# 1.0 Traffic and Transportation

## 1.1 Introduction

This Technical Memorandum describes the traffic and transportation network in the Proposed Action's Region of Influence (ROI) and potential traffic and transportation impacts that could result from the Proposed Action (i.e., Preferred Alternative) and No Action Alternative. Measures to reduce potential adverse traffic and transportation effects from the Proposed Action are identified.

This analysis includes single-occupant-vehicles (SOVs), trucks, and parking; pedestrian and bicycle networks; and public transit. For further details on Treasury's detailed traffic analysis for the Proposed Action, please refer to the ***Transportation Impact Study*** (BEP, 2020).

Treasury received comments related to potential traffic and transportation impacts from stakeholders during the public scoping period. Comments primarily concerned the potential increase in traffic congestion, the sufficiency of local road infrastructure to support increased commuter and truck traffic, the general lack of public transit access to the Project Site, and potential safety concerns (e.g., speeding, commuters taking shortcuts through neighborhoods).

Please refer to Treasury's Public Scoping Report for further details on the comments received during the scoping period. Concerns expressed during public scoping regarding traffic and transportation are considered and addressed in this analysis.

### 1.1.1 Level of Service

As most construction workers and proposed Currency Production Facility (CPF) employees would commute to the Project Site by SOV, this Technical Memorandum focuses heavily on vehicular traffic on existing roadways. Treasury analyzes traffic by projecting changes in traffic at intersections, as these are where multiple traffic flows converge. Intersections are categorized as either signalized (e.g., controlled by a stop light) or unsignalized (e.g., controlled by a stop sign or yield sign).

Level of Service (LOS) is the primary measure of traffic operations for signalized and unsignalized intersections. LOS is a performance measure, ranging from A (the best) to F (the worst), that quantifies driver perception for elements such as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles.

Local planning authorities establish LOS analysis methods required in their jurisdiction, which can vary depending on whether an intersection is signalized or unsignalized. Local planning authorities relevant to the local ROI (see **Section 1.2.1**) include the Maryland State Highway Administration (SHA), Prince George's County, and the Maryland-National Capital Park and Planning Commission (M-NCPPC).

Two primary methods guide LOS analysis for signalized intersections in the ROI:

- The **Highway Capacity Manual (HCM) (6th Edition)**[1] method, required by Maryland SHA and Prince George's County, measures the average time, in seconds, that a vehicle is delayed because of a traffic control device (e.g., a traffic signal), including deceleration, stopped, and acceleration time. This is the vehicle "control delay," a standard representation of driver discomfort and frustration, fuel consumption, and increased travel time.

[1] Treasury used the HCM 2000 manual to analyze Intersections 4 and 6 (see **Section 1.2.3**) in the ROI due to their specific characteristics (BEP, 2020).

- The **Critical Lane Volume (CLV) method**, required by the M-NCPPC, measures conflicted vehicle movements (e.g., left turns through heavy opposing traffic) along two perpendicular approaches. Volumes are adjusted to reflect the number of lanes serving each vehicle move.

LOS for unsignalized intersections in the ROI is guided by the HCM method only. The LOS thresholds for unsignalized intersections are lower than for signalized intersections to account for differences in driver perceptions, as signalized intersections are generally designed to carry higher traffic volumes and experience greater delays than unsignalized intersections.

**Table 1** defines LOSs A through F for signalized and unsignalized intersections in terms of average control delay (i.e., from the HCM method) and, if applicable, the CLV method.

**Table 1: Signalized and Unsignalized Intersection LOS Thresholds Applicable to Proposed Action**

| LOS | Signalized Intersections | | | | Unsignalized Intersections | |
|---|---|---|---|---|---|---|
| | HCM Method | | CLV Method | | HCM Method | |
| | Average Control Delay (seconds/vehicle) | Pass/Fail | CLVs (# of vehicles) | Pass/Fail | Average Control Delay (seconds/vehicle) | Pass/Fail |
| A | ≤10 | Pass | ≤1,000 | Pass | ≤10 | Pass |
| B | >10 - 20 | Pass | >1,000 - 1,150 | Pass | >10 - 15 | Pass |
| C | >20 - 35 | Pass | >1,150 - 1,300 | Pass | >15 - 25 | Pass |
| D | >35 - 55 | Pass | >1,300 - 1,450 | Fail | >25 - 35 | Pass |
| E | >55 - 80 | Fail | >1,450 - 1,600 | Fail | >35 - 50 | Fail |
| F | >80 | Fail | >1,600 | Fail | >50 | Fail |

Green Shading: Passing LOS | Red Shading: Failing LOS
Sources: (M-NCPPC, 2010; M-NCPPC, 2012a; M-NCPPC, 2012b).

### 1.1.2 Queue Lengths

The Maryland SHA further characterizes traffic conditions using an Intersection Queuing Analysis method, which measures vehicle queue lengths in intersection approaches (i.e., northbound [NB], southbound [SB], westbound [WB], and eastbound [EB] lanes, as applicable). Queue length values indicate whether an intersection's "storage" provides enough space for stopped vehicles (i.e., waiting to pass through an intersection) without those vehicles blocking another lane or intersection. Queue length values vary based on the available storage in an intersection. A failing queue length occurs when an intersection's storage capacity is exceeded.

### 1.1.3 Peak Hour

To establish traffic conditions under the worst-case scenario, traffic analyses consider "peak hour" measurements, or traffic counts from the daily time period(s) when traffic is most congested; peak hour is often known as "rush hour." Peak hours typically correspond with the influx of commuters onto roadways during the regular workweek (i.e., Monday through Friday) who travel to and from work before and after regular working hours (i.e., 9:00 a.m. to 5:00 p.m.). Accordingly, there is often an AM peak hour in the morning and a PM peak hour in the afternoon. Peak hours can vary by region, season, and other factors. In addition to vehicular traffic, peak hour is also used to refer to peak daily ridership on public transit.

## 1.2 Affected Environment

### 1.2.1 Region of Influence

The ROI for this analysis includes the roadways, pedestrian and bicycle networks, and public transit facilities in the National Capital Region (NCR) that are relevant to the Proposed Action. This ROI considers the regional transportation network as well the local transportation network in the vicinity of the Project Site.

The *regional ROI* includes major regional roadways in the NCR that would be used by construction workers and employees commuting to and from the proposed CPF (see **Figure 1**): Capital Beltway (Interstate [I]-495), I-95, Baltimore Avenue (US Route 1), and Baltimore-Washington Parkway (Maryland Route [MD]-295).

Treasury also identified a *local ROI* for traffic and transportation, which includes the transportation elements near the Project Site that have the greatest potential to be affected by the Proposed Action.

Specifically, in consultation with the M-NCPPC, the City of Greenbelt, Maryland SHA, the US Army Corps of Engineers (USACE) Baltimore District, the National Capital Planning Commission (NCPC), and the National Park Service (NPS), Treasury identified 15 intersections to study between the Project Site and the regional highway network or last major decision point before entering a freeway facility; these intersections are also along roadways that would reasonably be anticipated to carry a substantial portion of proposed CPF employee vehicle traffic during Proposed Action operation (see **Section 1.3.1**). These intersections are bounded by Edmonston Road/Kenilworth Avenue (MD-201) to the west, Capital Beltway to the south, Soil Conservation Road to the east, and Odell Road to the north. The 15 studied intersections and their associated roadways generally encompass the *local ROI*, as shown in **Figure 2** (BEP, 2020).

In addition to roadways, the *local ROI* includes the immediate vicinity of the Project Site that could be used by bicycle and pedestrian commuters. For this analysis, pedestrian transportation elements are considered within 0.25 mile of the Project Site, which represents a typical walking distance between the Project Site and nearest bus stop. Bicycle transportation elements are considered within 1 mile of the Project Site, which represents a typical distance that a cyclist would be willing to travel to reach the Project Site (BEP, 2020).

Finally, the *local ROI* includes the nearest public transit options in the vicinity of the Project Site, such as a Metrorail station and local Metrobus routes.

### 1.2.2 Applicable Guidance

**Table 2** identifies federal, state, and local regulations and guidance applicable to this analysis, with which Treasury would comply during implementation of the Proposed Action as appropriate.

### 1.2.3 Existing Conditions

#### 1.2.3.1 Bureau of Engraving and Printing Employee Home Locations and Commuting Methods

Treasury surveyed existing Washington, DC Facility (DC Facility) employees in September 2019 regarding their home locations relative to the proposed CPF with SOVs. Of the 698 survey respondents, approximately 34 percent (the largest concentration) reside south of the Project Site, approximately 28 percent reside west of the Project Site, approximately 16 percent reside east of the Project Site, and approximately 14 percent reside north of the Project Site (BEP, 2020).[2]

[2] The remaining 8 percent of DC Facility staff did not answer as they would be dependent on public transit.

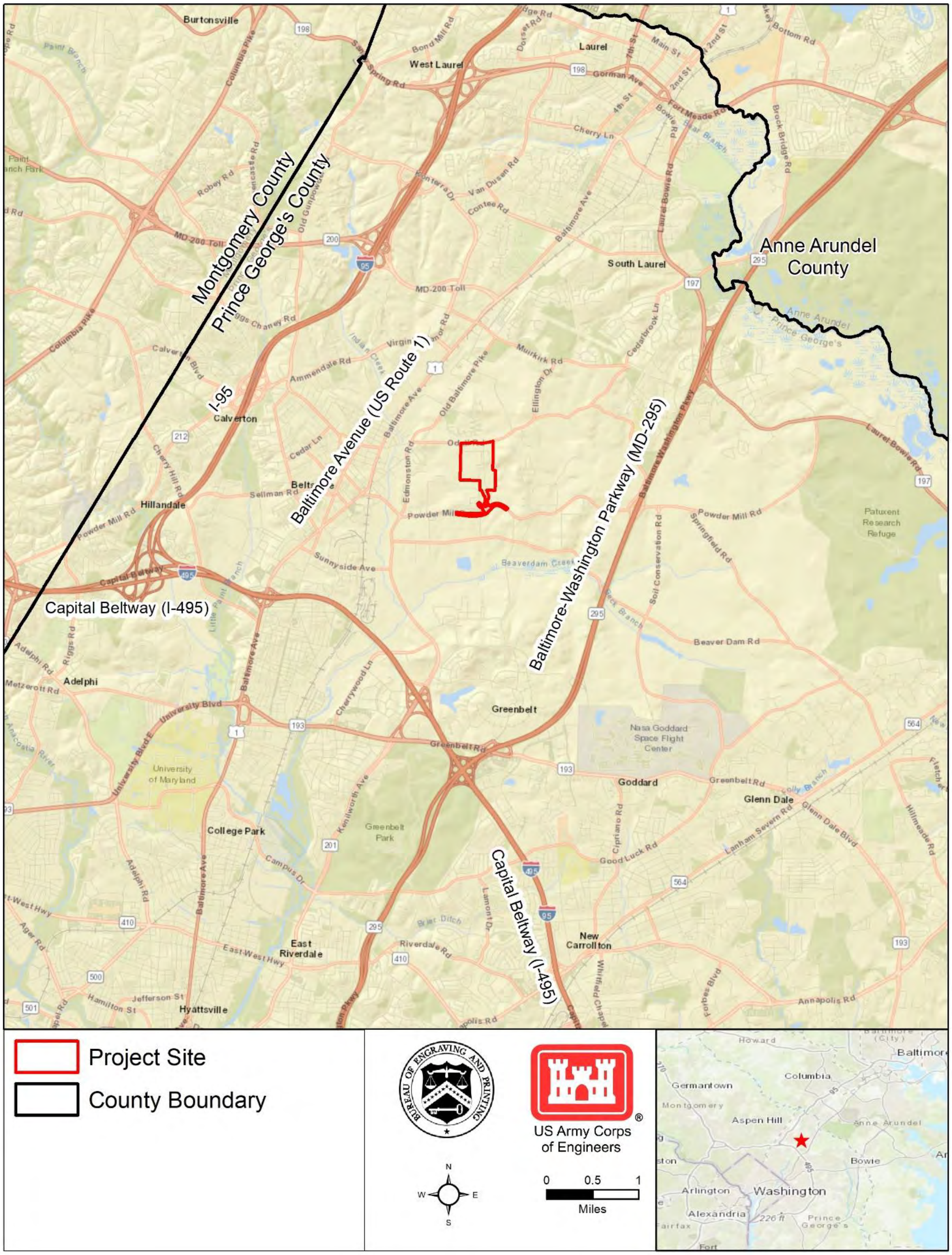


**Figure 1: Regional ROI for Traffic and Transportation**

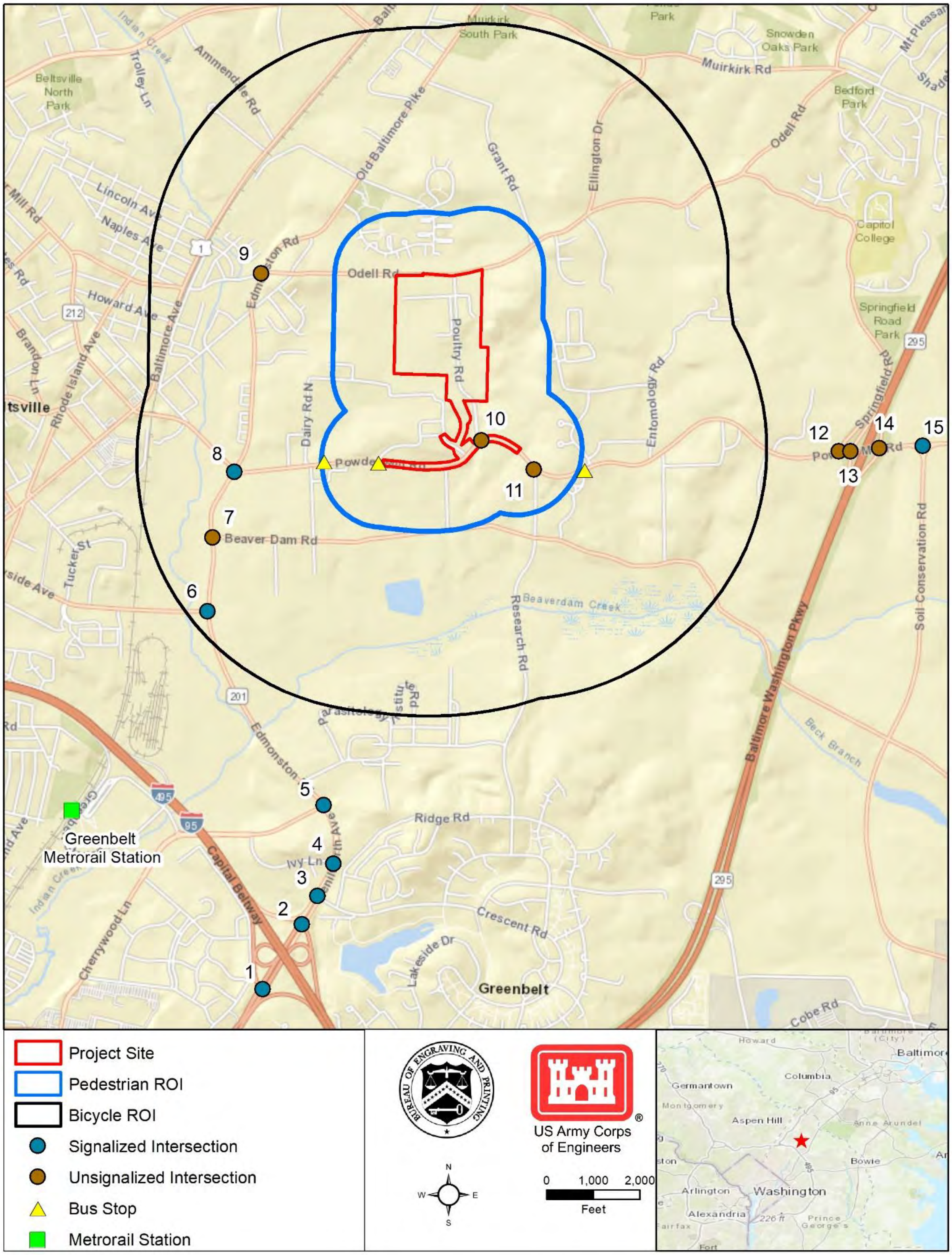


**Figure 2: Local ROI for Traffic and Transportation, Including Studied Intersections**

**Table 2: Traffic and Transportation Applicable Regulations and Guidance**

| Guidance/Regulation | Description/Applicability to Proposed Action |
|---|---|
| Maryland SHA Regulations (Code of Maryland Regulations [COMAR] 11.04) | Provides regulations and guidelines for highway use and access, such as permits and conditions for oversized or overweight vehicles that travel on highways and highway access routes for local delivery trucks. |
| Maryland SHA Traffic Signal Timing Guidelines (Maryland SHA, 2011) | Provides guidelines and recommendations for new or existing SHA-maintained traffic signals on state roadways. |
| Maryland SHA Draft Guidelines for Traffic Impact Reports/Studies (Maryland SHA, 2019a) | Provides guidelines for reviewing the impacts of a proposed development on the state highway system and evaluating improvements needed to support the proposed development's access to the state highway system. |
| Prince George's County Transportation Review Guidelines for the Analysis of the Traffic Impact of Development Proposals (M-NCPPC, 2012b) | Establishes traffic impact assessment criteria for proposed developments in Prince George's County, including guidelines for presenting information to the Prince George's County Planning Board and how to include a mitigation plan. |
| Transportation Research Board (TRB) HCM (TRB, 2016) | Establishes the methodology to use when conducting traffic analyses; methods in the HCM are required by Maryland SHA and Prince George's County. |
| NCPC Comprehensive Plan for the National Capital, Federal Elements (NCPC, 2016) | Addresses matters related to federal properties and interests in the NCR. The goal of the transportation Federal Element is to develop and maintain a multi-modal regional transportation system that meets the travel needs of workers, residents, and visitors, while improving regional mobility, accessibility, air quality, and environmental quality through expanded transportation alternatives and transit-oriented development. |
| **Regional and Local Plans** | Greenbelt Pedestrian and Bicyclist Master Plan (City of Greenbelt, 2014) Local and regional plans outline ongoing projects and future development in the ROI. These plans emphasize mobility, transit-oriented development, and a strong transportation network that provides safe, convenient, and equitable multimodal access to jobs and services. Relevant plans include the 2040 Maryland Transportation Plan (MDOT, 2019a), 2040 Maryland Bicycle and Pedestrian Master Plan (MDOT, 2019b), Baltimore-Washington Parkway Traffic Safety Plan (NPS, 2015), Subregion 1 Master Plan and Sectional Map Amendment (M-NCPPC, 2010), Countywide Master Plan of Transportation (M-NCPPC, 2009a), Countywide Master Plan of Transportation: Bikeways and Trails (M-NCPPC, 2009b), Plan 2035 Prince George's Approved General Plan (M-NCPPC, 2014), and Greenbelt Sector Plan and Sectional Map Amendment (M-NCPPC, 2013). |
| Treasury's Transportation Jurisdictional Agreement (2019) | Treasury's agreement with Maryland SHA, M-NCPPC, Prince George's County, NPS, and the City of Greenbelt on the tools, data parameters, and assumptions used in the Transportation Impact Study for the Proposed Action (BEP, 2020). |

Treasury also estimated the commuting methods of employees commuting to the DC Facility under existing conditions. Treasury identified the following approximate modal split: 30 percent drive SOVs; 7 percent carpool with other Bureau of Engraving and Printing (BEP) employees; 44 percent use public transit, such as Metrobus or Metrorail; and approximately 19 percent either use an alternate mode of transport, such as walking or biking, or also drive SOVs.

#### 1.2.3.2 Vehicles (SOVs and Trucks)[3]

**Roadways**

**Table 3** describes the existing roads within the regional and local ROIs that are applicable to the Proposed Action, including the roadway classifications, speed limits in miles per hour (mph), and Maryland SHA Annual Average Daily Traffic (AADT) values (i.e., average daily traffic counts) at locations near the Project Site.

**Peak Hour**

As described in **Section 1.1.3**, peak hours correspond with commuters traveling before and after regular working hours during the regular workweek. Treasury analyzed existing AM and PM peak hour periods in the local ROI by collecting turning movement counts at each of the 15 studied intersections (see **Figure 2**) and installing Automatic Traffic Recorders[4] (ATR) to capture traffic volumes along primary roadways in the local ROI throughout the day. This data revealed that traffic in the local ROI generally flowed unobstructed for most of the AM and PM peak hour periods. Overall, Treasury and local planning authorities determined that the AM and PM peak hours in the local ROI are 7:45 to 8:45 a.m. and 5:00 to 6:00 p.m.

As most employees at the proposed CPF would work the day shift[5] from 6:30 a.m. to 3:00 p.m., Treasury anticipates employees to travel primarily between the hours from 6:00 to 7:00 a.m. and 3:00 to 4:00 p.m. As such, Treasury focused its analysis of existing and projected future traffic conditions in the local ROI only during these *primary commuting hours*, which do not overlap with the observed AM and PM peak hours in the local ROI.

**Level of Service**

Treasury, with approval from local planning authorities, used traffic analysis software[6], calibrated for the HCM method, and CLV formulas to analyze the existing LOS of the 15 intersections in the local ROI during Treasury's proposed primary commuting hours (see **Table 4**). In accordance with the HCM method, Treasury then calculated an overall LOS for each signalized intersection, while the LOS for each unsignalized intersection is represented by the worst lane group delay for the minor approach (i.e., the less-trafficked road in the intersection). This Technical Memorandum summarizes the LOSs for each intersection using the above metrics; specific data for each approach of the intersections is available in the ***Transportation Impact Study***.

Based on the LOS results, 7 of the 15 intersections currently operate at an acceptable LOS (i.e., a passing LOS) during Treasury's proposed primary commuting hours of CPF employees. Two signalized intersections and six unsignalized intersections currently operate at failing LOSs (see **Figure 3**).

[3] Treasury's LOS and queue length analyses include both SOVs and trucks.
[4] ATR data provides a daily log of traffic, highlighting multiple peak periods and capturing the change in traffic levels throughout the day.
[5] Work hours may be altered, as needed, to meet production demands.
[6] Synchro™ Traffic Signal Coordination Software Version 10.3.

**Table 3: ROI Roadway Descriptions**

| Roadway | Functional Roadway Classification | Number of Lanes | 2018 AADT near Project Site | Speed Limit (mph) | Description |
|---|---|---|---|---|---|
| **Regional ROI** | | | | | |
| Capital Beltway (I-495) | Interstate | 4 – 8 lanes in each direction | 212,070 | 55 | Forms a circle around Washington, DC; major regional commuter route in the NCR |
| I-95 | Interstate | 4 – 8 lanes in each direction | 215,020 | 55 | Southwest-northeast road that connects, in part, the states of Maryland and Virginia; connects to the Capital Beltway |
| Baltimore Avenue (US Route 1) | Principal Arterial | 2 – 3 lanes in each direction with periodic shared center turn lane | 41,040 | 40 | Southwest-northeast road that generally parallels I-95; provides connectivity to Powder Mill Road and Sunnyside Avenue |
| Baltimore-Washington Parkway (MD-295) | Principal Arterial | 2 – 3 lanes in each direction | 11,960 | 55 | Southwest-northeast road that connects Washington, DC and Prince George's County to the City of Baltimore, Maryland; also provides connectivity to Powder Mill Road and Greenbelt Road |
| **Local ROI** | | | | | |
| Greenbelt Road (MD-193) | Principal Arterial | 3 lanes in each direction with periodic left turn lanes | 49,420 at Kenilworth Avenue; 55,323 at Baltimore-Washington Parkway | 40 | East-west road providing connectivity to Baltimore Avenue, Kenilworth Avenue, and Baltimore-Washington Parkway |
| Edmonston Road / Kenilworth Avenue (MD-201) | Minor Arterial north of I-495; Principal Arterial south of I-495 | 2 – 4 lanes in each direction; 1 lane in each direction north of Sunnyside Avenue | 16,860 at Powder Mill Road; 54,290 at Greenbelt Road | 40 | Southwest-northeast road providing connectivity to the Capital Beltway and Greenbelt Road |
| Powder Mill Road (MD-212) | Minor Arterial | 1 lane in each direction with left-right turn lanes at intersections | 11,960 | 35 | East-west road providing connectivity to Edmonston Road, Baltimore-Washington Parkway, and Soil Conservation Road |
| Cherrywood Lane | Major Collector | 1 – 2 lanes in each direction with periodic shared center turn lane | 8,801 | 30 – 35 | Southwest-northeast road providing connectivity to Greenbelt Road, Edmonston Road, and several secondary residential roadways; periodic bicycle lanes on both sides |

| Roadway | Functional Roadway Classification | Number of Lanes | 2018 AADT near Project Site | Speed Limit (mph) | Description |
|---|---|---|---|---|---|
| Sunnyside Avenue | Major Collector | 2 lanes in each direction with periodic left turn lanes; 1 lane in each direction at Edmonston Road | 8,930 | 30 | East-west road connecting Baltimore Avenue to Edmonston Road; periodic sidewalks on both sides |
| Crescent Road | Major Collector | 1 lane in each direction | 5,751 | 30 | East-west road that connects to Kenilworth Avenue; periodic bicycle lanes on both sides |
| Ivy Lane | Local Road | 1 lane in each direction with shared center turn lane | No data | 30 | Curvilinear road connecting Cherrywood Lane to Edmonston Road; periodic bicycle lanes on both sides |
| Beaver Dam Road | Local Road | 1 lane in each direction | No data | 30 | Curvilinear road connecting Edmonston Road to Soil Conservation Road |
| Odell Road | Local Road | 1 lane in each direction | No data | 35 | Curvilinear road connecting Edmonston Road to Muirkirk Road and Springfield Road |
| Soil Conservation Road | Local Road | 1 lane in each direction | No data | 40 | North-south road connecting Powder Mill Road to Greenbelt Road |
| Research Road and Poultry Road | Local Road | 1 unstriped lane in each direction | No data | No data | Local roads primarily serving the Beltsville Agricultural Research Center (BARC) facility; Research Road sometimes used as a cut-through road between Greenbelt Road and Powder Mill Road |

Sources: (BEP, 2020; Maryland SHA, 2019b)
Functional roadway classification groups public streets and highways into classes according to the character of service they are intended to provide, as defined here (M-NCPPC, 2009a).

**Table 4: LOS at the 15 Intersections in the Local ROI under Existing Conditions**

| ID | Intersection Name | Signalized / Unsignalized | AM Peak Hour | | | | PM Peak Hour | | | | Pass / Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HCM | | CLV | | HCM | | CLV | | |
| | | | LOS | Average Control Delay (seconds/ vehicle) | LOS | CLV (# of vehicles) | LOS | Average Control Delay (seconds/ vehicle) | LOS | CLV (# of vehicles) | |
| **1** | Kenilworth Avenue and Capital Beltway SB Off-Ramp | Signalized | **A** | 4.1 | **A** | 468 | **A** | 4.3 | **A** | 644 | **Pass** |
| **2** | Kenilworth Avenue and Capital Beltway NB Off-Ramp | Signalized | **C** | 23.5 | **A** | 714 | **B** | 19.4 | **A** | 739 | **Pass** |
| **3** | Kenilworth Avenue and Crescent Road | Signalized | **C** | 23.7 | **A** | 539 | **C** | 24.6 | **A** | 632 | **Pass** |
| **4** | Kenilworth Avenue and Ivy Lane | Signalized | **A** | 2.6 | **A** | 548 | **A** | 1.8 | **A** | 654 | **Pass** |
| **5** | Kenilworth Avenue/Edmonston Road and Cherrywood Lane | Signalized | **A** | 8.5 | **A** | 681 | **B** | 10.7 | **A** | 761 | **Pass** |
| **6** | Edmonston Road and Sunnyside Avenue | Signalized | **E** | 58.2 | **C** | 1298 | **D** | 42.0 | **C** | 1250 | **Fail** |
| **7** | Edmonston Road and Beaver Dam Road | Unsignalized | **F** | 133.7 | N/A | N/A | **F** | 121.4 | N/A | N/A | **Fail** |
| **8** | Edmonston Road and Powder Mill Road | Signalized | **D** | 38.4 | **A** | 851 | **E** | 74.2 | **B** | 1010 | **Fail** |
| **9** | Edmonston Road and Odell Road | Unsignalized | **E** | 37.7 | N/A | N/A | **E** | 35.4 | N/A | N/A | **Fail** |

| ID | Intersection Name | Signalized / Unsignalized | AM Peak Hour | | | | PM Peak Hour | | | | Pass / Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HCM | | CLV | | HCM | | CLV | | |
| | | | LOS | Average Control Delay (seconds/ vehicle) | LOS | CLV (# of vehicles) | LOS | Average Control Delay (seconds/ vehicle) | LOS | CLV (# of vehicles) | |
| **10** | Powder Mill Road and Poultry Road | Unsignalized | **A** | 9.5 | N/A | N/A | **C** | 23.3 | N/A | N/A | **Pass** |
| **11** | Powder Mill Road and Research Road | Unsignalized | **B** | 12.6 | N/A | N/A | **C** | 18.8 | N/A | N/A | **Pass** |
| **12** | Powder Mill Road and Springfield Road | Unsignalized | **C** | 19.2 | N/A | N/A | **F** | 71.0 | N/A | N/A | **Fail** |
| **13** | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Unsignalized | **F** | 83.9 | N/A | N/A | **F** | 405.2 | N/A | N/A | **Fail** |
| **14** | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Unsignalized | **D** | 33.7 | N/A | N/A | **F** | 240.6 | N/A | N/A | **Fail** |
| **15** | Powder Mill Road and Soil Conservation Road | Signalized | **C** | 27.9 | A | 567 | **F** | 96.0 | A | 888 | **Fail** |

Green Shading: Passing LOS | Red Shading: Failing LOS
Source: (BEP, 2020)

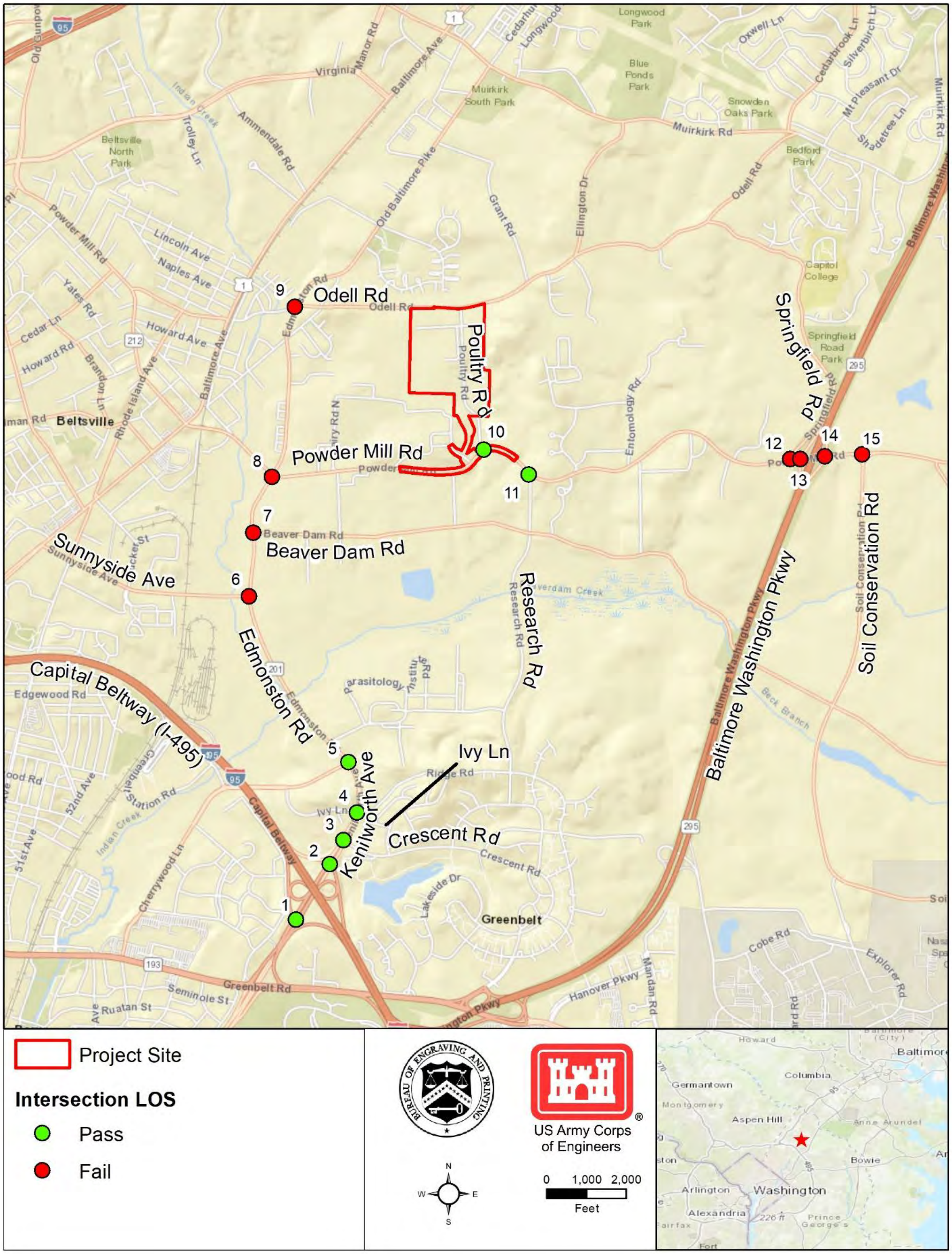


**Figure 3: LOS at the 15 Studied Intersections in the Local ROI under Existing Conditions**

### Queue Lengths

Treasury used additional traffic analysis software[7] to analyze the existing queue lengths during the proposed primary commuting hours of CPF employees at the 15 studied intersections in the local ROI (see **Table 5**). Treasury assumed that the 95$^{th}$ percentile queue length, or a queue length that has a 5 percent possibility or more of being exceeded, is an unacceptable, or failing, queue length. Five of the 15 studied intersections currently experience failing queue lengths in at least one approach; the remainder of the intersections have acceptable queue lengths in all approaches. All five of these failing intersections also have a failing LOS (BEP, 2020).

**Table 5: Studied Intersections in Local ROI with Failing Queue Lengths under Existing Conditions**

| ID | Intersection Name | Approach with Failing Queue Length | AM / PM |
|---|---|---|---|
| **6** | Edmonston Road and Sunnyside Avenue | Edmonston Road NB | AM |
| | | Edmonston Road SB | PM |
| **8** | Edmonston Road and Powder Mill Road | Powder Mill Road EB | PM |
| | | Powder Mill Road WB | AM |
| | | | PM |
| **13** | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Baltimore-Washington Parkway SB Off-Ramp | AM |
| | | | PM |
| **14** | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Baltimore-Washington Parkway NB Off-Ramp | AM |
| | | | PM |
| **15** | Powder Mill Road and Soil Conservation Road | Soil Conservation Road NB | PM |

Red Shading: Failing Queue Lengths

### Parking

Parking near the Project Site is primarily limited to BARC parking lots for service vehicles and employees. Approximately 20 paved surface parking lots are located at nearby BARC office buildings and maintenance facilities to the south of the Project Site; none of these paved surface parking lots are on the Project Site (BEP, 2020). One small, gravel parking area is in the northern portion of the Project Site. There is no on-street parking in the local ROI.

## 1.2.3.3 Pedestrian and Bicycle Network

### Pedestrian Network

Few sidewalks are present within 0.25 mile of the Project Site. The internal circulation in BARC is primarily vehicular with some sidewalks, but generally with few accommodations for non-motorized transportation. Outside of BARC, sidewalks exist along the residential streets in the neighborhoods north of the Project Site (e.g., Vansville), although these are not contiguous with the Project Site. There are no marked pedestrian road-crossing locations along Powder Mill Road or Odell Road within 0.25 mile of the Project Site. This mode of transportation is retained for analysis because it would be necessary in conjunction with public transit.

[7] SimTraffic™ Version 10.3.

**Bicycle Network**
There are no multi-use paths or roadways with bicycle accommodations within 1 mile of the Project Site. Within the local ROI, Powder Mill Road has a 3-foot to 6-foot striped shoulder[8] between Edmonston Road and the Baltimore-Washington Parkway that provides space for, and is commonly used by, bicyclists.

#### 1.2.3.4 Public Transit

Several modes of public transit are proximal to the Project Site, including Metrobuses, Metrorail, shuttles, and ride-hailing and carsharing services, as described below.

**Metrorail Station**
Washington Metropolitan Area Transit Authority's (WMATA) Greenbelt Metrorail Station is located approximately 4 miles (via roadways) from the Project Site in the City of Greenbelt. On weekdays, trains typically operate between 5:00 a.m. and 10:59 p.m.[9] at intervals of 12 minutes or less. A parking lot is available at this station. On average, approximately 71 riders exit this station during the AM primary commuting hour and 145 riders enter this station during the PM primary commuting hour.

On a regional level, WMATA stations typically experience their AM peak hour at 8:00 a.m. and their PM peak hour at 5:00 p.m. (WMATA, 2019; WMATA, 2020a); these times do not overlap with the primary commuting hours of the proposed CPF employees. Further, the Greenbelt Metrorail Station is used primarily heading towards Washington, DC in the morning and returning from Washington, DC in the afternoon (i.e., over 1,000 riders per peak hour), which are reverse directions of proposed CPF employees (WMATA, 2020b). In 2019, the overall Metrorail system averaged approximately 626,000 daily entries (i.e., trips) (WMATA, 2021).

**Metrobus Service**
Two WMATA Metrobus lines travel via routes along Edmonston Road, Powder Mill Road, and the Baltimore-Washington Parkway, as described in **Table 6**; however, only the 87 Route currently has bus stops within the local ROI (see **Figure 2**); the nearest bus stops to the Project Site are approximately 0.5 mile east and west of Intersection 10. There is currently no intercity or commuter bus service to the Project Site.

**Table 6: Metrobus Routes Potentially Servicing the Project Site**

| Metrobus Route | Destinations | Headway (Weekdays) | Service Hours (Weekdays) | Average Capacity Used | Nearest Bus Stop to Project Site |
|---|---|---|---|---|---|
| **87** | Greenbelt Metrorail Station to City of Laurel | 30 minutes weekdays | Northbound: 5:50 a.m. – 7:47 p.m.<br>Southbound: 4:46 a.m. – 7:45 p.m.<br>Does not operate 9:00 a.m. – 3:00 p.m. | 60% (AM)<br>72% (PM) | 0.5 mile east and west of Poultry Road |
| **B30** | Greenbelt Metrorail Station to Baltimore-Washington International Thurgood Marshall Airport | 30 minutes weekdays | Northbound: 6:00 a.m. – 9:54 p.m.<br>Southbound: 7:00 a.m. – 10:45 p.m. | 33% (AM)<br>68% (PM) | N/A |

Sources: (WMATA, 2015; WMATA, 2019; WMATA, 2018)

[8] Federal Highway Administration guidelines state bicycle striped lanes should be 5 feet wide (FHWA, 2015).
[9] Metrorail service is extended on Friday evenings.

**BARC Shuttle**

The US Department of Agriculture (USDA) provides one commuter shuttle between BARC and the Greenbelt Metrorail Station. The shuttle operates on weekdays between 6:42 a.m. and 6:08 p.m. The shuttle's commute between the station and BARC is typically 10 to 12 minutes.

**Ride-hailing and Carsharing**[10]

Several ride-hailing and carsharing companies currently serve the regional and local ROIs, such as Uber, Lyft, Zipcar, Turo, and several taxi companies. Ride-hailing and carsharing services are provided by private companies that offer automobile access to registered users. Although exact user numbers are unavailable, these services are widely available in the regional and local ROIs. The Proposed Action would have no noticeable effect on these services regionally or locally. As such, they are not analyzed further in this Technical Memorandum.

## 1.3 Environmental Effects

This section identifies the potential effects on traffic and transportation within the regional and local ROIs that could occur under the Proposed Action (i.e., Preferred Alternative) and the No Action Alternative. Measures to reduce potential adverse impacts on traffic and transportation are also identified.

### 1.3.1 Approach to Analysis

To evaluate the impacts of the Alternatives on the local ROI's traffic levels and transportation network, Treasury modeled potential future traffic operations at the 15 studied intersections of the local ROI during the primary commuting hours (see **Section 1.3.1**). Treasury assumed that a significant impact would occur if the Proposed Action would:

- Cause a noticeable change in the regional ROI's traffic levels and transportation operations.
- Result in LOS degradation for signalized or unsignalized intersections such that:
  - Signalized – LOS would be considered failing.
  - Unsignalized – LOS would be failing, and minor approaches with volumes of at least 100 vehicles per hour would have CLVs of 1,150 or more (M-NCPPC, 2012b).
- Result in failing queue lengths that increase by 150 feet or more compared to the No Action Alternative in intersections that also have a failing LOS.
- Create a parking shortage due to elimination of needed parking capacity without sufficient replacements.
- Result in long-term closure or loss of sidewalks, trails, lanes, or other facilities used by pedestrians or cyclists to access frequently visited locations.
- Interrupt an existing public transit route over the long-term without a convenient replacement.
- Cause an abrupt, unplanned change in existing transit ridership levels that would require the transit authority to alter existing operations.

Treasury modeled traffic in the local ROI for the year 2029 under baseline (i.e., No Action Alternative) and Proposed Action (i.e., Preferred Alternative) conditions. Treasury analyzed the year 2029 because that is when the proposed CPF would be fully operational.

[10] Ride-hailing allows users to call a driver for a one-time trip to a destination. Carsharing allows users to rent a vehicle for short periods of time (i.e., hours or days) for personal use.

*No Action Alternative*

The 2029 baseline conditions for traffic and transportation are those that would occur in the year 2029 without implementation of the Proposed Action (i.e., under the No Action Alternative).

These projected future conditions account for planned or reasonably foreseeable regional development projects in the ROI (see the ***Cumulative Effects Analysis Technical Memorandum***) as well as general anticipated growth in the region. Treasury identified planned and reasonably foreseeable regional development projects in consultation with local planning agencies during initial scoping and calculated an average annual background growth rate of 1.2 percent based on six years (i.e., 2013 to 2019) of Maryland SHA traffic counts on roads in the local ROI (Maryland SHA, 2019b).

Treasury estimated LOS and queue lengths under the No Action Alternative in the same manner as for the existing conditions analysis (see **Section 1.2.3.2**), incorporating projected 2029 traffic volumes into the respective traffic analysis software programs.

*Preferred Alternative*

Based on technical and regulatory resources, Treasury made the following conservative (i.e., "worst case") assumptions when evaluating the Preferred Alternative's potential impact on traffic and transportation in the ROIs (BEP, 2020):

Construction

- Construction workers would commute to the construction site during regular daytime hours Monday through Friday. Construction workers would commute from local home locations (i.e., generally within 10 miles of the Project Site).
- Construction would require 7,278 dump truck trips. Dump trucks would travel locally (i.e., no more than 10 miles away) to pick-up and dispose of materials and equipment.

Operation

- Of the 1,427 employees of the proposed CPF, 1,138 would work during the day shift (i.e., 6:30 a.m. to 3:00 p.m.). The remainder would be almost equally dispersed over the evening and midnight shifts.
- Of day shift employees, 88 percent (1,003 employees) would drive an SOV to the proposed CPF, 2 percent (23 employees) would carpool with two to three persons in a vehicle (i.e., 8 carpool vehicles), 9 percent (100 employees) would use public transit, 1 percent (11 employees) would bike, and no employees would walk.
- Approximately 944 and 946 employees would commute during the proposed CPF's AM and PM primary commuting hours, respectively. Accounting for use of public transit and bicycles, 850 and 851 vehicle trips would be generated during the AM and PM primary commuting hours, respectively.
- Approximately 135 and 130 staff would commute to the proposed CPF during the local ROI's AM and PM peak hours (i.e., 7:45 to 8:45 a.m. and 5:00 to 6:00 p.m.), respectively.
- Approximately 82 trucks (i.e., 27 box trucks and 55 semi-trucks) would arrive at and depart from the proposed CPF weekly for shipments and deliveries.
- The Proposed Action includes construction of a new entrance road that would provide access to the CPF from Powder Mill Road. The proposed entrance road would intersect Powder Mill Road near the existing intersection of Powder Mill Road and Animal Husbandry Road; this intersection, as well as proximal portions of Powder Mill Road, would be reconfigured (e.g., to include a traffic

control device, new or wider lanes, etc.) according to the projected traffic and queue requirements for this location during operation of the Proposed Action. Poultry Road would no longer provide access to Treasury's proposed parcel.

- The proposed CPF would include two Entry Control Facilities (ECFs), one for passenger vehicles and one for trucks, on the proposed entrance road extending from Powder Mill Road. ECFs would be security checkpoints for vehicles that wish to access the proposed CPF. Each accessing vehicle would be required to stop at an ECF and be screened by BEP security personnel before proceeding.
- The proposed CPF would include sufficient parking spaces (i.e., approximately 1,234 spaces) to fully accommodate proposed CPF employee and visitor vehicles on-site at any one time.

Using the home zip codes of the existing DC Facility employees, Treasury projected the routes that employees would likely use to commute to the proposed CPF and distributed the anticipated vehicle trips (e.g., 850 and 851 trips during the AM and PM primary commuting hours, respectively) accordingly. The projected routes include major regional roadways (e.g., the Capital Beltway or the Baltimore-Washington Parkway) and local roadways and accounted for alternate routes suggested by current employees.

Treasury estimated LOS and queue lengths at the 15 studied intersections under the Preferred Alternative in the same manner as for the existing conditions and the No Action Alternative (see **Section 1.2.3.2**), accounting for projected traffic volumes for both the 2029 baseline (No Action) and Preferred Alternative.

Finally, Treasury used TransModeler™ Traffic Simulation Software to project queue lengths at the proposed CPF's ECFs based on gate processing times (i.e., the delay in vehicle admittance caused by the security process). Using data from the BEP's Western Currency Facility (WCF; generally 4 to 27 seconds of delay per vehicle), Treasury evaluated queue lengths for multiple potential ECF lane configurations, including two, three, four, and five lanes per ECF.

### 1.3.2 No Action Alternative

**Summary:** As described in detail below, Treasury would have ***no impacts*** on traffic and transportation under the No Action Alternative. However, various development projects and background growth of the region would result in long-term impacts on traffic and transportation in the regional and local ROIs, which would vary from ***beneficial to significant adverse levels***. Specifically, the No Action Alternative would have ***significant adverse impacts*** on traffic in the local ROI due to the continued failing LOS of Intersection 6, which is also failing under existing conditions, and anticipated failing queue lengths at Intersections 6 and 13, which would increase by over 150 feet compared to existing conditions.

Under the No Action Alternative, Treasury would not construct the proposed CPF at BARC. Treasury would continue to operate the existing DC Facility as under current conditions. The Project Site would remain in its current condition, and no new vehicle traffic, transit riders, pedestrian and bicycle facilities/users, or parking facilities/users would be generated. Under the No Action Alternative, Treasury would not change the existing regional or local transportation networks and would not generate or eliminate any demands on it; therefore, Treasury would have ***no impact*** on traffic and transportation.

Although Treasury would have no impact on traffic and transportation under the No Action Alternative, various development projects and general background growth of the region, unrelated to the Proposed Action, would affect traffic and transportation conditions. Regional growth would likely result in ***less-than-significant adverse impacts*** on traffic in the regional ROI and on public transit in the local ROI due to increased ridership. Regional growth would have ***negligible impacts*** on pedestrian and bicycle facilities/use or parking facilities in the local ROI.

To establish a comparative baseline against which to evaluate the impacts of the Preferred Alternative, Treasury projected the changes to vehicle traffic in the local ROI in 2029 (i.e., *without* the proposed CPF) as described below.

*Level of Service*

Treasury projected the LOS for each of the 15 intersections in the local ROI under the No Action Alternative (see **Table 7** and **Figure 4**). Treasury determined that by 2029, 7 of the 15 intersections would have a failing LOS, including one signalized intersection and six unsignalized intersections. Generally, the Pass/Fail ratings of intersections under existing conditions would remain the same under the No Action Alternative. Key take-aways from the comparison between the No Action Alternative (in 2029) and current conditions (2020) include the following:

- The LOS of Intersection 10 would *degrade* from Pass to Fail due to deterioration of LOS in the PM primary commuting hour; this would likely be a ***less-than-significant adverse impact*** to traffic in the local ROI since Poultry Road would have minimal traffic.
- Intersections 8 and 15 would *improve* from Fail to Pass under the No Action Alternative due to LOS improvement during the PM primary commuting hour; these would be ***beneficial impacts*** to traffic in the local ROI.
- Intersection 6 would fail under both the No Action Alternative and existing conditions, representing a continued ***significant adverse impact*** to traffic in the local ROI.
- All other intersections in the local ROI that have an increase in vehicle control delays under the Preferred Alternative would experience a ***less-than-significant adverse impact***.

*Queue Lengths*

Treasury projected the queue lengths of each approach to each intersection in the local ROI under the No Action Alternative (in 2029); intersection approaches with failing queue lengths under the No Action Alternative are shown in **Table 8**.

Treasury determined that 6 of the 15 intersections would experience failing queue lengths in at least one approach; the remainder of the intersections would have acceptable queue lengths in all approaches. Of the six intersections with failing queues, five would fail during the AM primary commuting hour, five would fail during the PM primary commuting hour, and all but two (Intersections 5 and 8) would also have a failing LOS (see **Table 7**).

Most approaches with failing queue lengths under current conditions (2020) would continue to fail under the No Action Alternative (in 2029), and Intersections 6 and 8 would have failing queues in additional approaches and during additional primary commuting hours compared to current conditions.

All intersections in the local ROI that have an increase in queue lengths, including Intersections 6 and 8, would experience ***less-than-significant adverse impacts*** under the No Action Alternative. Queue lengths at Intersections 5 and 10 would also *degrade* from Pass to Fail under the No Action Alternative, although the failing queue lengths would be less than 150 feet longer than current conditions, so these impacts would remain ***less than significant***.

Intersections 6 and 13, which would have overall failing LOSs in 2029, would also have failing queues that would increase by over 150 feet compared to current conditions; this would constitute ***significant adverse impacts*** to traffic in the local ROI.

Finally, Intersection 15 would improve from Fail to Pass under the No Action Alternative, which would be a ***beneficial impact*** to traffic in the local ROI.

**Table 7: LOS at the 15 Studied Intersections in the Local ROI under the No Action Alternative**

| ID | Intersection Name | Signalized or Unsignalized | AM Primary Commuting Hour | | | | PM Primary Commuting Hour | | | | Pass / Fail | Notable Changes in AM/PM Ratings Compared to Existing Conditions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HCM | | CLV | | HCM | | CLV | | | |
| | | | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | | |
| **1** | Kenilworth Avenue and Capital Beltway SB Off-Ramp | Signalized | **A** | 5.2 | **A** | 606 | **A** | 5.5 | **A** | 885 | **Pass** | AM/PM Remain Pass |
| **2** | Kenilworth Avenue and Capital Beltway NB Off-Ramp | Signalized | **C** | 24.7 | **A** | 860 | **C** | 21.3 | **A** | 969 | **Pass** | AM/PM Remain Pass |
| **3** | Kenilworth Avenue and Crescent Road | Signalized | **C** | 26.2 | **A** | 666 | **C** | 29.6 | **A** | 797 | **Pass** | AM/PM Remain Pass |
| **4** | Kenilworth Avenue and Ivy Lane | Signalized | **A** | 1.8 | **A** | 652 | **A** | 2.4 | **A** | 906 | **Pass** | AM/PM Remain Pass |
| **5** | Kenilworth Avenue/Edmonston Road and Cherrywood Lane | Signalized | **B** | 19.5 | **A** | 980 | **C** | 21.2 | **B** | 1,100 | **Pass** | AM/PM Remain Pass |
| **6** | Edmonston Road and Sunnyside Avenue | Signalized | **F** | 141.4 | **F** | 1,719 | **F** | 106.1 | **F** | 1,702 | **Fail** | AM Remains Fail, **PM *Degrades* to Fail** **Significant Adverse Impact** |
| **7** | Edmonston Road and Beaver Dam Road | Unsignalized | **F** | 1,753.5 | **N/A** | N/A | **F** | 739.6 | **N/A** | N/A | **Fail** | AM/PM Remain Fail |
| **8** | Edmonston Road and Powder Mill Road | Signalized | **D** | 51.7 | **B** | 1,080 | **D** | 54.7 | **C** | 1,225 | **Pass** | AM Remains Pass, **PM *Improves* to Pass; Overall Rating *Improves* to Pass** **Beneficial Impact** |
| **9** | Edmonston Road and Odell Road | Unsignalized | **F** | 66.3 | **N/A** | N/A | **F** | 63.0 | **N/A** | N/A | **Fail** | AM/PM Remain Fail |
| **10** | Powder Mill Road and Poultry Road | Unsignalized | **B** | 11.3 | **N/A** | N/A | **F** | 59.3 | **N/A** | N/A | **Fail** | AM Remains Pass, **PM *Degrades* to Fail; Overall Rating *Degrades* to Fail** |
| **11** | Powder Mill Road and Research Road | Unsignalized | **B** | 14.6 | **N/A** | N/A | **C** | 24.7 | **N/A** | N/A | **Pass** | AM/PM Remain Pass |
| **12** | Powder Mill Road and Springfield Road | Unsignalized | **D** | 31.1 | **N/A** | N/A | **F** | 229.8 | **N/A** | N/A | **Fail** | AM Remains Pass, PM Remains Fail |
| **13** | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Unsignalized | **F** | 223.1 | **N/A** | N/A | **F** | 929.9 | **N/A** | N/A | **Fail** | AM/PM Remain Fail |
| **14** | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Unsignalized | **F** | 67.9 | **N/A** | N/A | **F** | 991.1 | **N/A** | N/A | **Fail** | **AM *Degrades* to Fail,** PM Remains Fail |
| **15** | Powder Mill Road and Soil Conservation Road | Signalized | **C** | 24.7 | **A** | 639 | **C** | 31.2 | **B** | 1,001 | **Pass** | AM Remains Pass, **PM *Improves* to Pass; Overall Rating *Improves* to Pass** **Beneficial Impact** |

Green Shading: Passing LOS | Red Shading: Failing LOS
Source: (BEP, 2020)

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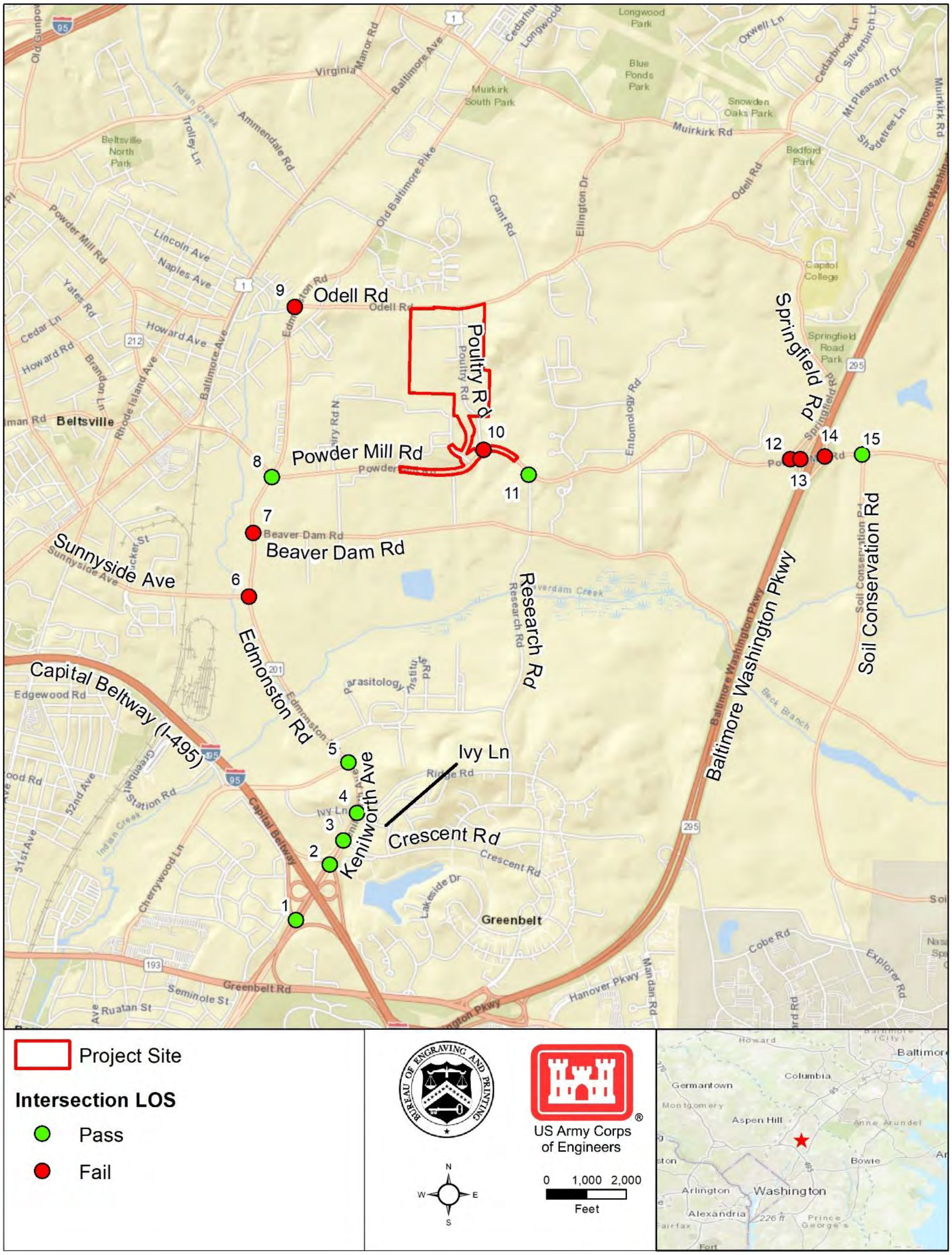


**Figure 4: LOS at the 15 Studied Intersections in Local ROI under the No Action Alternative**

**Table 8: Studied Intersections in Local ROI with Failing Queue Lengths under the No Action Alternative**

| ID | Intersection Name | Approach with Failing Queue Length | AM / PM | LOS | Increase of 150 feet Compared to Existing Conditions? |
|---|---|---|---|---|---|
| 5 | Kenilworth Avenue / Edmonston Road and Cherrywood Lane | Cherrywood Lane EB | AM | Pass | N/A |
| 6 | Edmonston Road and Sunnyside Avenue | Sunnyside Avenue EB | AM | Fail | Y |
| | | | PM | Fail | N |
| | | Edmonston Road NB | AM | Fail | Y |
| | | | PM | Fail | Y |
| | | Edmonston Road SB | AM | Fail | Y |
| | | | PM | Fail | Y |
| 8 | Edmonston Road and Powder Mill Road | Powder Mill Road EB | AM | Pass | N/A |
| | | | PM | Pass | N/A |
| | | Powder Mill Road WB | AM | Pass | N/A |
| | | | PM | Pass | N/A |
| | | Edmonston Road NB | PM | Pass | N/A |
| 10 | Powder Mill Road and Poultry Road | Powder Mill Road EB | PM | Fail | N |
| 13 | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Baltimore-Washington Parkway SB Off-Ramp | AM | Fail | N |
| | | | PM | Fail | Y |
| 14 | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Baltimore-Washington Parkway NB Off-Ramp | AM | Fail | N |
| | | | PM | Fail | N |

Yellow-shaded approaches would **fail** under the No Action Alternative but currently pass under existing conditions.
Red-shaded cells represent ***significant adverse impacts***.

### 1.3.3 Preferred Alternative

**Summary:** As described in detail below, *construction* of the Preferred Alternative would result in ***no impacts*** on traffic and transportation in the regional ROI, but ***less-than-significant adverse impacts*** in the local ROI.

*Operation* of the Preferred Alternative would have ***negligible adverse impacts*** in the regional ROI; *operational* impacts in the local ROI would vary from ***beneficial to significant adverse levels***. Specifically, *operation* would have ***significant adverse impacts*** on traffic in the local ROI (in 2029) due to the continued failing LOS of Intersections 6 and 8, which are also failing under existing conditions; failing LOS of Intersections 10, 12, 13, and 14; and failing queue lengths at Intersection 8, which would increase by over 150 feet compared to the No Action Alternative.

In comparison, and as described in **Section 1.3.2**, the No Action Alternative (in 2029) would only result in ***significant adverse impacts*** due to the continued failing LOS at Intersection 6 and increased queue lengths at Intersections 6 and 13.

Therefore, the difference is that the Preferred Alternative, as compared to the No Action Alternative, would (in 2029):

- Continue the failing LOS of Intersection 8.
- Result in failing LOS at Intersections 10, 12, 13, and 14.
- Result in failing queue lengths at Intersection 8.

#### 1.3.3.1 Construction

**Vehicles (SOVs and Trucks)**

*Regional ROI*

Construction traffic, including workers in SOVs, carpools, and trucks, would be expected to travel to and from local locations (see **Section 1.3.1**). Additionally, construction workers would likely be using the same roads within the regional ROI as under the No Action Alternative to complete other construction projects. Therefore, there would be ***no impacts*** on roadways in the regional ROI under the Preferred Alternative.

*Local ROI*

Construction traffic would occur on the roads in the local ROI during daytime working hours, Monday through Friday, for the duration of construction. Construction traffic from commuting workers would vary depending on the construction phase, but would be a minor increase on local roadways compared to existing daily traffic conditions (see **Table 3**).

Treasury assumes there would be 7,278 dump truck trips over the entirety of the construction period. Although these trips would be distributed throughout the construction phase, they would primarily occur during the first two years of construction, when the dump trucks would be disposing of demolition materials and delivering construction materials. Dump truck traffic would be spread across the entire workday, thereby minimizing impacts on local peak hours and traffic conditions. Dump trucks would also travel on restricted routes to minimize impacts on local residences. For example, they would exit and enter the Project Site from Poultry Road via Powder Mill Road, and would be restricted from using Odell Road.

While construction traffic would likely contribute slightly to traffic volume and congestion on local roadways, it would be temporary, minor compared to existing daily traffic, and would not lead to a lasting or permanent degradation of traffic operations. Therefore, with impact-reduction measures implemented (see **Section 1.4**), there would be a ***less-than-significant adverse impact*** on traffic in the local ROI from construction traffic.

Construction of the Powder Mill Road modifications included in the Proposed Action, including a new traffic control device (e.g., stoplight), lane widening, removal of existing rumble strips, etc., would require temporary closure of all or part of Powder Mill Road within the Project Site. Treasury would maintain one-way, alternating traffic on Powder Mill Road (i.e., by working on one side of the road while the other side is open to one-way traffic) to the extent practicable. In the event through-traffic must be halted on Powder Mill Road at any point during construction, Treasury would establish adequate and well-marked detours to fully accommodate local traffic. Treasury would plan all roadwork in close consultation with local planning authorities. Impacts to local traffic from temporary Powder Mill Road closures would remain at ***less-than-significant adverse levels***.

*Parking*

Treasury would create an adequate, temporary parking area on the Project Site for construction worker vehicles and trucks. Parking of large construction equipment would occur in designated, temporary staging areas within the Project Site. No workers, trucks, or equipment would be parked off-site or on local streets during construction of the proposed CPF. Therefore, there would be ***no impacts*** to parking in the regional or local ROIs during construction.

**Pedestrian and Bicycle Network**

The Project Site would be inaccessible to public pedestrians during construction. Since the pedestrian network in the ROI is generally lacking or absent, however, there would be ***no impacts*** from the Proposed Action.

During construction, there would be closures of the 3-foot to 6-foot striped shoulder on Powder Mill Road within the Project Site that provides space for bicyclists. These closures would be temporary, only occurring while the proposed Powder Mill Road modifications are constructed. The shoulder would be restored to its existing or similar condition after these construction activities are complete. This would be a ***less-than-significant adverse impact*** to the bicycle network in the local ROI. No other bicycle network components would be affected during construction of the proposed CPF.

**Public Transit**

Some construction workers could choose to commute to work using public transit. If construction workers take public transit, this would generate new transit trips from the Greenbelt Metrorail Station and the Metrobus 87 route along Powder Mill Road. However, construction workers are not anticipated to take public transit in perceptible numbers, their use of public transit would be temporary (i.e., only during construction), and volumes of construction workers that might use public transit would vary during each phase of construction. Overall, construction workers' use of public transit during construction would cause ***negligible adverse impacts*** to public transit from increased ridership.

#### 1.3.3.2 Operation

Operation of the proposed CPF would not result in any permanent public road closures. Poultry Road, a private BARC road which is currently closed at its intersection with Odell Road, would be demolished within Treasury's proposed parcel, but remain accessible from Powder Mill Road for BARC operations.

**Vehicles (SOVs and Trucks)**

*Regional ROI*

SOV traffic (i.e., from commuting employees) in the regional ROI would increase under the Preferred Alternative due to the decreased accessibility of the proposed CPF via public transit compared to the DC Facility. The percentage of employees who would commute via SOV would increase from between 30 and 59 percent currently to approximately 88 percent once the proposed CPF is fully operational. Most of the proposed CPF employees would commute to the facility via major regional roadways (e.g., the Capital Beltway and the Baltimore-Washington Parkway) that are already heavily trafficked commuter routes; the increase in traffic on these routes during operation of the Preferred Alternative would not be perceptible. Further, commuters to the DC Facility already use these same roads under existing conditions and would just travel to a different site under the Preferred Alternative.

Treasury currently provides commuter incentives to encourage employees to carpool or use public transit; these incentives would continue under the Preferred Alternative as a means of reducing SOV trips. Treasury would also develop a Transportation Management Plan, which would include an annual review of the commuting methods of its personnel and provisions to encourage alternate travel options. Overall, the Preferred Alternative could have a ***less-than-significant adverse impact*** on roadways in the regional ROI due to an increase in the number of SOVs from commuters.

Treasury anticipates approximately 82 trucks would arrive at and depart from the proposed CPF weekly. This increase in truck traffic would be imperceptible in the regional ROI, resulting in ***no impacts***. Trucks would be expected to follow existing truck restrictions on regional and local roadways, such as the restriction of commercial trucks on portions of the Baltimore-Washington Parkway. Additionally, there could be a slight decrease in truck trips in the regional ROI as trips to and from the Landover facility would be eliminated.

*Local ROI*

Increased traffic in the local ROI is primarily captured in the results of the LOS and queue length analyses of the primary commuting hours for Treasury employees, discussed below. There would also be, however, approximately 130 to 135 additional trips from administrative CPF employees during the local ROI's AM and PM peak hours.

Visitors to the proposed CPF would generate minor additional traffic. Treasury anticipates allotting approximately 30 parking spaces for public visitation, thereby limiting the number of public SOVs accessing the facility at one time. Treasury would manage visitation by requiring guests to register and reserve tickets in advance. Currently, the DC Facility accommodates approximately 200,000 guests per year; at this time, Treasury anticipates accommodating approximately 45,000 guests per year at the proposed CPF, which would likely supplement, not replace, the public features at the DC Facility. Visitors would arrive throughout the middle of the day (e.g., 9:00 a.m. to 3:00 p.m.) to generally avoid both the peak hours and primary commuting hours in the local ROI.

The minor increase in traffic from administrative CPF employees during the most congested periods of the day and minimal additional traffic during the middle of the day, as described above, would result in a ***less-than-significant adverse impact*** to local traffic.

Increases in the amount of traffic and the number of SOVs in the local ROI could result in commuters seeking alternate routes through neighborhoods or along back roads in order to avoid congestion along main roadways. Such "cut-through" traffic could pose a hazard to public safety, especially pedestrian safety. Treasury anticipates that most employees would utilize the main roads in the local ROI as they would likely still be the most efficient routes; however, the potential increase in traffic on residential or back roads, and associated public safety risks, would be a potential ***less-than-significant adverse impact***. Implementation of the intersection mitigation measures identified in **Section 1.5** would ensure that the main roads remain the most efficient access routes to the CPF and effectively eliminate this potential adverse impact.

Increased truck traffic in the local ROI would be perceptible but minor, particularly along Powder Mill Road as trucks approach and depart from the proposed CPF. To limit the impact of truck traffic on roads in the local ROI (and prevent their travel on the Baltimore-Washington Parkway), Treasury would route trucks along Powder Mill Road, Edmonston Road/Kenilworth Avenue, and the Capital Beltway to the extent possible. Further, while some of the trucks could serve the proposed CPF during the evening and midnight shifts for logistical reasons, most would arrive and depart during the day shift. Treasury would schedule trucks to arrive at and depart from the Project Site outside of the typical peak hours in the local ROI to the extent possible. With the implementation of these impact-reduction measures (see **Section 1.4**), truck traffic would have a ***less-than-significant adverse impact*** on local roadways.

*Level of Service*

With the addition of anticipated traffic from the Preferred Alternative to 2029 baseline conditions (i.e., the No Action Alternative), 9 of 15 intersections would have a failing LOS during the AM and/or PM primary commuting hours (see **Figure 5** and **Table 9**), including two signalized intersections and seven unsignalized intersections. The Pass/Fail ratings of intersections under the No Action Alternative would generally remain the same under the Preferred Alternative, with two exceptions. Key take-aways from the comparison between the Preferred Alternative and No Action Alternative include the following:

- Intersection 8 (signalized) would *degrade* from Pass to Fail due to deterioration of LOS in the PM primary commuting hour. This would be a ***significant adverse impact***. Intersection 8, however, is currently failing under existing (current) conditions, so the marginal impact of the proposed CPF would be that it does not improve to Pass under the No Action Alternative.

- Intersection 11 (unsignalized) would also *degrade* from Pass to Fail due to deterioration of LOS in the PM primary commuting hour. The minor approach, however, has fewer than 100 vehicles per hour, so this would be a ***less-than-significant adverse impact***.
- LOS at Intersections 6, 7, 9, 10, 12, 13, and 14 would fail under the No Action Alternative and would *worsen* under the Preferred Alternative.
  - Intersection 6 (signalized) is also failing under existing conditions, so this ***significant adverse impact*** would be a *continuation and worsening* of current conditions.
  - Of the remaining intersections, four of them (i.e., Intersections 10, 12, 13, and 14) have minor approaches with more than 100 vehicles per hour and would have CLVs greater than 1,150; therefore, these impacts would also be ***significant*** and ***adverse***. Two intersections (i.e., Intersections 7 and 9) have minor approaches with less than 100 vehicles per hour, so these impacts would be ***less than significant*** and ***adverse***.
- All other intersections in the local ROI that have an increase in vehicle control delays under the Preferred Alternative would experience a ***less-than-significant adverse impact***.
- No intersections would improve from Fail to Pass under the Preferred Alternative.

Treasury would consider the mitigation measures outlined in **Section 1.5** to reduce significant adverse impacts to less-than-significant levels.

*Queue Lengths*

Treasury determined that 9 of the 15 intersections would experience failing queue lengths in at least one approach under the Preferred Alternative (see **Table 10**); the remainder of the intersections would have acceptable queue lengths in all approaches.

Of the nine intersections with failing queues, all would have failing approaches during the AM primary commuting hour and five would have failing approaches during the PM primary commuting hour. Additionally, five intersections with failing queues would also have a failing LOS, while four would have a passing LOS.

All approaches with failing queue lengths under the No Action Alternative would continue to fail under the Preferred Alternative; Intersections 5, 8, and 10 would have failing queues in additional approaches and/or during additional primary commuting hours. All intersections in the local ROI that have an increase in queue lengths, including Intersections 5, 8, and 10, would experience ***less-than-significant adverse impacts*** as a result of the Preferred Alternative.

Intersection 8, which has an overall failing LOS, would have an increase in queue length of more than 150 feet compared to the No Action Alternative; this would be a ***significant adverse impact*** to traffic in the local ROI. Treasury would consider the mitigation measures outlined in **Section 1.5** to reduce this impact to less-than-significant levels.

**Table 9: LOS at the 15 Studied Intersections in the Local ROI under the Preferred Alternative**

| ID | Intersection Name | Signalized or Unsignalized | AM Primary Commuting Hour | | | | PM Primary Commuting Hour | | | | Pass / Fail | Notable Changes in AM/PM Ratings Compared to No Action Alternative | Mitigation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HCM | | CLV | | HCM | | CLV | | | | Unsignalized Intersections | | Mitigation Required? |
| | | | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | | | Minor Approach Has >100 Vehicles/Hour? | CLV > 1,150? | |
| 1 | Kenilworth Avenue and Capital Beltway SB Off-Ramp | Signalized | A | 7.9 | A | 667 | A | 5.5 | A | 894 | Pass | AM/PM Remain Pass | N/A | N/A | No |
| 2 | Kenilworth Avenue and Capital Beltway NB Off-Ramp | Signalized | C | 32.2 | A | 973 | C | 21.7 | B | 1,051 | Pass | AM/PM Remain Pass | N/A | N/A | No |
| 3 | Kenilworth Avenue and Crescent Road | Signalized | C | 26.6 | A | 785 | C | 31.6 | A | 917 | Pass | AM/PM Remain Pass | N/A | N/A | No |
| 4 | Kenilworth Avenue and Ivy Lane | Signalized | A | 1.6 | A | 652 | A | 3.2 | B | 1,084 | Pass | AM/PM Remain Pass | N/A | N/A | No |
| 5 | Kenilworth Avenue/Edmonston Road and Cherrywood Lane | Signalized | B | 19.2 | A | 980 | C | 25.3 | C | 1,278 | Pass | AM/PM Remain Pass | N/A | N/A | No |
| 6 | Edmonston Road and Sunnyside Avenue | Signalized | F | 150.0 | F | 1,779 | F | 164.0 | F | 2,025 | Fail | AM/PM Remain Fail | N/A | N/A | Yes |
| 7 | Edmonston Road and Beaver Dam Road | Unsignalized | F | Error | N/A | N/A | F | Error | N/A | N/A | Fail | AM/PM Remain Fail | No | N/A | No |
| 8 | Edmonston Road and Powder Mill Road | Signalized | D | 54.5 | B | 1,117 | F | 164.5 | F | 1,608 | Fail | AM Remains Pass<br>**PM *Degrades* to Fail** | N/A | N/A | Yes |
| 9 | Edmonston Road and Odell Road | Unsignalized | F | 73.1 | N/A | N/A | F | 67.9 | N/A | N/A | Fail | AM/PM Remain Fail | No | N/A | No |
| 10 | Powder Mill Road and Poultry Road[1] | Unsignalized | F | 76.1 | N/A | N/A | F | 354.3 | N/A | N/A | Fail | **AM *Degrades* to Fail**<br>PM Remains Fail | Yes | Yes | Yes |
| 11 | Powder Mill Road and Research Road | Unsignalized | D | 25.1 | N/A | N/A | E | 48.2 | N/A | N/A | Fail | AM Remains Pass<br>**PM *Degrades* to Fail** | No | N/A | No |
| 12 | Powder Mill Road and Springfield Road | Unsignalized | F | 184.4 | N/A | N/A | F | 693.7 | N/A | N/A | Fail | **AM *Degrades* to Fail**<br>PM Remains Fail | Yes | Yes | Yes |

| ID | Intersection Name | Signalized or Unsignalized | AM Primary Commuting Hour | | | | PM Primary Commuting Hour | | | | Pass / Fail | Notable Changes in AM/PM Ratings Compared to No Action Alternative | Mitigation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | HCM | | CLV | | HCM | | CLV | | | | Unsignalized Intersections | | Mitigation Required? |
| | | | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | LOS | Average Control Delay (seconds / vehicle) | LOS | CLV (# of vehicles) | | | Minor Approach Has >100 Vehicles/Hour? | CLV > 1,150? | |
| **13** | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Unsignalized | **F** | 668.5 | **N/A** | N/A | **F** | 1,718.4 | **N/A** | N/A | **Fail** | AM/PM Remain Fail | Yes | Yes | Yes |
| **14** | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Unsignalized | **F** | 1,020.3 | **N/A** | N/A | **F** | 1,860.5 | **N/A** | N/A | **Fail** | AM/PM Remain Fail | Yes | Yes | Yes |
| **15** | Powder Mill Road and Soil Conservation Road | Signalized | **C** | 25.1 | **A** | 681 | **C** | 33.1 | **B** | 1,044 | **Pass** | AM/PM Remain Pass | N/A | N/A | No |

Green Shading: Passing LOS | Red Shading: Failing LOS

1. Treasury modeled Intersection 10 as though Poultry Road would be used as the entrance road to the CPF, before establishing the need for a new proposed entrance road. As such, the adverse values presented here for Intersection 10 are artificially elevated; however, Intersection 10 would also be considered failing under the No Action Alternative without proposed Treasury-related traffic.

Source: (BEP, 2020)

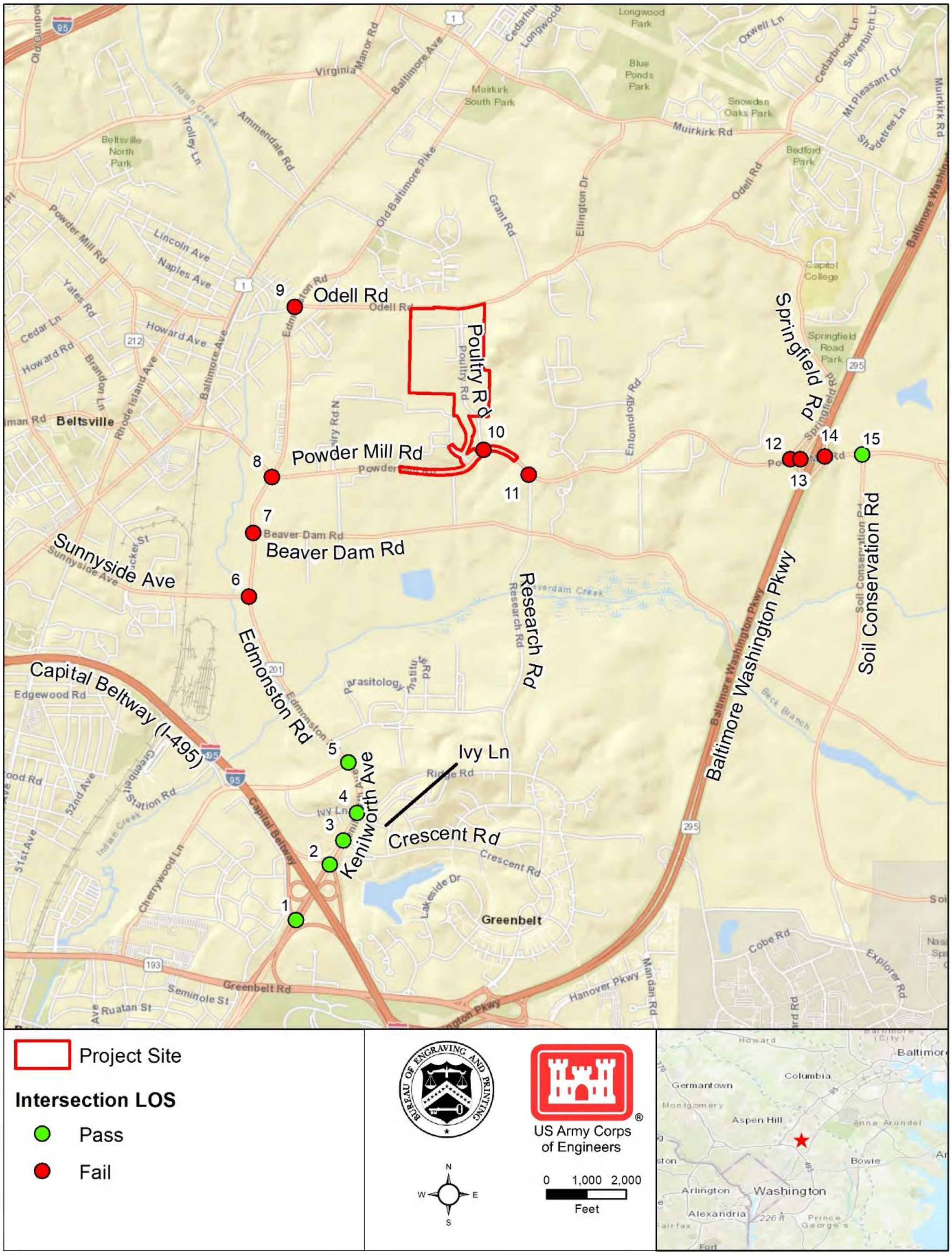


**Figure 5: LOS at the 15 Studied Intersections in Local ROI under the Preferred Alternative**

No intersections or approaches failing under the No Action Alternative would improve to passing under the Preferred Alternative.

Based on the TransModeler™ results for average queue lengths at the proposed CPF's ECFs, average queue lengths would be less than the length of the proposed entrance road (i.e., 1,800 feet). The maximum queue length (i.e., 1 percent chance of occurring or less), however, may exceed the CPF's proposed entrance road if there are fewer than four lanes operating at the ECF.

Therefore, there would be ***no impacts*** on the proposed entrance road from spillover of vehicles from the driveway onto Powder Mill Road if Treasury would maintain four or five operational ECF lanes. There could be ***less-than-significant adverse impacts*** on the proposed entrance road if the ECF must operate with three or fewer lanes (e.g., if four lanes are constructed but one or more lanes is temporarily non-functional for any reason).

**Table 10: Studied Intersections in Local ROI with Failing Queue Lengths under the Preferred Alternative**

<table>
<tr><th>ID</th><th>Intersection Name</th><th>Approach with Failing Queue Length</th><th>AM/PM</th><th>LOS</th><th>Increase of 150 feet Compared to No Action Alternative?</th><th>Mitigation Required?</th></tr>
<tr><td>2</td><td>Kenilworth Avenue and Capital Beltway NB Off-Ramp</td><td>I-95 NB Off-Ramp</td><td>AM</td><td>Pass</td><td>N/A</td><td>No</td></tr>
<tr><td>3</td><td>Kenilworth Avenue and Crescent Road</td><td>MD 201 NB</td><td>AM</td><td>Pass</td><td>N/A</td><td>No</td></tr>
<tr><td>4</td><td>Kenilworth Avenue and Ivy Lane</td><td>MD 201 NB</td><td>AM</td><td>Pass</td><td>N/A</td><td>No</td></tr>
<tr><td rowspan="2">5</td><td rowspan="2">Kenilworth Avenue / Edmonston Road and Cherrywood Lane</td><td>Cherrywood Lane EB</td><td>AM</td><td>Pass</td><td>N/A</td><td rowspan="2">No</td></tr>
<tr><td>MD 201 NB</td><td>AM</td><td>Pass</td><td>N/A</td></tr>
<tr><td rowspan="6">6</td><td rowspan="6">Edmonston Road and Sunnyside Avenue</td><td rowspan="2">Sunnyside Avenue EB</td><td>AM</td><td>Fail</td><td>No</td><td rowspan="2">No</td></tr>
<tr><td>PM</td><td>Fail</td><td>No</td></tr>
<tr><td rowspan="2">Edmonston Road NB</td><td>AM</td><td>Fail</td><td>No</td><td rowspan="2">No</td></tr>
<tr><td>PM</td><td>Fail</td><td>No</td></tr>
<tr><td rowspan="2">Edmonston Road SB</td><td>AM</td><td>Fail</td><td>No</td><td rowspan="2">No</td></tr>
<tr><td>PM</td><td>Fail</td><td>No</td></tr>
<tr><td rowspan="6">8</td><td rowspan="6">Edmonston Road and Powder Mill Road</td><td rowspan="2">Powder Mill Road EB</td><td>AM</td><td>Pass</td><td>N/A</td><td rowspan="2">Yes</td></tr>
<tr><td>PM</td><td>Fail</td><td>Yes</td></tr>
<tr><td rowspan="2">Powder Mill Road WB</td><td>AM</td><td>Pass</td><td>N/A</td><td rowspan="2">No</td></tr>
<tr><td>PM</td><td>Fail</td><td>No</td></tr>
<tr><td>Edmonston Road NB</td><td>PM</td><td>Fail</td><td>No</td><td>No</td></tr>
<tr><td>Edmonston Road SB</td><td>AM</td><td>Pass</td><td>N/A</td><td>No</td></tr>
</table>

| ID | Intersection Name | Approach with Failing Queue Length | AM/PM | LOS | Increase of 150 feet Compared to No Action Alternative? | Mitigation Required? |
|---|---|---|---|---|---|---|
| | | | PM | Fail | No | |
| 10 | Powder Mill Road and Poultry Road[1] | Powder Mill Road EB | AM | Fail | Yes | N/A |
| | | | PM | Fail | Yes | |
| | | Powder Mill Road WB | AM | Fail | Yes | N/A |
| 13 | Powder Mill Road and Baltimore-Washington Parkway SB Ramps | Baltimore-Washington Parkway SB Off-Ramp | AM | Fail | No | No |
| | | | PM | Fail | No | |
| 14 | Powder Mill Road and Baltimore-Washington Parkway NB Ramps | Baltimore-Washington Parkway NB Off-Ramp | AM | Fail | No | No |
| | | | PM | Fail | No | |

1. Treasury modeled Intersection 10 as though Poultry Road would be used as the entrance road to the CPF, before establishing the need for a new proposed entrance road. As such, the adverse values presented here for Intersection 10 are artificially elevated and unreliable indicators of queue performance under the Preferred Alternative.
Yellow-shaded approaches would fail under the Preferred Alternative but currently pass under the No Action Alternative.
Red-shaded cells represent ***significant adverse impacts***.

*Parking*

As described in **Section 1.3.1**, the proposed CPF would have a surface parking lot with approximately 1,234 parking spaces, which would be sufficient to accommodate both employees and visitors at any given time. This number exceeds federal guidelines established in the NCPC parking policy (NCPC, 2016), but the additional parking spaces would be required to accommodate production shift times and the lack of public transit. As previously described, most employees would be expected to commute via SOV. Treasury would include enough parking spaces for production staff at a 1:1 ratio to ensure that personnel are able to arrive on time and to prevent interruptions to Treasury's mission. Parking for administrative staff would be provided at a 1:2 ratio, in accordance with the NCPC policy, as these personnel have greater flexibility in their arrival times (BEP, 2019). Treasury has submitted a memorandum to NCPC justifying the amount of proposed parking, and is continuing to consult with NCPC to receive the necessary permissions to construct a lot of this size.

Most parking spaces would be beyond a security checkpoint, and would therefore not be accessible to the public; however, a limited number (e.g., approximately 50) of parking spaces would be outside the security perimeter to accommodate official and public visitors to the CPF who have pre-scheduled reservations. Treasury initially considered multi-level parking (e.g., a parking garage) to reduce the development footprint, but determined this would not be feasible due to Interagency Security Committee (ISC) Level IV security requirements. Overall, there would be no changes to parking off-site, and thus ***no impacts*** to parking in the local ROI.

**Pedestrian and Bicycle Network**

No improvements to the pedestrian network outside of the Project Site would occur under the Preferred Alternative. No CPF employees would be anticipated to walk to work from their home. Employees would need to walk, however, along Powder Mill Road to and from the Metrobus 87 (Laurel Express) bus stops. To better facilitate pedestrian travel, Treasury could consider pursuing pedestrian improvements, traffic-calming devices (e.g., speed bumps), or slower speed limits along Powder Mill Road, and/or consult with WMATA regarding the locations of bus stops along this road, during the design process.

No additional improvements or changes to the bicycle network outside the Project Site would occur under the Preferred Alternative. Treasury anticipates that 1 percent, or 11 employees, would bike to the proposed CPF.

Overall, there would be ***less-than-significant adverse impacts*** to the pedestrian and bicycle network in the local ROI under the Preferred Alternative. While no designated bicycle lanes currently exist along Powder Mill Road or are proposed under the Preferred Alternative, this road is commonly used by bicyclists. Additional vehicle traffic from operation of the proposed CPF could make the road less appealing for biking. Further, new use of this road by pedestrian/bicycling commuters would be nominal compared to the total number of CPF employees. Treasury could incorporate pedestrian/bicycle amenities into the Preferred Alternative during the design process, which could lead to beneficial impacts to these networks.

**Public Transit**

Treasury anticipates only 9 percent (approximately 100) of proposed CPF employees would take public transit to work at the proposed CPF, compared to 44 percent under existing conditions, as very few Metrorail trains arrive at the Greenbelt Metrorail Station in time for employees to travel to the proposed CPF prior to the start of their day shift. Public transit ridership would therefore decrease by approximately 400 employees, or 800 daily entries. For those employees who continue to use public transit, however, transit trips would shift to use primarily the Greenbelt Metrorail Station and the Metrobus 87 route along Powder Mill Road. BARC's Greenbelt Station shuttle would need to expand its service to serve the proposed CPF.

Increased Metrorail ridership to the Greenbelt Metrorail Station under the Preferred Alternative would be minor due to the variety of origin locations, the off-peak commute times of most day shift CPF employees, and the overall low number of trips generated (i.e., approximately 100). Any increase in Metrobus 87 transit ridership would be very minor as this bus route would only be a feasible mode of transportation for employees who live along the route. Overall, both Metrorail and Metrobus transit would be able to accommodate the minimal increased passenger load from the proposed CPF. Therefore, there would be ***negligible adverse impacts*** to public transit under the Preferred Alternative from slightly increased ridership through the Greenbelt Metrorail Station and Metrobus 87 route. WMATA could also experience adverse impacts from potential reductions in revenue associated with the lost Metrorail ridership, but this change in ridership would be a reduction of approximately 0.1 percent of daily entries and thus ***negligible*** relative to overall Metrorail use in Washington, D.C. (see **Section 1.2.3.4**).

## 1.4 Impact-Reduction Measures

As part of the Proposed Action, Treasury would implement the following impact-reduction measures to minimize potential adverse impacts to traffic and transportation:

*Construction*

- To the extent possible, establish construction activity hours such that construction workers and trucks would not travel during the peak hours of the local ROI (i.e., 7:45 to 8:45 a.m. and 5:00 to 6:00 p.m.).
- Restrict trucks from traveling on roads proximal to residences (e.g., Odell Road) to the extent possible; construction access to the Project Site should be limited to Poultry Road to the south of the Project Site.
- Consult with local planning authorities regarding all proposed construction activities within the Powder Mill Road right-of-way.

*Operation*

- Develop a Transportation Management Plan to include an annual review of the commuting methods of CPF personnel and provisions to encourage alternate modes of transport.
- Require trucks to follow existing truck restrictions on regional and local roadways, such as the restriction of commercial trucks on portions of the Baltimore-Washington Parkway. Truck traffic should be routed along Powder Mill Road, Edmonston Road/Kenilworth Avenue, and the Capital Beltway to minimize its use of collector and local roads.
- Schedule truck arrivals and departures during daytime hours, but outside of the typical peak hours (i.e., 7:45 to 8:45 a.m. and 5:00 to 6:00 p.m.) in the local ROI, to the extent possible.
- Restrict trucks from traveling on roads proximal to residences (e.g., Odell Road) to the extent possible; operational access to the Project Site would be limited to Powder Mill Road, south of the Project Site. Odell Road would only be used as an emergency exit from the proposed CPF.
- Implement an agreement with the USDA to enable CPF employees to use the USDA shuttle from the Greenbelt Metrorail Station to the Project Site, potentially including expanded shuttle service.

## 1.5 Mitigation Measures

Treasury should propose, consult with public stakeholders, and ultimately design and implement mitigation measures for those intersections anticipated to experience ***significant adverse impacts*** under the Preferred Alternative: Intersections 6, 8, 10, 12, 13, and 14. Intersection mitigation typically includes design measures such as:

- Adjusting signal control types, timings, and phasings.
- Signalizing or installing roundabouts to unsignalized intersections.
- Changing existing lane geometry within the existing right-of-way.
- Adding new turn lanes or through lanes, or extending existing turning lane storage bays by assuming additional right-of-way.

Treasury, through close coordination with local planning authorities, identified and designed potential mitigation measures in the ***Transportation Impact Study*** for each significantly and adversely affected intersection, correspondent with the above mitigation recommendations. Additionally, Treasury anticipates that the Powder Mill Road modifications included in the Proposed Action would be designed in a manner that facilitates proper functioning of all intersections/driveways within the Project Site (e.g., including Intersection 10).

Treasury should continue to consult with local planning authorities throughout the design process to refine these intersection-specific improvement measures, as ultimate implementation would be contingent upon receiving approval from appropriate stakeholders. Effective mitigation designs would reduce adverse impacts to ***less-than-significant levels*** for all affected intersections. If Treasury selects the Preferred Alternative and recommended traffic mitigation measures for implementation in the Record of Decision for this Proposed Action, Treasury would tier additional National Environmental Policy Act analysis off the Final Environmental Impact Statement to analyze the potential impacts of traffic mitigation measures once the associated designs have progressed to the point that Treasury can identify reasonable potential limits of disturbance and conduct a meaningful environmental analysis for all relevant resource areas.

In addition to mitigating significant adverse impacts to intersections, Treasury should consider the following measures to further reduce identified ***less-than-significant adverse impacts***:

- Propose, consult with public stakeholders, and ultimately implement mitigation measures for Intersection 7 as detailed in the ***Transportation Impact Study*** to minimize safety hazards at this intersection caused by gap acceptance issues. Ultimate implementation would be contingent upon receiving approval from appropriate stakeholders.
- In consultation with local planning authorities, implement traffic-calming devices (e.g., speed bumps) and/or reduce speed limits along roadways in the local ROI, such as Powder Mill Road. Rumble strips should be avoided, if feasible, as the existing rumble strips on Powder Mill Road have generated noise complaints from both the surrounding community and BARC employees.
- Incorporate on-site pedestrian and/or bicycle amenities into the Preferred Alternative during the design process.
- Consult with WMATA regarding the opportunity to adjust Metrobus routes to serve the proposed CPF more effectively, and, if applicable, to install bus stop shelters, thereby reducing traffic in the local ROI by making public transit more accessible and functional for employees, and improving pedestrian safety by reducing the need for employees to walk along Powder Mill Road to access a bus stop.

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