McMAHON
a Bowman company

Appendix for Traffic Impact Study

Paragon Dunes Mixed-Use Development

197 Nantasket Avenue
Hull, MA

Prepared by
McMahon, a Bowman Company
120 Water Street
4th Floor
Boston, MA 02109

Prepared for
Procopio Enterprises, Inc.

October 2023

APPENDIX A

Traffic Count Data

Hull, MA 02045

Weekday TMC including bikes, pedestrians, and heavy vehicles during the weekday morning (7-9 AM), weekday afternoon (4-6 PM), and Saturday midday (11AM-2PM) periods at the following locations:

1. George Washington Boulevard at Rockland Circle
2. Parking lot driveway on Rockland Circle (turns in/out only)
3. Parking lot driveway on George Washington Boulevard (exiting volume only)

Map Credit: Google.com

BOSTON TRAFFIC DATA	BTD ID: 1057_2_MM	Hull, MA	# of TMC's: 03	Client: McMahon Associates, Inc.
		Collected on October 27 to 29, 2022	# of ATR's: 01	Contact: Emil Gruber, EIT Project Engineer

Hull, MA 02045

72-hour Thursday to Saturday ATR including volume, class, and speed on George Washington Boulevard south of the parking lot driveway.

N

Map Credit: Google.com

BOSTON TRAFFIC DATA	BTD ID: 1057_2_MM	Hull, MA	# of TMC's: 03	Client: McMahon Associates, Inc.
		Collected on October 27 to 29, 2022	# of ATR's: 01	Contact: Emil Gruber, EIT Project Engineer

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	49	12	0	1	137	0	0	0	0	0	0	7	0	7
7:15 AM	0	0	55	4	0	3	130	0	0	0	0	0	0	11	0	5
7:30 AM	0	0	78	4	0	3	127	0	0	0	0	0	0	10	0	3
7:45 AM	0	0	84	10	0	3	123	0	0	0	0	0	0	14	0	4
8:00 AM	0	0	77	9	0	3	130	0	0	0	0	0	0	12	0	5
8:15 AM	0	0	72	8	0	4	142	0	0	0	0	0	0	9	0	10
8:30 AM	0	0	65	13	0	3	115	0	0	0	0	0	0	11	0	5
8:45 AM	0	0	74	9	0	10	103	0	0	0	0	0	0	10	0	4

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	131	18	0	10	124	0	0	0	0	0	0	10	0	7
4:15 PM	0	0	145	30	0	6	112	0	0	0	0	0	0	8	0	5
4:30 PM	0	0	115	23	0	7	88	0	0	0	0	0	0	14	0	8
4:45 PM	0	0	127	11	0	4	113	0	0	0	0	0	0	7	0	8
5:00 PM	0	0	132	14	1	4	89	0	0	0	0	0	0	4	0	0
5:15 PM	0	0	156	18	0	6	97	0	0	0	0	0	0	13	0	8
5:30 PM	0	0	138	17	0	8	93	0	0	0	0	0	0	8	0	8
5:45 PM	0	0	116	12	0	6	87	0	0	0	0	0	0	14	0	8

AM PEAK HOUR 7:30 AM to 8:30 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**311**	**31**	**0**	**13**	**522**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**22**
PHF	**0.91**				**0.92**				**0.00**				**0.88**			
HV %	**0.0%**	**0.0%**	**4.5%**	**6.5%**	**0.0%**	**7.7%**	**1.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.5%**

PM PEAK HOUR 4:00 PM to 5:00 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**518**	**82**	**0**	**27**	**437**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**28**
PHF	**0.86**				**0.87**				**0.00**				**0.76**			
HV %	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**2.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.6%**	**0.0%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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www.BostonTrafficData.com

HEAVY VEHICLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	6	0	0	1	5	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	8	1	0	0	3	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0
4:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:00 AM to 9:00 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**20**	**1**	**0**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
PHF	**0.58**				**0.58**				**0.00**				**0.25**			

PM PEAK HOUR 4:15 PM to 5:15 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**2**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
PHF	**0.50**				**1.00**				**0.00**				**0.25**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	103	8	1	6	132	0	0	0	0	0	0	12	0	7
11:15 AM	0	0	96	15	0	5	136	0	0	0	0	0	0	10	0	4
11:30 AM	0	0	128	13	1	10	117	0	0	0	0	0	0	18	0	9
11:45 AM	0	0	121	18	0	9	116	0	0	0	0	0	0	13	0	7
12:00 PM	0	0	97	13	0	6	114	0	0	0	0	0	0	8	0	7
12:15 PM	0	0	81	22	0	5	139	0	0	0	0	0	0	10	0	3
12:30 PM	0	0	120	17	0	8	125	0	0	0	0	0	0	15	0	7
12:45 PM	0	0	118	14	0	8	97	0	0	0	0	0	0	11	0	6
1:00 PM	0	0	123	17	0	11	135	0	0	0	0	0	0	16	0	2
1:15 PM	0	0	115	27	0	8	117	0	0	0	0	0	0	13	0	7
1:30 PM	0	0	124	14	0	8	128	0	0	0	0	0	0	9	0	9
1:45 PM	0	0	123	26	0	10	82	0	0	0	0	0	0	7	0	6

MID PEAK HOUR 12:30 PM to 1:30 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**476**	**75**	**0**	**35**	**474**	**0**	**0**	**0**	**0**	**0**	**0**	**55**	**0**	**22**
PHF	**0.97**				**0.87**				**0.00**				**0.88**			
HV %	**0.0%**	**0.0%**	**1.3%**	**1.3%**	**0.0%**	**0.0%**	**1.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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HEAVY VEHICLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	1	0	0	4	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	4	2	0	0	1	0	0	0	0	0	0	1	0	0
11:45 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	2	1	0	0	4	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
11:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:30 PM	**0**	**0**	**12**	**2**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
PHF	**0.58**				**0.50**				**0.00**				**0.50**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 1
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Rockland Circle
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:30 PM to 1:30 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	13	0	0	0	14	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	16	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	12	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	13	0	0	0	18	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	10	0	0	0	16	1
8:15 AM	0	0	0	0	0	0	0	1	0	0	13	0	0	0	16	0
8:30 AM	0	0	0	0	0	0	0	0	0	1	15	0	0	0	16	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	17	0	0	0	12	0

	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	28	0	0	0	17	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	34	0	0	0	13	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	29	0	0	0	22	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	14	0	0	0	11	1
5:00 PM	0	0	0	0	0	1	0	0	0	1	17	0	0	0	4	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	24	0	0	0	21	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	25	0	0	0	19	0
5:45 PM	0	0	0	0	0	0	0	0	0	2	15	0	0	0	18	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**51**	**0**	**0**	**0**	**66**	**1**
PHF	**0.00**				**0.25**				**0.83**				**0.93**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**105**	**0**	**0**	**0**	**63**	**3**
PHF	**0.00**				**0.25**				**0.76**				**0.75**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.6%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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HEAVY VEHICLES

	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.00**				**0.75**				**0.00**			

PM PEAK HOUR 4:30 PM to 5:30 PM	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**
PHF	**0.00**				**0.00**				**0.38**				**0.25**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 7:45 AM to 8:45 AM	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	Parking lot driveway Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	0	0	0	0	14	0	0	0	22	0
11:15 AM	0	0	0	0	0	0	0	0	0	1	20	0	0	0	11	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	23	0	0	0	26	2
11:45 AM	0	0	0	0	0	2	0	0	0	2	21	0	0	0	17	1
12:00 PM	0	0	0	0	0	0	0	0	0	1	19	0	0	0	15	1
12:15 PM	0	0	0	0	0	0	0	1	0	2	23	0	0	0	11	0
12:30 PM	0	0	0	0	0	0	0	0	0	3	19	0	0	0	21	0
12:45 PM	0	0	0	0	0	0	0	0	0	4	16	0	0	0	18	0
1:00 PM	0	0	0	0	0	0	0	0	0	1	27	0	0	0	16	0
1:15 PM	0	0	0	0	0	0	0	0	0	1	32	0	0	0	17	1
1:30 PM	0	0	0	0	0	0	0	0	0	1	20	0	0	0	19	0
1:45 PM	0	0	0	0	0	1	0	1	0	2	31	0	0	0	11	3

MID PEAK HOUR	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
1:00 PM to 2:00 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**5**	**110**	**0**	**0**	**0**	**63**	**4**
PHF	**0.00**				**0.25**				**0.87**				**0.88**			
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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HEAVY VEHICLES

	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
11:00 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**
PHF	**0.00**				**0.00**				**0.38**				**0.50**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 2
Location:	Hull, MA
Street 1:	Rockland Circle
Street 2:	Parking lot driveway
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

MID PEAK HOUR 1:00 PM to 2:00 PM	Northbound				Parking lot driveway Southbound				Rockland Circle Eastbound				Rockland Circle Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	54	0	0	0	138	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	62	0	0	0	134	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	75	0	0	0	134	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	94	0	0	0	126	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	81	0	0	0	133	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	83	0	0	0	147	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	70	0	0	0	124	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	76	0	0	0	114	0	0	0	0	0	0	0	0	0

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	140	0	0	0	138	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	152	0	0	0	118	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	122	0	0	0	96	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	138	0	0	0	118	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	134	0	0	0	93	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	161	0	0	0	101	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	148	0	0	0	104	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	125	0	0	0	92	0	0	0	0	0	0	0	0	2

AM PEAK HOUR 7:30 AM to 8:30 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**333**	**0**	**0**	**0**	**540**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.89**				**0.92**				**0.00**				**0.00**			
HV %	**0.0%**	**0.0%**	**5.1%**	**0.0%**	**0.0%**	**0.0%**	**2.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR 4:00 PM to 5:00 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**552**	**0**	**0**	**0**	**470**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
PHF	**0.91**				**0.85**				**0.00**				**0.00**			
HV %	**0.0%**	**0.0%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**1.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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HEAVY VEHICLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**21**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.50**				**0.00**				**0.00**			

PM PEAK HOUR 4:00 PM to 5:00 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.38**				**0.67**				**0.00**				**0.00**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/27/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

AM PEAK HOUR[1] 7:30 AM to 8:30 AM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

PM PEAK HOUR[1] 4:00 PM to 5:00 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PASSENGER CARS & HEAVY VEHICLES COMBINED

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	110	0	0	0	143	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	100	0	0	0	139	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	135	0	0	0	134	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	130	0	0	0	130	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	106	0	0	0	112	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	84	0	0	0	147	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	120	0	0	0	129	0	0	0	0	0	0	1	0	0
12:45 PM	0	0	135	0	0	0	106	0	0	0	0	0	0	1	0	0
1:00 PM	0	0	115	0	0	0	142	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	125	0	0	0	132	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	140	0	0	0	130	0	0	0	0	0	0	1	0	0
1:45 PM	0	0	124	0	0	0	89	0	0	0	0	0	0	0	0	1

MID PEAK HOUR 12:45 PM to 1:45 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**515**	**0**	**0**	**0**	**510**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**
PHF	**0.92**				**0.90**				**0.00**				**0.50**			
HV %	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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HEAVY VEHICLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
11:30 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:30 PM	**0**	**0**	**11**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.92**				**0.50**				**0.00**				**0.00**			

Client:	Emil Gruber, EIT
Project #:	1057_2_MM
BTD #:	Location 3
Location:	Hull, MA
Street 1:	George Washington Boulevard
Street 2:	Parking lot driveway (Exit only)
Count Date:	10/29/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 50°F

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PEDESTRIANS & BICYCLES

	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3

MID PEAK HOUR 12:45 PM to 1:45 PM	George Washington Boulevard Northbound				George Washington Boulevard Southbound				Eastbound				Parking lot driveway (Exit only) Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	1

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Classification Report

Job # 1057_2_MM_ATR A1
Area Hull, MA
Location George Washington Boulevard NB, south of parking lot driveway
Direction Northbound
Thursday, October 27, 2022

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Time	Total	Class 1 Motorcycle	Class 2 Passenger Car	Class 3 Vans, Pick up Trucks	Class 4 Bus	Class 5 2 Axle 6 Tires	Class 6 3 Axle Unit	Class 7 4 Axles or more Unit	Class 8 3 or 4 Axle Trailer	Class 9 5 Axle Trailer	Class 10 6 Axle or more Trailer	Class 11 5 Axle or less Multi-Trailer	Class 12 6 Axle Multi-Trailer	Class 13 7 Axle or more Multi-Trailer
0000	35	0	32	3	0	0	0	0	0	0	0	0	0	0
0100	15	1	13	1	0	0	0	0	0	0	0	0	0	0
0200	8	0	6	1	0	1	0	0	0	0	0	0	0	0
0300	19	0	17	1	0	1	0	0	0	0	0	0	0	0
0400	14	0	13	0	0	0	1	0	0	0	0	0	0	0
0500	42	0	35	6	0	1	0	0	0	0	0	0	0	0
0600	150	0	115	27	1	2	4	1	0	0	0	0	0	0
0700	273	0	225	41	1	2	3	1	0	0	0	0	0	0
0800	305	1	249	45	5	4	0	0	1	0	0	0	0	0
0900	278	1	225	43	1	4	3	1	0	0	0	0	0	0
1000	302	2	248	39	3	5	3	2	0	0	0	0	0	0
1100	407	1	348	48	1	3	3	2	1	0	0	0	0	0
1200	397	0	350	39	2	0	4	2	0	0	0	0	0	0
1300	382	0	327	50	1	0	3	0	1	0	0	0	0	0
1400	448	1	382	56	2	2	1	2	2	0	0	0	0	0
1500	557	1	482	61	2	1	1	4	5	0	0	0	0	0
1600	521	4	448	60	0	1	1	6	1	0	0	0	0	0
1700	532	2	480	45	1	1	0	2	1	0	0	0	0	0
1800	449	1	404	39	1	1	0	3	0	0	0	0	0	0
1900	365	0	330	32	0	1	0	2	0	0	0	0	0	0
2000	294	0	269	23	0	0	1	1	0	0	0	0	0	0
2100	198	1	178	18	0	1	0	0	0	0	0	0	0	0
2200	130	0	115	15	0	0	0	0	0	0	0	0	0	0
2300	88	0	82	6	0	0	0	0	0	0	0	0	0	0
Total	**6209**	**16**	**5373**	**699**	**21**	**31**	**28**	**29**	**12**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.26%**	**86.54%**	**11.26%**	**0.34%**	**0.50%**	**0.45%**	**0.47%**	**0.19%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Speed Report

Job 1057_2_MM_ATR A1
Area Hull, MA
Location George Washington Boulevard NB, south of parking lot driveway
Dir Northbound
Thursday, October 27, 2022

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Time	Total	Speed Bins (mph)															
		0 5	5 10	10 15	15 20	20 25	25 30	30 35	35 40	40 45	45 50	50 55	55 60	60 65	65 70	70 75	75 80
0000	35	0	0	0	0	0	5	14	14	2	0	0	0	0	0	0	0
0100	15	0	0	0	0	0	1	7	5	2	0	0	0	0	0	0	0
0200	8	0	0	0	0	0	2	2	3	1	0	0	0	0	0	0	0
0300	19	0	0	0	0	0	5	8	4	2	0	0	0	0	0	0	0
0400	14	0	0	0	0	0	1	8	4	1	0	0	0	0	0	0	0
0500	42	0	0	0	0	0	6	24	7	5	0	0	0	0	0	0	0
0600	150	0	0	0	0	1	36	72	36	5	0	0	0	0	0	0	0
0700	273	0	0	0	0	1	42	121	90	18	1	0	0	0	0	0	0
0800	305	0	0	0	2	3	43	143	86	28	0	0	0	0	0	0	0
0900	278	0	0	0	0	5	54	123	77	18	1	0	0	0	0	0	0
1000	302	0	0	0	0	3	49	144	83	22	1	0	0	0	0	0	0
1100	407	0	0	0	0	2	52	206	121	23	3	0	0	0	0	0	0
1200	397	0	0	0	0	2	79	167	125	23	1	0	0	0	0	0	0
1300	382	0	0	0	0	4	75	181	112	9	1	0	0	0	0	0	0
1400	448	0	0	0	0	5	48	207	158	26	4	0	0	0	0	0	0
1500	557	0	0	0	0	2	56	252	205	39	3	0	0	0	0	0	0
1600	521	0	0	0	0	1	54	230	197	35	4	0	0	0	0	0	0
1700	532	0	0	0	0	2	53	258	187	29	2	1	0	0	0	0	0
1800	449	0	0	0	1	1	67	238	127	15	0	0	0	0	0	0	0
1900	365	0	0	0	0	4	32	187	124	17	1	0	0	0	0	0	0
2000	294	0	0	0	0	3	38	132	104	17	0	0	0	0	0	0	0
2100	198	0	0	0	0	3	21	92	69	13	0	0	0	0	0	0	0
2200	130	0	0	0	0	2	11	56	54	7	0	0	0	0	0	0	0
2300	88	0	0	0	0	0	9	40	35	4	0	0	0	0	0	0	0
Total	**6209**	**0**	**0**	**0**	**3**	**44**	**839**	**2912**	**2027**	**361**	**22**	**1**	**0**	**0**	**0**	**0**	**0**
	100.00%	**0.00%**	**0.00%**	**0.00%**	**0.05%**	**0.71%**	**13.51%**	**46.90%**	**32.65%**	**5.81%**	**0.35%**	**0.02%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Maximum = 50.8 mph, Minimum = 16.2 mph, Mean = 34.0 mph
85% Speed = 37.86 mph, 95% Speed = 40.38 mph, Median = 33.95 mph
10 mph Pace = 29 - 39, Number in Pace = 5082 (81.85%)

Volume Report

Job 1057_2_MM_ATR A1
Area Hull, MA
Location George Washington Boulevard NB, south of parking lot driveway

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Thursday, October 27, 2022

Time	Total		NB				Time	Total		NB			
0000	15		15		0		1200	103		103		0	
0015	5		5		0		1215	104		104		0	
0030	5		5		0		1230	96		96		0	
0045	10	35	10	35	0	0	1245	94	397	94	397	0	0
0100	4		4		0		1300	88		88		0	
0115	3		3		0		1315	107		107		0	
0130	5		5		0		1330	97		97		0	
0145	3	15	3	15	0	0	1345	90	382	90	382	0	0
0200	2		2		0		1400	107		107		0	
0215	4		4		0		1415	91		91		0	
0230	2		2		0		1430	125		125		0	
0245	0	8	0	8	0	0	1445	125	448	125	448	0	0
0300	5		5		0		1500	148		148		0	
0315	4		4		0		1515	128		128		0	
0330	6		6		0		1530	131		131		0	
0345	4	19	4	19	0	0	1545	150	557	150	557	0	0
0400	1		1		0		1600	134		134		0	
0415	1		1		0		1615	143		143		0	
0430	3		3		0		1630	112		112		0	
0445	9	14	9	14	0	0	1645	132	521	132	521	0	0
0500	5		5		0		1700	124		124		0	
0515	8		8		0		1715	149		149		0	
0530	10		10		0		1730	143		143		0	
0545	19	42	19	42	0	0	1745	116	532	116	532	0	0
0600	22		22		0		1800	124		124		0	
0615	30		30		0		1815	113		113		0	
0630	34		34		0		1830	98		98		0	
0645	64	150	64	150	0	0	1845	114	449	114	449	0	0
0700	52		52		0		1900	113		113		0	
0715	60		60		0		1915	103		103		0	
0730	77		77		0		1930	80		80		0	
0745	84	273	84	273	0	0	1945	69	365	69	365	0	0
0800	82		82		0		2000	69		69		0	
0815	79		79		0		2015	77		77		0	
0830	67		67		0		2030	83		83		0	
0845	77	305	77	305	0	0	2045	65	294	65	294	0	0
0900	67		67		0		2100	51		51		0	
0915	90		90		0		2115	56		56		0	
0930	53		53		0		2130	63		63		0	
0945	68	278	68	278	0	0	2145	28	198	28	198	0	0
1000	56		56		0		2200	47		47		0	
1015	88		88		0		2215	29		29		0	
1030	75		75		0		2230	32		32		0	
1045	83	302	83	302	0	0	2245	22	130	22	130	0	0
1100	90		90		0		2300	27		27		0	
1115	103		103		0		2315	24		24		0	
1130	93		93		0		2330	25		25		0	
1145	121	407	121	407	0	0	2345	12	88	12	88	0	0
							Total	**6209**		**6209**		**0**	

APPENDIX B

MassDOT Seasonal Factors

Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

Round off:
0-999 = 10
>1000 = 100

U = Urban
R = Rural

1 - Interstate
2 - Freeway and Expressway
3 - Other Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
7 - Local Road and Street

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113,1114,1116,2196,2197 and 2198.

10/3/2023

APPENDIX C

Crash Summary

CRASH ANALYSIS

Paragon Dunes Mixed-Use Development
Hull, MA

	George Washington Boulevard at Rockland Circle	Rockland Circle at Site Driveway	George Washington Boulevard at South Site Driveway	George Washington Boulevard at North Site Driveway
Year				
2016	3	0	0	0
2017	3	0	0	0
2018	1	0	0	0
2019	1	0	1	0
2020	0	0	0	0
Type				
Angle	0	0	0	0
Rear-end	3	0	1	0
Sideswipe	1	0	0	0
Head-on	1	0	0	0
Single Vehicle	3	0	0	0
Severity				
Property Damage	6	0	1	0
Personal Injury	2	0	0	0
Fatality	0	0	0	0
Weather				
Clear	8	0	0	0
Cloudy	0	0	0	0
Rain	0	0	0	0
Snow	0	0	0	0
Unknown	0	0	1	0
Road Surface				
Dry	8	0	1	0
Wet	0	0	0	0
Ice	0	0	0	0
Snow	0	0	0	0
Time				
7:00 AM to 9:00 AM	1	0	0	0
9:00 AM to 4:00 PM	4	0	1	0
4:00 PM to 6:00 PM	1	0	0	0
6:00 PM to 7:00 AM	2	0	0	0
Total	**8**	**0**	**1**	**0**
Crash Rate	0.29	0.00	0.04	0.00
State Average	0.78	0.57	0.57	0.57
District 5 Average	0.75	0.57	0.57	0.57

Source: MassDOT

APPENDIX D

Traffic Projection Model

TRAFFIC PROJECTION MODEL

Weekday Morning Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

Intersection	Dir.	Turn	2022 Counted Volumes	Seasonal Adjustment 1.02	Background Growth 2022-2023 0.5%	Volume Balancing	2023 Existing Volumes	Background Growth 2023-2030 0.5%	2030 No Build Volumes	New Residential PERCENT ENTER	New Residential ENTER	New Retail PERCENT ENTER	New Retail ENTER	New Residential PERCENT EXIT	New Residential EXIT	New Retail PERCENT EXIT	New Retail EXIT	Project Trips TOTAL	Pass-by Trips	2030 Build Volumes
George Washington Boulevard at	WB	L	0	0	0		0	0	0									0		0
Site Driveway		R	0	0	0		0	0	0					30%	11	30%	9	20		20
	NB	T	333	7	2		342	12	354									0		354
		R	0	0	0		0	0	0	35%	4							4		4
	SB	L	0	0	0		0	0	0	25%	2							2		2
		T	540	11	3		554	19	573	5%	1	30%	11					12		585
George Washington Boulevard at	WB	L	45	1	0		46	2	48					65%	23	65%	20	43		91
Rockland Circle		R	22	0	0		22	1	23									0		23
	NB	T	311	6	2	1	320	11	331	35%	4							4		335
		R	31	1	0		32	1	33	30%	3	65%	24					27		60
	SB	L	13	0	0		13	0	13	5%	1	30%	11					12		25
		T	522	10	3	6	541	19	560									0		560
Rockland Circle at	EB	L	1	0	0		1	0	1	35%	4	95%	35					39		40
Site Driveway		T	43	1	0		44	1	45									0		45
	WB	T	62	1	0	4	67	3	70									0		70
		R	1	0	0		1	0	1	5%	1	5%	2					3		4
	SB	L	0	0	0		0	0	0					5%	2	5%	1	3		3
		R	1	0	0		1	0	1					65%	23	65%	20	43		44

Peak Hour: 7:30 AM - 8:30 AM

TRAFFIC PROJECTION MODEL

Weekday Afternoon Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

Intersection	Dir.	Turn	2022 Counted Volumes	Seasonal Adjustment 1.02	Background Growth 2022-2023 0.5%	Volume Balancing	2023 Existing Volumes	Background Growth 2023-2030 0.5%	2030 No Build Volumes	New Residential PERCENT ENTER	New Residential ENTER	New Retail PERCENT ENTER	New Retail ENTER	New Residential PERCENT EXIT	New Residential EXIT	New Retail PERCENT EXIT	New Retail EXIT	Project Trips TOTAL	Pass-by Trips	2030 Build Volumes
George Washington Boulevard at	WB	L	0	0	0		0	0	0									0		0
Site Driveway		R	3	0	0		3	0	3					30%	6	30%	3	9	6	18
	NB	T	552	11	3		566	20	586									0	-6	580
		R	0	0	0		0	0	0	35%	11							11		11
	SB	L	0	0	0		0	0	0	25%	8							8		8
		T	470	9	2		481	17	498	5%	1	30%	8					9		507
George Washington Boulevard at	WB	L	39	1	0		40	1	41					65%	13	65%	7	20	6	67
Rockland Circle		R	28	1	0		29	1	30									0		30
	NB	T	518	10	3	6	537	19	556	35%	11							11	-6	561
		R	82	2	0		84	3	87	30%	10	65%	16					26	6	119
	SB	L	27	1	0		28	1	29	5%	1	30%	8					9	6	44
		T	437	9	2	5	453	16	469									0	-6	463
Rockland Circle at	EB	L	2	0	0		2	0	2	35%	11	95%	24					35	13	50
Site Driveway		T	105	2	0	3	110	4	114									0	-1	113
	WB	T	63	1	0	4	68	2	70									0	-1	69
		R	3	0	0		3	0	3	5%	2	5%	1					3	1	7
	SB	L	0	0	0		0	0	0					5%	1	5%	1	2	1	3
		R	1	0	0		1	0	1					65%	13	65%	7	20	7	28

Peak Hour: 4:00 PM - 5:00 PM

TRAFFIC PROJECTION MODEL

Saturday Midday Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

Intersection	Dir.	Turn	2022 Counted Volumes	Seasonal Adjustment 1.02	Background Growth 2022-2023 0.5%	Volume Balancing	2023 Existing Volumes	Background Growth 2023-2030 0.5%	2030 No Build Volumes	New Residential PERCENT ENTER	New Residential ENTER	New Retail PERCENT ENTER	New Retail ENTER	New Residential PERCENT EXIT	New Residential EXIT	New Retail PERCENT EXIT	New Retail EXIT	Project Trips TOTAL	Pass-by Trips	2030 Build Volumes
George Washington Boulevard at	WB	L	2	0	0		2	0	2									0		0
Site Driveway		R	0	0	0		0	0	0					30%	8	30%	6	14	7	21
	NB	T	495	10	2	3	510	18	528									0	-7	521
		R	0	0	0		0	0	0	35%	9							9		9
	SB	L	0	0	0		0	0	0	25%	7							7		7
		T	509	10	2		521	18	539	5%	1	30%	7					8		547
George Washington Boulevard at	WB	L	55	1	0		56	2	58					65%	17	65%	14	31	7	98
Rockland Circle		R	22	0	0		22	1	23									0		23
	NB	T	476	10	2		488	17	505	35%	9							9	-7	507
		R	75	2	0		77	3	80	30%	8	65%	15					23	7	110
	SB	L	35	1	0		36	1	37	5%	1	30%	7					8	7	52
		T	474	9	2	2	487	17	504									0	-7	495
Rockland Circle at	EB	L	9	0	0		9	0	9	35%	9	95%	22					31	16	56
Site Driveway		T	94	2	0	8	104	4	108									0	-2	106
	WB	T	72	1	0	5	78	3	81									0	-1	80
		R	1	0	0		1	0	1	5%	2	5%	1					3	1	5
	SB	L	0	0	0		0	0	0					5%	1	5%	1	2	2	4
		R	0	0	0		0	0	0					65%	17	65%	14	31	8	41

Peak Hour: 12:30 PM - 1:30 PM

APPENDIX E

Journey-to-Work Data

JOURNEY-TO-WORK DATA

Paragon Dunes Mixed-Use Development

Hull, Massachusetts

#	Location of Work of Hull Residents	Number of Workers	Percent	Assigned Route(s)	
1	Boston city	1,180	27.8%	George Washington Blvd N	George Washington Blvd S
2	Hull town	998	23.5%	George Washington Blvd N	George Washington Blvd S
3	Hingham town	694	16.4%	George Washington Blvd S	
4	Quincy city	299	7.1%	George Washington Blvd S	
5	Weymouth Town city	276	6.5%	George Washington Blvd S	
6	Norwell town	216	5.1%	George Washington Blvd N	George Washington Blvd S
7	Cohasset town	203	4.8%	George Washington Blvd N	Rockland Cir E
8	Braintree Town city	144	3.4%	George Washington Blvd S	
9	Plymouth town	120	2.8%	George Washington Blvd N	George Washington Blvd S
10	Cambridge city	110	2.6%	George Washington Blvd N	George Washington Blvd S
	Total	**4,240**	**100.0%**		

Trip Distribution	% Of Total Workers	Trips Assigned
George Washington Blvd N	32.5%	30%
George Washington Blvd S	65.1%	65%
Rockland Cir E	2.4%	5%
Total	**100.0%**	**100%**

APPENDIX F

Highway Capacity Manual Methodologies

CAPACITY/LEVEL-OF-SERVICE ANALYSES METHODOLOGY

The detailed capacity/level-of-service analysis contained in this traffic impact study was performed in accordance with the standard techniques contained in the *Highway Capacity Manual*.(1) By definition, capacity represents "the maximum rate of flow that can reasonably be expected to pass a point on a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions." The level of functioning of an intersection or a uniform section of a lane or roadway can be expressed in terms of levels of service. Level of service (LOS) is defined as "a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers". Such measures include "speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety."

At unsignalized intersections, a methodology for evaluating the relative functioning of intersections controlled by stop or yield signs has been developed, and is based on several assumptions, including:

- Major street flows are not affected by the minor (stop-sign controlled) street movements.
- Left turns from the major street to the minor street are influenced only by opposing major street through flow.
- Minor street left turns are impeded by all major street traffic plus opposing minor street traffic.
- Minor street through traffic is impeded by all major street traffic.
- Minor street right turns are impeded only by the major street traffic coming from the left.

The concept of stop-controlled or yield-controlled intersection analysis is based on the estimate of average total delay on minor streets. The methodology of analysis relies on three elements: the size and distribution of gaps in the major traffic stream, the usefulness of these gaps to the minor stream drivers, and the relative priority of the various traffic streams at the intersection. The results of the analysis provide an estimate of average total delay for the various critical movements at the unsignalized intersections. Correlation between average total delay and the respective levels of service are provided for unsignalized intersections as follows:

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(1) *Transportation Research Board, Highway Capacity Manual, 6th Edition, published by the Transportation Research Board, Washington, DC, 2016.*

Unsignalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	> 50

At signalized intersections, an additional element must be considered: time allocation. Level of service is based on the average control delay per vehicle for various movements within the intersection. Volume/capacity relationships also affect the operations of signalized intersections. Thus, both volume/capacity and delay must be considered to evaluate the overall operation of a signalized intersection. Correlation between average delay per vehicle and the respective levels of service are provided for signalized intersections as follows:

Signalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	$\leq$ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	> 80

APPENDIX G

2023 Existing Capacity/Level-of-Service Analysis

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	22	320	32	13	541
Future Volume (vph)	46	22	320	32	13	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1728	0	3387	0	1671	3539
Flt Permitted	0.967				0.523	
Satd. Flow (perm)	1728	0	3387	0	920	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	25		17			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.91	0.91	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	5%	6%	8%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	0	387	0	14	588
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	8.7		40.3		50.4	55.4
Actuated g/C Ratio	0.13		0.58		0.73	0.80
v/c Ratio	0.32		0.20		0.02	0.21
Control Delay	25.0		7.6		2.6	2.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	25.0		7.6		2.6	2.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	25.0		7.6			2.6
Approach LOS	C		A			A
Queue Length 50th (ft)	21		37		1	28
Queue Length 95th (ft)	57		64		5	50
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	521		1982		758	2835
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.20		0.02	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	342	0	0	554
Future Vol, veh/h	0	0	342	0	0	554
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	89	92	92
Heavy Vehicles, %	2	2	5	0	0	2
Mvmt Flow	0	0	384	0	0	602

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	685	194	0	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	382	815	-	0	0	-
Stage 1	658	-	-	0	0	-
Stage 2	725	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	382	813	-	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	44	67	1	0	1
Future Vol, veh/h	1	44	67	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	88	88	25	25
Heavy Vehicles, %	0	7	0	0	2	0
Mvmt Flow	1	52	76	1	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	131	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1535	-	-	-	863	990
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	969	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1535	-	-	-	862	990
Mov Cap-2 Maneuver	-	-	-	-	862	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	8.7
HCM LOS			A

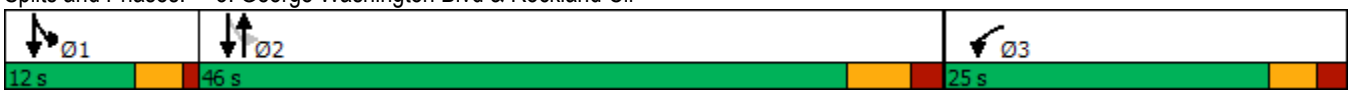
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	990
HCM Lane V/C Ratio	0.001	-	-	-	0.004
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	29	537	84	28	453
Future Volume (vph)	40	29	537	84	28	453
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1713	0	3507	0	1805	3539
Flt Permitted	0.972				0.358	
Satd. Flow (perm)	1713	0	3507	0	680	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	38		29			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.76	0.76	0.86	0.86	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	1%	0%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	0	722	0	32	521
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	8.8		40.3		50.4	55.4
Actuated g/C Ratio	0.13		0.58		0.73	0.80
v/c Ratio	0.36		0.35		0.05	0.18
Control Delay	23.2		8.7		2.8	2.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	23.2		8.7		2.8	2.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	23.2		8.7			2.6
Approach LOS	C		A			A
Queue Length 50th (ft)	22		78		3	24
Queue Length 95th (ft)	48		116		9	43
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	525		2054		626	2831
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.17		0.35		0.05	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.2			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	566	0	0	481
Future Vol, veh/h	0	3	566	0	0	481
Conflicting Peds, #/hr	0	1	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	91	91	85	85
Heavy Vehicles, %	0	0	1	2	2	2
Mvmt Flow	0	8	622	0	0	566

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	905	312	0	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	280	690	-	0	0	-
Stage 1	503	-	-	0	0	-
Stage 2	746	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	280	689	-	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	689	-
HCM Lane V/C Ratio	-	0.011	-
HCM Control Delay (s)	-	10.3	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	110	68	3	0	1
Future Vol, veh/h	2	110	68	3	0	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	75	75	25	25
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	3	145	91	4	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	97	0	-	0	246	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1509	-	-	-	747	967
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	882	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	743	965
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	8.7
HCM LOS			A

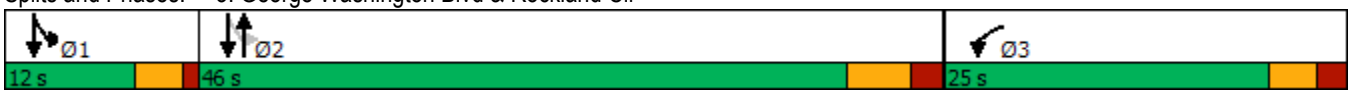
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	965
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	22	488	77	36	487
Future Volume (vph)	56	22	488	77	36	487
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1764	0	3493	0	1805	3539
Flt Permitted	0.965				0.431	
Satd. Flow (perm)	1764	0	3493	0	819	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	22		29			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.88	0.88	0.97	0.97	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	582	0	41	560
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	9.0		40.3		50.4	55.4
Actuated g/C Ratio	0.13		0.58		0.73	0.80
v/c Ratio	0.36		0.29		0.06	0.20
Control Delay	27.3		8.2		2.9	2.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	27.3		8.2		2.9	2.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	27.3		8.2			2.7
Approach LOS	C		A			A
Queue Length 50th (ft)	28		60		3	27
Queue Length 95th (ft)	65		98		11	48
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	528		2041		709	2824
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.17		0.29		0.06	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.4			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	510	0	0	521
Future Vol, veh/h	2	0	510	0	0	521
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	92	92	90	90
Heavy Vehicles, %	0	2	1	2	2	2
Mvmt Flow	4	0	554	0	0	579

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	844	277	0	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.8	6.94	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.32	-	-	-	-
Pot Cap-1 Maneuver	306	720	-	0	0	-
Stage 1	545	-	-	0	0	-
Stage 2	740	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	306	720	-	-	-	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	545	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	306	-
HCM Lane V/C Ratio	-	0.013	-
HCM Control Delay (s)	-	16.9	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	104	78	1	0	0
Future Vol, veh/h	9	104	78	1	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	87	87	92	92
Heavy Vehicles, %	0	1	0	0	2	2
Mvmt Flow	12	133	90	1	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	92	0	-	0	249	92
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.1	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1515	-	-	-	739	965
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1514	-	-	-	731	964
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1514	-	-	-	-
HCM Lane V/C Ratio	0.008	-	-	-	-
HCM Control Delay (s)	7.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

APPENDIX H

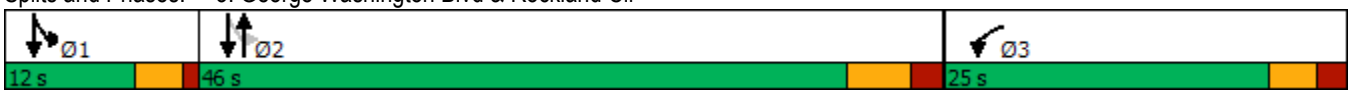
2030 No Build Capacity/Level-of-Service Analysis

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	48	23	331	33	13	560
Future Volume (vph)	48	23	331	33	13	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1728	0	3387	0	1671	3539
Flt Permitted	0.967				0.518	
Satd. Flow (perm)	1728	0	3387	0	911	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	25		18			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	5%	6%	8%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	0	396	0	14	609
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	8.7		40.3		50.4	55.4
Actuated g/C Ratio	0.13		0.58		0.73	0.80
v/c Ratio	0.32		0.20		0.02	0.21
Control Delay	25.0		7.6		2.6	2.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	25.0		7.6		2.6	2.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	25.0		7.6			2.7
Approach LOS	C		A			A
Queue Length 50th (ft)	21		38		1	29
Queue Length 95th (ft)	58		65		5	52
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	521		1983		753	2835
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.20		0.02	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	354	0	0	573
Future Vol, veh/h	0	0	354	0	0	573
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	0	0	2
Mvmt Flow	0	0	385	0	0	623

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	697	195	0	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	375	814	-	0	0	-
Stage 1	657	-	-	0	0	-
Stage 2	715	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	375	812	-	-	-	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	715	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	45	70	1	0	1
Future Vol, veh/h	1	45	70	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	7	0	0	2	0
Mvmt Flow	1	49	76	1	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	128	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	51	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1535	-	-	-	866	990
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1535	-	-	-	865	990
Mov Cap-2 Maneuver	-	-	-	-	865	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	8.6
HCM LOS			A

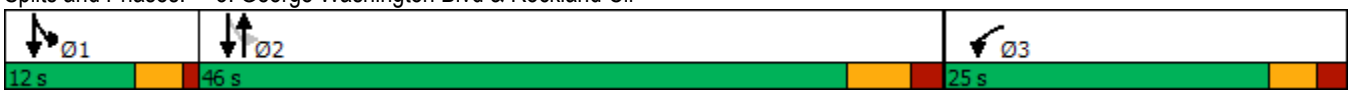
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	990
HCM Lane V/C Ratio	0.001	-	-	-	0.001
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	41	30	556	87	29	469
Future Volume (vph)	41	30	556	87	29	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1712	0	3507	0	1805	3539
Flt Permitted	0.972				0.370	
Satd. Flow (perm)	1712	0	3507	0	703	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	33		29			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	1%	0%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	699	0	32	510
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	8.6		40.3		50.4	55.3
Actuated g/C Ratio	0.12		0.58		0.73	0.80
v/c Ratio	0.32		0.34		0.05	0.18
Control Delay	22.7		8.4		2.7	2.5
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	22.7		8.4		2.7	2.5

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	22.7		8.4			2.5
Approach LOS	C		A			A
Queue Length 50th (ft)	18		75		3	24
Queue Length 95th (ft)	55		117		9	42
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	522		2059		642	2838
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.34		0.05	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 6.9		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	586	0	0	498
Future Vol, veh/h	0	3	586	0	0	498
Conflicting Peds, #/hr	0	1	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	2	2	2
Mvmt Flow	0	3	637	0	0	541

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	908	320	0	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	279	682	-	0	0	-
Stage 1	494	-	-	0	0	-
Stage 2	756	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	279	681	-	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	756	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	681	-
HCM Lane V/C Ratio	-	0.005	-
HCM Control Delay (s)	-	10.3	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	114	70	3	0	1
Future Vol, veh/h	2	114	70	3	0	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	2	124	76	3	0	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	208	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1529	-	-	-	785	986
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	781	984
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	8.7
HCM LOS			A

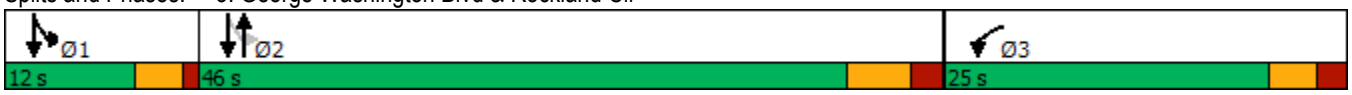
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	984
HCM Lane V/C Ratio	0.001	-	-	-	0.001
HCM Control Delay (s)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	58	23	505	80	37	504
Future Volume (vph)	58	23	505	80	37	504
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1764	0	3489	0	1805	3539
Flt Permitted	0.965				0.401	
Satd. Flow (perm)	1764	0	3489	0	762	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	23		29			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1080
Travel Time (s)	4.0		14.5			24.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	636	0	40	548
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	8.9		40.3		50.4	55.4
Actuated g/C Ratio	0.13		0.58		0.73	0.80
v/c Ratio	0.36		0.31		0.06	0.19
Control Delay	26.9		8.4		2.8	2.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	26.9		8.4		2.8	2.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	26.9		8.4			2.7
Approach LOS	C		A			A
Queue Length 50th (ft)	27		67		3	26
Queue Length 95th (ft)	66		108		11	48
Internal Link Dist (ft)	96		559			1000
Turn Bay Length (ft)					205	
Base Capacity (vph)	529		2041		675	2826
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.17		0.31		0.06	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.3			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	528	0	0	539
Future Vol, veh/h	2	0	528	0	0	539
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	2	2	2
Mvmt Flow	2	0	574	0	0	586

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	867	287	0	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.8	6.94	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.32	-	-	-	-
Pot Cap-1 Maneuver	296	710	-	0	0	-
Stage 1	532	-	-	0	0	-
Stage 2	737	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	296	710	-	-	-	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	296	-
HCM Lane V/C Ratio	-	0.007	-
HCM Control Delay (s)	-	17.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	108	81	1	0	0
Future Vol, veh/h	9	108	81	1	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	2	0
Mvmt Flow	10	117	88	1	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	90	0	-	0	227	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1518	-	-	-	761	973
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	754	972
Mov Cap-2 Maneuver	-	-	-	-	754	-
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	-
HCM Lane V/C Ratio	0.006	-	-	-	-
HCM Control Delay (s)	7.4	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

APPENDIX I

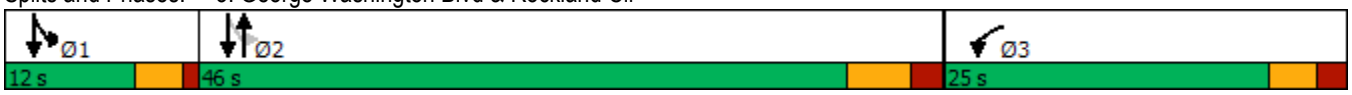
2030 Build Capacity/Level-of-Service Analysis

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	23	335	60	25	560
Future Volume (vph)	91	23	335	60	25	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1761	0	3354	0	1671	3539
Flt Permitted	0.962				0.502	
Satd. Flow (perm)	1761	0	3354	0	883	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	14		34			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1106
Travel Time (s)	4.0		14.5			25.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	5%	6%	8%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	429	0	27	609
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	10.3		40.4		50.5	55.6
Actuated g/C Ratio	0.15		0.57		0.71	0.79
v/c Ratio	0.46		0.22		0.04	0.22
Control Delay	31.5		8.2		3.3	3.3
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	31.5		8.2		3.3	3.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	31.5		8.2			3.3
Approach LOS	C		A			A
Queue Length 50th (ft)	47		44		2	34
Queue Length 95th (ft)	95		76		10	64
Internal Link Dist (ft)	96		559			1026
Turn Bay Length (ft)					205	
Base Capacity (vph)	512		1929		720	2777
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.24		0.22		0.04	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 70.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	354	4	2	585
Future Vol, veh/h	0	20	354	4	2	585
Conflicting Peds, #/hr	0	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	2	2	2
Mvmt Flow	0	22	385	4	2	636

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	709	197	0	0	389	0
Stage 1	387	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	369	811	-	-	1166	-
Stage 1	656	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	368	809	-	-	1166	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	809	1166	-
HCM Lane V/C Ratio	-	-	0.027	0.002	-
HCM Control Delay (s)	-	-	9.6	8.1	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	45	70	4	3	44
Future Vol, veh/h	40	45	70	4	3	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	7	0	2	2	2
Mvmt Flow	43	49	76	4	3	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	213	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1518	-	-	-	775	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	753	983
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	8.9
HCM LOS			A

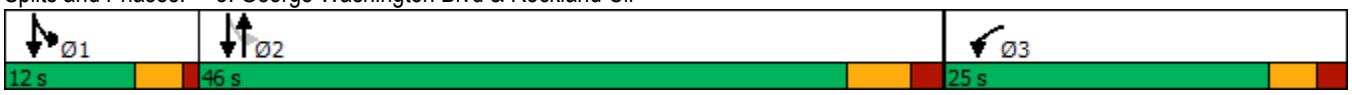
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1518	-	-	-	964
HCM Lane V/C Ratio	0.029	-	-	-	0.053
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	67	30	561	119	44	463
Future Volume (vph)	67	30	561	119	44	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1725	0	3487	0	1805	3539
Flt Permitted	0.967				0.349	
Satd. Flow (perm)	1725	0	3487	0	663	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	26		42			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1106
Travel Time (s)	4.0		14.5			25.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	1%	0%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	0	739	0	48	503
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	9.5		40.4		50.4	55.4
Actuated g/C Ratio	0.14		0.58		0.72	0.79
v/c Ratio	0.41		0.36		0.08	0.18
Control Delay	28.0		9.0		3.2	2.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	28.0		9.0		3.2	2.8

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	28.0		9.0			2.9
Approach LOS	C		A			A
Queue Length 50th (ft)	33		82		4	25
Queue Length 95th (ft)	77		132		13	48
Internal Link Dist (ft)	96		559			1026
Turn Bay Length (ft)					205	
Base Capacity (vph)	516		2030		610	2806
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.21		0.36		0.08	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 69.9			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	580	11	8	507
Future Vol, veh/h	0	18	580	11	8	507
Conflicting Peds, #/hr	0	1	0	7	7	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	0	20	630	12	9	551

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	937	329	0	0	649	0
Stage 1	643	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	263	667	-	-	933	-
Stage 1	485	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	257	662	-	-	927	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	662	927	-
HCM Lane V/C Ratio	-	-	0.03	0.009	-
HCM Control Delay (s)	-	-	10.6	8.9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	113	69	7	3	28
Future Vol, veh/h	50	113	69	7	3	28
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	2	2	2	2
Mvmt Flow	54	123	75	8	3	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	85	0	-	0	312	81
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	231	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1512	-	-	-	681	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1509	-	-	-	652	977
Mov Cap-2 Maneuver	-	-	-	-	652	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	805	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9
HCM LOS			A

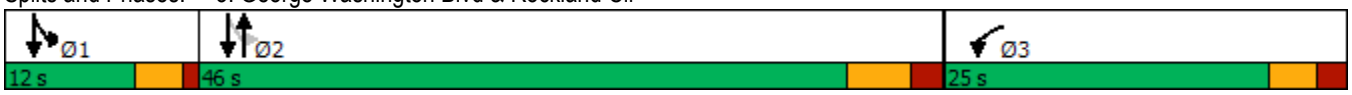
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1509	-	-	-	932
HCM Lane V/C Ratio	0.036	-	-	-	0.036
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	98	23	507	110	52	495
Future Volume (vph)	98	23	507	110	52	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	205	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				75	
Satd. Flow (prot)	1778	0	3465	0	1805	3539
Flt Permitted	0.961				0.380	
Satd. Flow (perm)	1778	0	3465	0	722	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	13		43			
Link Speed (mph)	30		30			30
Link Distance (ft)	176		639			1106
Travel Time (s)	4.0		14.5			25.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	132	0	671	0	57	538
Turn Type	Prot		NA		D.P+P	NA
Protected Phases	3		2		1	1 2
Permitted Phases					2	
Detector Phase	3		2		1	1 2
Switch Phase						
Minimum Initial (s)	8.0		40.0		8.0	
Minimum Split (s)	13.0		46.0		12.0	
Total Split (s)	25.0		46.0		12.0	
Total Split (%)	30.1%		55.4%		14.5%	
Yellow Time (s)	3.0		4.0		3.0	
All-Red Time (s)	2.0		2.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.0		6.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Recall Mode	None		None		None	
Act Effct Green (s)	10.6		40.4		50.5	55.5
Actuated g/C Ratio	0.15		0.57		0.71	0.78
v/c Ratio	0.48		0.34		0.09	0.19
Control Delay	32.0		9.2		3.6	3.3
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	32.0		9.2		3.6	3.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C		A		A	A
Approach Delay	32.0		9.2			3.3
Approach LOS	C		A			A
Queue Length 50th (ft)	50		76		5	31
Queue Length 95th (ft)	101		125		17	57
Internal Link Dist (ft)	96		559			1026
Turn Bay Length (ft)					205	
Base Capacity (vph)	515		1990		636	2767
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.26		0.34		0.09	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 71			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: George Washington Blvd & Rockland Cir



Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	521	9	7	547
Future Vol, veh/h	0	21	521	9	7	547
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	0	23	566	10	8	595

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	888	291	0	0	579	0
Stage 1	574	-	-	-	-	-
Stage 2	314	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	283	706	-	-	991	-
Stage 1	527	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	279	704	-	-	988	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	704	988	-
HCM Lane V/C Ratio	-	-	0.032	0.008	-
HCM Control Delay (s)	-	-	10.3	8.7	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	106	80	5	4	41
Future Vol, veh/h	56	106	80	5	4	41
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	2	2	2
Mvmt Flow	61	115	87	5	4	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	328	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1501	-	-	-	666	967
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1500	-	-	-	636	966
Mov Cap-2 Maneuver	-	-	-	-	636	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1500	-	-	-	923
HCM Lane V/C Ratio	0.041	-	-	-	0.053
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

APPENDIX J

Capacity/Level-of-Service Analysis Summary

CAPACITY ANALYSIS SUMMARY

Weekday Morning Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing			2030 No Build			2030 Build		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
George Washington Boulevard	WB	LR/R	n/a	n/a	n/a	n/a	n/a	n/a	A	9.6	0.03
at Site Driveway	NB	TR	n/a	n/a	n/a	n/a	n/a	n/a	A	0.0	0.00
	SB	LT	n/a	n/a	n/a	n/a	n/a	n/a	A	0.0	0.00
George Washington Boulevard	WB	LR	C	25.0	0.32	C	25.0	0.32	C	31.5	0.46
at Rockland Circle	NB	TR	A	7.6	0.20	A	7.6	0.20	A	8.2	0.22
	SB	L	A	2.6	0.02	A	2.6	0.02	A	3.3	0.04
		T	A	2.6	0.21	A	2.7	0.21	A	3.3	0.22
	Overall		*A*	*6.1*	*0.49*	*A*	*6.0*	*0.49*	*A*	*8.0*	*0.49*
Rockland Circle at	EB	LT	A	0.2	0.00	A	0.2	0.00	A	3.5	0.03
Site Driveway	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	LR	A	8.7	0.00	A	8.6	0.00	A	8.9	0.05

1 Level-of-Service
2 Average vehicle delay, in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall
n/a Not applicable

QUEUE SUMMARY

Weekday Morning Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing		2030 No Build		2030 Build	
Intersection	**Movement**		**50th Queue[1]**	**95th Queue[2]**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**
George Washington Boulevard	WB	LR/R	n/a	n/a	n/a	n/a	n/a	3
at Site Driveway	NB	TR	n/a	n/a	n/a	n/a	n/a	0
	SB	LT	n/a	n/a	n/a	n/a	n/a	0
George Washington Boulevard	WB	LR	21	57	21	58	47	95
at Rockland Circle	NB	TR	37	64	38	65	44	76
	SB	L	1	5	1	5	2	10
		T	28	50	29	52	34	64
Rockland Circle at	EB	LT	n/a	0	n/a	0	n/a	3
Site Driveway	WB	TR	n/a	0	n/a	0	n/a	0
	SB	LR	n/a	0	n/a	0	n/a	5

1 50th percentile queue length, in feet
2 95th percentile queue length, in feet
n/a Not applicable

CAPACITY ANALYSIS SUMMARY

Weekday Afternoon Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing			2030 No Build			2030 Build		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
George Washington Boulevard	WB	LR/R	B	10.3	0.01	B	10.3	0.01	B	10.6	0.03
at Site Driveway	NB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	LT	A	0.0	0.00	A	0.0	0.00	A	0.2	0.01
George Washington Boulevard	WB	LR	C	23.2	0.36	C	22.7	0.32	C	28.0	0.41
at Rockland Circle	NB	TR	A	8.7	0.35	A	8.4	0.34	A	9.0	0.36
	SB	L	A	2.8	0.05	A	2.7	0.05	A	3.2	0.08
		T	A	2.6	0.18	A	2.5	0.18	A	2.8	0.18
	Overall		*A*	*7.2*	*0.49*	*A*	*6.9*	*0.49*	*A*	*8.0*	*0.51*
Rockland Circle at	EB	LT	A	0.1	0.00	A	0.1	0.00	A	2.3	0.04
Site Driveway	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	LR	A	8.7	0.00	A	8.7	0.00	A	9.0	0.04

1 Level-of-Service
2 Average vehicle delay, in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall

QUEUE SUMMARY

Weekday Afternoon Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing		2030 No Build		2030 Build	
Intersection	**Movement**		**50th Queue[1]**	**95th Queue[2]**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**
George Washington Boulevard	WB	LR/R	n/a	0	n/a	0	n/a	3
at Site Driveway	NB	TR	n/a	0	n/a	0	n/a	0
	SB	LT	n/a	0	n/a	0	n/a	0
George Washington Boulevard	WB	LR	22	48	18	55	33	77
at Rockland Circle	NB	TR	78	116	75	117	82	132
	SB	L	3	9	3	9	4	13
		T	24	43	24	42	25	48
Rockland Circle at	EB	LT	n/a	0	n/a	0	n/a	3
Site Driveway	WB	TR	n/a	0	n/a	0	n/a	0
	SB	LR	n/a	0	n/a	0	n/a	3

1 50th percentile queue length, in feet
2 95th percentile queue length, in feet
n/a Not applicable

CAPACITY ANALYSIS SUMMARY

Saturday Midday Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing			2030 No Build			2030 Build		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
George Washington Boulevard	WB	LR/R	C	16.9	0.01	C	17.3	0.01	B	10.3	0.03
at Site Driveway	NB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	LT	A	0.0	0.00	A	0.0	0.00	A	0.2	0.01
George Washington Boulevard	WB	LR	C	27.3	0.36	C	26.9	0.36	C	32.0	0.48
at Rockland Circle	NB	TR	A	8.2	0.29	A	8.4	0.31	A	9.2	0.34
	SB	L	A	2.9	0.06	A	2.8	0.06	A	3.6	0.09
		T	A	2.7	0.20	A	2.7	0.19	A	3.3	0.19
	Overall		*A*	*6.9*	*0.49*	*A*	*7.1*	*0.49*	*A*	*8.9*	*0.58*
Rockland Circle at	EB	LT	A	0.6	0.01	A	0.6	0.01	A	2.6	0.04
Site Driveway	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	LR	n/a	n/a	n/a	n/a	n/a	n/a	A	9.1	0.05

1 Level-of-Service
2 Average vehicle delay, in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall
n/a Not applicable

QUEUE SUMMARY

Saturday Midday Peak Hour
Paragon Dunes Mixed-Use Development
Hull, MA

			2023 Existing		2030 No Build		2030 Build	
Intersection	**Movement**		**50th Queue[1]**	**95th Queue[2]**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**
George Washington Boulevard	WB	LR/R	n/a	0	n/a	0	n/a	3
at Site Driveway	NB	TR	n/a	0	n/a	0	n/a	0
	SB	LT	n/a	0	n/a	0	n/a	0
George Washington Boulevard	WB	LR	28	65	27	66	50	101
at Rockland Circle	NB	TR	60	98	67	108	76	125
	SB	L	3	11	3	11	5	17
		T	27	48	26	48	31	57
Rockland Circle at	EB	LT	n/a	n/a	n/a	n/a	n/a	3
Site Driveway	WB	TR	n/a	n/a	n/a	n/a	n/a	0
	SB	LR	n/a	n/a	n/a	n/a	n/a	5

1 50th percentile queue length, in feet
2 95th percentile queue length, in feet
n/a Not applicable