

Final Traffic Impact Study U.S. BLS Headquarters Relocation to the Suitland Federal Center located in Suitland, Maryland



General Services Administration

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INTRODUCTION

This Traffic Impact Study (TIS) has been prepared for the United States General Services Administration (GSA) and the Bureau of Labor Statistics (BLS) to assess and report potential transportation impacts resulting from the proposed relocation of approximately 1,800 BLS employees, currently located at the Postal Square Building (PSB) in Washington, DC, to the 4600 Silver Hill North and 4600 Silver Hill South buildings at the Suitland Federal Center (SFC), located in Suitland, MD. The proposed relocation would consist of an increase in the number of employees and support staff assigned to the SFC from approximately 6,569 to 8,360 and the overall Suitland Federal Campus (Campus) from approximately 11,500 to up to approximately 13,300. No new building space or parking spaces are proposed to accommodate the relocation of BLS employees. BLS employees will be accommodated through the reallocation of existing space in the SFC.

2019 EXISTING CONDITIONS

The existing roadway networks within the vicinity of SFC were assessed to provide a baseline to compare to future conditions. Eighteen intersections were analyzed as part of the study area. All but two study area intersections operate at an overall level of service (LOS) D or better. Fifteen out of the 18 study area intersections with one or more lane groups at LOS E or F in at least one peak hour.

2022 FUTURE NO BUILD ALTERNATIVE

The 2022 Future No Build Alternative evaluates the future transportation network with future volumes, excluding the planned relocation. It includes traffic growth due to a nearby development, increases in background traffic, and future development and infrastructure enhancements recommended in the *Suitland Manor Traffic Impact Study* (2015), prepared by O. R. George & Associates, Inc. for Prince George's County. Under the No Build Alternative, delay and queuing are anticipated to increase at all study area intersections. Fifteen out of the 18 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

2022 FUTURE BUILD ALTERNATIVE

The 2022 Future Build Alternative analysis examines future anticipated volumes, taking into consideration traffic under the No Build Alternative as well as traffic that would be generated by the proposed relocation of BLS employees. The ITE *Trip Generation Manual* (10th Edition) Land Use Code 710 (General Office Building) was utilized to estimate the number of AM peak hour, PM peak hour, and total weekday trips that are currently generated by existing United States Census Bureau (Census) and Bureau of Economic Analysis (BEA) employees and would be generated by the additional 1,800 BLS employees. A non-auto trip credit of 42% was applied to the base trip generation estimates utilizing information obtained from a commuter survey conducted in February 2020 (Table E-1).

Table E-1: Future Auto Trip Generation

Agency	# of Employees	Drive Alone %	AM Peak Hour			PM Peak Hour			Total Daily
			In	Out	Tot	In	Out	Tot	
BLS	1,800	58.0%	553	113	666	144	576	720	4,946
Non-Auto (42.0%)			232	47	279	60	242	302	2077
Total New Vehicle Trips			321	66	387	84	334	418	2,869

A trip distribution analysis was conducted to estimate how the new vehicle trips would travel to and from the site. Employee home ZIP code data for off-campus and on-campus was obtained as part of the BLS commuter survey that was conducted in February 2020.

The results of the capacity analysis indicate that the proposed site would generate additional delay and queuing on multiple intersection approaches. Fifteen out of the 18 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

2027 FUTURE BUILD + 5 YEARS ALTERNATIVE

In addition to the 2022 Future Build Alternative, Prince George's County typically requires a Future Build + 5 Years Alternative with developments of this type. The Build + 5 Years Alternative analysis examines future anticipated volumes, taking into consideration traffic under the No Build Alternative plus an additional five years of growth as well as traffic that would be generated by the proposed relocation of BLS employees. Fifteen out of the 18 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

2027 FUTURE BUILD + 5 YEARS WITH MITIGATION ALTERNATIVE

The 2027 Future Build + 5 Years with Mitigation Alternative provides mitigation measures at locations that would experience an increase in intersection delay of more than 10 seconds per vehicle and/or degradation of level of service to LOS E or F. The recommended mitigation measures include:

SILVER HILL ROAD (MD 458) AND BRANCH AVENUE (MD 5)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND OLD SILVER HILL ROAD/ST BARNABAS ROAD (MD 414)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND SUITLAND PARKWAY

- Modification of the eastbound Silver Hill Road (MD 458) approach over Suitland Parkway from three lanes to two. This would permit the eastbound Suitland Parkway Off-Ramp to eastbound Silver Hill Road (MD 458) to change from stop controlled to a free movement with a weave on the overpass.

SILVER HILL ROAD (MD 458) AND SWANN ROAD

- A separate westbound Silver Hill Road (MD 458) 200 foot right-turn lane would be added.
- The two approach lanes on southbound Swann Road would change to three with a left-turn lane, a shared left/through/right lane, and a right-turn lane.
- Modified the northbound/southbound Swann Road signal phase to split phasing.
- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND BROOKS DRIVE

- Signal timing optimization in the AM peak hour

SUITLAND ROAD (MD 218) AND DRIVEWAYS 3 AND 4

- Driveway 4 would be closed off. Traffic would be redirected to Driveway 3
- Driveway 3 would be signalized

SUITLAND ROAD (MD 218) AND HOMER AVENUE

- The westbound Homer Avenue shared left/right lane would be modified to two exclusive separate turn lanes.

In addition to the above mitigation measures, it is also recommended that all agencies on the Campus engage in a transportation management plan (TMP) that outlines transportation demand management (TDM) strategies to reduce single-occupancy vehicle trips. A TMP document has been prepared for the Campus that provides a variety of policy, service, and infrastructure strategies, which are anticipated to reduce single-occupancy vehicle trips to and from the Campus, which would help to mitigate the impacts to surrounding transportation network. No credit has been applied in this study for that anticipated reduction. Therefore, this study should be considered conservative as it is likely that traffic impacts will be less than predicted.

Furthermore, this study was conducted utilizing data that was collected prior to the COVID-19 pandemic. COVID-19 has significantly changed commute patterns, and it is anticipated that these changes will have a long-term impact, even after the pandemic is over, that may include an increased number of employees working from home, as well as a reluctance for people to use mass transit or ride in carpool or vanpool vehicles. Therefore, it is recommended that the intersections identified as requiring mitigation be re-evaluated in the future to determine if the mitigation recommendations are still applicable.

CONCLUSION

The results of this traffic analysis show that the relocation of 1,800 BLS employees to the SFC would have an adverse impact on traffic conditions at seven of the 18 study area intersections, requiring mitigation measures that include signal timing adjustments, additional turn lanes, a new signalized intersection, and modifications to the Suitland Parkway interchange. However, it is recommended that the intersections identified as requiring mitigation be re-evaluated in the future to determine if the mitigation recommendations are still applicable once the full impact of COVID-19's effects on travel behavior is understood.

TABLE OF CONTENTS

Project Summary.....	i
Introduction.....	i
2019 Existing Conditions.....	i
2022 Future No Build Alternative.....	i
2022 Future Build Alternative.....	i
2027 Future Build + 5 Years Alternative.....	ii
2027 Future Build + 5 Years with Mitigation Alternative.....	ii
Conclusion.....	iii
Chapter 1: Introduction.....	1
Chapter 2: Transportation System.....	3
Existing Conditions.....	3
Existing Public Transportation Facilities.....	3
Pedestrian and Bicycle Facilities.....	5
Existing Roadway Network.....	6
Vehicle Study Area.....	6
Data Collection and Hours of Analysis.....	7
Analysis Methodology.....	9
2019 Existing Conditions Capacity Analysis Results.....	9
Transportation Impacts.....	11
2022 Future No Build Alternative.....	12
2022 Future Build Alternative.....	15
Chapter 3: Conclusions.....	28
List of Preparers.....	30
References.....	31

TABLES

Table 1: Study Area Major Corridor Characteristics.....	7
Table 2: Study Area Intersections.....	8
Table 3: LOS Thresholds.....	9
Table 4: 2019 Existing Condition Lane Groups Operating at Overall LOS E or F Overall Intersection LOS.....	10
Table 5: 2022 No Build Alternative Lane Groups Operating at Overall LOS E or F Overall Intersection LOS.....	13
Table 6: Trip Generation Estimate.....	15
Table 7: 2022 Build Alternative Lane Groups Operating at Overall LOS E or F Overall Intersection LOS.....	16
Table 8: 2027 Build + 5 Years Alternative Lane Groups Operating at Overall LOS E or F Overall Intersection LOS.....	19
Table 9: 2027 Build + 5 Years with Mitigation Alternative Lane Groups Operating at Overall LOS E or F Overall Intersection LOS.....	24
Table 10: 2027 BUILD + 5 YEARS WITH MITIGATION STORAGE LANE ANALYSIS.....	27

FIGURES

Figure 1: SFC Project Area Map (NTS).....	1
Figure 2: Metrorail System Map (NTS).....	4
Figure 3: Metrobus and TheBus Route Map (NTS).....	5
Figure 4: Planned Bicycle Facilities in Study Area (NTS).....	6
Figure 5: 2019 Existing Condition Overall Intersection LOS.....	11
Figure 6: 2022 No Build Alternative Overall Intersection LOS.....	14
Figure 7: 2022 Build Condition Overall Intersection LOS.....	18

Figure 8: 2027 Build + 5 Years Condition Overall Intersection LOS 20
Figure 9: Silver Hill Road (MD 458) and Suitland Parkway Proposed Improvements (NTS) 21
Figure 10: Silver Hill Road (MD 458) and Swann Road Proposed Improvements (NTS).....22
Figure 11: Suitland Road (MD 218) and Driveways 3 and 4 Proposed Improvements (NTS)23
Figure 12: 2027 Build + 5 Years with Mitigation Alternative Overall Intersection LOS26

APPENDICES

- Appendix A: Exhibits
- Appendix B: MDOT SHA Traffic Data
- Appendix C: Synchro Output
- Appendix D: Commuter Survey Summary Report
- Appendix E: HCS Output

List of Acronyms

BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
GIS	Geographic Information Systems
GSA	General Services Administration
GSF	Gross Square Feet
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
ITE	Institute of Transportation Engineers
I-TMS	Internet Traffic Monitoring System
LOS	Level of Service
M-NCPPC	Maryland-National Capital Park and Planning Commission
MDOT SHA	Maryland Department of Transportation State Highway Administration
NTS	Not to Scale
PSB	Postal Square Building
SFC	Suitland Federal Center
TDM	Transportation Demand Management
TMP	Transportation Management Plan
TIS	Traffic Impact Study
VPD	Vehicles Per Day
WMATA	Washington Metropolitan Area Transit Authority

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CHAPTER 1: INTRODUCTION

This Traffic Impact Study (TIS) has been prepared for the United States General Services Administration (GSA) and the Bureau of Labor Statistics (BLS) to assess and report potential transportation impacts resulting from the proposed relocation of 1,800 BLS employees currently located at the Postal Square Building (PSB) in Washington, DC to the 4600 Silver Hill North and 4600 Silver Hill South buildings at the Suitland Federal Center (SFC), located in Suitland, MD. The proposed relocation would consist of an increase in the number of employees and support staff assigned to the SFC from approximately 6,569 to 8,360 and the overall Suitland Federal Campus (Campus) from approximately 11,500 to up to approximately 13,300. No new building space or parking spaces are proposed to accommodate the relocation of BLS employees. BLS employees will be accommodated through the reallocation of existing space in the SFC.



Figure 1: SFC Project Area Map (NTS)

This TIS will assess and evaluate the potential transportation impacts resulting from the proposed relocation of BLS employees in four alternatives. The No Build Alternative evaluates the future transportation network with future volumes, excluding BLS volumes. It includes traffic growth due

to a nearby development, increases in background traffic, and any future development and infrastructure enhancements recommended by other transportation agencies. The Build Alternative examines future anticipated volumes on the study area roadway network, taking into consideration traffic volumes and infrastructure improvements under the No Build Alternative, as well as traffic that would be generated by the relocation. The Build + 5 Years Alternative uses the results of the Build Alternative and evaluates traffic conditions five years after the relocation is complete. The Build + 5 Years with Mitigation Alternative presents the results of additional analysis with roadway improvements and/or enhancements that would likely be required to mitigate the transportation impacts of the study area roadways within five years of the BLS relocation.

The report is divided into three sections. Chapter 2 will discuss the transportation network and the capacity analysis conducted for the study. Chapter 3 will summarize the findings and conclusions.

CHAPTER 2: TRANSPORTATION SYSTEM

This section describes the assessment of potential transportation impacts resulting from the proposed relocation of BLS employees at the PSB.

The Campus is generally bordered on the west by the Metro Green Line, to the east by Suitland Road (MD 218), to the north by Lincoln Memorial/Washington National Cemeteries, and to the south by Silver Hill Road (MD 458). Public records indicate that the site is owned by the United States of America and is currently utilized by multiple agencies, including the United States Census Bureau (Census), Bureau of Economic Analysis (BEA), Washington National Records Center (WNRC), National Oceanic and Atmospheric Administration (NOAA), and the National Maritime Intelligence Center (NMIC).

The Campus contains approximately 3,127,200 GSF of building space. Approximately 11,500 employees and support staff are currently assigned to the Campus, and the proposed relocation of 1,800 BLS employees would increase the total Campus population to approximately 13,300. No new building space or parking spaces are proposed, and all existing parking spaces will remain.

EXISTING CONDITIONS

This section describes the existing transportation facilities in the vicinity of the SFC, including traffic conditions and the availability of public transportation facilities.

EXISTING PUBLIC TRANSPORTATION FACILITIES

Existing public transportation facilities which service the area of the SFC include Metrorail and bus. Descriptions of the available transit services are provided below.

The SFC is within 0.2 miles of the Suitland Metro station on Metro's Green Line. The Green Line operates between Branch Avenue and Greenbelt in Prince George's County and has 21 stations and three transfer points to other Metro lines (Figure 2). The line runs along the same path as the Yellow Line from L'Enfant Plaza to Fort Totten. The line operates at an 8- to 12-minute headway during weekdays and Saturdays, a 15-minute headway on Sundays, and 20-minute late-night headways. The Suitland station has 1,890 parking spaces and is connected to the SFC by a covered walkway (approximately 1,100 feet in length) that leads to a pedestrian-only security gate. Depending on where an agency employee works on the Campus, the Suitland Metro station can be as close as a five-minute walk, or as far as a 20- to 25-minute walk.



Figure 2: Metrorail System Map (NTS)

The Campus is also served by Metrobus routes D12, D13, D14, K12, K14, P12, and V12 as well as Prince George’s County TheBus Route 34 and Maryland MTA Commuter Bus Routes 735 and 850. Route P12 operates at approximately 30-minute headways and provides local service that connects the Eastover Shopping Center to the Addison Road Metro station. It also connects to the Southern Avenue and Suitland Metro stations. Route D12 operates approximately every 20 minutes during the AM and PM peak periods and once an hour during in the midday off-peak hours. The D12 bus provides local service around the nearby communities of Suitland and Oxon Hill and provides access to the Suitland and Southern Avenue Metro stations. Most Metrobus routes have stops along Silver Hill Road as well as in front of the Campus. TheBus Route 34 also has several stops adjacent to the Campus along Suitland Road (MD 218).



Figure 3: Metrobus and TheBus Route Map (NTS)

PEDESTRIAN AND BICYCLE FACILITIES

The Campus is connected to the local pedestrian and bicycle network via sidewalks along Swann Road that tie into existing sidewalks along Silver Hill Road and portions of Suitland Road. Shared bicycle lanes are also provided on Silver Hill Road. However, several issues were identified during the field visits that likely present a barrier to pedestrian, bicycle, and transit use on the Campus. The sidewalks are relatively narrow (approximately five feet in width) and run immediately adjacent to the curb on segments to the north and south of the Campus frontage on Silver Hill Road, with no buffer from the travel lanes. While the posted speed limit on Silver Hill Road is 35 mph, actual travel speeds are much higher. Thus, the proximity of the sidewalk to traveling vehicles creates an unpleasant walking experience.

Transit services are directly accessed via the pedestrian pathway connection between the Campus and the Suitland Metro station. Buses can be accessed at the station or at stops along Silver Hill Road. However, the Campus itself provides a barrier to transit access, particularly for pedestrians from the surrounding community to the northwest of the Campus (along Suitland Road). Walk times to/from the Metro station from these neighborhoods are long and the route is circuitous as pedestrians have to walk around the secured Campus.

The shared bicycle lanes are also likely intimidating for many bicycle riders. The right-most lanes on Silver Hill Road are designated with sharrows meaning that both bicycles and vehicles can use the

lane. However, the lanes are only slightly wider than a standard travel lane (13 feet) and vehicle speeds on Silver Hill Road are relatively high. Thus, these facilities are not likely to be an asset to the Campus unless greater separation of vehicle/bicycle traffic can be provided.

According to the PGAtlas website, M-NCPPC's GIS tool for Prince George's County, Silver Hill Road has planned bicycle lanes (Figure 4). The map also shows planned bike lanes along Branch Avenue. In addition, there are 10 bicycle racks and bicycle lockers located at the Suitland Metro station.

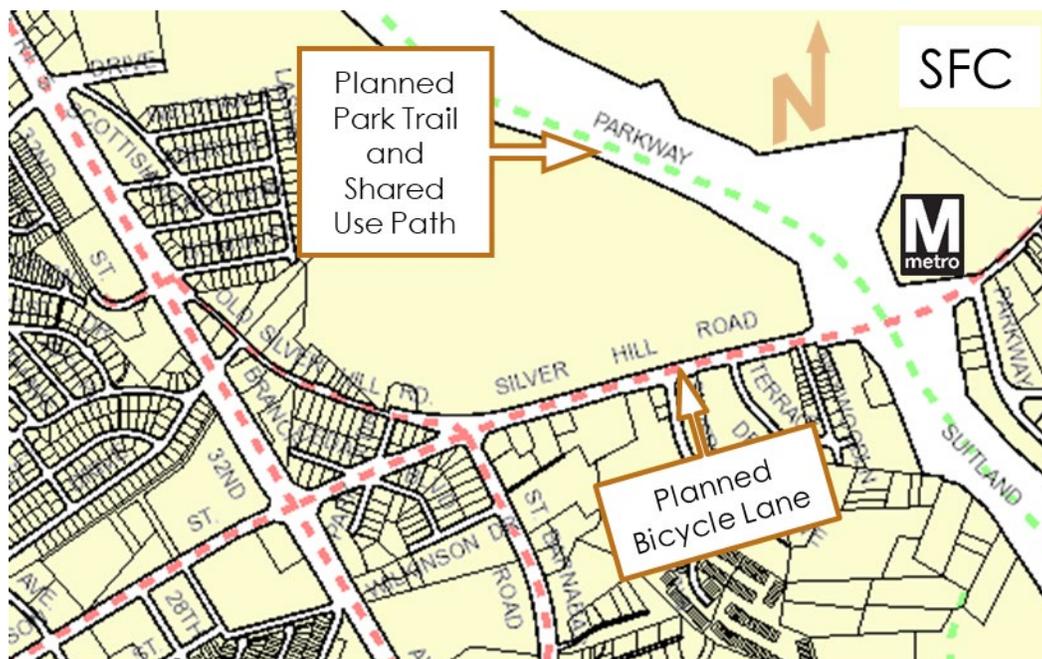


Figure 4: Planned Bicycle Facilities in Study Area (NTS)

EXISTING ROADWAY NETWORK

VEHICLE STUDY AREA

The SFC is located in the Suitland neighborhood of Prince George's County, Maryland. The vehicle study area limits are defined as primarily bounded by Silver Hill Road to the south, Pennsylvania Avenue (MD 4) to the east, Branch Avenue (MD 5) to the west, and the Washington National Cemetery to the North.

Characteristics of the major corridors within the study area were obtained from the Maryland Annual Average Daily Traffic – Annual Average Daily Traffic (SHA Statewide AADT Lines) map¹ through the Maryland GIS Data Catalog denoting functional classification, 2018 AADT, 2018 AAWDT, 2018 Truck AADT, and number of lanes. This information is summarized in Table 1.

¹ <https://data.imap.maryland.gov/datasets/maryland-annual-average-daily-traffic-annual-average-daily-traffic-sha-statewide-aadt-lines?geometry=-77.495%2C38.744%2C-76.440%2C38.932>

Table 1: Study Area Major Corridor Characteristics

Roadway	Functional Class	2018 AADT (1,000 vpd)	2018 AAWDT (1,000 vpd)	2018 Truck AADT (vpd)	Number of Lanes
Branch Avenue (MD 5), between MD 458 and Suitland Parkway	Principal Arterial Other	54.1	57.9	788	5
Iverson Street	Minor Arterial	17.5	18.8	N/A	4
St Barnabas Road (MD 414)	Principal Arterial Other	33.6	36.0	912	4
Suitland Parkway	Principal Arterial Other Freeways and Expressways	39.4	42.1	413	4
Silver Hill Road (MD 458), between Branch Avenue (MD 5) and Suitland Road (MD 218)	Principal Arterial Other	44.3	47.4	667	5
Silver Hill Road (MD 458), between Suitland Road (MD 218) and Pennsylvania Avenue (MD 4)	Principal Arterial Other	35.6	38.1	540	6
Suitland Road (MD 218)	Minor Arterial	18.6	19.9	N/A	2
Shadyside Avenue	Major Collector	5.5	5.9	N/A	2
Brooks Drive	Major Collector	9.1	9.6	N/A	2
Pennsylvania Avenue (MD 4), south of Silver Hill Road	Principal Arterial Other	38.4	41.1	1084	4
Pennsylvania Avenue (MD 4), north of Silver Hill Road	Principal Arterial Other	28.4	30.4	859	4

DATA COLLECTION AND HOURS OF ANALYSIS

At the time of this writing, the global community was experiencing the effects of the COVID-19 pandemic which were significantly impacting typical traffic conditions. Therefore, with approval from Prince George's County, historic traffic counts collected by Maryland Department of Transportation State Highway Administration (MDOT SHA) and available on its Internet Traffic

Monitoring System (I-TMS)², were utilized to obtain turning movement count volumes at the study intersections.

Turning Movement Counts

The latest manual turning movement counts obtained by Stantec from MDOT SHA were utilized for all 18 study area intersections, listed in Table 2.

Table 2: Study Area Intersections

Study Area Intersection	Signalization	Data Date
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	Signalized	11/14/2019
St Barnabas Road (MD 414) & Old Silver Hill Road/Silver Hill Road (MD 458)	Signalized	9/19/2019
Silver Hill Road (MD 458) & Suitland Parkway EB Off-Ramp	Unsignalized	11/14/2019
Summer Road, Silver Hill Road (MD 458), & Suitland Parkway EB On-Ramp	Unsignalized	4/1/2014
Suitland Parkway WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	Signalized	11/14/2019
Navy Day Drive/Suitland Metro East Driveway & Silver Hill Road (MD 458)	Signalized	11/14/2019
Swann Road & Silver Hill Road (MD 458)	Signalized	10/11/2018
Suitland Road (MD 218) & Silver Hill Road (MD 458)	Signalized	8/16/2018
Brooks Drive & Chelsea Way	Future Signalized	N/A
Brooks Drive & Silver Hill Road (MD 458)	Signalized	11/14/2019
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD 458)	Signalized	11/14/2019
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD 458)	Signalized	2/5/2019
Pennsylvania Avenue (MD 4) & Silver Hill Road (MD 458)	Signalized	11/14/2019
Suitland Road (MD 218) & Huron Avenue	Unsignalized	9/3/2014
Suitland Road (MD 218) & Driveway 4	Unsignalized	9/3/2014
Suitland Road (MD 218) & Driveway 3	Unsignalized	9/3/2014
Suitland Road (MD 218) & Homer Avenue	Unsignalized	8/27/2014
Suitland Road (MD 218), Ewing Avenue, & Shadyside Avenue	Existing unsignalized, future signalized	9/10/2014

Appendix B contains the raw count data and map of all the count locations. An analysis of the data revealed that the individual intersection AM and PM peak period hours varied throughout the study area. To be conservative, individual peaks were utilized. Volumes were balanced upwards between

² http://maps.roads.maryland.gov/itms_public/

intersections where appropriate to account for the various time periods that the data was collected. The balanced 2019 existing volumes are shown in Exhibits 1 and 2 in Appendix A.

ANALYSIS METHODOLOGY

Synchro 10 traffic analysis software was used to perform the capacity analyses for the signalized and unsignalized intersections in the study area. This software package provides average control delay, volume-to capacity ratio (v/c) queues, and level of service (LOS) for each lane group and for the overall intersection.

The v/c ratio relates the demand at a particular intersection (traffic volume, v) to the available capacity (c). The available capacity for each movement varies depending on number of lanes, lane width, perception/reaction time, green time, and cycle length, among others. A v/c ratio of 1.0 indicates that the demand for a particular movement is equal to the capacity. A movement with a v/c ratio at or over 1.0 is considered undesirable because the movement volume exceeds the capacity, which results in queuing, indicating unmet demand along that approach.

LOS is an evaluation of the quality of operation of an intersection and is a measure of the average delay a driver experiences while traveling through the intersection. LOS is dependent on a range of defined operating conditions such as traffic demand, lane geometry, and traffic signal timing and phasing.

LOS can range from A to F and is based on the average control delay per vehicle in seconds. For a signalized intersection, LOS A indicates operations with an average control delay less than 10 seconds per vehicle, while LOS F describes operations with an average control delay in excess of 80 seconds per vehicle. For an unsignalized intersection, LOS A indicates operations with an average control delay less than 10 seconds per vehicle, while LOS F describes operations with an average control delay in excess of 50 seconds per vehicle. The delay criteria for signalized and unsignalized intersections are summarized in Table 3.

Table 3: LOS Thresholds

Level of Service	Average Control Delay (seconds/vehicle)	
	Signalized	Unsignalized
A	Less than or equal to 10.0	Less than or equal to 10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	Greater than 80.0 or v/c greater than 1.0	Greater than 50.0 or v/c greater than 1.0

Source: Highway Capacity Manual, 6th Edition

2019 EXISTING CONDITIONS CAPACITY ANALYSIS RESULTS

2019 Existing Condition volumes for the AM and PM peak hours, shown in Exhibits 1 and 2 in Appendix A, were modeled in Synchro 10 to produce capacity analysis results, summarized in Exhibits 13 and 14 in Appendix A. All Synchro capacity analysis output is in Appendix C. The results show that most intersections currently operate at an overall LOS D or better. Table 4 indicates the

lane groups that would operate at LOS of E or F (failing condition) as well as shows overall intersection LOS. The table also notes delay in seconds per vehicle. Figure 5 also illustrates overall intersection LOS on a map.

**Table 4: 2019 Existing Condition
Lane Groups Operating at Overall LOS E or F
Overall Intersection LOS**

Intersection	Lane Group	Existing Condition	
		AM	PM
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	F (82.2)	F (101.2)
	EL-TR	E (63.2)	F (158.8)
	WB-L	-	F (102.6)
	WB-T	E (73.6)	F (94.8)
	NB-L	F (120.3)	F (114.2)
	SB-L	E (71.8)	F (90.5)
	Intersection	D (41.5)	E (58.9)
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	E (61.6)	E (71.3)
	NB-T	E (58.2)	E (68.4)
	SB-LT	E (64.1)	E (68.6)
	SB-LTR	E (56.1)	E (61)
	Intersection	C (24.5)	D (38.3)
Silver Hill Rd (MD 414) & Suitland Parkway EB Off-Ramp	Intersection	A (2.6)	A (0.7)
Summer Road, Silver Hill Rd (MD 458), & Suitland Parkway EB On-Ramp	NB-R	F (68.5)	E (40.4)
	Intersection	A (4.9)	A (2.5)
Suitland Pkwy WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	NB-L	E (74.7)	F (81.8)
	NB-T	E (77.2)	E (60)
	SB-L	F (82.1)	F (82)
	Intersection	C (24.1)	B (13)
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	F (97.6)	F (97.1)
	WB-L	F (90.6)	F (86.7)
	NB-LTR	E (77.1)	E (79.9)
	SB-L	E (76.4)	E (76.5)
	SB-T	E (72)	E (64.3)
	Intersection	B (12.8)	C (21.4)
Swann Road & Silver Hill Road (MD-458)	EB-L	F (73..2)	E (73.4)
	WB-L	F (84)	E (78.6)
	NB-L	F (87.9)	E (58.6)
	SB-LT	E (61.5)	E (76.9)
	Intersection	C (27.6)	C (28.4)
Suitland Road (MD-218) Road & Silver Hill Road (MD- 458)	EB-L	F (98.7)	F (90.1)
	WB-L	F (95.3)	E (75.3)
	NB-L	E (69.6)	F (115)
	NB-T	F (85.6)	F (97.7)
	SB-L	F (95.6)	F (85.5)
	SB-T	F (83.3)	F (84.6)
	Intersection	D (38.7)	D (42.8)
Brooks Drive & Silver Hill Road (MD-458)	SB-L	F (82.8)	F (82.7)
	SB-R	E (60.5)	-
	Intersection	B (12.9)	B (12.1)
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	SB-L	F (119.6)	F (80.2)
	Intersection	C (22)	A (5.6)
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	F (81.2)	F (81.1)
	WB-L	F (100.9)	F (94.4)

Intersection	Lane Group	Existing Condition	
		AM	PM
	SB-LT	-	E (67.4)
	Intersection	B (18.2)	C (24.5)
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	E (75.1)	F (86.5)
	WB-L	E (69.2)	E (69.7)
	WB-TR	E (59.2)	-
	NB-L	E (58.4)	E (67.1)
	SB-L	E (69.2)	E (67.5)
	Intersection	D (41.8)	D (42)
Suitland Rd (MD-218) & Huron Avenue	SB-LR	-	F (59.4)
	Intersection	A (0.4)	A (1.4)
Suitland Rd (MD-218) & Driveway 4	NB-LR	-	-
	Intersection	A (0.4)	A (0.4)
Suitland Rd (MD-218) & Driveway 3	NB-LR	-	F (50.3)
	Intersection	A (1.6)	A (7)
Suitland Rd (MD-218) & Homer Avenue	SB-LR	-	-
	Intersection	A (3.4)	A (0.8)
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	SWB-L	F (120.4)	F (620.8)
	Intersection	C (15.7)	F (83.7)

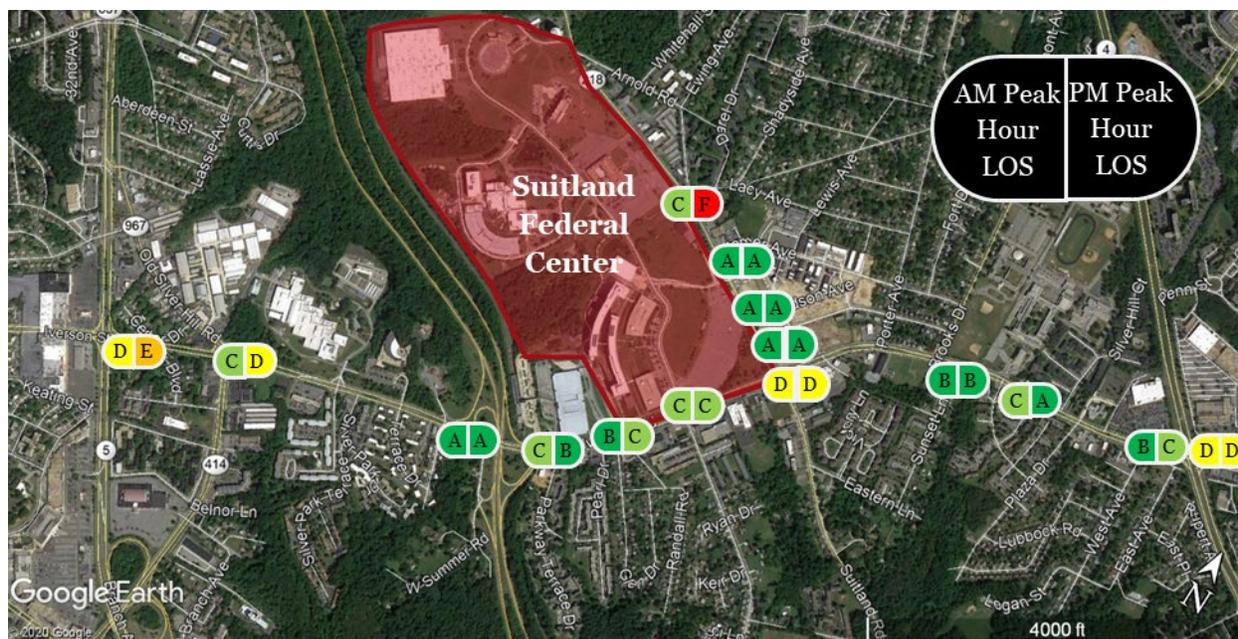


Figure 5: 2019 Existing Condition Overall Intersection LOS

TRANSPORTATION IMPACTS

It was assumed that the proposed relocation would be completed by 2022. Therefore, this traffic analysis evaluates a future year of 2022.

2022 FUTURE NO BUILD ALTERNATIVE

The Future No Build Alternative evaluates the future transportation network with future volumes, excluding BLS relocation growth. It includes traffic growth due to nearby developments and increases in background traffic. A growth rate of 0.5% per year was assumed for all roadways, excluding MD 4, which was assumed to have a growth rate of 1% per year. These growth rates were referenced from the Suitland Manor TIS which researched regional road volume changes to formulate a growth rate and were confirmed by reviewing more recent count data.

BACKGROUND DEVELOPMENTS

One planned development, called Suitland Manor, was identified that would have an impact on the existing roadway network within the study area. Suitland Manor is a proposed mixed-use development located in the northwest quadrant of the Suitland Road (MD 218) & Silver Hill Road (MD 458) intersection and will have high-density residential units and some commercial/retail uses. Trip generation and trip distribution information for the development was available in a report entitled *Traffic Impact Analysis in Support of Preliminary Plan Application for Suitland Manor Mixed-Use Development, Prince George's County, Maryland*, prepared by O. R. George & Associates, Inc. and dated September 8, 2015. The project is estimated to produce 364 total trips in the AM peak hour and 446 total trips in the PM peak hour. Phasing was not considered in implementing the Suitland Manor trip generation volumes since the site is planned to be completely developed before the 2022 No Build year. The trip distribution for the development can be seen in Exhibits 3 and 4 in Appendix A.

2022 NO BUILD ALTERNATIVE CAPACITY ANALYSIS RESULTS

The projected volumes obtained by applying the growth rates to the 2019 volumes were added to the site-specific trip generation conducted for the Suitland Manor development to develop No Build Alternative volumes for the AM and PM peak hours, shown in Exhibits 5 and 6 in Appendix A. These volumes were modeled in Synchro 10 to produce capacity analysis results, summarized in Exhibits 13 and 14 in Appendix A. These models also included all proposed signalized intersections and roadway improvements recommended in the transportation impact studies for the above-referenced Suitland Manor TIS. These improvements are as follows:

- Signalization of the intersection of Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue
- Restricting Huron Avenue at the intersection of Suitland Rd (MD-218) & Homer Avenue to right-turn out only
- Creation of the signalized intersection of Chelsea Way & Silver Hill Road (MD-458)

All Synchro capacity analysis outputs are located in Appendix C.

The results show that all intersections would continue to operate at an overall LOS D or better. Table 5 below indicates the lane groups at study intersections that would operate at an overall LOS of E or F (failing condition), as well as overall intersection LOS. Overall intersection delay in seconds per vehicle is noted in parentheses. Figure 6 also illustrates overall intersection LOS on a map.

**Table 5: 2022 No Build Alternative
Lane Groups Operating at Overall LOS E or F
Overall Intersection LOS**

Intersection	Lane Group	Existing		No Build	
		AM	PM	AM	PM
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	F (82.2)	F (101.2)	F (82.5)	F (102.1)
	EL-TR	E (63.2)	F (158.8)	E (64.7)	F (179.1)
	WB-L	-	F (102.6)	D (50.9)	F (109.1)
	WB-T	E (73.6)	F (94.8)	E (75.2)	F (99)
	NB-L	F (120.3)	F (114.2)	F (124.1)	F (115.6)
	SB-L	E (71.8)	F (90.5)	E (72.0)	F (90.6)
	Intersection	D (41.5)	E (58.9)	D (42.5)	E (62.4)
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	E (61.6)	E (71.3)	E (61.7)	E (72.3)
	WB-L	-	-	D (49.8)	E (73.0)
	NB-L	-	-	D (46.2)	E (57.6)
	NB-T	E (58.2)	E (68.4)	E (58.2)	E (69.2)
	SB-LT	E (64.1)	E (68.6)	E (64.6)	E (68.4)
	SB-LTR	E (56.1)	E (61)	E (56.5)	E (61.5)
	Intersection	C (24.5)	D (38.3)	C (25.2)	D (41.3)
Silver Hill Rd (MD 414) & Suitland Parkway EB Off-Ramp	Intersection	A (2.6)	A (0.7)	A (2.7)	A (1)
Summer Road, Silver Hill Rd (MD 458), & Suitland Parkway EB On-Ramp	NB-R	F (68.5)	E (40.4)	F (84.2)	F (56.2)
	Intersection	A (4.9)	A (2.5)	A (6)	A (3.6)
Suitland Pkwy WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	NB-L	E (74.7)	F (81.8)	E (74.8)	F (82)
	NB-T	E (77.2)	E (60)	E (77.3)	E (59.9)
	SB-L	F (82.1)	F (82)	F (82.2)	F (82)
	Intersection	C (24.1)	B (13)	C (24.5)	B (13.8)
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	F (97.6)	F (97.1)	F (97)	F (95.6)
	WB-L	F (90.6)	F (86.7)	F (94.4)	F (86.8)
	NB-LTR	E (77.1)	E (79.9)	E (77.8)	F (80.1)
	SB-L	E (76.4)	E (76.5)	E (76.4)	E (76.4)
	SB-T	E (72)	E (64.3)	E (72)	E (64)
	Intersection	B (12.8)	C (21.4)	B (13.4)	C (22)
Swann Road & Silver Hill Road (MD-458)	EB-L	F (73.2)	E (73.4)	E (70.6)	E (74.2)
	WB-L	F (84)	E (78.6)	E (75.5)	E (71.9)
	WB-TR	-	-	-	-
	NB-L	F (87.9)	E (58.6)	F (85.8)	E (58.3)
	SB-LT	E (61.5)	E (76.9)	E (66.8)	E (76.9)
	Intersection	C (27.6)	C (28.4)	C (27.1)	C (32.2)
Suitland Road (MD-218) Road & Silver Hill Road (MD-458)	EB-L	F (98.7)	F (90.1)	F (101.8)	F (94.8)
	WB-L	F (95.3)	E (75.3)	F (87.7)	E (78.1)
	NB-L	E (69.6)	F (115.0)	E (67.5)	F (107.5)
	NB-T	F (85.6)	F (97.7)	F (85.5)	F (130.1)
	SB-L	F (95.6)	F (85.5)	F (99.2)	F (82.3)
	SB-T	F (83.3)	F (84.6)	F (84.2)	F (85.2)
	Intersection	D (38.7)	D (42.8)	D (49.2)	D (48.2)
Chelsea Way & Silver Hill Road (MD-458)	EB-L	-	-	F (100.9)	E (77.3)
	SB-L	-	-	F (80.5)	F (80.6)
	Intersection	-	-	A (7.3)	A (5.9)
Brooks Drive & Silver Hill Road (MD-458)	SB-L	F (82.8)	F (82.7)	F (82.2)	F (82.9)
	SB-R	E (60.5)	-	E (56.2)	E (55.1)
	Intersection	B (12.9)	B (12.1)	B (13.9)	B (13.5)
	SB-L	F (119.6)	F (80.2)	F (119.5)	F (80.1)

Intersection	Lane Group	Existing		No Build	
		AM	PM	AM	PM
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	Intersection	C (22)	A (5.6)	C (22.1)	A (6.2)
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	F (81.2)	F (81.1)	F (81.1)	F (80.8)
	WB-L	F (100.9)	F (94.4)	F (99.9)	F (93.3)
	SB-LT	-	E (67.4)	-	E (68.6)
	Intersection	B (18.2)	C (24.5)	B (18.7)	C (25.3)
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	E (75.1)	F (86.5)	F (95.4)	F (91.9)
	WB-L	E (69.2)	E (69.7)	E (69.2)	E (69.8)
	WB-TR	E (59.2)	-	E (59.3)	E (58.5)
	NB-L	E (58.4)	E (67.1)	E (59.5)	E (70.1)
	SB-L	E (69.2)	E (67.5)	E (69.2)	E (67.6)
	Intersection	D (41.8)	D (42)	D (42.8)	D (44.1)
Suitland Rd (MD-218) & Huron Avenue	SB-LR	-	F (59.4)	-	-
	Intersection	A (0.4)	A (1.4)	A (0.3)	A (0.4)
Suitland Rd (MD-218) & Driveway 4	NB-LR	-	-	-	E (37.7)
	Intersection	A (0.4)	A (0.4)	A (0.4)	A (0.5)
Suitland Rd (MD-218) & Driveway 3	NB-LR	-	F (50.3)	-	F (89)
	Intersection	A (1.6)	A (7)	A (1.5)	B (11.9)
Suitland Rd (MD-218) & Homer Avenue	SB-LR	-	-	F (67.4)	F (52.1)
	Intersection	A (3.4)	A (0.8)	A (8.9)	A (2.6)
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	SWB-L	F (120.4)	F (620.8)	-	-
	Intersection	C (15.7)	F (83.7)	B (15.5)	B (16.6)

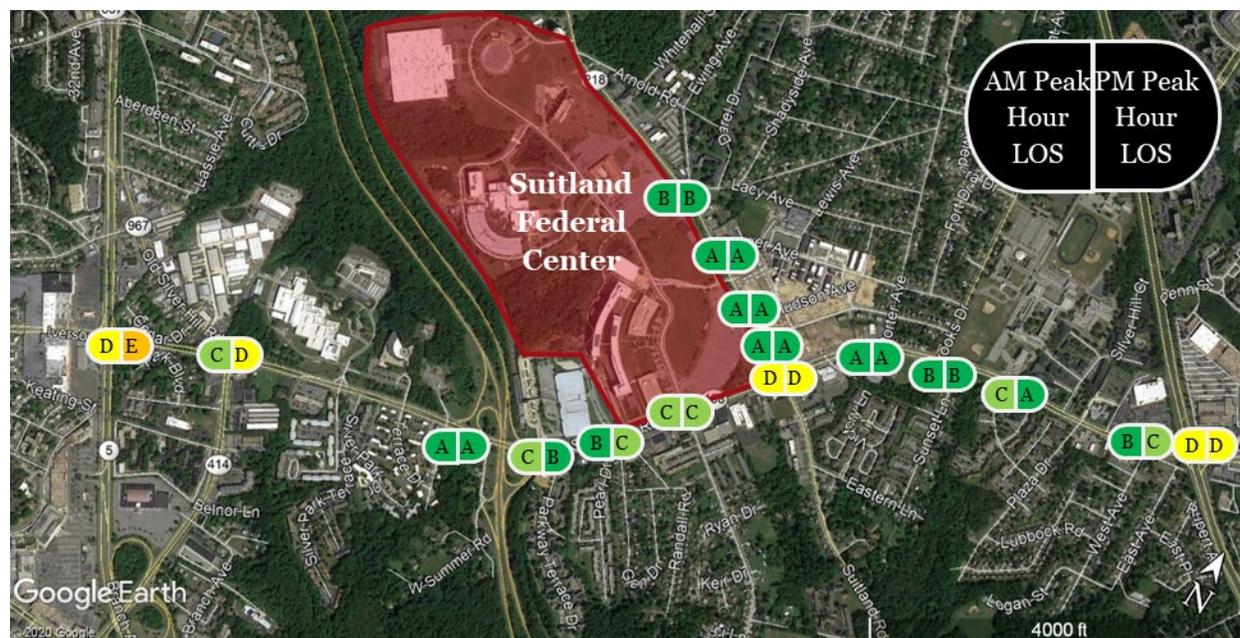


Figure 6: 2022 No Build Alternative Overall Intersection LOS

2022 FUTURE BUILD ALTERNATIVE

The Build Alternative analysis examines future anticipated volumes, taking into consideration traffic under the No Build Alternative as well as traffic that would be generated by the proposed relocation of BLS.

SITE TRIP GENERATION

The SFC is a complex trip generator with many variables that relate directly to how many vehicles enter and exit the Campus during an average weekday. Employees arrive and depart primarily during typical AM and PM peak hours. The *ITE Trip Generation Manual* (10th Edition) Land Use Code 710 (General Office Building) was utilized to estimate the number of AM peak hour, PM peak hour, and total daily trips that would be generated by the additional 1,800 BLS employees (Table 6). These daily trips include both auto trips and non-auto trips. Information obtained from the commuter survey conducted in February 2020 was utilized to calculate and apply a non-auto trip credit to the base trip generation rates to account for future employees who will not drive alone to the SFC. The results of the survey indicate that 35% of BLS employees anticipate driving alone to work. However, a survey of existing Census and BEA employees revealed that approximately 73.1% and 68.1%, respectively, commute to the SFC by car. Therefore, it is anticipated that a higher percentage of BLS employees will commute to the SFC by driving alone. Thus, an average percentage of 58% drive alone was used to determine the 42% non-auto trip credit, which was applied to the base trip generation rates to estimate the anticipated vehicular trip generation from the proposed relocation. A copy of the survey summary report can be found in Appendix D.

Table 6: Trip Generation Estimate

Agency	# of Employees	Drive Alone %	AM Peak Hour			PM Peak Hour			Total Weekday
			In	Out	Tot	In	Out	Tot	
BLS	1,800	58.0%	553	113	666	144	576	720	4,946
Non-Auto Trip Credit (42%)			232	47	279	60	242	302	2077
Total Auto Trips Generated by BLS			321	66	387	84	334	418	2,869

SITE TRIP DISTRIBUTION

A trip distribution analysis was conducted to estimate how the new vehicle trips would travel to and from the site. Employee home ZIP code data for off-campus and on-campus was obtained as part of the SFC Commuter Surveys. Utilizing typical weekday traffic conditions from Google Maps, a preferred route from off-campus was established for each given zip code. The following network entrance/exit points were established:

- Suitland Road North (MD 218)
- Pennsylvania Avenue North (MD 4)
- Pennsylvania Avenue South (MD 4)
- Silver Hill Road East (MD 458)
- Suitland Parkway North
- Suitland Parkway South
- St. Barnabas Road South (MD 414)

- Branch Avenue North (MD 5)
- Branch Avenue South (MD 5)
- Iverson Ave East (MD 458)

The designated routes were summarized by direction of arrival and departure to the study area network for the BLS employees. Utilizing the off-campus and on-campus preferred routes of travel, percentages for each potential arrival/departure route were created for off-campus employees moving to the SFC. In general, most trips were oriented to/from I-495 via MD 4, Suitland Parkway, and MD 5. The resulting trip distribution diagrams for the Build Alternative can be found in Exhibits 7 and 8 in Appendix A.

2022 BUILD ALTERNATIVE CAPACITY ANALYSIS RESULTS

The No Build Alternative traffic volumes and the proposed site-generated traffic volumes were summed to obtain Build Alternative volumes for the AM and PM peak hours, shown in Exhibits 9 and 10 in Appendix A. These volumes were modeled in Synchro 10 to produce capacity analysis results, summarized in Exhibits 13 and 14 in Appendix A. All Synchro capacity analysis outputs are located in Appendix C.

The results of the capacity analysis indicate that the proposed site would generate additional delay and queuing on multiple intersection approaches. All intersections would operate at an overall LOS D or better with the exception of the Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458) intersection, which would continue to operate at LOS E and experience an overall increase in delay by 1.4 seconds, for a total of 62.5 seconds. Table 7 below indicates the lane groups at study intersections that would operate at an overall LOS of E or F (failing condition), as well as overall intersection LOS. Figure 7 also illustrates overall intersection LOS on a map.

**Table 7: 2022 Build Alternative
Lane Groups Operating at Overall LOS E or F
Overall Intersection LOS**

Intersection	Lane Group	No Build		Build	
		AM	PM	AM	PM
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	F (82.5)	F (102.1)	F (82.5)	F (102.1)
	EL-TR	E (64.7)	F (179.1)	E (65.4)	F (179.1)
	WB-L	-	F (109.1)	-	F (130.4)
	WB-T	E (75.2)	F (99)	E (75.2)	F (99)
	NB-L	F (124.1)	F (115.6)	F (124.1)	F (115.6)
	SB-L	E (72)	F (90.6)	E (72.3)	F (90.6)
	Intersection	D (42.5)	E (62.4)	D (42.7)	E (63.8)
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	E (61.7)	E (72.3)	E (61.7)	E (72.6)
	WB-L	-	E (73)	-	F (102.6)
	NB-L	-	E (57.6)	-	E (57.8)
	NB-T	E (58.2)	E (69.2)	E (58.2)	E (69.5)
	SB-LT	E (64.6)	E (68.4)	E (64.7)	E (68.5)
	SB-LTR	E (56.5)	E (61.5)	E (56.5)	E (61.7)
	Intersection	C (25.2)	D (41.3)	C (27.3)	D (50.4)
Silver Hill Rd (MD 414) & Suitland Parkway EB Off-Ramp	Intersection	A (2.7)	A (1)	A (2.7)	A (1.1)
Summer Road, Silver Hill Rd (MD 458), & Suitland Parkway EB On-Ramp	NB-R	F (84.2)	F (56.2)	F (110.1)	F (63.3)
	Intersection	A (6)	A (3.6)	A (7.5)	A (3.9)
	NB-L	E (74.8)	F (82)	E (73.8)	F (82)

Intersection	Lane Group	No Build		Build	
		AM	PM	AM	PM
Suitland Pkwy WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	NB-T	E (77.3)	E (59.9)	E (76.1)	E (59.9)
	SB-L	F (82.2)	F (82)	F (82.2)	F (82)
	Intersection	C (24.5)	B (13.8)	C (27.5)	B (14.2)
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	F (97)	F (95.6)	F (94.9)	F (95)
	WB-L	F (94.4)	F (86.8)	F (82)	F (81.5)
	NB-LTR	E (77.8)	F (80.1)	E (77.8)	F (80.1)
	SB-L	E (76.4)	E (76.4)	E (76.4)	E (76.4)
	SB-T	E (72)	E (64)	E (72)	E (64)
	Intersection	B (13.4)	C (22)	B (14.4)	C (23.3)
Swann Road & Silver Hill Road (MD-458)	EB-L	E (70.6)	E (74.2)	E (65.8)	E (76.2)
	WB-L	E (75.5)	E (71.9)	F (80.1)	E (74.4)
	WB-TR	-	-	F (54.4)	E (65.3)
	NB-L	F (85.8)	E (58.3)	F (88.2)	-
	SB-LT	E (66.8)	E (76.9)	E (67.2)	E (75.2)
	Intersection	C (27.1)	C (32.2)	D (38.9)	D (45)
Suitland Road (MD-218) Road & Silver Hill Road (MD-458)	EB-L	F (101.8)	F (94.8)	F (102.6)	F (92.6)
	WB-L	F (87.7)	E (78.1)	F (86.6)	E (78.1)
	NB-L	E (67.5)	F (107.5)	E (67.7)	F (107.5)
	NB-T	F (85.5)	F (130.1)	F (86.1)	F (130.1)
	SB-L	F (99.2)	F (82.3)	F (100.1)	F (90.3)
	SB-T	F (84.2)	F (85.2)	F (83)	F (84.5)
	Intersection	D (49.2)	D (48.2)	D (50.7)	D (48.9)
Chelsea Way & Silver Hill Road (MD-458)	EB-L	F (100.9)	E (77.3)	F (101.1)	E (76.9)
	SB-L	F (80.5)	F (80.6)	F (80.5)	F (80.6)
	Intersection	A (7.3)	A (5.9)	A (7.8)	A (6.1)
Brooks Drive & Silver Hill Road (MD-458)	SB-L	F (82.2)	F (82.9)	F (82.2)	F (82.9)
	SB-R	E (56.2)	E (55.1)	E (55.5)	E (55.8)
	Intersection	B (13.9)	B (13.5)	B (13.9)	B (13.4)
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	SB-L	F (119.5)	F (80.1)	F (119.5)	F (80.1)
	Intersection	C (22.1)	A (6.2)	C (23.2)	A (6.4)
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	F (81.1)	F (80.8)	F (81.1)	F (80.8)
	SB-LT	-	E (68.6)	-	E (68.6)
	Intersection	B (18.7)	C (25.3)	B (19.2)	C (25.9)
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	F (95.4)	F (91.9)	F (95)	F (93.1)
	WB-L	E (69.2)	E (69.8)	E (69.2)	E (69.8)
	WB-TR	E (59.3)	E (58.5)	E (59.4)	E (58.9)
	NB-L	E (59.5)	E (70.1)	E (63.4)	E (71.7)
	SB-L	E (69.2)	E (67.6)	E (69.2)	E (67.6)
	Intersection	D (42.8)	D (44.1)	D (43.7)	D (44.7)
Suitland Rd (MD-218) & Huron Avenue	Intersection	A (0.3)	A (0.4)	A (0.3)	A (0.4)
Suitland Rd (MD-218) & Driveway 4	NB-LR	-	E (37.7)	-	F (55.2)
	Intersection	A (0.4)	A (0.5)	A (0.6)	A (1.8)
Suitland Rd (MD-218) & Driveway 3	NB-LR	A (0)	F (89)	F (60.3)	F (142.8)
	Intersection	A (1.5)	B (11.9)	A (1.6)	C (19.9)
Suitland Rd (MD-218) & Homer Avenue	SB-LR	F (67.4)	F (52.1)	F (73.4)	E (47.4)
	Intersection	A (8.9)	A (2.6)	A (9.5)	A (2.4)
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	Intersection	B (15.5)	B (16.6)	B (15.5)	B (16.7)

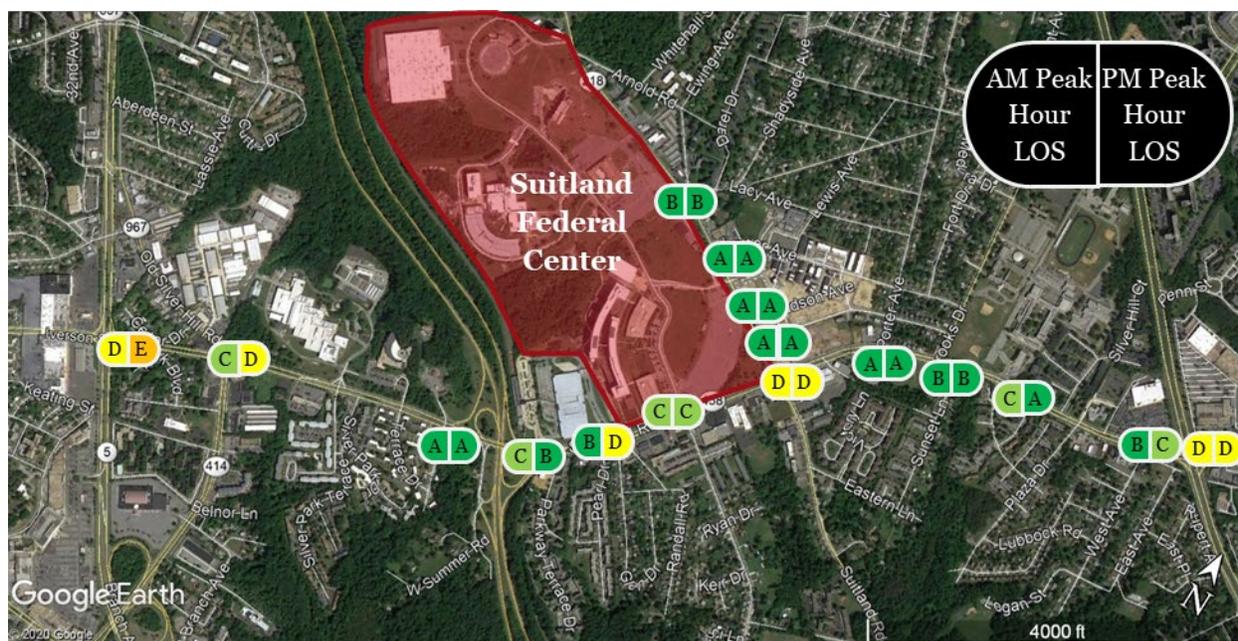


Figure 7: 2022 Build Condition Overall Intersection LOS

2027 FUTURE BUILD ALTERNATIVE + 5 YEARS

In addition to the Future Build Alternative, Prince George’s County typically requires a Future Build + 5 Years Alternative with developments of this type. The Build + 5 Years Alternative analysis examines future anticipated volumes, taking into consideration traffic under the No Build Alternative plus an additional five years of growth, as well as traffic that would be generated by the proposed relocation of BLS employees.

2027 BUILD + 5 YEARS ALTERNATIVE CAPACITY ANALYSIS RESULTS

The No Build traffic volumes, grown an additional five years to 2027 at the same background growth rate as used for the 2022 Build Alternative, and the proposed site-generated traffic volumes were summed to obtain 2027 Build + 5 Years Alternative volumes for the AM and PM peak hours, shown in Exhibits 11 and 12 in Appendix A. These volumes were modeled in Synchro 10 to produce capacity analysis results, summarized in Exhibits 13 and 14 in Appendix A. All Synchro capacity analysis outputs are located in Appendix C.

The results of the capacity analysis indicate that the proposed site would generate additional delay and queuing on multiple intersection approaches. All but two intersections would operate at an overall LOS D or better with the exception of the lane groups at study intersections shown in Table 8 that would operate at an overall LOS of E or F (failing condition) , as well as overall intersection LOS. Figure X also illustrates overall intersection LOS on a map.

**Table 8: 2027 Build + 5 Years Alternative
Lane Groups Operating at Overall LOS E or F
Overall Intersection LOS**

Intersection	Lane Group	Build		Build + 5 Years	
		AM	PM	AM	PM
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	F (82.5)	F (102.1)	F (83.8)	F (103.7)
	EL-TR	E (65.4)	F (179.1)	E (66.7)	F (190.3)
	WB-T	E (75.2)	F (99)	E (76.5)	F (103.7)
	NB-L	F (124.1)	F (115.6)	F (130.5)	F (114.7)
	SB-L	E (72.3)	F (90.6)	E (72.2)	F (90.5)
Intersection	D (42.7)	E (63.8)	D (44)	E (66.4)	
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	E (61.7)	E (72.6)	E (62)	E (75)
	EB-T	-	-	-	E (55.8)
	WB-L	-	F (102.6)	-	F (115.4)
	NB-L	-	E (57.8)	-	E (58)
	NB-T	E (58.2)	E (69.5)	E (58.5)	E (69.9)
	NB-R	B (12.6)	-	F (52.5)	-
	SB-LT	E (64.7)	E (68.5)	E (65.3)	E (69.1)
SB-LTR	E (56.5)	E (61.7)	E (56.9)	E (62.1)	
Intersection	C (27.3)	D (50.4)	D (43.6)	E (56.9)	
Silver Hill Rd (MD 414) & Suitland Parkway EB Off-Ramp	Intersection	A (2.7)	A (1.1)	A (3.1)	A (1.2)
Summer Road, Silver Hill Rd (MD 458), & Suitland Parkway EB On-Ramp	NB-R	F (110.1)	F (63.3)	F (158.2)	F (74.3)
	Intersection	A (2.7)	A (1.1)	A (3.1)	A (1.2)
Suitland Pkwy WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	NB-L	E (73.8)	F (82)	E (74.1)	F (82.2)
	NB-T	E (76.1)	E (59.9)	E (76.7)	E (59.8)
	SB-L	F (82.2)	F (82)	F (82.2)	F (82)
	Intersection	C (27.5)	B (14.2)	C (28.5)	B (14.8)
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	F (94.9)	F (95)	F (94.4)	F (94.6)
	WB-L	F (82)	F (81.5)	F (80.4)	F (80.4)
	NB-LTR	E (77.8)	F (80.1)	E (77.3)	F (80.4)
	SB-L	E (76.4)	E (76.4)	E (76.5)	E (76.4)
	SB-T	E (72)	E (64)	E (72)	E (64)
Intersection	B (14.4)	C (23.3)	B (14.7)	C (24.6)	
Swann Road & Silver Hill Road (MD-458)	EB-L	E (65.8)	E (76.2)	E (63.1)	E (74.8)
	WB-L	F (80.1)	E (74.4)	E (79.7)	E (73.5)
	WB-TR	F (54.4)	E (65.3)	F (74)	F (88.1)
	NB-L	F (88.2)	-	F (88.2)	-
	SB-LT	E (67.2)	E (75.2)	E (66.9)	E (75.9)
	SB-R	-	E (61.5)	-	E (62.1)
	Intersection	D (38.9)	D (45)	D (46.6)	D (53.3)
Suitland Road (MD-218) Road & Silver Hill Road (MD-458)	EB-L	F (102.6)	F (92.6)	F (102.4)	F (91.9)
	WB-L	F (86.6)	E (78.1)	F (86)	E (77.9)
	NB-L	E (67.7)	F (107.5)	E (67.5)	F (110.8)
	NB-T	F (86.1)	F (130.1)	F (86.9)	F (136.5)
	SB-L	F (100.1)	F (90.3)	F (100.4)	F (90.9)
	SB-T	F (83)	F (84.5)	F (83.3)	F (84.8)
Intersection	D (50.7)	D (48.9)	D (52)	D (50.6)	
Chelsea Way & Silver Hill Road (MD-458)	EB-L	F (101.1)	E (76.9)	F (100.8)	E (76.1)
	SB-L	F (80.5)	F (80.6)	F (80.6)	F (80.7)
	Intersection	A (7.8)	A (6.1)	A (8)	A (6.4)
Brooks Drive & Silver Hill Road (MD-458)	SB-L	F (82.2)	F (82.9)	F (82.2)	F (83)
	SB-R	E (55.5)	E (55.8)	D (52.9)	E (56.5)
	Intersection	B (13.9)	B (13.4)	B (14)	B (13.8)
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	SB-L	F (119.5)	F (80.1)	F (122.1)	F (80.4)
	Intersection	C (23.2)	A (6.4)	C (24.3)	A (6.6)

Intersection	Lane Group	Build		Build + 5 Years	
		AM	PM	AM	PM
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	F (81.1)	F (80.8)	F (81.3)	F (81)
	WB-L	F (100.1)	F (93.6)	F (98.9)	F (92.7)
	SB-LT	-	E (68.6)	-	E (70.6)
	Intersection	B (19.2)	C (25.9)	B (19.9)	C (26.6)
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	F (95)	F (93.1)	F (100.2)	F (93.7)
	WB-L	E (69.2)	E (69.8)	E (69.2)	E (70)
	WB-TR	E (59.4)	E (58.9)	E (59.5)	E (59.9)
	NB-L	E (63.4)	E (71.7)	E (66.5)	E (74.1)
	SB-L	E (69.2)	E (67.6)	E (69.2)	E (67.8)
Suitland Rd (MD-218) & Huron Avenue	Intersection	D (43.7)	D (44.7)	D (44.7)	D (46.7)
Suitland Rd (MD-218) & Driveway 4	NB-LR	-	F (55.2)	-	F (63)
	Intersection	A (0.6)	A (1.8)	A (0.6)	A (2)
Suitland Rd (MD-218) & Driveway 3	NB-LR	F (60.3)	F (142.8)	F (62.6)	F (177.2)
	Intersection	A (1.6)	C (19.9)	A (1.7)	C (24.6)
Suitland Rd (MD-218) & Homer Avenue	SB-LR	F (73.4)	E (47.4)	F (89)	F (55.5)
	Intersection	A (9.5)	A (2.4)	B (11.5)	A (2.8)
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	Intersection	B (15.5)	B (16.7)	B (17)	B (17.1)

Figure *

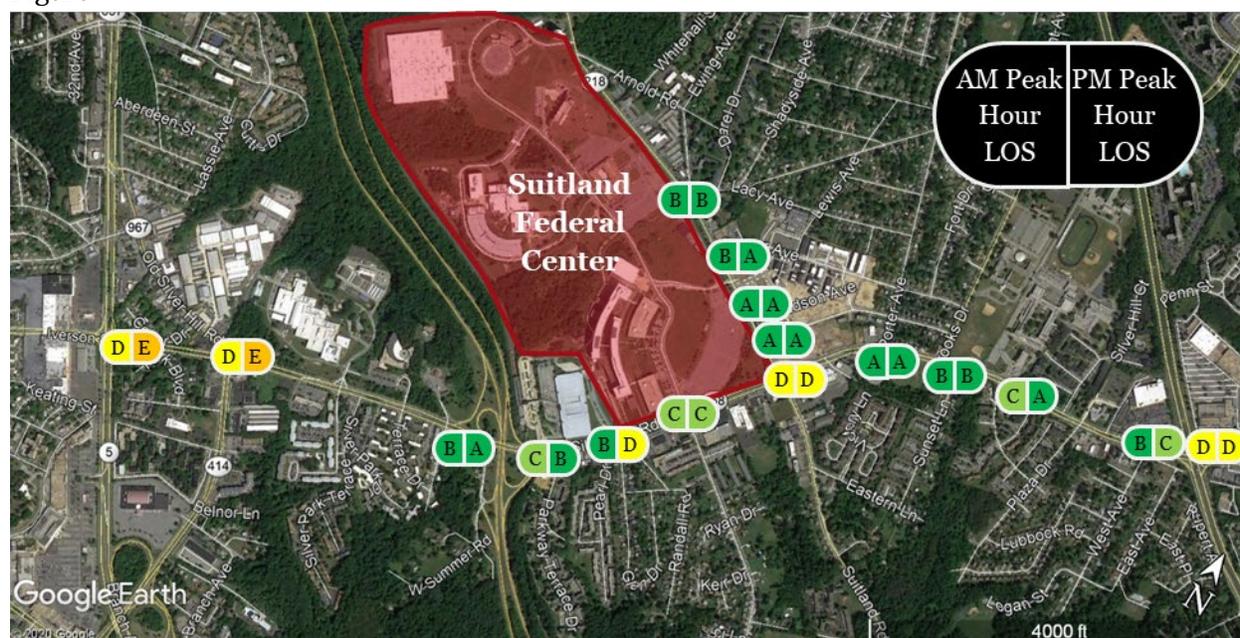


Figure 8: 2027 Build + 5 Years Condition Overall Intersection LOS

2027 FUTURE BUILD + 5 YEARS WITH MITIGATION ALTERNATIVE

The results of the Future Build +5 Years capacity analysis revealed that the additional site generated trips would result in an increase in intersection delay of more than 10 seconds per vehicle and/or degradation of level of service to LOS E or F at seven of the 18 study area intersections, which would trigger the need for mitigation. Therefore, mitigation measures would be required. Given the built-

out nature of the transportation network within the study area, emphasis was placed on improving overall intersection operations through adjustments to signal timing and phasing. In addition, physical capacity improvements were evaluated for movements that would experience an increase in delay of at least ten seconds per vehicle.

Recommended mitigation measures include:

SILVER HILL ROAD (MD 458) AND BRANCH AVENUE (MD 5)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND OLD SILVER HILL ROAD/ST BARNABAS ROAD (MD 414)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND SUITLAND PARKWAY

- Modification of the eastbound Silver Hill Road (MD 458) approach over Suitland Parkway from three lanes to two. This would permit the eastbound Suitland Parkway Off-Ramp to eastbound Silver Hill Road (MD 458) to change from stop controlled to a free movement with a weave on the overpass.



Figure 9: Silver Hill Road (MD 458) and Suitland Parkway Proposed Improvements (NTS)

SILVER HILL ROAD (MD 458) AND SWANN ROAD

- A separate westbound Silver Hill Road (MD 458) 200 foot right-turn lane would be added.
- The two approach lanes on southbound Swann Road exiting the Campus would change to three with a left-turn lane, a shared left/through/right lane, and a right-turn lane.
- Modified the northbound/southbound Swann Road signal phase to split phasing to accommodate the new lane configuration departing the Campus.
- Signal timing optimization in both the AM and PM peak hours.



Figure 10: Silver Hill Road (MD 458) and Swann Road Proposed Improvements (NTS)

SILVER HILL ROAD (MD 458) AND BROOKS DRIVE

- Signal timing optimization in the AM peak hour.

SUTLAND ROAD (MD 218) AND DRIVEWAYS 3 AND 4

- Driveway 4 would be closed off or modified to be right-in, right-out only. Traffic would be redirected to Driveway 3, and Driveway 3 would be signalized. Driveway 3 currently aligns with an internal circulation roadway. Thus, it was selected to remain and would be signalized.

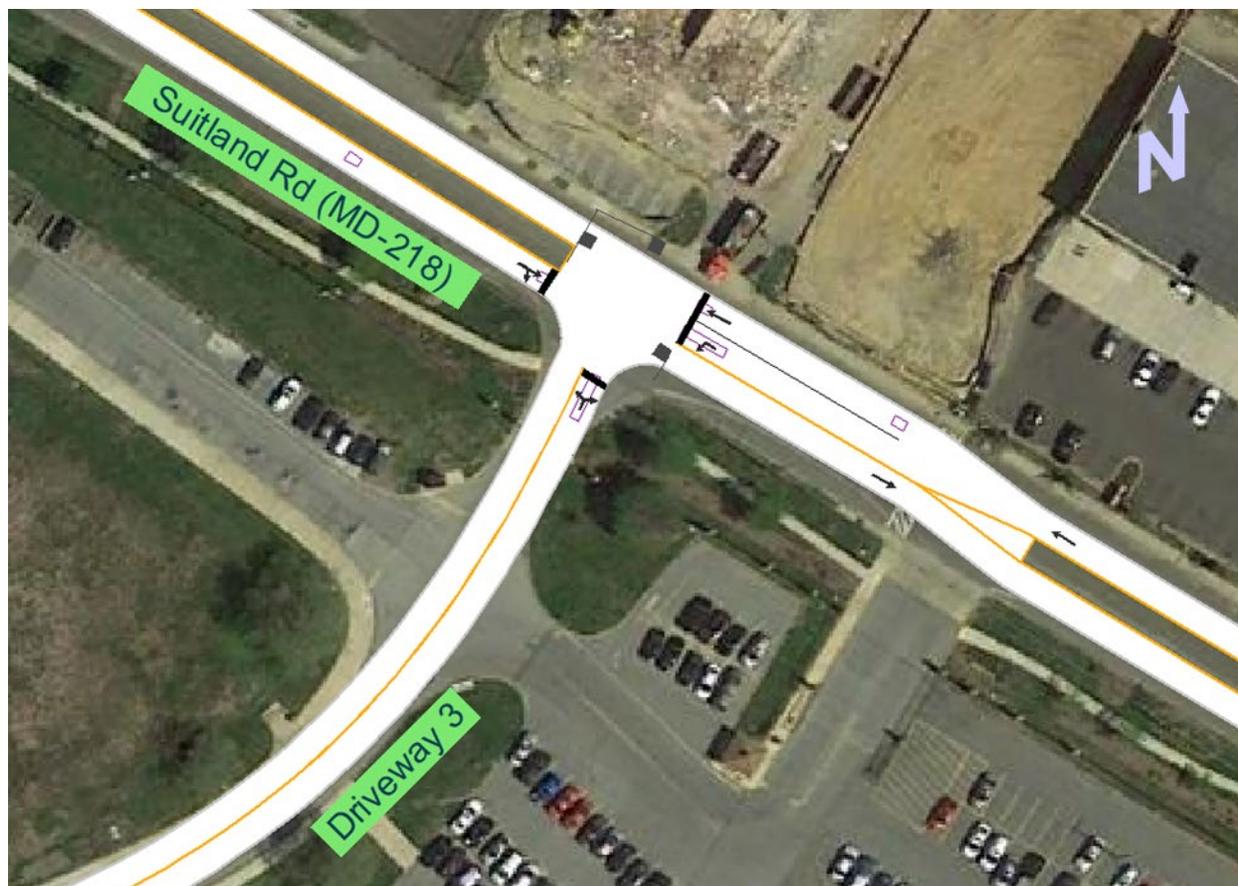


Figure 11: Suitland Road (MD 218) and Driveways 3 and 4 Proposed Improvements (NTS)

SUTLAND ROAD (MD 218) AND HOMER AVENUE

- The westbound Homer Avenue shared left/right lane would be modified to two exclusive separate turn lanes.

TRANSPORATION DEMAND MANAGEMENT

In addition to the proposed mitigation measures, it is recommended that GSA as well as all Campus agencies engage in a robust Transportation Management Plan (TMP) which outlines a variety of transportation demand management (TDM) strategies that can be used to reduce single occupancy vehicle trips, and thus reduce the overall impact to the study area roadway network. A TMP document has been prepared for the SFC as part of this overall analysis process. Recommendations include:

- Campus-wide Employee Transportation Coordinator(s)
- Improved communication with employees, including websites, apps, new employee transportation information package, raffles and competitions, etc.
- Improved carpool and vanpool incentives, including ride matching and establishing service corridors where many employees live.
- Transit incentives such as real-time transit information, transit subsidies, improved/safer transit facilities, additional commuter services.

- Telecommuting programs, including incentives to encourage telecommuting on peak commuting days (Tuesday – Thursday).
- Flexible work schedule program, including incentives to encourage flexible days off on peak commuting days (Tuesday – Thursday).
- Improvements to on and off-campus pedestrian and bicycle facilities.
- Parking policies, including preferential parking, parking reduction programs, smart parking, etc.
- Enhancing last-mile connectivity through shuttle services, improved pedestrian and bicycle connections, and bikeshare or scooters.
- Enhanced area for accessing taxi's and ridesharing (Uber/Lyft).

It should be noted that this TIS does not take any credit for the proposed strategies. Thus, the findings of this TIS should be considered conservative. It is likely that, if the strategies are successful, overall single occupancy trips generated by agencies on the Campus will decrease.

2027 FUTURE BUILD + 5 YEARS WITH MITIGATION ALTERNATIVE CAPACITY ANALYSIS RESULTS

The proposed enhancements would result in intersections that operate at similar, or better, levels of service when compared to the 2022 Future No Build Alternative (see Exhibits 13 and 14 in Appendix A). There would be no intersections that would continue operate at an overall LOS E or F. Lane groups that would operate at an overall LOS of E or F (failing condition) at study intersections are shown in Table 9 in comparison to the 2027 Future Build + 5 Years Alternative, as well as overall intersection LOS. Figure 12 also illustrates overall intersection LOS on a map.

**Table 9: 2027 Build + 5 Years with Mitigation Alternative
Lane Groups Operating at Overall LOS E or F
Overall Intersection LOS**

Intersection	Lane Group	No Build		Build + 5 Years with Mitigation	
		AM	PM	AM	PM
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	F (83.8)	F (103.7)	F (83.8)	F (125)
	EL-TR	E (66.7)	F (190.3)	E (66.7)	F (114.5)
	WB-L	-	F (137.8)	-	E (60.9)
	WB-T	E (76.5)	F (103.7)	E (76.5)	F (93.3)
	NB-L	F (130.5)	F (114.7)	F (130.5)	F (104.8)
	SB-L	E (72.2)	F (90.5)	E (72.2)	F (90.2)
	Intersection	D (44)	E (66.4)	D (44)	D (54.8)
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	E (62)	E (75)	E (62.1)	F (93.7)
	EB-T	-	E (55.8)	-	E (68.1)
	WB-L	-	F (115.4)	-	E (56.2)
	NB-L	-	E (58)	-	E (71.9)
	NB-T	E (58.5)	E (69.9)	E (59.5)	F (93.1)
	NB-R	F (52.5)	-	-	-
	SB-LT	E (65.3)	E (69.1)	E (65.6)	F (96.4)
	SB-LTR	E (56.9)	E (62.1)	E (57.2)	F (84.2)
Intersection	D (43.6)	E (56.9)	C (28.9)	D (44)	
Silver Hill Rd (MD 414) & Suitland Parkway EB Off-Ramp	Intersection	A (3.1)	A (1.2)	A (3.1)	A (1.2)
Summer Road, Silver Hill Rd (MD 458), & Suitland Parkway EB On-Ramp	NB-R	F (158.2)	F (74.3)	-	-
	Intersection	B (11.4)	A (4.6)	- (-)	- (-)
Suitland Pkwy WB Off-Ramp/Suitland Metro West Driveway & Silver Hill Road (MD 458)	NB-L	E (74.1)	F (82.2)	E (74.1)	F (82.2)
	NB-T	E (76.7)	E (59.8)	E (76.7)	E (59.8)
	SB-L	F (82.2)	F (82)	F (82.2)	F (82)
	Intersection	C (28.5)	B (14.8)	C (27.5)	B (14.8)

Intersection	Lane Group	No Build		Build + 5 Years with Mitigation	
		AM	PM	AM	PM
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	F (94.4)	F (94.6)	F (94.4)	F (94.6)
	WB-L	F (80.4)	F (80.4)	F (81.2)	F (80.7)
	NB-LTR	E (77.3)	F (80.4)	E (77.3)	F (80.4)
	SB-L	E (76.5)	E (76.4)	E (76.5)	E (76.4)
	SB-T	E (72)	E (64)	E (72)	E (64)
	Intersection	B (14.7)	C (24.6)	B (16.7)	C (26.9)
Swann Road & Silver Hill Road (MD-458)	EB-L	E (63.1)	E (74.8)	F (462.1)	F (98.7)
	WB-L	E (79.7)	E (73.5)	F (94.4)	E (78.2)
	WB-TR	F (74)	F (88.1)	-	-
	NB-L	F (88.2)	D (51.8)	F (84.8)	F (87.3)
	SB-L	-	-	F (80.7)	E (74.9)
	SB-LT	E (66.9)	E (75.9)	-	-
	SB-LTR	-	-	A (1)	C (28)
	SB-R	A (3.9)	E (62.1)	A (0.4)	D (49.8)
Intersection	D (46.6)	D (53.3)	F (112.5)	C (34)	
Suitland Road (MD-218) Road & Silver Hill Road (MD-458)	EB-L	F (102.4)	F (91.9)	F (100.2)	F (101)
	WB-L	F (86)	E (77.9)	F (88)	E (77.9)
	WB-T	E (56.2)	E (57)	E (55.9)	E (57)
	NB-L	E (67.5)	F (110.8)	E (67.5)	F (110.8)
	NB-T	F (86.9)	F (136.5)	F (86.9)	F (136.5)
	SB-L	F (100.4)	F (90.9)	F (100.4)	F (90.9)
	SB-T	F (83.3)	F (84.8)	F (83.3)	F (84.8)
Intersection	D (52)	D (50.6)	D (52)	D (51.7)	
Chelsea Way & Silver Hill Road (MD-458)	EB-L	F (100.8)	E (76.1)	F (100.7)	E (75)
	SB-L	F (80.6)	F (80.7)	F (80.6)	F (80.7)
	Intersection	A (8)	A (6.4)	A (8)	A (6.3)
Brooks Drive & Silver Hill Road (MD-458)	SB-L	F (82.2)	F (83)	F (82.2)	F (83)
	SB-R	-	E (56.5)	-	E (56.5)
	Intersection	B (14)	B (13.8)	B (13.6)	B (13.9)
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	EB-L	D (45.6)	A (2.9)	E (56.3)	A (3)
	SB-L	F (122.1)	F (80.4)	F (122.1)	F (80.4)
	Intersection	C (24.3)	A (6.6)	C (24.9)	A (6.7)
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	F (81.3)	F (81)	F (81.3)	F (81)
	WB-L	F (98.9)	F (92.7)	F (98.9)	F (92.7)
	SB-LT	-	E (70.6)	-	E (70.6)
	Intersection	B (19.9)	C (26.6)	B (19.1)	C (26.6)
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	F (100.2)	F (93.7)	F (100.2)	F (93.7)
	EB-T	-	E (58.8)	-	E (58.8)
	WB-L	E (69.2)	E (70.0)	E (69.2)	E (70)
	WB-TR	E (59.5)	E (59.9)	E (59.5)	E (59.9)
	NB-L	E (66.5)	E (74.1)	E (66.5)	E (74.1)
	SB-L	E (69.2)	E (67.8)	E (69.2)	E (67.8)
	Intersection	D (44.7)	D (46.7)	D (44.7)	D (46.7)
Suitland Rd (MD-218) & Huron Avenue	Intersection	A (0.3)	A (0.4)	A (0.3)	A (0.4)
Suitland Rd (MD-218) & Driveway 4	NB-LR	C (16.7)	F (63)	Does Not Exist	
	Intersection	A (0.6)	A (2)	()	()
Suitland Rd (MD-218) & Driveway 3	NB-LR	F (62.6)	F (177.2)	C (20.2)	D (40.4)
	Intersection	A (1.7)	C (24.6)	A (2.9)	B (17.7)
Suitland Rd (MD-218) & Homer Avenue	SB-L	Does Not Exist		E (49)	E (36)
	SB-LR	F (89)	F (55.5)	Does Not Exist	
	Intersection	B (11.5)	A (2.8)	A (4.3)	A (1.3)
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	Intersection	B (17)	B (17.1)	B (17)	B (17.1)

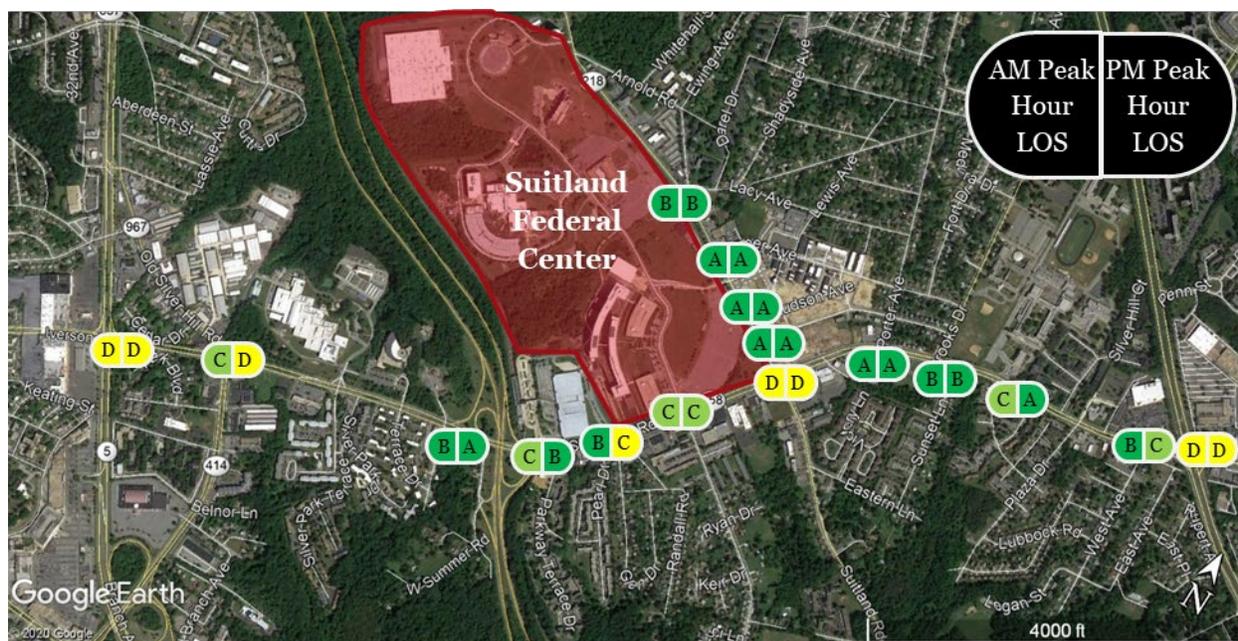


Figure 12: 2027 Build + 5 Years with Mitigation Alternative Overall Intersection LOS

It should be noted that the proposed mitigation measures were only evaluated in the Build +5 Years condition. The only difference between the Build and Build +5 Years analyses is a small growth rate. Therefore, the overall volumes are similar, and it was assumed that the mitigation measures would be required for both the Build and the Build +5 Years alternatives. Furthermore, it was also assumed that if the proposed improvements generate a benefit in the Build +5 Years condition, they will generate a similar benefit in the Build (opening year) condition.

WEAVING ANALYSIS OF PROPOSED MODIFICATIONS TO SUTTLAND PARKWAY RAMPS

Modifications to Silver Hill Road (MD 458) were recommended at the Suitland Parkway to eastbound Silver Hill Road (MD 458) approach over Suitland Parkway from three lanes to two. This would permit the eastbound Suitland Parkway Off-Ramp to eastbound Silver Hill Road (MD 458) to change from stop controlled to a free movement with a weave on the overpass. The resulting proposed weave was analyzed utilizing HCS software to determine its feasibility. Based on the analysis, it was determined that the proposed weave would operate at LOS of C and B in the AM and PM peak hours, respectively. The HCS outputs for the weave analysis can be found in Appendix E.

2027 BUILD + 5 YEARS WITH MITIGATION STORAGE LANE ANALYSIS

A storage lane analysis was performed to determine if the existing storage for turn lanes at all study area intersections would be sufficient to accommodate the 95th percentile queues generated in Synchro. The storage lane analysis can be seen in Table 10. It was determined that out of the 41 study area turning bays, only 12 of them would not have an adequate storage length in the Build + 5 Years with Mitigation Condition to contain both and AM and PM peak hour 95th percentile queues. The majority of the locations occur on eastbound Silver Hill Road (MD 458). However, there is little room to lengthen the turn bays along this section of roadway due to adjacent westbound left turn bays.

Table 10: 2027 BUILD + 5 YEARS WITH MITIGATION STORAGE LANE ANALYSIS

Intersection	Lane Group	Storage Length	95th Percentile Queue		Adequate
			AM	PM	
Branch Avenue (MD 5) & Iverson Street/Silver Hill Road (MD 458)	EB-L	400	256	442	No
	WB-L	490	176	220	Yes
	NB-R	475	0	0	Yes
	SB-L	790	95	171	Yes
	SB-R	250	0	0	Yes
St Barnabas Rd (MD 414) & Old Silver Hill Road/ Silver Hill Rd (MD-458)	EB-L	175	24	207	No
	NB-L	200	105	135	Yes
	SB-L	325	149	321	Yes
Navy Day Dr/Suitland Metro East Driveway & Silver Hill Road (MD-458)	EB-L	180	104	102	Yes
	WB-L	260	90	149	Yes
	SB-R	250	0	68	Yes
Swann Road & Silver Hill Road (MD-458)	EB-L	550	840	56	Yes
	WB-L	200	90	106	Yes
	NB-L	100	244	127	No
Suitland Road (MD-218) Road & Silver Hill Road (MD-458)	EB-L	200	420	374	No
	EB-R	230	29	64	Yes
	WB-L	310	181	334	No
	WB-R	400	422	166	No
	NB-L	550	317	290	Yes
	NB-R	150	111	84	Yes
	SB-L	150	218	475	No
SB-R	400	152	472	No	
Chelsea Way & Silver Hill Road (MD-458) (Future Signalized Intersection)	EB-L	200	54	115	Yes
Brooks Drive & Silver Hill Road (MD-458)	EB-L	300	182	304	Yes
	SB-L	130	236	174	No
Royal Plaza Drive/Suitland High School Driveway & Silver Hill Road (MD-458)	EB-L	150	202	7	No
	WB-L	150	9	9	Yes
West Ave/Giant Driveway, Old Silver Hill Road, & Silver Hill Road (MD-458)	EB-L	255	177	232	Yes
	EB-R	100	0	12	Yes
	WB-L	75	24	70	Yes
Pennsylvania Avenue (MD-4) & Silver Hill Road (MD-458)	EB-L	175	339	202	No
	EB-R	300	1	315	No
	WB-L	200	95	158	Yes
	NB-L	700	361	237	Yes
	NB-R	275	0	0	Yes
	SB-L	600	89	220	Yes
Suitland Rd (MD-218) & Huron Avenue	EB-L	200	3	8	Yes
Suitland Rd (MD-218) & Homer Avenue	EB-L	200	7	3	Yes
Suitland Rd (MD-218), Ewing Avenue, & Shadyside Avenue	EB-L	200	28	43	Yes
	SWB-R	150	23	24	Yes

CHAPTER 3: CONCLUSIONS

The results of the study show that the relocation of 1,800 BLS employees to the SFC would have an adverse impact on traffic conditions at some intersections within the study area. Given the congested nature of the study area corridors, the additional Suitland Manor development in the area, combined with trips generated by the proposed consolidation would require some mitigation measures.

Recommended mitigation measures include:

SILVER HILL ROAD (MD 458) AND BRANCH AVENUE (MD 5)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND OLD SILVER HILL ROAD/ST BARNABAS ROAD (MD 414)

- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND SUTTLAND PARKWAY

- Modification of the eastbound Silver Hill Road (MD 458) approach over Suitland Parkway from three lanes to two. This would permit the eastbound Suitland Parkway Off-Ramp to eastbound Silver Hill Road (MD 458) to change from stop controlled to a free movement with a weave on the overpass.

SILVER HILL ROAD (MD 458) AND SWANN ROAD

- A separate westbound Silver Hill Road (MD 458) 200 foot right-turn lane would be added.
- The two approach lanes on southbound Swann Road exiting the Campus would change to three with a left-turn lane, a shared left/through/right lane, and a right-turn lane.
- Modified the northbound/southbound Swann Road signal phase to split phasing to accommodate the new lane configuration departing the Campus.
- Signal timing optimization in both the AM and PM peak hours.

SILVER HILL ROAD (MD 458) AND BROOKS DRIVE

- Signal timing optimization in the AM peak hour.

SUTTLAND ROAD (MD 218) AND DRIVEWAYS 3 AND 4

- Driveway 4 would be closed off or modified to be right-in, right-out only. Traffic would be redirected to Driveway 3, and Driveway 3 would be signalized. Driveway 3 currently aligns with an internal circulation roadway. Thus, it was selected to remain. Driveway 3 would be signalized.

SUTLAND ROAD (MD 218) AND HOMER AVENUE

- The westbound Homer Avenue shared left/right lane would be modified to two exclusive separate turn lanes

In addition to the above mitigation measures, it is also recommended that all agencies on the Campus engage in a TMP that outlines TDM strategies to reduce single-occupancy vehicle trips. A TMP document has been prepared for the Campus that provides a variety policy, service, and infrastructure strategies, which are anticipated to reduce single-occupancy vehicle trips to and from the Campus, which would help to the impacts to surrounding transportation network. No credit has been applied in this study for that anticipated reduction. Therefore, this study should be considered conservative as it is likely that traffic impacts will be less than is predicted.

Furthermore, this study was conducted utilizing data that was collected prior to the COVID-19 pandemic. COVID-19 has significantly changed commute patterns, and it is anticipated that these changes will have a long-term impact, even after the pandemic is over, that may include an increased number of employees working from home, as well as a reluctance for people to use mass transit or ride in carpool or vanpool vehicles. Therefore, it is recommended that the intersections identified as requiring mitigation be re-evaluated in the future to determine if the mitigation recommendations are still applicable.

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REFERENCES

Institute of Transportation Engineers (ITE)

2017 *Trip Generation, 10th Edition*, Washington, DC.

Maryland-National Capital Park and Planning Commission

2015 *Traffic Impact Analysis in Support of Preliminary Plan Application for Suitland Manor Mixed-Use Development*. September 2015

Maryland Department of Transportation State Highway Administration

2020 *Internet Traffic Monitoring System (I-TMS)*. April 2020

U.S. General Services Administration

2015 *Suitland Federal Center Charrette White Paper*. January 2015

2013 *Suitland Federal Center Streetscape and Transportation Study*. February 2013

2015 *Suitland Federal Center Transportation Management Plan*. May 2015.

Appendix A: Exhibits