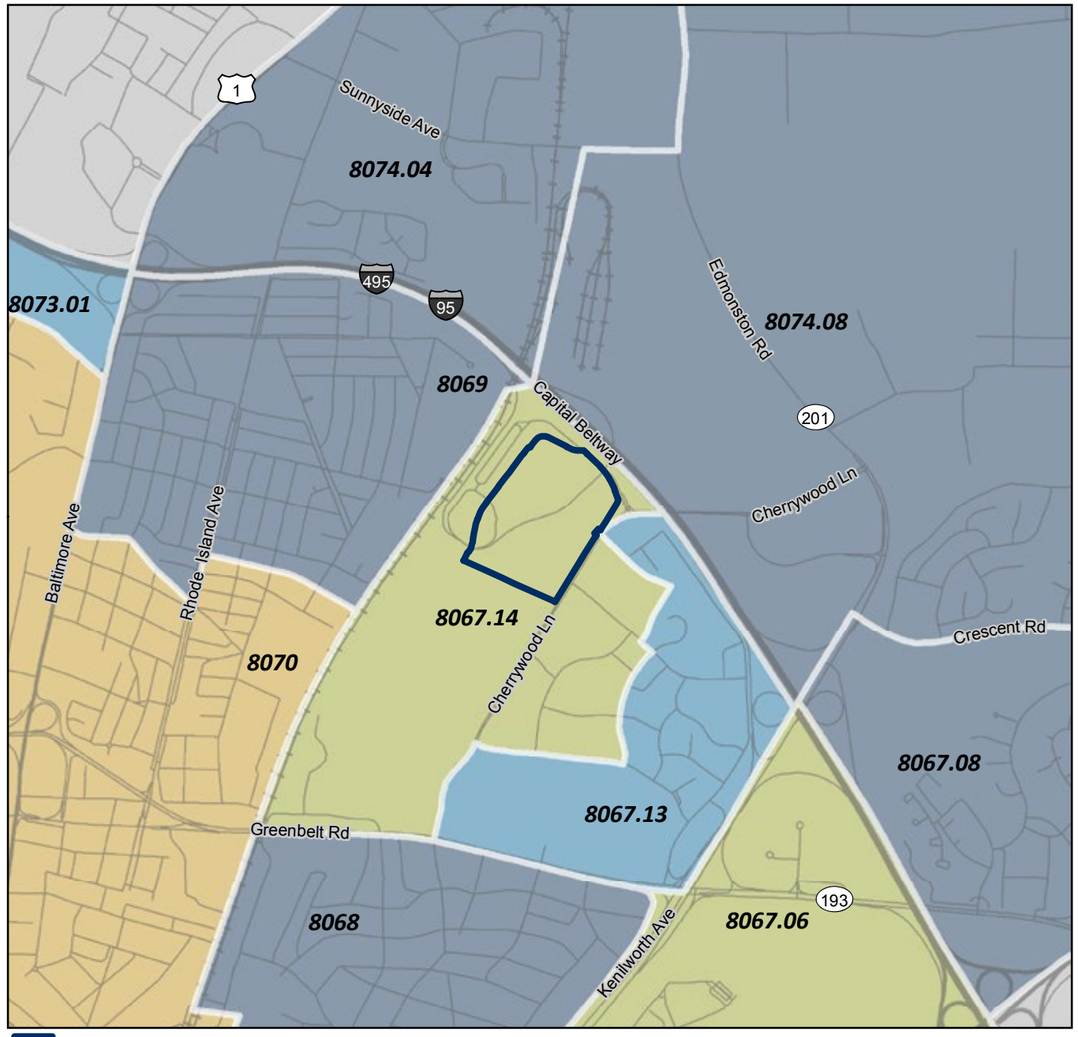
5.1.7.6 *Environmental Justice*

Minority and poverty information for the State of Maryland and Prince George's County are provided earlier in this chapter. In 2013, there were 218 Census tracts in Prince George's County. Ten of these census tracts are located within 1 mile of the Greenbelt site in Prince George's County, Maryland. Of these 10 tracts, three (8067.13, 8070, and 8073.01) reported at least 20 percent of their populations living below the poverty level in 2013. Four census tracts within 1 mile of the Greenbelt site have a minority population that exceeds the minority population of Prince George's County, Maryland, by at least 10 percent. These four census tracts are 8067.06, 8067.13, 8067.14, and 8073.01. Census tracts with minority and impoverished populations within 1 mile of the Greenbelt site in Prince George's County, Maryland, are identified in figure 5-16 (U.S. Census 2013a, 2013e). Details on Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* are provided in section 3.8.3.3.

5.1.7.7 *Protection of Children*

Children attend schools and childcare centers near the Greenbelt site. The nearest childcare centers to the Greenbelt site are Al-Huda Day Care, USDA Small Wonders, Children's Choice, and the Mentor Learning Center. In addition, there are a number of elementary schools within a 1-mile radius of the Greenbelt site. The nearest schools are Hollywood Elementary School, the Al-Huda School, Springhill Lake Elementary School, Greenbelt Middle School, the Robert Goddard French Immersion School, and Berwyn Christian School. In total there are at least 3,715 children attending schools within 1 mile of the project site (Prince George's County PS 2015; Al-Huda School 2015). This is based on incomplete information as enrollment data was not available for Berwyn Christina School. Children make up approximately 20 and 36 percent of the residents of the Census tracts 8069 and 8067.13, respectively (U.S. Census 2013e). EO 13045, *Protection of Children from Environmental Health and Safety Risk*, is described in in section 3.8.3.3.

Figure 5-16: Greenbelt Sensitive Populations



GREENBELT ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

- Of the 655 census tracts in the ROI, 10 are located within a mile of the Greenbelt site, and three reported at least 20 percent of their populations living below the poverty level in 2013. Additionally, four of the census tracts within 1 mile of the Greenbelt site have a minority population that exceeds the minority population of Prince George's County, Maryland, by at least 10%.
- The nearest childcare centers to the Greenbelt site are Al-Huda Day Care, USDA Small Wonders, Children's Choice, and the Mentor Learning Center. Schools within a 1-mile radius of the Greenbelt site include Hollywood Elementary School, the Al-Huda School, Springhill Lake Elementary School, Greenbelt Middle School, the Robert Goddard French Immersion School, and Berwyn Christian School.

Table 5-14: Greenbelt Emergency Response Times

Facility	Response Time (In minutes)	Distance from Site (miles)	Description
Fire Station/Emergency Services	3.2	1.3	Branchville Volunteer Fire Company
	3.2	1.3	Branchville Volunteer Fire Company
	3.3	1.5	Berwyn Heights Fire Department
Police Station	4.1	2.2	Barrack Q - College Park Maryland State Police
	4.2	2.1	Greenbelt Police Department
	4.6	2.5	United States Park Police
Hospital	6.3	4.3	Doctors Community Hospital

5.1.8 Public Health and Safety/ Hazardous Materials

The current public health and safety concerns at the Greenbelt site are typical of a suburban environment and transit center, as described in the following sections.

5.1.8.1 Public Health and Safety

The Greenbelt site is located within the Prince George's County Police District 2. The District 2 Station covers approximately 134 square miles with a population of approximately 172,000 residents. The communities served by District 2 include Bowie, Glendale, Greenbelt, Kettering, Largo, Lanham, Mitchellville, New Carrolton, Seabrook, Springdale, Upper Marlboro, and Woodmore. District 2 is divided into two sectors, David and Edward, and the sectors are further divided into individual beats. The City of Greenbelt is protected by Greenbelt Police Station, a subsidiary beat of the District 2 Prince George's County Police. The department employs 54 sworn officers and 15 support personnel who serve a community of approximately 22,000 residents over 6.5 square miles (City of Greenbelt 2015c). The Police Department, at 550 Crescent Road, Greenbelt, is approximately a 1.7 mile drive from the Greenbelt site.

The Greenbelt Metro Station, similar to all WMATA facilities, is patrolled by the Metro Transit Police Department (MTPD). MTPD police officers have jurisdiction and arrest powers throughout the 1,500 square mile transit zone that includes Maryland, Virginia, and the District of Columbia for crimes that occur in or against WMATA facilities. The mission of the MTPD is to provide protection for Metrorail patrons, personnel, transit facilities, and revenue. The MTPD has an authorized strength of 490 sworn police officers, 64 security special police, and 91 civilian personnel. Officers provide a variety of law enforcement and public safety services on the WMATA system in the Washington, D.C., metropolitan area (WMATA 2015).

Prince George's County Fire and Emergency Services is one combined department and consists of seven battalions throughout the county. Battalion 6 serves the site and includes the general vicinity of Laurel, Greenbelt, Beltsville, and Berwyn Heights (City of Greenbelt 2014). The closest fire and emergency services station to the Greenbelt site is the Co. 814, Berwyn Heights Station, located at 8811 60th Avenue, Berwyn Heights, Maryland, which is approximately a 1.5 mile drive from the site. The Co. 814 station includes a fire engine, ambulance, and a rescue squad.

Police and fire/emergency response times to the site are approximately 3 to 4 minutes, as shown in table 5-14.

5.1.8.2 Hazardous Materials

At the request of GSA, a Phase I Environmental Site Assessment for the Greenbelt site was prepared in November 2014 (Louis Berger 2014a). The authors reviewed Federal and state record sources to identify potential sites of environmental concern located within established search distances of up to 1 mile from the site. No Recognized Environmental Conditions were identified at the site. "Recognized Environmental Conditions" refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property. Despite the absence of any Recognized Environmental Conditions at the site, the site assessment concluded that fill material of unknown environmental quality may have been placed at the site for development of the surface parking lot.

The National Priorities List (NPL) is the list of national priorities among known hazardous waste sites in the U.S. and its territories that are eligible for long-term remedial action financed under the Federal Superfund program (USEPA 2015). One NPL site, the USDA BARC, is located adjacent to the Greenbelt site on the north side of the Capital Beltway. No other NPL, delisted NPL, or proposed NPL facilities are located within 1 mile of the site. USDA's initial investigations of the BARC site in 1990, 1991, and 1992 revealed elevated levels of polyaromatic hydrocarbons, several pesticides, PCBs, organic solvents, and a variety of heavy metals in soil, surface water, and sediments. Any contaminated surface water leaving this facility could threaten several creeks and streams, including Indian Creek, which traverses the Greenbelt site. To date, 38 individual contamination sites at the BARC facility have been designated "no further action." The remaining 24 sites are in various stages of study and remediation (Louis Berger 2014a).

The Maryland Department of the Environment's (MDE's) Oil Control Program Cases database contains an inventory of reported leaking storage tank incidents, other below ground releases, leaking above ground storage tanks, spills, and inspections. The causes of the incidents may have been tank test failures, tank failures, or tank overfills and the storage tanks may be either above ground or below ground. The site was not listed on the database; however, 20 other facilities within a 0.5-mile radius of the site appeared on the database. Because all 20 cases are closed, impacts to the site would be unlikely (Louis Berger 2014a).

MDE's Underground Storage Tank database contains registered underground storage tanks that are regulated under Subtitle I of RCRA. The Historical Underground Storage Tank database is a list of facilities that have or had underground storage tanks that are regulated under Subtitle I of RCRA. This database is no longer updated. The Greenbelt site was not identified on any of the databases; however, there were three listings each in both databases that were located within 0.25 mile of the site. Based on case status, tank status (removed or permanently out of use), and/or absence of reported releases, it is unlikely that any of these facilities would have potential to impact the site (Louis Berger 2014a).

No brownfields were identified within a 0.5-mile radius of the site. Additionally, investigation of the site history as part of the Phase I Environmental Site Assessment concluded that asbestos-containing building materials and lead-based paint are unlikely to have ever been present at the site (Louis Berger 2014a).

BROWNFIELD

The expansion, redevelopment, or reuse of real property which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. (Public Law 107-118 (H.R. 2869) - "Small Business Liability Relief and Brownfields Revitalization Act")

NATIONAL PRIORITIES LIST

The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the U.S. and its territories.

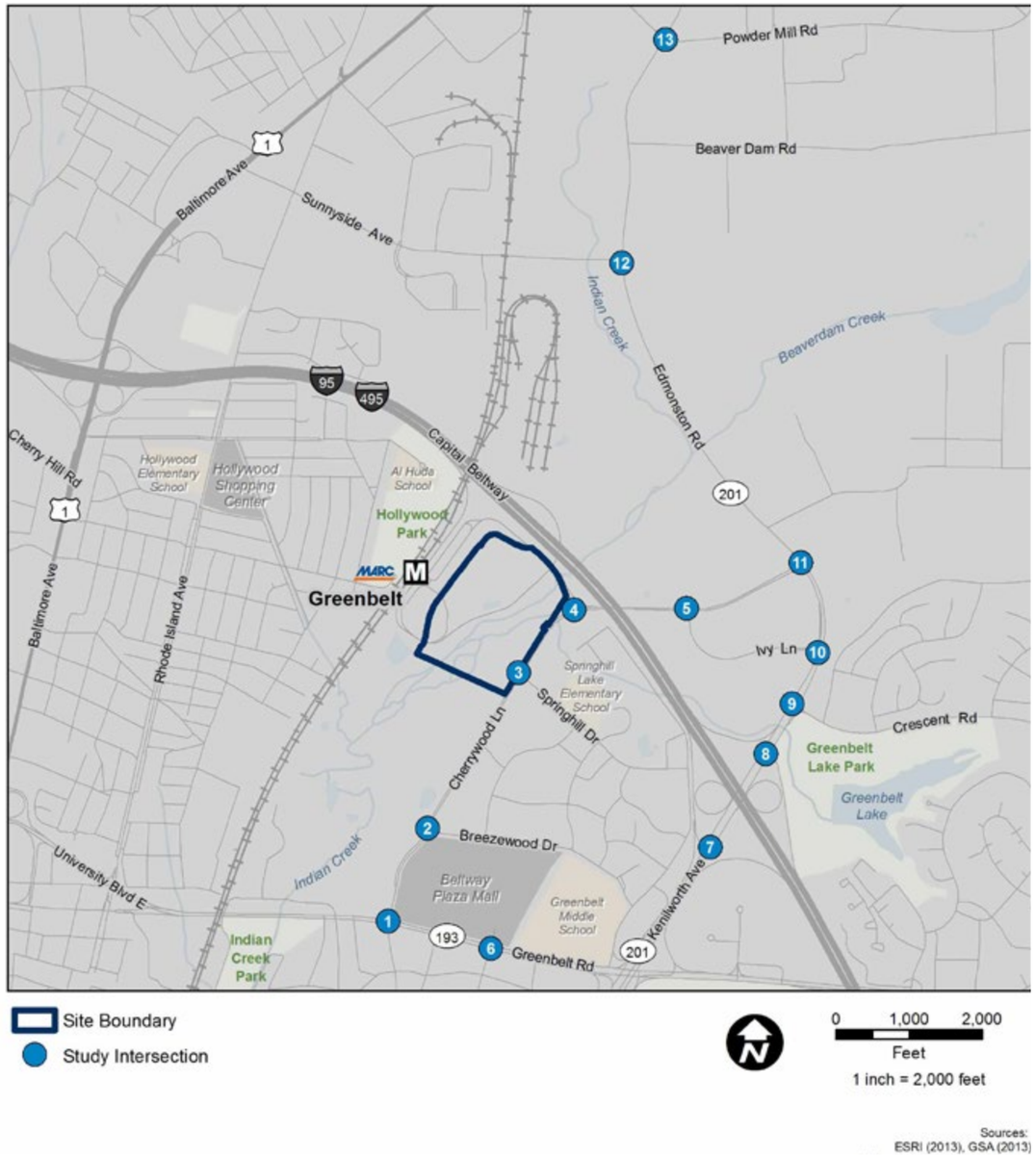
GREENBELT PUBLIC HEALTH AND SAFETY/HAZARDOUS MATERIALS

- The Greenbelt site is located within the Prince George's County Police District 2, which covers approximately 134 square miles with a population of approximately 172,000 residents.
- Prince George's County Fire and Emergency Services Battalion 6 serves the site and includes the general vicinity of Laurel, Greenbelt, Beltsville, and Berwyn Heights. The closest station to the Greenbelt site is the Co. 814, Berwyn Heights Station.
- Police and fire/emergency response times to the Greenbelt site are approximately 3 to 4 minutes.
- There are no "Recognized Environmental Conditions" identified at the site. However, despite the absence of any Recognized Environmental Conditions at the site, a site assessment performed by Louis Berger concluded that fill material of unknown environmental quality may have been placed at the site for development of the surface parking lot.
- The closest NPL site to the Greenbelt site is the USDA BARC, located adjacent to the site on the north side of the Capital Beltway.

RECOGNIZED ENVIRONMENTAL CONDITIONS

Recognized Environmental Conditions refers to the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property.

Figure 5-17: Greenbelt Transportation Study Intersections



5.1.9 Transportation

The following sections describe the affected environment for the Greenbelt site, and provide a summary of existing transportation conditions in the study area as of May 2015.

5.1.9.1 Study Area Description

The larger vehicular transportation study area, as shown in figure 5-17, is generally bounded by the CSX and Metrorail lines on the west of the site, Greenbelt Road (MD 193) to the south, Edmonston Road (MD 201) on the east, and Cherrywood Lane and Greenbelt Metro Drive to the north. Two additional intersections are studied to the north of this described area, extending north to Edmonston Road (MD 201). Section 3.10.1 contains the methodology used to select the appropriate vehicular and other transportation mode study area. The study area only includes selected intersections, but it does not have a clearly defined study boundary; it was established in consultation with M-NCPPC, City of Greenbelt, and Maryland State Highway Administration (Maryland SHA) and includes a total of 13 intersections for the Existing Condition analysis.

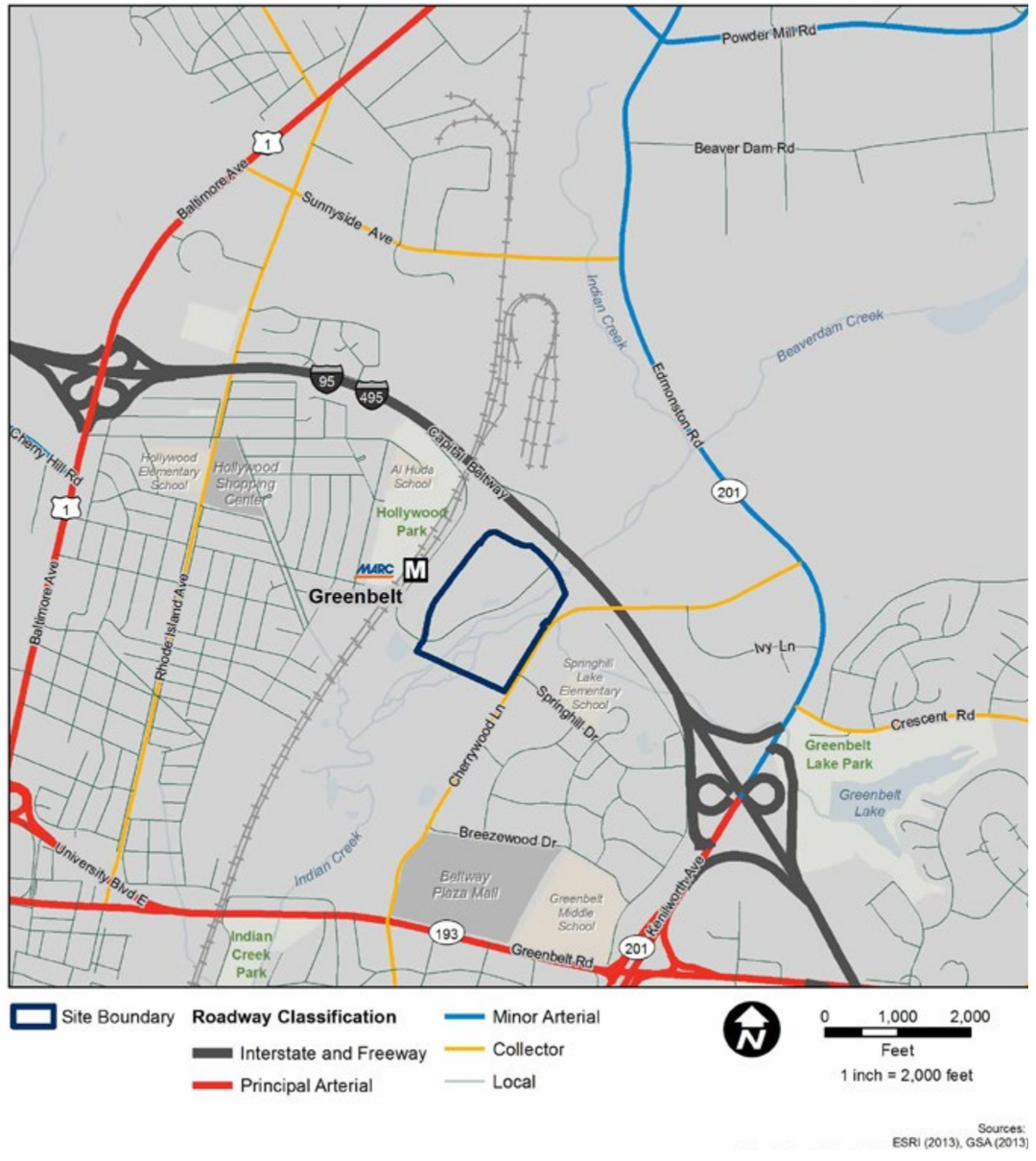
5.1.9.2 *Project Area Accessibility and Roadway Functional Classification*

The Greenbelt site is primarily accessed by Cherrywood Lane and the Capital Beltway (also known as I-495 and I-95 at this location), both of which lie east and north of the parcel, respectively. The Capital Beltway is classified as an interstate within the Maryland roadway hierarchy, according to Maryland SHA, and provides direct inbound access to the site via the I-495 south/eastbound ramp and outbound access to I-495 via the I-495 north/westbound ramp. The Greenbelt site does not have inbound access from I-495 north or outbound access from I-495 south, therefore points south of Greenbelt must access the site via local arterial and collector roadways, typically after exiting at the I-495/MD 201 Interchange just south of the site. Cherrywood Lane provides north-south access to Kenilworth Avenue/Edmonston Road (MD 201) to the north and Greenbelt Road (MD 193) to the south.

The Greenbelt site is also accessible by transit including Metrorail, regional rail, local bus, intercity bus, and several shuttles, as well as carsharing services. The Greenbelt site is also accessible by wide sidewalks along parts of Greenbelt Metro Drive, as well as served by study area sidewalks located on Cherrywood Lane, Ivy Lane, along some of the residential streets to the northwest and southeast of the Greenbelt site, and on Greenbelt Road. Some bicycle facilities exist in the study area supporting the site including bike lanes that traverse Rhode Island Avenue and parts of Cherrywood Lane, as well as a mixed-use path along Greenbelt Metro Drive.

The roadway functional hierarchy classifications within the study area according to Maryland SHA are shown in figure 5-18 (2014a). The functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide. Interstates, freeways, and expressways provide the highest LOS at the greatest speed for the longest uninterrupted distance, followed by principal arterials, minor arterials, collector roads, and finally local roads. The primary interstate within the study area providing regional access is I-495. The study area includes several arterials, Kenilworth Avenue or Edmonston Road (MD 201) and Greenbelt Road (MD 193), as well as Route 1 (Baltimore Avenue) to the west of the study area and Powder Mill Road at the northern edge of the study area. In addition to Cherrywood Lane, Rhode Island Avenue, Sunnyside Avenue, and Crescent Road are also classified as collector roadways that collect traffic from local roads and connect then with arterials. Local roadways in the study area include Greenbelt Metro Drive, Breezewood Drive, Springhill Drive, and Ivy Lane.

Figure 5-18: Greenbelt Roadway Hierarchy and Classification



5.1.9.3 Roadway Descriptions

The following section describes the roadways within the study area, including the roadway classification (arterials, collectors, local roads, etc.) assigned by Maryland SHA in their latest roadway functional classification from 2013, the number of lanes in each direction, the latest annual average daily traffic (AADT) volumes (12-months of traffic volumes averaged) available from Maryland SHA from 2013, and any noteworthy characteristics such as the roadway's role within the transportation network and if bike lanes are present. The information was collected from Maryland SHA's 2013 Functional Class GIS data (Maryland SHA 2014a), observations in the field, aerial imagery, and Maryland SHA's AADTs of stations for the years 2007-2013 (Maryland SHA 2014b).

Capital Beltway, also known as I-495 and I-95 in Greenbelt, travels northeast of the study area, and forms a circle around Washington, D.C. It is a two-way roadway that is classified by Maryland SHA as an interstate (2014a). The roadway is northwest-southeast oriented at the location of the Greenbelt site and connects Maryland to Virginia. The roadway ranges between four to six lanes in each of the northbound and southbound directions. In the vicinity of the Greenbelt parcel, the Capital Beltway connects to Greenbelt Metro Drive, Baltimore Avenue/U.S. Route 1 (a principle arterial), and Kenilworth Avenue (also an arterial road). The Capital Beltway serves as a major regional and commuter route between Maryland, Virginia, and Washington, D.C. The Capital Beltway speed limit is 55 miles per hour (mph). In 2013, the AADT for the Capital Beltway when traversing through the study area was 216,900 vehicles (Maryland SHA 2014b).

Cherrywood Lane is a southwest–northeast oriented roadway that is classified by Maryland SHA as a major collector road (2014a). The road connects to Greenbelt Metro Drive, and travels over the Capital Beltway, but does not connect to it. The road travels from Greenbelt Road on the southwest side of the site northeast towards Edmonston Road (MD 201). In addition this road connects to secondary residential roadways such as Breezewood Drive, Cherrywood Court, and Springhill Drive. The road varies between one lane in each direction near the Greenbelt site to two lanes in each direction near its ends points with Edmonston Road and Greenbelt Road. The roadway has a shared center left turn lane and striped median along most of its length in the study area with periodic on-street parking on the eastern (northbound) side of the street. Cherrywood Lane has a speed limit of 30 mph south of Springhill Drive and 35 mph north of Springhill Drive. According to Maryland SHA, the AADT for Cherrywood Lane in 2013 was 8,500 vehicles (Maryland SHA 2014b). Cherrywood Lane also has bicycle lanes on either side of the street between Edmonston Road to the north and Breezewood Drive to the south.

Rhode Island Avenue is north-south oriented, and is classified as a major collector roadway by Maryland SHA (2014a). Within the study area the road connects to Greenbelt Road/University Boulevard East (MD 193) on the south, but does not connect to the Capital Beltway further north. There is one through lane of traffic in each direction with access roads bordering the perimeter from start to finish. Rhode Island Avenue serves as a connector to residential neighborhoods in Hollywood, a subsidiary neighborhood of Greenbelt. Rhode Island Avenue also has a bike path that travels along the road in both directions throughout most of the study area. The speed limit of Rhode Island Avenue in the study area varies between 30 and 35 mph. In 2013, the AADT for Rhode Island Avenue traversing through greenbelt was 17,200 vehicles (Maryland SHA 2014b).

Edmonston Road / Kenilworth Avenue (MD 201) travels southwest to northeast and connects to both the Capital Beltway and Greenbelt Road. The roadway contains two to three through lanes in each direction, but north of Cherrywood Lane the road eventually becomes one through lane in each direction. The roadway is classified by Maryland SHA as a minor arterial road north of I-495 and a principal arterial road south of I-495 (2014a). The roadway has a speed limit of 40 mph within the study area. In 2013, on Kenilworth Avenue from Greenbelt Road (MD 193) to I-95 the AADT was 43,981 vehicles, whereas from I-95 to Sunnyside Avenue, the 2013 AADT was 32,800 vehicles (Maryland SHA 2014b).

Greenbelt Road (MD 193) is east-west oriented and is classified by Maryland SHA as a principal arterial road (2014a). The roadway is a section of MD 193 and contains both commercial and residential development. The roadway has three through lanes in each direction, additional left turn lanes periodically, and a protected median. Greenbelt Road connects to Baltimore Avenue (U.S. Route 1) and Rhode Island Avenue on the west side and Kenilworth Avenue (MD 202) on the east side. Greenbelt Road has a speed limit of 40 mph through the study area. In 2013, the AADT on Greenbelt Road was 16,600 vehicles (Maryland SHA 2014b).

Greenbelt Metro Drive is currently classified by Maryland SHA as a local roadway (2014a). This roadway provides access to the Greenbelt site and the Greenbelt Metro Station and parking lot. The road is accessed by Cherrywood Lane. The roadway has one through lane in each direction. Greenbelt Metro Drive has a speed limit of 30 mph.

Ivy Lane is classified by Maryland SHA as a local road (2014a). This roadway has a curvilinear shape that connects Cherrywood Lane to Edmonston Road (MD 201). Ivy Lane primarily has one lane in each direction with a shared center left turn lane. The roadway has a speed limit of 30 mph. Ivy Lane also has bicycle lanes on both sides of the street.

Breezewood Drive is classified by Maryland SHA as a local road (2014a). The roadway is east-west oriented and contains one through lane going in each direction. The road has on-street parking except at intersections, where the curb narrows the physical roadway width. The roadway serves residential development and connects to other residential roadways such as Cherrywood Terrace, Springhill Lane, and Edmonston Terrace. Breezewood Drive feeds traffic onto Cherrywood Lane which is the main roadway connector to other non-residential areas. Breezewood Drive has a speed limit of 25 mph.

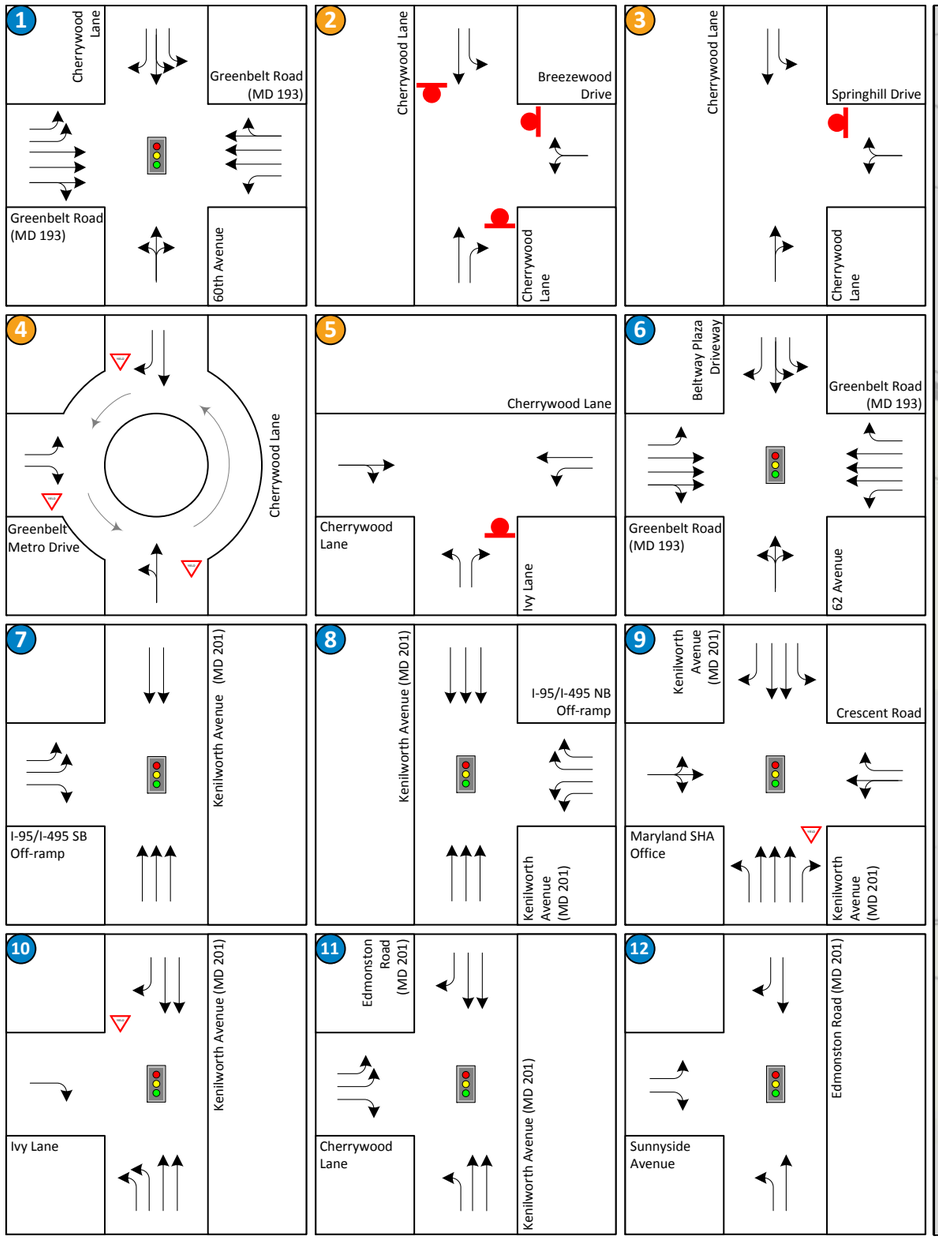
Springhill Drive is classified by Maryland SHA as a local road (2014a). The roadway is generally northeast- southwest oriented, primarily serves residential neighborhoods and an elementary school, and connects to other roadways such as Springhill Lane, Cherrywood Terrace, and Springhill Court. The roadway has some on-street parking along designated stretches except during school hours on school days. Springhill Drive feeds local traffic onto Cherrywood Lane, the main roadway connector to other non-residential areas. Springhill Drive has a speed limit of 25 mph, although some sections have a 15 mph speed limit when lights are flashing because of the adjacent elementary school.

Powder Mill Road, also known as MD 212, is an east-west oriented road that is classified as a minor arterial roadway by Maryland SHA (2014a). The road connects to Old Gunpowder Road and Baltimore Avenue (U.S. Route 1) to the west, and the Baltimore-Washington Parkway and Laurel Bowie Road (MD 197) to the east. The roadway has one lane in each direction, with intermediary left and right turn lanes towards its east side at intersections. The speed limit for Powder Mill Road is 35 mph as it crosses through the study area. In 2013, the AADT for Powder Mill Road, traversing through Greenbelt, was 19,200 vehicles (Maryland SHA 2014b).

Sunnyside Avenue is an east-west oriented road that is classified as a collector roadway by Maryland SHA (2014a). The road connects Baltimore Avenue (U.S. Route 1) and Rhode Island Avenue to Edmonston Road. The roadway has two lanes in each direction for a majority of its length; however, on the east side of the road where it intersects Edmonston Road there is one lane in each direction. Where Sunnyside Avenue has two lanes in each direction on its western end, the road also has periodic left turn lanes and pedestrian sidewalks on both sides. The speed limit for Sunnyside Avenue is 30 mph. In 2013, the AADT for Sunnyside Avenue was 8,900 (Maryland SHA 2014b).

As part of the field data collected, a detailed inventory of the lane geometry was conducted through field reconnaissance and a study of aerial imagery. Based on this information, the existing lane geometry and traffic control type (signalized or unsignalized) of intersections in the study area is shown in figure 5-19.

Figure 5-19: Greenbelt Existing Lane Geometry and Traffic Control Type



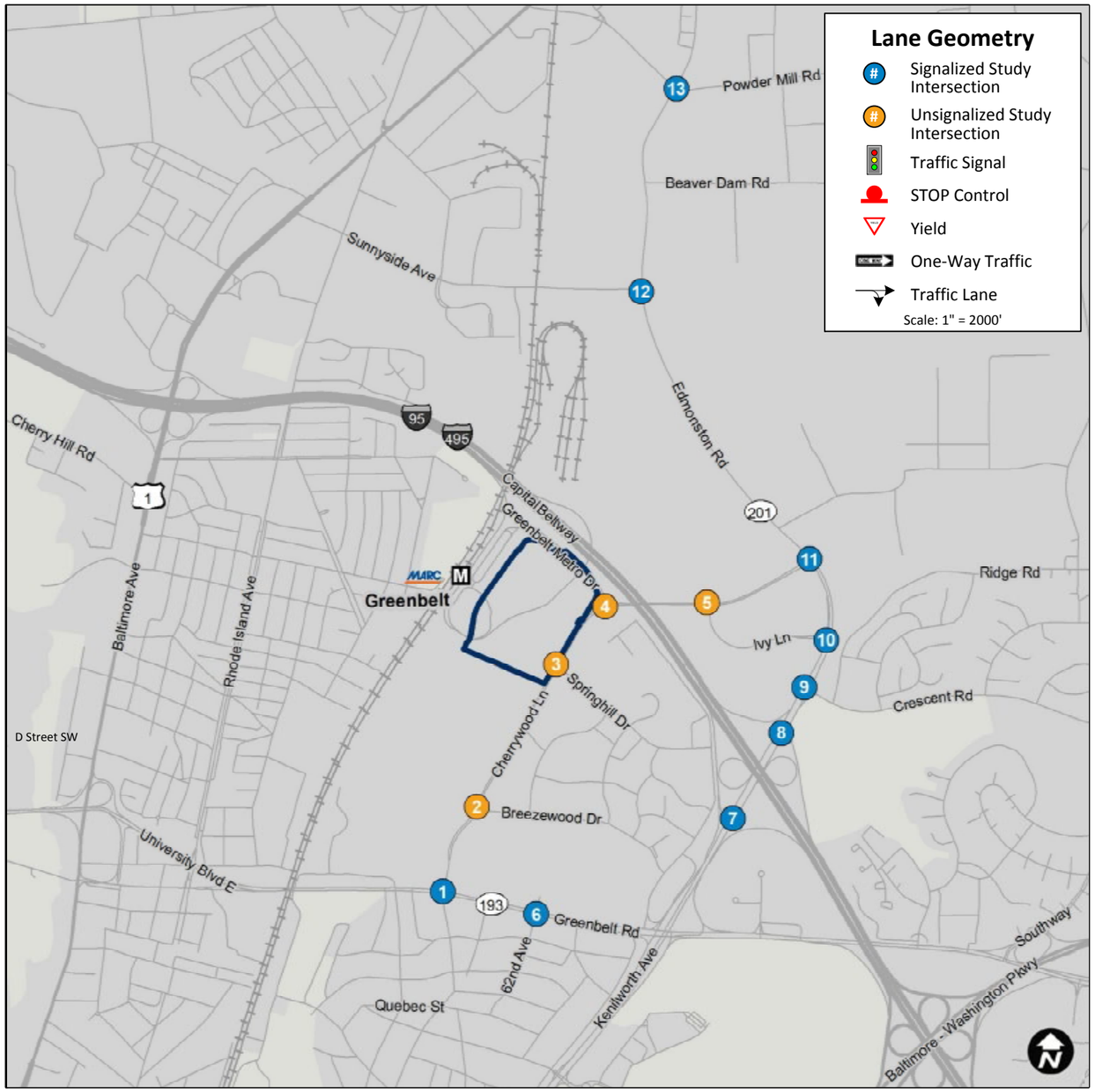
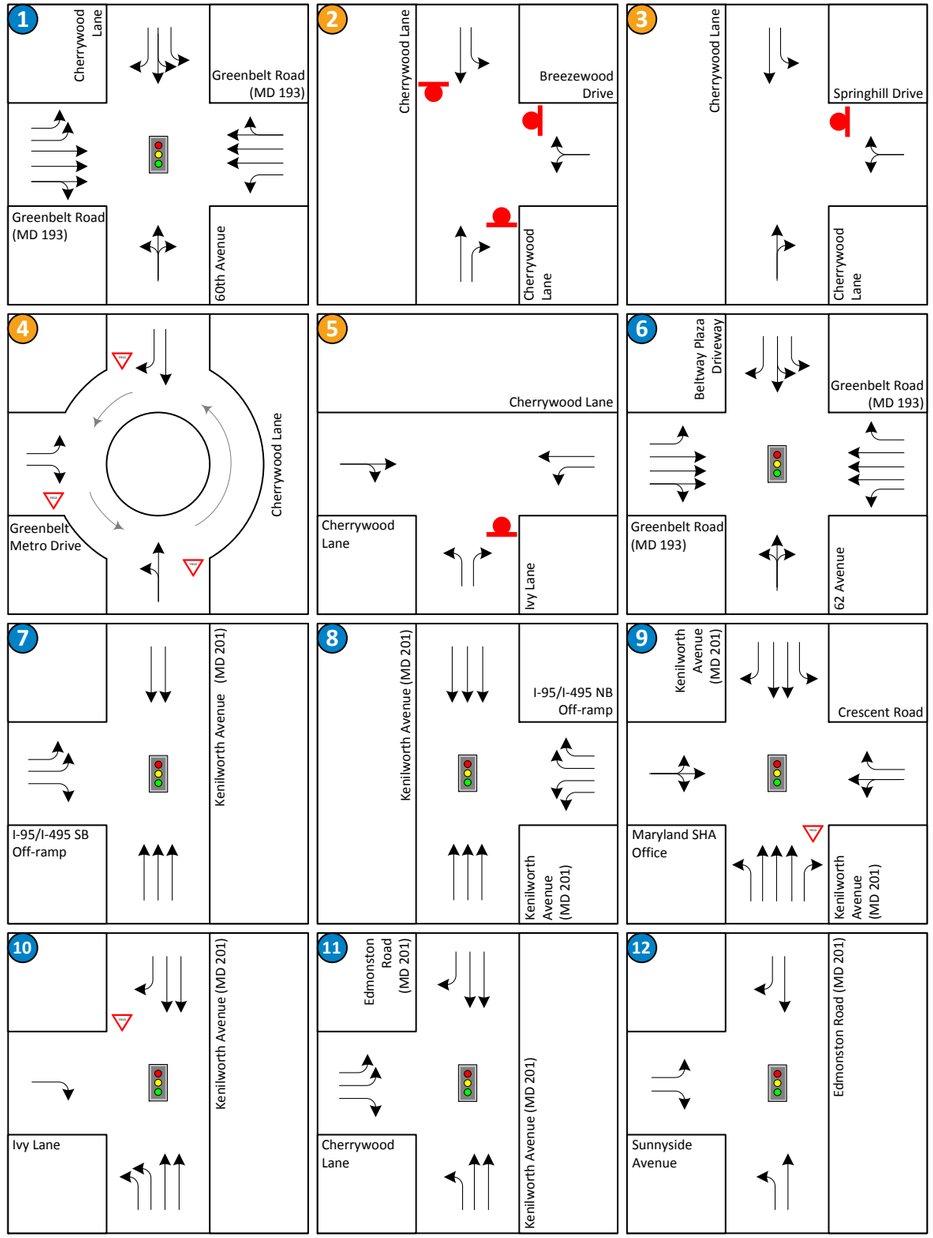


Figure 5-19: Existing Lane Geometry and Traffic Control Type (continued)



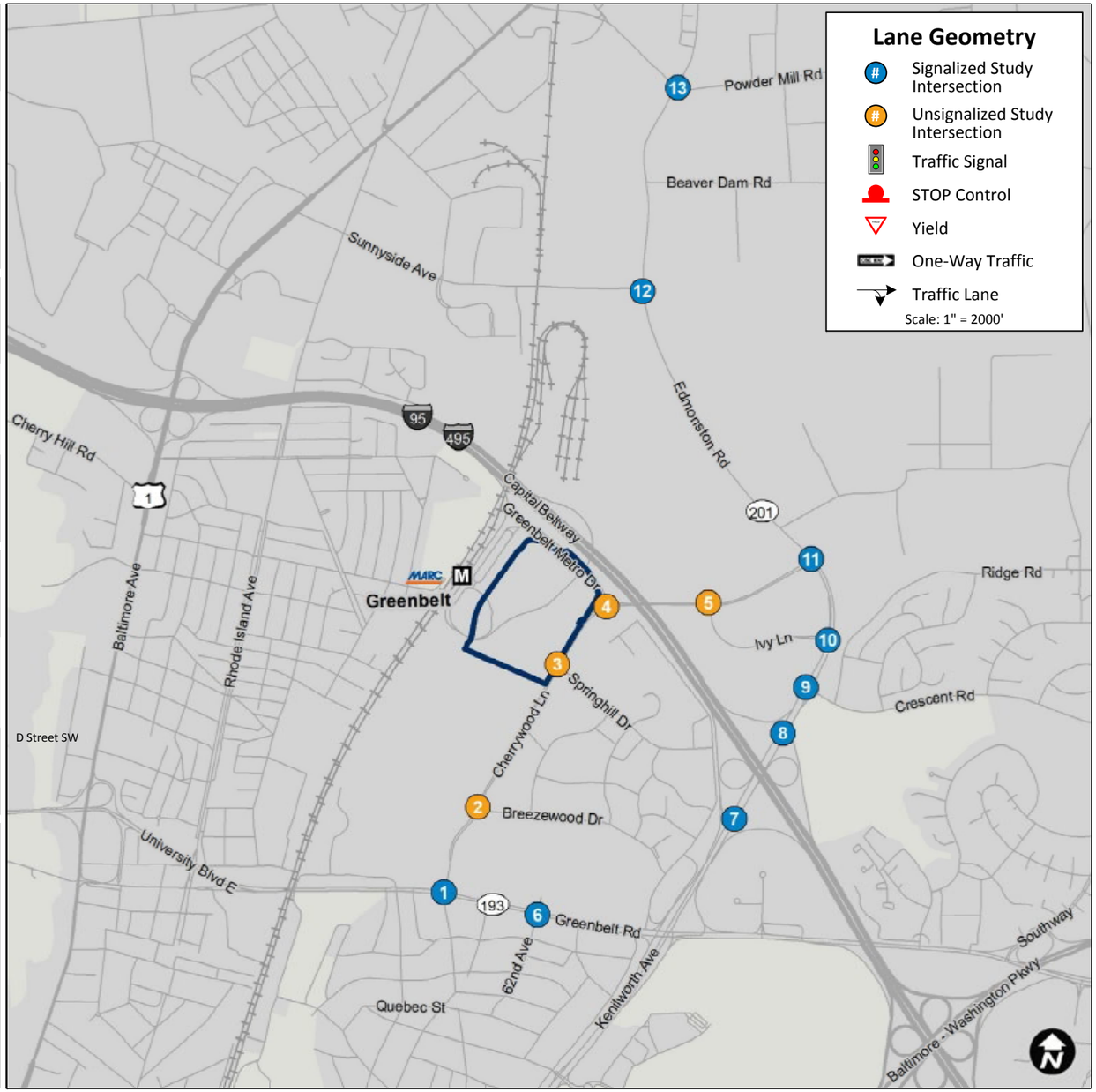


Figure 5-20: Greenbelt Intersection (Arterial) Cumulative AM Volumes

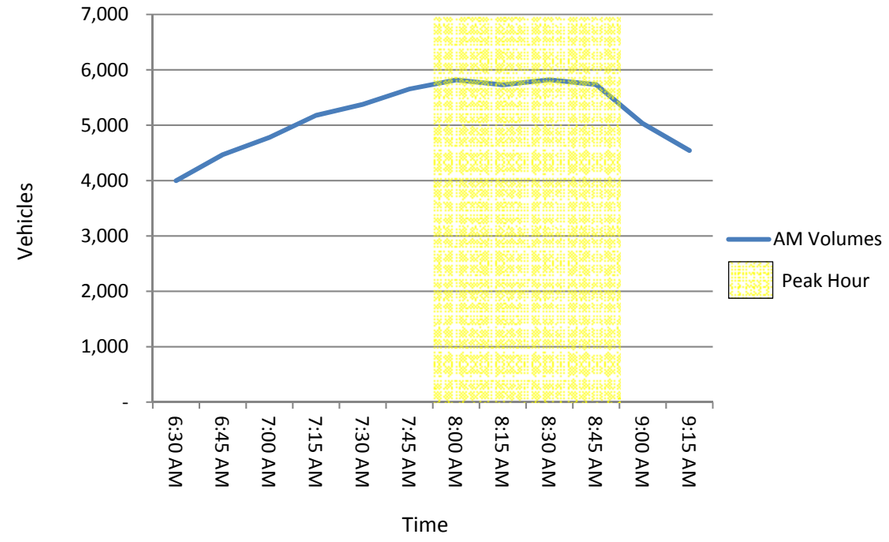
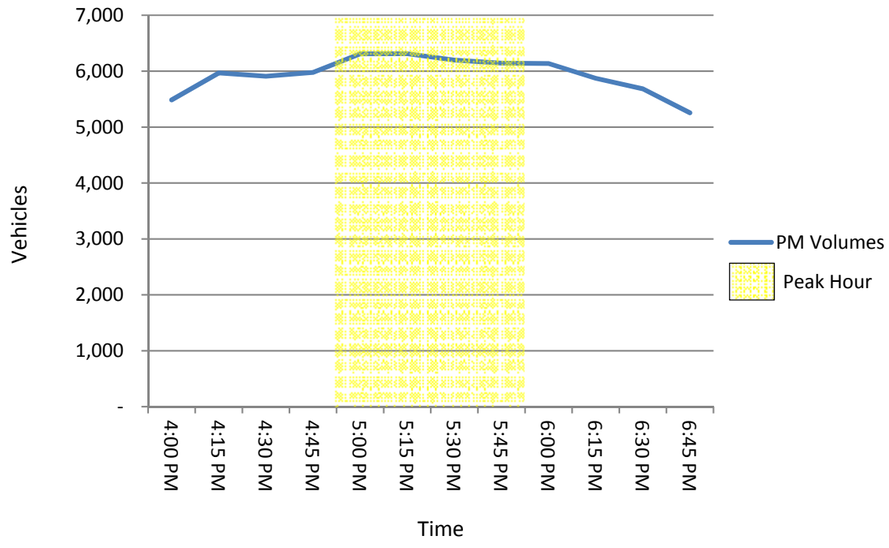


Figure 5-21: Greenbelt Intersection (Arterial) Cumulative PM Volume



5.1.9.4 Data Collection

Section 3.10.4.1 provides an overview of all data collected as part of the study. After examining the count collection data for the study area, the peak AM and PM traffic hours were determined for both the arterial transportation system, using intersection counts, and the interstate system, using Automated Traffic Recorders (ATRs) for the mainlines and a combination of ATR and intersection counts for the ramps. These peak hours are shown in yellow bands on the charts in figures 5-20 through 5-22. The cumulative turning movement volumes for all study area intersections are shown in a blue line. The determination of a peak hour relied on the arterial system peak hour because the arterial system would be most impacted by the addition of a consolidated FBI HQ facility. In addition, the interstate system morning peak hour is within 15 minutes of the arterial system and afternoon flows remain near the peak through the arterial system peak hour. The overall weekday AM peak hour occurs between 7:45 AM and 8:45 AM, and the weekday PM peak hour occurs between 5:00 PM and 6:00 PM. Figure 5-23 shows the existing AM and PM weekday peak hour turning movement volumes occurring in the study area.

Figure 5-22: Greenbelt Interstate Volumes

Figure 5-23: Greenbelt Existing AM and PM Peak Hour Turning Movement Volumes

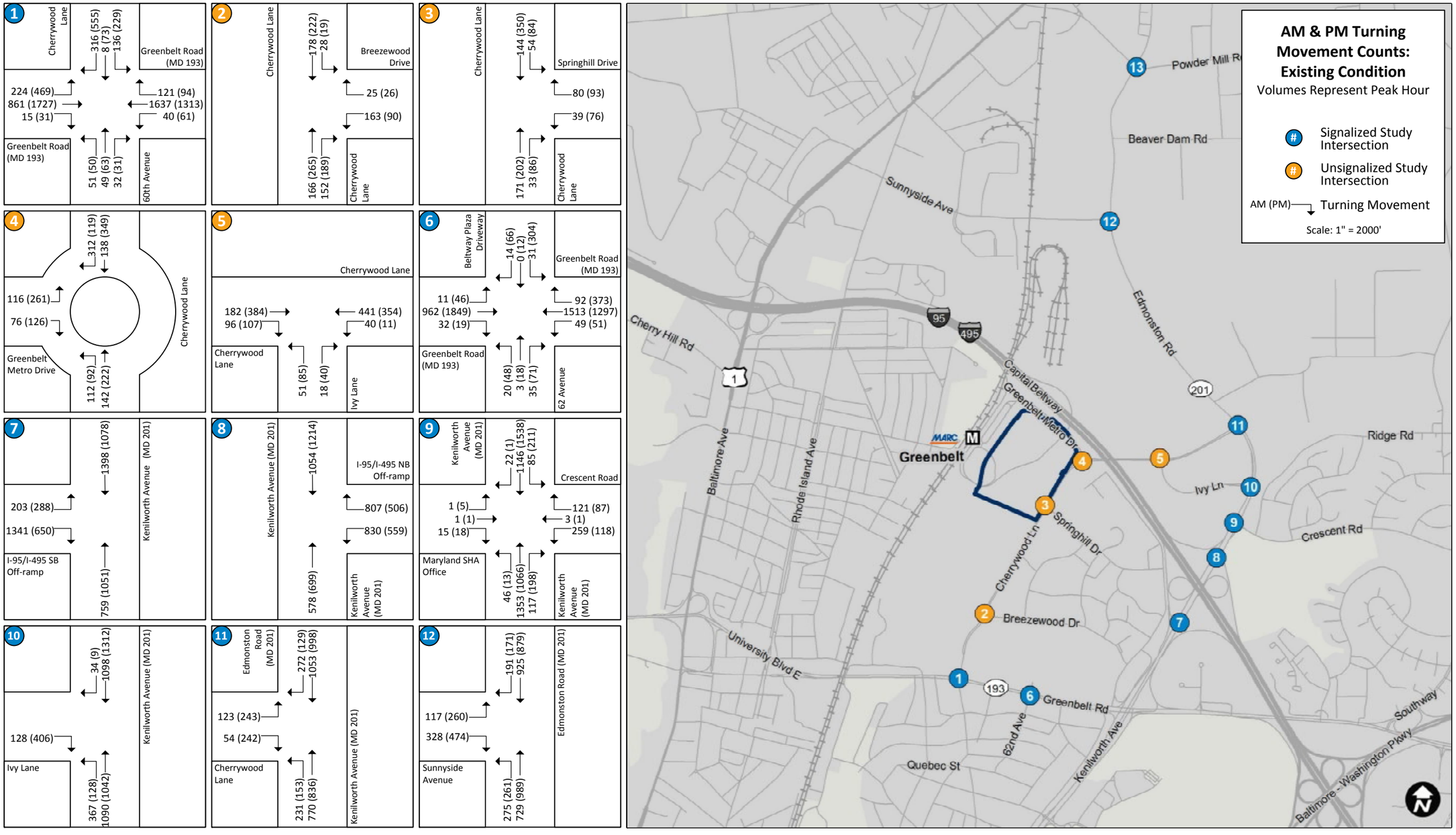
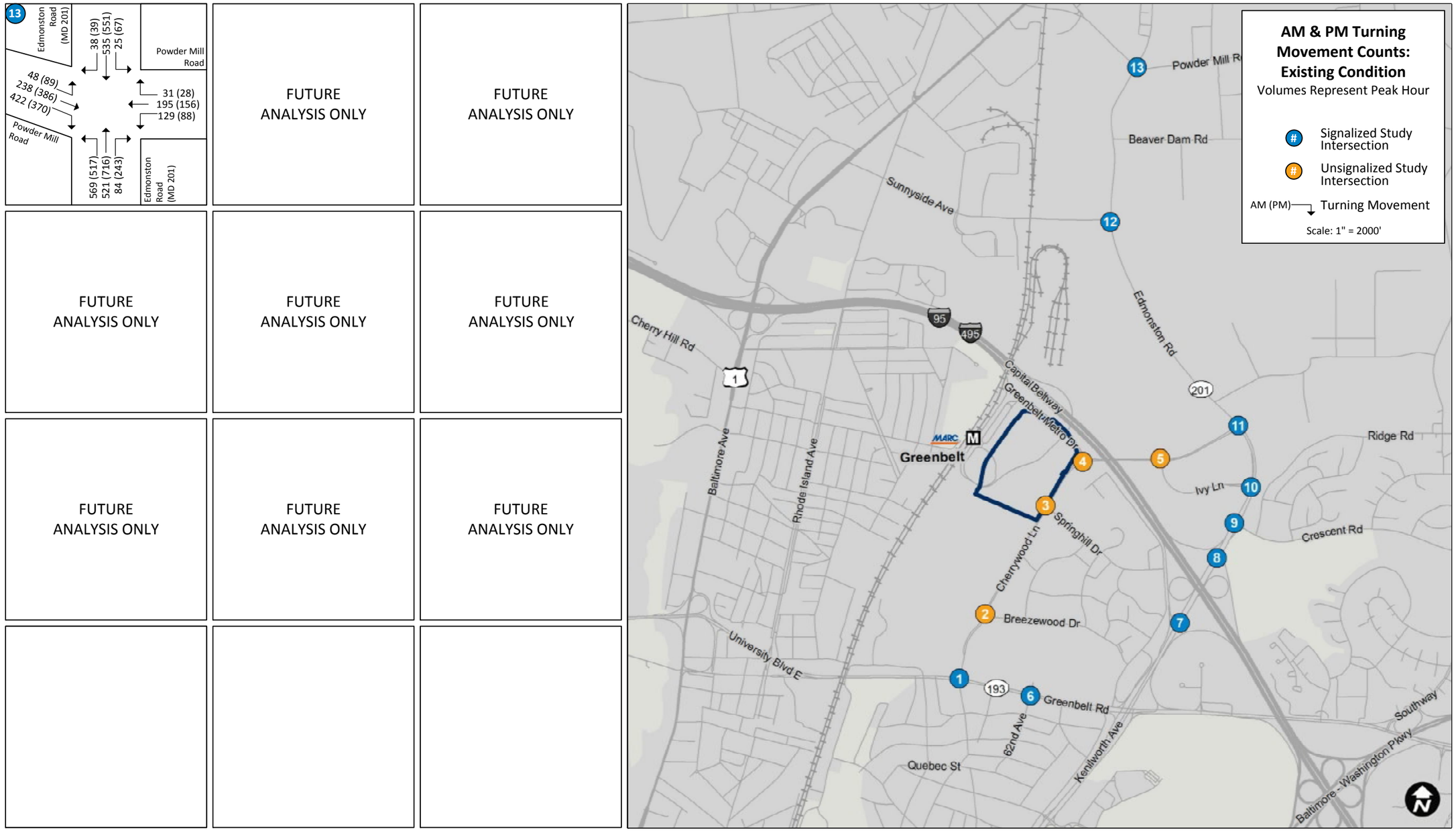


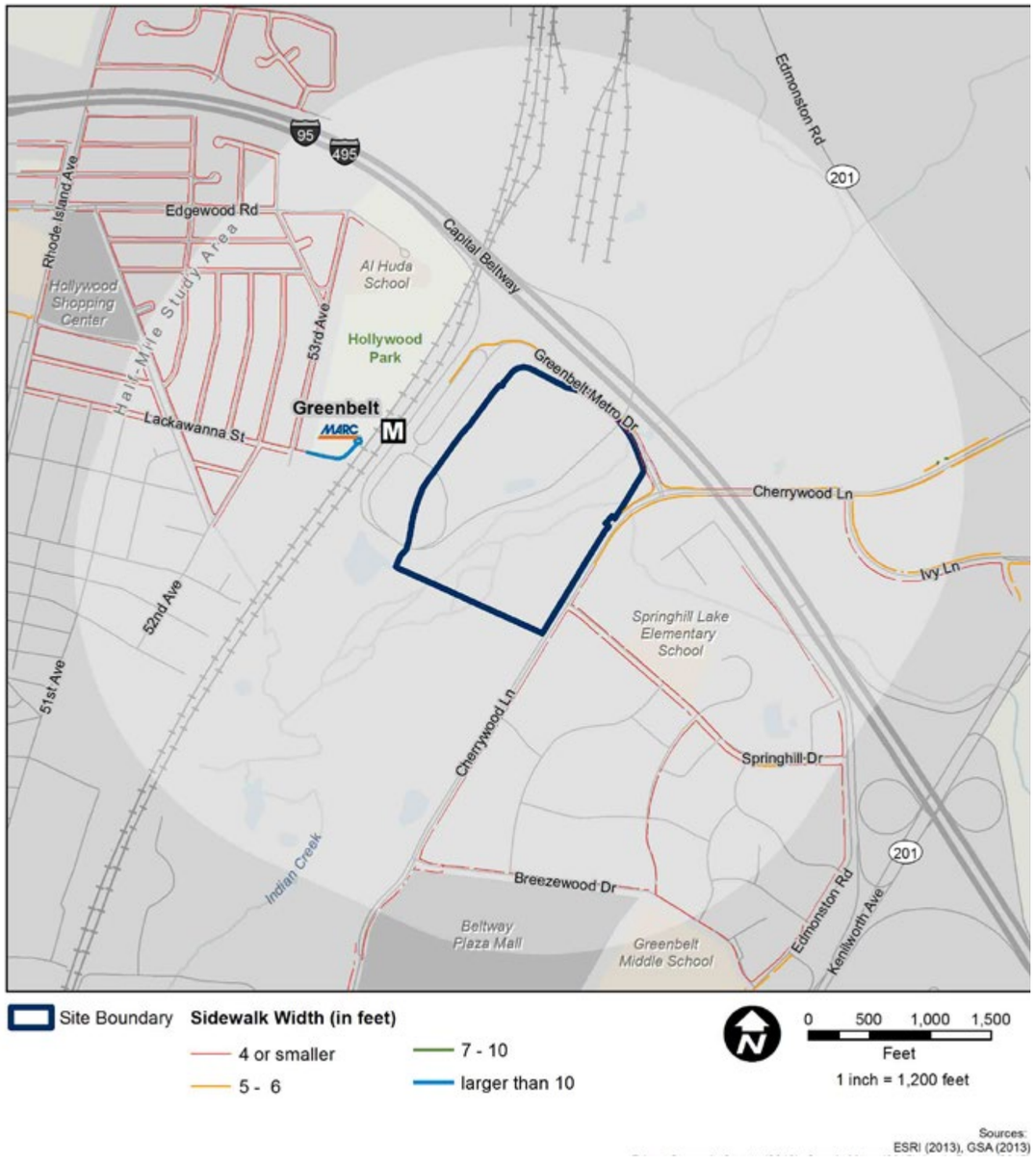
Figure 5-23: Greenbelt Existing AM and PM Peak Hour Turning Movement Volumes (continued)



GREENBELT PEDESTRIAN NETWORK AND ADA COMPLIANCE

- Basic sidewalk accommodations are provided on most streets in a 0.5-mile radius of the Greenbelt site, including along Greenbelt Metro Drive and Cherrywood Lane where the sidewalks appear to be well maintained.
- The origins and destinations of pedestrian trips in the project area are primarily a mix of residential and transportation oriented.
- The intersections within a 0.5 mile radius of the site are not Americans with Disabilities Act (ADA) compliant, except for the intersection of Greenbelt Metro Drive and Cherrywood Lane, now a roundabout, which was recently improved to meet all ADA regulations.

Figure 5-24: Greenbelt Existing Pedestrian Network



5.1.9.5 Pedestrian Network

Basic sidewalk accommodations are provided on most streets in the 0.5-mile radius non-vehicular study area, particularly along Greenbelt Metro Drive and Cherrywood Lane where the sidewalks appear to be well maintained, but the quality of the sidewalks may not support moderate usage due to issues with width and/or accessibility compliance at intersections. Pedestrian accommodations within 0.5-mile of the Greenbelt site are shown in figure 5-24.

Sidewalk Description and Pedestrian Activity

Sidewalks are provided along a majority of roads throughout the study area, including Greenbelt Metro Drive, Cherrywood Lane, and along the residential streets in the neighborhoods to the northwest and southeast of the site. There are sections of road along Cherrywood Lane that do not have walkways on one or both sides of the roadway, but at least one side of the roadway has a sidewalk between Ivy Lane, north of the site, and Greenbelt Road, south of the site.

The intersections of Cherrywood Lane that intersect with Breezewood Drive, Springhill Drive, and Ivy Lane provide crosswalks parallel to Cherrywood Lane, but no pedestrian signals. Minimal crosswalks across Cherrywood Lane are provided in the study area, with the primary crossing at the intersection of Cherrywood Lane and Greenbelt Metro Drive and one each east and west of that intersection, for the U.S. District Court facility and a Metrobus stop, respectively. Along the length of Greenbelt Metro Drive there is only one pedestrian crossing location near the Metro Station for the Kiss & Ride and short-term parking area.

The origins and destinations of pedestrian trips in the study area are primarily a mix of residential and transportation oriented. Within the nearby neighborhoods, there are additional pedestrian trips to various land uses in the neighborhood including schools, recreation amenities, and small retail establishments. The Beltway Plaza Mall is located south of the Greenbelt site and receives localized foot traffic from the surrounding residential regions throughout the day. Throughout the residential sites surrounding the Greenbelt site, there are bus stops for the local bus routes as well as stops for a private resident shuttle to the Greenbelt Metro Station and a UMD shuttle bus for Franklin Park (Franklin Park at Greenbelt Station 2012). The immediate vicinity of the Greenbelt site has a moderate amount of foot traffic due to the adjacent Greenbelt Metro Station.

Commonly used walkways around the Greenbelt site include paths used to navigate to the Greenbelt Metro Station, including Greenbelt Metro Drive and the residential Lackawanna Street. A walkway extension that leads to the Greenbelt Metro Station via a pedestrian tunnel underneath the Metrorail and CSX rail lines connects Lackawanna Street and the Hollywood neighborhood with the Greenbelt Metro Station.

In addition to those places where the sidewalk network is fragmented or not accommodated, the Metrorail and rail tracks and wide expanses of parking and parkland on the site divide the area and make non-motorized transportation difficult. Overall the sidewalks in the study area are in decent condition, but there are a few areas within the study area that lack connecting walkways at intersections and sidewalks that are not the recommended minimum width of 5.0 feet wide (FHWA 2006).

ADA Compliance

Refer to section 3.10.4.3 for the Americans with Disabilities Act (ADA) compliance guidelines. The intersection of Greenbelt Metro Drive and Cherrywood Lane, now a roundabout, was recently improved and meets all ADA regulations but does not provide pedestrian crossings on the eastern side of the roundabout. The remaining intersections that have pedestrian facilities such as crosswalks, ramps, and signs/signals) are not ADA compliant (USDOJ 2007).

The minimum sidewalk width recommendation, as determined by FHWA, is met within most of the study area. However, residential community sidewalks, including all sidewalks within Hollywood Park, Cherrywood Lane, Breezewood Drive, and Springhill Lane, were less than 5.0 feet. Because many of the sidewalks narrower than 5.0 feet wide do not have these turn-around locations, they are also not ADA compliant.

GREENBELT BICYCLE NETWORK

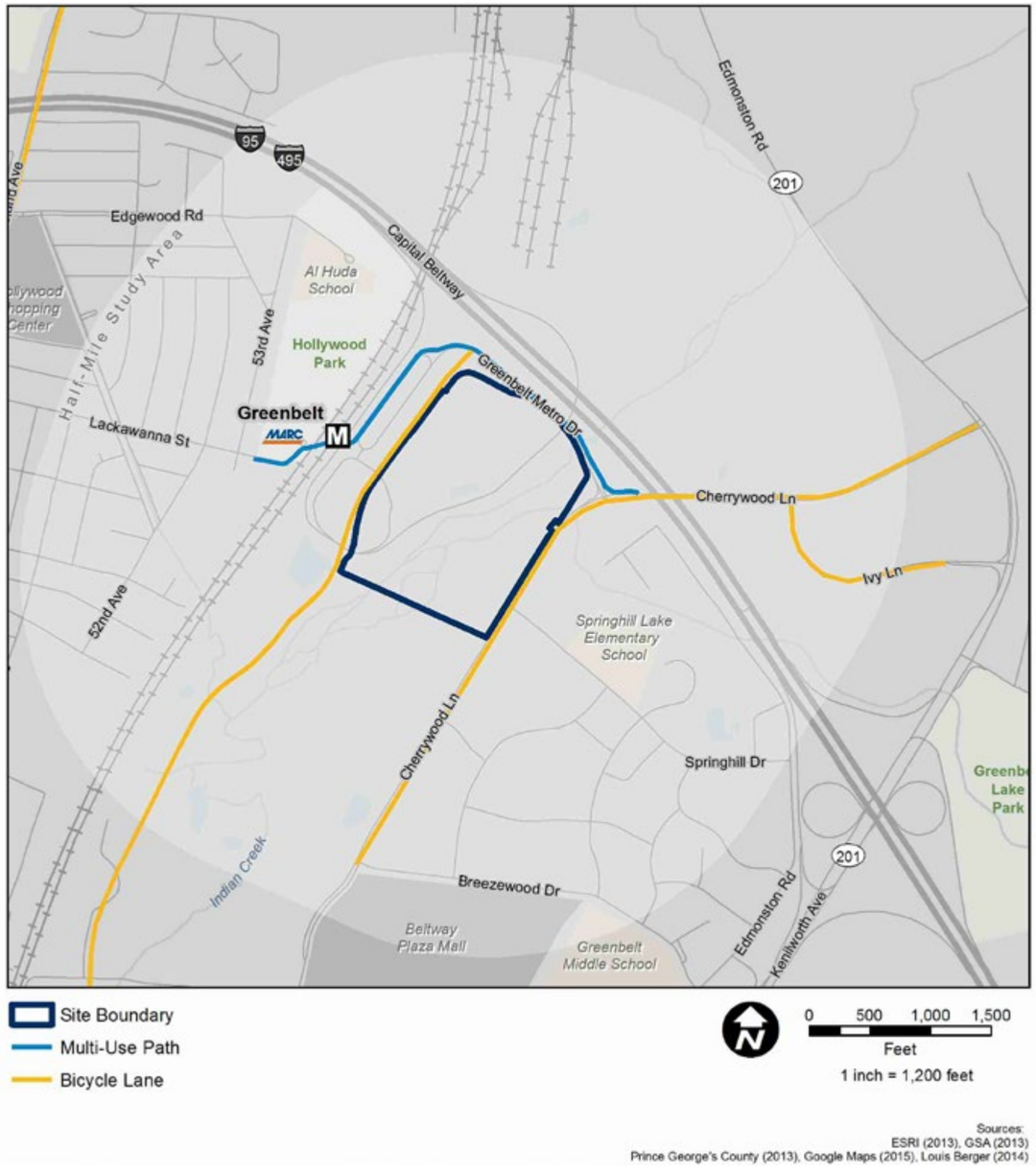
- There are several multi-use paths and roadways with bicycle accommodations in the Greenbelt study area, including bicycle lanes on Cherrywood Lane and Ivy Lane and multi-use paths along Greenbelt Metro Drive and a small section of Lackawanna Street.

Table 5-15: Bicycle Facilities in the Greenbelt Site Study Area

Name	To/From	Type
Cherrywood Lane	Edmonston Road to Breezewood Drive	Bicycle Lanes
Ivy Lane	From Cherrywood Lane to Turner Place	Bicycle Lanes
Greenbelt Metro Drive	From Cherrywood Lane to Greenbelt Metro Station	Multi-Use Path
Lackawanna Street Connector	From Lackawanna Street to Greenbelt Metro Station	Multi-Use Path

Source: Site Visit (December 19, 2014); Google Maps

Figure 5-25: Bicycle Facilities in the Greenbelt Study Area



5.1.9.6 Bicycle Network

There are several multi-use paths and roadways with bicycle accommodations in the Greenbelt study area (see table 5-15 and figure 5-25). Cherrywood Lane and Ivy Lane both have bicycle lanes, although they do not run the full length of the roadways. Greenbelt Metro Drive has a multi-use path along its northern side leading to the Greenbelt Metro Station, and an additional multi-use path connects Lackawanna Drive with the Greenbelt Maryland Area Regional Commuter (MARC) station and adjacent Greenbelt Metro Station from the west. There is no bikeshare service in the non-vehicular study area.

However, there are bicycle lanes just beyond the study area along Rhode Island Avenue between Paducah Road (two blocks north of the road's intersection with I-495) and MD 193 (University Boulevard) and intermittent bicycle lanes between Paducah Road and Sunnyside Avenue as shown on figure 5-25. There are also several multi-use paths just outside the study area including the Indian Creek Trail to the south, the College Park Trolley Trail (south of MD 193), and the Paint Branch Trail (west of Rhode Island Avenue).

5.1.9.7 Public Transit

This section describes the Existing Condition of Metrorail, rail, local and commuter bus, shuttles, ridesharing (slugging), and carsharing within the Greenbelt study area. The main transit hub in the study area is the Greenbelt Metro Station, adjacent to the Greenbelt site, which collectively consists of the Greenbelt Metro Station and parking lot, the MARC station, and the bus stops at the Greenbelt Metro Station served by various providers.

Greenbelt Metro Station

The WMATA Metrorail Green line serves the Greenbelt Metro Station during all operating hours, and the Yellow line serves the station during peak periods, as shown in figure 5-26.

Greenbelt Metro Station Frequency of Service

During peak periods, a Green line train serves the Greenbelt Metro Station every 6 minutes and a Yellow line train every 10 minutes, effectively making the wait time for a train only 4 minutes, 16 trains arriving hour (WMATA 2014a). During midday and evening hours, trains serve the station every 12 minutes, but after 9:30 PM, trains serve the station every 20 minutes. On weekends, Green line trains serve the station every 12 to 20 minutes. Table 5-16 summarizes frequencies and spans of service by line at Greenbelt Metro Station.

Greenbelt Metro Station Ridership

Ridership details for Greenbelt Metro Station were obtained from WMATA for October 2014 (WMATA 2014b). Average weekday boardings (entries) at the station during this period totaled 6,098 passengers, and average weekday alightings (exits) totaled 6,031.

Table 5-16: Metrorail Frequency of Service at Greenbelt Metro Station

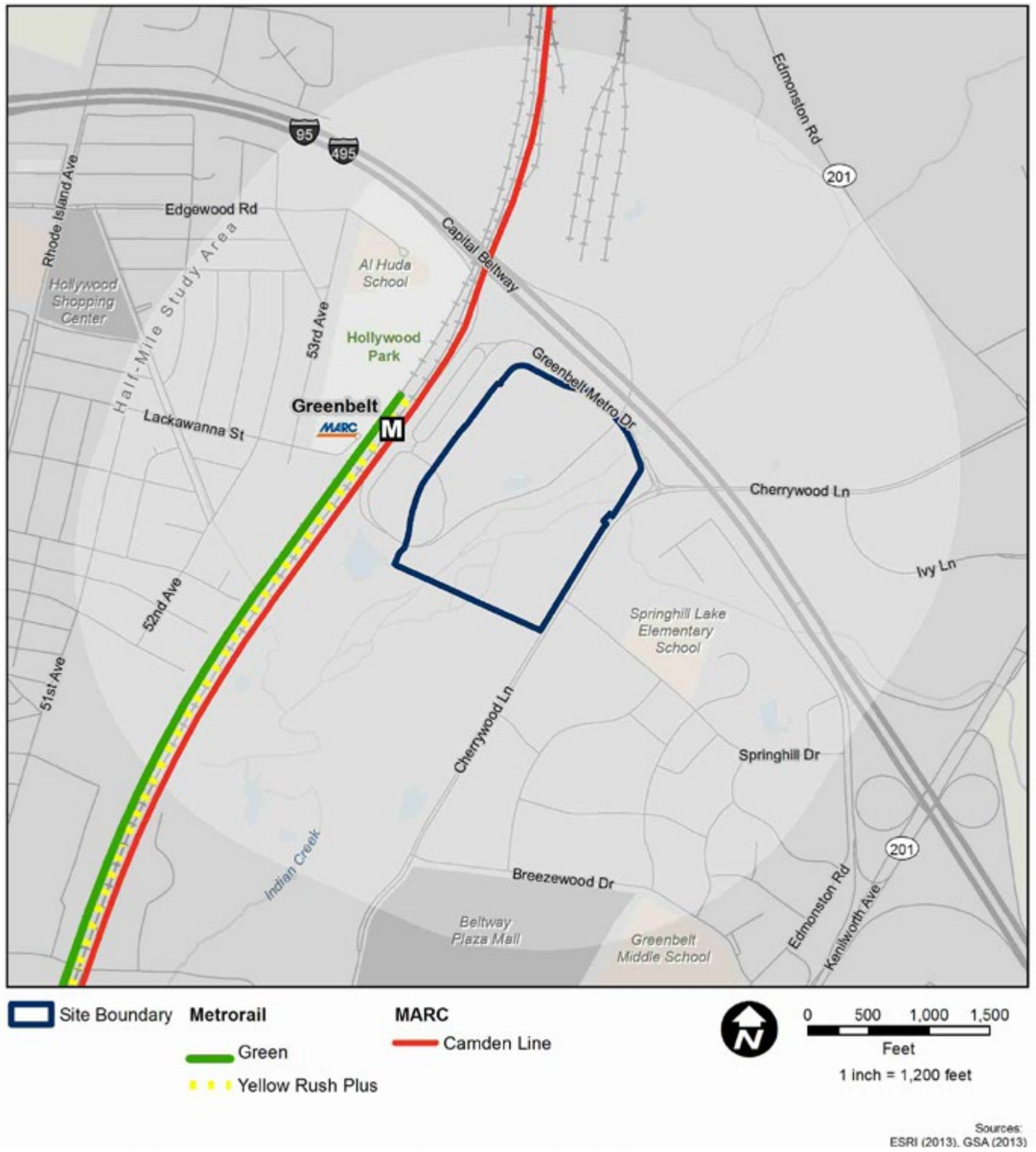
Day	Period	Span of Service	Headway (Minutes)		
			Green	Yellow Rush +	Effective Headway
Weekday	Peak	5:00 AM to 9:30 AM / 3:00 PM to 7:00 PM	6	10	4
	Midday	9:30 AM to 3:00 PM	12	-	-
	Evening	7:00 PM to 9:30 PM	12	-	-
	Late Night	9:30 PM to 12:00 AM[a]	20	-	-
Saturday	Daytime	7:00 AM to 9:30 PM	12	-	-
	Late Night	9:30 PM to 3:00 AM	20	-	-
Sunday	Daytime	7:00 AM to 9:30 PM	15	-	-
	Late Night	9:30 PM to 12:00 AM	20	-	-

[a] *Service is extended to 3:00 AM on Fridays*

Note: Effective headways are only necessary when two Metrorail lines serve the station. Effective headways are calculated by dividing an hour (60 minutes) by the total number of trains that are scheduled to serve the station during an hour (6 minute headway = 10 trains|hour, 10 minute headway = 6 trains|hour, 10+16 = 16 trains|hour and 60 ÷ 16 = 3.75 minute headways).

Source: WMATA (2014a)

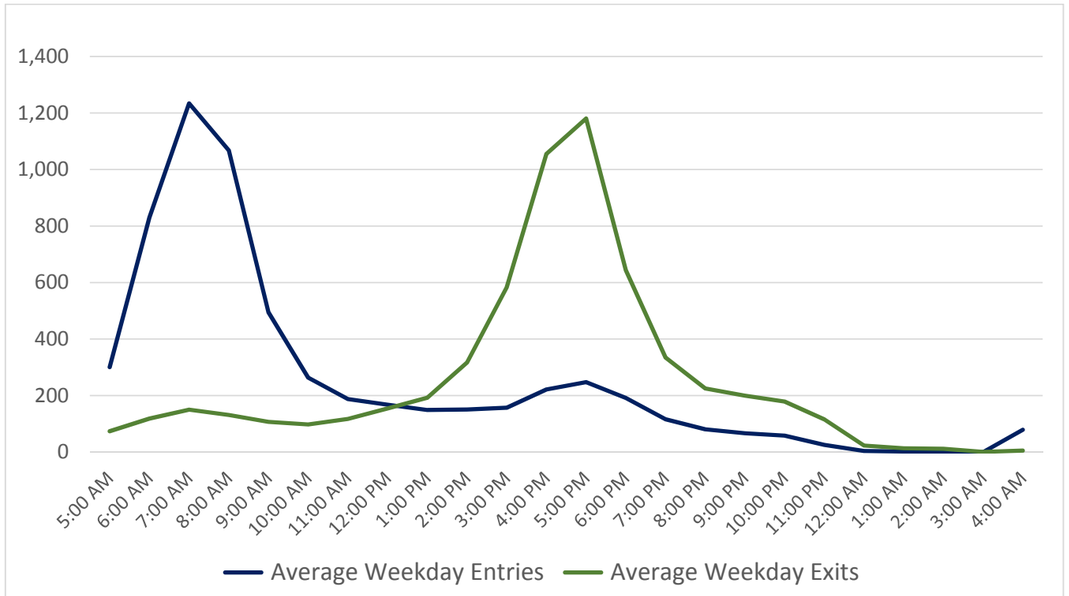
Figure 5-26: Greenbelt Metro Station Location



GREENBELT PUBLIC TRANSIT

- Public transportation facilities in the study area include Metrorail; commuter rail; shuttles; and local, intercity, and commuter buses. Additionally, car sharing exists from Enterprise CarShare.
- The Greenbelt site is located adjacent the Greenbelt Metro Station. The WMATA Metrorail Green line serves the Greenbelt Metro Station during all operating hours, and the Yellow line serves the station during peak periods.
- At Greenbelt Metro Station, weekday entries peak between 7 AM and 8 AM. Weekday exits peak between 5 PM and 6 PM.

Figure 5-27: Average Weekday Entries and Exits by Hour at Greenbelt Metro Station



Source: WMATA (2014b)

The majority of entries at Greenbelt occur during the morning hours, with the highest amount occurring between 7:00 AM and 8:00 AM (1,234 entries), and 8:00 AM and 9:00 AM (1,068 entries). By 9:00 AM, entries drop to 495. The number of entries continues to drop steadily into the afternoon, evening, and late-night hours. These patterns indicate that Greenbelt Metro Station primarily serves suburban commuters who work in the District or other jurisdictions south of the station.

The majority of exits from the Greenbelt Metro Station occur between 4:00 PM and 5:00 PM (1,055 exits) and between 5:00 PM and 6:00 PM (1,181 exits). By 6:00 PM, exits drop to 644. Exits total around 100 passengers between 5:00 AM and 3:00 PM and then steadily increase before peaking between 5:00 PM and 6:00 PM. They then steadily drop into the evening and late night periods. Like entries, exit patterns are consistent with suburban commuting patterns. Figure 5-27 summarizes average weekday entries and exits at Greenbelt Metro Station by hour.

Greenbelt Metro Station Capacity Analysis

A Metrorail station capacity analysis was conducted at Greenbelt Metro Station according to the methodology described in section 3.9.3.1. The peak 15-minute ridership period for total ridership activity (entries and exits) was between 5:00 PM and 5:15 PM. At Greenbelt Metro Station, there is a single set of vertical elements (escalators and stairs), between the Metrorail platform and the mezzanine, which is located at street level. During the peak 15-minute analysis period none of the vertical elements, faregate aisles, or fare vending machines are above capacity, defined at a volume-to-capacity (v/c) ratio of 0.7. Additionally, there is sufficient capacity to accommodate the peak number of passengers simultaneously on the platform at pedestrian level of service (LOS) B. Appendix C, the Greenbelt Transportation Impact Assessment (TIA), contains further details on the Greenbelt Metro Station capacity analysis.

The Greenbelt TIA (Appendix C) also contains the Greenbelt Metro Station mode of access, station infrastructure, bus loop, peak 15-minute ridership by station entrance, Metrorail origin-destination data, and emergency evacuation analysis.

Commuter Rail

The MARC train serves the Greenbelt Station on the Camden Line. The Camden Line connects Baltimore, Maryland, at Camden Station to Washington, D.C., at Union Station. Northbound trips (Washington to Baltimore) serve the station seven times each weekday: three times during the AM peak period and four times during the PM peak period (Maryland DOT n.d.). Southbound trips between Baltimore and Washington also serve the station seven times each weekday: four times during the AM peak period and three times during the PM peak period. Northbound trips serve the station between 6:49 AM and 8:16 AM and again between 5:01 PM and 8:01 PM. Southbound trips serve the station between 5:42 AM and 8:50 AM and again between 4:10 PM and 6:57 PM.

The MARC platforms are at ground level just to the west of the Greenbelt Metro Station. A walkway connects the Metro station mezzanine with the northbound platform, and a tunnel beneath the tracks connects the northbound platform to the southbound platform. A pedestrian sidewalk also connects the southbound platform and tunnel to Lackawanna Street. The MARC Greenbelt Station has no buildings, restrooms, or ticket kiosks and is unstaffed.

Bus: Local

The Greenbelt site is served by many Metrobus lines, Prince George's County TheBus service, and the Regional Transit Authority of Central Maryland (RTA) service. All bus routes stop at the Greenbelt Metro Station bus loop, allowing for easy transfers between bus and rail. Most of the bus routes serve the City of Greenbelt and other surrounding areas of Prince George's County. Metrobus routes 87, 89, and 89M connect Greenbelt to the City of Laurel, and Metrobus routes G12, G14, and G16 connect Greenbelt to the City of New Carrollton. Metrobus route B30 connects Greenbelt with BWI Thurgood Marshall International Airport in Anne Arundel County, Maryland, and the Maryland Transit Administration's Light Rail, which serves the Baltimore metropolitan area. Table 5-17 summarizes the major characteristics of bus routes serving the study area. Figure 5-28 illustrates bus routes serving the study area.

Bus Frequency of Service

Table 5-18 summarizes weekday headways (wait time between bus arrivals) and span of service (hours of operation) on routes that serve Greenbelt site. Headways represent the time between buses in minutes. Most routes operate throughout the day with peak service during the morning and evening rush hours, which fall between 6:00 AM and 9:00 AM and 3:00 PM and 7:00 PM, respectively. Some routes have limited or reduced service during the midday period (from 9:00 AM to 3:00 PM), including Metrobus Routes 87, 89, G13, G16, R11, and R3 which do not operate at all during this time. Metrobus Routes G12 eastbound and G16 westbound are the only routes that operate after 11:00 PM with each route operating one trip between 11:00 PM and 4:00 AM.

Metrobus Route C2 provides the most frequent service, with peak headways between 18 and 26 minutes. Several other routes provide 30-minute peak headways, including TheBus Routes 11 and 16 and Metrobus Routes 87 and G12.

Figure 5-28: Bus Routes Serving the Greenbelt Study Area

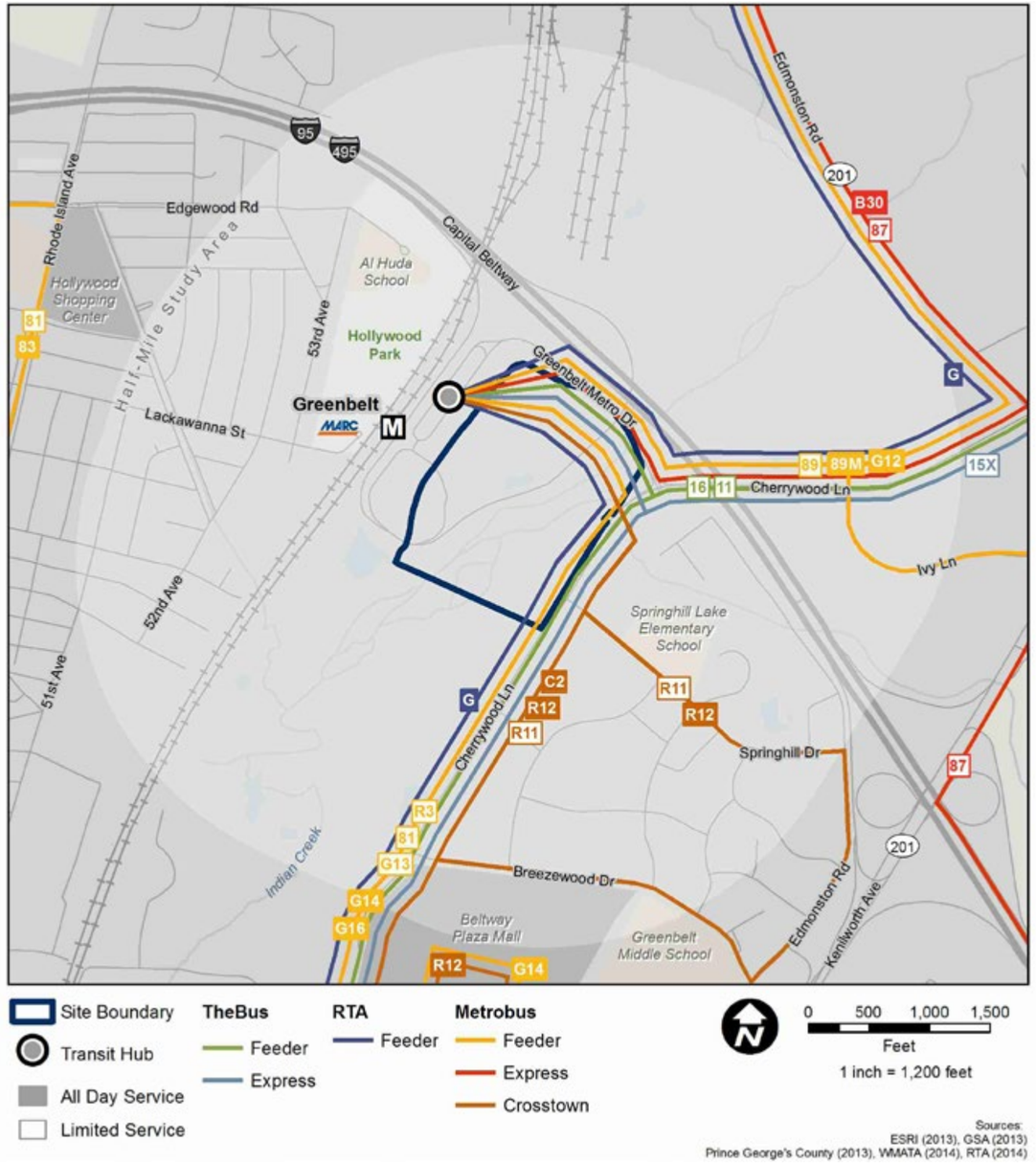


Table 5-17: Major Service Characteristics of Bus Routes Serving the Greenbelt Study

Route	Agency	Description	Route Type	Major Destinations
11	TheBus	Greenbelt	Feeder	Greenbelt Metro Station/Ivy Lane, Federal Courthouse, Greenway Center, Mandan Road
15X	TheBus	Goddard Space Flight Center	Express	Greenbelt Metro Station/Goddard Space Flight Center/New Carrolton Metro Station
16	TheBus	Greenbelt to New Carrolton	Feeder	New Carrollton Metro Station, Doctors Community Hospital, Beltway Plaza, Greenbelt Metro Station
81	WMATA	College Park Line	Feeder	Greenbelt Metro Station, University of Maryland, Rhode Island Avenue Metro Station
87	WMATA	Laurel Express	Express	Laurel Plaza, Greenbelt Metro Station, New Carrollton Metro Station
89	WMATA	Laurel	Feeder	Laurel Plaza, Laurel Mall, Greenbelt Metro Station
89M	WMATA	Laurel	Feeder	Laurel Park and Ride Lot, Laurel Plaza, Laurel Mall, Greenbelt Metro Station
B30	WMATA	BWI Marshall Express	Express	Greenbelt Metro Station, BWI Marshall Airport, BWI Business District Light Rail
C2	WMATA	Greenbelt-Twinbrook	Crosstown	Greenbelt Metro Station, Prince George's Plaza Metro Station, Twinbrook Metro Station
G12	WMATA	Greenbelt-New Carrollton	Feeder	Greenbelt Metro Station, Goddard Corporate Park, Doctors Community Hospital, New Carrollton Metro Station
G13	WMATA	Greenbelt-New Carrollton	Feeder	Greenbelt Metro Station, Goddard Corporate Park, Doctors Community Hospital, New Carrollton Metro Station
G14	WMATA	Greenbelt-New Carrollton	Feeder	Greenbelt Metro Station, Goddard Corporate Park, Doctors Community Hospital, New Carrollton Metro Station
G16	WMATA	Greenbelt-New Carrollton	Feeder	Greenbelt Metro Station, Goddard Corporate Park, Doctors Community Hospital, New Carrollton Metro Station
R11	WMATA	Kenilworth Avenue	Crosstown	Greenbelt Metro Station, Westchester Park, College Park Metro Station, Kenilworth Towers, Deanwood Metro Station
R12	WMATA	Kenilworth Avenue	Crosstown	Greenbelt Metro Station, Beltway Plaza, Westchester Park, College Park Metro Station, Deanwood Metro Station
R3	WMATA	Greenbelt-Prince George's Plaza	Feeder	Greenbelt Metro Station, Beltway Plaza, Archives II, Prince George's Plaza Metro Station
302/G	RTA	Laurel-College Park	Feeder	Towne Centre Laurel, Centre at Laurel, FDA Muirkirk Campus, College Park Metro Station, Greenbelt Metro Station

Source: Prince George's County (2013); RTA (2015); WMATA (2015)

Table 5-18: Frequency of Service on Bus Routes Serving the Greenbelt Study Area

Route & Direction	Agency	Weekday								Saturday		Sunday	
		Headways (minutes)						Number of Trips	Span of Service	Headway (Minutes)	Span of Service	Headway (Minutes)	Span of Service
		4 AM - 6 AM	6 AM - 9 AM	9 AM - 3 PM	3 PM - 7 PM	7 PM - 11 PM	11 PM - 4 AM						
11 Loop	TheBus	60	30	30	30	2 trips	-	30	5:18 AM to 8:29 PM	-	-	-	-
15X North	TheBus	-	36	2 trips	40	1 trip	-	14	6:00 AM to 7:35 PM	-	-	-	-
15X South	TheBus	-	36	2 trips	40	1 trip	-	14	6:00 AM to 7:35 PM	-	-	-	-
16 North	TheBus	-	30	51	30	2 trips	-	23	6:00 AM to 8:18 PM	-	-	-	-
16 South	TheBus	1 trip	30	51	30	2 trips	-	24	5:30 AM to 8:17 PM	-	-	-	-
87 North	WMATA	1 trip	36	-	30	1 trip	-	15	5:50 AM to 7:47 PM	-	-	-	-
87 South	WMATA	40	30	-	48	1 trip	-	15	4:46 AM to 7:45 PM	-	-	-	-
89 North	WMATA	1 trip	45	-	48	80	-	13	5:59 AM to 10:50 PM	-	-	-	-
89 South	WMATA	1 trip	45	1 trip	60	80	-	13	5:50 AM to 11:25 PM	-	-	-	-
89M North	WMATA	-	-	60	-	-	-	6	9:30 AM to 3:21 PM	-	-	-	-
89M South	WMATA	-	-	72	2 trips	-	-	6	10:26 AM to 4:13 PM	-	-	-	-
B30 North	WMATA	-	36	40	40	48	-	25	6:10 AM to 10:38 PM	40	8:45 AM to 10:35 PM	40	8:45 AM to 10:35 PM
B30 South	WMATA	-	45	40	40	40	-	25	6:54 AM to 11:19 PM	40	9:35 AM to 11:21 PM	40	9:35 AM to 11:21 PM
C2 East	WMATA	60	26	26	18	40	-	42	5:12 AM to 10:15 PM	27	6:10 AM to 9:39 PM	-	-
C2 West	WMATA	30	18	26	24	34	-	45	5:09 AM to 11:27 PM	27	6:50 AM to 11:02 PM	-	-
G12 East	WMATA	60	30	51	30	48	1 trip	29	5:15 AM to 11:54 PM	60	6:40 AM to 10:18 PM	-	-
G12 West	WMATA	60	30	51	27	2 trips	-	26	5:07 AM to 9:32 PM	60	6:32 AM to 10:22 PM	-	-
G13 East	WMATA	-	36	-	-	-	-	5	6:05 AM to 9:01 AM	-	-	-	-

Table 5-17: Frequency of Service on Bus Routes Serving the Greenbelt Study Area (continued)

Route & Direction	Agency	Weekday								Saturday		Sunday	
		Headways (minutes)						Number of Trips	Span of Service	Headway (Minutes)	Span of Service	Headway (Minutes)	Span of Service
		4 AM - 6 AM	6 AM - 9 AM	9 AM - 3 PM	3 PM - 7 PM	7 PM - 11 PM	11 PM - 4 AM						
G13 West	WMATA	60	45	-	-	-	-	6	5:04 AM to 8:21 AM	-	-	-	-
G14 East	WMATA	1 trip	90	60	40	-	-	15	5:48 AM to 6:31 PM	-	-	-	-
G14 West	WMATA	-	90	45	40	-	-	16	7:58 AM to 6:54 PM	-	-	-	-
G16 East	WMATA	-	-	-	120	60	-	6	6:00 PM to 10:25 PM	60	6:40 AM to 10:13 PM	-	-
G16 West	WMATA	-	-	-	1 trip	2 trips	1 trip	4	6:51 PM to 11:25 PM	60	6:39 AM to 10:20 PM	-	-
R11 North	WMATA	60	45	-	-	-	-	6	5:02 AM to 8:13 AM	-	-	-	-
R11 South	WMATA	40	36	-	-	-	-	8	4:59 AM to 9:12 AM	-	-	-	-
R12 North	WMATA	-	60	51	30	60	-	22	7:53 AM to 10:02 PM	60	8:10 AM to 9:53 PM	-	-
R12 South	WMATA	-	180	51	30	2 trips	-	18	8:53 AM to 9:13 PM	60	8:00 AM to 10:43 PM	-	-
R3 North	WMATA	1 trip	36	-	40	1 trip	-	13	5:48 AM to 7:45 PM	-	-	-	-
R3 South	WMATA	1 trip	36	-	40	-	-	12	5:46 AM to 6:54 PM	-	-	-	-
81 North	WMATA	-	-	-	-	-	-	-	-	-	-	60	8:21 AM to 7:11 PM
81 South	WMATA	-	-	-	-	-	-	-	-	-	-	60	8:52 AM to 5:40 PM
G North	RTA	-	-	-	-	-	-	0	-	45	9:42 AM to 6:35 PM	60	10:25 AM to 6:50 PM
G South	RTA	-	-	-	-	-	-	0	-	45	9:00 AM to 5:49 PM	60	10:00 AM to 6:24 PM

Source: Prince George's County (2013); RTA (2015); WMATA (2015)

Ridership by Route

Table 5-19 shows that Metrobus Route C2 (connecting Greenbelt with Prince George's Plaza and Twinbrook Stations) is the busiest route serving Greenbelt, carrying 5,271 passengers on an average weekday. Other busy routes include Metrobus Routes G14, G12, and R12, all of which connect Greenbelt to areas of Prince George's County that require downtown transfer between Metrorail lines in order to be accessed. The Metrobus routes that connect Greenbelt with Laurel (87, 89, and 89M) all have lower ridership. TheBus and RTA did not have ridership data available for this report.

Ridership by route and direction and stop level ridership can be found in the Greenbelt TIA (Appendix C).

Bus: Intercity

Currently, Bolt Bus provides intercity bus service between Greenbelt Metro Station Bus Bay H and New York, New York (Bolt Bus n.d.). Levels of service vary; however, six roundtrips are typically offered on weekdays, eight are typically offered on Saturdays, and nine are typically offered on Sundays.

Bus: Commuter

There are currently no commuter bus routes that serve the Greenbelt study area.

Shuttles

There are several shuttles that serve the Greenbelt study area, including University of Maryland (UMD) shuttles, USDA shuttles, and shuttles for local area residential developments (UMD 2015; USDA 2015; Franklin Park at Greenbelt Station 2015). UMD provides a shuttle at the Greenbelt Metro Station, which requires a UMD identification card. USDA provides a single shuttle between its facilities in Beltsville and the Greenbelt Metro Station. Passengers must present a USDA identification card. Table 5-20 provides details on shuttle service in the Greenbelt study area.

Table 5-19: Average Weekday Ridership by Bus Route Serving the Greenbelt Study Area

Route	Agency	Description	Average Weekday Boardings
C2	WMATA	Greenbelt-Twinbrook	5,271
G14	WMATA	Greenbelt-New Carrollton	1,598
R12	WMATA	Kenilworth Avenue	1,419
G12	WMATA	Greenbelt-New Carrollton	1,400
87	WMATA	Laurel Express	894
89	WMATA	Laurel	666
R11	WMATA	Kenilworth Avenue	560
B30	WMATA	BWI Marshall Express	554
G13	WMATA	Greenbelt-New Carrollton	490
89M	WMATA	Laurel	437
G16	WMATA	Greenbelt-New Carrollton	356
R3	WMATA	Greenbelt-Prince George's Plaza	309
11	TheBus	Greenbelt	N/A
15X	TheBus	Goddard Space Flight Center	N/A
16	TheBus	Greenbelt to New Carrolton	N/A
302/G	RTA	Laurel-College Park	N/A
RTA	302/G	Laurel-College Park	Greenbelt Metro Station

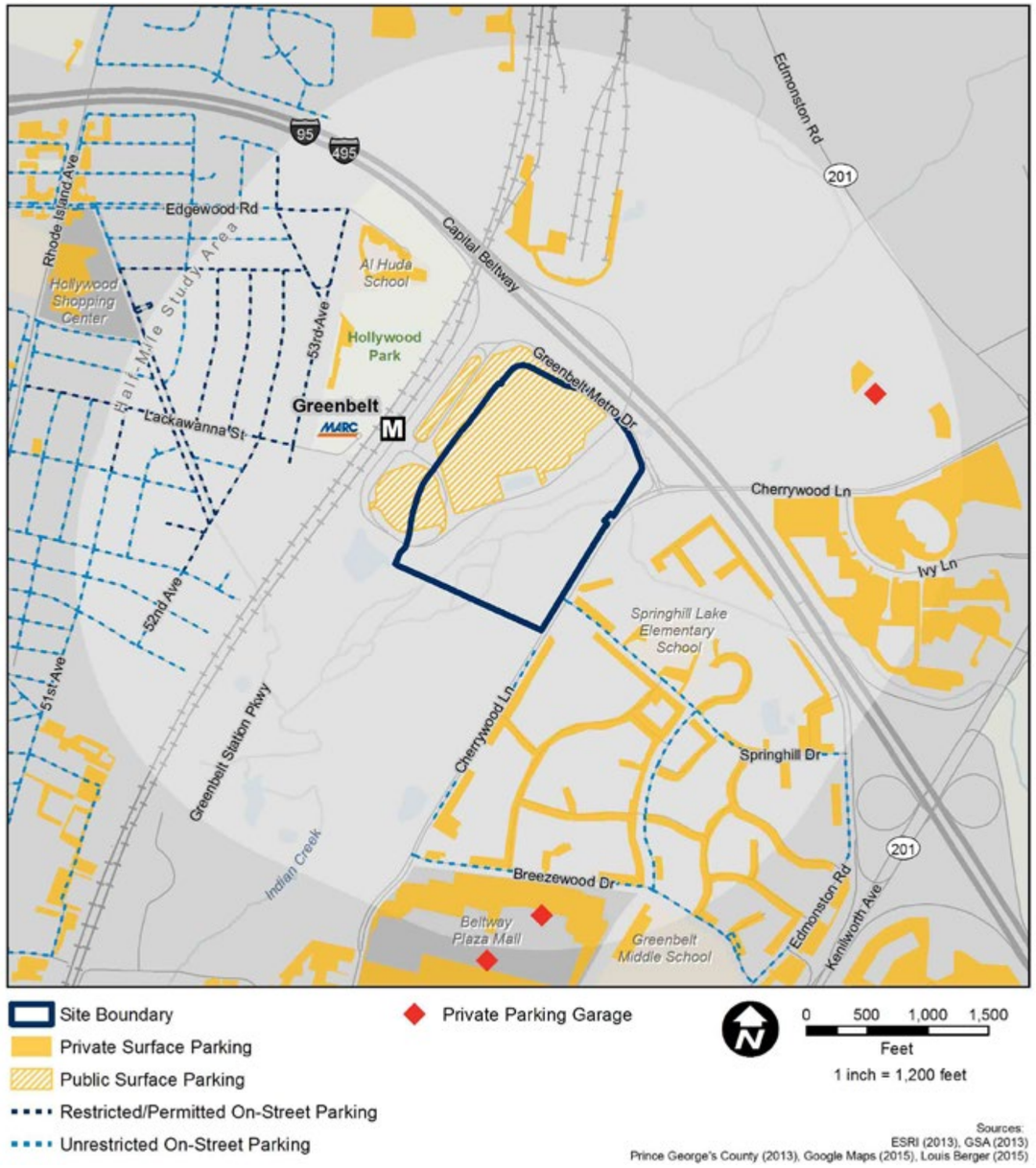
Source: WMATA (2014c)

Table 5-20: Shuttles Serving the Greenbelt Study Area

Agency/ Group	Route Name	Locations Served	Headway (Minutes)	Span of Service
UMD	129	College Park, Berwyn Heights, Greenbelt Station	70	6:40 AM to 11:00 PM (Mon-Thurs); 6:40 AM to 10:00 PM (Friday)
UMD	130	College Park, Goddard Space Flight Center	95	6:25 AM to 11:25 PM (Mon-Thurs); 6:25 AM to 10:15 PM (Friday)
USDA	Beltsville	Greenbelt Metro Station, USDA Offices, Beltsville Agricultural Center	30-60	6:42 AM to 6:08 PM (Mon-Fri)
Franklin Park	Resident Shuttle	Franklin Park at Greenbelt Station neighborhood, Greenbelt Metro Station	unknown	unknown

Source: Franklin Park at Greenbelt Station (2012); USDA (2015); University of Maryland (2015)

Figure 5-29: Parking in the Greenbelt Study Area



Ridesharing (Slugging)

There are no slugging routes in the study area.

Carsharing

Previously, Zipcar was the only carshare company servicing the Greenbelt site, with three cars parked in the Greenbelt Metro Station Park & Ride lot (Zipcar 2015). Beginning on June 1, 2015, WMATA began a new partnership with Enterprise CarShare and ended its partnership with Zipcar (WMATA 2015). Enterprise currently has two vehicles available at the Greenbelt Metro Station (Enterprise 2015).

5.1.9.8 Parking

Parking near the Greenbelt site includes the publicly accessible pay-to-park Greenbelt Metro parking lot, restricted surface lots, one parking garage, and on-street parking, as shown in figure 5-29. On-street parking, is limited to parallel parking in the study area and includes permit-only on-street parking and non-restricted on-street parking. Information about parking in the study area was gathered through the use of Google Maps that consisted of images from summer 2012 as well as on-site observations in April 2015.

Within 0.5 mile of the Greenbelt site, there are a variety of restricted surface parking lots. The closest surface parking is the Greenbelt Metro Station lot on the Greenbelt site. There are more than 3,300 surface parking spaces available, although all spots are reserved for those intending to use the Metrorail or Metrobus services, or other transit that leaves from this area including the MARC commuter rail, other local buses, local shuttles, and intercity bus service (Bolt Bus) (WMATA 2015). Individuals parking at the Greenbelt Metro Station surface lot must pay for parking during the week, but weekend parking is free.

Due east of the Greenbelt site and south of Cherrywood Lane are private and permitted surface parking lots for Capital Office Park. North of Cherrywood Lane are two private parking lots and one private parking garage for the U.S. District Court for the District of Maryland. The surface lots have approximately 180 spaces in total; the parking garage has several hundred spaces available.

Located due north of the Greenbelt site is the WMATA Greenbelt Rail Yard. There are several surface parking lots throughout the Rail Yard which contain more than 300 parking spots combined. The Rail Yard is 0.2 to 0.5 mile away as the crow flies from the Greenbelt site; however, the Capital Beltway acts as a barrier, making the traveling distance between the sites farther than 0.5 mile. Furthermore, parking at the Rail Yard is restricted and is not accessible unless the driver has been granted clearance by WMATA.

There are primarily two neighborhoods with street parking surrounding the Greenbelt site: Hollywood in College Park to the west and Franklin Park at Greenbelt Station in Greenbelt to the east. Although Hollywood is separated from the Greenbelt site by the Metrorail, it is only approximately a 0.1-mile walk from the Greenbelt site due to the walkway extension via a pedestrian tunnel underneath the Metrorail and CSX rail lines. Street parking along Lackawanna Street, Wichita Avenue, 51st Place, 52nd Avenue, 52nd Place, 53rd Avenue, Mangum Road, Narragansett Parkway, and surrounding streets, is permit parking only and is enforced differently depending on the permit restrictions in the area, as shown in table 5-21. There is open parking along Mineola Road, 51st Avenue, Hollywood Road, 50th Avenue, 50th Place, Kenesaw Street, Iroquois Street, Huron Street, and surrounding streets farther out from the Greenbelt Metro Station. Franklin Park, east of the Greenbelt site, has a mixture of public parking, permit parking, and restricted parking. The lots for the apartment complexes require a permit, while the majority of on-street parking allows public parking. There also appears to be available street parking on Springhill Lane, Breezewood Drive, and portions of Springhill Drive. Parking on the school properties within both the Hollywood neighborhood and Franklin Park is intended for the users of the school during school hours and are not public parking lots during those times. There is also some limited on-street parking on the eastern (northbound) side of Cherrywood Lane.

To the south of the Greenbelt site, a portion of the Beltway Plaza Mall is located within 0.5 mile of the site. There are more than 1,000 parking spots available at this location in both surface parking lots and two parking garages. The Beltway Plaza Mall parking is meant for use to those using the mall; however, there are no parking permits in use or posted restrictions for the lot.

5.1.9.9 Truck Access

Due to the nature of the site's current use, trucks rarely access the Greenbelt site. Therefore there are no specific truck access routes established for the site.

Table 5-21: Permit Types in Hollywood Neighborhood in College Park

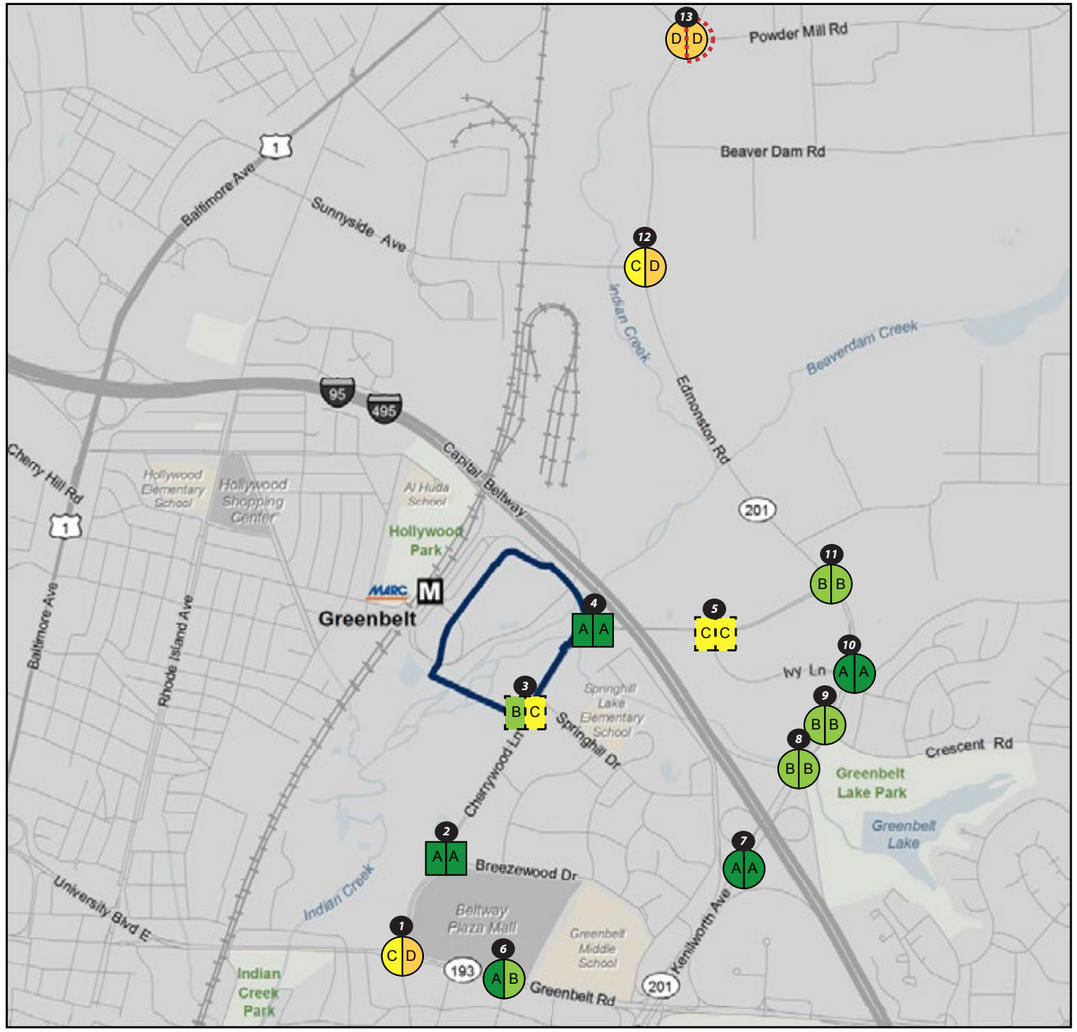
Permit Type	Restriction	Associated Roads
2	Monday – Friday 6:30 AM – 9:30 AM 4:00 PM – 7:00 PM	51st Place, 52nd Place, 52nd Avenue, Wichita Ave, Mangum Road, Narragansett Parkway
2A	Monday – Friday 6:30 AM – Midnight	53rd Avenue, Narragansett Parkway
2B	Monday – Friday 6:30 AM – 7:00 PM	53rd Avenue, Lackawanna Street, Narragansett Parkway, Kennebunk Terrance
3	Monday – Saturday 6:30 AM – Midnight	52nd Avenue, Lackawanna Street
3A	Daily 6:00 AM – Midnight	52nd Avenue, 53rd Avenue, Lackawanna Street
4	May 1 – September 1 Monday – Friday: 5:00 PM – 10:00 PM Saturday: 10:00 AM – 10:00 PM	Cree Lane, Cheyenne Place

Note: Permit types changed in the middle of roads; therefore, associated roads can be listed multiple times under different permit types.
Source: Site Visit (April 29, 2015)

GREENBELT PARKING

- Parking near the Greenbelt site includes the publicly accessible pay-to-park Greenbelt Metro parking lot, restricted surface lots, three parking garages, and on-street parking.
- Within a 0.5-mile radius of the Greenbelt site, there are a variety of restricted and unrestricted surface parking lots as well as permitted and non-permitted residential on-street parking.

Figure 5-30: Greenbelt Existing Condition Intersection LOS for AM and PM Peak Hours



5.1.9.10 Traffic Analysis

Section 3.10.4.3 explains the analysis, tools, concepts, and definitions for analyzing the traffic operations as well as the process used to analyze the study area intersections. The 13 Existing Condition intersections analyzed consisted of nine signalized intersections and four unsignalized intersections. The following section provides the traffic analysis results for the Existing Condition. The analysis for the freeways is performed in the Greenbelt TIA (Appendix C).

The 13 Existing Condition intersections analyzed consisted of nine signalized intersections and four unsignalized intersections.

Intersection Operations Analysis

Section 3.10.4.3 introduces the traffic analysis methods used for each study area intersection and which tools were used to obtain the results. Based on the Synchro™ and Critical Lane Volume (CLV) analysis, the majority of study intersections operate at acceptable overall conditions during the morning and afternoon peak hours. However, the following intersection in the study area operates with overall unacceptable conditions:

- Edmonston Road (MD 201) and Powder Mill Road fails (Intersection #13) during the PM peak hour

A total of five signalized intersections experience unacceptable conditions for one or more turning movements. The Greenbelt TIA (Appendix C) contains a more detailed Existing Condition traffic operations analysis.

The overall intersection LOS grade are depicted in figure 5-30 for AM and PM peak hours. Table 5-22 shows the results of the LOS capacity analysis and the intersection vehicle delay for the existing conditions during the AM and PM peak hours.

Intersection Queuing Analysis Method

Section 3.10.4.3 introduces the queuing analysis methods used for each study area intersection and which tools were used to obtain the results. Based on the Synchro™ and SimTraffic™ analysis, two signalized intersections (Edmonston Road [MD 201] and Sunnyside Avenue [Intersection #12] during both peak periods and Edmonston Road [MD 201] and Powder Mill Road [Intersection #13] durng both peak periods) would experience queuing lengths that would exceed the available storage capacity. The remaining intersections in the study area would provide sufficient storage for the anticipated demand. The Greenbelt TIA (Appendix C) contains a more detailed existing condition traffic queuing analysis.

Table 5-22: Existing Condition AM and PM Peak Hour Operations Analysis

#	Intersection	AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV		Check	HCM 2000		CLV		Check
		Delay (sec/ veh)	LOS	Critical Lane Volume	LOS		Delay (sec/ veh)	LOS	Critical Lane Volume	LOS	
1	**Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)**										
		30.6	C	1,175	C	Pass	37.4	D	1,279	C	Pass
2	**Cherrywood Lane & Breezewood Drive (AWSC)**										
		9.6	A	N/A	N/A	Pass	10.0	A	N/A	N/A	Pass
3	**Cherrywood Lane & Springhill Drive (TWSC)**										
		3.5	-	N/A	N/A	Pass	4.6	-	N/A	N/A	Pass
4	**Cherrywood Lane & Greenbelt Metro Drive (Roundabout)** [a]										
		3.5	A	N/A	N/A	Pass	7.6	A	N/A	N/A	Pass
5	**Cherrywood Lane & Ivy Lane (TWSC)**										
		1.8	-	N/A	N/A	Pass	2.7	-	N/A	N/A	Pass
6	**Greenbelt Road (MD 193) & 62nd Avenue/Beltway Plaza Driveway (Signalized)**										
		8.2	A	648	A	Pass	19.1	B	1,085	B	Pass
7	**Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)**										
		8.5	A	639	A	Pass	8.0	A	572	A	Pass
8	**Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)**										
		17.9	B	888	A	Pass	14.7	B	784	A	Pass
9	**Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)**										
		18.9	B	875	A	Pass	17.6	B	748	A	Pass
10	**Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)**										
		4.4	A	824	A	Pass	2.2	A	799	A	Pass
11	**Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)**										
		10.3	B	884	A	Pass	13.0	B	848	A	Pass
12	**Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)**										
		29.3	C	1,317	D	Pass	46.8	D	1,510	E	Pass
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**										
		51.9	D	1,487	E	Pass	53.3	D	1685.0	F	**Fail**

Notes:

AWSC = All-way STOP-Controlled unsignalized intersection

LOS = Level of Service

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)

Delay is Measured in Seconds Per Vehicle.

Red cells denote intersections operating at unacceptable conditions.

[a] Highway Capacity Software 2010 results

Table 5-23: Prince George's County, Maryland: First and Second Highest Ozone and $PM_{2.5}$ Concentrations, 2010 to 2014

Monitoring Station		Year				
		2010	2011	2012	2013	2014
#240330025 – Bladensburg Fire Department, Prince George's County, MD	24-Hour $PM_{2.5}$ (µg/m³)	35.7 / 32.4	27 / 25.4	No data available	No data available	No data available
#240330030 – Howard University's Beltsville Laboratory, Prince George's County, MD	8-Hour Ozone (ppm) 24-Hour $PM_{2.5}$ (µg/m³) Annual Average $PM_{2.5}$ (µg/m³)	0.094 / 0.091 34.4 / 20.3 17.2 / 14.4	0.094 / 0.091 24.7 / 24.3 24.3 / 15.1	0.091 / 0.085 25 / 22.3 25 / 22.1	0.074 / 0.072 22.2 / 20.1 21.7 / 18.5	0.071 / 0.066 18.1 / 17.4 13.9 / 13.0
#240338003 – Prince George's County Equestrian Center, Prince George's County, MD	8-Hour Ozone (ppm) 24-Hour $PM_{2.5}$ (µg/m³) Annual Average $PM_{2.5}$ (µg/m³)	0.090 / 0.090 21.4 / 21.3 19.3 / 18.6	0.095 / 0.092 28.8 / 25.8 15.0 / 13.9	0.104 / 0.091 24.7 / 23.8 14.8 / 14.7	0.072 / 0.070 23.5 / 20.4 16.6 / 15.0	0.076 / 0.074 15.4 / 14.0 15.9 / 13.2
#240339991 – Powder Mill Road, Prince George's County. MD	8-Hour Ozone (ppm)	N/A	0.092 / 0.086	0.097 / 0.085	0.077 / 0.077	0.071 / 0.070

Note: The highest and second highest values are shown. µg/m³ = micrograms per cubic meter; ppm = parts per million; First Value/Second Value = First Highest/Second Highest concentrations
Source: USEPA 2014a

GREENBELT GREENHOUSE GAS EMISSIONS AND AIR QUALITY

- There is broad scientific consensus that humans are changing the chemical composition of the earth's atmosphere. Activities such as fossil fuel combustion, deforestation, and other changes in land use are resulting in the accumulation of trace GHGs, such as CO_2, in the atmosphere.
- Prince George's County is within the same airshed (AQCR 47) as the JEH parcel.
- An Air Quality Index (AQI) over 200 has not been recorded in the area in the 2010-2014 period.

Table 5-24: AQI Data for Prince George's County, MD

Year	AQI - 101 to 150 Unhealthy for Sensitive Groups (days)	AQI - 151 to 200 Unhealthy (days)
2010	20	0
2011	16	1
2012	16	1
2013	2	0
2014	1	0

Source: EPA (2014a)

UNHEALTHY AIR QUALITY

An AQI value above **151** is considered **unhealthy**. At this point, everyone may begin to experience health effects and members of sensitive groups may experience more serious health effects.

5.1.10 Greenhouse Gas Emissions and Air Quality

The following sections describe the affected environment for air quality and greenhouse gases (GHGs) relevant to the Greenbelt site.

5.1.10.1 Greenhouse Gases

There are currently no stationary sources for GHG emissions at the Greenbelt site. There are mobile source emissions associated with the portion of Greenbelt Metro Station vehicular traffic using the existing surface parking lot within the site boundary. However, due to incomplete data, including the daily number of vehicles parking within the site boundaries, and the origins of those trips, these emissions cannot be quantified without further study.

5.1.10.2 Air Quality

All sites considered in this EIS are within the same airshed (Air Quality Control Region [AQCR] 47); all airshed-wide indicators are provided in section 3.11.2. Air quality data specific to Prince George's County is provided within this section.

Existing Ambient Air Quality Concentrations

Ambient air quality is monitored in the study area by stations meeting USEPA's design criteria for State and Local Air Monitoring Stations and National Air Monitoring Stations. There are four monitoring stations located within Prince George's County that measure ozone (O_3), particulate matter ($PM_{2.5}$), and meteorological conditions in the County. The highest and second highest values recorded at these stations during the period 2010 through 2014 are shown in table 5-23, which shows a general decline in the pollutant concentration over the last 3 years.

Regional Air Quality Index Summary

As described in section 3.11.2, USEPA calculates the AQI for five major air pollutants regulated by the Clean Air Act (CAA). Table 5-24 displays the recent AQI data for Prince George's County and shows that an AQI over 200 (e.g., very unhealthy) has not been recorded in the area in the 2010-2014 period.

5.1.11 Noise

Noise in the vicinity of the Greenbelt site is regulated by Greenbelt Ordinance Number 11.5. The noise ordinance permits construction noise, including the delivery and operation of machinery from 7:00 AM to 6:00 PM on weekdays unless prior permission to operate on prohibited days or times has been given by the city manager or code official (City of Greenbelt n.d.). Section 11.5-6 establishes maximum sound levels; maximum daytime noise levels are limited to 65 A-weighted decibels (dBA) and maximum nighttime levels (between 9:00 PM and 7:00 AM on weekdays and to 9:00 AM on weekends) are limited to 55 dBA.

The primary noise sources within the vicinity include the vehicular traffic along I-495, the WMATA Metrorail and CSX rail lines to the west, and the WMATA rail yard to the north. The Greenbelt site itself consists of surface parking and undeveloped land. Noise generated at the site consists of vehicular traffic and operations within the existing surface parking area.

Sensitive noise receptors in the study area include the Springhill Lake Elementary School and Franklin Park multi-family residential dwellings, approximately 400 feet to the east, and Hollywood Park, the Al-Huda School, and Hollywood single-family residential dwellings approximately 300 to 400 feet west of the site.

5.1.12 Infrastructure and Utilities

The following sections describe the affected environment for infrastructure and utilities for the Greenbelt site. Infrastructure and utilities include water, wastewater, electric power, natural gas, telecommunications, and stormwater management.

5.1.12.1 Water Supply

Water service for the Greenbelt site is provided by the Washington Suburban Sanitary Commission (WSSC). WSSC provides regionalized water supply and distribution systems for the communities surrounding the District of Columbia in Montgomery and Prince George's Counties and now serves more than 430,000 customers with 5,600 miles of water mains within its distribution network (WSSC 2015b). WSSC operates two water filtration plants: the Potomac Water Filtration Plant and the Patuxent Water Filtration Plant (WSSC 2015b). The Patuxent plant has a maximum production of 100 million gallons per day (MGD) and the Potomac plant can produce up to 283 MGD. Average daily demand on the system is approximately 170 MGD (WSSC 2015c).

The Potomac River serves as WSSC's main raw water supply source, but other active and reserve sources are available. The Little Seneca Creek Dam and Reservoir provide an additional 4.25 billion gallons of storage to supplement the flow of the Potomac River during dry periods when flow in the river would be reduced. Another 30 billion gallons of water is available to the WSSC from the Jennings Randolph Reservoir operated by USACE. Raw water for the Patuxent Water Filtration Plant comes from the Patuxent River with storage provided by reservoirs associated with the Brighton and T. Howard Duckett Dams (WSSC 2015a).

The existing distribution system does not serve the Greenbelt site. The closest water main to the site is a 10-inch main along Cherrywood Lane. An additional 12-inch main along Springhill Drive connects to the Cherrywood Lane main. Based on available mapping and information provided by WSSC, these water mains are connected to a 20-inch main at Edmonston Road, which is ultimately supplied by a 96-inch aqueduct running parallel to the north side of the Capital Beltway. There is an additional 12-inch water main south of the site that is associated with the South Core residential development, which is supplied by a 24-inch water main along Branchville Road (WSSC 2015d).

5.1.12.2 Wastewater Collection and Treatment

Wastewater service for the Greenbelt site would also provided by WSSC, although there is no service there currently. The current WSSC sanitary service area serves 1.8 million people and consists of 1,000 square miles with 5,400 miles of sewer mains, 47 pump stations, and 6 wastewater treatment plants. All of the wastewater collection facilities within the WSSC service area are separate from the stormwater system. The wastewater treatment plants use advanced biological nutrient removal technologies and have a combined capacity of 89 MGD. Wastewater from this site is treated at the DC Water Blue Plains Advanced Water Treatment Plant (AWTP). Approximately 65 percent of WSSC's total wastewater volume is conveyed to this plant (WSSC 2015e) and approximately 170 MGD of the Blue Plains AWTP capacity has been allocated to WSSC. According to information provided by WSSC, the Greenbelt Metro Station, just west of the site boundary, is currently served by an 8-inch gravity sewer that connects to an 18-inch and 24-inch interceptor on the west side of the railroad tracks. The only connection points for the Greenbelt site are parallel 48-inch and 30-inch trunk sewers located east of the site near Cherrywood Lane. All of these sewers convey wastewater southward, eventually discharging into the Hyattsville pump station (WSSC 2015d).

GREENBELT NOISE

- Noise in the vicinity of the site is regulated by Greenbelt Ordinance Number 11.5, which permits construction noise, including the delivery and operation of machinery from 7:00 AM to 6:00 PM on weekdays unless prior permission to operate on prohibited day or times has been given by the city manager or code official.
- Noise sources in the area include vehicular traffic, the WMATA Metrorail and CSX rail lines, and the WMATA rail yard.

GREENBELT INFRASTRUCTURE AND UTILITIES

- Water and wastewater service for the Greenbelt site is provided by WSSC.
- Electric power for the Greenbelt site is provided by PEPCO, which serves more than 800,000 residences and businesses in the Washington, D.C., metropolitan area.
- Washington Gas is the sole natural gas purveyor in the region.
- Verizon, RCN, Cox, and Comcast are the major telecommunications service providers in the Washington Metropolitan region. The Greenbelt site is reportedly within the Verizon service corridor.
- Stormwater from the site is collected and conveyed to one of two detention ponds on the site that discharge into Indian Creek.

THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Authorized by the Clean Water Act, this permit program controls water pollution by regulating point sources that discharge pollutants into waters of the U.S.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

is a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) designed or used for collecting or conveying stormwater.

5.1.12.3 Electric Power

The current electric power service for the Greenbelt site is provided by Potomac Electric Power Company, Inc. (PEPCO). PEPCO, a subsidiary of Pepco Holdings, Inc. (PHI), serves more than 800,000 residences and businesses in the Washington, D.C., metropolitan area with 536,000 customers throughout Maryland (PEPCO 2015a). PHI, through its subsidiaries, also serves customers in Delaware and New Jersey (PHI 2015a). PEPCO has a service area of approximately 640 square miles of which 566 square miles is located in Montgomery and Prince George's Counties, Maryland (PEPCO 2015b). PEPCO's bulk transmission system consists of transmission lines operating at 115-kilovolt (kV), 138kV, 230kV, and 500kV. PEPCO has transmission interconnections with Potomac Edison, Baltimore Gas and Electric, and Dominion Virginia Power.

A merger between PHI and the Exelon Corporation is likely in the near future (PHI 2015b). Exelon, which is headquartered in Chicago, currently has subsidiaries in 48 states, the District of Columbia, and Canada (Exelon 2015). According to information available on the PHI website, the merger has been approved by the Federal Energy Regulatory Commission, the Virginia State Corporation Commission, the Delaware Public Service Commission, New Jersey Board of Public Utilities, and Maryland Public Service Commission (PHI 2015b), and PHI stockholders. The Public Service Commission of the District of Columbia rejected the merger in August 2015, which PEPCO and Exelon are currently in the process of appealing (Washington Post 2015). A date for the finalization of the merger is not publicly known at this time.

There are existing 13.2kV overhead power lines located along Cherrywood Lane. Two substations are in proximity to the site. The Branchville Substation is 69kV and is located approximately 1 to 2 miles to the south, and the Greenbelt TC Substation is 13.2kV located approximately 1 to 3 miles to the southeast.

5.1.12.4 Natural Gas

Washington Gas is the sole natural gas purveyor in the region. There is no natural gas service currently serving the site. The closest gas mains are a 6-inch main located on Cherrywood Lane (along the eastern edge of the site), a 4-inch main on Lackawanna Street, and a 4-inch main at the Greenbelt Metrorail Yard. Based on information obtained from Washington Gas, the 6-inch main has an operating pressure of 20 pounds psi and the two 4-inch mains have operating pressures of 50 psi (Washington Gas 2015b).

5.1.12.5 Telecommunications

Verizon, RCN, Cox, and Comcast are the major telecommunications service providers in the Washington Metropolitan region. However, it should be noted that more than 100 companies have applied for and received authority to offer service in Maryland. Verizon is currently providing cable service in many areas of the County (Prince George's County 2013).

The Greenbelt site is reportedly within the Verizon service corridor. Secure fiber service parallels the Metrorail adjacent to the site within 500 feet to the west.

5.1.12.6 Stormwater Management

Prince George's County Department of the Environment, Stormwater Management Division, enforces regulations regarding stormwater management issues for Prince George's County, while the Department of Public Works and Transportation maintains the infrastructure. Stormwater from the site is collected and conveyed to one of two detention ponds on the site that discharge into Indian Creek.

In 2015, Prince George's County entered into the Clean Water Partnership agreement with Corvias Solutions for a stormwater management public-private partnership designed to assist the County in meeting its obligations under the Federal Chesapeake Bay Act. This agreement includes a $100 million investment by the County over the first 3 years to retrofit the existing stormwater management systems over approximately 4,000 acres with the private sector partner, Corvias, managing the design, construction, and long-term maintenance for the next 30 years (Prince George's County 2015). The extent of improvements associated with this County-wide infrastructure improvement within the Greenbelt site are unknown at this time.

Prince George's County is considered a large municipal separate storm sewer system (MS4) regulated area and has a Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater permit (11-DP-3314 MD0068284) for stormwater discharges from the MS4. This permit requires the County to reduce stormwater runoff related pollutants through watershed mapping; watershed assessments; management programs for stormwater, erosion and sediment control, illicit discharges; public outreach; restoration projects; and funding (MDE n.d.). As a smaller municipality, Greenbelt has a Phase II NPDES Municipal Stormwater permit requiring implementation of "public education and outreach; public participation and involvement; illicit discharge detection and elimination; construction site runoff control; post-construction runoff control; and pollution prevention/good housekeeping" (MDE n.d.).

5.2 Environmental Consequences

The following sections describe the environmental consequences of the Greenbelt Alternative. Both direct and indirect impacts are evaluated under the Greenbelt Alternative for each resource topic. The evaluation of these impacts uses the indirect impacts under the No-action Alternative as a baseline for comparison. Under the No-action Alternative at Greenbelt, the WMATA-owned portion of the site would be redeveloped by a private exchange partner as part of a mixed use community at the Greenbelt Metro Station. The remainder the site would remain in state ownership. While the precise time-frame for construction is unknown, it is assumed to occur in tandem with the construction of the Greenbelt Alternative.

To comprehensively understand the impacts of the Proposed Action, the impacts described in this chapter would be paired with the indirect impacts caused by the future redevelopment of the JEH parcel. Descriptions of the No-action Alternative as well as the Greenbelt Alternative and the RFDSs at the JEH parcel can be found in section 2.4.4. The impacts at the JEH parcel are described in section 4.2.

5.2.1 Earth Resources

The following sections describe the environmental consequences for earth resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

EARTH RESOURCES ASSESSMENT OF SIGNIFICANCE

Impacts to earth resources would not result in significant impacts, as defined in section 3.2.3.

5.2.1.1 Geology and Topography

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there would be no long-term measurable impacts to topography because, although the entirety of the Greenbelt Metro Station would be redeveloped as a mixed-use community, the overall topography of the site would remain unchanged. There would be indirect, short-term, adverse impacts during the construction period, as the existing topography would be regraded to accommodate the new development.

Land disturbance associated with development of a mixed-use community at the Greenbelt site would indirectly impact geology. Demolition and construction activities would impact geology primarily through excavation, grading, leveling, filling, compaction, and the drilling of footers for new infrastructure. The geologic features at the site have been previously disturbed and their natural composition altered by previous surface mining and the introduction of fill to construct the Greenbelt Metro Station parking lot, and as such, the redevelopment of the site into a mixed-use community would not affect any features that have not been previously impacted. There is the potential for impacts to undisturbed geologic features for land adjacent to the current easterly extent of disturbance, depending on the configuration of the final site plan.

Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable long-term or short-term impacts to topography, as the Greenbelt Alternative would impact topography in the same manner as the mixed-use development would under the No-action Alternative.

Similarly, land disturbance associated with the consolidation of the FBI HQ at the Greenbelt site would directly impact geology in the same manner as the mixed-use development would under the No-action Alternative. While the footprint for the consolidated FBI HQ campus would be largely within previously disturbed areas, there is the potential for impacts to undisturbed geologic features for an approximately 2-acre strip of land adjacent to the current easterly extent of disturbance. This disturbance would be limited in magnitude to impacts to subsurface features associated with the construction of security fencing,

Transportation Mitigations

There would be no measurable long-term impacts to topography associated with required traffic mitigation measures, as shown in figure 5-47, because the recommended improvements are not expected to noticeably alter existing topography. There would be direct, short-term impacts to topography associated with any regrading and disturbance to slopes along roadways requiring improvements during construction.

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to disturb intact geologic features located adjacent to the current limits of disturbance. In total, widening would occur along approximately 4,300 linear feet of roadway, of which approximately 2,950 linear feet would be associated with the widening of Edmonston Road. Therefore, impacts to geology associated with traffic mitigation measures would be direct, long-term, and adverse. Over the long-term, it is expected that the engineering and design of the improvements would minimize any continuing adverse impacts to the extent that they are not measurable.

GREENBELT GEOLOGY & TOPOGRAPHY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts to topography. Indirect, long-term, adverse impacts to geology.

Greenbelt Alternative: No measurable impacts to geology or topography.

GREENBELT SOILS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, adverse impacts.

5.2.1.2 Soils

No-action Alternative

Under the No-action Alternative at the Greenbelt site, land disturbance associated with development of a mixed-use community would indirectly impact soils during the construction period. Construction activities would temporarily compact, expose, disturb, and modify the structure of soils during earth-moving activities, including excavation, grading, leveling, filling, and compaction. This disturbance would temporarily expose soils and potentially lead to increased erosion from stormwater runoff. The mixed-use developer would be responsible for complying with all required permits and regulatory requirements as described in section 3.3.4, which would minimize the potential for adverse impacts to soils stemming from soil erosion. Stormwater runoff carrying sediment could indirectly discharge into Indian Creek, leading to impacts to water quality within that waterway as well as to the Anacostia and Potomac Rivers, of which it is a tributary. The footprint for the mixed-use development would be largely confined to the previously disturbed udorthent, loamy soil association, which would minimize impacts to soils and would not limit building potential. There is the potential for impacts to occur for undisturbed Zekiah and Issue soils on small portions of the site adjacent to the current easterly extent of disturbance. These soils are more susceptible to erosion and flooding. Over the long term, there would be no measurable impacts because there would be a minimal change in the parcel's soil characteristics. In summary, under the No-action Alternative, impacts to geology would be indirect, short-term, and adverse. There would be no long-term measurable impacts, as the operation of the mixed-use development would not alter existing soil characteristics.

Greenbelt Alternative

Land disturbance associated with development of a consolidated FBI HQ at the Greenbelt site would directly impact soils in the same manner as the mixed-use development would under the No-action Alternative. There is an increased risk of adverse soil impacts for approximately 0.25 acre of Zekiah and Issue Soils Complex that would be disturbed by land clearing and construction of security fencing along the eastern perimeter. As required for Federal construction projects, the development of an erosion and sedimentation control plan, obtaining necessary and applicable permits, and implementing BMPs would minimize sediment loading and would work to mitigate and reduce any short-term impacts.

In addition to the short-term impacts from construction activities, the establishment of landscaped and vegetated areas would reduce the overall amount of impervious surface and erosion potential at the site and could result in improved soil productivity. Based on the conceptual site plans, there would be a 2.6 percent increase in the amount of pervious surface across the entire site. However, when considering only the previously developed portion of the site, there would be an 11.6 percent increase in pervious surface cover. This increase in pervious surface cover creates opportunities for improving infiltration and soil productivity.

Transportation Mitigations

Construction along roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would disturb soils located adjacent to the current limits of disturbance, resulting in direct, short-term, adverse impacts. The impacts to soils in these areas would be minimized because construction would occur, when possible, within previously disturbed areas adjacent to existing roadways. In total, widening would occur along approximately 4,300 linear feet of roadway, of which approximately 2,950 linear feet are associated with the widening of Edmonston Road. Over the long term, it is expected that the engineering and design of the improvements would minimize any continuing adverse impacts to the extent that they are not measurable.

5.2.2 Water Resources

The following sections describe the environmental consequences for water resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

WATER RESOURCES ASSESSMENT OF SIGNIFICANCE

Impacts to water resources would not result in significant impacts, as defined in section 3.3.3.

5.2.2.1 Surface Water

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there could be both short- and long-term impacts to surface water. During construction, soils would be temporarily exposed, which would increase the potential for the transport of sediment into Indian Creek and Narraganset Run. Operation of construction equipment would increase the likelihood of accidental leaks or spills of fuel, lubricants, or other materials which could contaminate nearby surface water. Soil disturbance and the use of construction equipment would increase the potential for the transport of sediments or contaminated solids into surrounding surface waters and increase sediment loading.

Construction activities would be subject to stormwater, sediment and erosion control, and other regulations designed to avoid adverse impacts to surface water to the extent they are not measurable. Because the extent of land disturbance on-site during construction would be greater than 5,000 square feet (SF), sediment and erosion control and stormwater management BMPs as required under NPDES construction activity permits, including non-structural BMPs and other environmental site design techniques, would be required. The Chesapeake Bay Total Maximum Daily Load for Maryland outlines targets

which limit allowable sediment loads in order to meet state water quality standards. Sediment targets would be met through a focus on the implementation strategies outlined in Maryland's Chesapeake Bay Watershed Implementation Plan.

Over the long term, it is assumed that minimal re-engineering of Indian Creek would be required because of the distance between the easterly limit of disturbance and the existing stream channel, based on the current mixed-use development site plan. Two stormwater ponds, one located within the Greenbelt site boundary and the other located to the south of the Greenbelt site would be permanently removed to accommodate the mixed-use development and the relocation of WMATA parking to a new parking structure, respectively. However, the mixed-use development would be required to implement a stormwater management system in order to obtain state and local development permits, which would minimze the potential for long-term, adverse impacts to the extent they are not measurable.

Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable short-term impacts to surface water, as the Greenbelt Alternative would impact surface water in the same manner as the mixed-use development would under the No-action Alternative. Over the long term, there could be adverse impacts to Indian Creek resulting from any engineering measures that would be implemented along the secure perimeter, adjacent to Indian Creek, to control erosion and minimize the channel shifting, a characteristic of braided stream channels. Stream mitigation, if necessary, would be compliant with the requirements of Section 404 of the CWA. It would focus on functional replacement of lost streams and riparian buffers. Similar to wetlands, stream mitigation uses mitigation banks, in-lieu-fee programs, or permitted developed projects. General project types include stream restoration, establishment, enhancement (including enhancement of riparian buffers), and preservation. Mitigation involving riparian buffers should use native species and buffer widths adequate to address known water quality or aquatic habitat impacts.

In addition to the potential for adverse impacts, long-term beneficial impacts would be expected. Due to the setback distances required for an ISC level V facility, there would be a notable increase in pervious surface, as compared to the No-action Alternative. The conceptual site plans would increase the amount of pervious surface on the site by 1.6 acres, or 2.6 percent of total site acreage, resulting in a total of 40.5 pervious acres, or 66.8 percent of total site acreage from current conditions. The amount of pervious surface under the No-action Alternative is currently unknown due to the preliminary nature of the site plans for the mixed-use development. However, given the density of the proposed development under the No-action Alternative, it can be concluded that the benefits to surface water accruing from the overall improvement in stormwater infiltration and reduction of sediment and pollution loads in Indian Creek is greater under the Greenbelt Alternative than the No-action Alternative.

In addition to the permitting and regulatory requirements described in section 3.3.4, the Greenbelt Alternative would be required to comply with section 438 of the Energy Independence and Security Act (EISA), which requires runoff leaving a project site with a footprint greater than 5,000 SF to have the same temperature, rate, volume, and flow duration as predevelopment stormwater runoff, to the maximum extent technically feasible (USEPA 2009).

Overall, the context and intensity of short-term impacts to surface water under the Greenbelt Alternative would be similar to the impacts under the No-action Alternative, resulting in no measurable short-term impacts. Compliance with NPDES permits, stormwater and sediment and erosion control plans, and implementation of BMPs would minimize adverse impacts to surface waters to the extent they are not measurable.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact surface water during construction. Indian Creek, approximately 500 feet west of Edmonston Road, runs parallel to Edmonston Road and crosses under Sunnsyide Road. Sediment loading and pollution of Indian Creek, which flows into the Anacostia and Potomac Rivers, is possible; however compliance with NPDES permits, stormwater and sediment and erosion control plans, and implementation of BMPs would minimize adverse impacts to surface waters to the extent that they are not measurable.

Over the long term, it is expected that the engineering and design of the improvements would minimize any continuing adverse impacts to the extent that they are not measurable.

GREENBELT SURFACE WATER ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts

Greenbelt Alternative: Direct, long-term, beneficial impacts.

GREENBELT HYDROLOGY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, adverse, and direct, long-term, beneficial impacts.

GREENBELT GROUNDWATER ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: Direct, long-term, beneficial impacts.

GREENBELT WETLANDS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts to wetlands.

Greenbelt Alternative: No measurable impacts.

5.2.2.2 Hydrology

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there would be indirect, short-term, adverse impacts to hydrology. Construction of the mixed-use community would disturb the entirety of the existing surface parking and temporarily alter existing stormwater infiltration and drainage patterns. However, compliance with state and local stormwater management regulations, and the implementation of stormwater management plans would mitigate the potential for any adverse impacts to the extent they are not measurable. There would be no measurable short- or long-term impacts to the surface hydrology of Indian Creek, because the mixed-use community would not disturb the stream channel.

Greenbelt Alternative

Under the Greenbelt Alternative, construction activities would directly impact hydrology in the same manner as they would under the No-action Alternative. Over the long term, there would be direct, beneficial impacts to hydrology under the Greenbelt Alternative. The movement and distribution of water into and out of Indian Creek would be altered. The addition of pervious land would allow for an increase in stormwater infiltration. Furthermore, compliance with Section 438 of the EISA would improve hydrologic processes by increasing stormwater infiltration and decreasing the rate and amount of surface runoff. Compliance may include the removal or alteration of the 115 foot culvert that outlets directly from the site to Indian Creek and/or a 45 foot box culvert that is approximately 150 feet to the east of the site. Both of these outfalls currently conveys stormwater into Indian Creek from the adjacent upland area. Given the close proximity of the adjacent mixed-use development and Capital Beltway ramps, coordination with the mixed-use developer, WMATA, and Maryland SHA would be necessary to coordinate stormwater management strategies.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact hydrology during construction as a result of temporary changes and interruptions to existing hydrology. The potential impacts to hydrology in these areas would be minimized because construction would occur within previously disturbed areas adjacent to existing roadways and would be subject to permitting and regulatory requirements that would minimize adverse impacts to water quality. Therefore, impacts to hydrology associated with traffic mitigation measures would be direct, short-term, and adverse. Over the long term, the implementation of recommended traffic mitigations are not expected to alter hydrologic processes within the study area.

5.2.2.3 Groundwater

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there could be indirect, short-term, adverse impacts to groundwater. Construction of the mixed-use community has the potential to disturb groundwater and introduce contaminants. The presence of shallow groundwater within the site may require dewatering operations to facilitate excavation and grading activities during construction. Potential impacts to local groundwater resources include modification of groundwater levels through drawdown or diversion of flow. Under groundwater quality standards, MDE or local agencies issue permits for activities with the potential to introduce contaminants to groundwater. These include permits for groundwater discharge, hazardous and solid waste management, and stormwater management (MDE 2012). If the construction actions at the Greenbelt site require discharge of groundwater from dewatering activities, authorization under an NPDES permit and applicable requirements related to water quality concerns would be required. Compliance with the NPDES General Construction Permit, stormwater pollution prevention plan, and stormwater BMPs would prevent or minimize possible pollutant loading to groundwater and protect groundwater quality during construction. Implementation of BMPs and low-impact development measures would improve groundwater quality and allow for stormwater infiltration and groundwater recharge. There would be no measurable long-term impacts to groundwater as groundwater resources would not be impacted outside of the construction period.

Greenbelt Alternative

Under the Greenbelt Alternative, construction activities would directly impact groundwater in the same manner as they would under the No-action Alternative. Construction of a consolidated FBI HQ would be subject to the same permitting and regulatory requirements. Over the long term, groundwater recharge and water quality would be improved due to the increase in pervious surface and compliance with EISA requirements, as described in the section 5.2.2.2.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, could have the potential to adversely impact shallow groundwater resources. The potential impacts in these areas would be minimized because construction would occur within previously disturbed areas adjacent to existing roadways and would be subject to permitting and regulatory requirements that would minimize adverse impacts to water quality. Over the long term, the implementation of recommended traffic mitigations are not expected to alter groundwater within the study area.

5.2.2.4 Wetlands

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there would be indirect, short-term, adverse impacts to wetlands. During construction, the use of heavy equipment adjacent to wetlands could result in soil compaction, soil disturbance, and sedimentation with the wetland and buffers, resulting in a degradation of wetland functions. Construction would also disturb soils and increase the potential for erosion and transport of sediment via overland stormwater runoff into adjacent wetlands. Temporary adverse impacts to wetlands during construction would be minimized through the implementation of a sediment and erosion control plan and BMPs. All wetlands that would be temporarily disturbed would be restored to their original, pre-construction contours and revegetated upon completion of construction.

Over the long term, there is potential for disturbing or altogether removing small portions of the wetlands or the 25 foot nontidal wetland buffers within the Greenbelt site, adjacent to the current easterly limits of disturbance. If existing wetlands are disturbed or removed by the mixed-use development, the developer would be required to obtain a Waterway and 100-Year Floodplain (Nontidal Wetlands and Waterways) permit and State Section 401 through MDE, and Section 404 permit certification through USACE, as described in section 3.3.4. Permanent, unavoidable loss of wetland acreage or functions is mitigated through creation, restoration, preservation, or enhancement of nontidal wetlands as described in section 3.3.4.

Figure 5-31: Greenbelt Alternative Conceptual Site Plan and Water Resources

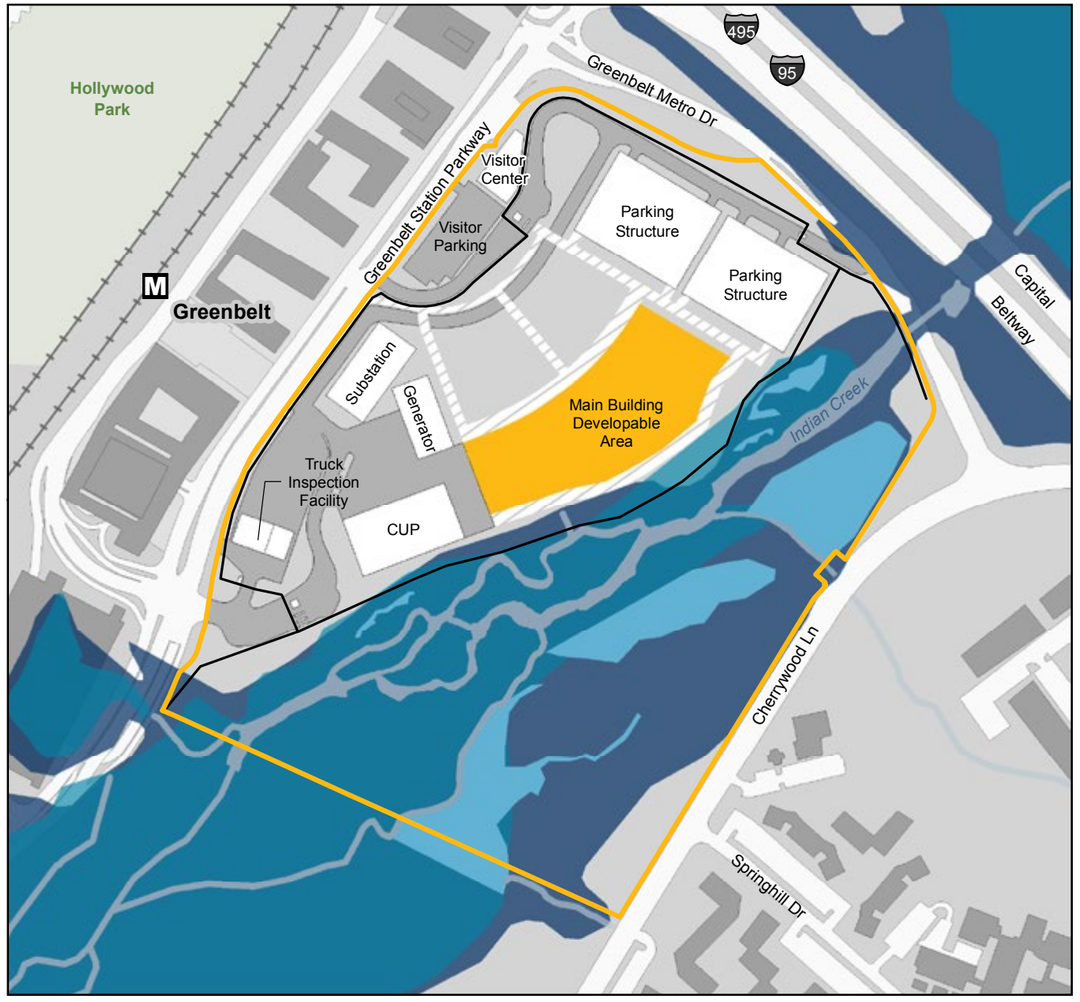


Figure 5-32: Wetlands in the Vicinity of Edmonston Road and Sunnsyide Avenue Greenbelt Traffic Mitigations

Greenbelt Alternative

Under the Greenbelt Alternative, construction of a consolidated FBI HQ campus would directly impact wetlands in the same manner as they would under the No-action Alternative. Over the long term, the Greenbelt Alternative would result in no measurable impacts to wetlands based on the most current wetland delineation. All delineated wetlands on the Greenbelt site, including the 25-foot nontidal wetland buffer required by MDE, are outside of the secure perimeter, as shown in figure 5-31. However, future delineations performed during the growing season may indicate an increase in the wetlands along the current easterly extent of planned site disturbance. If future wetland surveys identify additional wetlands, the permitting requirements and mitigation strategies described in section 3.3.4 would apply.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact wetlands both during construction and over the long term. Direct, short-term, adverse impacts associated with stormwater related sediment or pollutant loading may occur in wetlands adjacent to the construction areas. The potential impacts in these areas would be minimized to the extent they are not measurable by compliance with applicable permitting and regulatory requirements, as described in section 3.3.4.

There is a high potential for direct, long-term, adverse impacts to wetlands as a result of transportation mitigation and road widening along Edmonston Road, north of Cherrywood Lane. NWI and MDE data show large expanses of palustrine forested wetlands associated with Indian Creek and Beaverdam Creek adjacent to the proposed roadway improvements, as shown in figure 5-32. More precise wetland delineations would be required to quantify the amount of wetlands impacted by these road improvements. If it is determined that wetlands would be impacted as a result of the recommended transportation mitigations, state and Federal permits and associated mitigation would be required, as described under the No-action Alternative at Greenbelt and in section 3.3.3.4.

5.2.2.5 Floodplains

No-action Alternative

Under the No-action Alternative at the Greenbelt site, no measurable impacts to floodplains would occur because the footprint of the mixed-use development at the Greenbelt site would avoid the floodplains associated with Indian Creek. This assumes that final development approvals would be obtained based on the base flood elevations recorded by the Prince George's County DPIE, which are similar to FEMA's Revised Preliminary Floodplain.

Greenbelt Alternative

Under the Greenbelt Alternative, no buildings would be placed within the 100-year floodplain, but the construction footprint would include a secure buffer adjacent to the eastern side of the Main Building with a clear zone, perimeter road, and perimeter fence, as shown in figure 5-31. An additional fence paralleling Greenbelt Metro Drive would also be placed along the northeastern portion of the site boundary. Portions of the perimeter fence and associated clear zone and road would be placed within and directly impact the floodplain. Approximately 0.81 acre of 100-year floodplain, according to the revised preliminary FIRM, would be within the secure perimeter and subject to alteration. The area would be cleared of all vegetation except low grasses and possibly graded and covered with an impervious surface. This would directly, however minimally, impact the ability of the floodplain to provide storage capacity for flood waters, minimize erosive processes and sediment transport, and attenuate flood flows. Without mitigation it is possible that floodplain development could also increase risks to human safety and property.

Any increase in flooding or creation of flood risks is prohibited under compliance with requirements for Federal facilities. The construction of the secure perimeter fence would temporarily disturb the floodplain surrounding the fence through compaction and exposure of soils to potential erosive processes during construction. The fence would be constructed with materials in a manner that would be able to withstand a flood event and would not impede the flow of flood waters. Direct, long-term, adverse impacts to the floodplain would occur on the outer edge of the floodplain and would not bisect or reduce the hydrologic or hydraulic connection between two parts of the floodplain. Impacts would be minimized and offset through implementation of BMPs and mitigation measures.

Over the long term, adverse impacts would result from the disruption of floodplain functions and values through the potential addition of impervious surfaces, vegetation clearing, and soil disturbance within the floodplain. In addition to GSA's 8-step process described in section 3.3.4, actions within a floodplain would require a permit from FEMA, MDE, or Prince George's County. The permitting process for floodplain development in Prince George's County is administered by the Department of Permitting, Inspections, and Enforcement and requires a 100-Year Floodplain Review Plan and review. This process for the proposed floodplain impacts related to actions at the Greenbelt site is ongoing. The first step in the process, an existing 100-year floodplain inquiry, was submitted in February 2015. The second and third steps, which have not been completed, include a Request for Review of Consultant Prepared Model of Existing or Proposed 100-Year Floodplains and an Existing or Proposed 100-Year Floodplain Delineation. Depending on project details, there may be additional site approvals and permits that the exchange partner would be required to obtain. Permitting requirements would minimize impacts to floodplains and reduce potential flood risks and hazards.

If the Greenbelt Alternative is identified as the Preferred Alternative prior to the legal revision of the Prince George's County FIRM, then the exchange partner would request a letter of map revision to designate the revised preliminary floodplain as the official effective FEMA floodplain. According to the Prince George's County floodplain ordinance, any proposed development that would reduce or modify the effective FEMA 100-year floodplain, including revisions to FEMA floodplain boundaries or an increase in base flood elevations must have the approval of FEMA and the Prince George's County Department of Permitting, Inspections, and Enforcement prior to development. Revisions must be based on hydrologic and hydraulic analysis using existing floodplain models and standard engineering practices.

Compliance with standards and criteria of the National Flood Insurance Program, including the use of floodproofing and other flood protection techniques, would minimize or prevent flood risks and hazards. Reduction and minimization of potential damage due to flooding could take the form of a 100-foot setback from any FEMA mapped stream or a 50-foot setback from an unmapped stream. Construction of flood control projects would minimize human safety and property risks. Floodplain mitigation to offset unavoidable impacts would replace lost functions and values and prevent the loss of human life, property, and increased flood hazard risks.

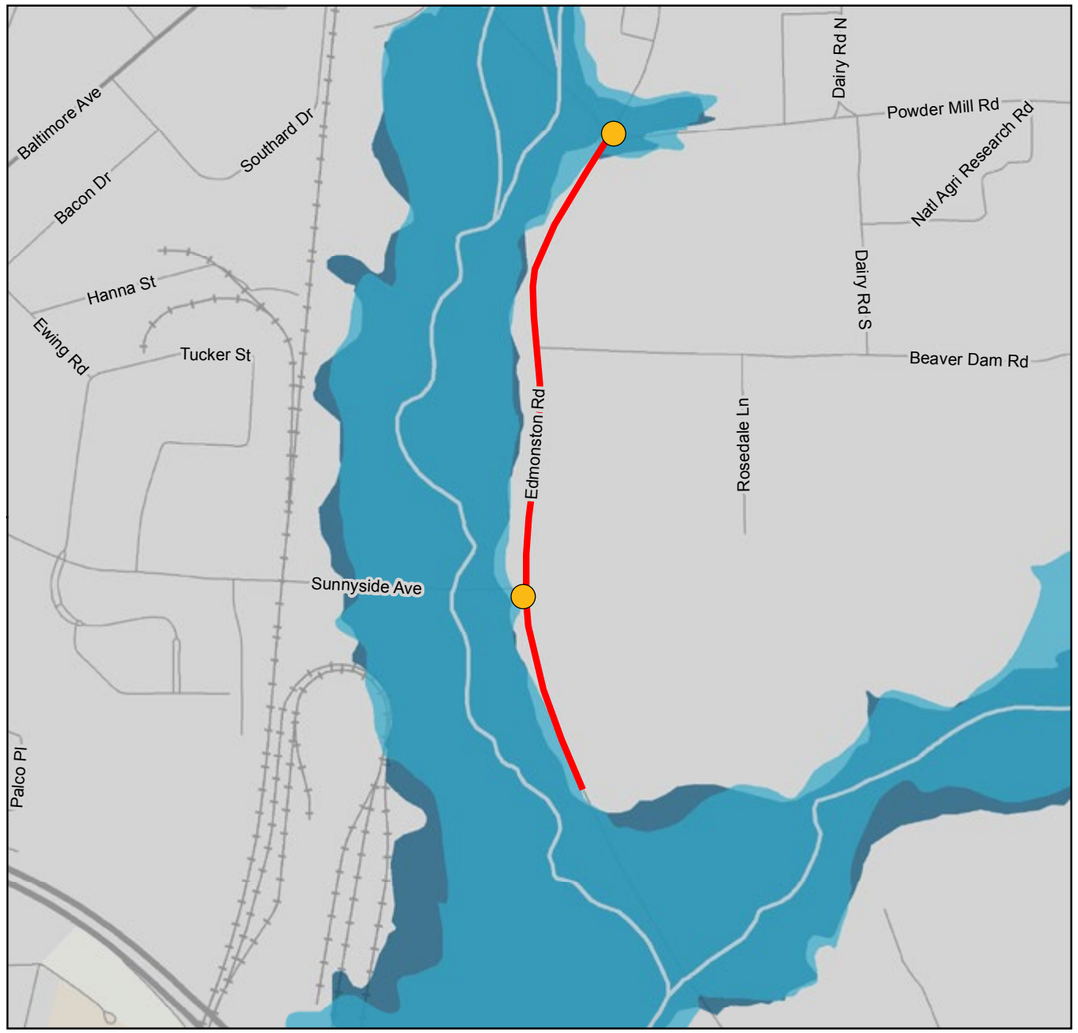
In Prince George's County, development within the floodplain requires that lost or disturbed floodplain storage be offset with compensatory storage at a 1:1 ratio. Furthermore, an analysis must be performed to demonstrate that the development would not have any impact to the flood elevations either upstream or downstream. The Prince George's Floodplain Ordinance requires post-developacfrement flood carrying capacity to remain the same as existing levels.

GREENBELT FLOODPLAINS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: Direct, short- and long-term, adverse impacts.

Figure 5-33: Floodplains in the Vicinity of Edmonston Road and Sunnsyide Avenue Greenbelt Traffic Mitigations



Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact floodplains both during construction and over the long term. Direct, short-term, adverse impacts associated with stormwater related sediment or pollutant loading may occur in floodplains adjacent to the construction areas, and may increase potential flood hazards and adversely impact floodplain functions upstream or downstream of the site. The potential impacts in these areas would be minimized by compliance with applicable permitting and regulatory requirements, as described in section 3.3.4.

There is a high potential for direct, long-term, adverse impacts to floodplains as a result of transportation mitigation and road widening along Edmonston Road, north of Cherrywood Lane. Both the existing FEMA FIRM and the revised preliminary floodplain show large expanses of the 100-year flood associated with Indian Creek and Beaverdam Creek adjacent to the proposed roadway improvements, as shown in figure 5-33. If it is determined that the 100 year floodplain would be impacted as a result of the recommended transportation mitigations, state and Federal permits and associated mitigation would be required, as described in section 3.3.3.4.

5.2.3 Biological Resources

The following sections describe the environmental consequences for biological resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

BIOLOGICAL RESOURCES ASSESSMENT OF SIGNIFICANCE

Impacts to biological resources would not result in significant impacts, as defined in section 3.4.3.

5.2.3.1 Vegetation

No-action Alternative

Under the No-action Alternative at the Greenbelt site, vegetation loss would occur for portions of the riparian forest along the existing easterly limits of disturbance that would be incorporated into the mixed-use development footprint. The precise magnitude of vegetation loss is unknown at this time and is dependent on a final design. Although some existing vegetation would be lost, the mixed-use development would reintroduce small areas of vegetation in the form of street trees, lawns, and other landscaped areas. Therefore, there would be no measurable impacts to vegetation under the No-action Alternative at Greenbelt.

Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable short-term impacts. Over the long term, the operation of a consolidated FBI HQ campus would result in permanent clearing of approximately 2 acres of existing vegetation adjacent to the currently paved portion of the site. The vegetation removed would mostly consist of grasses, shrubs, and saplings; however, clearing of full grown trees may be required depending on final design requirements. It is assumed that this portion of the site would remain vegetated with grasses; however, there is the potential for impervious surface associated with a drivable perimeter to be implemented. Over the long term, vegetation, including trees, shrubs, and grasses, would be reintroduced to portions of the previously disturbed and currently impervious portion of the site. This change would result in a net increase in vegetation quality and quantity, and lead to direct, long-term, beneficial impacts to vegetation.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact vegetation. These impacts would involve the removal of grasses and some trees along the sides of roadways, which would remove forested habitat. The potential impacts in these areas would be minimized because construction would occur within previously disturbed areas adjacent to existing roadways. Therefore, impacts to vegetation associated with traffic mitigation measures would be direct, long-term, and adverse.

5.2.3.2 Aquatic Species

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there could be indirect, short- and long-term, adverse impacts to aquatic species. Construction activities may degrade water quality due to sediment and pollution loading; however these impacts would be minimized to the extent they are not measurable by compliance with applicable permits, as described for water resources in section 5.2.2. Over the long term, the mixed-use development may encroach on wetlands and stream resources, resulting in the loss of usable habitat. The magnitude of any indirect, long-term, adverse impact would depend on the final design of the mixed-use development, and is not measurable at this time.

Greenbelt Alternative

Under the Greenbelt Alternative, construction activities would directly impact aquatic species in the same manner as they would under the No-action Alternative, resulting in no measurable short-term impacts. Over the long term, there would be minimal encroachment into the Indian Creek riparian area. The decrease in stormwater runoff quantity and increase in stormwater quality, as described in section 5.2.2 would result in beneficial impacts to aquatic species. Nontidal wetland resources and segments of the stream channel would be preserved in their current state, outside the site's secure perimeter. Indian Creek and the smaller headwater streams in the vicinity of the Greenbelt site are designated as Use I streams (Water Contact Recreation and Protection of Nontidal Warmwater Aquatic Life) (Anacostia Watershed Restoration Partnership 2010). Correspondence received from MDDNR during agency scoping for this project indicates that aquatic species would be protected by the spring/summer instream work restriction period, stringent sediment and erosion control methods, and other BMPs typically used for protection of stream resources.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact aquatic habitats associated with Indian Creek and Beaverdam Creek. These adverse impacts would be caused by sediment and pollutant loading in stormwater runoff from temporarily exposed soils, which would contribute to a decline in water quality. It is anticipated that sediment and erosion control methods and other BMPs typically used to control stormwater quality during transportation construction projects would minimize any potential impacts to aquatic species during roadway construction activities.

GREENBELT VEGETATION ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: Direct, long-term, beneficial and adverse impacts.

GREENBELT AQUATIC SPECIES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: Direct, long-term, beneficial impacts.

GREENBELT TERRESTRIAL SPECIES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, long-term, adverse impacts.

GREENBELT SPECIAL STATUS SPECIES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts to avian species of conservation concern.

Greenbelt Alternative: Direct, long-term, adverse impacts.

FULL CUT-OFF

A light system that prevents light from being cast upward or outward and therefore contributing to light pollution. No light is emitted directly from the luminaire into the sky.

5.2.3.3 Terrestrial Species

No-action Alternative

Under the No-action Alternative at the Greenbelt site, no measurable long-term impacts would occur because the mixed-use development would not noticeably alter the amount or quality of existing habitat. During construction, noise created by construction vehicles and equipment and other human activity would cause wildlife to temporarily vacate the small amount of existing habitat within the already disturbed portion of the site, and move to adjacent areas to forage. Mortality or injury of some smaller, less mobile, species could occur as a result of construction activities. Once construction is complete, wildlife would likely return to the area. Therefore, under the No-action Alternative, there would be indirect, short-term, adverse impacts to terrestrial species.

Greenbelt Alternative

Under the Greenbelt Alternative, construction activities would impact terrestrial species in the same manner as they would under the No-action Alternative, resulting in no measurable short-term impacts. Over the long term, impacts to terrestrial wildlife at the Greenbelt site would occur as a result of the loss of approximately 2 acres of usable habitat adjacent to the current easterly extent of disturbance; however, this loss would be made up by the reintroduction of vegetated and landscaped areas within the previously disturbed portion of the site. The implementation of security fencing would separate habitat within the Indian Creek corridor from other landscaped and vegetated areas, and any lighting along the secure perimeter could introduce light pollution to habitat not previously impacted. Additional light associated with the buildings and landscaping elements could also have adverse effects on nocturnal species. Nocturnal species would move away from the site and may be displaced because of a lack of available habitat. However, these direct adverse impacts to terrestrial wildlife would be minimal because of the relatively small area being affected and because there are other areas within the Indian Creek corridor where displaced species could move that would provide adequate habitat. Wildlife typically found near urban areas are accustomed to disturbances and other noises created by moving vehicles and other human activity. In summary, impacts to terrestrial species at the Greenbelt site would be direct, long-term, and adverse.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact terrestrial species through loss of habitat. The potential impacts in these areas would be minimized because construction would occur within previously disturbed areas adjacent to existing roadways in areas already experiencing light and noise pollution and increased levels of human activity. Therefore, there would be direct, long-term, adverse impacts to terrestrial species from the conversion of forest habitat to roadway.

5.2.3.4 Special Status Species

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there would be no measurable long-term impacts to federally and state-listed wildlife species at the Greenbelt site because no Federally or state-listed wildlife species are present on the Greenbelt site.

The one state-listed plant species in the area, trailing stitchwort (*Stellaria alsine*), is known to occur in the floodplain of Indian Creek adjacent to the Greenbelt site (MDDNR 2015d). While there would be no measurable long-term impacts to this species from loss of habitat, this species could be indirectly impacted by runoff from the mixed-use development. It is anticipated that sediment and erosion control methods, as well as other BMPs typically used to control stormwater quality, would mitigate any potential impacts to trailing stitchwort during construction activities at the site to the extent they would not be measurable.

Due to the presence of natural habitat, there is a likelihood that species of migratory birds of conservation concern may be present at the site year-round, in transit, for breeding, or for wintering purposes. Displacement to year-round or wintering avian species would temporarily increase as a result of increased human activity and noise associated with construction on-site, resulting in indirect, short-term, adverse impacts. These impacts to birds of conservation concern would be minimal because of the relatively small area being affected and because there are other areas adjacent to the site where displaced individuals could move. Over the long term, the increased lighting of the mixed-use development may interfere with migratory birds' instinctive behavior that assists them in migrating (Florida Atlantic University n.d.), however the use of full cut-offs would minimize this impact.

Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable impacts to federally and state-listed wildlife species at the Greenbelt site because no federally or state-listed wildlife species are present on the Greenbelt site (USFWS 2014a). Under the Greenbelt Alternative, construction activities would impact state listed species in the same manner as they would under the No-action Alternative, resulting in no measurable short-term impacts. Environmentally sensitive design and building elements incorporated into the project to control stormwater quantity and quality would mitigate any potential long-term impacts to state-listed plant species caused by changes in water quality.

Construction activities would impact birds of migratory concern in the same manner as they would under the No-action Alternative, resulting in no measurable short-term impacts. However there would be direct, long-term, adverse impacts as a result increased lighting of the site, especially lighting along the perimeter fence, which would interfere with migratory birds' instinctive behavior, which assists them in migrating (Florida Atlantic University n.d.), however the use of full cut-offs would minimize the potential for this impact.

Transportation Mitigations

Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would have the potential to adversely impact the habitat of special status species due to increased noise and human activities during construction. The potential impacts in these areas would be minimized because construction would occur within previously disturbed areas adjacent to existing roadways, in areas already experiencing light and noise pollution and high levels of human activity. Over the long term, there would be adverse impacts to terrestrial species from the conversion of forest habitat to roadway. Therefore, impacts to terrestrial species associated with traffic mitigation measures would be direct, long- and short-term, and adverse.

5.2.4 Land Use, Planning Studies, and Zoning

The following sections describe the environmental consequences for land use and zoning resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

LAND USE, PLANNING STUDIES, AND ZONING ASSESSMENT OF SIGNIFICANCE

Impacts to land use and zoning would not result in significant impacts, as defined in section 3.5.3.

5.2.4.1 No-action Alternative

Under the No-action Alternative at the Greenbelt site, the mixed-use development would align with the land use zoning designations for the site and therefore there would be no measurable impacts. Likewise, property takings required to implement the proposed road improvements would occur on land currently owned by WMATA, who has signed a Joint Development Agreement with the mixed-use developer, so there would be no measurable impacts to land use as a result of property takings required to implement the transportation mitigations.

Regional and Local Land Use Studies

Under the No-action Alternative at the Greenbelt site, the Greenbelt site would be transformed into a mixed-use development that would largely align with the regional land use plans and studies for the Greenbelt area. As a result, there would be indirect, long-term, beneficial impacts from the mixed-use development that achieves local and regional land use goals. However, there would be a few notable indirect, long-term, adverse impacts where the proposed mixed-use development would not meet the goals and visions of these plans. Both Plan Prince George's 2035 and the Greenbelt Metro Area Sector Plan and SMA specifically envision the incorporation of a GSA campus or consolidated FBI HQ at this site. Furthermore, the increase in density at this site would not preserve existing rural or agricultural viewsheds associated with BARC, as the buildings on this site would likely be visible in the southern portions of this agricultural land.

5.2.4.2 Greenbelt Alternative

Zoning

The entirety of the site is zoned D-D-O, which is intended to ensure that development meets the goals established in the relevant sector plan. The northwest portion of the site, owned by WMATA, is zoned as M-X-T, which mandates that at least two of the following categories must be present on the site (1) retail businesses; (2) office/research/industrial; (3) dwellings, hotel/motel. The Greenbelt Alternative would satisfy only the office use category. However, the FBI HQ would be adjacent to additional mixed-use development that would be constructed on a portion of the same parcel, and this development would satisfy all three categories. Therefore, although the Greenbelt Alternative does not comply with M-X-T zoning requirements, additional mixed-use development on the site would mitigate zoning impacts. Development on a federally controlled site is not subject to zoning; however, GSA and the exchange partner would cooperate with state and local officials through the development process to ensure compatibility with surrounding development. Therefore, under the Greenbelt Alternative, there would be no measurable impacts to zoning.

Transportation Mitigation

The recommended transportation mitigations would result in property takings that would alter land use along roadways recommended for improvement to mitigate traffic impacts in the study area, as shown in figure 5-47. The proposed recommended mitigation measures may require property strip takings at two intersections: Edmonston Road at Sunnyside Avenue and Edmonston Road and Powder Mill Road. The Edmonston Road and Sunnyside Avenue intersection mitigation measures would impact the northbound direction beginning 450 feet south of the intersection and continuing 2,950 feet north leading into the intersection at Powder Mill Road. Measures would also include a new lane added to the southbound direction beginning 600 feet north of the intersection and continuing 2,100 feet south.

The Edmonston Road at Powder Mill Road mitigation measures would impact the northbound approach and westbound departing segments. The northbound approach impact would include 400 feet as part of second left-turn lane, and the westbound departing segment would include a 200-foot stretch where the County ROW ownership line narrows bordering on the edge of the existing pavement.

The vast majority of property takings required to accommodate these road improvements would impact land currently owned by the Federal Government and associated with BARC. However, there are four privately owned residential parcels, located on the west side of Edmonston Road at Beaver Dam Road that may be impacted. These potential impacts are based on conceptual roadway changes. During the design phase, the property impacts would be refined to minimize property takings and use design measures that could be lessen the impact, such as narrowing travel lanes or shifting the roadway alignment.

GREENBELT LAND USE ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, beneficial and adverse impacts.

Greenbelt Alternative: Direct, long-term, adverse and beneficial impacts.

GREENBELT ZONING ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

Regional and Local Land Use Studies

Plan Prince George's 2035

Plan Prince George's 2035 provides guidance for Prince George's County and designates Greenbelt as one of the eight Regional Transit Centers. The Greenbelt Alternative would contribute to Plan Prince George's 2035 by promoting development in the Regional Transit Centers, as a potential driver of economic growth and Federal employment hub, strengthening the value of the neighborhood, and transforming Greenbelt into a viable economic engine with a range of transportation options. As a result, there would be a direct, long-term, beneficial impact to land use in Greenbelt.

While the Greenbelt site would promote viable, economically beneficial land uses, it would not align with specific aspects of the Plan Prince George's 2035. According to the plan, development should promote higher-density, compact, mixed-use development; preserve existing rural or agricultural communities and viewsheds; and promote walkable communities. A consolidated FBI HQ would be restricted to one use as a government campus, and the setback requirements would limit compact development. As a result, the layout of the FBI HQ would contradict Plan Prince George's 2035 goals of creating a compact walkable community with a mix of uses. In addition, the construction of the FBI HQ, with a height of approximately 225 feet (17 stories), could encroach upon efforts to protect the agricultural viewshed associated with BARC north and west of the site. As a result of the misalignment with these aspects of Plan Prince George's 2035, there would be a direct, long-term, adverse impact to land use in Greenbelt.

Consolidating FBI HQ at the Greenbelt site would satisfy aspects of Plan Prince George's 2035 by promoting economic development and strengthening the value of the neighborhood surrounding the Greenbelt Metro Station resulting in direct, beneficial impacts. However, these beneficial impacts would occur with the caveat that this site would not facilitate beneficial public space, mixed-use, compact development, or preserve existing rural or agricultural viewsheds, which would result in long-term, adverse impacts.

Approved Greenbelt Metro Area and MD 193 Corridor Sector Plan and Sectional Map Amendment

The construction of the FBI HQ at the Greenbelt site would both align and contradict with the goals outlined by the Greenbelt Sector Plan and SMA, hereafter referred to as the Greenbelt Sector Plan. A consolidated FBI HQ would foster a multi-modal transportation-oriented community by centralizing development in close proximity to multiple bus routes and the Greenbelt Metro Station. The construction would also align with the goals of the Greenbelt Sector Plan by maintaining a network of natural areas by protecting the wetlands and Indian Creek south of the site. Other objectives of the Greenbelt site that would coincide with the Greenbelt Sector Plan would include providing a state of the art physical infrastructure network to complement the Greenbelt Metro Station; promoting successful, regionally competitive office parks; and helping to maximize the economic potential of the Greenbelt Metro Station vicinity. In addition, the FBI HQ would align with the goals of the Greenbelt Sector Plan for environmental Infrastructure because the infrastructure that would be used for the FBI HQ would be LEED Gold Certified. Lastly, the plan sector plan specifically encourages the location of a major employer or GSA employment campus that would include supporting office, retail, and residential uses. As a result of the alignment with the goals outlined in the Greenbelt Sector Plan, consolidation of the FBI HQ at the Greenbelt site would result in direct, long-term, beneficial impacts to land use.

The Greenbelt Alternative would be inconsistent with the Greenbelt Sector Plan in a similar fashion to the contradictions referenced in Plan Prince George's 2035. The FBI HQ would discourage a walkable, pedestrian-friendly, mixed-use downtown and would not provide successful connections or relationships with the surrounding area. These discrepancies would be attributed to the consolidated FBI HQ's single use, building setback requirements, and ultimate lack of compact development and pedestrian friendly design. Because of these disagreements between the effects of the implementation of the FBI HQ and the goals outlined in the Greenbelt Sector Plan, there would be direct, long-term, adverse impacts to land use in Greenbelt.

City of Greenbelt Pedestrian and Bicyclist Master Plan

The discrepancies between the construction of the FBI HQ at the Greenbelt site and the City of Greenbelt Pedestrian and Bicyclist Master Plan would be similar to those noted for both Plan Prince George's 2035 and the Greenbelt Sector Plan. There would be long-term, adverse impacts to land use resulting from the lack of pedestrian connections between the consolidated FBI HQ at the Greenbelt site. However, there would be no measurable impacts to the overall city's goals of fostering bicycle friendly development and access.

Comprehensive Plan for the National Capital Region

The Greenbelt Alternative would align with the Comprehensive Plan for the NCR by fulfilling several objectives of the plan. As stated in the Comprehensive Plan, development of new facilities should afford the Federal Government the opportunity to locate new workplaces where improvements in operational efficiencies can be made while it uses existing resources, promotes the use of alternative transportation, and enhances interactions with local communities to address regional and local problems.

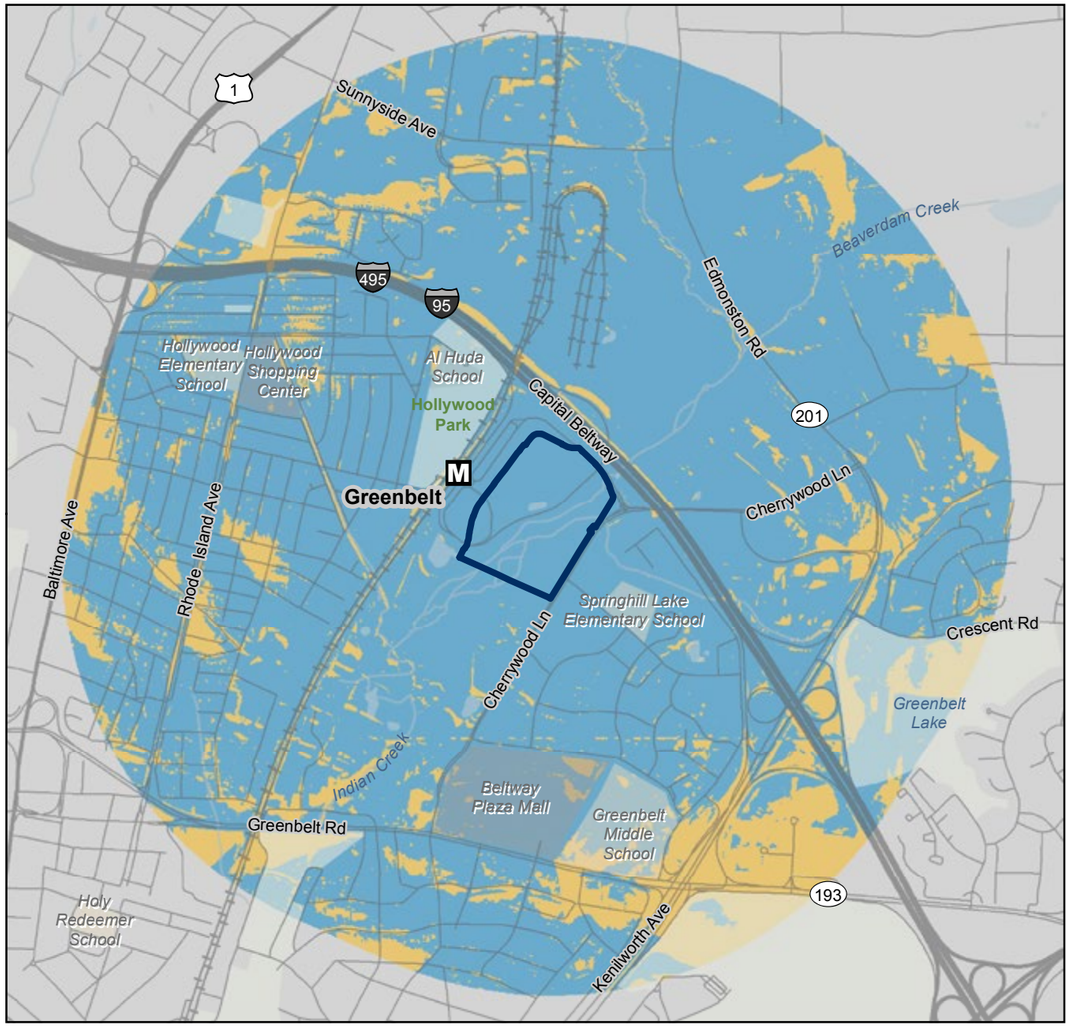
The Greenbelt Alternative would enhance operational efficiencies, promote multi-modal transportation via proximity to the Greenbelt Metro Station and multiple bus routes, and contribute to developing the economy in Greenbelt. Other policies that are outlined in the Comprehensive Plan for the NCR regarding locating Federal workplaces include:

- giving preference to urban areas;
- locating Federal facilities within walking distance of existing or planned fixed guideway transit services;
- locating Federal workplaces in areas where efficiencies are gained through proximity to a market of private suppliers of goods and services; and
- supporting regional and local agency efforts to coordinate land use with the availability or development of transportation alternatives to the private automobile, including walking, bicycle riding, and public transit.

As a result of the Greenbelt Alternative, there would be direct, long-term, beneficial impacts to land use with respect to the Comprehensive Plan for the NCR. The Greenbelt site satisfies the guidelines for site location with regard to proximity to transit (the Greenbelt Metro Station), proximity to a market of private suppliers of goods and services (City of Greenbelt), and a contribution to coordinating land use with the development of transportation alternatives to the private automobile.

Consolidation of the FBI HQ would not align with the Comprehensive Plan for the NCR because it would not utilize underdeveloped Federal sites or available space in Federal buildings as recommended in the Federal Elements. Therefore, under the Greenbelt Alternative, there would also be direct, long-term, adverse impacts to land use at the Greenbelt site.

Figure 5-34: Greenbelt Viewshed Analysis



5.2.5 Visual Resources

The following sections describe the environmental consequences for visual resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

VISUAL RESOURCES ASSESSMENT OF SIGNIFICANCE

Impacts to visual resources under the Greenbelt Alternative would result in significant impacts, as defined in section 3.6.3.

No-action Alternative

Under the No-action Alternative at the Greenbelt site, the entirety of the Greenbelt Metro Station would be redeveloped as a mixed-use community. This development would change the visual character of the site by constructing facilities of a greater height and density than currently exists on-site as well as compared to its environs. Although the final heights and lighting requirements of the mixed-use development are unknown at this time, it is expected that the density and building form changes at the site would be noticeable throughout the surrounding area. Therefore, under the No-action Alternative at the Greenbelt site, there would be indirect, long-term, adverse impacts to visual resources.

Greenbelt Alternative

Based on the conceptual site plan and preliminary estimates, the Main Building, which would be constructed within the 4.1-acre Main Building Developable Area, is assumed to have a maximum building height of approximately 17 stories. Parking structures at the Greenbelt site are assumed to not exceed approximately 8 stories while the Central Utility Plant (CUP), Remote Delivery Facility (RDF), gatehouses, and visitor's center would not exceed 2 stories in height. In order to envisage the visibility of the Main Building to the surrounding area, a viewshed analysis for the Greenbelt site was completed for the Main Building Developable Area in ArcMap.

The analysis applied the maximum Main Building height (225 feet) to the entirety of the Main Building Developable Area, and calculated views based on the existing ground topography and the obstruction caused by trees in the viewshed.

The visual characteristics would dramatically change with the addition of the consolidated FBI HQ, and density and building form changes would be readily apparent since the current site is mainly split between paved asphalt and a wooded area. The maximum building height of a consolidated FBI HQ at the Greenbelt site would be distinctively higher than the surrounding area and would alter the skyline.

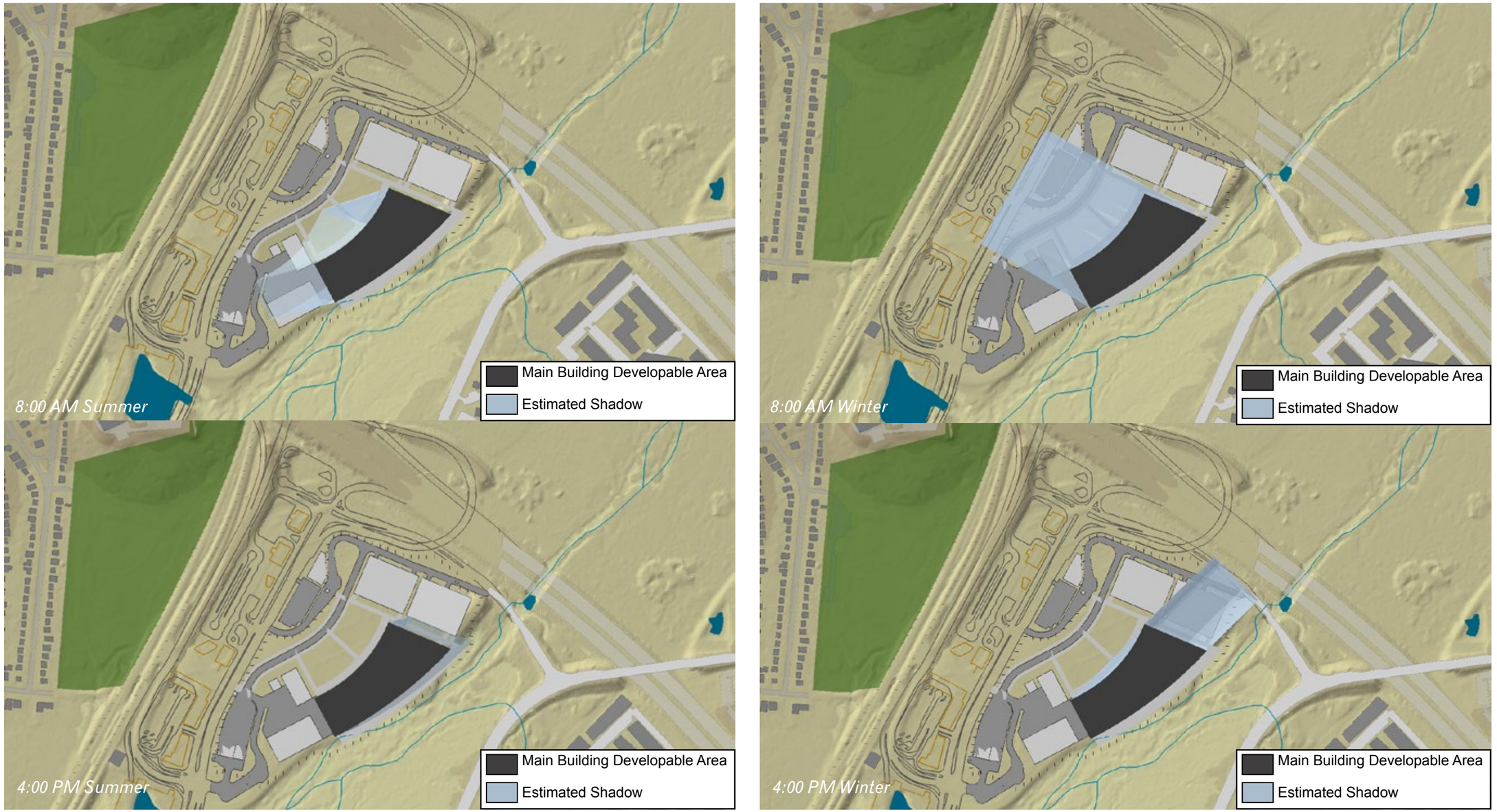
Aside from a few small ravines throughout the forested area, along the Capital Beltway and along the Metrorail tracks, the Main Building Developable Area would be readily visible within a quarter mile. Tree line buffers would potentially lessen the view from the housing development east of Cherrywood Lane and the Hollywood community. Because the Capital Beltway is elevated, views of the site would be prominent from this road. As a result direct, long-term, major adverse impacts related to the high visibility of the Main Building are expected under the Greenbelt Alternative. Notwithstanding, these impacts, these changes in the visual character of the Greenbelt site are envisioned for the North Core by Prince George's County as outlined in the Greenbelt Sector Plan and SMA, Plan Prince George's, and other local and regional planning initiatives. There would be no measurable short-term impacts under either the No-action or Greenbelt Alternatives, and there would be no measurable short- or long-term impacts associated with the recommended transportation mitigations, as shown in figure 5-47. The results of the viewshed analysis for the Greenbelt site is shown in figure 5-34.

GREENBELT VISUAL RESOURCES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, adverse impacts.

Greenbelt Alternative: Direct, long-term, major adverse impacts.

Figure 5-35: Greenbelt Shadow Analysis



GREENBELT ARCHAEOLOGICAL RESOURCES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT HISTORIC RESOURCES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

Shadow Analysis

In order to compliment the visual analysis, a shadow analysis was performed to estimate how shadows cast by the Main Building may impact the surrounding area, as described in section 3.6. As shown in figure 5-35, shadows are more pronounced in the winter than in the summer. During winter mornings, long shadows would extend to the west of the Main Building but would not extend beyond the adjacent Greenbelt Station Parkway. However this shadow may adversely impact daylighting for the adjacent mixed-use building, depending on final design of both the consolidated FBI HQ and adjacent mixed-use development. During winter solstice evenings, long shadows would extend to the northeast, however they would not interfere with I-95/I-495 to the northeast. Therefore, under the Greenbelt Alternative, there could be direct, long-term, adverse impacts to visual resources as a result of shadows cast by the Main Building on the adjacent mixed-use development during winter mornings.

Lighting Impacts

Due to security requirements, the consolidated FBI HQ would be a well-lit facility, with a minimum of 1 foot candle across the entire site during non-daylight hours. Full cut offs would be used to minimize light pollution to the surrounding area. Illumination from the consolidated FBI HQ would have an additive effect with the lighting from Greenbelt Metro Station. Depending on the remaining tree buffer this additional lighting may affect the Franklin Park and Hollywood communities, as well as wildlife in the Indian Creek riparian forest, as described in section 5.2.3.4. As a result, direct, long-term, adverse impacts to wildlife and adjacent residential communities related to lighting are expected under the Greenbelt Alternative.

5.2.6 Cultural Resources

The following sections describe the environmental consequences for cultural resources under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

CULTURAL RESOURCES ASSESSMENT OF SIGNIFICANCE

Impacts to cultural resources would not result in significant impacts, as defined in section 3.7.3.

5.2.6.1 Archaeological Resources

No-action Alternative

Under the No-action Alternative at the Greenbelt site, there would be no measurable impacts to archaeological resources because, although the site would be developed as a new mixed-use community, there would continue to be a low potential for intact artifacts at the site due to previous disturbance by sand and gravel mining and the development of the Greenbelt Metro Station.

Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable impacts to archaeological resources at the Greenbelt site because there is a low potential for intact resources to exist on the portion of the site where the campus facilities would be located. The low potential for intact resources is due to previous disturbance by sand and gravel mining and the development of the Greenbelt Metro Station.

Should there be an unanticipated discovery of archaeological resources during construction, GSA would continue Section 106 consultation with the MD SHPO and other parties through the standard review process under 36 CFR §800. Through this ongoing process, any impacts to archaeological resources would be avoided or mitigated to the extent that they would not be measurable. This stipulation would be included in the Section 106 Programmatic Agreement (PA) for the project.

5.2.6.2 Historic Resources

No-action Alternative

Under the No-action Alternative at the Greenbelt site, no measurable impacts to historic resources are expected. As noted in section 5.1.6.2, there are no historic resources on the Greenbelt site. Architectural resources 50 years of age or older within the APE for the Greenbelt site are unlikely to be eligible for listing on the NRHP as historic districts or as individual resources. If any of the resources are determined eligible, indirect visual impacts from the redevelopment of the Greenbelt Metro Station could be long-term. Existing tree lines would buffer views from potential historic resources towards the site, however the redevelopment could diminish the integrity of potential historic resources in the APE. Therefore, there would be no measurable impacts as a result of the redevelopment of the Greenbelt Metro Station as a mixed-use community under the No-action Alternative.

Greenbelt Alternative

GSA initiated Section 106 consultation with MHT (MD SHPO) on May 14, 2015. The initiation letter included information on previous studies and identified resources within the APE that are 50 years of age or older, the threshold used for listing resources in the NRHP. In a letter dated August 17, 2015, the MD SHPO commented on the potential for historic resources in the APE, noting that there would not be substantive historic preservation or archaeological resource issues. However they recommended a more detailed study of the potential visual impacts to the Greenbelt NHL, the closest portion of which is less than 1 mile from the Greenbelt site. The eligibility of these resources is dependent on further consultation with the MD SHPO. Similar to the No-action Alternative, the Greenbelt Alternative would have no direct measurable impact to historic resources because there are no historic resources located on the site.

Similar to the No-action Alternative, visual impacts to historic structures would be direct, long-term, and adverse. While the Main Building would be taller than existing development in proximity to the site as well as taller than the buildings proposed under the No-action Alternative, trees and vegetation surrounding the site would diffuse views of the consolidated FBI HQ from adjacent historic properties. Therefore, under the Greenbelt Alternative, impacts to historic resources could be direct, long-term, and adverse; however when compared to the No-action Alternative, there would be no measurable impacts. There would be no measurable impacts to historic resources from the recommended transportation mitigation measures, as shown in figure 5-47.

5.2.7 Socioeconomic and Environmental Justice

Impacts related to changes in population and demographics as a result of consolidating FBI HQ at the Greenbelt site are considered in the context of the local economy of Prince George's County, the Washington, D.C., MSA, and the State of Maryland. Impacts to tax revenues, population, housing, schools, and community facilities and services of Prince George's County, the Washington, D.C., MSA, and the State of Maryland, are all described qualitatively. Benchmarks for some impacts, such as impacts to construction employment, have been created by identifying the greatest annual change over a recent historical period to create a quantitative threshold for the magnitude of impacts to each resource.

SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE ASSESSMENT OF SIGNIFICANCE

Impacts to socioeconomics and environmental justice would not result in significant impacts, as defined in section 3.8.3.

5.2.7.1 Population and Housing

No-action Alternative

Under the No-action Alternative at the Greenbelt site, the population in Prince George's County and the Washington, D.C., MSA could increase as a result of employees who relocate their permanent residences to Prince George's County or the Washington, D.C., MSA as a result of gaining employment in the retail, commercial, or hotel facilities associated with the mixed-use community or who move from outside Prince George's County or the Washington, D.C., MSA to one of the 800 residential units that would be constructed under this alternative. The size of these residential units is not known at this time; however, this analysis assumes that the residential units would be larger at this site than those under RFDS 2 for the JEH parcel. If each unit contains a family of two parents and one child, which is possible given that the average household size in this area is 2.78 persons, then the total population increase in Prince George's County and the Washington, D.C., MSA would be 2,400 people, a 0.27 and 0.04 percent increase of Prince George's County and the Washington, D.C., MSA's 2013 populations, respectively. This is the maximum level of impact possible that could be associated with the population change resulting from these residential units on Prince George's County or the Washington, D.C., MSA.

The greatest percentage change in the year-over-year population in recent history for Prince George's County was approximately 1.8 percent, which occurred between 2000 and 2001. The greatest year-over-year change in population for the Washington, D.C., MSA was 3.3 percent which occurred between 2005 and 2006. The increase in population under the No-action Alternative in both the Prince George's County and the Washington, D.C., MSA would be less than these area's respective percentage historical population changes. This change in population would result in an indirect and long-term impact to the local population. The length and strength of the impact and the adverse or beneficial nature of the impact resulting from a change in population are discussed in the following sections because a change in population impacts housing, employment, income, recreation, and community services in different ways.

GREENBELT POPULATION & HOUSING ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term impacts to population; insufficient information available to determine the impacts to the homeownership and rental markets under this alternative.

Greenbelt Alternative: No measurable impacts to population in Prince George's County or the Washington, D.C., MSA. Impacts to housing in Prince George's County cannot be assessed due to insufficient information at this time.

GREENBELT EMPLOYMENT & INCOME ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short- and long-term, beneficial impacts.

Greenbelt Alternative: Indirect, short- and long-term, beneficial impacts.

Under the No-action Alternative, the amount of housing available would increase in Prince George's County and the Washington, D.C., MSA by 2.4 and 0.04 percent, respectively. In recent history, the greatest year-over-year increase in housing vacancy occurred between 2006 and 2007 in Prince George's County (31.5 percent) and between 2005 and 2006 in the Washington, D.C., MSA (1.8 percent). The latest total housing vacancy statistics for these two areas are shown in section 5.1.7.1. The increase of 800 housing units under this alternative would be less than the greatest recent year-over-year increase in housing vacancy and would make up less than one percent of all vacant housing in both Prince George's County and the Washington, D.C., MSA. As the housing unit increase would provide more housing for local residents, this could lead to a slight decrease in housing prices by increasing housing supply. Therefore, this alternative could result in indirect, short-term, beneficial impacts to homebuyers, and, conversely, result in adverse impacts to home sellers due to increased housing supply in the local market. Should the units be marketed as rental units, similar beneficial and adverse impacts could occur to renters and landlords, respectively. Since the number of residential units that would be owner- or renter-occupied is unknown at this time, there is insufficient information available to determine the impacts to the homeownership and rental markets under this alternative.

In addition to new residential units and commercial space, new retail establishments and two hotels would be also added to the site. Given the nature of the retail and hotel jobs and the current employment trends in Prince George's County and the Washington, D.C., MSA, it is assumed that these new retail establishments and hotels would be staffed predominantly by individuals who would not relocate to Prince George's County or the Washington, D.C., MSA to work at these businesses. However, some owners and managers of these businesses may relocate to Prince George's County or the Washington, D.C., MSA to operate these retail stores or the hotel. Because the number of individuals relocating to Prince George's County or the Washington, D.C., MSA is likely to be very small relative to the total population, there would be no measurable impact to population or housing as result of the construction and operation of ground-floor retail and hotel establishments.

Greenbelt Alternative

Population

The Greenbelt Alternative would result in a potential relocation of a portion of FBI HQ's employed workforce. It is possible that some, but not all, of these employees and their families would relocate their primary residences to be closer to the Greenbelt site while others would alter their commuting patterns to the consolidated FBI HQ at Greenbelt. It is assumed that most of the current FBI HQ employees reside within the Washington, D.C., MSA. As any movement of their primary residences or commutes would likely be from one area to another within the Washington, D.C., MSA, there would be no measurable impact to population as a result of FBI HQ employees relocating their primary residence or changing commute patterns under this alternative. Some FBI HQ employees may choose to relocate to Prince George's County from outside of Prince George's County in order to be closer to the new FBI HQ location under this alternative. However, the amount of employees that would relocate to the County from outside the County is unknown; therefore, the population impacts of these relocations on Prince George's County cannot be assessed. Additionally, some current FBI HQ employees may choose to quit the FBI as a result of this alternative and new employees may be hired that live closer to the new FBI HQ site.

Housing

It is assumed that most of the current FBI HQ employees reside within the Washington, D.C., MSA. If these employees relocated their primary residences as a result of this alternative it is likely that they would relocate to another area of the Washington, D.C., MSA. Therefore, there would be no net impact to housing within the Washington, D.C., MSA which would result in no measurable impact to housing as result of this alternative. Some current FBI HQ employees may relocate to Prince George's County from outside of Prince George's County. However, the total amount of employees that would relocate to the County from outside the County is unknown; therefore, the housing impacts of these relocations on Prince George's County cannot be assessed due to insufficient information at this time.

5.2.7.2 Employment and Income

No-action Alternative

Construction; Commercial, Hotel, and Retail Operations; and Residential-related Spending

For the purpose of this analysis, it is assumed that a majority of spending associated with the construction of the mixed-use community under the No-action Alternative at the Greenbelt site would occur within the Washington, D.C., MSA. Once construction is complete and the commercial space at this site houses employees, there would be daily expenditures by employees and office-related spending on maintenance, office supplies, and services. This operations-related spending would lead to an indirect, long-term, beneficial impacts to sales, employment, and income in Prince George's County and the Washington, D.C., MSA.

There would be indirect, short-term, beneficial impacts to employment and income within Prince George's County and the Washington, D.C., MSA as a result of construction-related spending. Hotel and retail operations-related spending would result in indirect, long-term, beneficial impacts to employment and income in Prince George's County and the Washington, D.C., MSA. Therefore, there would be indirect, short- and long-term, beneficial impacts to employment and income in Washington, D.C., and the Washington, D.C., MSA as a result of construction-related spending and operations, hotel, and retail-related spending.

The new 800 residential units would be home to approximately 2,400 people who would likley spend their income in Prince George's County and the Washington, D.C., MSA. Residents who relocate to Prince George's County or the Washington, D.C., MSA from outside of these two areas would have indirect, long-term, beneficial impacts to income, sales, and employment in Prince George's County and the Washington, D.C., MSA as a result of their spending on rent, food, and other services.

Commercial, Hotel, and Retail Operations Employment

Under the No-action Alternative at the Greenbelt site, the employed workforce of commercial, retail, and hotel operations associated with the new mixed-use development would have indirect, long-term, beneficial impacts to sales, income, and employment in Prince George's County and the Washington, D.C., MSA as a result of these employees spending their income on goods and services in these two areas.

Construction Employment

In 2011, the latest year for which construction employment information for the Washington, D.C., MSA is available, the construction sector comprised 4.6 percent (181,745 jobs) of all of jobs in the Washington, D.C., MSA (BEA 2013; BLS 2014). In Prince George's County, the number of jobs in the construction industry comprised approximately 8 percent of all jobs in 2013. The total number of jobs in the construction industry in 2011 in the Washington, D.C., MSA was five times the number of jobs in the construction industry in Prince George's County in 2013.

The largest year-over-year increase (9.6 percent) in construction jobs in the Washington, D.C., MSA occurred between 2005 and 2006 (BEA 2013). The greatest year-over-year negative change in construction jobs in the Washington, D.C., MSA occurred between 2007 and 2008 with an approximately 15 percent decrease in construction full-time and part-time jobs (BEA 2013). This represents a loss of 38,044 jobs in the Washington, D.C., MSA[4] (BEA 2013).

Similar to the RFDS 1 and 2 Scenarios under the JEH Alternative, a majority of the construction workers for this construction project are assumed to come from the Washington, D.C., MSA and would not relocate to the Washington, D.C., MSA as a result of the No-action Alternative. However, due to the amount of future construction planned for the Washington, D.C., MSA, it is possible that there would not be enough qualified construction workers available to work on this project in the future. Therefore, some construction workers could relocate to the Washington, D.C., MSA in order to construct the facilities under this alternative. Additionally, there may be some specialized construction workers that are needed for this project that do not reside in the Washington, D.C., MSA. These workers would have to temporarily relocate to the Washington, D.C., MSA during the construction period. Any temporary relocation of construction workers to the Washington, D.C., MSA would have indirect, short-term, beneficial impacts to the local lodging, food and beverage, and retail sectors as these construction workers spend their income in the Washington, D.C., MSA.

The impact of the No-action Alternative at the Greenbelt site on the available supply of local construction workers would depend on the total cost of the project. At this time, without further information on anticipated construction employment levels or total cost, it is not possible to determine the impacts of construction employment associated with the No-action Alternative in Prince George's County or the Washington, D.C., MSA.

Greenbelt Alternative

Construction and Operations-Related Spending

For the purpose of this analysis, it is assumed that a majority of project-related spending associated with the Greenbelt Alternative would occur within the Washington, D.C., MSA.

During the operations period, daily expenditures by employees and office-related spending on maintenance, office supplies, and services would likely be similar to current FBI HQ levels. Because the existing FBI HQ and the Greenbelt site are both in the Washington, D.C., MSA, there would be no measurable long-term impact to the Washington, D.C., MSA from operations-related spending. However, there would likely be some indirect, long-term, beneficial impacts to employment, sales, and income in the area surrounding the Greenbelt site as FBI HQ employees purchase food and beverages, gasoline, automobile services, and other retail goods.

Therefore, there would be indirect, short-term, beneficial impacts to Prince George's County and the Washington, D.C., MSA as a result of construction-related spending and indirect, long-term, beneficial impacts to Prince George's County and no measurable impact to the Washington, D.C., MSA as a result of operations-related spending.

Construction Employment

Under the Greenbelt Alternative, it is expected that there would be approximately 2.6 million gsf of construction. According to the St. Elizabeths EIS, this level of renovation would require 6,720 full-time equivalent construction workers for a one-year period. These workers would earn an average salary of approximately $46,900, resulting in approximately $315 million in construction wages that would result directly from project spending. However, it is not likely that all 6,720 construction workers would be employed for only one year and, instead, the project would occur over multiple years which would reduce the impact intensity to the local construction jobs.

Similar to the findings under RFDS 1 and the No-action Alternative at the Greenbelt site, most of the construction workforce is expected to come from within the Washington, D.C., MSA. However, due to the specialization requirements of some construction jobs and the high number of future construction project, it is possible that some construction workers could relocate to the Washington, D.C., MSA in order to construct the facilities under this alternative during the construction period. Any temporary relocation of construction workers to the Washington, D.C., MSA would have indirect, short-term, beneficial impacts to the local lodging, food and beverage, and retail sectors when these construction workers spend their income in the Washington, D.C., MSA.

[4] BEA data on construction employment in the Washington, D.C., MSA for 2012 and 2013 was not available so the historic year-to-year change was identified only for 2001 to 2011.

GREENBELT TAXES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, beneficial impacts.

Greenbelt Alternative: No measurable impacts to property tax revenues. Indirect, long-term, beneficial impacts to sales and income tax revenues.

GREENBELT SCHOOLS & COMMUNITY SERVICES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Insufficient information available to determine impacts to community services. No measurable short-term impacts to schools. Insufficient information available to determine long-term impacts to schools.

Greenbelt Alternative: No measurable impacts to schools in the Washington D.C. MSA. Insufficient information to determine impacts to schools in Prince George's County. No measurable short-term impacts to community services. Insufficient information to determine long-term impacts to community services.

Operations Employment

Because current FBI HQ employees work within the Washington, D.C., MSA, there would be no new impacts to the Washington, D.C., MSA as a result of the employment of operations-related employees. However, there may be indirect, long-term, beneficial impacts to sales, income, and employment in Prince George's County as a result of commuting employees who spend their income locally during the workday and those employees that choose to relocate their primary residence to Prince George's County.

5.2.7.3 Taxes

No-action Alternative

Under the No-action Alternative at the Greenbelt site, the transfer of the Greenbelt site from a government agency owned parcel to a privately owned parcel would result in an increase in property tax revenues to Prince George's County. It is anticipated that private property taxes on the parcel would be higher than the current taxes paid on the site. If the property is transferred to the exchange partner, there would be indirect, short-term increases in property taxes; however, once the site is transferred to GSA, property taxes will no longer be collected.

There may be some impacts to sales and income taxes in Prince George's County and the Washington, D.C., MSA during the construction period as a result of income taxes that would be applied to the income of construction workers and sales taxes applied to goods and services that are procured to support the construction of this development. This would result in indirect, short-term, beneficial impacts to Prince George's County's sales and income tax revenues.

There would be an increase in sales and income tax revenues to Prince George's County as a result of the commercial developments (retail, hotel, etc.) under this alternative. Additionally, any products purchased within Prince George's County or the Washington, D.C., MSA by individuals who relocated there and any incomes earned by those same individuals would generate sales and income taxes for Prince George's County or the Washington, D.C., MSA, respectively. These increases in sales and income taxes would result in indirect, long-term, beneficial impacts to Prince George's County and the Washington, D.C., MSA.

Greenbelt Alternative

The transfer of the Greenbelt site from a government agency (WMATA and the State of Maryland) ownership to a federally owned parcel would not result in a change to property tax revenues in Prince George's County as there are currently no property taxes paid on the site and none would be paid if it is transferred to the Federal Government.

There would be some impacts to sales and income taxes in Prince George's County and the Washington, D.C., MSA during the construction period as a result of income taxes that would be applied to the income of construction workers and sales taxes applied to goods and services that are procured to support the construction of the consolidated FBI HQ. This would result in indirect, short-term, beneficial impacts to Prince George's County's and the Washington, D.C., MSA's sales and income tax revenues.

There would be an increase in sales and income tax revenues to Prince George's County as a result of FBI HQ employees spending their income within the County. Additionally, any incomes earned by individuals who relocated to Prince George's County or the Washington, D.C., MSA from outside of these areas as a result of this project would generate income taxes for Prince George's County or the Washington, D.C., MSA, respectively. These increases in sales and income taxes would result in indirect, long-term, beneficial impacts to tax revenues in Prince George's County and the Washington, D.C., MSA, respectively.

5.2.7.4 Schools and Community Services

The affected environment of schools and community services is described in section 5.1.7.4, Schools, and section 5.1.7.5, Community Services. The impacts analysis for these two topics is described together.

No-action Alternative

The No-action Alternative at the Greenbelt site could result in indirect, short-term, adverse impacts to police services, fire and emergency services, and medical facilities by increasing the demand for these services during the construction period. However, there is insufficient information available at this time to determine these impacts as the amount of additional demand that would be placed on community services during the construction period is unknown. This alternative would result in additional commuters to the Greenbelt site which could result in the need for additional police and law enforcement support for a variety of reasons, including occasional traffic control and accident response in the local area. There may be some localized impacts to police services, fire and emergency services, and medical facilities from the operation of the new facilities at the site under this alternative. However, there would likely be no measurable impact to these services given the suburban nature of the project site and the concentration of businesses that are already served by these community services in the area.

Long-term Impacts to community services, such as fire and emergency services, police services, and medical facilities arising from employees that permanently relocate to Prince George's County or the Washington, D.C., MSA in order to work or live on the project site are expected to be proportional to the impacts described under the housing and population analyses. Therefore, impacts to community services as a result of families or operations-related employees permanently relocating to Prince George's County or the Washington, D.C., MSA is expected to be indirect and adverse as community services adjust to changes in the level of the serviced population. However, there is insufficient information available at this time to determine these impacts as the amount of additional demand that would be placed on community services during the operational period is unknown.

GREENBELT ENVIRONMENTAL JUSTICE ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No short- or long-term adverse impacts to minority or low-income communities.

Greenbelt Alternative

Under the Greenbelt Alternative, the daily commuter population could increase by 11,000 persons. These commuters could visit local parks, recreation centers, gyms, or other community facilities during weekdays. These impacts are likely to occur during the early mornings, mid-day lunch hour, or in the evenings. The Greenbelt Alternative is expected to have an employee gymnasium on-site which could mitigate impacts to local recreation facilities as employees would likely use the on-site facility as opposed to community recreation facilities. Both indirect, long-term, adverse and beneficial impacts to recreation resources and other community facilities could occur due to increased visitation at these sites and as a result of FBI HQ employees spending their income at these resources, respectively. As shown under the No-action Alternative, increased site visitation can lead to overuse of sites and damage to sites and employee spending could support local employment, income, and sales. However, similar to the No-action Alternative, there is insufficient information available at this time to determine the impacts that would occur to recreation and other community facilities under this alternative.

5.2.7.6 Environmental Justice

No-action Alternative

Of the 10 Census tracts within 1 mile of the Greenbelt site, there is one tract with more than 20 percent of its population living below poverty, two tracts with relatively high minority populations, and two tracts that meet both criteria. Therefore, half of the Census tracts within 1 mile of the Greenbelt site contain sensitive communities.

The development of the Greenbelt site as a mixed-use community could result in the creation of jobs in Prince George's County as businesses provide goods and services to construction workers, commuters, visitors, and residents. These businesses could positively impact the local community and the Washington, D.C., MSA through the creation of new income, employment, and sales in both the short- and long-term. Some new construction-related jobs would also be created in the short term, which could result in the creation of additional income and employment for local residents, while over the long term there would be additional employment opportunities created by retail establishments and hotel. Some of the local residents that fill these jobs could come from the low-income or minority communities identified in section 5.2.7.6. However, actual hiring practices would be determined by the construction contractor for this project or by proprietors who own these businesses; therefore, it is not certain that any jobs created under this alternative would be filled by persons from low-income or minority communities. Furthermore, the addition of new housing could result in lowered housing prices as a result of increased supply, leading to indirect, short-term, beneficial impacts to minority and low-income homebuyers. However, indirect, short-term, adverse impacts could occur to minority and low-income home sellers as home prices, independent of other factors, could be lower as a result of increased housing supply.

As indicated in section 5.2.9, there would be no adverse impacts to transportation or transit services under this alternative. Air quality impacts, while adverse, would disperse across an area wider than the 1-mile radius of the site used for the environmental justice analysis and would therefore impact more census tracts than those identified under this analysis. Furthermore, NAAQS would not be exceeded at the closest sensitive receptors, resulting in no adverse impacts. As any air quality impacts would occur to census tracts both within and outside the 1-mile boundary of the Greenbelt site, there would be no disproportionate impacts to sensitive populations. As national air quality standards would not be exceeded, there is no adverse impact.

Impacts from noise would be adverse during the short-term. However, it is expected that construction crews would follow local noise ordinances, including timing of construction noise, in order to mitigate adverse impacts to sensitive populations. Therefore, there are not anticipated to be any environmental justice impacts under this alternative.

Greenbelt Alternative

Impacts under the Greenbelt Alternative would be similar to those described under the No-action Alternative with the exception of impacts resulting from site visitors and residents. Some retail facilities could be constructed on the property, but these would likely be facilities that replace like-facilities at various FBI buildings throughout the Washington, D.C., MSA which would result in no new measurable economic impacts. There would be no residences constructed on the site under this alternative. Therefore, there would be no employment and income impacts associated with businesses selling goods and services to visitors or residents under this alternative. However, there could be still be a beneficial impacts to employment and income in the local community and the Washington D.C., MSA as businesses provide goods and services to construction workers and FBI HQ employees. These businesses could positively impact both low-income and minority communities through the creation of new income, employment, and sales in both the short and long-term. Some new construction-related jobs could also be created in the short-term, which could result in the creation of additional income and employment for local residents. Some of the local residents that fill these jobs could come from the low-income or minority communities identified in section 5.2.7.6. However, actual hiring practices would be determined by the construction contractor for this project or by proprietors who own these businesses; therefore, it is not certain that any jobs created under this alternative would be filled by persons from low-income or minority communities.

Traffic, air quality, and noise impacts and mitigation measures would be the same under this alternative as they are under the No-action Alternative. Therefore, as there would be no long-term adverse and disproportionate impacts to minority or low-income communities under this alternative, and as short-term adverse impacts would be mitigated to the extent practicable and permitted by law, there are not anticipated to be any environmental justice impacts under this alternative.

5.2.7.7 Protection of Children

No-action Alternative

As described in section 5.1.7.5, all four childcare centers that have been identified within 1 mile of the project site are located north of the site on the north side of I-95; therefore, no measurable impacts to these childcare centers are expected. Springhill Lake Elementary School, Greenbelt Middle School, and the Robert Goddard French Immersion School are located in a community that is southwest of the Greenbelt site. There are major roads that circumnavigate this community that could be used for construction traffic and may see an increase in commuter traffic. Hollywood Elementary School, the Al-Huda School, and Berwyn Christian School are located west of the Greenbelt site on the other side of the Metrorail tracks; therefore, no measurable impacts to these schools are expected. Neighborhoods that could be impacted by construction noise and air quality issues are located to the west of the site across the Metrorail tracks and southeast of the site across Cherrywood Lane. Under the No-action Alternative at the Greenbelt site, some impacts to children, such as releases of odor and dust during the construction of the mixed-use development, may occur as a result of children living in the neighborhoods in close proximity to the proposed location for this alternative. Additionally, an increase in construction and operations-related traffic to and from the project site could impact children that are commuting or walking to school. However, as the neighborhoods most likely to be impacted by this alternative are not made up predominantly of children and as children wouldn't be disproportionately and adversely impacted by this project's construction or operation, there are not anticipated to be any measurable impacts to children as a result of this alternative.

Greenbelt Alternative

Impacts to children would be the same as those described under the No-action Alternative. Therefore, no measurable impacts to children are expected from the Greenbelt Alternative.

5.2.8 Public Health and Safety/ Hazardous Materials

The following sections describe the environmental consequences for public health and safety and hazardous materials under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

PUBLIC HEALTH AND SAFETY/ HAZARDOUS MATERIALS ASSESSMENT OF SIGNIFICANCE

Impacts to public health and safety would not result in significant impacts, as defined in section 3.9.3.

5.2.8.1 Public Health and Safety

No-action Alternative

Under the No-action Alternative at the Greenbelt site, the entire Greenbelt Metro Station would be redeveloped as a mixed-use community. During construction activities associated with development of the site, contractors would be required to ensure that workers receive proper safety training for operation of mechanical equipment and utilize proper safety clothing, equipment, and procedures at all times. These measures would be expected to minimize the risk of injury and the related need for emergency response.

Fire, emergency, and law enforcement response times to the Greenbelt site are rapid, as described under section 5.1.8, and improved roadway infrastructure, especially the improvement of Capital Beltway ramps, would be designed to accommodate increased vehicular traffic to the site. Therefore, accessibility of emergency personnel to the site under the No-action Alternative would be consistent with current levels of service. The increased commercial activity and residential population at the Greenbelt site associated with the No-action Alternative may generate increased demand for fire, law enforcement, and emergency response, however it is expected that Prince George's County Police and Fire and Emergency services would address any capacity issues as part of their long-range planning efforts. Therefore, under the No-action Alternative, indirect, short-term, adverse impacts to public health and safety would occur as a result of construction activity. There could be additional indirect, long-term, adverse impacts associated with lack of capacity for the additional demand that may be generated by the mixed-use development.

Greenbelt Alternative

Under the Greenbelt Alternative, construction activities would directly impact public health and safety in the same manner as they would under the No-action Alternative.

As a high profile Federal building, the presence of the FBI HQ at the Greenbelt site could increase the potential for intentional destructive acts; however, the FBI would maintain a site-specific emergency response plan to minimize any potential risks to FBI employees or the public. Likewise, the response time and capacity of existing law enforcement, fire, and emergency response agencies is expected to be adequate at the Greenbelt site.

Lastly, the operation of a firing range for employee use within the campus could pose safety concerns to employees using the facility. Public access would be restricted and employee use would be consistent with OSHA regulations (29 CFR Parts 1900–1999); however, a slight risk of injury would remain. Consequently, there could be direct, long-term, adverse impacts to emergency services and life safety at the Greenbelt site.

GREENBELT PROTECTION OF CHILDREN ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts to children.

Greenbelt Alternative: No mitigation of disproportionate and adverse impacts to children is required under EO 13045.

GREENBELT PUBLIC HEALTH AND SAFETY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, adverse impacts, and direct, long-term, beneficial impacts as a result of transportation mitigations.

GREENBELT HAZARDOUS MATERIALS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT NO-BUILD CONDITION

Unlike the evaluation of conditions at the Greenbelt site under the No-action Alternative for all other resource topics in the FBI Headquarters Consolidation EIS, the transportation section analyzes a revised No-build Condition that allows a proper evaluation of transportation impacts among the various conditions. The revised No-build Condition deviates from the current developer's No-build plan in the following ways:

1) Only includes the amount of future development envisioned by the Greenbelt site owners if the FBI HQ is consolidated at the Greenbelt site, but without the FBI component.

2) Uses the roadway and intersection configuration of the Build Condition.

For more details, please see the "No-build Condition" section in section 3.10.2.

Transportation Mitigations

The recommended traffic mitigation measures within the transportation study area would be beneficial to emergency services and life safety. Construction along approximately 4,300 linear feet of roadways requiring substantial widening, including along Edmonston Road and Powder Mill Road as shown in figure 5-47, would improve the flow of traffic and reduce response times for emergency vehicles. Therefore, impacts to emergency services/life safety associated with traffic mitigation measures would be direct, long-term, and beneficial.

5.2.8.2 Hazardous Materials

No-action Alternative

Under the No-action Alternative at the Greenbelt site, it is assumed that spill prevention and response procedures would be implemented in order to prevent spills of hazardous materials such as vehicle and equipment fuels and maintenance fluids, and the construction team would respond rapidly to any accidental spills that may occur during construction. Since there are no residual sources of contamination present on the site, the No-action Alternative would not be expected to have any potential to mobilize existing contamination into the environment. Spills and associated clean-up would result in no measurable impacts to hazardous materials under the No-action Alternative.

Following completion of construction, residential and commercial uses at the site would not be expected to generate hazardous materials. Therefore, under the No-action Alternative at the Greenbelt site, there would be no measurable long-term impacts related to hazardous materials.

Greenbelt Alternative

Under the Greenbelt Alternative, construction and operational activities would directly impact hazardous materials in the same manner as they would under the No-action Alternative. During operation of the facility, materials handling and storage protocols for the delivery and on-site use of hazardous materials (for example, ammunition for the shooting range) would be implemented. Therefore, under the Greenbelt Alternative, there would no measurable impact to hazardous materials at the Greenbelt site.

5.2.9 Transportation

TRANSPORTATION ASSESSMENT OF SIGNIFICANCE

Impacts to transportation under both the No-action and Greenbelt Alternatives would result in significant impacts to traffic and public transit as defined in section 3.10. Other resources considered under transportation would not result in significant impacts.

The transportation impact analysis considers two conditions:

- No-build Condition assumes FBI remains at the FBI HQ building in Washington, D.C., and the Greenbelt site is redeveloped as a new, mixed-use development. In order to facilitate the comparison to the Build Condition, the No-build Condition at Greenbelt only includes the portion of the mixed-use development outside the site boundary.
- Build Condition is the consolidation of the FBI HQ at the Greenbelt site.

The analysis of the No-build Condition serves as the baseline against which the impacts of the Proposed Action would be compared.

5.2.9.1 No-build Condition

This section introduces the No-build Condition for the Greenbelt site, and provides a summary of each mode of travel and the potential impact caused if the Greenbelt Alternative does not occur. This includes descriptions of the pedestrian network, bicycle network, public transit system, parking conditions, truck access, and traffic operations.

Planned Developments

According to the Greenbelt Site Transportation Agreement (Appendix A), four planned developments are included as part of the No-build Condition. These developments range from a small, 46,000 SF office development to a 450,000 SF office/retail, 800-unit residential, and 300-room hotel mixed-use development. The planned developments are located west of Cherrywood Lane between Greenbelt Road and I-95/I-495 as well as along Cherrywood Lane east of I-95/I-495. Table 5-25 provides the list of planned developments by name, type of construction and location as well as access and connection points.

Figure 5-36 shows the Greenbelt No-build Condition planned development locations.

Planned Roadway Improvements

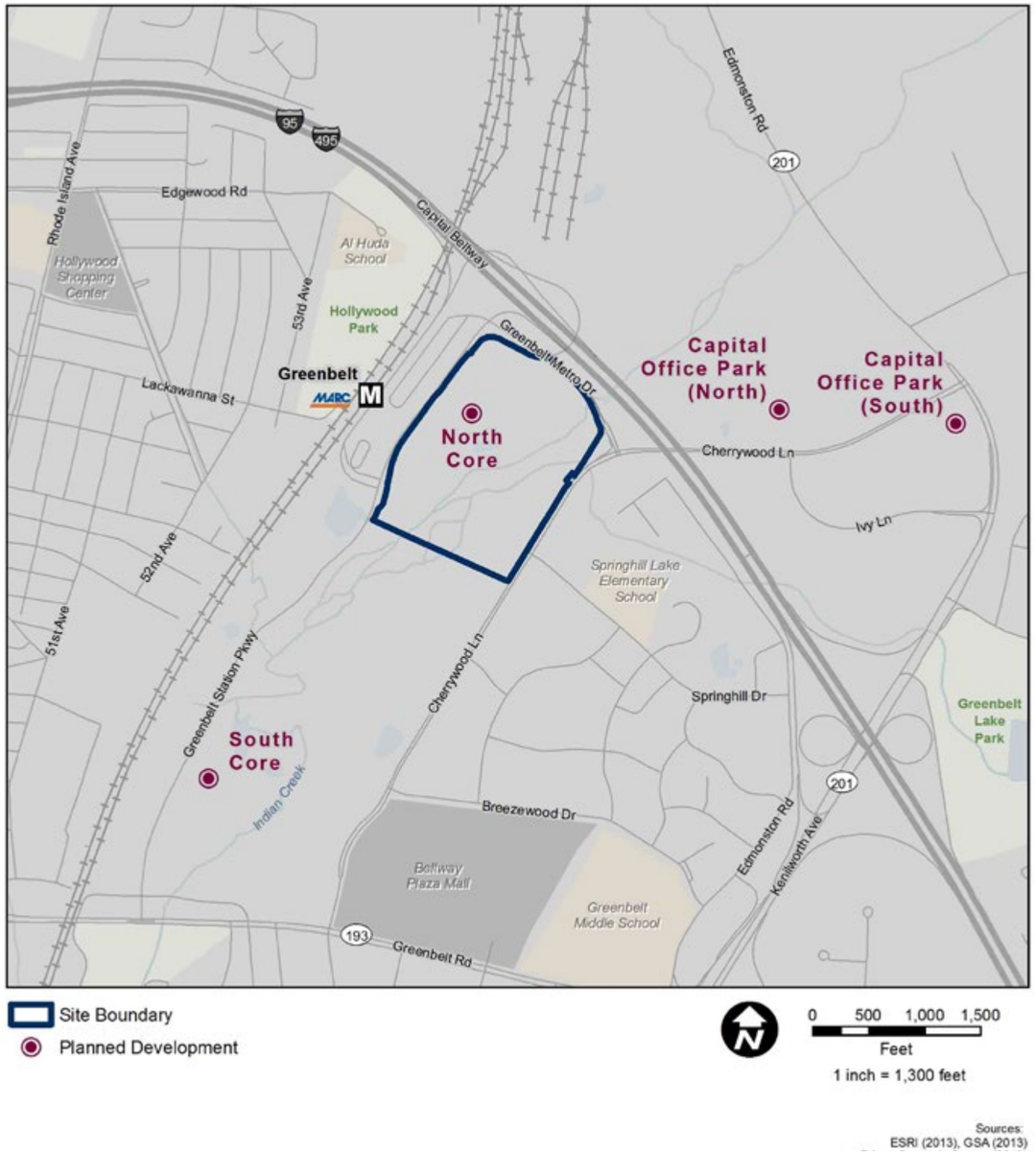
There are a number of planned roadway improvements scheduled to be constructed by the project horizon year (2022), including a new roadway system serving the Greenbelt Metro Station and the planned development between the station and Greenbelt Road and a new set of ramps connecting the station area to I-95/I-495 south. All of these improvements are part of the planned North Core and South Core developments (M-NCPPC 2005). Specific improvements were provided by Maryland SHA (ramps serving the interstate) and Renard Development Company, LLC (roadway network connecting the proposed land use to the interstate ramps and adjacent roadways). The roadways planned to serve the North and South Core developments are as follows:

A. Greenbelt Station Parkway would be a north-south oriented roadway connecting Greenbelt Road (MD 193) to Greenbelt Metro Drive. The road would consist of a divided roadway served by two or four lanes in the northbound direction and two lanes in the southbound direction through the North Core area. It would operate as a divided roadway with one lane in each direction with several roundabouts through the South Core area and provide a spine roadway connecting the North and South Core development areas. It would also connect to the planned WMATA parking garage and the planned or revised interstate ramps serving I-95/I-495.

Table 5-25: Greenbelt Planned Developments

Name	Type of Construction/Size	Location/Primary Access
North Core (Greenbelt Station Development	350,000 SF office, 100,000 SF retail, 800 units of apartments, and a 300-room hotel planned to replace the western side of the existing Greenbelt Metro station parking/ bus loops, Kiss & Ride area	West side of Greenbelt Station Parkway between Greenbelt Metro Drive and South Core. The primary access would be from the planned Greenbelt Station Parkway.
South Core (Greenbelt Station Development)	180,120 SF retail, 550 units of apartments, and 350 units of townhouses located between the existing Greenbelt Metro station parking area and Greenbelt Road	Both sides of Greenbelt Station Parkway between Greenbelt Road and North Core. The primary access would be from the planned Greenbelt Station Parkway.
Capital Office Park (North of Cherrywood Lane)	300,000 SF office located north of Cherrywood Lane east of I-95/I-495	North side of Cherrywood Lane at the Ivy Lane intersection. The primary access to the development would be from the Cherrywood Lane at Ivy Lane intersection.
Capital Office Park (South of Cherrywood Lane)	46,000 SF office located south of Cherrywood Lane east of I-95/I-495 near the southwest corner of the Kenilworth Avenue/Edmonston Road at Cherrywood Lane intersection	South of Cherrywood Lane between Ivy Lane and Kenilworth Avenue. The primary access to the development would be from Cherrywood Lane.

Figure 5-36: Greenbelt No-build Condition Planned Development Locations



B. Greenbelt Metro Drive is an east-west oriented roadway that would be realigned from its current path to connect to Greenbelt Station Parkway. It would primarily operate as a two-lane undivided roadway and continue to provide a connection between Cherrywood Lane and Greenbelt Station.

C. I-95/I-495 Off-ramps would follow a similar alignment as the existing off-ramp and would directly connect to the WMATA garage, the Kiss & Ride area, and Greenbelt Station Parkway. A new two-lane flyover ramp would be constructed between I-95/I-495 northbound and connect to the existing I-95/I-495 southbound off-ramp ramp.

D. I-95/I-495 Southbound On-ramp would originate at the proposed Greenbelt Station Parkway and Greenbelt Metro Drive intersection and connect to I-95/I495 southbound. It would begin as a two-lane ramp and reduce to one lane before merging onto the interstate.

E. I-95/I-495 Northbound On-ramp would originate immediately south of the proposed Greenbelt Station Parkway and Greenbelt Metro Drive intersection and follow a horseshoe curve crossing over Greenbelt Metro Drive and I-95/I-495 connecting to the existing on-ramp. It would begin as a two-lane ramp and reduce to one lane before merging onto the interstate.

The new system of roadways would create seven new intersections through the North Core area, two roundabouts through the South Core area, and a new intersection along Greenbelt Road (MD 193). These intersections would be as follows:

F. Greenbelt Road (MD 193) and Greenbelt Station Parkway would include a new, 350-foot eastbound double left-turn lane and a new 150-foot westbound right-turn lane. The Greenbelt Station Parkway southbound approach would be composed of three lanes, two left-turn lanes (far left lane would be 225 feet) and a 225-foot right-turn lane. There would continue to be three through lanes for both directions of Greenbelt Road.

G. Greenbelt Station Parkway and Residential Access to 300 Units would include a two-lane northbound approach (Greenbelt Station Parkway) with one shared left-turn/through lane and one through lane, a two-lane southbound approach (Greenbelt Station Parkway) with one through lane (originating from the WMATA garage) and a shared through/right-turn lane, and a one-lane eastbound approach (residential Access to 300 Units) serving all moves. This intersection would be unsignalized with a STOP sign placed on the eastbound approach.

H. Greenbelt Station Parkway and WMATA Garage would include a two-lane northbound approach (Greenbelt Station Parkway) with one shared left-turn/through lane and one shared through/right-turn lane, a two-lane southbound approach (Greenbelt Station Parkway) with one through lane and one right-turn lane, and a two-lane eastbound approach (WMATA Garage) with one 150-foot left-turn lane and one right-turn lane. This intersection would be signalized.

I. Greenbelt Station Parkway and I-95/I-495 Off-ramp/Kiss & Ride area/Site South Access would include four approaches and a fifth departing segment. The northbound approach (Greenbelt Station Parkway) would have three lanes, one 375-foot left-turn lane and two through lanes. Two through lanes would originate from the WMATA garage along a parallel northbound approach immediately to the right of Greenbelt Station Parkway. The southbound approach (Greenbelt Station Parkway) would have a 400-foot left-turn/U-turn lane, one through lane, and one shared through/right-turn lane. The eastbound approach (I-95/I-495 Off-ramp) would have one left-turn lane, one shared left-turn/through lane, and one shared through/right-turn lane. The southeast approach (Kiss & Ride area) would have one lane serving all moves. There would also be three lanes departing the intersection to the east serving the Greenbelt site. This intersection would be signalized.

J. Greenbelt Station Parkway and Residential Access to 500 Units would include a two-lane southbound approach (Greenbelt Station Parkway) with one through lane and a shared through/right-turn lane, and a one-lane eastbound approach (Residential Access to 500 Units) serving right-turns only. This intersection would be unsignalized with a STOP sign placed on the eastbound approach.

K. Greenbelt Station Parkway and North Core Development/Site Northwest Access would include a four-lane northbound approach (Greenbelt Station Parkway) with one left-turn lane, two through lanes and one shared through/right-turn lane, a two-lane southbound approach (Greenbelt Station Parkway) with one through lane and one shared through/right-turn lane, and a three-lane eastbound approach (North Core Development) with two left-turn lanes and one right-turn lane. This intersection would be signalized.

L. Greenbelt Station Parkway and Greenbelt Metro Drive/Bus Loop would include a four-lane northbound approach (Greenbelt Station Parkway) with a 250-foot left-turn lane, two through lanes and one right-turn lane, a two-lane eastbound approach (Bus Loop) with one left-turn/through lane and one right-turn lane, and a three-lane westbound approach (Greenbelt Metro Drive) with one left-turn/U-turn lane, one through lane and one right-turn lane. This intersection would be signalized.

M. Greenbelt Metro Drive and Site North Access would be an intersection for use with the Build Condition, but was included as part of the design provided by Renard Development Company, LLC. The design includes three lanes for the northbound approach from the Greenbelt Site. For the eastbound approach, one lane would serve all moves, and the westbound approach would include a 150-foot left-turn lane and a through lane.

Figure 5-37 shows the No-build Condition planned roadway improvements. See figure 5-38 for the No-build Condition intersection map and the Greenbelt TIA for the updated lane geometry of the study area intersections (Appendix C).

Figure 5-37: No-build Condition Greenbelt Planned Roadway Improvements

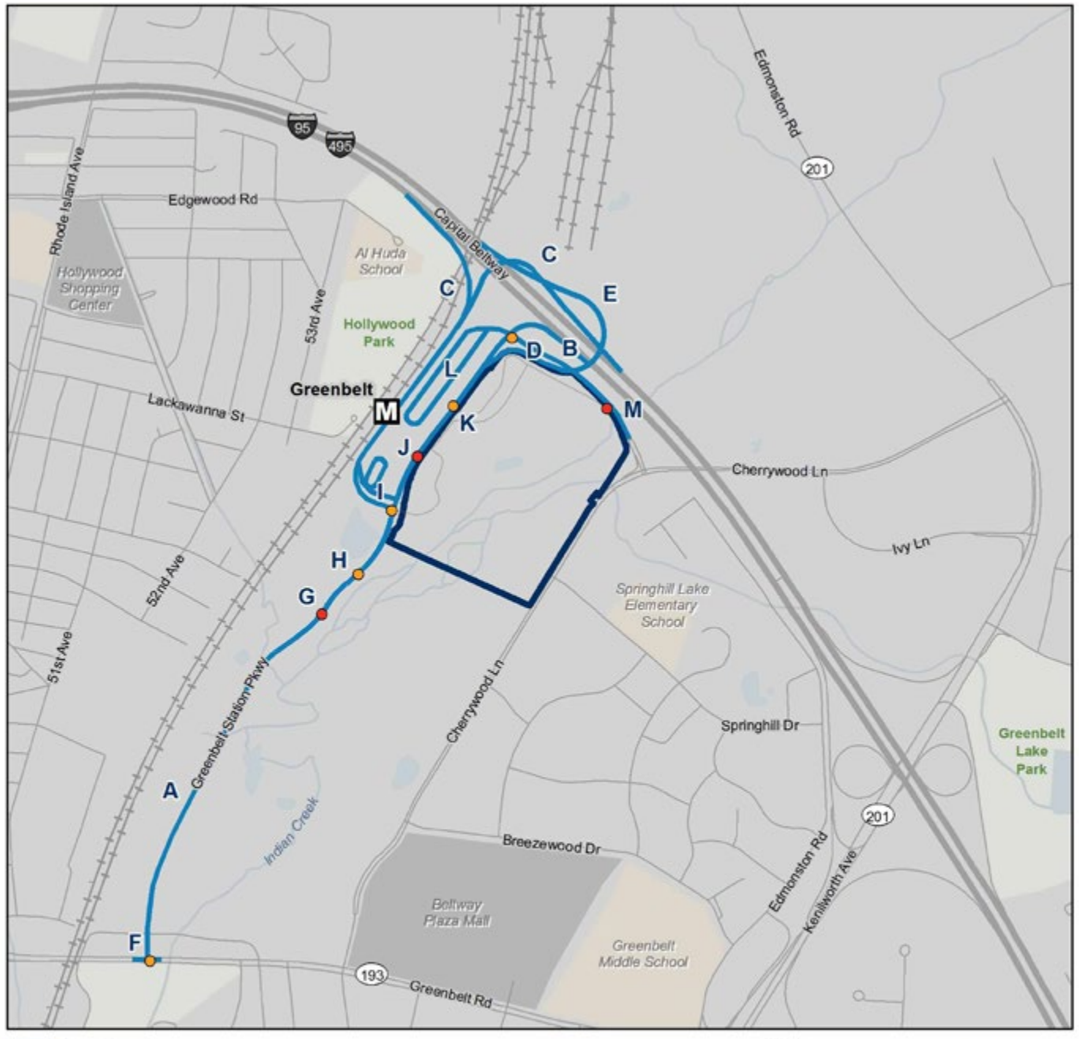


Figure 5-38: No-build Condition Intersection Map

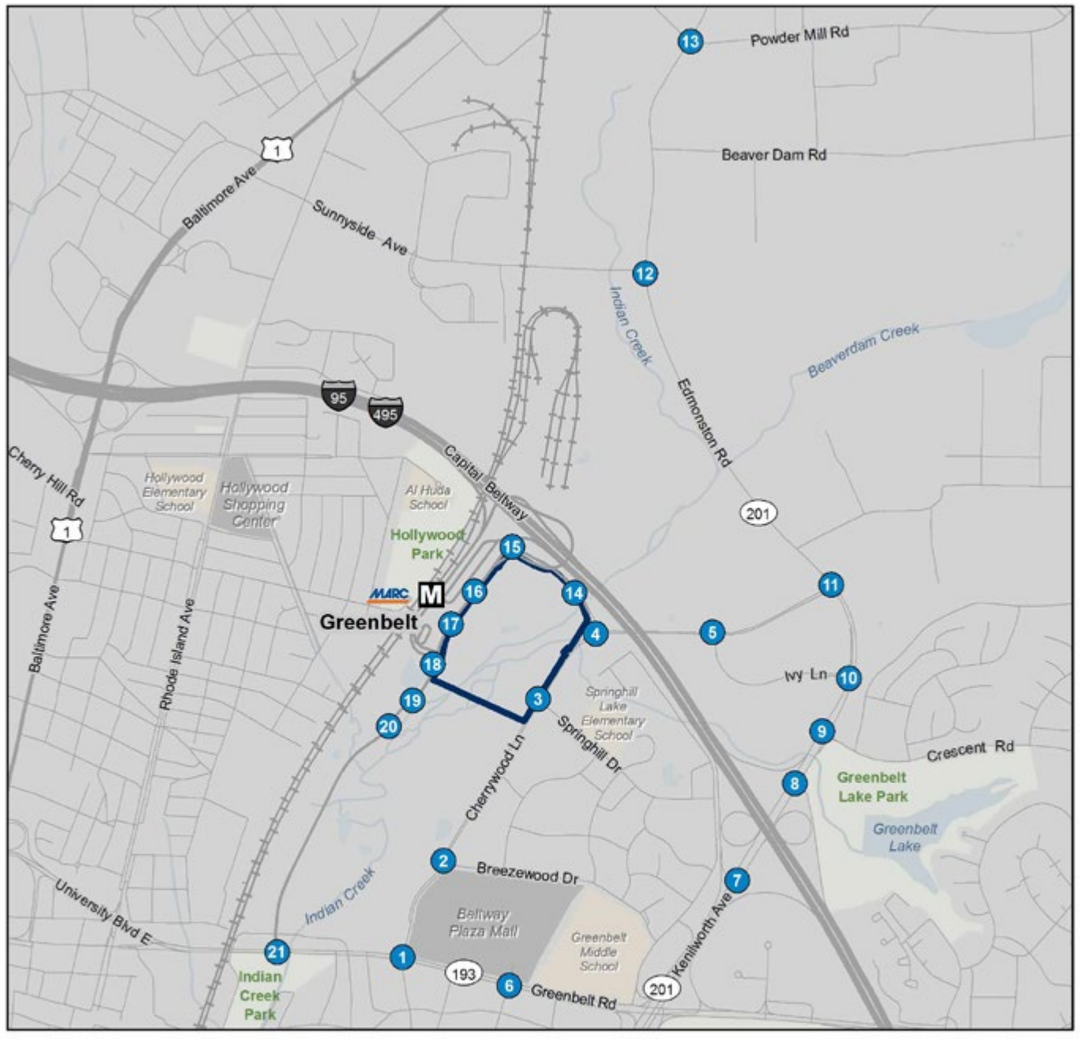


Table 5-26: Proposed Bicycle Facilities in the Greenbelt Study Area

Roadway	From/To	Type	Future Status	Notes
Indian Creek	Greenbelt Road to Greenbelt Metro Station/Cherrywood Lane	Multi-Use Path	Proposed	Adjacent to site; similar alignment also proposed as part of the North Core development
Edmonston Road	Cherrywood Lane to Greenbelt Road	Multi-Use Path	Proposed	-
Cherrywood Lane	Breezewood Drive to Greenbelt Road	Bicycle Lane	Proposed	-
Breezewood Drive	Cherrywood Lane to Edmonston Road	Bicycle Route	Proposed	-
Springhill Drive	Cherrywood Lane to Edmonston Road	Bicycle Route	Proposed	-
Lackawanna Street	US-1 to 53rd Avenue	Bicycle Route	Proposed	-
Hollywood Road	US-1 to Narragansett Parkway	Bicycle Route	Proposed	-
Greenbelt Station Parkway	Greenbelt Road (Route 193) to Greenbelt Metro Drive	Bicycle Lane	No-build Condition	Proposed as part of the North Core development
Greenbelt Metro Drive*	Greenbelt Station Parkway to Cherrywood Lane	Multi-use Path	No-build Condition	Proposed as part of the North Core development

Source: Prince George's County (2009); M-NCPPC (2014)
*Note: *Although Greenbelt Metro Drive already has a multi-use path, with redevelopment of the North Core it is assumed at least a portion of this roadway and the associated mixed-use path would be reconstructed.*

No-build Condition Pedestrian Network

While the design and layout of the pedestrian network is not finalized, the No-build Condition pedestrian system would be convenient and comprehensively designed to encourage pedestrian activity within the development and to mass transit (M-NCPPC 2014). Pedestrian areas and public spaces would have high-quality urban design and amenities such as landscaping, street furniture, and lighting. Pedestrian crossings would be provided at all intersections along Greenbelt Station Parkway, the North-South connector road between the North and South Core development areas, unless waived by the appropriate agency. In addition, an east-west trail connection between Cherrywood Lane and Greenbelt Station Parkway and a north-south pedestrian/bike trail would be constructed; the latter would provide a direct connection between the North and South Core areas and connect the Greenbelt Metro Station to the South Core area. A direct pedestrian connection is also proposed from the Greenbelt Metro Station to the office development planned on the east side of the roadway; this connection would provide more direct access for pedestrians and increase safety by creating special attention to pedestrian crossings at-grade. All of these improvements may not be complete by 2022 because the development would be staged, but significant improvements to the pedestrian environment at and around the site are planned with the Greenbelt Station project development.

Additionally, according to the Maryland Department of Transportation (DOT)/SHA's 2015-2020 Transportation Improvement Program, several regional and Prince George's County funding categories include funds for sidewalk, signing, lighting, pedestrian crossing, safety improvements, ADA improvements or retrofits, and/or traffic management improvements to benefit pedestrians. Specific details are not available about what projects would receive these funds, but areas within the non-vehicular study area could receive improvements as a result.

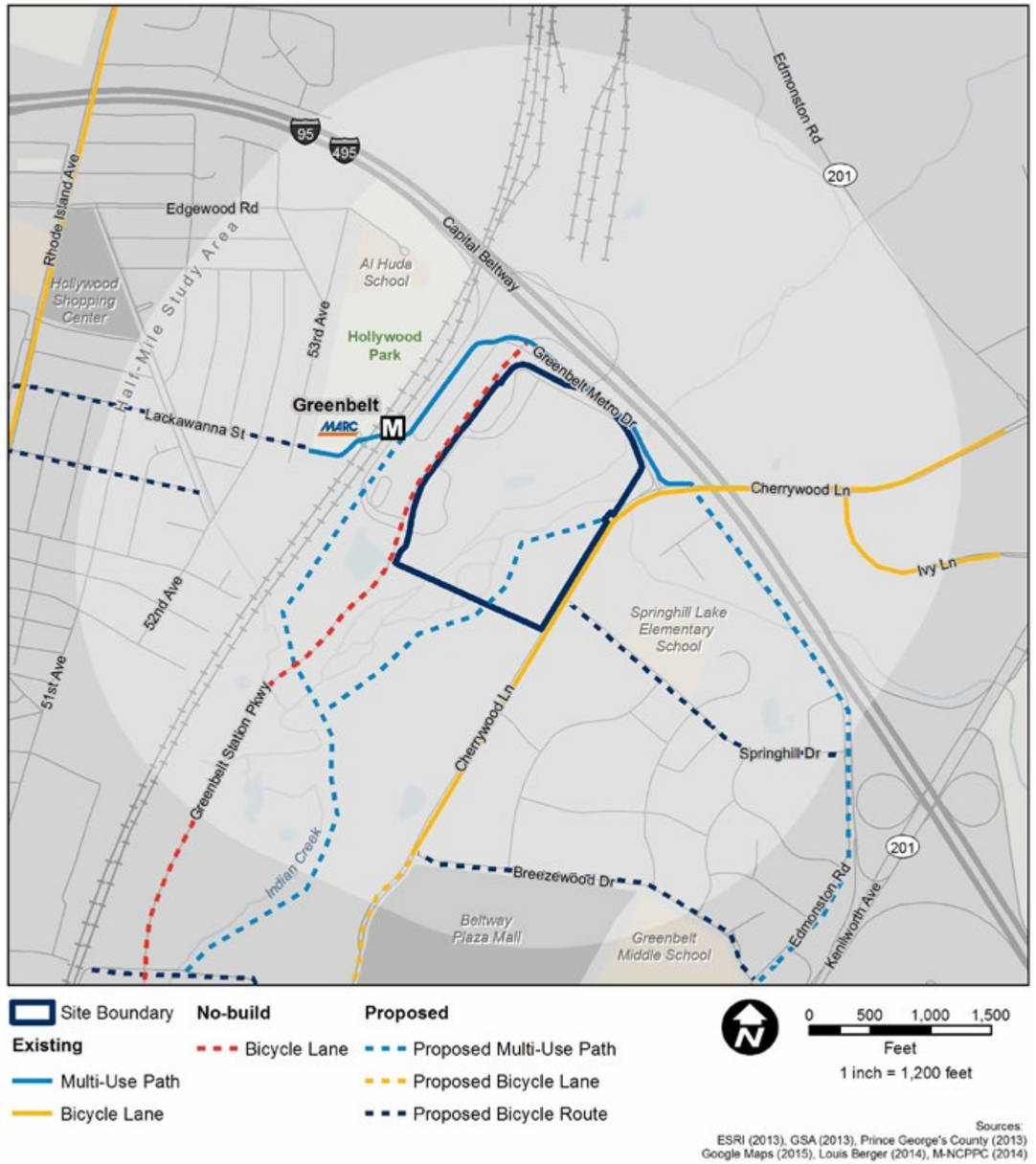
With the development proposed with the Greenbelt Station project (North and South Cores) and annual transit growth, the amount of pedestrian traffic in the area would increase. The improvements planned with Greenbelt Station, however, should accommodate any increases in pedestrians and improve the overall pedestrian environment around the site. Under the No-build Condition, assuming planned improvements are implemented for the Greenbelt Station project, impacts to pedestrians would be direct, long-term, and beneficial. The planned pedestrian improvements would have a beneficial impact by creating spaces specifically designed for pedestrians and to improve pedestrian safety. The proposed Greenbelt Station improvements would also increase the overall walkability and pedestrian connections in the area around the site.

No-build Condition Bicycle Network

The Prince George's County Bicycle Master Plan (Prince George's County 2009) recommends several bicycle facilities within the Greenbelt study area (see table 5-26 and figure 5-39). Overall, two new multi-use paths, one bicycle lane, and four bicycle routes are recommended. Bicycle routes are roadways with signed bicycle route designations or shared lane arrow pavement markings (sharrows), but not actual marked bicycle lanes. Directly adjacent to the proposed site, the plan recommends a multi-use path along Indian Creek, connecting to Greenbelt Road and Cherrywood Lane. There is no dated implementation plan included in the Master Plan, and therefore, it is not clear whether any of these recommendations would be implemented by 2022. Therefore, these improvements are shown as "proposed" in both table 5-26 and figure 5-39.

In addition to the planned County improvements, the developer of the Greenbelt Station project has committed to construct several bicycle features in the North Core area around the site (M-NCPPC 2014). These improvements include bicycle lanes along Greenbelt Station Parkway, a north-south pedestrian/bike trail providing a connection between the North and South Cores and the Metrorail station, and an east-west trail connection between Cherrywood Lane and Greenbelt Station Parkway, at this point assumed to be along Greenbelt Metro Drive (figure 5-39). Since Greenbelt Station Parkway and at least some portions of Greenbelt Metro Drive are assumed to be constructed or reconstructed as part of the No-build Condition, in order to have a comparable road network to the Build Condition, it is assumed that the bicycle facilities adjacent to these roadways would also be completed at that time. Therefore, the Greenbelt Station Parkway bicycle lane and the Greenbelt Metro Drive mixed-use path would be constructed, or existing, as part of the No-build Condition, and there would be indirect, long-term, beneficial impacts to the bicycle network as part of the No-build Condition. However, all of these improvements may not be complete by 2022 because the development would be staged.

Figure 5-39: Proposed Greenbelt Area Bicycle Facilities



GREENBELT PEDESTRIAN ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: Indirect, long-term, beneficial impacts.

GREENBELT BICYCLE NETWORK ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: Indirect, long-term, beneficial impacts.

Table 5-27: Greenbelt Projected Trips Associated with Planned Development Projects

Period	Total Non-SOV Trips Per Hour			Metrorail Proportion of Non-SOV	Metrorail Passenger Trips Per Hour			Peak Hour Factor	Metrorail Passenger Trips Per 15-Minute		
	IN	OUT	TOTAL		Exits	Entries	Total		Exits	Entries	Total
AM Peak	262	240	502	47.58%	125	114	239	27.72%	35	32	66
PM Peak	300	330	630	47.58%	143	157	300	28.02%	40	44	84

Source: WMATA (2014b)

No-build Condition Public Transit

The following sections describe the No-build Condition for the Metrorail and bus modes within the Greenbelt study area.

Projected Transit Growth

Growth in the transit mode was calculated for the year 2022 using regional transit growth rates and projected ridership associated with large planned developments in proximity to the site. Refer to section 3.10.4.3 for more detailed information about the Metrorail and bus growth calculations.

There are several planned projects located in proximity to the Greenbelt site with associated transit trips, including the North Core and South Core developments. Transit trips associated with these developments were calculated based on ITE trip generation rates and the transit mode split determined in the Greenbelt Site Transportation Agreement (Appendix A). Prince George's County agreed to a non-SOV credit between 10 and 45 percent for these developments (see trip generation in Appendix C, section 4.8, Traffic Analysis, for more details). The non-SOV trips were further disaggregated (divided) into bus trips and Metrorail trips using bus and subway proportions from the 2009-2013 American Community Survey (U.S. Census Bureau 2009-2013) means of transportation data for the census tract containing the study area. The American Community Survey is an on-going annual sampling of demographic data across the U.S. conducted by the U.S. Census Bureau. The resulting bus and Metrorail trips were added to the projected background growth.

Metrorail Analysis

The Metrorail analysis was conducted using projected ridership growth in the system at the Greenbelt Metro Station and ridership projected for planned development projects in the study area.

Ridership Growth from Planned Projects

As previously mentioned, additional transit trips associated with the North Core and South Core developments were added to future projected ridership at the Greenbelt Metro Station. The peak hour non-SOV trips associated with the developments (see Appendix C, section 4.5.1, Projected Transit Growth) were disaggregated into peak hour Metrorail trips using the subway proportion from the 2009-2013 American Community survey (U.S. Census Bureau 2009-2013) means of transportation data for the census tract containing the development. The peak hour Metrorail passenger trips were then disaggregated into peak AM and PM 15-minute totals using the current AM and PM peak hour factors (PHF) at the station (WMATA 2014a). A PHF is the proportion of peak hour ridership that occurs during the peak 15-minute period in that hour. The additional Metrorail trips associated with the North Core and South Core development are summarized in table 5-27. AM peak 15-minute ridership is used in the station platform and fare vending capacity analysis. PM peak 15-minute ridership is used in the station vertical and faregate aisle capacity analysis, the passenger load analysis, and the emergency evacuation (National Fire Protection Association [NFPA] 130) analysis. Each represents the peak use.

Regional Transit Growth Rate

Background ridership growth at Greenbelt Metrorail Station for 2022 was calculated based on the 2.1 percent Metrorail growth rate from the MWCOG travel demand model. Table 5-28 summarizes projected 2022 weekday entries at the station, including background growth and growth from planned projects. Average weekday exits would theoretically be the same or similar to average weekday entries.

Metrorail Passenger Loads

Refer to section 3.10.4.3 for a detailed explanation of how Metrorail passenger loads were calculated. At Greenbelt Metro Station under No-build Conditions, the AM peak period entries were used to calculate loads, since they were the highest of AM peak entries, AM peak exits, PM peak entries, and PM peak exits, and therefore would result in the highest passenger load. Projected passenger loads by 2022 are below 100 passengers per car, and therefore would be considered acceptable. Table 5-29 summarizes passenger loads per car in 2022 under the No-build Condition using AM peak 15-minute entries.

Station Capacity Analysis

Refer to section 3.10.4.3 for a detailed description of how station capacity was analyzed. Table 5-30 summarizes ridership growth during the peak exiting periods at the Greenbelt Metro Station.

Table 5-28: Weekday No-build 2022 Projected Metrorail Ridership at Greenbelt Metro Station

Station	Average Weekday Entries			
	2014	2022 with Background Growth	2022 Planned Development Projects	2022 Total No-build
Greenbelt	6,098	7,185	271	7,456

Source: Greenbelt Site Trip Generation Summary, WMATA, (2014b); MWCOG (2015)

Table 5-29: Projected Maximum Metrorail Passenger Loads at Greenbelt Metro Station

Measure (AM Peak 15-Minute Entries)	Unit
2014 Maximum 15-minute Passengers	361
2022 Passengers with Background Growth	426
2022 Passengers with Development Projects	32
2022 Total No-build Passengers	458
2022 Minimum Trains[a]	3
2022 Train Cars[b]	18
2022 Maximum Passengers Per Car	25

[a] A 4-minute headway equates to 3.75 trains every 15 minutes. This figure was rounded down to 3 minutes to provide the most conservative load estimate.
[b] Assuming three 6-car trains at Greenbelt.
Source: WMATA (2014b); MWCOG (2015)

Table 5-30: Greenbelt Weekday Peak 15-Minute Exiting Period Ridership Growth

Metro Station	Time	2014		2022 No-build	
		Entries	Exits	Entries	Exits
Greenbelt	5:00 PM – 5:15 PM	55	353	109	456

Source: WMATA (2014b)
MWCOG (2015)

GREENBELT PUBLIC TRANSIT ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: No measurable impacts to public transit capacity. Indirect, long-term, major adverse impacts to bus operations in the Greenbelt study area.

Table 5-31: Greenbelt Weekday Peak 15-Minute Entering Period Ridership Growth

Metro Station	Time	2014		2022 No-build	
		Entries	Exits	Entries	Exits
Greenbelt	7:15 AM – 7:30 AM	361	36	458	77

Source: WMATA (2014b); MWCOG (2015)

Table 5-32: Greenbelt Projected Bus Passenger Trips Associated with Greenbelt North Core and South Core Developments

Period	Total Non-SOV Trips Per Hour			Bus Proportion of Non-SOV	Bus Passenger Trips Per Hour		
	IN	OUT	TOTAL		IN	OUT	TOTAL
AM Peak	262	240	502	7.06%	18	17	35
PM Peak	300	330	630	7.06%	21	23	44

Note: Values may not appear to calculate correctly due to rounding.
Source: Greenbelt Site Transportation Agreement (Appendix A); U.S. Census Bureau (2009-2013)

Table 5-33: Current and Projected Bus Capacity Analysis in the Greenbelt Study Area

Measure	2014		2022 Background Growth		2022 Planned Development Projects		2022 Total No-build	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Total Volume	671	654	778	758	35	44	813	803
Total Capacity	1,337	1,273	1,337	1,273	256	336	1,593	1,609
Volume to Capacity Ratio (V/C)	0.50	0.51	0.58	0.60	-	-	0.51	0.50

Sources: WMATA (2014a); MWCOG (2015); Greenbelt Site Trip Generation Summary

Table 5-31 summarizes ridership growth during the peak entering period at Greenbelt Metro Station.

Overall, vertical elements (escalators and stairs), faregate aisles, and fare vending machines at Greenbelt Metro Station are projected to operate within capacity, or below a v/c of 0.7. Additionally, platform peak pedestrian LOS (based on the available spacing between passengers) on the busiest platform sections are projected to be at the acceptable LOS B. Further details on the station capacity analysis and emergency evacuation analysis are found in the Greenbelt TIA (Appendix C).

Bus Analysis

As a part of the North Core and South Core planned developments, six additional AM peak hour bus trips and eight additional PM peak hour bus trips are planned to be added to existing bus services within the study area (see Appendix C, section 4.8, Trip Generation for more details). This would result in an additional passenger capacity of 256 passengers during the AM peak hour and 336 passengers during the PM peak hour. The overall analysis was limited to Metrobus service because no ridership data were available for TheBus, and the Central Maryland RTA G route only serves Greenbelt Metro Station on weekends. It can be assumed, however, that TheBus would see some minor increases in ridership on routes that serve the site.

To calculate peak hour bus volumes within each study area, the 2014 maximum weekday passenger loads for each route and direction at stops within the study area were averaged by stop; this figure was then multiplied by the number of peak trips per hour to calculate ridership per peak hour by route and direction. These totals were grown to the year 2022 using the 1.9 percent annual regional growth rate for the bus mode. The 2022 totals were then summed to calculate a total ridership per peak hour for the study area.

The peak hour non-SOV trips associated with the North Core and South Core developments (see Appendix C, section 4.5.1, Projected Transit Growth) were disaggregated into peak hour bus passenger trips using the bus mode proportion from the 2009-2013 American Community Survey (U.S. Census Bureau 2015) means of transportation data for the census tract containing the development. This additional ridership, approximately 35 AM peak hour passengers and 44 PM peak hour passengers (see table 5-32), was then added to each route and direction proportionally based on existing ridership.

To calculate the peak hour capacity of bus services within the study area, the capacity per trip of each bus route during the peak hour was multiplied by the number of trips scheduled in the peak hour. Capacities per trip for each Metrobus route were based on the typical number of seats available on each trip and the WMATA load standard (WMATA 2013a). The additional capacity associated with the six additional AM peak hour and eight additional PM peak hour bus trips planned with the North Core and South Core developments was then added to the overall study area capacity (Renard 2014). This was done by adding additional bus trips per peak hour to the route/directions with the most severe capacity issues (Routes 87 north, 87 south, 89 north, 89 south, 89M south, C2 east, G13 west, R11 north, and R12 south, see Appendix C for more details).

Total 2014 peak hour bus ridership (Existing Condition) and projected 2022 peak hour bus ridership (No-build Condition) are summarized in table 5-33. The 2014 and No-build 2022 bus ridership are below the calculated capacity of current and future projected bus services in the study area, meaning the additional passenger trips projected can be adequately handled by current service levels.

Even though the study area as a whole would not be over capacity, several individual routes are projected to have capacity issues, including Routes 87, 89, and 89M. However, the capacity issues on these routes would be alleviated with the addition of the planned bus trips associated with the North Core and South Core developments. Additionally, WMATA has completed studies of Routes 87, 89, 89M, and C2. Certain recommendations from these studies have already been implemented, and are all intended to help alleviate overcrowding on these routes. Further analysis would be required to determine the extent to which the recommendations would impact capacity on these routes. Specific recommendations from WMATA's studies to improve bus capacity are found in Appendix C.

The Greenbelt TIA (Appendix C) contains the Greenbelt Metro Station bus bay analysis and further details on the bus capacity analysis.

No-build Condition Parking

Parking is proposed in several garages in the North Core area, including a parking garage to replace the current WMATA surface parking for Greenbelt Metro Station users. According to documents submitted by developers during the consolidated FBI HQ site selection process, there would be approximately 4,200 parking spaces in the new Greenbelt Metro Station garage. It is anticipated that this number of spaces would accommodate demand, since it is a substantial increase from the current number of parking spaces at the Metrorail station. On-street parking may also be part of the future development; if so, locations would be determined during the detailed site plan review process. Parking as currently proposed for the No-build Condition would be as shown in figure 5-40. While the total number of parking spaces for the Greenbelt Station project is not yet known, the development would be required to provide adequate parking for all portions of the development as determined by M-NCPPC requirements (M-NCPPC 2014).

GREENBELT PARKING ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: Indirect, long-term, beneficial impacts.

Figure 5-40: Greenbelt No-build Condition Parking

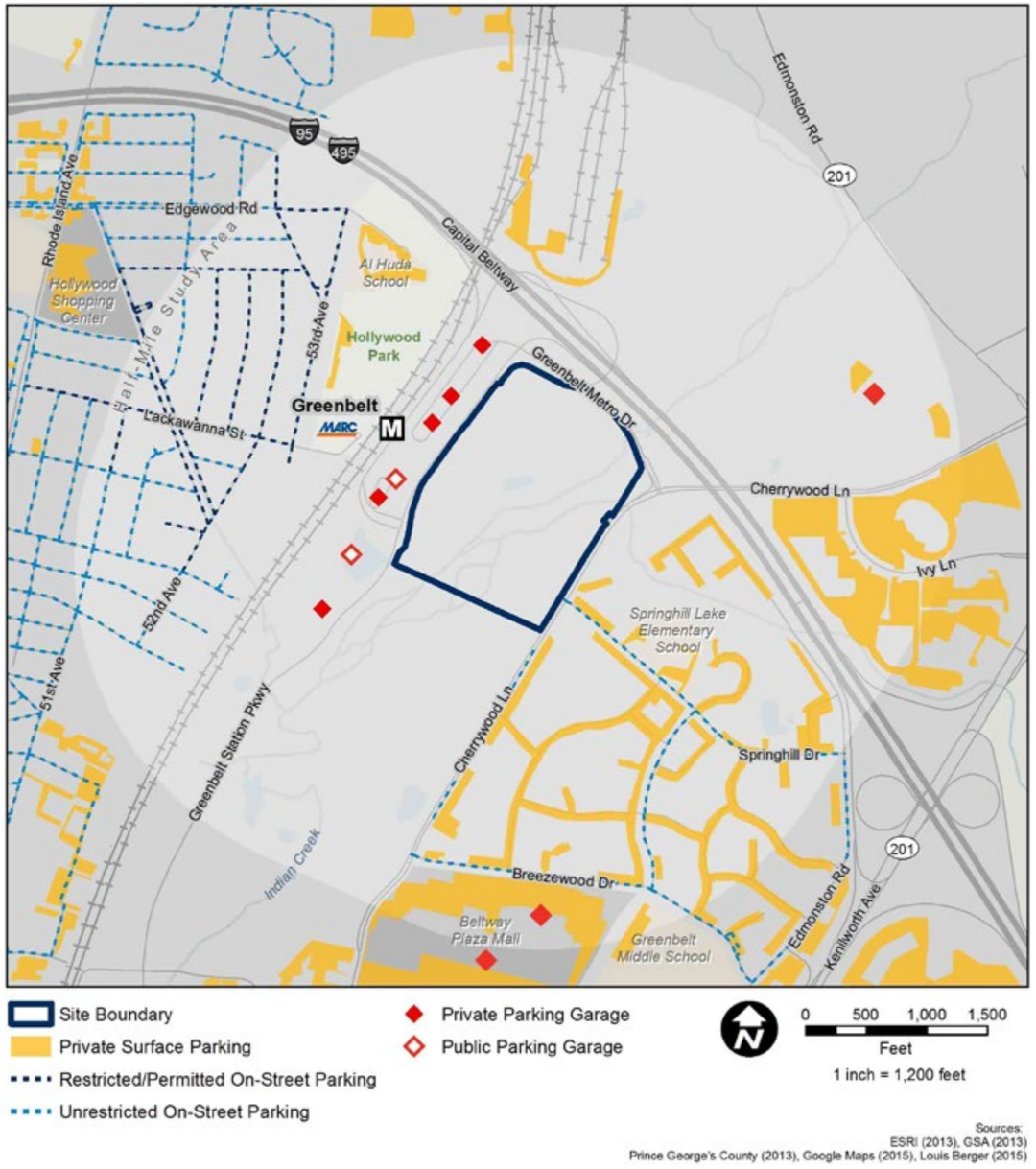


Table 5-34: Planned Development and WMATA Trip Generation Summary

PROJECT	AM Peak Hour Trips			PM Peak Hour Trips		
	IN	OUT	TOTAL	IN	OUT	TOTAL
North Core (West side of Greenbelt Station Parkway)						
TOTAL VEHICLE TRIPS	429	256	685	338	463	801
South Core						
TOTAL VEHICLE TRIPS	164	427	591	456	338	794
Capital Office Park (North of Ivy Lane)						
TOTAL VEHICLE TRIPS	415	46	461	78	336	414
Capital Office Park (SW Corner of Cherrywood Lane and MD 201)						
TOTAL VEHICLE TRIPS	83	9	92	16	69	85
Greenbelt Station Kiss and Ride						
TOTAL VEHICLE TRIPS	48	59	107	55	44	99
Greenbelt Station Bus Service						
TOTAL VEHICLE TRIPS	6	6	12	8	7	15
Greenbelt Station Parking Garage						
TOTAL VEHICLE TRIPS	82	3	85	6	61	67

GREENBELT TRUCK ACCESS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: No measurable impacts.

No-build Condition Truck Access

Truck access routes would use the new roadway and access points determined through the detailed site plan process with Prince George's County and M-NCPPC. The roadways and access points would be designed to safely and adequately provide truck access to the No-build development.

No-build Condition Traffic Analysis

According to the Greenbelt Site Transportation Agreement (Appendix A), the future No-build traffic volumes relied on two primary sources, Maryland SHA and M-NCPPC, which provided the background growth rates, planned roadway improvements, and approved list of planned developments.

The following section describes the process for analyzing traffic for the No-build Condition and the results of the analysis.

Background Growth

Refer to section 3.10.4.3 for a detailed description of background growth and how it was calculated. As agreed in the Greenbelt Site Transportation Agreement, a 0.33 annual growth rate was selected for all non-interstate roadways, excluding the newly planned roadways serving the North Core, South Core, and Greenbelt Metro Station (Site Transportation Agreement, Appendix A). These excluded roadways had a separate growth process that would result in double counting if the background growth rate were included.

Development of Existing Vehicle Volumes through Proposed North and South Core Roadway Network

The next consideration within the No-build Condition analysis involved modeling the redistribution of vehicle volume in conjunction with the planned roadway improvements The process of populating the proposed North Core and South Core roadways with the existing Greenbelt Metro Station vehicle volumes (WMATA-based trips) required several steps. The WMATA-based trips were first extended through the proposed roadways. The percentage shift in WMATA-based trips to and from I-95/I-495 South was then calculated. Lastly, the WMATA-based trips were shifted. The Greenbelt TIA (Appendix C) contains the detailed step-by-step process for populating the proposed North Core and South Core roadways with the existing Greenbelt Metro Station vehicle volumes.

Trip Generation/Modal Split

The process to add each development for the No-build Condition followed the M-NCPPC/Prince George's County guidelines by using the County's prescribed trip generation formulas (M-NCPPC 2012). Depending on the type of development and size, the trip generation either relied on the Prince George's County trip rates or ITE trip rates. Prince George's County supplies trip rates for a number of typical land uses such as office and residential. The Greenbelt TIA (Appendix C) contains the trip generation rates used to cover the planned developments.

Table 5-34 presents the planned development and WMATA trip generation summary. A more detailed trip generation summary is contained in the Greenbelt TIA (Appendix C).

Cut-through Traffic

In addition to the planned developments, the WMATA-based trip growth and the forecasted cut-through traffic (traffic from adjacent areas both inside and outside the study area that would be expected to change their travel pattern to access I-95/I-495 using the new available roadway connections) was calculated.

The cut-through traffic would be a result of the connection provided by the new set of roadways between Greenbelt Road/Cherrywood Lane and I-95/I-495. These new connections would provide an alternative to using the existing U.S. Route 1 and Kenilworth Avenue interchanges to access I-95/I-495. The Greenbelt TIA (Appendix C) contains the detailed steps to incorporate the cut through traffic.

Trip Distribution

Once the total number of new vehicle trips was calculated through the trip generation process, the trips were systematically and logically distributed across the road network. This is typically a straightforward process, emulating the existing travel patterns on roadways. However, in this case, with new developments and new roadways introduced as part of the No-build Condition, the process required several additional steps to complete including the following:

1. Add the planned development trips.

2. Add the growth in Greenbelt Metro Station trips (WMATA garage and Kiss & Ride).

3. Add the growth in buses serving the Greenbelt Metro Station.

4. Add the background growth rate trips.

5. Add the cut-through vehicle trips.

Planned Development Trip Distribution

The planned developments included the North and South Core developments, plus the two Capital Office Park developments. The study followed the North Core distribution values based on the Greenbelt WMATA, Mixed-Use, and FBI HQ Study for the North and South Core planned land uses and MWCOG travel demand model trip tables from the Travel Demand Model Version 2.3.52 for 2020 for the Capital Office Park developments (Renard 2014; MWCOG 2014).

The Greenbelt WMATA, Mixed-Use, and FBI HQ study provided distributions for office, retail, hotel, and residential uses. Because the South Core development is in proximity to the North Core, the same distribution patterns were followed except for trips destined to Kenilworth Avenue to the south. It was assumed that these trips would use Greenbelt Road to access Kenilworth Avenue rather than Cherrywood Lane.

Trip tables from the 2020 model were obtained from MWCOG representing all trips originating at home for all purposes such as work or shopping. A transportation analysis zone (TAZ), which is the smallest geographical unit within a travel demand model, was selected to capture the travel patterns to and from office uses. TAZ 893, representing a 2020 forecast of 3,299 jobs, is located between Sunnyside Avenue and I-95/I-495. This zone represents the largest employment adjacent to the Greenbelt site TAZ.

Table 5-35 contains the distribution percentages for each planned development. Appendix C contains maps showing the distribution patterns for each planned development.

The Greenbelt TIA (Appendix C) contains the detailed steps to distribute the future forecasted WMATA-based trips, new bus trips, and cut-through trips.

Table 5-35: Planned Development Trip Distribution

Origin / Destination	North Core				South Core		Capital Office Park
	Office	Residential	Retail	Hotel	Residential	Retail	Office
I-95/I-495 North	35%	30%	10%	50%	30%	10%	31%
I-95/I-495 South	30%	30%	10%	50%	30%	10%	26%
US 1 North	0%	0%	0%	0%	0%	0%	12.5%
Edmonston Road North	7.5%	7.5%	12.5%	0%	7.5%	12.5%	2%
Kenilworth Avenue South	7.5%	7.5%	12.5%	0%	0%	0%	9.5%
Greenbelt Road West	7.5%	12.5%	12.5%	0%	12.5%	12.5%	11%
Greenbelt Road East	7.5%	12.5%	12.5%	0%	20%	25%	8%
Breezewood/Springhill Drive	5%	0%	30%	0%	0%	30%	0%
Total	100%	100%	100%	100%	100%	100%	100%

GREENBELT TRAFFIC ENVIRONMENTAL CONSEQUENCES SUMMARY

No-build Condition: Indirect, long-term, major adverse impacts to corridor-level traffic, and indirect, long-term, adverse impacts to intersections in the study area.

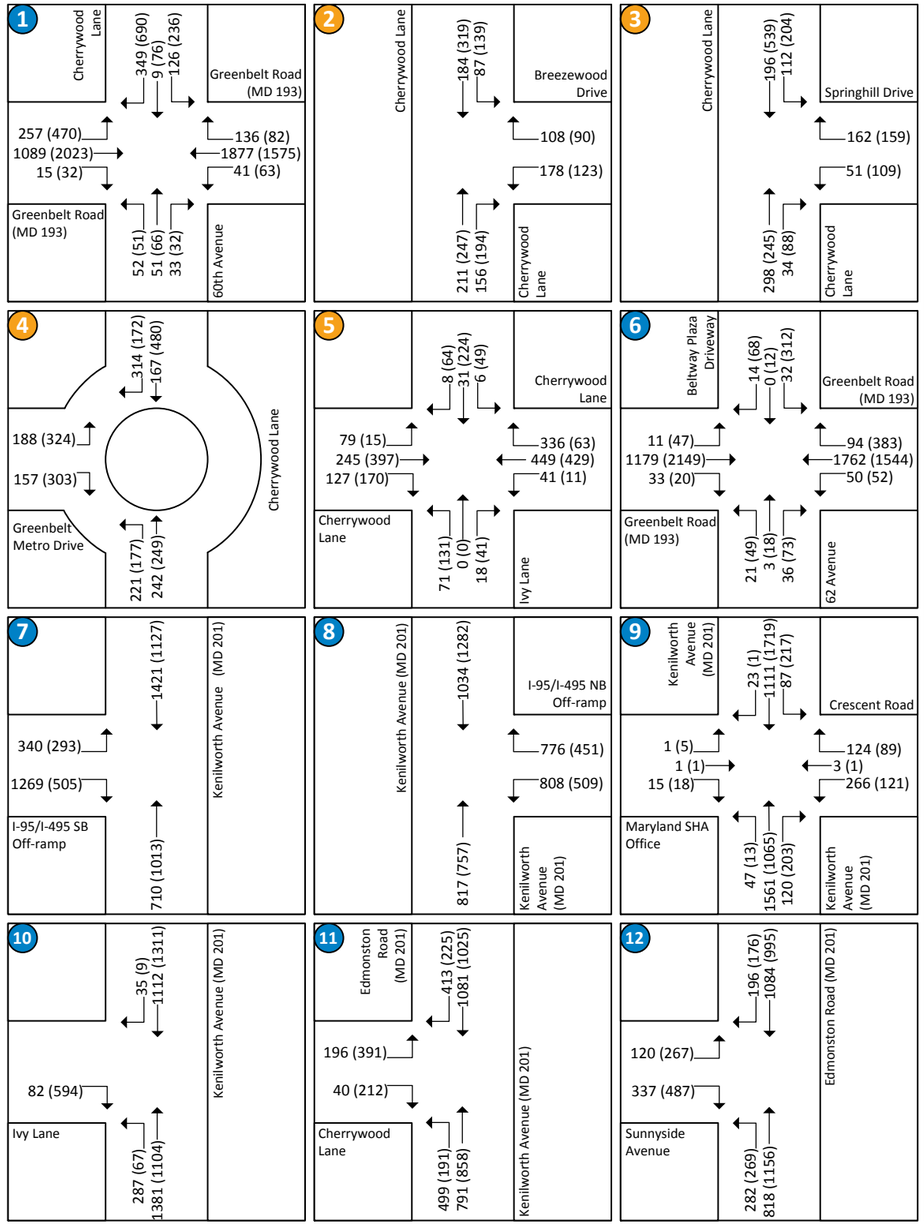
Background Growth Rate

Once all the vehicle trips were properly shifted, the planned development growth applied, and the WMATA-based growth applied, the vehicle background growth trips were applied. This consisted of applying a 0.33 annual growth factor to all roadways (non-interstate and interstate) based on the volumes after shifting existing vehicle trips due to the opening of the new North and South Core roadway network and new interstate ramps. The new North and South Core roadways themselves were not grown to avoid double-counting because they already contained the growth from the planned developments and Greenbelt Metro Station-based growth. In addition, the cut-through volumes were added to these roadways based on the new connections to/from the interstate becoming available. Appendix C contains a map showing the background growth pattern for both peak hours.

Development of No-build Condition

The planned developments, Greenbelt Metro Station growth, background growth, cut-through trips, and planned roadway improvements were summed together to create complete No-build Condition vehicle volumes covering all study area intersections. Figure 5-41 shows the No-build Condition turning movement volumes. Section 3.9.3.4 contains a description of the PHF and how it was used to provide a conservative traffic operations analysis.

Figure 5-41: Greenbelt No-build Condition AM and PM Weekday Peak Turning Movement Volumes



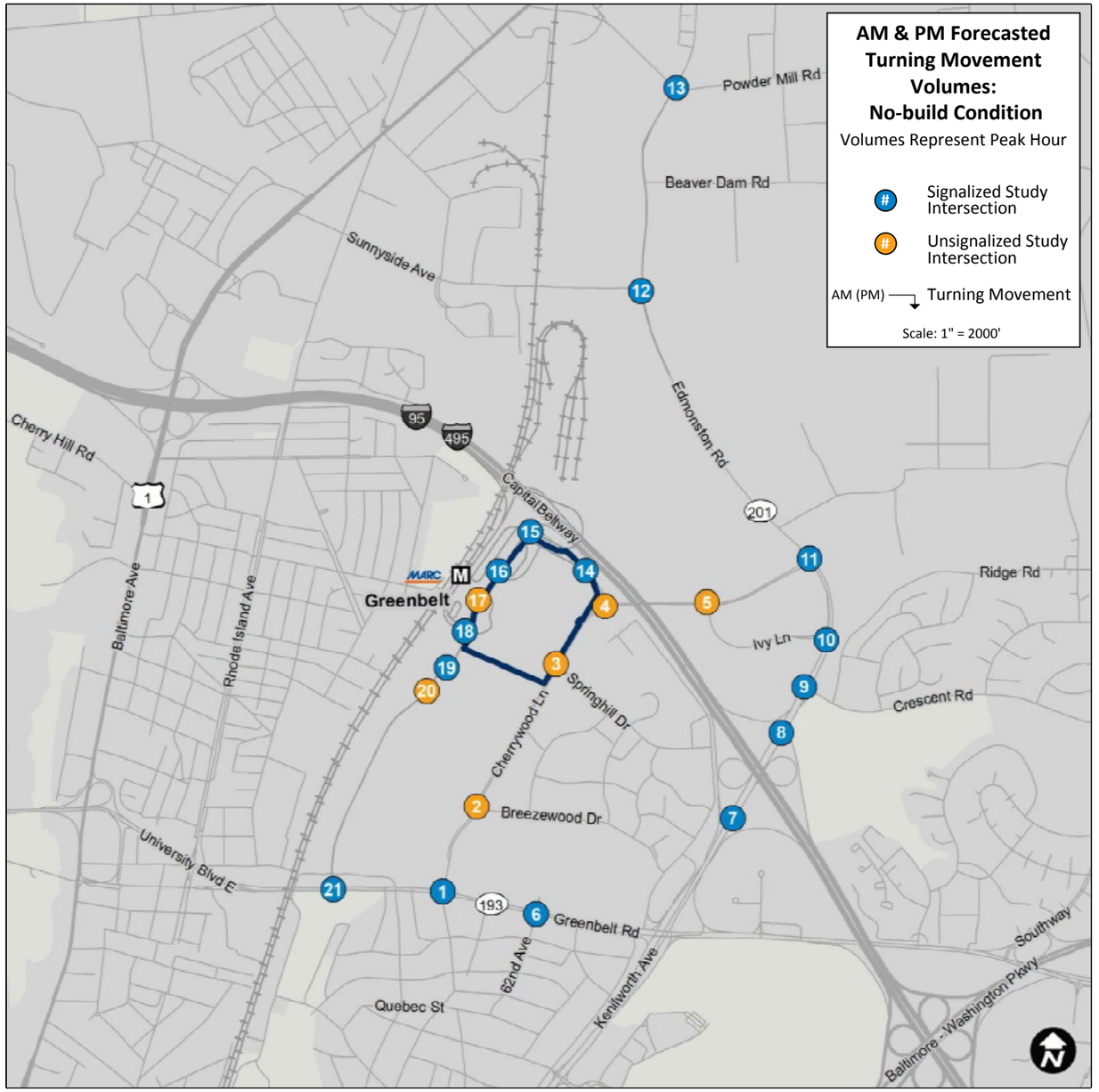
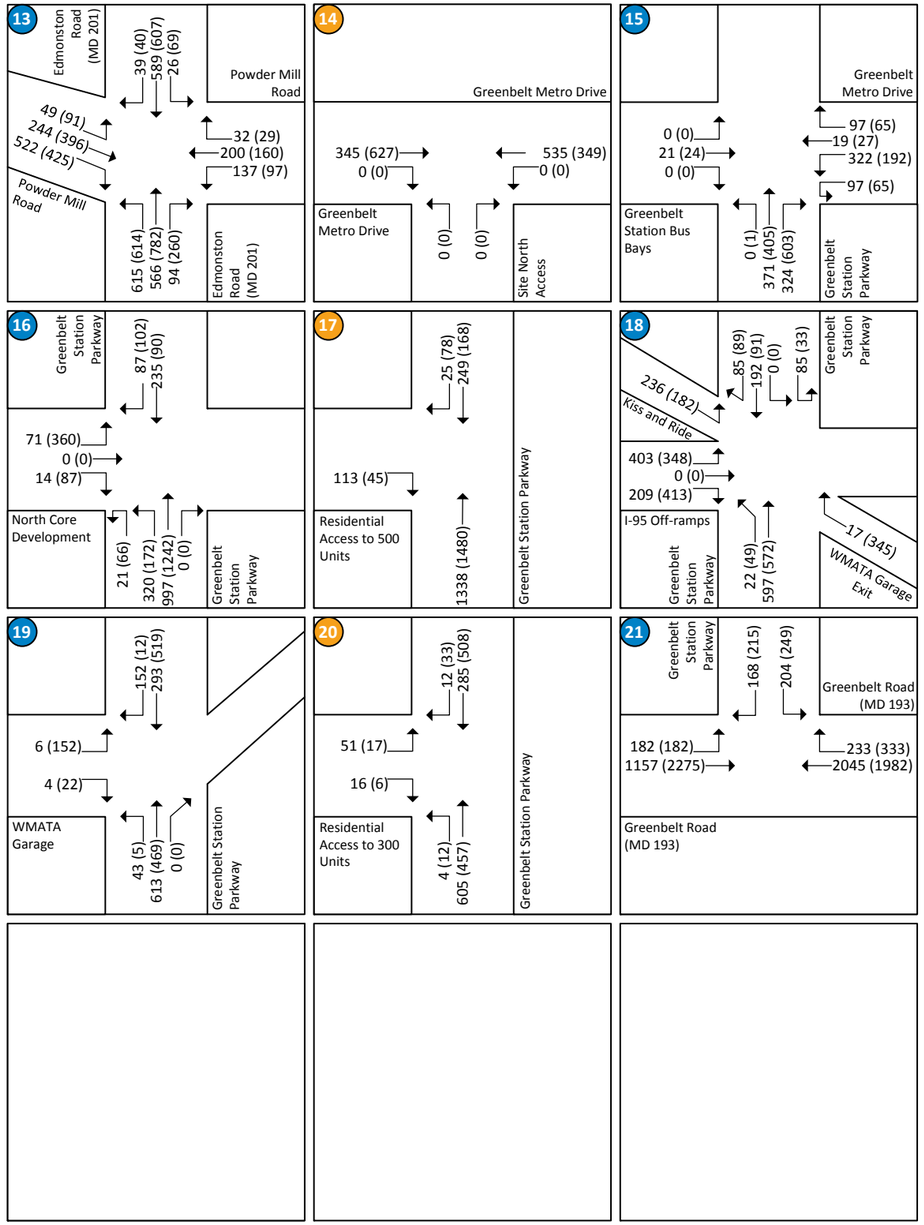


Figure 5-40: Greenbelt No-build Condition AM and PM Weekday Peak Turning Movement Volumes (continued)



No-build Condition Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, many of the signalized study area intersections operate at acceptable overall conditions during the morning and afternoon peak hours. However, the following intersections in the study area operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Sunnyside Avenue (Intersection #12) during the PM peak hour
- Edmonston Road (MD 201) and Powder Mill Road (Intersection #13) during the PM peak hour

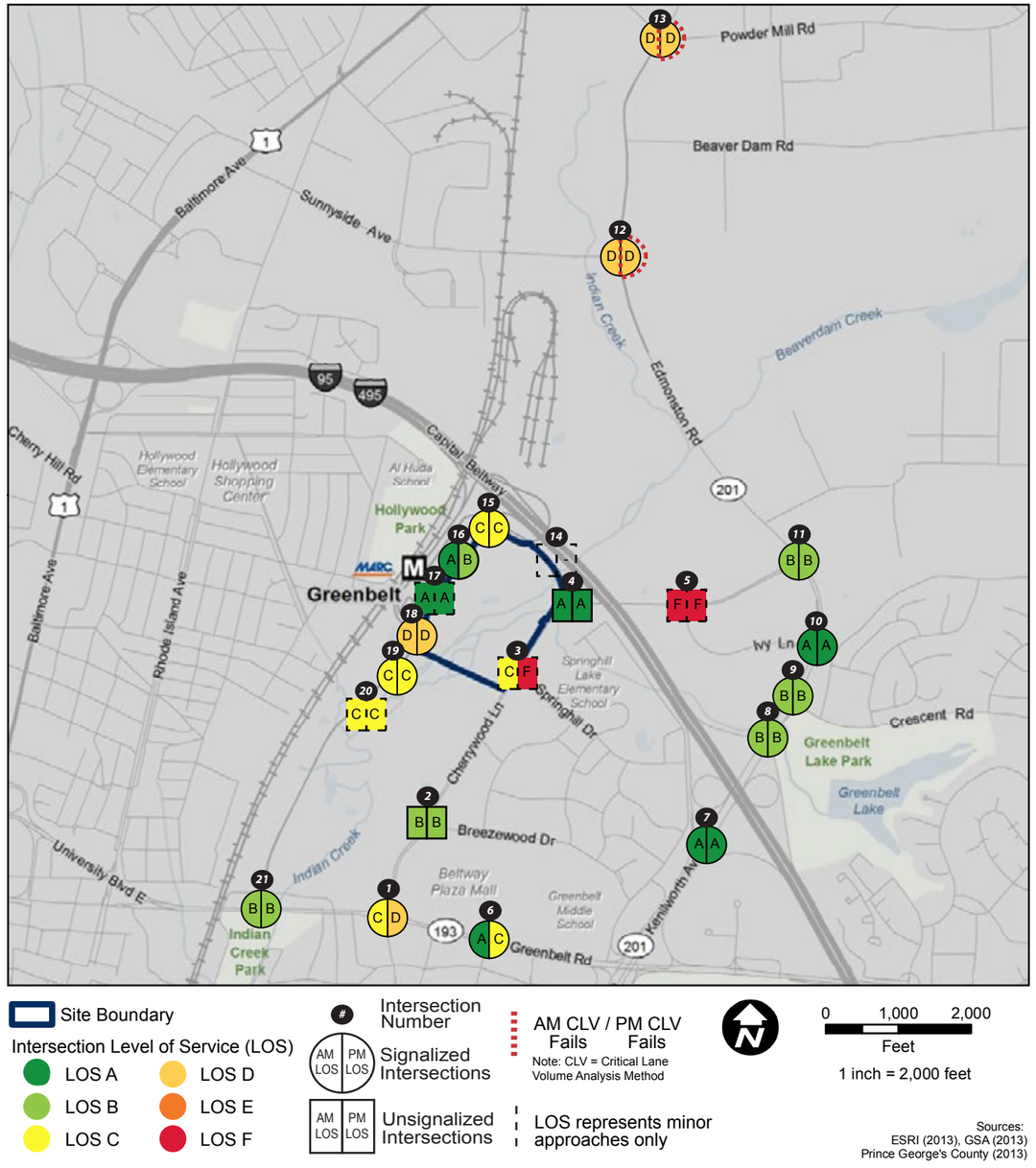
A total of 10 signalized and 2 unsignalized intersections would experience an unacceptable conditions for one or more turning movements. Compared to the Existing Condition, the No-build Condition would have no change in the number of intersections failing during the AM peak hour and there would be one more intersection failing during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed No-build Condition traffic operations analysis.

The overall intersection LOS grades for the No-build Condition are depicted in figure 5-42 for the AM and PM peak hour.

Table 5-36: No-build Condition AM and PM Peak Hour Operations Analysis

Type of Change Between Conditions	AM	PM
New Failing Approach	1	2
Additional Failing Approaches	0	1
No Change	11	9
Fewer Failing Approaches	1	0
No Failing Approaches	0	1
Total Signalized and Unsignalized Intersections	13	13

Figure 5-42: Greenbelt No-build Condition Intersection LOS for AM and PM Peak Hours



GREENBELT PEDESTRIAN ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Direct, long-term, beneficial impacts.

GREENBELT BICYCLE NETWORK ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: No measurable impacts.

No-build Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, eight signalized intersections and one unsignalized intersection would experience queuing lengths that would exceed the available storage capacity. The remaining intersections in the study area would provide sufficient storage for the anticipated demand. Compared to the Existing Condition, the No-build Condition would have no change in the number of intersections with failing queues during the AM peak hour and would have one more intersection with failing queues during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed No-build Condition traffic queuing analysis.

Summary of Traffic Conditions: No-build Condition

Overall, the PM peak hour would experience corridor-based delays along Edmonston Road (MD 201) in the northbound direction beginning at Powder Mill Road and extending to Cherrywood Lane resulting in indirect, long-term, major adverse impacts. There would also be isolated intersection impacts during the AM peak hour at the Edmonston Road and Sunnyside Avenue and during both peak hours at the Cherrywood Lane and Ivy Lane intersection (Ivy Lane approaches only) resulting in indirect, long-term, adverse impacts.

5.2.9.2 Build Condition (FBI HQ Consolidation)

This section introduces the Build Condition for the Greenbelt site and summarizes the potential impacts to the pedestrian network, bicycle network, public transit system, parking conditions, truck access, and traffic operations from the consolidation of the FBI HQ on the Greenbelt site.

Build Condition Pedestrian Network

Under the Build Condition, because the roadways adjacent to the Greenbelt site would already have sidewalks due to the Greenbelt Station development proposal, only localized pedestrian improvements are anticipated at the locations of the remaining ECFs to provide ADA compliance and pedestrian access, as needed. Within the site, multiple pedestrian pathways would provide access to the Main Building and between elements on the site; the location of these pedestrian accommodations would be determined in the final site design process.

Based on the anticipated mode split percentages, a large number of pedestrians would access the Greenbelt site via the surrounding pedestrian network. The large increase in pedestrians would be related to the location of the Greenbelt site (within a 0.5-mile walking distance of several transit options) and because reduced parking was designed per NCPC guidance to encourage employees to access the site via transit. It is anticipated that most transit riders would follow sidewalks or the proposed direct connection between the Greenbelt Metro Station and the pedestrian gate at the western edge of the Greenbelt site. The direct pedestrian connection between the Greenbelt Metro Station and the Greenbelt site would not enter the FBI security perimeter. These sidewalks or the connection would be built with future roadways planned in the No-build Condition.

Therefore, due to the large increase in pedestrians expected to access the site on foot via the pedestrian network, the Build Condition as planned would have direct, long-term, beneficial impacts to the pedestrian network. The pedestrian impacts would overall be beneficial, rather than adverse, because the sidewalks would be designed for the large number of pedestrians anticipated, the sidewalks or direct pedestrian connection would create a safe convenient travel route for pedestrians, and the sidewalk improvements at the ECFs would reduce barriers to accessing the site.

Because there is a plan under the No-build Condition to remove the existing sidewalks serving the Greenbelt Metro Station and construct a new network of sidewalks on both sides of Greenbelt Station Parkway, there would be no measurable direct construction impacts to the pedestrian network. However, there could be direct, short-term, adverse impacts to the proposed pedestrian network during construction if the proposed sidewalks along Greenbelt Station Parkway are constructed before the start of the Greenbelt site construction as a result of construction vehicles crossing the sidewalk and intermittent sidewalk closures.

Build Condition Bicycle Network

As noted in the No-build Condition Bicycle Network section (section 5.2.9.1), the Prince George's County Bicycle Master Plan (Prince George's County 2009) recommends several bicycle facilities within the Greenbelt study area. Because there is no dated implementation plan in the Master Plan, it is unknown whether any of these recommendations would be completed by 2022. However, the bicycle improvements adjacent to roadways and proposed as part of development of the North Core should be complete by 2022. Development of the Build Condition would possibly limit the extent of the proposed mixed-use trail on the Greenbelt site. Due to substantial improvements planned with the North Core development, no off-site bicycle improvements are planned as part of the Greenbelt Build Condition.

The overall bicycle mode split to the site is projected to be 2.0 percent, resulting in approximately 226 bicycle roundtrips daily. It is assumed that there would be bicycle facilities on-site to encourage the use of the bicycle mode of travel.

The increase in bicycle trips from the Greenbelt Build Condition would increase overall bicycle volumes in the study area. Given the existing bicycle facilities that serve the site and the study area (including those along Cherrywood Lane and Rhode Island Avenue [U.S. Route 1]) and those expected through development of the North Core (Greenbelt Station Parkway and others), the increase in projected bicycle volumes would have no measurable long-term impact to the study area bicycle network.

Because there is a plan under the No-build Condition to revise the existing multi-use path serving the Greenbelt Metro Station via Greenbelt Metro Drive and construct a new network of bicycle lanes along Greenbelt Station Parkway and Greenbelt Metro Drive, there would be no measurable short-term impacts to the bicycle network during construction of the Build Condition. However, there could be direct, short-term, adverse construction impacts to the proposed bicycle network if the proposed bicycle lanes along Greenbelt Station Parkway and Greenbelt Metro Drive are constructed before the start of the Greenbelt site construction as a result of construction vehicles crossing the lanes and intermittent lane closures.

Build Condition Public Transit

The following sections describe the Build Condition for the Metrorail and bus modes within the Greenbelt study area. It is anticipated that there would be an increase in people commuting to the site via commuter bus or shuttle given the overall increase in total trips in the Build Condition.

Projected Trips

Section 3.10.4.2 details the basis of the Greenbelt Build Condition trip generation calculation.

Metrorail Analysis

The Greenbelt Build Condition passenger trips were assigned to Metrorail peak hours using the Metrorail/commuter rail mode split of 47.33 percent, and a further reduction of passenger trips to account for passengers who could use MARC trains instead of Metrorail to access the site. MARC service operates in both directions to the Greenbelt Metro Station on weekdays. The MARC passenger trip reduction was calculated using the 2014 proportion of daily passengers that use MARC instead of Metrorail to and from the station, as shown in table 5-37.

Overall, with a Metrorail/commuter rail mode split of 47.33 percent and the MARC passenger reduction (minus one percent), a total of 1,544 additional AM peak hour passenger trips and 1,427 additional PM peak hour passenger trips are projected. Table 5-38 summarizes the additional Metrorail trips associated with the Greenbelt Build Condition.

Table 5-37: Greenbelt MARC/Metrorail Station Weekday Ridership Proportions

Greenbelt Metro Station	Average Weekday Entries	
	Total	Percent of Total
MARC	63	1.0%
Metrorail	6,098	99.0%
Total	**6,161**	**100.0%**

Sources: WMATA (2014b); Metrorail Faregate Data. October, 2014. Received on 12|16|14; MTA (2015)

GREENBELT PUBLIC TRANSIT ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: No measurable impacts to public transit capacity. Direct, long-term, major adverse impacts to bus operations.

Table 5-38: Greenbelt Build Condition Additional Peak Hour Metrorail Passenger Trips

Employees	Time Period	IN	OUT	Proportion of Daily Total	Rail Mode Split	Metro Percent[a]	IN	OUT	TOTAL
11,055	AM Peak Hour	93%	7%	29%	47.33%	99.0%	1,397	105	1,502
	PM Peak Hour	5%	95%	26.9%	47.33%	99.0%	70	1,323	1,393
Briefing Center	**Time Period**	**IN**	**OUT**	**Proportion of Daily Total**	**Rail Mode Split**	**Metro Percent[a]**	**IN**	**OUT**	**TOTAL**
250	AM Peak Hour	100%	-	36%	47.33%	99.0%	42	-	42
	PM Peak Hour	-	100%	29%	47.33%	99.0%	-	34	34
Total People							**Exits**	**Entries**	**TOTAL**
11,305	**AM Peak Hour**						**1,439**	**105**	**1,544**
	PM Peak Hour						**70**	**1,357**	**1,427**

[a] *These figures represent the percentage of passengers who would use Metrorail instead of MARC, and constitute the "MARC Reduction" previously referenced.*
Sources: Greenbelt Site Transportation Agreement (Appendix A)

Table 5-39: Greenbelt Build Condition Additional Peak 15-Minute Metrorail Passenger Trips

Employees	Time Period	IN	OUT	TOTAL	Peak Hour Factor	Time Period	IN	OUT	TOTAL
11,055	AM Peak Hour	1,397	105	1,502	27.7%	AM Peak 15-Minute	387	29	416
	PM Peak Hour	70	1,323	1,393	28.0%	PM Peak 15-Minute	19	371	390
Briefing Center	**Time Period**	**IN**	**OUT**	**TOTAL**	**Peak Hour Factor**	**Time Period**	**IN**	**OUT**	**TOTAL**
250	AM Peak Hour	42	-	42	27.7%	AM Peak 15-Minute	12	--	12
	PM Peak Hour	-	34	34	28.0%	PM Peak 15-Minute	--	10	10
Total People	**Time Period**	**Exits**	**Entries**	**TOTAL**	**Peak Hour Factor**	**Time Period**	**Exits**	**Entries**	**TOTAL**
11,305	**AM Peak Hour**	**1,439**	**105**	**1,544**	**27.7%**	**AM Peak 15-Minute**	**399**	**29**	**428**
	PM Peak Hour	**70**	**1,357**	**1,427**	**28.0%**	**PM Peak 15-Minute**	**20**	**380**	**400**

Sources: Greenbelt Site Transportation Agreement (Appendix X); WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14

Table 5-40: Weekday 2022 Projected Metrorail Ridership at Greenbelt

Metro Station	Average Weekday Entries					
	2014	2022 Background Growth	2022 Planned Development Projects	2022 Total No-build	2022 Additional Build Trips	2022 Total Build Trips
Greenbelt	6,098	7,185	271	7,456	5,296	12,752

Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

Table 5-41: Greenbelt Build Condition Peak Metrorail Passenger Loads

Measure (PM Peak 15-Minute Entries)	Unit
2014 Maximum Passengers	55
2022 Passengers with Background Growth	65
2022 Passengers with Development Projects	44
2022 Total No-build Passengers	109
2022 Minimum Trains[a]	3
2022 Train Cars[b]	18
2022 Total No-build Passengers Per Car	6
2022 Greenbelt Build Additional Passengers	380
2022 Total Greenbelt Build Passengers	489
2022 Total Greenbelt Build Passengers Per Car	**27**

[a] A 4-minute headway equates to 3.75 trains every 15 minutes. This figure was rounded down to 3 minutes in order to provide the most conservative load estimate.
[b] Assumes all six car trains to provide the most conservative estimate. Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

The additional peak hour Metrorail passenger trips were further disaggregated into AM and PM peak 15-minute periods using existing PHF at the Greenbelt Metro Station. Overall, this resulted in an additional 428 passenger trips during the AM peak 15-minute period and an additional 400 passenger trips during the PM peak 15-minute period, as summarized in table 5-39.

Overall, the Greenbelt Build Condition would result in an additional 5,296 weekday entries at the Greenbelt Metro Station, bringing the weekday station entry total to 12,752 passengers (see table 5-40). Average weekday exits would theoretically be the same or similar to the average weekday entries.

Metrorail Passenger Loads

Refer to section 3.10.4.3 for a detailed explanation of how Metrorail passenger loads were calculated. At Greenbelt under the Build Condition, the PM peak period entries were used to calculate loads, since they were the highest of AM peak entries, AM peak exits, PM peak entries, and PM peak exits, and therefore would result in the highest passenger load.

Projected passenger loads of 27 passengers under the Greenbelt Build Condition at the station is well below 100 passengers per car, and therefore would be considered acceptable. Table 5-41 summarizes passenger loads per car under future development conditions using PM peak 15-minute entries.

Station Capacity Analysis

Refer to section 3.10.4.3 for a detailed description of how station capacity was analyzed. Table 5-40 summarizes ridership during the peak exiting period at the Greenbelt Metro Station. With the introduction of the Build Condition passengers, the peak 15-minute entering period at the Greenbelt Metro Station shifts from 7:15 AM to 5:00 PM (also the peak exiting period). Table 5-42 summarizes ridership during this period.

Overall, vertical elements, faregate aisles, and fare vending machines at the station are projected to operate within capacity, or below a v/c of 0.7. Additionally, platform peak pedestrian LOS (based on the available spacing between passengers) on the busiest platform sections are projected to be at the acceptable LOS B. Further details on the station capacity analysis and the emergency evacuation analysis are found in the Greenbelt TIA (Appendix C).

Bus Analysis

The additional local bus trips associated with the Greenbelt Build Condition are summarized in table 5-43. At a local bus mode split of 6.0 percent, approximately 198 additional AM peak hour bus passenger trips and 183 additional PM peak hour bus passenger trips are projected in the study area.

The additional peak hour bus passenger trips associated with the Greenbelt Build Condition were added to the peak hour bus volumes calculated for the study area in the 2022 No-build Condition. The trips were added proportionally to each route within the study area based on No-build Condition ridership. The overall analysis was limited to Metrobus service, as no ridership data was available for TheBus and the Central Maryland RTA Route G only serves the study area on weekends. It can be assumed, however, that TheBus would see some minor increases in ridership on routes that serve the site.

Table 5-42: Greenbelt Build Condition Weekday Peak 15-Minute Entering and Exiting Period Bus Passenger Trips

Metro Station	Time	2014		2022 No-build		2022 Build	
		Entries	Exits	Entries	Exits	Entries	Exits
Greenbelt	5:00 PM – 5:15 PM	55	353	109	456	489	476

Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

Table 5-43: Greenbelt Build Condition Additional Peak Hour Local Bus Passenger Trips

Employees	Time Period	Proportion of Daily Total	Local Bus Mode Split	TOTAL LOCAL BUS TRIPS
11,055	AM Peak Hour	29%	6.0%	192
	PM Peak Hour	26.9%	6.0%	179
Briefing Center	**Time Period**	**Proportion of Daily Total**	**Rail Mode Split**	**TOTAL LOCAL BUS TRIPS**
250	AM Peak Hour	36%	6.0%	6
	PM Peak Hour	29%	6.0%	4
Total People	**Time Period**			**TOTAL LOCAL BUS TRIPS**
11,305	**AM Peak Hour**			**198**
	PM Peak Hour			**183**

Source: Greenbelt Site Transportation Agreement (Appendix A)

Table 5-44: Greenbelt Build Condition Bus Capacity Analysis

Measure	2014		2022 No-build		2022 Build Condition	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Total Volume	671	654	813	803	1,011	985
Total Capacity	1,337	1,273	1,593	1,609	1,593	1,609
Volume to Capacity Ratio (V/C)	0.50	0.51	0.51	0.50	0.63	0.61

Sources: Greenbelt Site Transportation Agreement (Appendix A); Greenbelt Site Trip Generation Summary; WMATA (2014a); Metrobus Automatic Passenger Count Data, October 2014. Received 11/19/14; MWCOG (2015)

GREENBELT PARKING ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Under the Greenbelt Build Condition, there would be no measurable impacts to parking in the Greenbelt study area.

GREENBELT TRUCK ACCESS ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Under the Greenbelt Build Condition, there would be no measurable impacts to truck access at the Greenbelt site.

Overall, AM peak hour Greenbelt Build Condition Metrobus volumes are projected to total 1,011 passengers, and PM peak hour volumes are projected to total 985 passengers. These totals are both below the overall capacity of services (see table 5-44) in the study area, meaning the additional passenger trips projected can be adequately handled by current service levels. The capacity of services includes the additional capacity associated with the added bus trips in the No-build Condition (five AM peak hour and eight PM peak hour). Additionally, no individual routes are expected to experience capacity issues, primarily due to the additional bus trips added in the No-build Condition. Appendix C has further details on the bus capacity analysis.

Summary of Transit Analysis

The increase in public transit trips from the Greenbelt Build Condition would have the following impacts to transit:

- No individual Metrobus routes would see capacity issues under the Build Condition, due to the additional peak hour bus trips planned under the No-build Condition. Therefore, the overall capacity of bus services in the study area would accommodate the projected ridership.
- Metrorail car passenger loads through the study area are projected to be at acceptable levels.
- Overall, Metrorail vertical elements, faregate aisles, and fare vending machines at the Greenbelt Metro Station are projected to operate below capacity.
- Metrorail platform peak pedestrian LOS (based on the available spacing between passengers) on the busiest platform sections are projected to be at the acceptable LOS B at the Greenbelt Metro Station.
- Platform and station evacuation times would increase slightly over the No-build Condition; however, they would continue to meet NFPA 130 standards.

Therefore, the Greenbelt Build Condition would have no measurable direct, long-term impacts to public transit capacity based on the impacts definitions described in section 3.9.5. In addition, bus operation delays along Edmonston Road would impact three bus routes, resulting in direct, long-term, major adverse impacts to bus operations. Because buses regularly service Greenbelt Metro Drive, there could be direct, short-term, adverse construction impacts caused by construction vehicles blocking some or all of the lanes and intermittent road closures.

Build Condition Parking

Under the Build Condition, employee parking garages would be located to the north of the Main Building Developable Area along the northern site boundary, adjacent to Greenbelt Metro Drive. Given the distance to the nearest transit station, and in accordance with NCPC parking policy, a parking ratio of one parking space for every three employees would be maintained, equating to approximately 3,600 spots. In the conceptual site layout analyzed in the EIS, these spaces would be accommodated in two, eight-story parking structures. The final number and layout of the parking structures to accommodate the required employee and fleet vehicle parking would be determined during the design process. Up to 135 visitor parking spaces would be provided near the Visitor Center.

While all employee and visitor parking is envisioned to be accommodated on-site, it is likely that there would be more employee demand for driving than there are parking spaces due to the less than 1:1 ratio of parking spaces to employees (not all employees would have a parking spot) as recommended by NCPC policies. As an “end-of-the-line” station, Metrorail may not seem like the best travel option from other sides of the city. Therefore, some employees may try to park on local streets or park on local residential streets that do not have parking restrictions, and possibly even try to park on those residential streets with parking restrictions. Still others may choose to pay to park in local area parking garages that would be built as part of the Greenbelt Station development. Development and implementation

of a TMP, which includes Transportation Demand Management (TDM) measures that would encourage employees to use transit and discourage employees from driving and parking off-site, would address these issues and reduce any adverse parking impacts anticipated under the Greenbelt Alternative. With implementation, monitoring, and enforcement of a TMP, and revisions as needed, the Build Condition would result in no measurable direct, long-term impacts to local area parking. Assuming all construction equipment and employee parking areas would be contained to the Greenbelt site, there would be no measurable direct, short-term impacts to parking in the study area during the construction period.

Build Condition Truck Access

Truck access for the Greenbelt site would occur at the southwestern corner of the site off of Greenbelt Station Parkway. Trucks would enter through the South Access and exit through a separate driveway from the RDF to Greenbelt Station Parkway. Trucks would also only be permitted to enter and exit during non-peak hours; therefore, peak traffic hours on adjacent roadways would not be impacted. Truck entrance and exit locations and restricted hours would be noted at entrance locations and communicated to those services that would provide regular truck delivery to the site.

Therefore, under the Build Condition, there would be no measurable direct, long-term impacts to truck access given communication of truck access regulations. Assuming the Greenbelt site would have access entrances and exits assigned for construction equipment and general trucks during the construction period, there would be no measurable direct, short-term impacts to truck access.

Build Condition Traffic Analysis

Refer to section 3.10.4.2 for a detailed description of the process the study followed to project future traffic volumes through three primary assumptions: trip generation, modal split, and trip distribution, followed by the impacts as a result of the proposed alternative.

Total Vehicle Trips

Based on the trip generation rates combined with the SOV and HOV modal split and persons per carpool, the total vehicle trips are forecasted to be 1,025 inbound and 75 outbound during the AM peak hour and 49 inbound and 966 outbound during the PM peak hour.

Tables 5-45 and 5-46 summarize the vehicle trips based on the trip generation and the mode split.

GREENBELT TRAFFIC ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Direct, long-term, adverse impacts to traffic at intersections; direct, short-term, adverse impacts during construction.

Major adverse impacts would occur as a result of the failure of 2 freeway facilities. This is described in the Freeway Analysis Summary in section 5.2.9.3

Table 5-45: Greenbelt Build Condition AM Peak Hour Vehicle Trips

Calculated Steps	AM Peak Hour (7:45 AM - 8:45 AM)									
	FBI Employees				Briefing Center[a]					
	Inbound		Outbound		Inbound		Outbound		Total	
	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	In-bound	Out-bound
Employees or Seats	11,055				250					
Trip Generation	29%				36%					
Inbound/ Outbound Split	93%		7%		100%		0%			
Modal Split	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%		
Total Trips w/o HOV adjustment	886	328	67	25	27	10	0	0		
HOV Vehicle Occupancy		3		3		3		3		
Total Trips	**886**	**109**	**67**	**8**	**27**	**3**	**0**	**0**	**1,025**	**75**

[a] *Assumes a 500-seat facility where external trips represent 50% of attendees.*

Table 5-46: Greenbelt Build Condition PM Peak Hour Vehicle Trips

Calculated Steps	PM Peak Hour (5:00 PM - 6:00 PM)									
	FBI Employees				Briefing Center[a]					
	Inbound		Outbound		Inbound		Outbound		Total	
	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	In-bound	Out-bound
Employees or Seats	11,055				250					
Trip Generation	26.9%				29%					
Inbound/ Outbound Split	5%		95%		0%		100%			
Modal Split	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%		
Total Trips w/o HOV adjustment	44	16	839	311	0	0	22	8		
HOV Vehicle Occupancy		3		3		3		3		
Total Trips	**44**	**5**	**839**	**104**	**0**	**0**	**22**	**3**	**49**	**967**

[a] *Assumes a 500-seat facility where external trips represent 50% of attendees.*

Figure 5-43: Greenbelt Build Condition Trip Distribution

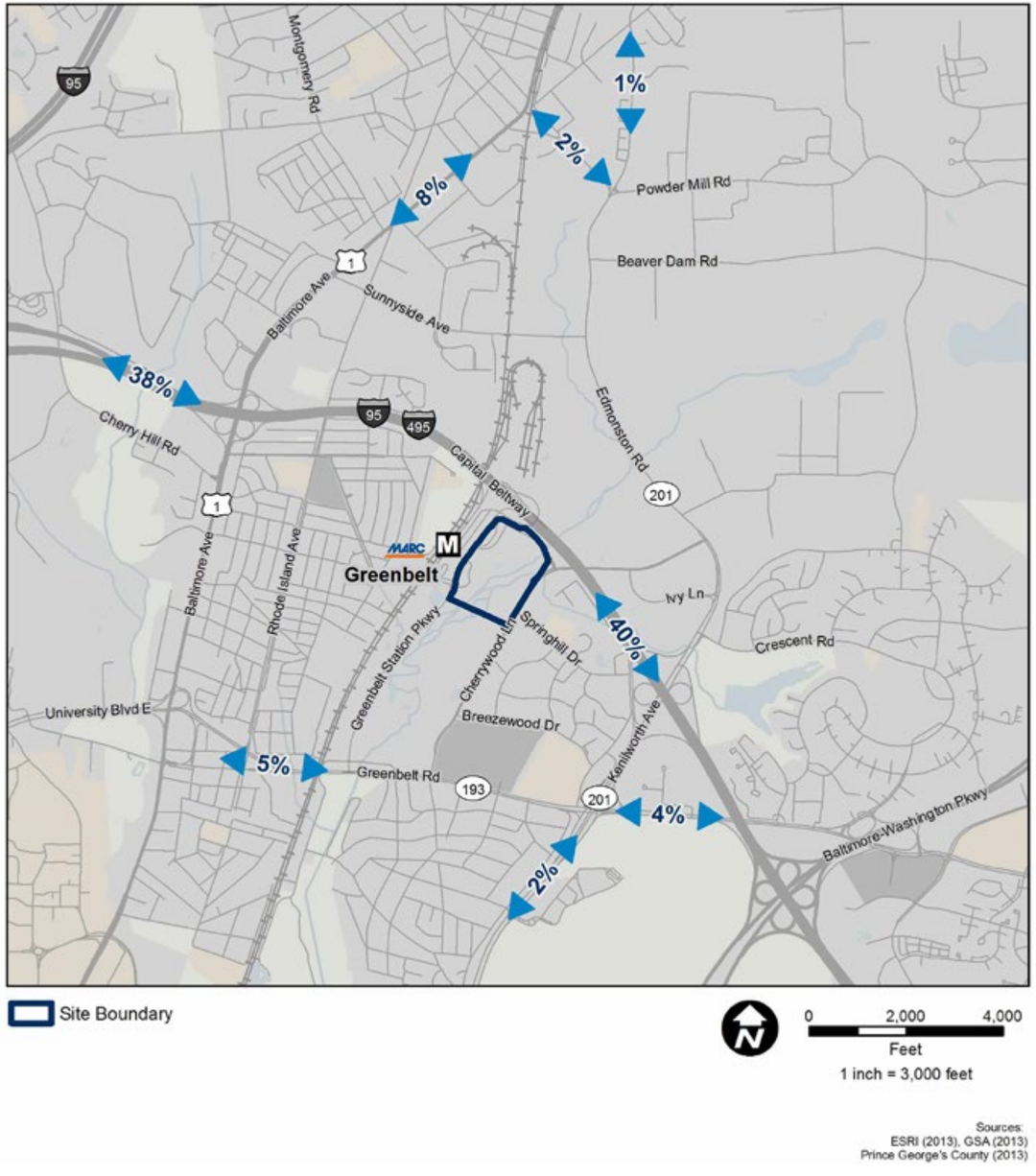


Table 5-47: Greenbelt Build Condition Trip Distribution Summary

Roadway and Direction	Percentages		AM Trips		PM Trips	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
I-95/I-495 NB	38.0%	38.0%	389	29	19	367
I-95/I-495 SB	40.0%	40.0%	410	30	20	386
U.S. Route 1 NB	8.0%	8.0%	82	6	4	77
Powder Mill Road	2.0%	2.0%	20	2	1	19
MD 193 WB	5.0%	5.0%	51	4	2	48
MD 193 EB	4.0%	4.0%	41	3	2	39
MD 201 NB	1.0%	1.0%	10	1	0	10
MD 201 SB	2.0%	2.0%	20	2	1	19
Total	**100.0%**	**100.0%**	**1,025**	**75**	**49**	**966**

Trip Distribution

The process for determining trip distribution is detailed in section 3.10.4.2. Table 5-47 shows the blended trip distribution percentages to/from each origin/destination. Figure 5-43 contains the Greenbelt site trip distribution.

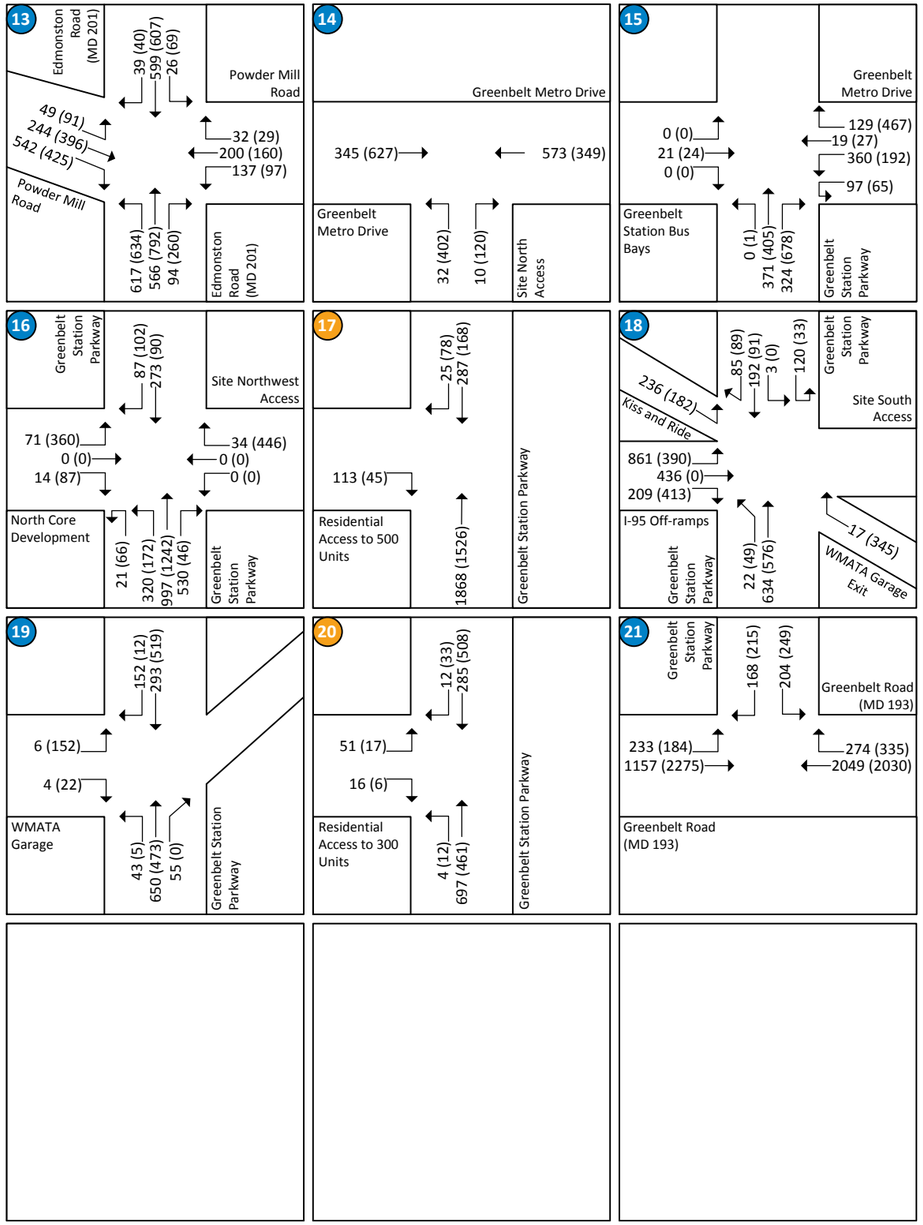
Development of Build Condition

Refer to section 3.10.4.3 for a brief description of how the Build Condition was developed for traffic analysis.

Figure 5-44 contains the Build Condition turning movement volumes. A diagram of Build Condition lane geometry can be found in the Greenbelt TIA (Appendix C).

Figure 5-44: Greenbelt Build Condition Turning Movement Volumes

Figure 5-43: Greenbelt Build Condition Turning Movement Volumes (continued)



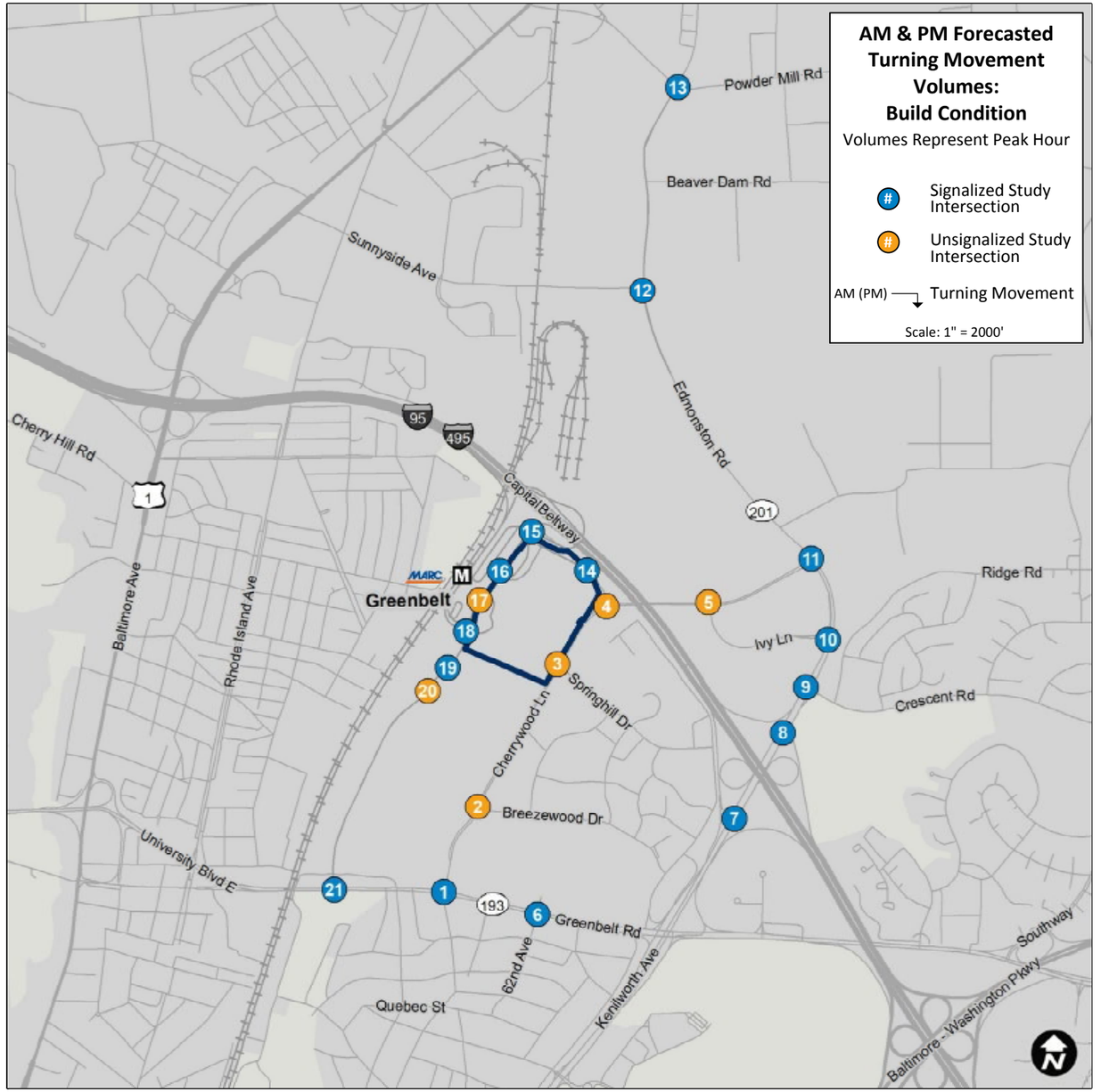
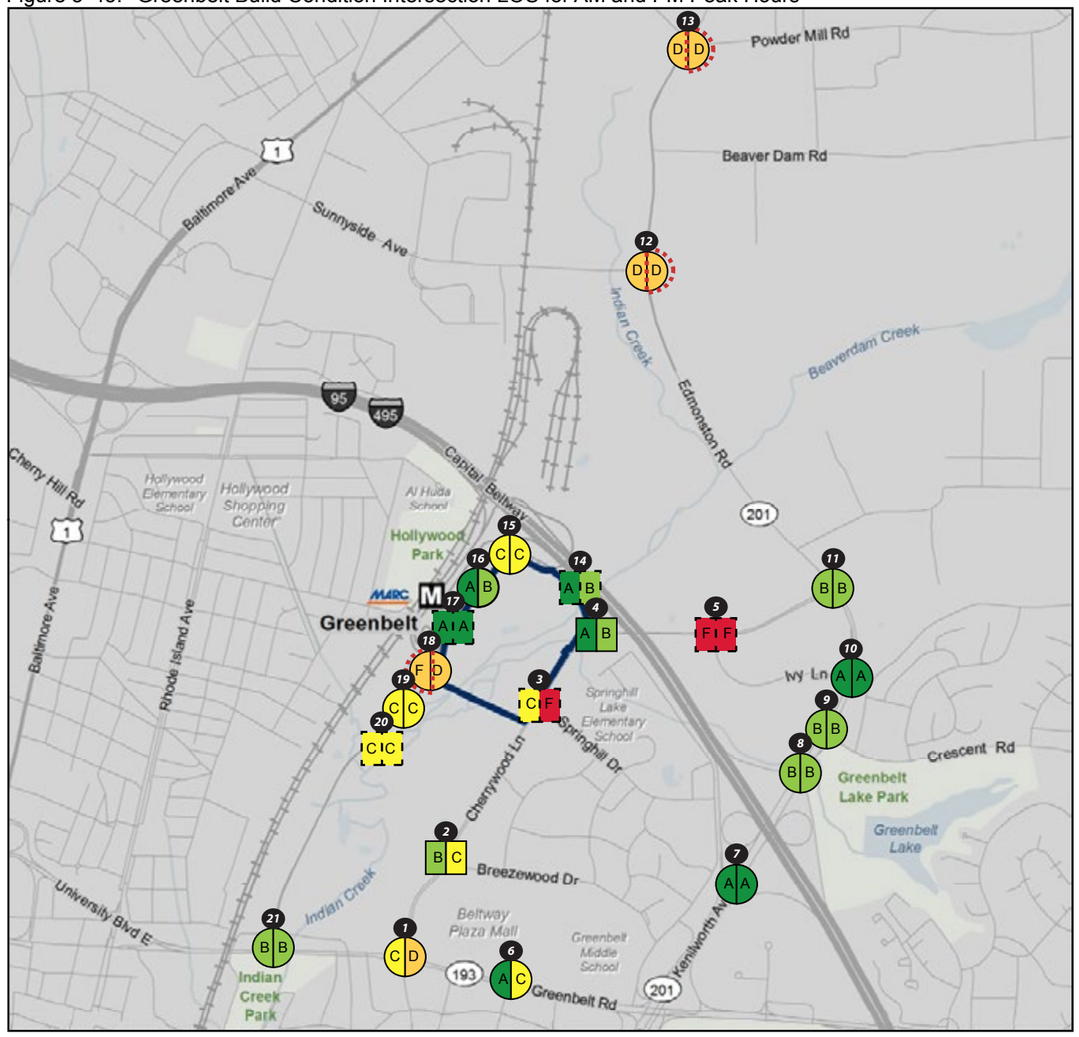


Figure 5-45: Greenbelt Build Condition Intersection LOS for AM and PM Peak Hours



Build Condition Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, many of the signalized study area intersections would operate at acceptable overall conditions during the morning and afternoon peak hours. However, the following intersections in the study area would operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Sunnyside Avenue (Intersection #12) during the PM peak hour
- Edmonston Road (MD 201) and Powder Mill Road (Intersection # 13) during the PM peak hour

A total of 10 signalized and 2 unsignalized intersections would experience unacceptable conditions for one or more turning movements. Compared to the No-build Condition, the Build Condition would have one more intersection failing during the AM peak hour and there would be no change in the number of intersections failing during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed Build Condition traffic operations analysis.

The overall intersection LOS grades for the Build Condition are depicted in figure 5-45 for the AM and PM peak hours. Table 5-48 shows the results of the LOS capacity analysis and the intersection projected delay under the Build Condition during the AM and PM peak hours.

Table 5-48: Greenbelt Build Condition Intersection AM and PM Peak Hour Operations Analysis

#	Intersection	No-build Condition										Build Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
1	**Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)**																				
		28.5	C	1,315	D	Pass	42.2	D	1,504	E	Pass	28.9	C	1,335	D	Pass	48.3	D	1,552	E	Pass
2	**Cherrywood Lane & Breezewood Drive (AWSC)**																				
		11.2	B	N/A	N/A	Pass	12.5	B	N/A	N/A	Pass	11.3	B	N/A	N/A	Pass	15.2	C	N/A	N/A	Pass
3	**Cherrywood Lane & Springhill Drive (TWSC)**																				
		5.2	-	N/A	N/A	Pass	27.0	-	N/A	N/A	Pass	5.2	-	N/A	N/A	Pass	34.3	-	N/A	N/A	Pass
4	**Cherrywood Lane & Greenbelt Metro Drive (Roundabout)** [a]																				
		6.0	A	N/A	N/A	Pass	9.8	A	N/A	N/A	Pass	5.8	A	N/A	N/A	Pass	10.0	B	N/A	N/A	Pass
5	**Cherrywood Lane & Ivy Lane (TWSC)**																				
		6.0	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail	6.6	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail
6	**Greenbelt Road (MD 193) & 62nd Avenue/Beltway Plaza Driveway (Signalized)**																				
		7.5	A	742	A	Pass	20.4	C	1,206	C	Pass	7.6	A	757	A	Pass	20.7	C	1,220	C	Pass
7	**Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)**																				
		9.1	A	730	A	Pass	6.8	A	593	A	Pass	9.1	A	730	A	Pass	6.8	A	594	A	Pass
8	**Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)**																				
		16.7	B	868	A	Pass	13.3	B	779	A	Pass	16.7	B	868	A	Pass	13.3	B	781	A	Pass
9	**Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)**																				
		15.1	B	962	A	Pass	12.9	B	796	A	Pass	15.1	B	965	A	Pass	12.9	B	798	A	Pass
10	**Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)**																				
		2.3	A	784	A	Pass	1.3	A	761	A	Pass	2.3	A	784	A	Pass	1.3	A	761	A	Pass
11	**Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)**																				
		18.8	B	1,212	C	Pass	14.7	B	990	A	Pass	19.2	B	1,221	C	Pass	15.2	B	1,008	B	Pass
12	**Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)**																				
		40.1	D	1,486	E	Pass	46.7	D	1,692	F	Fail	43.6	D	1,516	E	Pass	47.1	D	1,722	F	Fail
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																				
		42.5	D	1,593	E	Pass	50.9	D	1,867	F	Fail	43.2	D	1,595	E	Pass	52.6	D	1,897	F	Fail

Table 5-48: Greenbelt Build Condition Intersection AM and PM Peak Hour Operations Analysis (continued)

#	Intersection	No-build Condition										Build Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
14	**Greenbelt Metro Drive & Site North Access (TWSC) [b]**																				
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.9	A	605	A	Pass	18.2	B	1,029	B	Pass
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Boulevard (Signalized)**																				
		31.4	C	644	A	Pass	23.3	C	603	A	Pass	34.3	C	682	A	Pass	25.2	C	813	A	Pass
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																				
		5.4	A	600	A	Pass	11.0	B	460	A	Pass	5.7	A	976	A	Pass	18.3	B	952	A	Pass
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																				
		0.6	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass	0.5	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																				
		40.0	D	950	A	Pass	36.9	D	1,103	B	Pass	141.0	F	1,514	E	Fail	37.1	D	1,129	B	Pass
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																				
		31.4	C	429	A	Pass	27.8	C	524	A	Pass	32.0	C	480	A	Pass	27.8	C	524	A	Pass
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																				
		1.5	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass	1.6	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																				
		11.1	B	988	A	Pass	12.7	B	1,100	B	Pass	11.7	B	1,020	B	Pass	12.7	B	1,101	B	Pass

Notes:

AWSC = All-way STOP-Controlled unsignalized intersection

LOS = Level of Service

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)□

Delay is Measured in Seconds Per Vehicle.

Red cells denote intersections operating at unacceptable conditions.

^ Highway Capacity Manual unable to report accurate delay using default gap acceptance values

[a] Highway Capacity Software 2010 results

[b] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

GREENBELT PEDESTRIAN BUILD ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
Direct, long-term, beneficial impacts.

GREENBELT TRANSIT ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
No measurable impacts to public transit capacity. Direct, long-term, beneficial impacts to bus operations.

GREENBELT PARKING ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
No measurable impacts to parking in the Greenbelt study area.

GREENBELT TRAFFIC ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
Direct, long-term, beneficial impacts for isolated intersections; regional traffic impacts would continue to be direct, long-term, and major adverse. Direct, short-term, major adverse impacts during construction.

Build Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, 10 signalized and 2 unsignalized intersections would experience queuing lengths that would exceed the available storage capacity. The remaining intersections in the study area would provide sufficient storage for the anticipated demand. Compared to the No-build Condition, the Build Condition would have no change in the number of intersections with failing queues during the AM peak hour and three more intersections would have failing queues during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed Build Condition traffic queuing analysis.

Summary of Traffic Analysis: Build Condition

Overall, the PM peak hour would experience isolated intersection impacts at the Edmonston Road (MD 201) at Powder Mill Road, Edmonston Road (MD 201) and Sunnyside Avenue, and Cherrywood Lane and Ivy Lane intersection. Together these conditions would result in direct, long-term, adverse impacts at intersections.

Because the intersections along Edmonston Road at Sunnyside Avenue and Powder Mill Road are forecasted to be failing during the No-build Condition, adding construction-related trips along this route caused by trucks, employees, and equipment would result in isolated impacts. These conditions would result in direct, short-term, adverse impacts during the construction period.

5.2.9.3 Build with Mitigation Condition

To reduce impacts to the transportation system caused as a result of the Greenbelt Alternative, mitigation measures are recommended in this section for each mode of transportation analyzed. Overall, the Greenbelt site requires mitigation to reduce direct impacts of the Proposed Action.

The following transportation resources do not require any mitigation under the Greenbelt Alternative: pedestrian network, bicycles, public transit, and truck access.

Build with Mitigation Condition Parking

As mentioned in the Build Condition section, parking impacts would largely be addressed through development and implementation of a TMP, which would include preferred strategies for discouraging employees from parking on local streets. Because the TMP would be implemented as part of the Build Condition, there would be no changes in parking impacts between the Build and Build with Mitigation Conditions.

Build with Mitigation Condition Traffic Analysis

Development of Mitigated Network

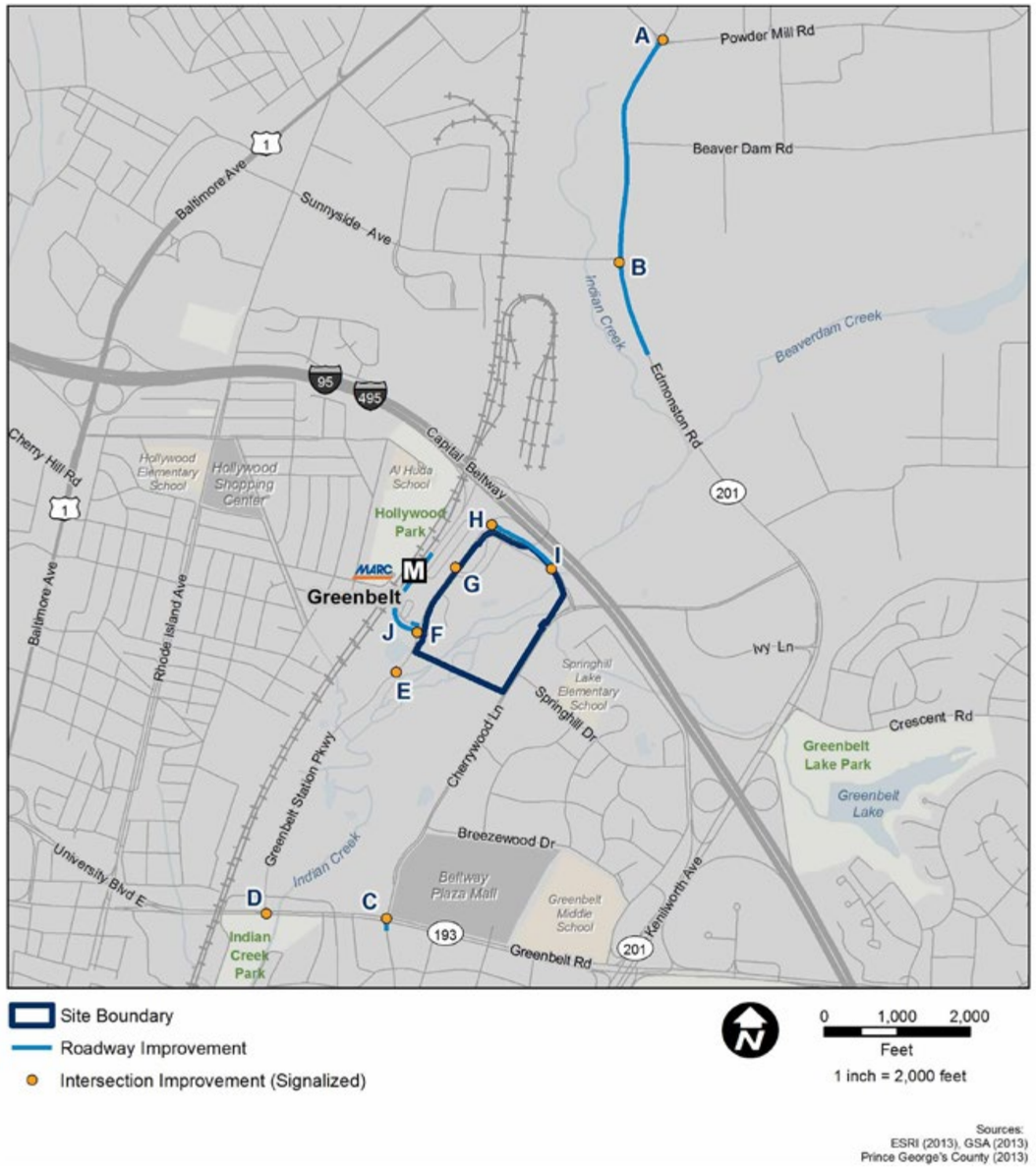
Based on the Build Condition traffic operations and queueing analysis (defined in section 3.10.4.3), most of the intersections would not fail or require mitigation; therefore a second dynamic traffic assignment process (see section 3.10.4.3) was not necessary.

Section 3.10.4.3 contains the process followed to develop the full list of mitigation. Table 5-49 contains the list of recommended mitigation measures. Figure 5-46 shows the locations of the mitigation measures.

Table 5-49: Greenbelt Alternative Recommended Mitigation Measures

Map ID	Location	Mitigation	Strip Land Taking (Approximate Linear Feet)
A	Edmonston Road (MD 201) and Powder Mill Road	• For the Edmonston Road northbound approach, create a new 400-foot left-turn lane and lengthen the right turn-lane by 50 feet resulting in a 325-foot right-tune lane, resulting in two left-turn lanes, one through lane, and one right-turn lane. • Extend the existing northbound left-turn lane back to the previous intersection at Sunnyside Avenue resulting in widening the northbound direction by one lane. • Add a second departing lane totaling approximately 700 feet along westbound Powder Mill Road resulting in two westbound travel lanes for 700 feet. • Optimize the traffic signal for AM and PM peak periods.	3,100
B	Edmonston Road (MD 201) and Sunnyside Avenue	• For the Edmonston Road northbound approach, create a new through lane extending back 450 feet to match the left-turn lane distance resulting in one left-turn lane and two through lanes. • For the Edmonston Road southbound approach, create a new through lane extending back 600 feet resulting in two through lanes and one right-turn lane. • Add a second departing lane totaling approximately 1,500 feet along southbound Edmonston Road resulting in two southbound travel lanes for 1,500 feet. • Optimize the traffic signal for AM and PM peak periods.	2,550
C	Greenbelt Road (MD 193) and Cherrywood Lane/60th Avenue	• For the 60th Avenue northbound approach, create a new 120-foot lane resulting in one left-turn lane and one shared through/right turn lane. • Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
D	Greenbelt Road (MD 193) and Greenbelt Station Parkway	• Coordinate timings with nearby key intersections for the AM peak hour.	None
E	Greenbelt Station Parkway and WMATA Garage	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
F	Greenbelt Station Parkway and I-95/I-495 off-ramp/Site South Access	• For the Greenbelt Metro Station Kiss & Ride approach, revise the planned roadway improvement design to include a second lane totaling 200 feet (50 feet more if space exists). • Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
G	Greenbelt Station Parkway and North Core Mixed Use/Site Northwest Access	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
H	Greenbetl Station Parkway and Greenbelt Metro Drive	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
I	Greenbelt Metro Drive and Site North Access	• Install a traffic signal. • Add a second departing lane approximately 500 feet along westbound Greenbelt Metro Drive connecting into the left-turn lane at the next intersection. • Optimize the traffic signal for AM and PM peak periods.	None
J	I-95/I-495 Off-ramp from the Interstate to Greenbelt Station Parkway	• Revise the planned roadway improvement design to stripe the exit ramp for the right lane to lead directly into the WMATA Garage, the center lane to lead to the right lane at the Greenbelt Station Parkway intersection, and the left lane to service the Kiss & Ride and center and left lanes at the Greenbelt Station Parkway intersection.	None

Figure 5-46: Greenbelt Build with Mitigation Condition Improvement Locations



Build with Mitigation Condition Intersection Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, all but one signalized study area intersection would operate at acceptable overall conditions during the morning and afternoon peak hours. The following intersection in the study area would operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Powder Mill Road (Intersection #13) during the PM peak hour

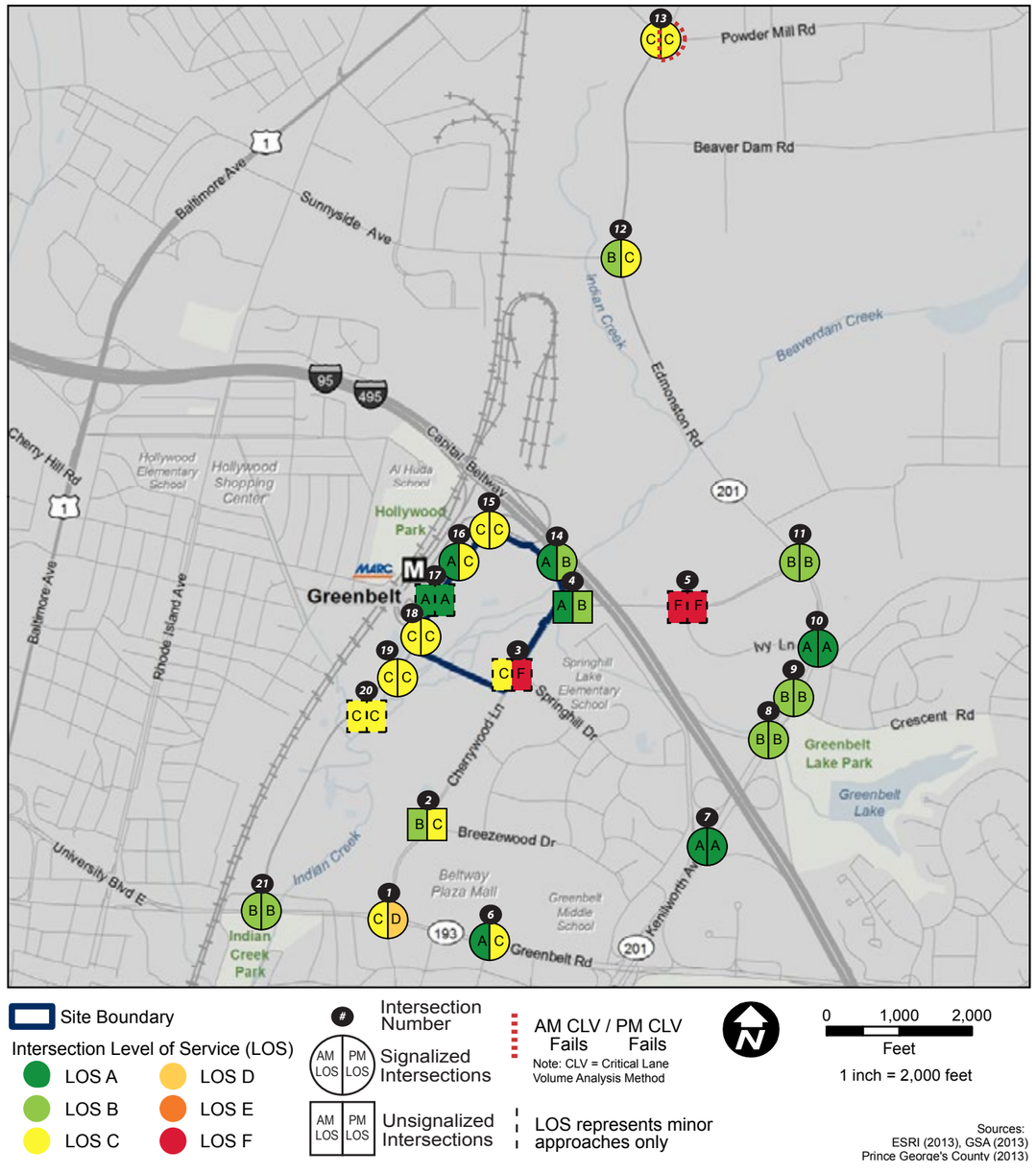
Based on the Synchro™ analysis, two unsignalized intersections would have turning movements or overall operations with LOS degradation from an acceptable condition to an unacceptable condition when compared to the No-build Condition during the morning or afternoon peak hours. Both intersections would pass a secondary test for unsignalized intersections following the Prince George's County Guidelines where the CLV value results in a value lower than 1,150 when modeled as a signalized intersection. The Greenbelt TIA (Appendix C) contains a more detailed Build with Mitigation Condition traffic operations analysis.

The overall intersection LOS grades for the Build with Mitigation Condition are depicted in figure 5-47 for the AM and PM peak hours. Table 5-50 shows the results of the LOS capacity analysis and the intersection projected delay under the Build with Mitigation Condition during the AM and PM peak hours.

Build with Mitigation Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, there would be no signalized or unsignalized intersection approaches that would experience failing queue lengths in excess of 150 feet of the No-build Condition length. The results of the Build with Mitigation Condition queuing analysis for both signalized and unsignalized intersections are contained in the Greenbelt TIA (Appendix C).

Figure 5-47: Greenbelt Build with Mitigation Condition Intersection LOS for AM and PM Peak Hours



TRANSPORTATION EVALUATION SUMMARY AND CONCLUSIONS

A total of 3,296 AM peak hour and 3,047 PM peak hour person trips are projected to be added to all modes of transportation. Total Metro transit trips are projected to be 1,742 trips in the AM peak hour and 1,610 trips in the PM peak hour. Total vehicle trips are projected to be 1,100 trips in the AM peak hour and 1,016 trips in the PM peak hour. The remaining trips would be commuter rail, bicycle, or walking trips.

The pedestrian network would expand under the No-build Condition with the inclusion of Greenbelt Station Parkway providing a new connection between the Greenbelt Metro Station and Greenbelt Road serving North and South Core developments. The inclusion of the Greenbelt site would allow for the same connections as the No-build Condition. It is assumed that all sidewalk curb ramps located adjacent to the parcel would be constructed to ADA compliance.

The bicycle network would expand with the inclusion of Greenbelt Station Parkway providing a new connection between the Greenbelt Metro Station and Greenbelt Road serving the North and South Core developments. The inclusion of the Greenbelt site would not change the bicycle connections. These new connections would provide for an interconnected bicycle network linking all proposed bicycle facilities in the study area and would encourage bicycle use to access to the Greenbelt site.

The transit network (Metrorail and Metrobus) would not be affected by the Greenbelt Site. The Greenbelt Metro Station and all bus service would operate below capacity with the addition of the forecasted background growth and transit trips. It is assumed that WMATA would follow their long-term plan to address growth-related capacity issues for both bus and rail operations.

Parking availability would remain the same because the Greenbelt site would accommodate all parking needs on-site and implement a robust TMP to discourage employees from seeking alternative parking options in the nearby neighborhoods.

Truck access would be designed to accommodate the Greenbelt site from the Greenbelt Station Parkway site south access. This plan is not the official plan, but a plan to evaluate as part of the EIS. The Greenbelt Station Parkway site south access would operate as a truck only access point during off-peak hours because it would be assumed that all truck deliveries would be scheduled during the off-peak hours.

The traffic operations at two intersections (Edmonson Road at Powder Mill Road and Kenilworth Avenue at I-95/I-495 Southbound off-ramp) currently operates at an unacceptable LOS under the Existing Condition. Once the background growth, planned developments, and planned improvements are added (No-build Condition), the same intersection would continue to fail. There are a number of planned roadway improvements within the Greenbelt site study area to compensate for the vehicle trips added from the background growth.

The addition of the Greenbelt site to the traffic network would result in three intersections operating at an unacceptable LOS. These three failing intersections would experience equal or better operations than the No-build Condition as a result of recommended mitigation that include new turning lanes, extended turning lane lengths, and new travel lanes. Overall, the roadway non-interstate network would operate much better and experience shorter queues with the addition of the recommended mitigation when compared to the No-build Condition.

There are forecasted to be two failing interstate facilities that directly serve access between the Capital Beltway and the Greenbelt site. The Maryland SHA is working to determine the best course of action to address these issues. It is assumed, at a minimum, there would be required changes to the interstate ramps along the Capital Beltway between the U.S. Route 1 and Baltimore Washington Memorial Parkway Interchanges.

Table 5-50: Greenbelt Build with Mitigation Condition Intersection AM and PM Peak Hour Operations Analysis

#	Intersection	No-build Condition										Build with Mitigation Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
1	**Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)**																				
		28.5	C	1,315	D	Pass	42.2	D	1,504	E	Pass	27.1	C	1,283	C	Pass	42.4	D	1,501	E	Pass
2	**Cherrywood Lane & Breezewood Drive (AWSC)**																				
		11.2	B	N/A	N/A	Pass	12.5	B	N/A	N/A	Pass	11.3	B	N/A	N/A	Pass	15.2	C	N/A	N/A	Pass
3	**Cherrywood Lane & Springhill Drive (TWSC)**																				
		5.2	-	N/A	N/A	Pass	27.0	-	N/A	N/A	Pass	5.2	-	N/A	N/A	Pass	34.3	-	N/A	N/A	Pass
4	**Cherrywood Lane & Greenbelt Metro Drive (Roundabout)** [a]																				
		6.0	A	N/A	N/A	Pass	9.8	A	N/A	N/A	Pass	5.8	A	N/A	N/A	Pass	10.0	B	N/A	N/A	Pass
5	**Cherrywood Lane & Ivy Lane (TWSC)**																				
		6.0	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail	6.6	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail
6	**Greenbelt Road (MD 193) & 62nd Avenue/Beltway Plaza Driveway (Signalized)**																				
		7.5	A	742	A	Pass	20.4	C	1,206	C	Pass	7.9	A	757	A	Pass	25.4	C	1,220	C	Pass
7	**Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)**																				
		9.1	A	730	A	Pass	6.8	A	593	A	Pass	9.1	A	730	A	Pass	6.8	A	594	A	Pass
8	**Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)**																				
		16.7	B	868	A	Pass	13.3	B	779	A	Pass	16.7	B	868	A	Pass	13.3	B	781	A	Pass
9	**Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)**																				
		15.1	B	962	A	Pass	12.9	B	796	A	Pass	15.1	B	965	A	Pass	12.9	B	798	A	Pass
10	**Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)**																				
		2.3	A	784	A	Pass	1.3	A	761	A	Pass	2.3	A	784	A	Pass	1.3	A	761	A	Pass
11	**Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)**																				
		18.8	B	1,212	C	Pass	14.7	B	990	A	Pass	19.2	B	1,221	C	Pass	15.2	B	1,008	B	Pass
12	**Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)**																				
		40.1	D	1,486	E	Pass	46.7	D	1,692	F	Fail	13.8	B	1,015	B	Pass	21.7	C	1,188	C	Pass
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																				
		42.5	D	1,593	E	Pass	50.9	D	1,867	F	Fail	26.3	C	1,348	D	Pass	28.3	C	1,643	F	Fail
14	**Greenbelt Metro Drive & Site North Access (TWSC)** [b]																				
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7	A	605	A	Pass	12.9	B	1,029	B	Pass
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Boulevard (Signalized)**																				
		31.4	C	644	A	Pass	23.3	C	603	A	Pass	26.6	C	682	A	Pass	22.4	C	813	A	Pass

Table 5-50: Greenbelt Build with Mitigation Condition Intersection AM and PM Peak Hour Operations Analysis (continued)

#	Intersection	No-build Condition										Build with Mitigation Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																				
		5.4	A	600	A	Pass	11.0	B	460	A	Pass	4.7	A	976	A	Pass	22.5	C	952	A	Pass
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																				
		0.6	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass	0.5	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																				
		40.0	D	950	A	Pass	36.9	D	1,103	B	Pass	34.8	C	1,420	D	Pass	24.7	C	1,056	B	Pass
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																				
		31.4	C	429	A	Pass	27.8	C	524	A	Pass	21.3	C	480	A	Pass	27.1	C	524	A	Pass
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																				
		1.5	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass	1.6	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																				
		11.1	B	988	A	Pass	12.7	B	1,100	B	Pass	12.6	B	1,020	B	Pass	13.2	B	1,101	B	Pass

Notes:

AWSC = All-way STOP-Controlled unsignalized intersection

LOS = Level of Service

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)

Delay is Measured in Seconds Per Vehicle.

Red cells denote intersections operating at unacceptable conditions.

^ Highway Capacity Manual unable to report accurate delay using default gap acceptance values

[a] Highway Capacity Software 2010 results

[b] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

Summary of Traffic Analysis: Build with Mitigation Condition

Overall, the study area would experience isolated intersection improvements, specifically along Edmonston Road. These improvements would result in changing the impacts from direct, long-term, adverse impacts to direct, long-term, beneficial impacts because the operations would improve to a better operation than the No-build Condition.

There would also be two failing interstate facilities, one caused by the volume of vehicles added to the I-95/I-495 southbound off-ramp to Greenbelt Station Parkway during the AM peak hour and the second caused by the volume of vehicles added to the I-95/I-495 northbound on-ramp from Greenbelt Station Parkway during the PM peak hour. The two failing interstate facilities would result in direct, long-term, major adverse impacts due to the regional nature of the Interstate system (see Freeway Analysis Summary in this section).

The construction impacts could change from direct, short-term, adverse impacts under the Build Condition to direct, short-term, major adverse impacts under the Build with Mitigation Condition during the construction period. This change in impact level reflects the short-term impacts from adding construction-related trips caused by trucks, employees, and equipment as well as intermittent lane or road closures within Greenbelt site and locations where the roadway improvements would occur.

Recommended Traffic Mitigation

Table 5-51 contains the traffic results for all study area intersections covering each condition from No-build through Build with Mitigation. The results include a pass or fail rating for the traffic operations and queue length. Based on the worsening condition from the added vehicle trips from the Build Condition, recommended traffic mitigation measures were developed to address the substantial traffic impacts caused by the addition of the consolidated FBI HQ in Greenbelt. These included traffic signal optimization, road widening, lane geometry improvements at intersections, installation of new traffic signals, and lane striping adjustments. If implemented, the recommended traffic mitigation measures would maintain acceptable traffic flow conditions based on the Greenbelt Site Transportation Agreement.

Freeway Analysis Summary

Section 3.10.4.3 defines the interstate system and the software utilized to analyze interstate operations. Based on the proposed FBI trip distribution, 86 percent of forecasted FBI vehicle trips would use the interstate system (I-95/I-495) to access the proposed site. Because the interstate system is vital to serving the Greenbelt site, the interstates were evaluated to determine whether or not the added vehicle trips would cause any failing interstate facilities.

Based on the Greenbelt Site Transportation Agreement (Appendix A), the evaluated interstate facilities focused on the peak direction only and at the primary off-ramps serving the inbound forecasted FBI vehicle trips during the AM peak hour and the on-ramps serving the outbound forecasted FBI vehicle trips during the PM peak hour.

The analysis concluded that two interstate facilities would fail based on the forecasted volumes. This included I-95/I-495 Southbound between U.S. Route 1 and Greenbelt Station Parkway/Greenbelt Metro Station during the AM peak hour and I-95/I-495 Northbound between Greenbelt Station Parkway/ Greenbelt Metro Station and U.S. Route 1 during the PM peak hour. These facilities were not mitigated but are part of an ongoing study by Maryland SHA. The Greenbelt TIA provides the detailed freeway analysis (Appendix C).

Entry Control Facility Summary

The entry control facility (ECF) analysis was performed once the complete set of external roadway mitigation was established. All mitigation measures were coded into TransModeler™, and the several scenarios were tested to determine the minimum number of lanes capable of handling the AM peak hour forecasted FBI vehicle trips. It was determined that three lanes at the Site South Access and three lanes at the Site Northwest Access were required to handle the forecasted demand.

The Greenbelt TIA provides the detailed ECF analysis (Appendix C).

Table 5-51: Greenbelt Overall Traffic Impacts

#	Intersection and Approach	No-build Condition						Build Condition						Build with Mitigation Condition						Recommended Mitigation
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
		HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	
1	Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Add a new turn lane along the 60th Street northbound approach and optimize traffic signal
2	Cherrywood Lane & Breezewood Drive (AWSC)																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	None Required
3	Cherrywood Lane & Springhill Drive (TWSC)																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	None Required
4	Cherrywood Lane & Greenbelt Metro Drive (Roundabout) [a]																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Fail	Pass	N/A	Pass	Pass	N/A	Pass	None Required
5	Cherrywood Lane & Ivy Lane (TWSC)																			
		Pass	N/A	Pass	Fail	N/A	Fail	Pass	N/A	Pass	Fail	N/A	Fail	Pass	N/A	Pass	Fail	N/A	Fail	None Required
6	Greenbelt Road (MD 193) & 62 Avenue/Beltway Plaza Driveway (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
7	Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
8	Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
9	Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
10	Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
11	Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)																			
		Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Add a second left-turn lane along the Edmonston Road northbound approach and extend first left-turn lane back into the previous intersection
12	Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)																			
		Pass	Pass	Fail	Pass	Fail	Fail	Pass	Pass	Fail	Pass	Fail	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Add a second through lane along the Edmonston Road southbound approach, extend the second lane through intersection about halfway to Cherrywood Lane intersection. Add a second through lane along the Edmonston Road northbound approach.

Table 5-51: Greenbelt Overall Traffic Impacts (continued)

#	Intersection and Approach	No-build Condition						Build Condition						Build with Mitigation Condition						Recommended Mitigation
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
		HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																			
		Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	**None Required**
14	**Greenbelt Metro Drive & Site North Access (Signalized)** [a]																			
		N/A	N/A	N/A	N/A	N/A	N/A	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Install new traffic signal
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Parkway (Signalized)**																			
		Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Optimize traffic signal
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Optimize traffic signal
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	**None Required**
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																			
		Pass	Pass	Fail	Pass	Pass	Pass	Fail	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Add a second turn lane along the Kiss & Ride eastbound approach
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Optimize traffic signal
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	**None Required**
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Optimize traffic signal

Notes:

AWSC = All-way STOP-Controlled intersection

EB = Eastbound, WB = Westbound, NB= Northbound, SB = South

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)

Orange cell denote intersection operating at unacceptable HCM 2000 level of service; however, the unacceptable operations is being caused by another proposed development that will need to install a traffic light to mitigate their added impact.

Red cells denote intersections operating at unacceptable HCM 2000 and/or Critical Lane Volume level of service, or queueing exceeds lane storage capacity.

Yellow cells denote intersections operating at unacceptable HCM 2000 and/or Critical Lane Volume level of service; however, the operations is equal or better than the No-build Condition (or less than 150 feet greater in queue length than the No-build Condition).

[a] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

5.2.10 Greenhouse Gas Emissions and Air Quality

This section provides a summary of the analysis results for air quality and GHG emissions. Additional technical supporting data and tables for this section are provided in Appendix F.

GREENHOUSE GAS EMISSIONS AND AIR QUALITY ASSESSMENT OF SIGNIFICANCE

Impacts to air quality and GHG emissions would not result in significant impacts, as defined in section 3.11.3.

5.2.10.1 Global Climate Change and Greenhouse Gases

No-action Alternative

Under the No-action Alternative at the Greenbelt site, mixed-use development would result in GHG emissions from stationary sources, purchased electricity, and mobile sources.

Stationary and Building-related Sources

Table 5-52 summarizes the building-related GHG emissions associated with the Greenbelt site mixed-use development under the No-action Alternative. Based on the District Department of Energy and Environment building energy benchmarking data for the specific land use types involved, electricity consumption would be the predominant source of building-related GHG emissions. Total building-related emissions would be approximately 37,892 metric tons CO_2e per year.

Mobile Sources

The No-action mixed-use development would generate 1,595 peak hour vehicle trips (north core plus south core for both the AM and PM peak hours). Off-peak trip generation information is not available. Assuming an average travel distance of 25 miles (actual travel distance could vary substantially depending on specific trip purpose), peak hour emissions could be approximately 10.1 metric tons CO_2e. Actual daily total emissions would be higher.

Table 5-52: Greenbelt No-action Alternative Building-Related Greenhouse Gas Emissions

Source	Annual Consumption	Annual CO_2e-Metric Tons	Assumptions
Natural Gas Boilers	76.59 MMscf	4,605.0	Consumption per sf averages by land use type from DOEE Private Building Energy Benchmarking Disclosure. Emission factors from EPA AP-42 Table 1.4-2
Purchased Electricity[1]	72,878,103 kWh	33,287	kWh per sf averages by land use type from DOEE Private Building Energy Benchmarking Disclosure. Emission factors from EPA eGRID.
Building-related total		37,892	

[1] Direct consumption only, not including transmission losses etc.
Note: MMscf = million standard cubic feet; kwh = kilowatt-hour; sf = square feet

GREENBELT GLOBAL CLIMATE CHANGE AND GREENHOUSE GASES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, adverse impacts.

Greenbelt Alternative: Direct, long-term, adverse impacts.

Table 5-53: Greenbelt Building-Related Greenhouse Gas Emissions

Source	Annual Consumption	Annual CO_2e-Metric Tons	Assumptions
Fuel Oil No.2 Backup Generators	3,357 gallons	34.4	Same as JEH existing
Natural Gas Boilers	386.04 MMscf	23,211.6	Based on CJIS natural gas consumption of 154 cf per SF and AP-42 Table 1.4-2
Purchased Electricity	63,149,204 kWh	27,286.98	kWh per SF and Emission per kWh from 2013 FBI GHG inventory for JEH
Building-related Total		50,532.98	

Note: MMscf = million standard cubic feet; kwh = kilowatt-hour; cf = cubic feet; sf = square feet

Table 5-54: Greenbelt Alternative Employee Commute Vehicle Miles Traveled and Greenhouse Gas Emissions (2025)

Parameter	Greenbelt
Annual VMT (250 days)	60,429,027
Annual CO_2e- Metric Tons	15,372.7
Change in VMT from FBI HQ Remaining at JEH/off-site locations	+20,368,214
Change in CO_2e from No-action FBI HQ Remaining at JEH/off-site locations (metric tons)	+5,181.5
Percent Change	**+50.84%**

Greenbelt Alternative

Stationary and Building-related Sources

Table 5-53 summarizes the building-related GHG emissions associated with the Greenbelt Alternative, including backup generators, natural gas boilers, and purchased electricity. Total GHG emissions would be approximately 33 percent higher than the emissions of the Greenbelt No-action mixed-use development. This difference in emissions is attributable to the relatively high natural gas consumption per square foot of the FBI Criminal Justice Information Services Division (CJIS) (the basis for the Greenbelt Alternative natural gas consumption estimate) compared to the commercial, office, residential and hotel-specific consumption data reported to the District Department of Energy and Environment (the basis for the Greenbelt No-action natural gas consumption estimate).

The estimated emissions represent a worst-case or upper bound scenario because they do not account for the building energy efficiency measures, the details of which would be determined during the design phase. The total building-related emissions is not directly comparable to the No-action Alternative because the off-site space is not accounted for in the emissions estimate presented in section 4.1.10.1. Although it is not possible to quantify the reduction at this stage, with incorporation of modern design measures and potentially renewable energy technologies, the FBI HQ consolidation would reduce building-related GHG emissions relative to the continued use of the JEH building and off-site locations.

Mobile Sources

Table 5-54 summarizes the development of mobile source vehicle miles traveled (VMT) estimates for employee and contractor commutes to the Greenbelt site. The average one-way travel distance is based on existing FBI employee zip codes. If the Greenbelt site is selected, it is expected that over time new employees would locate closer to the Greenbelt site, reducing the average distance traveled. However, the data based on existing zip codes provide a realistic upper bound impact scenario.

Overall driving would increase relative to existing conditions based on the mode share assumptions developed for the transportation analyses and the increase in the average distance traveled relative to existing employee home locations. These factors combined result in an estimated 51 percent increase in mobile source GHG emissions from FBI employee/contractor commuting relative to the JEH No-action Alternative. Overall, there would be direct, long-term, adverse impacts to GHG emissions.

The Greenbelt Alternative mobile source GHG emissions are not directly comparable to the Greenbelt No-action Alternative mobile source emissions because information on trip generation of the No-action mixed-use development is not available outside the AM and PM peak hours.

5.2.10.2 Air Quality

No-action Alternative

Stationary and Building-related Sources

Table 5-55 summarizes the potential criteria pollutant emissions associated with the Greenbelt mixed-use development natural gas boilers. The total emissions are well below the General Conformity de minimis criteria and therefore considered adverse, but less than significant.

Mobile Sources

The traffic analysis results for the No-action Alternative show all analyzed intersections operating at LOS D or better, therefore additional screening for CO hotspots is not necessary.

Greenbelt Alternative

Stationary Source Impacts

Table 5-56 summarizes the annual emissions for criteria pollutants from the potential natural gas boilers and diesel backup power generators. Stationary source emissions of criteria pollutants would be well below (less than 25 percent) the applicable General Conformity de minimis criteria, and therefore would be considered adverse, but less than significant based on the impact criteria presented in section 3.11.3.

Table 5-57 summarizes the NO_2 dispersion modeling analysis results, including the background concentration, project impact at the receptor with the highest concentration, and the total concentration. Annual average and 1-hr average NO_2 concentrations would be below the NAAQS. The highest 1-hr NO_2 concentration under the Greenbelt Alternative occurs west of the site, in the vicinity of the bus drop-off area for the Greenbelt Metro Station (see figure 5-48). Impacts would be lower at other locations in the surrounding communities and well below the NAAQS.

Table 5-55: Greenbelt No-action Alternative Annual Criteria Pollutant Emissions (Natural Gas Boilers)

Pollutant	Tons Per Year	General Conformity de minimis threshold (tons per year)
CO	3.22	100
VOC	0.21	50
NO_x	1.91	100
PM	0.29	100
SO_2	0.02	100

Table 5-56: Greenbelt Alternative Annual Criteria Pollutant Emissions (Natural Gas Boilers and Diesel Emergency Generators)

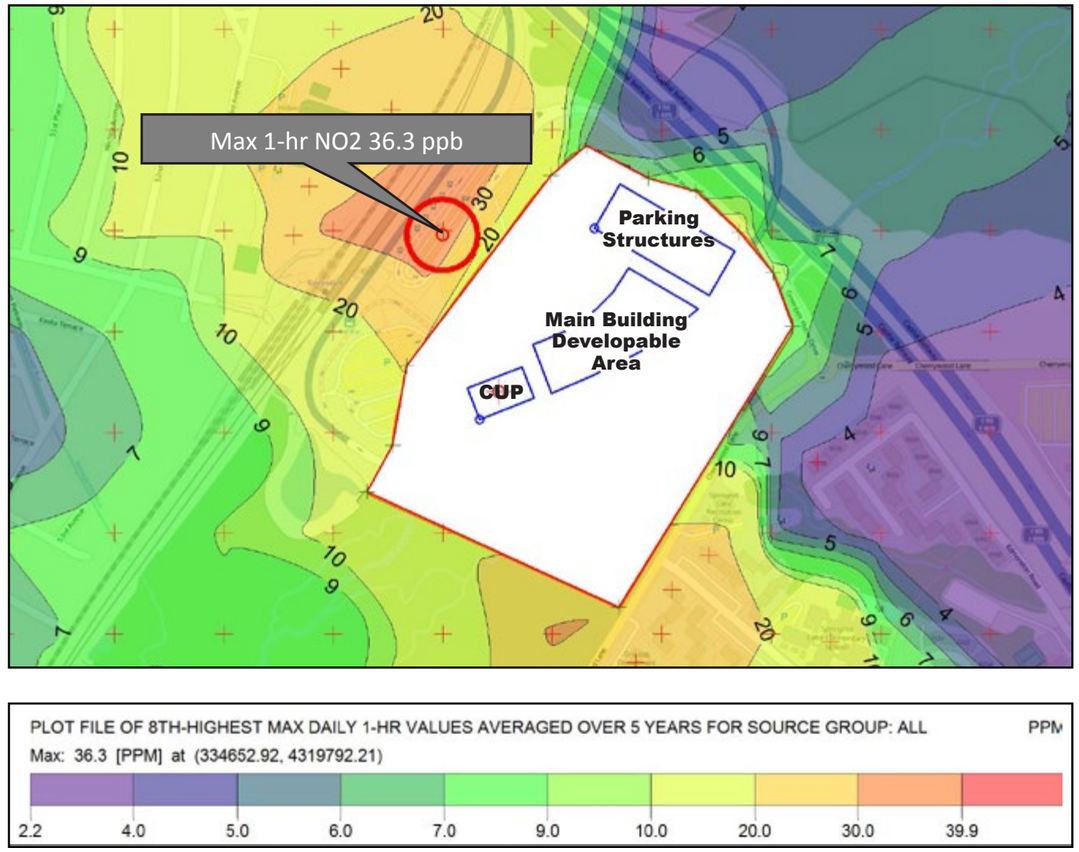
Pollutant	Tons Per Year	General Conformity de minimis threshold (tons per year)
CO	16.4	100
VOC	1.1	50
NO_x	10.4	100
PM	1.5	100
SO_2	0.1	100

Table 5-57: Greenbelt Preliminary NO_2 Analysis Results

NO_2 1-hr (PPB)				NO_2 Annual Average (PPB)			
Background	Max Project Increment	Total	NAAQS	Background	Max Project Increment	Total	NAAQS
39.2	36.3	75.5	100	8.2	1.6	9.8	53

ppm = parts per billion

Figure 5-48: Greenbelt 1-hr NO_2 Project Increment Results



GREENBELT AIR QUALITY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short- and long-term, adverse impacts.

Greenbelt Alternative: Direct, short- and long-term, adverse impacts.

Table 5-58: Greenbelt Preliminary $PM_{2.5}$ Analysis Results

$PM_{2.5}$ 24-hr (µg/m³)				$PM_{2.5}$ Annual Average (µg/m³)			
Background	Max Project Increment	Total	NAAQS	Background	Max Project Increment	Total	NAAQS
23.0	2.1	25.1	35	10.2	0.5	10.7	12

µg/m³ = micrograms per cubic meter

Figure 5-49: Greenbelt 24-hr $PM_{2.5}$ Project Increment Results

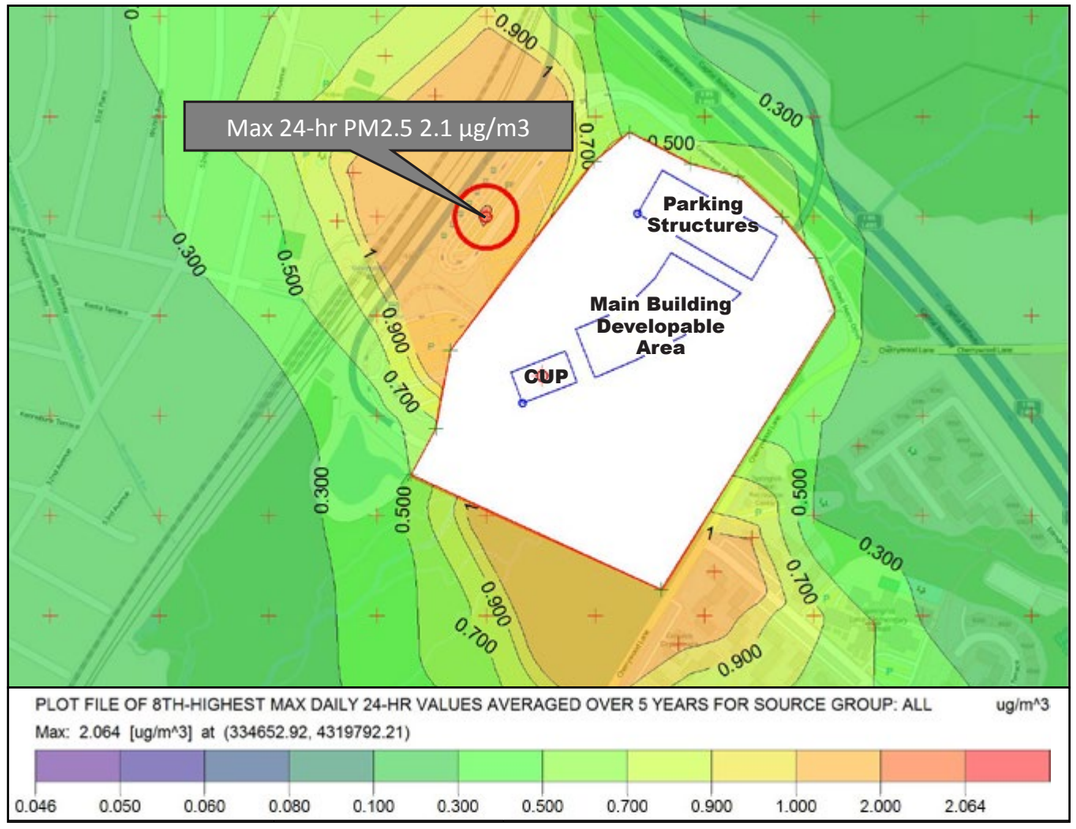


Table 5-58 summarizes the $PM_{2.5}$ analysis results, including the background concentration, project impact at the receptor with the highest concentration, and the total concentration. Annual average and 24-hr average $PM_{2.5}$ concentrations would be below the NAAQS. Similar to the NO_2 results, the maximum concentration occurs just west of the Greenbelt site. As a result, there would be direct, long-term, adverse impacts to air quality from stationary sources as a result of the Greenbelt Alternative.

Mobile Source Impacts

Incorporating mitigation measures, all signalized intersections affected by the Greenbelt Alternative would operate at LOS C or better, except for Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue intersection that would be at LOS D in the PM peak hour. Further CO hotspot screening is not necessary. There would be no additional impacts to the airshed from mobile source emissions beyond those described under climate change and GHG.

Temporary Construction Impacts

Table 5-59 summarizes the construction equipment and fugitive dust emissions for the Greenbelt site. The fugitive dust analysis was based on a construction site area of 33 acres. Annual construction emissions would be below the General Conformity de minimis thresholds for all criteria pollutants, indicating short-term adverse impacts per the intensity criteria presented in section 3.11.3.

Construction at the Greenbelt site would incorporate the same construction air quality mitigation measures and BMPs discussed in section 3.11.3.2.

Table 5-59: Greenbelt Construction Emissions

	VOC (tons)	CO (tons)	NO_x (tons)	SO_2 (tons)	PM_{10} (tons)	$PM_{2.5}$ (tons)
Total Construction Emissions per year	4.0	65.2	53.4	1.2	50.4	7.6
General Conformity de minimis threshold (per year)	50	100	100	100	100	100

5.2.11 Noise

5.2.11.1 No-action Alternative

Under the No-action Alternative at the Greenbelt site, the entirety of the Greenbelt Metro Station would be redeveloped as a mixed-use community which would include both residential and retail space as well as office space and hotels. Construction activities associated with the redevelopment of the site as a mixed-use community would generate noise in the project area. Noise levels are also anticipated to increase during operation of the site land uses. This noise would have the potential to affect nearby residencies, commercial facilities, wildlife, and other sensitive receptors.

Construction activities would create intermittent and short-term noise occurring only when such activities are ongoing. Potential sources of noise from construction include the use of construction access roads to the site, materials delivery, staff vehicle transportation, site preparation, construction equipment operation, and construction staff interactions and activities.

Noise stemming from construction-related activities, would occur at various locations throughout the Greenbelt site, but would primarily be limited to those areas where construction workers are conducting activities. Any increase in noise would be a concern if sensitive noise receptors (residences, schools, religious institutions, libraries, or other community resources) are located near the Greenbelt site and associated construction activities to experience the increases in noise. The majority of land surrounding the Greenbelt site has previously been developed. Most of the surrounding property is used for residential areas, particularly west and east of the proposed site with a number of residences to the west, located within 500 feet of the project area. Other sensitive noise receptors in the nearby project area include the Springhill Lake Elementary School, the Al-Huda School, and Hollywood Park. Ambient noise levels in the area are substantial primarily due to automobile traffic from residential throughways and from the Capital Beltway as well as from existing Metrorail service and associated parking at the Greenbelt Metro Station. Based on these existing conditions, and the localized and short-term nature of construction activities, an increase in noise levels exceeding 50 dBA would be considered minimal.

Construction activities in all areas with nearby sensitive noise receptors would be temporary and highly localized, and impacts would be short-term and minimal based on existing noise generation at the site. Noise would be increased during site clearing, construction of the new facility, and from the movement of heavy material haul trucks and workers. All construction impacts would be short-term and only occur when construction activities are ongoing. All construction activities would adhere to noise control regulations as established in the Greenbelt Code of Ordinances.

Noise during operation of the different site land uses is expected to result in indirect, long-term, adverse impacts. The use of the site would result in automobile traffic from residents, employees, and visitors coming and going from the site, generalized noise from daily activities, and general building operation and maintenance activities. Since the site is currently developed and used by automobiles it is not anticipated that vehicular traffic impacts associated with employees would be a considerable increase in noise from traffic currently using the site. In addition, the increase of traffic surrounding the site is not anticipated to increase noise levels as surrounding roadways currently create a notable amount of noise, thereby minimizing noticeable impacts to the noise environment.

The use of the Greenbelt Metro Station by residents, employees, and visitors is not anticipated to result in noticeable increases in noise as the Metro station use and operation would not change. Any potential increases in ridership from increased use would be similar to existing noise levels, resulting in no measurable impacts to the noise environment.

5.2.11.2 Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable long-term or short-term impacts to noise, as the Greenbelt Alternative would impact noise in the same manner as the mixed-use development would under the No-action Alternative. Therefore, under the Greenbelt Alternative there would be no measurable impacts to noise.

5.2.12 Infrastructure and Utilities

The following sections describe the environmental consequences for infrastructure and utilities under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

INFRASTRUCTURE AND UTILITIES ASSESSMENT OF SIGNIFICANCE

Impacts to infrastructure and utilities would result in significant impacts to natural gas as defined in section 3.11.3. Other resources considered under infrastructure and utilities would not result in significant impacts.

5.2.12.1 Water Supply

No-action Alternative

Under the No-action Alternative, there would be a range of impacts to the water supply. The No-action Alternative at the Greenbelt site would result in an increased water demand for the site. WSSC representatives stated that adequate water supply exists within the area to support development of the site (WSSC 2015d); however, a final determination of potential off-site improvements (length of water mains, location of upgrades, etc.) would be determined through the Hydraulic Planning Analysis process. Through this process, WSSC reviews the

GREENBELT NOISE ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT WATER SUPPLY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts, and indirect, long-term, beneficial impacts.

Greenbelt Alternative: No measurable impacts.

HYDRAULIC PLANNING ANALYSIS

A hydraulic review performed by WSSC on an applicant-, owner-, or developer-proposed development for property/properties having a County-issued Service Category status of 1 to 4 and requesting water and/or sewer service that requires system extension.

GREENBELT WASTEWATER COLLECTION & TREATMENT ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT ELECTRIC POWER ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Indirect, short-term, adverse impacts.

demands associated with the project and models the system performance under the new hydraulic load to determine potential impacts to the existing water supply and storage systems and associated infrastructure improvements (WSSC 2015d).

For any future development at the Greenbelt site, WSSC would require connection of the 10-inch water main on Cherrywood Lane, near the intersection of Springhill Drive, to the 12-inch water main to the south (Railroad Avenue). A Systems Extension Project would be required to connect to either of the existing trunk lines. Initial discussion with WSSC indicates that this Systems Extension Project would be the responsibility of the mixed-use developer. After construction, WSSC would own and maintain sewer line outside of the property. This extension may require construction within the existing wetlands and crossing Indian Creek. This connection would include approximately 3,500 linear feet of new 12-inch water main. Although adequate water supply to support the proposed development currently exists, indirect, short-term, adverse impacts associated with construction of the connection of the water mains on Cherrywood Lane and Railroad Avenue are anticipated.

The proposed interstate ramp construction would adversely impact an existing 96-inch-high pressure water line which serves a substantial portion of southern Prince George's County. Per WSSC's previous discussions with Maryland SHA and Renard Development, the new interchange ramps would interfere with this existing line. The ramp's construction would require a shutdown of the water main which runs parallel to the north side of the Capital Beltway There is an available 66-inch water line that could be used during the construction, but that takes roughly a month-long process to switch over involving inspection and maintenance of the existing 66-inch line. Additionally, the 66-inch line cannot provide equivalent water pressures. WSSC indicated that crossing the 96-inch water line perpendicular to minimize the amount of crossing is the strongly preferred option but still problematic for long-term maintenance and inspections.

Water Service Categories are determined and maintained through Prince George's County. The site lies within the Category 4 water service area (no service) which would need to be revised to Category 3 (water service provided). The mixed-use developer would be required to undertake this process with Prince George's County. Pressures on-site are anticipated to be over 80 pounds per square inch (psi) and pressure reducing valves may be required for development (WSSC 2015d). Over the long-term, the enhanced redundancy provided to the regional eater distribution system via the connection of the water mains on Cherrywood Lane and Railroad Avenue is expected to result in indirect, beneficial impacts

Greenbelt Alternative

Although the square footage of development under the Greenbelt Alternative is generally less than that associated with the No-action Alternative, water usage is expected to be similar because the consolidated FBI HQ would be occupied for multiple shifts. WSSC would continue to require the connection of the existing 12-inch water main associated with the Greenbelt South Core to the existing 10-inch water main near the intersection of Cherrywood Lane and Springhill Drive. This would be accomplished by routing the new pipes along Cherrywood Lane and under the bridge along Greenbelt Metro Drive. Because the impacts under the Greenbelt Alternative are similar to those under the No-action Alternative, there would be no measurable impacts.

By confining utility extensions to the alignments of existing roadways and ROW, significant adverse environmental impacts can be avoided. The design and construction of utility system improvements would follow applicable local and state regulations and permitting procedures. For the majority of Federal property in WSSC's service area, WSSC maintains and services infrastructure in public ROWs or easements which do not extend past the Federal property line.

5.2.12.2 Wastewater Collection and Treatment

No-action Alternative

The No-action Alternative at the Greenbelt site would result in increased wastewater flow from the site. WSSC developed a preliminary estimate for sewer flows of 420,000 gallons per day. At that flow both the 30-inch and 48-inch trunk lines have available capacity without any downstream improvements required. Final determination of potential off-site improvements (length, location, etc.) would be determined through the Hydraulic Planning Analysis. Through this process, WSSC reviews the demands associated with the project and models the system performance under the new hydraulic load to determine potential impacts to the existing wastewater collection and conveyance systems (WSSC 2015d). The WSSC Planning Group deals with trunk lines greater than 100,000 gallons per day. A dynamic sewer model would be required to determine capacity and impacts.

As described for water service, coordination with Prince George's County would be required to revise the current wastewater service area designation from Category 4 to Category 3 (WSSC 2015d).

Because connection to the trunk lines dictated by WSSC may require construction through wetlands and crossing Indian Creek, additional indirect, short-term, adverse impacts are possible. These impacts can be mitigated by employing appropriate design and construction practices. No indirect, long-term, adverse impacts are anticipated to the wastewater collection and conveyance systems, or to current and future customers.

Greenbelt Alternative

The impacts under the Greenbelt Alternative are expected to be the same as the No-action Alternative because the wastewater connection point would be the same and the hours of occupation would offset the reduction of developed square footage on an order of magnitude basis. WSSC stated that wastewater lines required under the Greenbelt Alternative should connect to the large diameter trunk sewers east of the site. This would be accomplished by routing the new pipes along Cherrywood Lane and under the bridge along Greenbelt Metro Drive, thereby avoiding adverse impacts to water resources associated with Indian Creek. WSSC reports these sewers, as well as downstream assets, should have sufficient capacity to support the proposed development (WSSC 2015d). Therefore, there would be no measurable impacts.

5.2.12.3 Electric Power

No-action Alternative

PEPCO is no longer extending 34.5kV lines; therefore only 13.2kV or 69kV services would be available to extend electrical service to the mixed-use development at the Greenbelt site. The anticipated electrical demand associated with the No-action Alternative at the Greenbelt site would likely be fed with multiple 13.2kV lines, which would be extended from existing infrastructure along Cherrywood lane. Although most of the work would likely occur within existing ROW and/or easements, indirect, short-term, adverse impacts to electric power are anticipated during the construction period under the No-action Alternative.

Greenbelt Alternative

In order to meet FBI mission requirements, the anticipated load requirement for the consolidated FBI HQ campus is between 20 and 35 megavolt-amperes. Under the Greenbelt Alternative, this would require at least one high voltage feed with several potential configurations to provide adequate electric service the site: multiple 13.2kV lines from different substations, two 69kV lines from different buses within the same substation, or two 69kV lines from different substations. Based on the operational requirement for redundancy and the anticipate electrical load associated with the Greenbelt Alternative, in conjunction with the ability for future expansion, provision of 69kV service with an on-site substation would best meet the needs of the Greenbelt Alternative and allow the greatest flexibility.

As previously stated, the Branchville substation has 69kV capability and is within 1 to 3 miles of the site. The next closest 69kV substation is the Takoma substation which is located 6 to 8 miles southeast of the site.

Similarly to the No-action Alternative, most of the work would likely occur within existing ROW and/or easements. Even so, direct, short-term, adverse impacts are anticipated due to the additional several mile length of the service extensions required to provide the desired level of redundancy and to meet the FBI HQ campus's demand.

5.2.12.4 Natural Gas

No-action Alternative

It is anticipated that natural gas service would be extended to the mixed-use development under the No-action Alternative. Service would likely be extended from existing infrastructure along Cherrywood Lane. Indirect, short-term, adverse impacts associated with the construction of new infrastructure are therefore anticipated. Long-term, indirect impacts of this extension could potentially be beneficial to current and future customers.

Greenbelt Alternative

Washington Gas representatives stated that it would be necessary to extend transmission pressure service to the site from an existing transmission pressure line to support the anticipated demand associated with the Greenbelt Alternative (Washington Gas 2015e). The nearest main operating at transmission pressure is approximately 2 miles from the Greenbelt site. Extension of transmission pressure service to the site would require crossing I-495, a major highway (Washington Gas 2015e). Direct, short-term, major adverse impacts associated with the extension of transmission pressure service are anticipated under the Greenbelt Alternative.

5.2.12.5 Telecommunications

No-action Alternative

Providing telecommunications service to the Greenbelt site would not measurably impact current or future customers of the region over the long term. Development of this site would require coordination of the telecommunications needs with the appropriate providers, but no indirect, long-term, adverse impacts to availability or quality of telecommunications services to existing customers is expected. Under the No-action Alternative at the Greenbelt site, only indirect, short-term, adverse impacts associated with disruptions to surrounding uses required during construction to connect to the adjacent communications networks are expected.

Greenbelt Alternative

It is anticipated that the impacts under the Greenbelt Alternative would be similar to the No-action Alternative. There would be an additional direct, short-term impact during the construction period associated with disruptions to surrounding uses to connect to the secure fiber network approximately three-quarters of a mile from the Greenbelt site.

GREENBELT NATURAL GAS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, major adverse impacts.

GREENBELT TELECOMMUNICATIONS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, adverse impacts.

GREENBELT STORMWATER MANAGEMENT ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, beneficial impacts to stormwater.

Greenbelt Alternative: Direct, long-term, beneficial impacts to stormwater.

5.2.12.6 Stormwater Management

No-action Alternative

Development of the site would require compliance with the Prince George's County Department of the Environment's Clean Water Program and the Water Quality Resources and Grading Code, as well as the State of Maryland's Stormwater Management program. Permitting and design requirements associated with stormwater management can be found in the County's Stormwater Management Design Manual (September 2014). LID measures and on-site stormwater BMPs would be incorporated into the design. This would curtail, and potentially reduce, stormwater runoff from the site so as to not adversely affect downstream properties or facilities. Therefore, indirect, long-term, beneficial impacts are expected under the No-action Alternative as a result of the incorporation of on-site stormwater BMPs.

Greenbelt Alternative

It is anticipated that the impacts under the Greenbelt Alternative would be similar to the No-action Alternative because of the incorporation of on-site stormwater BMPs. However, the Greenbelt Alternative would be required to comply with EISA Section 438, as described in section 3.3.4.2, resulting in additional direct, long-term, beneficial impacts.

5.2.13 Summary of Impacts

Table 5-60 presents a summary of the impacts associated with the Greenbelt Alternative to the resource topics analyzed in this EIS, including the No-action Alternative at Greenbelt.

Table 5-60: Greenbelt Summary of Impacts

Resource	Impact	
Earth Resources		
Geology and Topography	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts to topography and indirect, long-term, adverse impacts to geology.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Soils	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
Water Resources		
Surface Water	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Hydrology	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Groundwater	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Wetlands and Floodplains	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts to wetlands.
	N	Under the No-action Alternative, there would be no measurable impacts to floodplains.
	N	Under the Greenbelt Alternative, there would be no measurable long-term impacts to wetlands.
	ADV	Under the Greenbelt Alternative, there would be direct, short- and long-term, adverse impacts to floodplains.

Resource	Impact	
Biological Resources		
Vegetation	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts at the Greenbelt site.
	ADV	Under the Greenbelt Alternative, there would direct, long-term, adverse impacts off-site.
Aquatic Species	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Terrestrial Species	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Special Status Species	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Regional Land Use, Planning Studies, and Zoning		
Regional Land Use, Planning Studies, and Zoning.	N	Under the No-action Alternative, there would be no measurable impacts to zoning.
	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts to land use.
	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts to land use.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to zoning.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts to land use.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts to land use.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Visual Resources		
Visual Resources	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, long-term, major adverse impacts.
Cultural Resources		
Archaeological	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Historic Resources	N	Under the No-action Alternative, there would no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Socioeconomics		
Population and Housing	N	Under the No-action Alternative, there would be indirect, long-term impacts to population. Insufficient information available to determine the impacts to housing.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to population in Prince George's County or the Washington, D.C., MSA. There is insufficient information to assess impacts to housing in Prince George's County.
Employment and Income	BEN	Under the No-action Alternative, there would be indirect, short- and long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be indirect, short- and long-term, beneficial impacts.
Taxes	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to property tax revenues.
	BEN	Under the Greenbelt Alternative, there would be indirect, long-term, beneficial impacts to sales and income tax revenues.
Schools and Community Services	N	Under the No-action Alternative, there is insufficient information available to determine impacts to community services. No measurable short-term impacts to schools. Insufficient information available to determine long-term impacts to schools.
	N	Under the Greenbelt Alternative, there are no measurable impacts to schools in the Washington D.C. MSA. Insufficient information to determine impacts to schools in Prince George's County. No measurable short-term impacts to community services. Insufficient information to determine long-term impacts to community services.
Recreation and Other Community Facilities	N	Under the No-action Alternative, insufficient information available to determine the impacts.
	N	Under the Greenbelt Alternative, there is insufficient information available to determine impacts.
Environmental Justice	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no short- or long-term adverse impacts to minority or low-income communities.
Protection of Children	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, no mitigation of disproportionate and adverse impacts to children is required under EO 13045.
Public Health and Safety/Hazardous Materials		
Public Health and Safety/ Hazardous Materials	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Hazardous Materials	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Transportation		
Pedestrian Network	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Bicycle Network	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Public Transit	N	Under the No-action Alternative, there would be no measurable impacts to public transit capacity.
	MAJ ADV	Under the No-action Alternative, there would be indirect, long-term, major adverse impacts to bus operations.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to public transit capacity.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, long-term, major adverse impacts to bus operations.
Parking	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Truck Access	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Traffic Analysis	MAJ ADV	Under the No-action Alternative, there would be indirect, long-term, major adverse impacts to corridors.
	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts to intersections.
	MAJ ADV	Under the Greenbelt Alternative, there would be indirect, long-term, major adverse impacts to corridors.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts, and direct, long-term, adverse impacts to intersections.
Greenhouse Gas Emissions and Air Quality		
Global Climate Change/ Greenhouse Gases	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Air Quality	ADV	Under the No-action Alternative there would be indirect, short- and long-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short- and long-term, adverse impacts.
Noise		

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Noise	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Infrastructure and Utilities		
Water Supply	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would no measurable impacts.
Wastewater Collection and Treatment	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Electric Power	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be indirect, short-term, adverse impacts.
Natural Gas	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, short-term, major adverse impacts.
Telecommunications	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
Stormwater Management	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact