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## 2025 No-Build Eastbound Widening AM VISSIM MOEs

### Freeway Segment and Ramp MOEs

AM Peak Hour (8:00 AM - 9:00 AM)

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpf)
Northbound Route 28	Mainline south of Frying Pan Road	Basic	6,568	56	29.3
	Mainline south of Frying Pan Road	Diverge	6,562	51	28.7
	Between off-ramp to Frying Pan Road and on-ramp from Frying Pan Road	Basic	5,199	56	23.1
	Between on-ramp from Frying Pan Road and off-ramp to Route 267 EB/Dulles Airport	Weave	6,132	49	27.7
	Between off-ramp to Route 267 EB/Dulles Airport and on-ramp from Route 267 EB	Basic	4,512	56	20.1
	Between on-ramp from Route 267 EB and off-ramp to Route 267 WB	Weave	4,741	56	17.6
	Between off-ramp to Route 267 WB and on-ramp from Route 267 WB	Basic	4,602	57	20.2
	Between on-ramp from Route 267 WB and off-ramp to Innovation Ave	Weave	6,307	56	22.6
	Between off-ramp to Innovation Ave and on-ramp from Innovation Ave	Basic	6,192	57	21.7
	Between on-ramp from Innovation Ave and off-ramp to Route 606 EB	Weave	6,213	53	22.4
	Between off-ramp to Route 606 EB and on-ramp from Route 606 EB	Basic	5,907	54	27.0
	Between on-ramp from Route 606 EB and off-ramp to Route 606 WB	Weave	5,903	54	21.7
	Between off-ramp to Route 606 WB and on-ramp from Route 606 WB	Basic	5,210	56	23.0
	Between on-ramp from Route 606 WB and off-ramp to Sterling Blvd EB	Weave	5,721	56	20.5
	Between off-ramp to Sterling Blvd EB and off-ramp to Sterling Blvd WB	Diverge	4,922	50	24.9
	Between off-ramp to Sterling Blvd WB and on-ramp from Sterling Blvd	Basic	4,435	55	26.6
	Mainline north of Sterling Blvd	Basic	4,664	57	20.6
Southbound Route 28	Mainline north of Sterling Blvd	Basic	6,001	13	96.0
	Between off-ramp to Sterling Blvd and on-ramp from Sterling Blvd WB	Basic	5,548	13	106.5
	Between on-ramp from Sterling Blvd WB and on-ramp from Sterling Blvd EB	Basic	6,046	11	114.4
	Between on-ramp from Sterling Blvd EB and off-ramp to Route 606 WB	Weave	6,672	11	115.3
	Between off-ramp to Route 606 WB and on-ramp from Route 606 WB	Basic	6,548	16	99.7
	Between on-ramp from Route 606 WB and off-ramp to Route 606 EB	Weave	6,860	14	96.3
	Between off-ramp to Route 606 EB and on-ramp from Route 606 EB	Basic	6,719	18	90.0
	Between on-ramp from Route 606 EB and off-ramp to Innovation Ave	Weave	7,689	18	87.4
	Between off-ramp to Innovation Ave and on-ramp from Innovation Ave	Basic	7,619	35	54.1
	Between on-ramp from Innovation Ave and on-ramp from Route 267	Basic	7,625	26	59.8
	Between on-ramp from Route 267 and off-ramp to Dulles Airport	Weave	8,683	20	74.3
	Between off-ramp to Dulles Airport and off-ramp to Route 267 EB	Diverge	8,125	27	60.4
	Between off-ramp to Route 267 EB and on-ramp from Route 267 EB	Basic	6,318	54	28.8
	Between on-ramp from Route 267 EB and off-ramp to Frying Pan Road	Weave	6,749	56	24.1
	Between off-ramp to Frying Pan Road and on-ramp from Frying Pan Road	Basic	5,508	56	24.1
	Mainline south of Frying Pan Road	Merge	6,349	55	24.4
	Mainline south of Frying Pan Road	Basic	6,353	56	28.5
Eastbound Route 267	Mainline west of Dulles Greenway Toll Plaza	Basic	4,455	63	23.6
	Between Dulles Greenway Toll Plaza and mainline from Route 28/Dulles Airport	Basic	3,646	11	111.7
	Mainline leaving Dulles Airport near Rudder Road	Weave	1,935	47	10.3
	Between off-ramp to Rudder Road/Route 267 WB and off-ramp to DIAAH EB (west)	Diverge	1,811	41	14.8
	Between off-ramp to DIAAH EB and on-ramp from Aviation Dr	Basic	815	44	9.0
	Between on-ramp from Aviation Dr and off-ramp to Route 28 SB	Weave	1,261	44	9.6
	Between off-ramp to Route 28 SB and off-ramp to DIAAH EB (east)	Diverge	785	44	8.9
	Between off-ramp to DIAAH EB (east) and on-ramp from Route 28 SB	Basic	399	44	4.4
	Between on-ramp from Route 28 SB and off-ramp to Route 28 NB	Weave	2,239	27	33.3
	Between off-ramp to Route 28 NB and on-ramp from Route 28 NB	Basic	2,017	12	96.6
	Between on-ramp from Route 28 NB and DTR Toll Plaza	Basic	2,985	9	108.9
	Between DTR Toll Plaza and on-ramp from DIAAH EB (west)	Merge	2,993	12	108.9
	Between on-ramp from DIAAH EB (west) and mainline from Dulles Greenway	Basic	3,137	14	70.5
	Mainline between on-ramps from Dulles Greenway & Route 28/Dulles Airport/DIAAH and off-ramp to Centreville Road	Weave	6,584	14	93.1
	Between off-ramp to Centreville Road and on-ramp from DIAAH EB (east)	Basic	5,701	23	62.0
	Between on-ramp from DIAAH EB (east) and on-ramp from Centreville Road	Merge	5,805	19	58.1
	Mainline east of Centreville Road	Merge	6,654	17	88.7
Mainline east of Centreville Road	Basic	6,598	25	66.1	

AM Freeway MOEs

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmp)
Westbound Route 267	Mainline east of off-ramp to DIAAH WB	Diverge	3,826	58	16.6
	Between off-ramp to DIAAH WB and off-ramp to Centreville Road	Basic	3,871	57	16.8
	Between off-ramp to DIAAH WB and off-ramp to Centreville Road	Diverge	3,850	55	16.8
	Between off-ramp to Centreville Road and on-ramp from Centreville Road	Basic	2,862	57	12.4
	Between on-ramp from Centreville Road and off-ramp to Dulles Airport	Weave	3,032	57	10.7
	Between off-ramp to Dulles Airport and off-ramp to Route 28 NB	Diverge	2,804	43	18.3
	Between off-ramp to Route 28 NB and off-ramp to Route 28 SB	Basic	1,036	57	6.0
	Between off-ramp to Route 28 NB and off-ramp to Route 28 SB	Diverge	1,036	58	6.0
	Between off-ramp to Route 28 SB and Dulles Greenway Toll Plaza	Basic	544	56	4.5
	Mainline west of Dulles Greenway Toll Plaza	Basic	781	61	4.2
Eastbound DIAAH	Mainline leaving Dulles Airport near Rudder Road	Basic	541	45	6.0
	Between on-ramp from Route 267 EB (west) and on-ramp from Route 267 EB (east)	Merge	1,586	44	15.5
	Between on-ramp from Route 267 EB (east) and off-ramp to Route 267 EB (west)	Merge	2,025	55	14.1
	Between on-ramp from Route 267 EB (east) and off-ramp to Route 267 EB (west)	Diverge	2,003	54	12.5
	Between off-ramp to Route 267 EB (west) and off-ramp to Route 267 EB (east)	Basic	1,887	57	16.6
	Between off-ramp to Route 267 EB (west) and off-ramp to Route 267 EB (east)	Diverge	1,835	56	15.5
	Mainline east of Centreville Road	Basic	1,781	56	15.8
Westbound DIAAH	Mainline east of on-ramp from Route 267 WB	Basic	832	58	7.1
	Between on-ramp from Route 267 WB near Centreville Road and on-ramp from Route 267 WB to Dulles Airport	Merge	835	58	6.8
	Between on-ramp from Route 267 WB near Centreville Road and on-ramp from Route 267 WB to Dulles Airport	Basic	842	58	7.3
	Between on-ramp from Route 267 WB to Dulles Airport and off-ramp to Rudder Road (Rental Car Return/Economy Parking)	Weave	1,031	57	6.0
	Between off-ramp to Rudder Road (Rental Car Return/Economy Parking) and on-ramps from Route 28/Route 267 EB	Basic	668	39	6.6
	Mainline west of on-ramps from Route 28/Route 267 EB	Basic	1,745	43	8.0

AM Freeway MOEs

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmp)
Frying Pan Road Interchange Ramps	Route 28 NB to Frying Pan Road EB		1,348	31	43.2
	Frying Pan Road WB to Route 28 NB		962	37	12.9
	Route 28 SB to Frying Pan Road EB		1,274	22	53.0
	Frying Pan Road WB to Route 28 SB		838	24	35.0
Route 267 Interchange Ramps	Route 28 NB to Route 267 EB/Dulles Airport (Combined)		1,643	25	53.9
	Route 28 NB to Dulles Airport		663	39	8.4
	Route 28 NB to Route 267 EB		967	11	109.1
	Route 267 EB (leaving Dulles Airport) to Route 28 NB		277	25	11.2
	Route 28 NB to Route 267 WB		190	40	4.8
	Route 267 WB to Route 28 NB		1,746	42	40.7
	Route 267 EB (Dulles Greenway) to Route 28 SB		589	36	16.6
	Route 267 WB to Route 28 SB		487	22	23.2
	Route 267 EB/WB to Route 28 SB (Combined)		1,076	18	60.8
	Route 28 SB to Dulles Airport		564	22	25.2
	Route 28 SB to Route 267 EB		1,873	22	84.4
	Route 267 EB (leaving Dulles Airport) to Route 28 SB		457	26	17.3
Innovation Avenue Interchange Ramps	Route 28 NB to Innovation Ave EB		152	33	4.6
	Innovation Ave WB to Route 28 NB		62	36	1.7
	Route 28 SB to Innovation Ave EB		132	29	4.6
	Innovation Ave WB to Route 28 SB		137	25	5.5
Route 606 / Old Ox Road Interchange Ramps	Route 28 NB to Route 606 EB		344	44	7.7
	Route 606 EB to Route 28 NB		112	27	4.2
	Route 28 NB to Route 606 WB		815	26	31.7
	Route 606 WB to Route 28 NB		541	36	15.1
	Route 28 SB to Route 606 WB		187	32	5.9
	Route 606 WB to Route 28 SB		507	20	25.1
	Route 28 SB to Route 606 EB		336	24	14.2
Sterling Blvd Interchange Ramps	Route 606 EB to Route 28 SB		1,042	25	44.5
	Route 28 NB to Sterling Blvd EB		777	31	24.6
	Route 28 NB to Sterling Blvd WB		537	19	27.5
	Sterling Blvd to Route 28 NB		244	32	7.6
	Route 28 SB to Sterling Blvd		222	38	5.7
	Sterling Blvd WB to Route 28 SB		562	13	49.4
	Sterling Blvd EB to Route 28 SB		781	12	88.5
Route 267 / Centreville Road Interchange Ramps	Route 267 EB to Centreville Road		1,057	24	21.7
	Centreville Road to Route 267 EB		865	19	49.6
	Route 267 WB to Centreville Road		998	17	61.5
	Centreville Road to Route 267 WB		187	50	3.7
Various Dulles Airport / DIAAH Ramps	Route 267 EB to Dulles Airport		503	46	10.8
	Route 267 WB to Dulles Airport		195	56	3.4
	DIAAH WB to Rudder Road		376	40	4.7
	Ramps from Route 267 EB/Route 28 to Rudder Road		631	38	16.0
	Ramps from Route 267 EB/Route 28 to Dulles Airport		1,097	39	13.9
	DIAAH EB (Outer Lanes) to Rudder Road		103	27	3.7
	Dulles Airport to Route 267 WB		53	34	1.5
	Aviation Blvd to Route 267 EB		475	45	10.5
	Route 267 EB to DIAAH EB (west)		1,042	43	24.0
	Route 267 EB to DIAAH EB (east)		435	44	9.8
	DIAAH EB to Route 267 EB (west)		141	56	2.5
	DIAAH EB to Route 267 EB (east)		110	56	1.9

Arterial Intersection MOEs

AM Peak Hour (8:00 AM - 9:00 AM)

#	Intersection	Approach	Movement	VISSIM Throughput (vph)		Average Delay (sec/veh)		Average Queue Length (feet)		Max Queue Length (feet)			
1	Route 846 (Sterling Boulevard) and Pacific Boulevard	NB	LT	25	238	73.8	54.3	9	45	75	277		
			TH	75		61.5		37		199			
			RT	138		46.8		45		277			
		SB	LT	509	801	82.4	65.1	139	139	408	408		
			TH	242		41.4		34		179			
			RT	50		4.5		1		65			
		EB	LT	117	1,112	120.8	145.7	8	741	137	1,276		
			TH	864		148.9		715		1,223			
			RT	131		146.7		741		1,276			
		WB	LT	272	1,026	71.6	37.9	125	125	416	416		
			TH	241		46.5		40		162			
			RT	513		16.1		43		405			
Intersection				3,177		83.7							
2	Route 846 (Sterling Boulevard) and Route 28 SB Off-Ramp	SB	LT	34	204	213.9	178.6	6	6	58	58		
			RT	170		171.5		0		0			
		EB	TH	731	837	13.1	13.1	4	4	177	177		
			TH	837		2.8		2.8		3		128	
		Intersection				1,772		27.3					
		3	Route 846 (Sterling Boulevard) and Route 28 NB Ramps	NB	RT	778	778	4.8	4.8	0	0	0	0
LT	20				39.1	4		57					
EB	TH			750	1,085	0.6	1.6	0	4	0	57		
	TH			862		1.6		3		170			
Intersection				2,633		2.6							
4	Route 846 (Sterling Boulevard) and Shaw Road			NB	LT	89	279	62.2	30.4	32	32	180	180
		TH	21		57.5	6		64					
		RT	169		10.3	9		125					
		SB	LT	5	28	82.8	18.1	2	2	39	68		
			TH	8		5.3		0		0			
			RT	15		5.1		1		68			
		EB	U	11	1,527	12.8	11.0	2	44	75	434		
			LT	76		13.9		2		75			
			TH	1,057		12.7		44		434			
		WB	RT	383	1,157	5.6	8.9	5	29	161	315		
			LT	169		14.7		4		129			
			TH	967		7.9		23		283			
		Intersection				2,991		12.1					
		5	Route 606 (Old Ox Road) and Pacific Boulevard	NB	LT	85	263	66.5	48.8	40	40	174	188
					TH	35		72.2		40		174	
					RT	143		32.5		25		188	
				SB	U	5	527	77.2	48.3	84	84	301	301
					LT	280		67.5		84		301	
TH	62				67.1	84		301					
EB	RT			180	2,151	10.4	112.7	13	1,393	149	2,523		
	LT			157		162.5		2		82			
	TH			1,877		110.1		2		82			
WB	U			8	1,630	74.5	36.3	28	154	117	767		
	LT			88		77.6		28		117			
	TH			1,086		39.5		154		767			
Intersection				4,571		74.4							
6	Route 606 (Old Ox Road) and Route 28 NB Off-Ramp			NB	TH	77	77	39.5	39.5	15	15	115	115
					TH	1,463		13.8		27		521	
		WB	TH	1,110	1,110	1.4	1.4	0	0	0	0		
			TH	1,110		1.4		0		0			
Intersection				2,650		9.4							

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AM Intersection MOEs

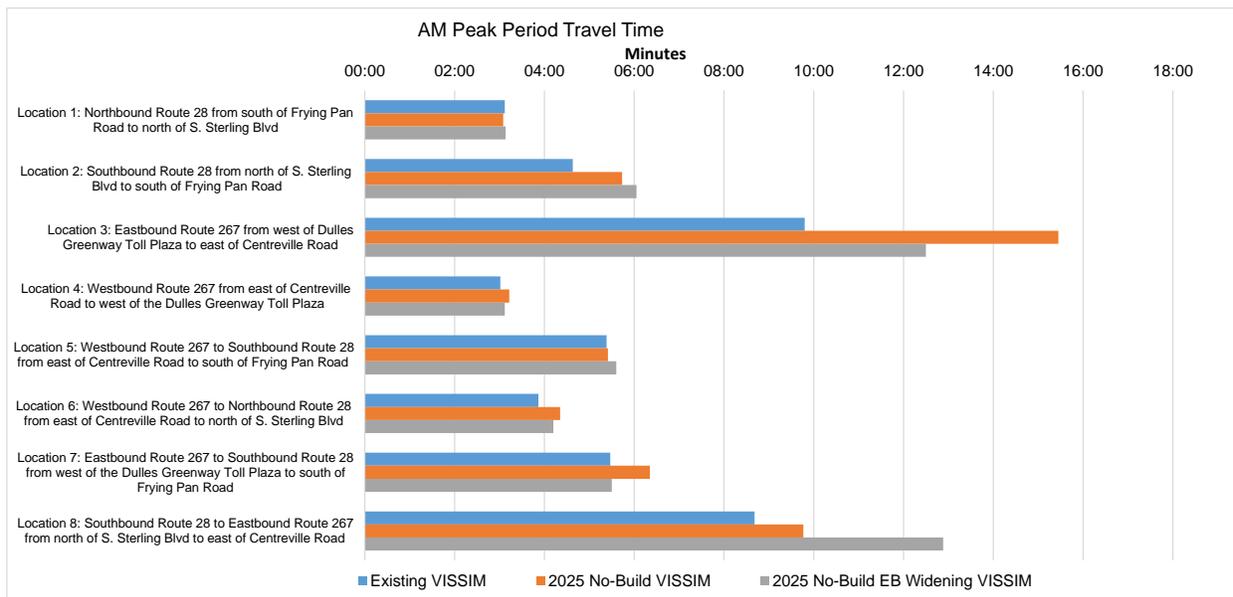
#	Intersection	Approach	Movement	VISSIM Throughput (vph)	Average Delay (sec/veh)	Average Queue Length (feet)	Max Queue Length (feet)	
7	Route 606 (Old Ox Road) and Shaw Road	NB	LT	267	136.0	248	766	
			TH	33	133.2	248	766	
			RT	100	53.8	13	374	
		SB	LT	177	66.3	46.2	59	292
			TH	52	68.3	59	292	
			RT	152	15.3	16	161	
		EB	LT	151	73.4	33.6	67	292
			TH	1,395	32.5	172	668	
			RT	289	18.1	16	322	
		WB	U	12	130.1	36.5	87	718
			LT	59	138.5	87	718	
			TH	1,238	37.1	178	803	
			RT	196	3.4	0	22	
Intersection				4,121	43.7			
8	Sunrise Valley Drive and Frying Pan Road	SB	LT	5	44.6	1	30	
			RT	271	1.9	0	0	
		EB	LT	762	30.5	14.1	66	314
			TH	1,301	4.4	1	83	
		WB	TH	1,064	14.3	14.1	40	333
			RT	20	3.5	0	0	
		Intersection				3,423	13.1	
9	Centreville Road and Dulles Toll Road WB Ramps	NB	LT	78	31.4	15	265	
			TH	1,321	11.4	37	325	
			RT	1,069	23.5	80	440	
		SB	LT	108	7.4	22.3	3	146
			RT	688	100.3	87.8	502	1,732
		WB	LT	272	56.4	483	502	1,713
			RT	272	56.4	483	502	1,713
Intersection				3,536	36.2			
10	Centreville Road and Dulles Toll Road EB Ramps	NB	TH	933	24.8	24.0	59	
			RT	679	22.9	83	83	
		SB	LT	203	65.1	18.8	94	493
			TH	1,561	12.8	83	83	
		EB	LT	470	239.9	209.6	217	757
			RT	595	185.7	16	16	583
		Intersection				4,441	66.4	
11	Frying Pan Road and River Birch Road	SB	LT	183	44.1	32.7	100	
			RT	600	23.2	124	124	
		EB	LT	749	38.3	20.3	99	296
			TH	1,879	13.1	125	125	
		WB	TH	1,194	18.7	18.1	46	276
			RT	147	12.6	25	25	
		Intersection				4,752	21.7	
12	Frying Pan Road and Route 28 Northbound Off-Ramp	NB	RT	383	52.9	52.9	206	
			TH	1,276	24.7	24.7	162	
		WB	TH	1,796	7.1	7.1	6	259
			RT	1,796	7.1	7.1	6	
Intersection				3,455	18.7			

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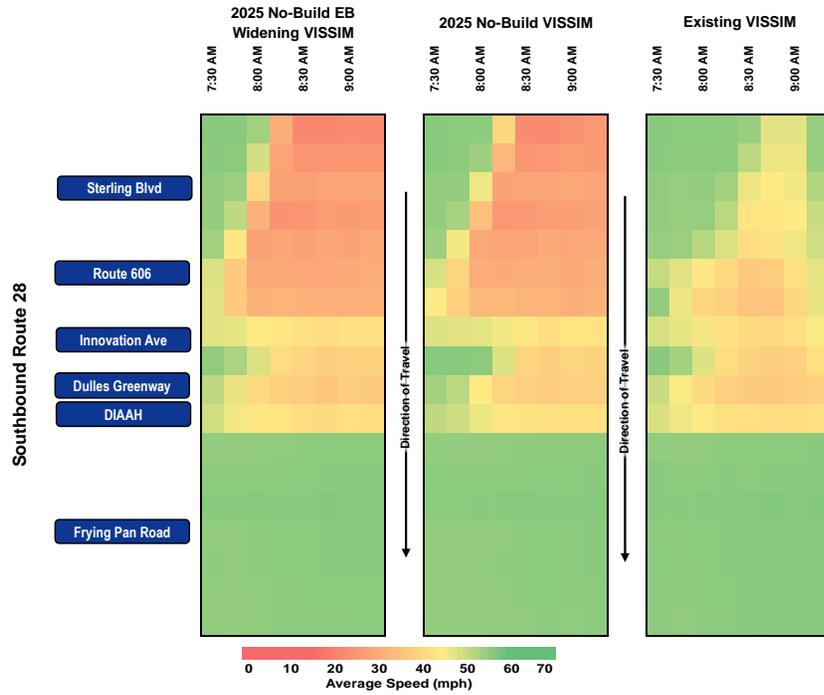
## Travel Time Comparison

AM Peak Period (7:30 AM - 9:30 AM)

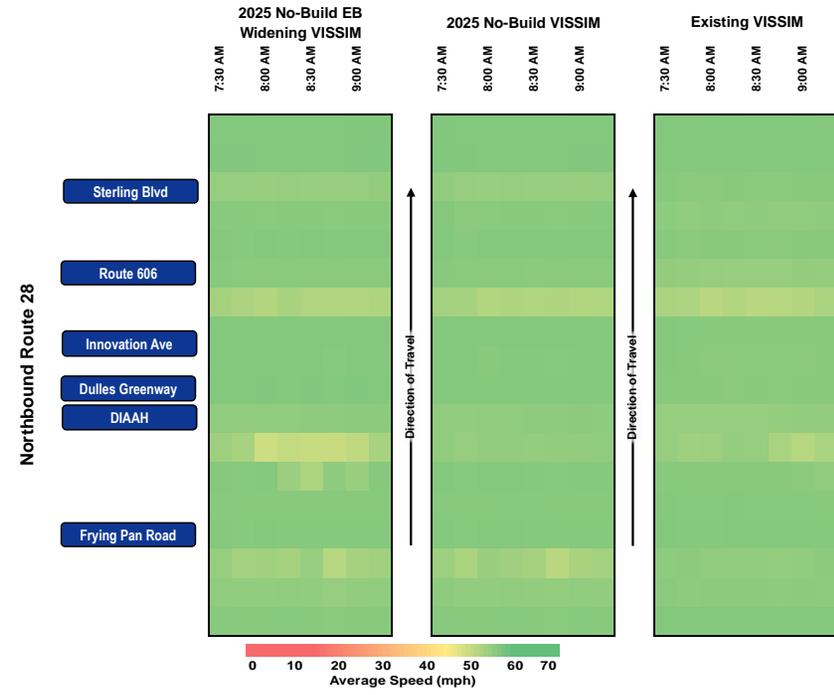
Segment ID	Route	Peak Period Travel Time						
		Existing VISSIM (MM:SS)	2025 No-Build EB Widening VISSIM (MM:SS)	Difference from Existing (MM:SS)	Difference from Existing (%)	2025 No-Build VISSIM (MM:SS)	Difference from No-Build (MM:SS)	Difference from No-Build (%)
Location 1: Northbound Route 28 from south of Frying Pan Road to north of S. Sterling Blvd		03:07	03:08	00:01	1%	03:05	00:03	2%
Location 2: Southbound Route 28 from north of S. Sterling Blvd to south of Frying Pan Road		04:38	06:03	01:25	31%	05:44	00:19	6%
Location 3: Eastbound Route 267 from west of Dulles Greenway Toll Plaza to east of Centreville Road		09:48	12:30	02:42	28%	15:27	-02:57	-19%
Location 4: Westbound Route 267 from east of Centreville Road to west of the Dulles Greenway Toll Plaza		03:01	03:07	00:06	3%	03:13	-00:06	-3%
Location 5: Westbound Route 267 to Southbound Route 28 from east of Centreville Road to south of Frying Pan Road		05:23	05:36	00:13	4%	05:25	00:11	3%
Location 6: Westbound Route 267 to Northbound Route 28 from east of Centreville Road to north of S. Sterling Blvd		03:52	04:12	00:20	9%	04:21	-00:09	-3%
Location 7: Eastbound Route 267 to Southbound Route 28 from west of the Dulles Greenway Toll Plaza to south of Frying Pan Road		05:28	05:30	00:02	1%	06:21	-00:51	-13%
Location 8: Southbound Route 28 to Eastbound Route 267 from north of S. Sterling Blvd to east of Centreville Road		08:41	12:53	04:12	48%	09:46	03:07	32%



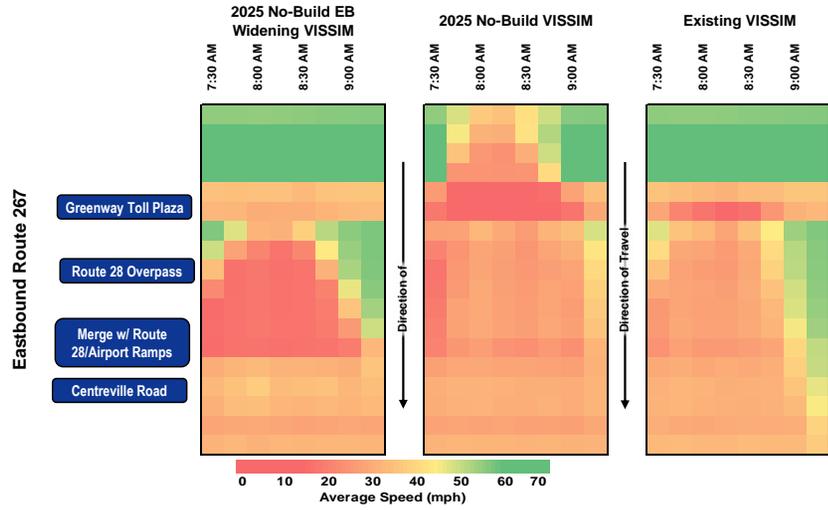
### Freeway Average Speed Comparison: Route 28 SB



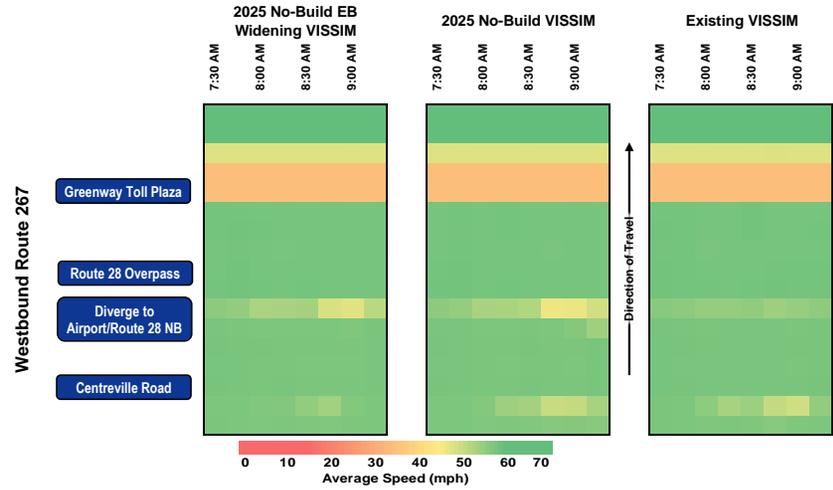
### Freeway Average Speed Comparison: Route 28 NB



**Freeway Average Speed Comparison: Route 267 (Dulles Toll Road/Dulles Greenway) EB**



**Freeway Average Speed Comparison: Route 267 (Dulles Toll Road/Dulles Greenway) WB**

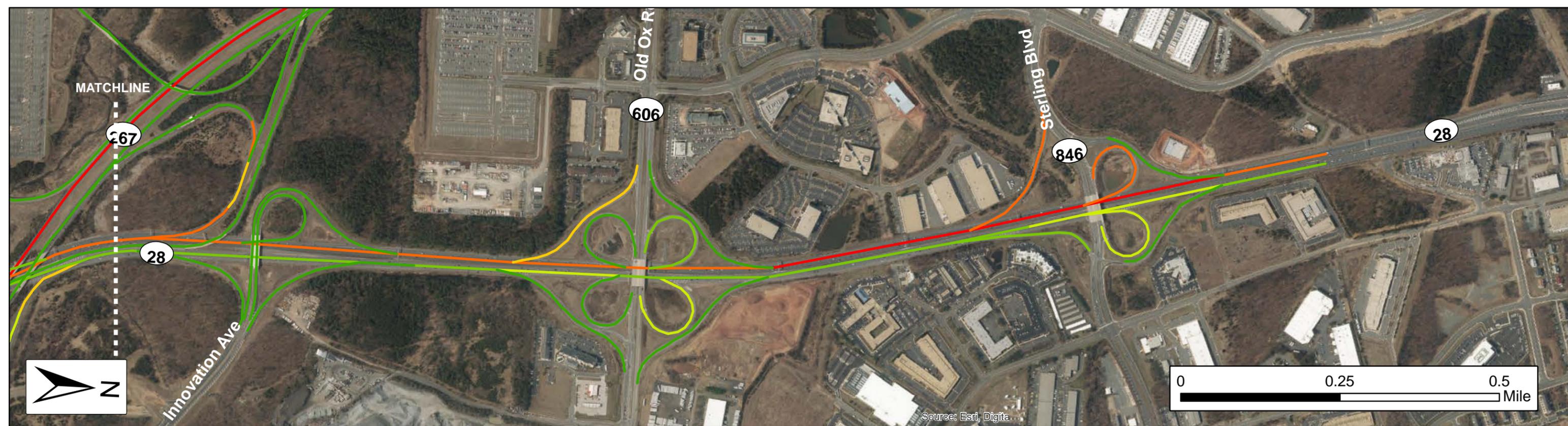
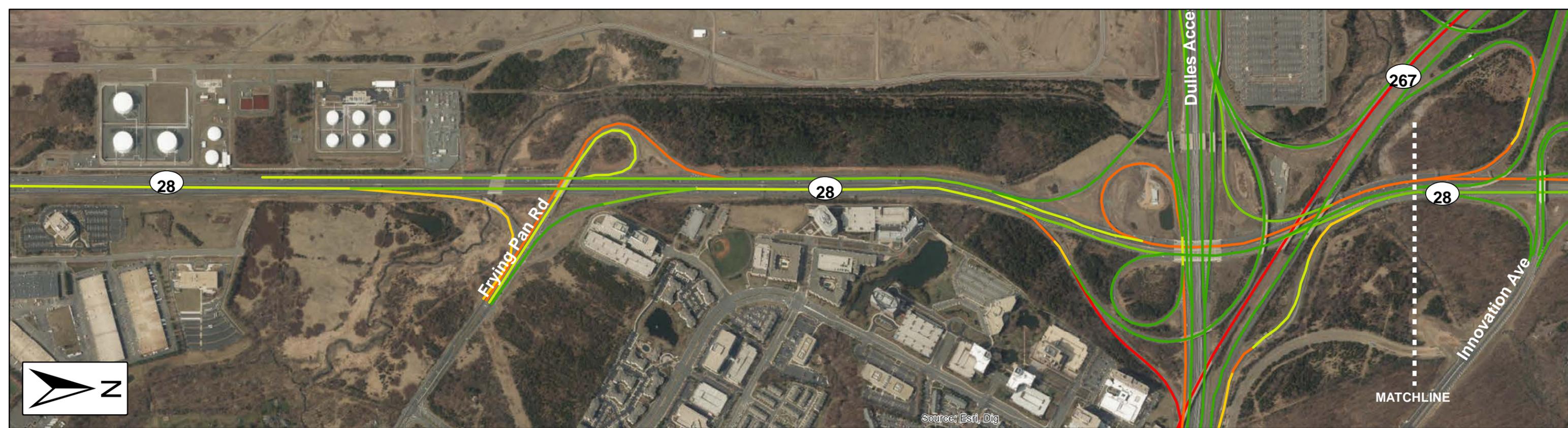


AM Queue Length

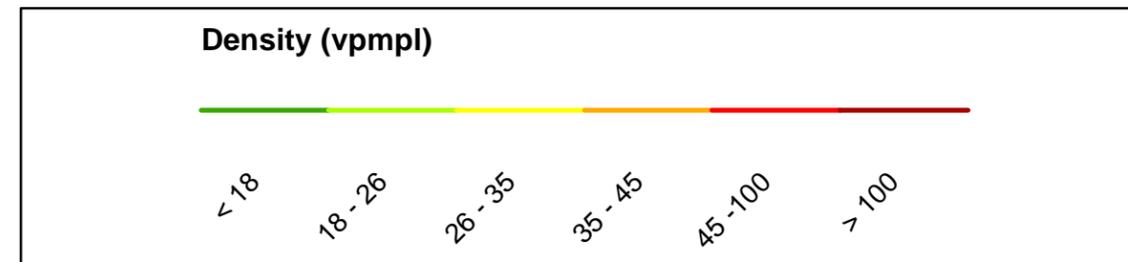
**Targeted Queue Location MOEs**

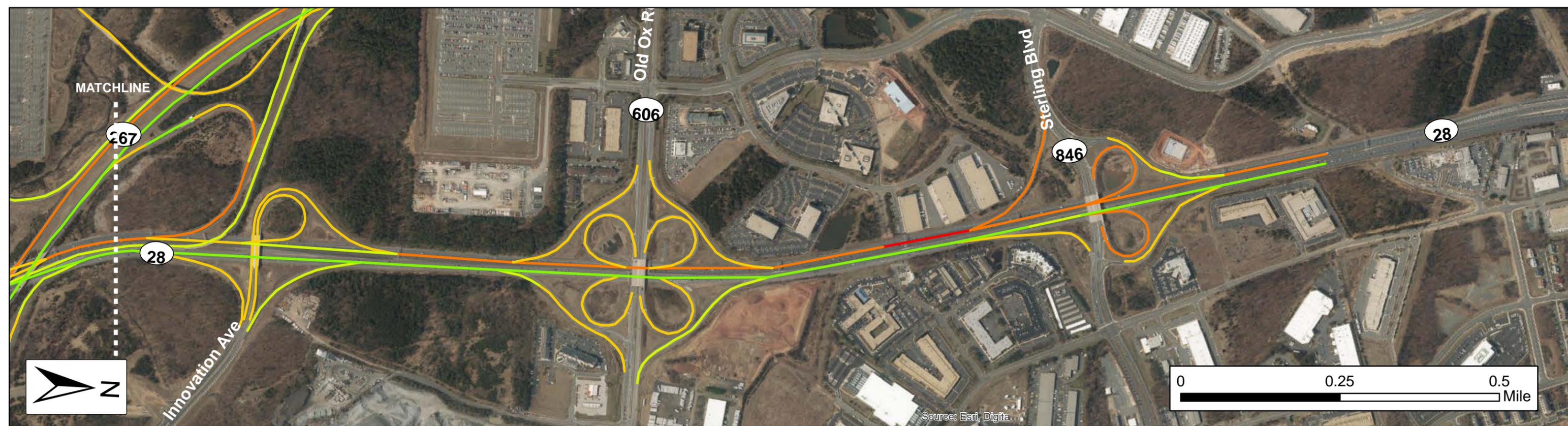
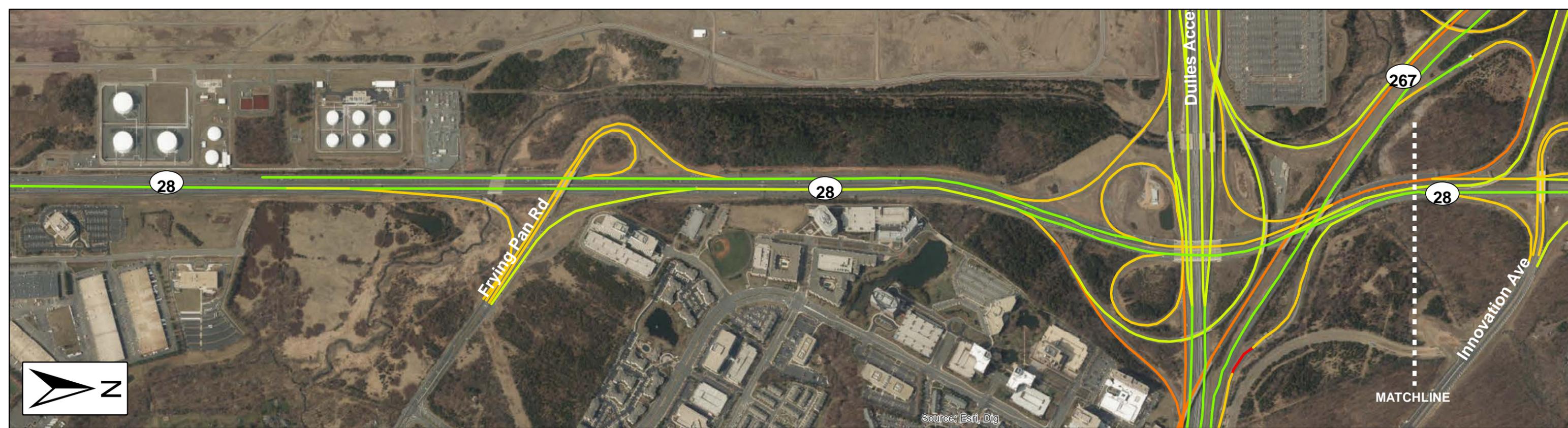
AM Peak Period (7:30 AM - 9:30 AM)

Interchange	Location	Existing VISSIM Max Queue (feet)	2025 No-Build EB Widening VISSIM Max Queue (feet)	Max Queue Difference from Existing (feet)	Max Queue Difference from Existing (%)	2025 No-Build VISSIM Max Queue (feet)	Max Queue Difference from No-Build (feet)	Max Queue Difference from No-Build (%)
Route 28 / Route 267 Interchange	Ramp from Route 267 WB to Route 28 NB	0	0	0	-	0	0	-
	Ramp from Route 267 EB/WB (Combined) to Route 28 SB	807	773	-34	-4%	897	-124	-14%
	Ramp from Route 28 NB to Route 267 EB	2,295	2,896	601	26%	366	2,530	691%
Route 28 / Frying Pan Road Interchange	Frying Pan Rd EBL approaching Sunrise Valley Dr	1,359	323	-1,036	-76%	327	-3	-1%
	Route 28 SB off-ramp to Frying Pan Road	2,767	1,582	-1,184	-43%	2,066	-484	-23%
	Route 28 NB off-ramp to Frying Pan Road	1,054	473	-582	-55%	487	-15	-3%
	Ramp from Frying Pan Road to Route 28 NB	0	0	0	-	0	0	-
Route 267 / Centreville Road Interchange	Route 267 WB off-ramp to Centreville Rd	2,506	1,746	-760	-30%	2,524	-778	-31%

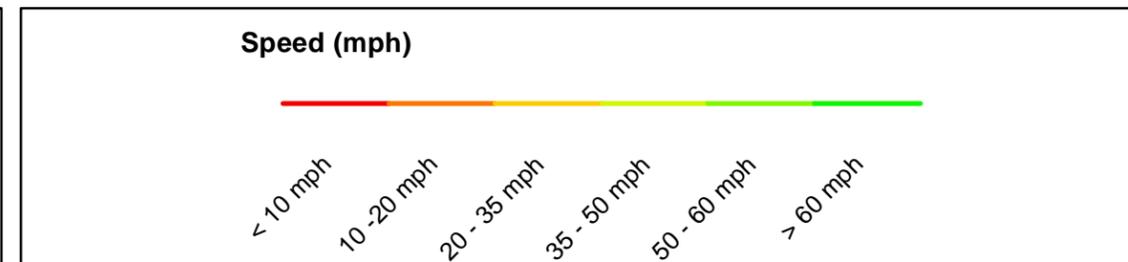


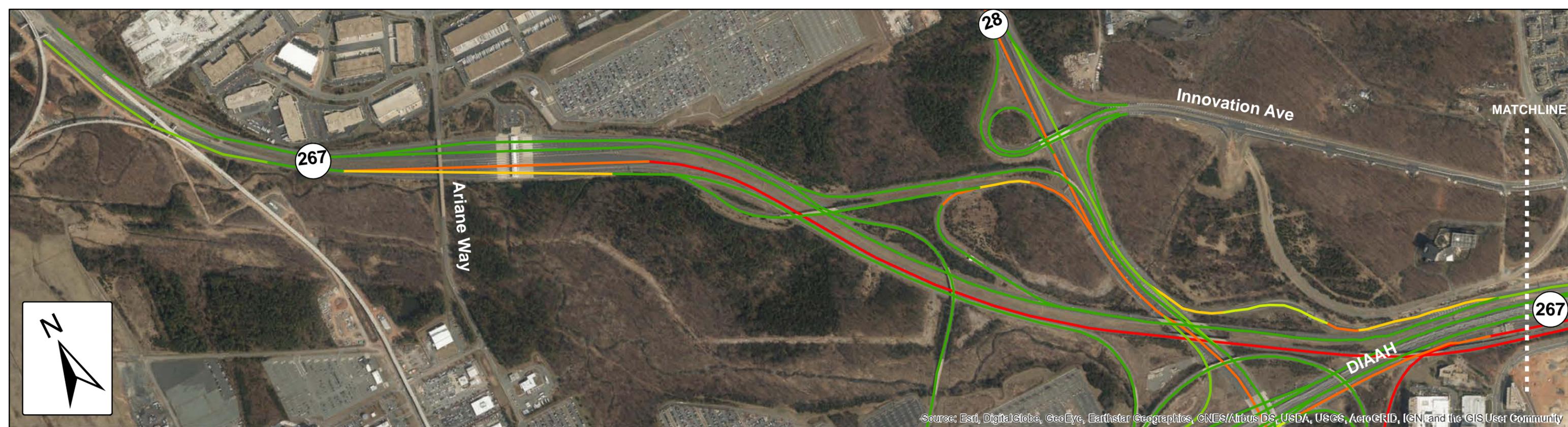
**Route 28 Corridor  
 Mainline and Ramp Density  
 2025 No-Build Eastbound  
 Widening AM**



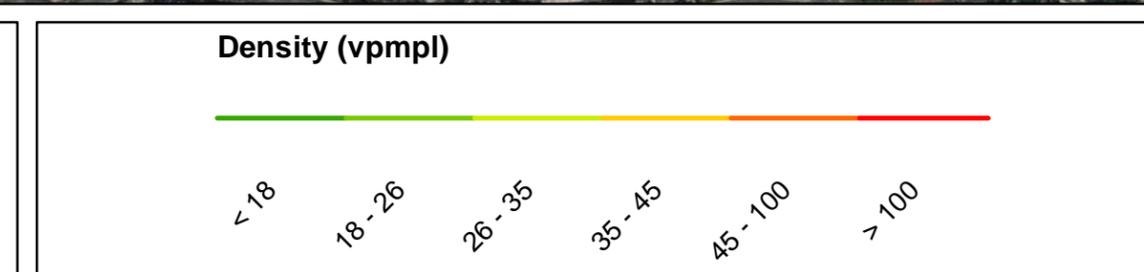


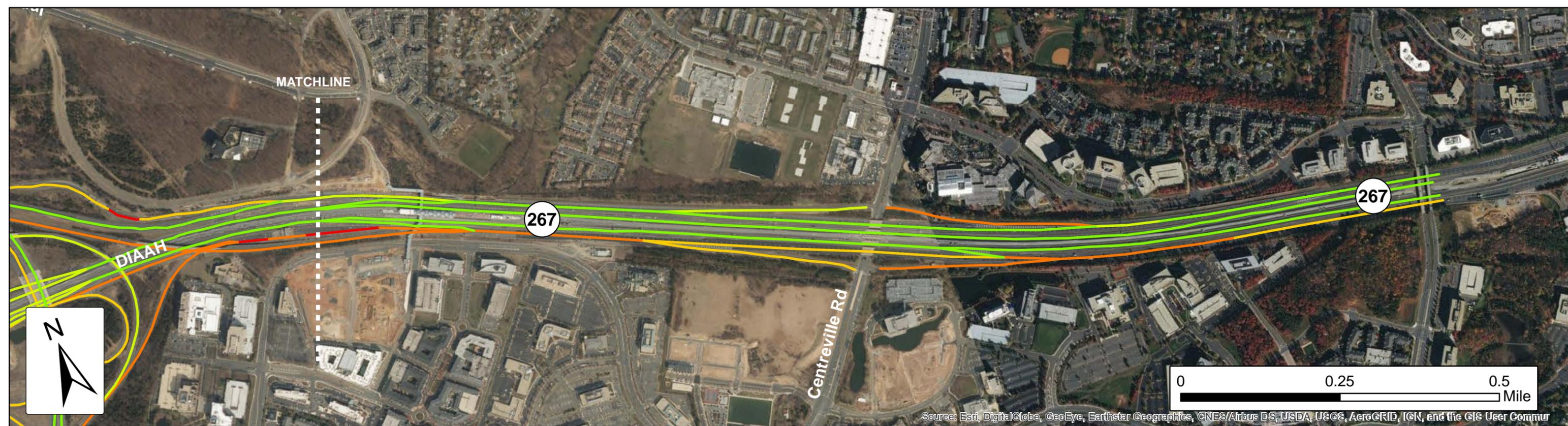
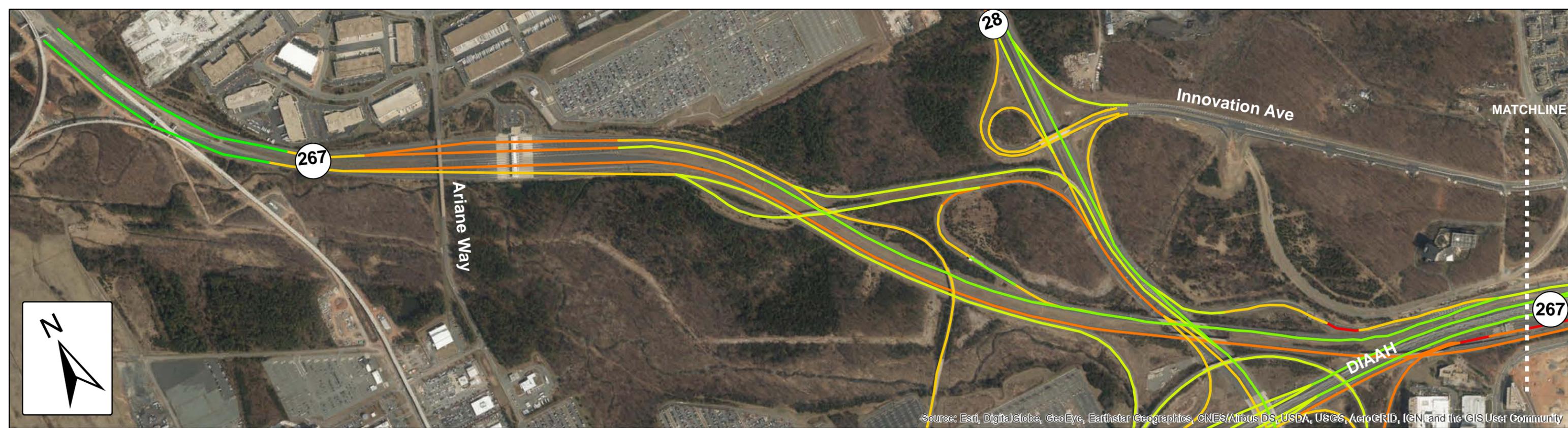
**Route 28 Corridor  
Mainline and Ramp Speed  
2025 No-Build Eastbound  
Widening AM**



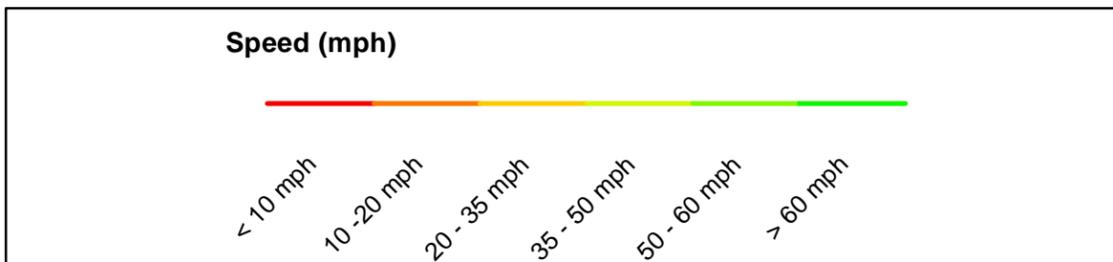


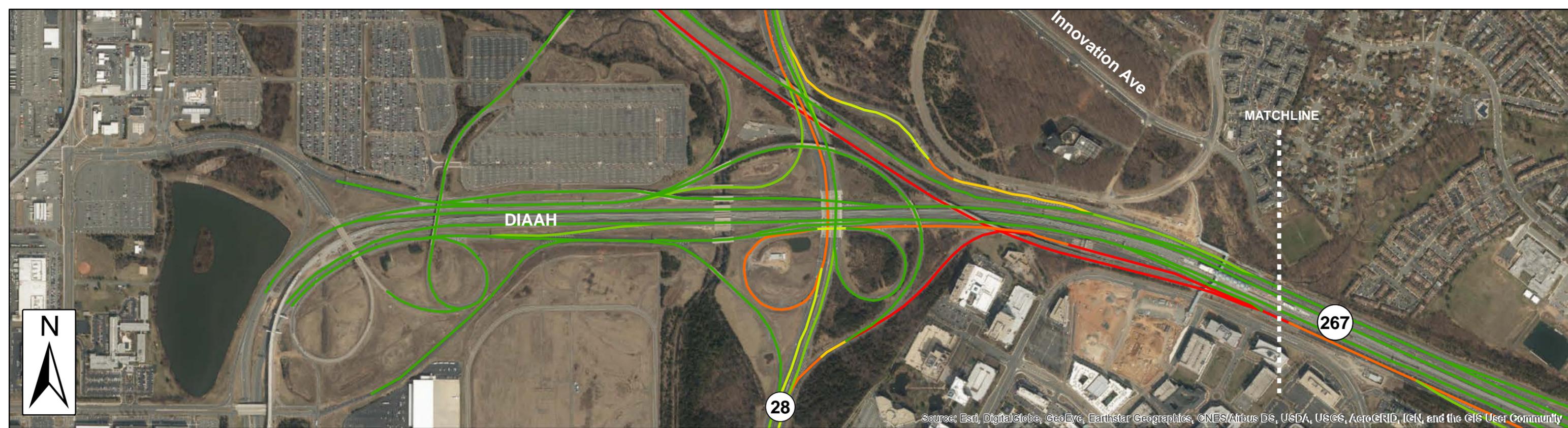
**Route 267 Corridor  
Mainline and Ramp Density  
2025 No-Build Eastbound  
Widening AM**



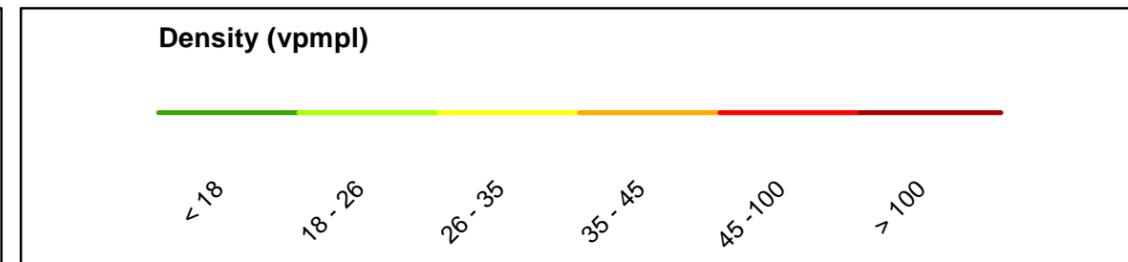


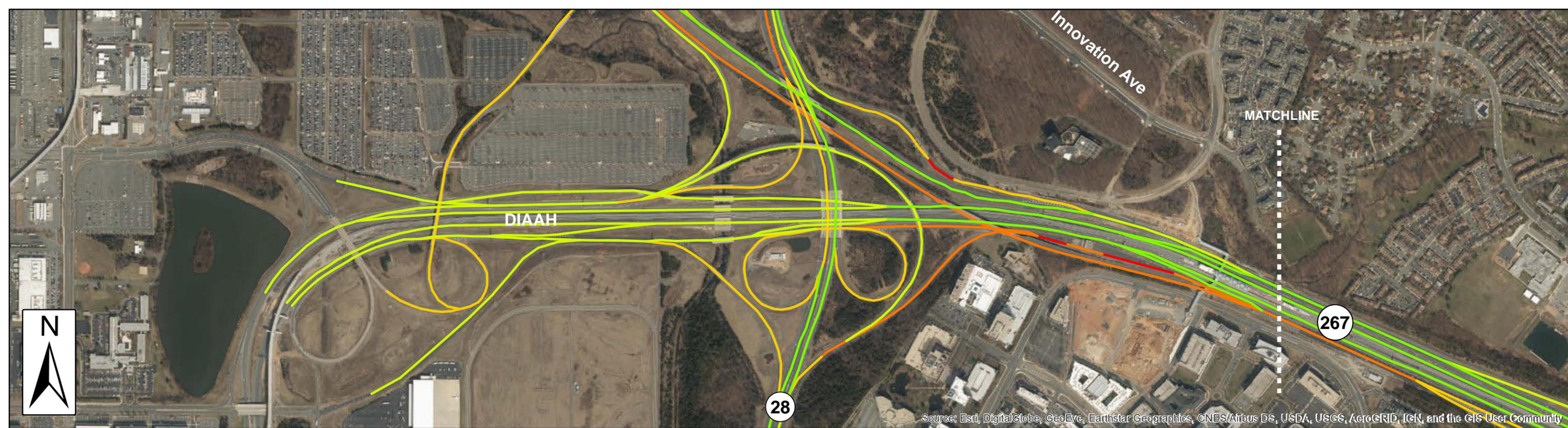
**Route 267 Corridor  
Mainline and Ramp Speed  
2025 No-Build Eastbound  
Widening AM**



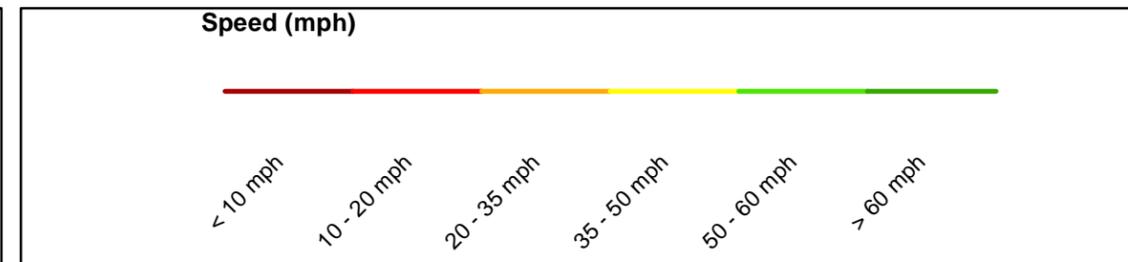


**DIAAH Corridor  
Mainline and Ramp Density  
2025 No-Build Eastbound  
Widening AM**





**DIAAH Corridor  
Mainline and Ramp Speed  
2025 No-Build Eastbound  
Widening AM**



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## 2025 No-Build Eastbound Widening PM VISSIM MOEs

## Freeway Segment and Ramp MOEs

PM Peak Hour (5:00 PM - 6:00 PM)

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmp)
Northbound Route 28	Mainline south of Frying Pan Road	Basic	5,673	57	25.0
	Mainline south of Frying Pan Road	Diverge	5,679	56	22.6
	Between off-ramp to Frying Pan Road and on-ramp from Frying Pan Road	Basic	4,947	56	21.8
	Between on-ramp from Frying Pan Road and off-ramp to Route 267 EB/Dulles Airport	Weave	6,047	56	21.6
	Between off-ramp to Route 267 EB/Dulles Airport and on-ramp from Route 267 EB	Basic	5,110	55	22.9
	Between on-ramp from Route 267 EB and off-ramp to Route 267 WB	Weave	5,917	50	25.3
	Between off-ramp to Route 267 WB and on-ramp from Route 267 WB	Basic	5,189	50	30.3
	Between on-ramp from Route 267 WB and off-ramp to Innovation Ave	Weave	6,714	44	37.6
	Between off-ramp to Innovation Ave and on-ramp from Innovation Ave	Basic	6,582	36	49.8
	Between on-ramp from innovation Ave and off-ramp to Route 606 EB	Weave	6,601	31	57.3
	Between off-ramp to Route 606 EB and on-ramp from Route 606 EB	Basic	6,353	26	75.7
	Between on-ramp from Route 606 EB and off-ramp to Route 606 WB	Weave	6,646	20	78.3
	Between off-ramp to Route 606 WB and on-ramp from Route 606 WB	Basic	6,126	21	86.8
	Between on-ramp from Route 606 WB and off-ramp to Sterling Blvd EB	Weave	6,765	20	70.3
	Between off-ramp to Sterling Blvd EB and off-ramp to Sterling Blvd WB	Diverge	6,171	16	95.5
Between off-ramp to Sterling Blvd WB and on-ramp from Sterling Blvd	Basic	5,489	36	50.7	
Mainline north of Sterling Blvd	Basic	5,922	49	30.5	
Southbound Route 28	Mainline north of Sterling Blvd	Basic	4,521	57	15.9
	Between off-ramp to Sterling Blvd and on-ramp from Sterling Blvd WB	Basic	4,343	57	18.9
	Between on-ramp from Sterling Blvd WB and on-ramp from Sterling Blvd EB	Basic	5,047	57	17.7
	Between on-ramp from Sterling Blvd EB and off-ramp to Route 606 WB	Weave	5,512	52	20.1
	Between off-ramp to Route 606 WB and on-ramp from Route 606 WB	Basic	5,366	55	24.2
	Between on-ramp from Route 606 WB and off-ramp to Route 606 EB	Weave	5,564	49	22.5
	Between off-ramp to Route 606 EB and on-ramp from Route 606 EB	Basic	5,135	56	22.8
	Between on-ramp from Route 606 EB and off-ramp to Innovation Ave	Weave	6,088	55	22.3
	Between off-ramp to Innovation Ave and on-ramp from Innovation Ave	Basic	6,061	55	27.1
	Between on-ramp from Innovation Ave and on-ramp from Route 267	Basic	6,088	56	21.7
	Between on-ramp from Route 267 and off-ramp to Dulles Airport	Weave	7,073	55	21.3
	Between off-ramp to Dulles Airport and off-ramp to Route 267 EB	Diverge	6,738	54	25.1
	Between off-ramp to Route 267 EB and on-ramp from Route 267 EB	Basic	5,395	56	23.9
	Between on-ramp from Route 267 EB and off-ramp to Frying Pan Road	Weave	6,479	55	23.8
	Between off-ramp to Frying Pan Road and on-ramp from Frying Pan Road	Basic	5,475	56	24.1
Mainline south of Frying Pan Road	Merge	5,839	56	24.4	
Mainline south of Frying Pan Road	Basic	5,835	56	26.0	
Eastbound Route 267	Mainline west of Dulles Greenway Toll Plaza	Basic	1,101	65	5.7
	Between Dulles Greenway Toll Plaza and mainline from Route 28/Dulles Airport	Basic	858	56	5.1
	Mainline leaving Dulles Airport near Rudder Road	Weave	2,724	44	15.4
	Between off-ramp to Rudder Road/Route 267 WB and off-ramp to DIAAH EB (west)	Diverge	2,127	40	17.6
	Between off-ramp to DIAAH EB and on-ramp from Aviation Dr	Basic	1,381	44	15.3
	Between on-ramp from Aviation Dr and off-ramp to Route 28 SB	Weave	2,409	41	19.8
	Between off-ramp to Route 28 SB and off-ramp to DIAAH EB (east)	Diverge	1,299	44	14.9
	Between off-ramp to DIAAH EB (east) and on-ramp from Route 28 SB	Basic	976	44	10.8
	Between on-ramp from Route 28 SB and off-ramp to Route 28 NB	Weave	2,340	30	26.8
	Between off-ramp to Route 28 NB and on-ramp from Route 28 NB	Basic	1,539	42	18.1
	Between on-ramp from Route 28 NB and DTR Toll Plaza	Basic	2,104	41	15.4
	Between DTR Toll Plaza and on-ramp from DIAAH EB (west)	Merge	2,103	42	22.1
	Between on-ramp from DIAAH EB (west) and mainline from Dulles Greenway	Basic	2,563	44	18.4
	Mainline between on-ramps from Dulles Greenway & Route 28/Dulles Airport/DIAAH and off-ramp to Centreville Road	Weave	3,340	56	11.6
	Between off-ramp to Centreville Road and on-ramp from DIAAH EB (east)	Basic	3,084	57	13.4
Between on-ramp from DIAAH EB (east) and on-ramp from Centreville Road	Merge	3,190	57	10.6	
Mainline east of Centreville Road	Merge	4,082	56	16.6	
Mainline east of Centreville Road	Basic	4,049	57	17.8	

PM Freeway MOEs

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpi)
Westbound Route 267	Mainline east of off-ramp to DIAAH WB	Diverge	6,237	56	27.6
	Between off-ramp to DIAAH WB and off-ramp to Centreville Road	Basic	6,315	56	27.8
	Between off-ramp to DIAAH WB and off-ramp to Centreville Road	Diverge	6,281	55	27.1
	Between off-ramp to Centreville Road and on-ramp from Centreville Road	Basic	5,465	56	24.3
	Between on-ramp from Centreville Road and off-ramp to Dulles Airport	Weave	6,317	52	24.5
	Between off-ramp to Dulles Airport and off-ramp to Route 28 NB	Diverge	6,146	47	33.1
	Between off-ramp to Route 28 NB and off-ramp to Route 28 SB	Basic	4,598	56	27.1
	Between off-ramp to Route 28 NB and off-ramp to Route 28 SB	Diverge	4,577	54	28.4
	Between off-ramp to Route 28 SB and Dulles Greenway Toll Plaza	Basic	3,759	51	33.8
Mainline west of Dulles Greenway Toll Plaza	Basic	5,073	59	28.6	
Eastbound DIAAH	Mainline leaving Dulles Airport near Rudder Road	Basic	992	45	11.0
	Between on-ramp from Route 267 EB (west) and on-ramp from Route 267 EB (east)	Merge	1,793	44	17.6
	Between on-ramp from Route 267 EB (east) and off-ramp to Route 267 EB (west)	Merge	2,171	54	15.3
	Between on-ramp from Route 267 EB (east) and off-ramp to Route 267 EB (west)	Diverge	2,147	47	15.3
	Between off-ramp to Route 267 EB (west) and off-ramp to Route 267 EB (east)	Basic	1,716	57	15.1
	Between off-ramp to Route 267 EB (west) and off-ramp to Route 267 EB (east)	Diverge	1,665	56	14.1
	Mainline east of Centreville Road	Basic	1,609	56	14.3
Westbound DIAAH	Mainline east of on-ramp from Route 267 WB	Basic	2,541	57	22.3
	Between on-ramp from Route 267 WB near Centreville Road and on-ramp from Route 267 WB to Dulles Airport	Merge	2,538	56	21.3
	Between on-ramp from Route 267 WB near Centreville Road and on-ramp from Route 267 WB to Dulles Airport	Basic	2,526	56	22.8
	Between on-ramp from Route 267 WB to Dulles Airport and off-ramp to Rudder Road (Rental Car Return/Economy Parking)	Weave	2,630	56	15.8
	Between off-ramp to Rudder Road (Rental Car Return/Economy Parking) and on-ramps from Route 28/Route 267 EB	Basic	1,302	39	13.0
	Mainline west of on-ramps from Route 28/Route 267 EB	Basic	1,831	44	8.4

PM Freeway MOEs

Facility	Segment	Type	VISSIM Throughput (vph)	Average Speed (mph)	Average Density (vpmpi)
Frying Pan Road Interchange Ramps	Route 28 NB to Frying Pan Road EB		750	39	19.1
	Frying Pan Road WB to Route 28 NB		1,114	34	16.4
	Route 28 SB to Frying Pan Road EB		1,032	27	34.7
	Frying Pan Road WB to Route 28 SB		1,226	23	52.8
Route 267 Interchange Ramps	Route 28 NB to Route 267 EB/Dulles Airport (Combined)		976	44	10.9
	Route 28 NB to Dulles Airport		417	40	5.2
	Route 28 NB to Route 267 EB		566	39	14.5
	Route 267 EB (leaving Dulles Airport) to Route 28 NB		849	23	36.5
	Route 28 NB to Route 267 WB		783	38	20.4
	Route 267 WB to Route 28 NB		1,572	39	41.4
	Route 267 EB (Dulles Greenway) to Route 28 SB		149	38	3.9
	Route 267 WB to Route 28 SB		822	22	35.6
	Route 267 EB/WB to Route 28 SB (Combined)		971	24	39.3
	Route 28 SB to Dulles Airport		360	25	14.1
	Route 28 SB to Route 267 EB		1,405	26	53.9
Route 267 EB (leaving Dulles Airport) to Route 28 SB		1,115	25	44.0	
Innovation Avenue Interchange Ramps	Route 28 NB to Innovation Ave EB		162	33	4.9
	Innovation Ave WB to Route 28 NB		47	36	1.3
	Route 28 SB to Innovation Ave EB		78	31	2.5
	Innovation Ave WB to Route 28 SB		122	25	4.8
Route 606 / Old Ox Road Interchange Ramps	Route 28 NB to Route 606 EB		243	42	5.9
	Route 606 EB to Route 28 NB		463	25	18.6
	Route 28 NB to Route 606 WB		667	24	27.7
	Route 606 WB to Route 28 NB		682	35	19.1
	Route 28 SB to Route 606 WB		199	35	5.7
	Route 606 WB to Route 28 SB		358	26	13.5
	Route 28 SB to Route 606 EB		586	25	23.0
Route 606 EB to Route 28 SB		1,008	35	28.2	
Sterling Blvd Interchange Ramps	Route 28 NB to Sterling Blvd EB		582	30	19.1
	Route 28 NB to Sterling Blvd WB		736	17	42.7
	Sterling Blvd to Route 28 NB		455	31	14.3
	Route 28 SB to Sterling Blvd		201	47	4.1
	Sterling Blvd WB to Route 28 SB		700	20	35.1
Route 267 / Centreville Road Interchange	Sterling Blvd EB to Route 28 SB		523	31	16.9
	Route 267 EB to Centreville Road		338	28	6.5
	Centreville Road to Route 267 EB		894	39	22.5
	Route 267 WB to Centreville Road		838	30	27.4
	Centreville Road to Route 267 WB		889	49	18.1
Various Dulles Airport / DIAAH Ramps	Route 267 EB to Dulles Airport		94	48	2.0
	Route 267 WB to Dulles Airport		126	49	2.6
	DIAAH WB to Rudder Road		1,337	37	17.9
	Ramps from Route 267 EB/Route 28 to Rudder Road		323	39	8.0
	Ramps from Route 267 EB/Route 28 to Dulles Airport		547	39	6.9
	DIAAH EB (Outer Lanes) to Rudder Road		567	26	21.7
	Dulles Airport to Route 267 WB		535	32	16.5
	Aviation Blvd to Route 267 EB		1,079	44	24.6
	Route 267 EB to DIAAH EB (west)		799	43	18.3
	Route 267 EB to DIAAH EB (east)		375	44	8.4
	DIAAH EB to Route 267 EB (west)		459	54	8.4
DIAAH EB to Route 267 EB (east)		106	55	1.9	



PM Intersection MOEs

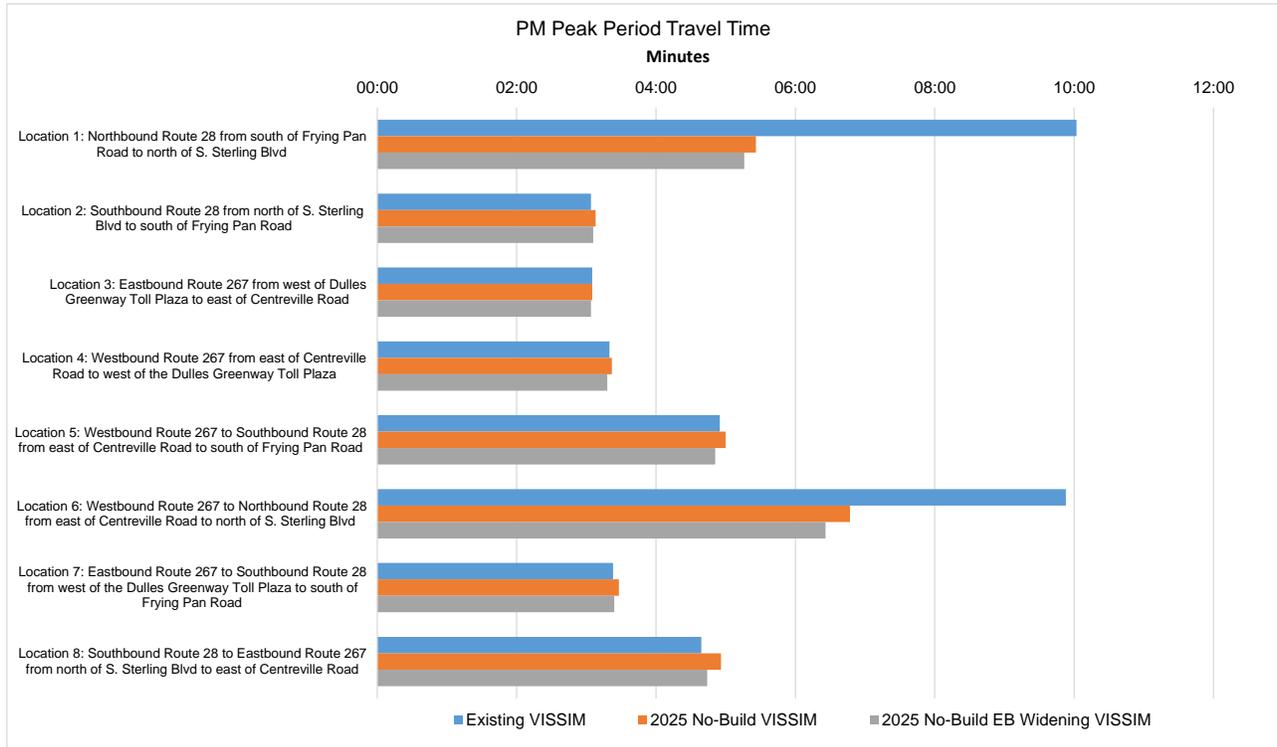
#	Intersection	Approach	Movement	VISSIM Throughput (vph)		Average Delay (sec/veh)		Average Queue Length (feet)		Max Queue Length (feet)	
7	Route 606 (Old Ox Road) and Shaw Road	NB	LT	303	496	69.9	60.1	152	152	670	670
			TH	84		68.1		152		670	
			RT	109		26.5		5		106	
		SB	LT	212	427	159.4	115.2	240	240	953	953
			TH	49		159.9		240		953	
			RT	166		45.6		38		342	
		EB	U	10	1,652	221.7	41.3	223	223	511	614
			LT	133		228.5		223		511	
			TH	1,191		26.8		118		614	
			RT	318		11.6		16		200	
		WB	U	9	1,847	251.8	181.9	1,826	1,863	2,679	2,679
			LT	79		271.9		1,826		2,679	
			TH	1,548		185.0		1,863		2,679	
			RT	211		122.9		0		17	
Intersection				4,422		109.3					
8	Sunrise Valley Drive and Frying Pan Road	SB	LT	25	605	58.4	5.5	9	9	74	74
			RT	580		3.2		0		4	
		EB	U	7	1,361	25.2	9.7	33	33	198	262
			LT	348		27.7		33		198	
			TH	1,006		3.4		7		262	
		WB	TH	1,212	1,237	33.0	32.5	152	152	655	655
			RT	25		5.7		0		0	
		Intersection				3,203		17.7			
9	Centreville Road and Dulles Toll Road WB Ramps	NB	LT	499	1,945	78.1	32.4	272	272	535	547
			TH	1,446		16.7		234		547	
		SB	TH	1,364	1,738	75.2	73.4	406	406	779	779
			RT	374		67.2		327		778	
		WB	LT	462	816	81.6	57.8	138	138	666	666
			RT	354		26.6		118		647	
		Intersection				4,499		52.9			
10	Centreville Road and Dulles Toll Road EB Ramps	NB	TH	1,762	2,460	61.5	56.6	324	324	959	959
			RT	698		44.3		199		958	
		SB	LT	196	1,852	108.4	14.0	84	84	415	415
			TH	1,656		2.8		10		340	
		EB	LT	184	335	135.3	79.8	159	159	482	482
			RT	151		12.1		0		28	
Intersection				4,647		41.3					
11	Frying Pan Road and River Birch Road	SB	LT	112	776	48.6	23.1	73	105	505	568
			RT	664		18.8		105		568	
		EB	LT	535	1,782	49.2	17.6	94	94	327	327
			TH	1,247		4.1		13		286	
		WB	TH	1,671	1,799	13.4	12.9	55	55	637	679
			RT	128		6.3		30		679	
Intersection				4,357		16.7					
12	Frying Pan Road and Route 28 Northbound Off-Ramp	NB	RT	228	228	27.6	27.6	31	31	209	209
		EB	TH	1,031	1,031	12.9	12.9	30	30	431	431
		WB	TH	2,335	2,335	5.0	5.0	13	13	415	415
Intersection				3,594		8.7					

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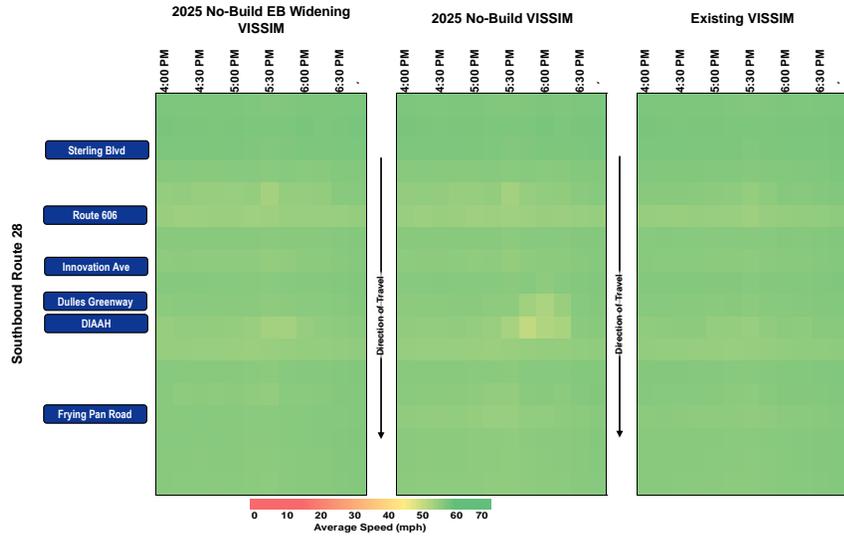
### Travel Time Comparison

PM Peak Period (4:30 PM - 6:30 PM)

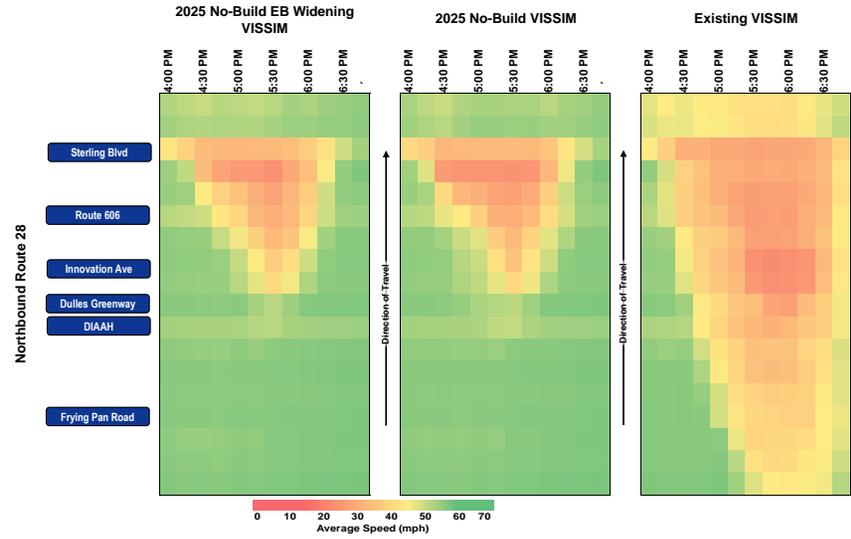
Segment ID	Route	Peak Period Travel Time						
		Existing VISSIM (MM:SS)	2025 No-Build EB Widening VISSIM (MM:SS)	Difference (MM:SS)	Difference (%)	2025 No-Build VISSIM (MM:SS)	Difference from No-Build (MM:SS)	Difference from No-Build (%)
Location 1: Northbound Route 28 from south of Frying Pan Road to north of S. Sterling Blvd		10:02	05:16	-04:46	-48%	05:26	-00:10	-3%
Location 2: Southbound Route 28 from north of S. Sterling Blvd to south of Frying Pan Road		03:04	03:06	00:02	1%	03:08	-00:02	-1%
Location 3: Eastbound Route 267 from west of Dulles Greenway Toll Plaza to east of Centreville Road		03:05	03:04	-00:01	-1%	03:05	-00:01	-1%
Location 4: Westbound Route 267 from east of Centreville Road to west of the Dulles Greenway Toll Plaza		03:20	03:18	-00:02	-1%	03:22	-00:04	-2%
Location 5: Westbound Route 267 to Southbound Route 28 from east of Centreville Road to south of Frying Pan Road		04:55	04:51	-00:04	-1%	05:00	-00:09	-3%
Location 6: Westbound Route 267 to Northbound Route 28 from east of Centreville Road to north of S. Sterling Blvd		09:53	06:26	-03:27	-35%	06:47	-00:21	-5%
Location 7: Eastbound Route 267 to Southbound Route 28 from west of the Dulles Greenway Toll Plaza to south of Frying Pan Road		03:23	03:24	00:01	0%	03:28	-00:04	-2%
Location 8: Southbound Route 28 to Eastbound Route 267 from north of S. Sterling Blvd to east of Centreville Road		04:39	04:44	00:05	2%	04:56	-00:12	-4%



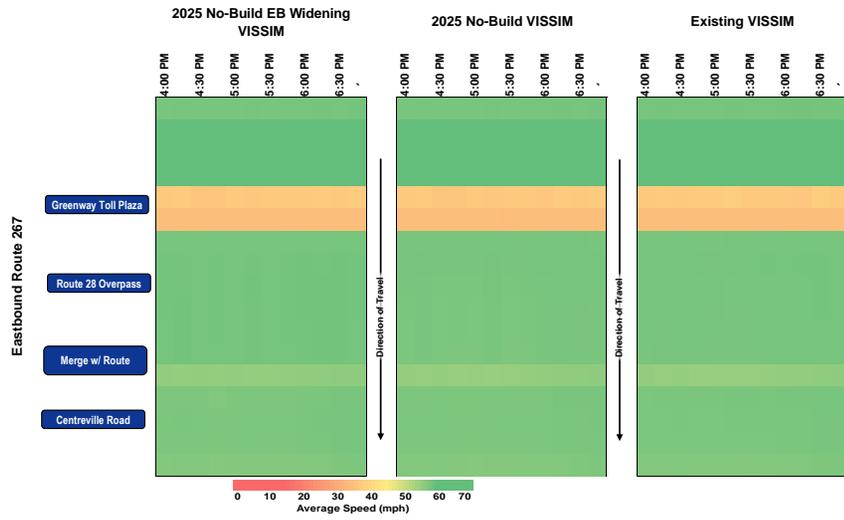
### Freeway Average Speed Comparison: Route 28 SB



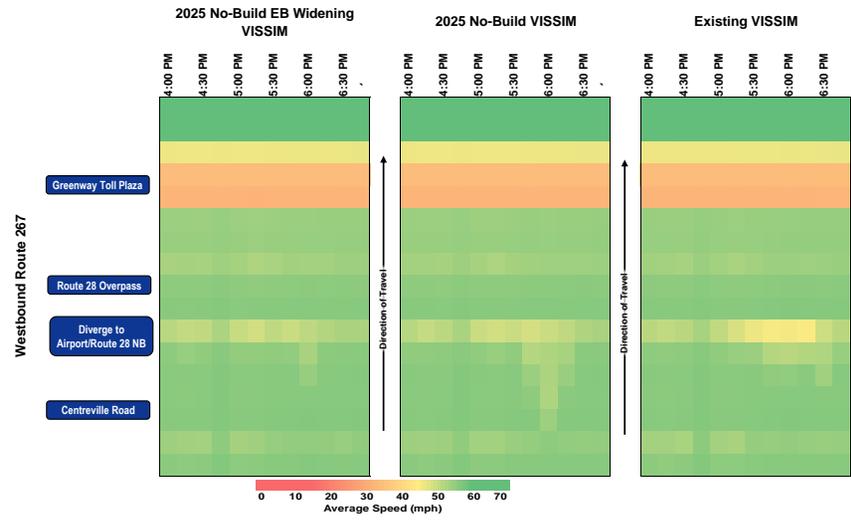
### Freeway Average Speed Comparison: Route 28 NB



### Freeway Average Speed Comparison: Route 267 (Dulles Toll Road/Dulles Greenway) EB



### Freeway Average Speed Comparison: Route 267 (Dulles Toll Road/Dulles Greenway) WB

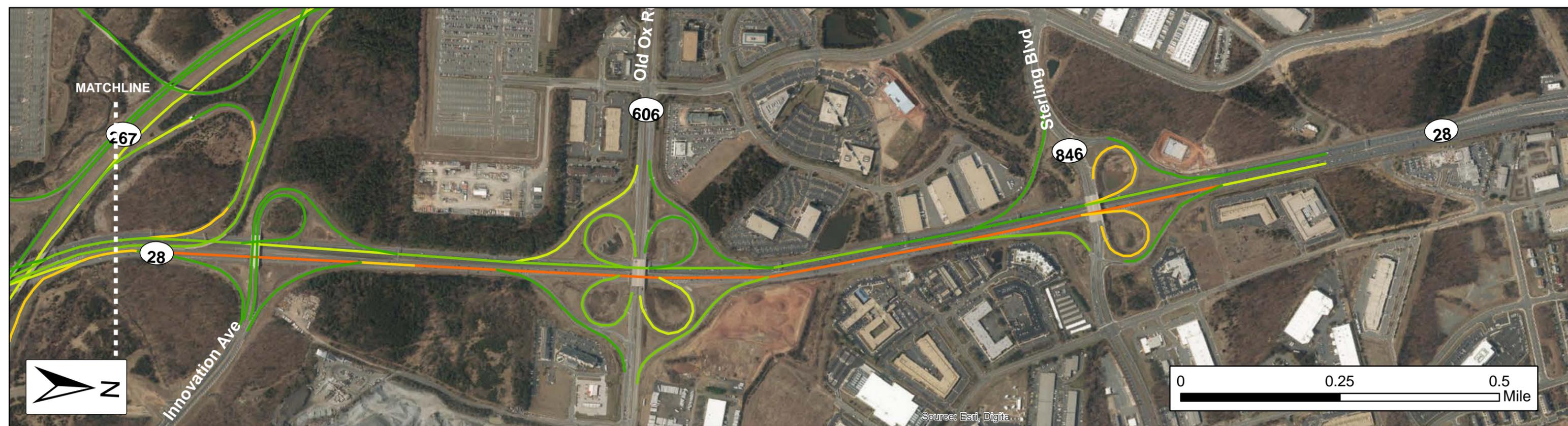
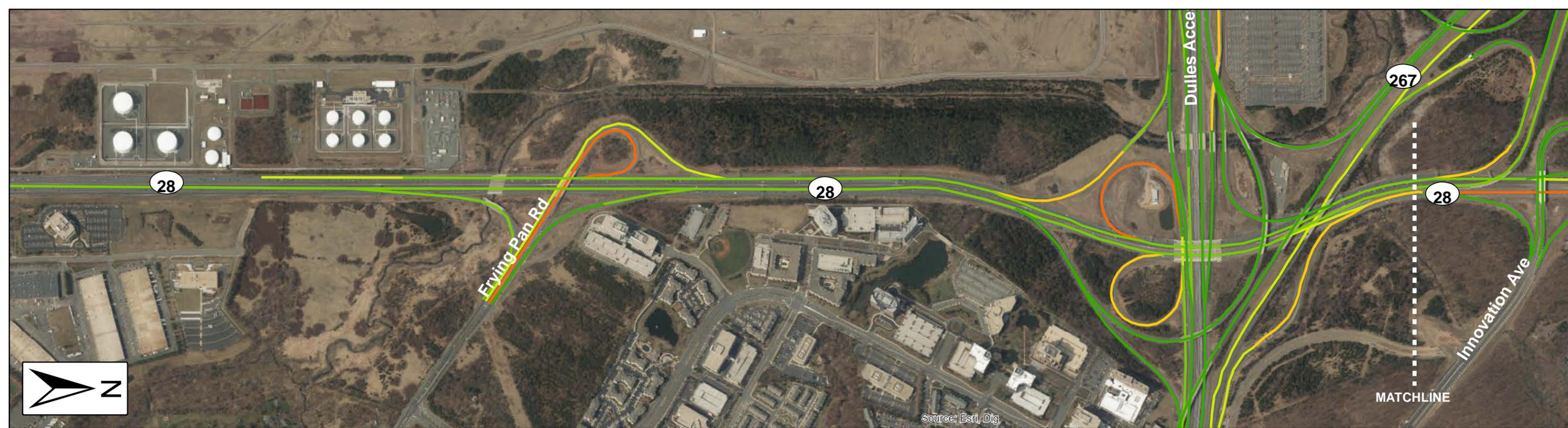


PM Queue Length

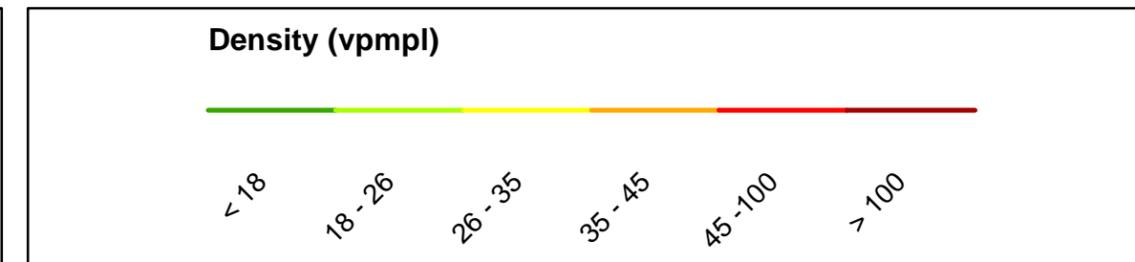
## Targeted Queue Location MOEs

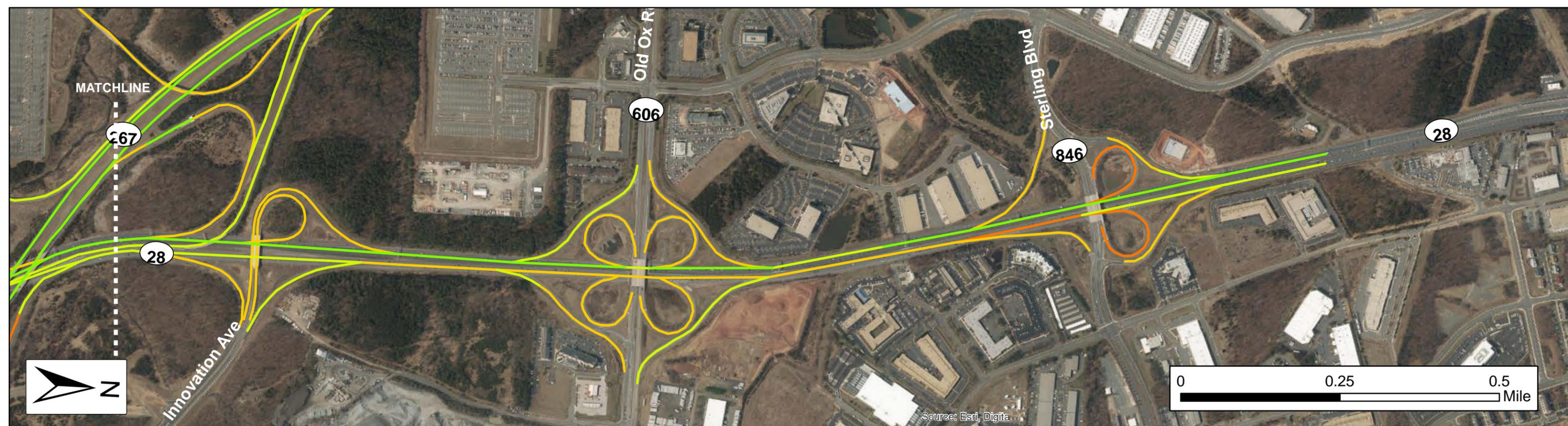
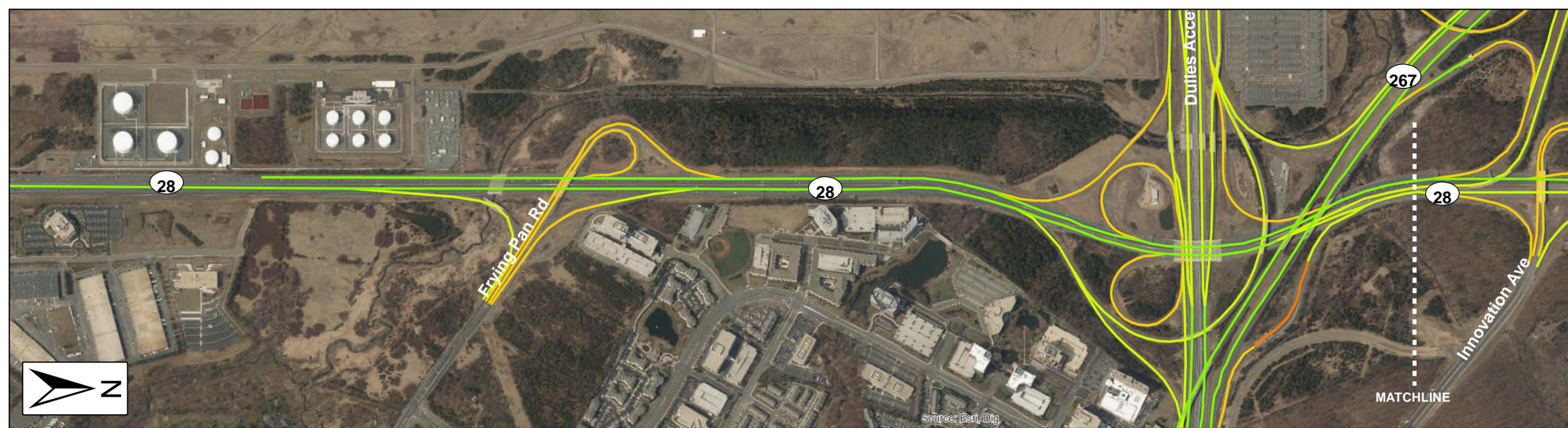
PM Peak Period (4:00 PM - 7:00 PM)

Interchange	Location	Existing VISSIM Max Queue (feet)	2025 No-Build EB Widening VISSIM Max Queue (feet)	Max Queue Difference from Existing (feet)	Max Queue Difference from Existing (%)	2025 No-Build VISSIM Max Queue (feet)	Max Queue Difference from No-Build (feet)	Max Queue Difference from No-Build (%)
Route 28 / Route 267 Interchange	Ramp from Route 267 WB to Route 28 NB	3,043	865	-2,178	-72%	825	40	5%
	Ramp from Route 267 EB/WB (Combined) to Route 28 SB	0	0	0	-	0	0	-
	Ramp from Route 28 NB to Route 267 EB	48	0	-48	-100%	0	0	-
Route 28 / Frying Pan Road Interchange	Frying Pan Rd EBL approaching Sunrise Valley Dr	386	205	-180	-47%	214	-9	-4%
	Route 28 SB off-ramp to Frying Pan Road	0	19	19	-	11	8	68%
	Route 28 NB off-ramp to Frying Pan Road	0	0	0	-	3	-3	-100%
	Ramp from Frying Pan Road to Route 28 NB	1,010	0	-1,010	-100%	0	0	-
Route 267 / Centreville Road Interchange	Route 267 WB off-ramp to Centreville Rd	964	943	-21	-2%	982	-39	-4%

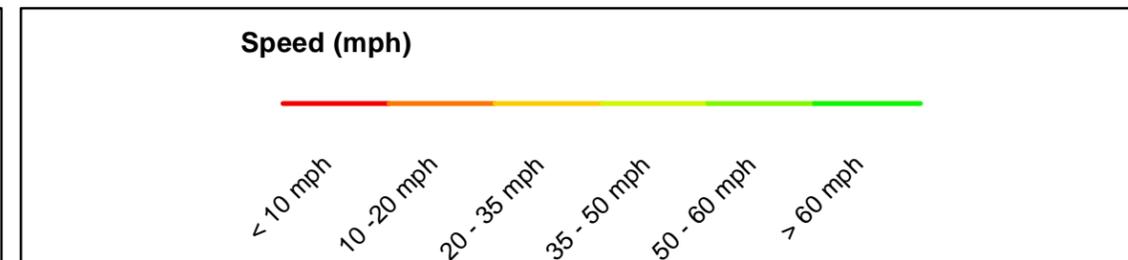


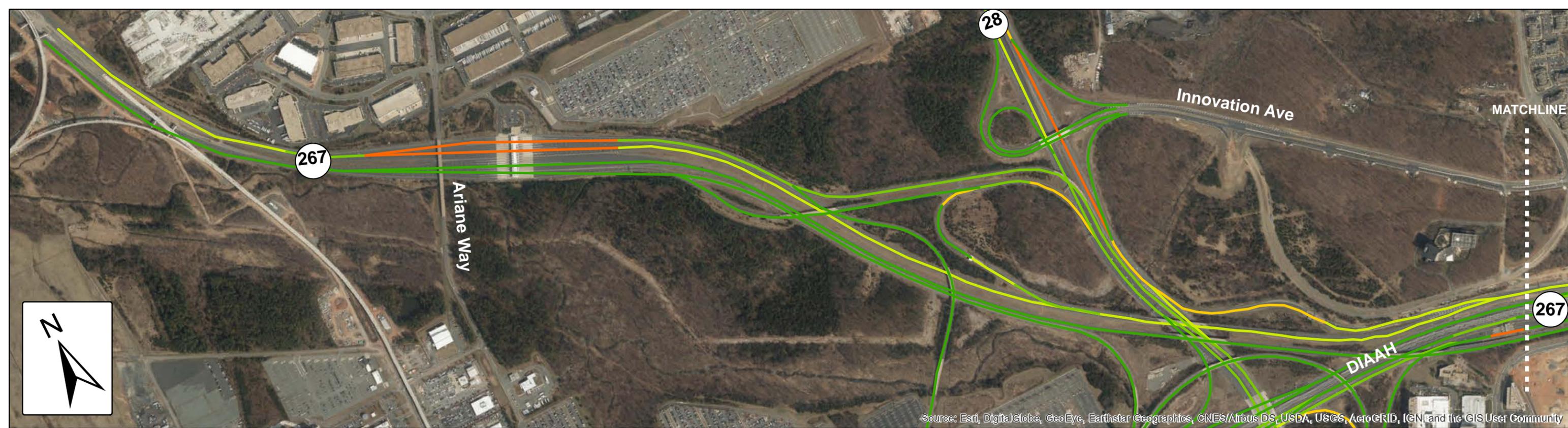
**Route 28 Corridor  
Mainline and Ramp Density  
2025 No-Build Eastbound  
Widening PM**



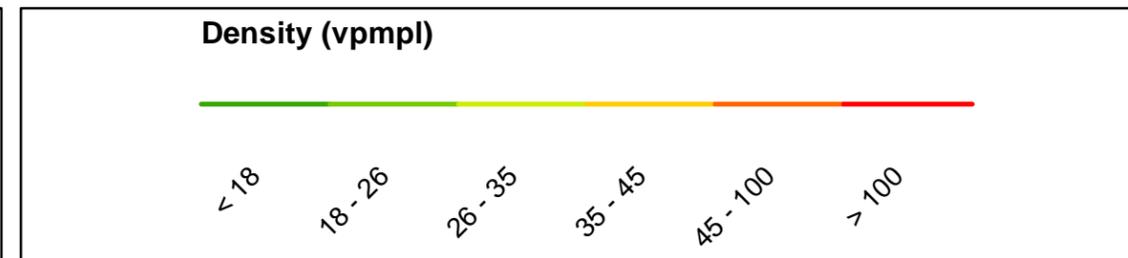


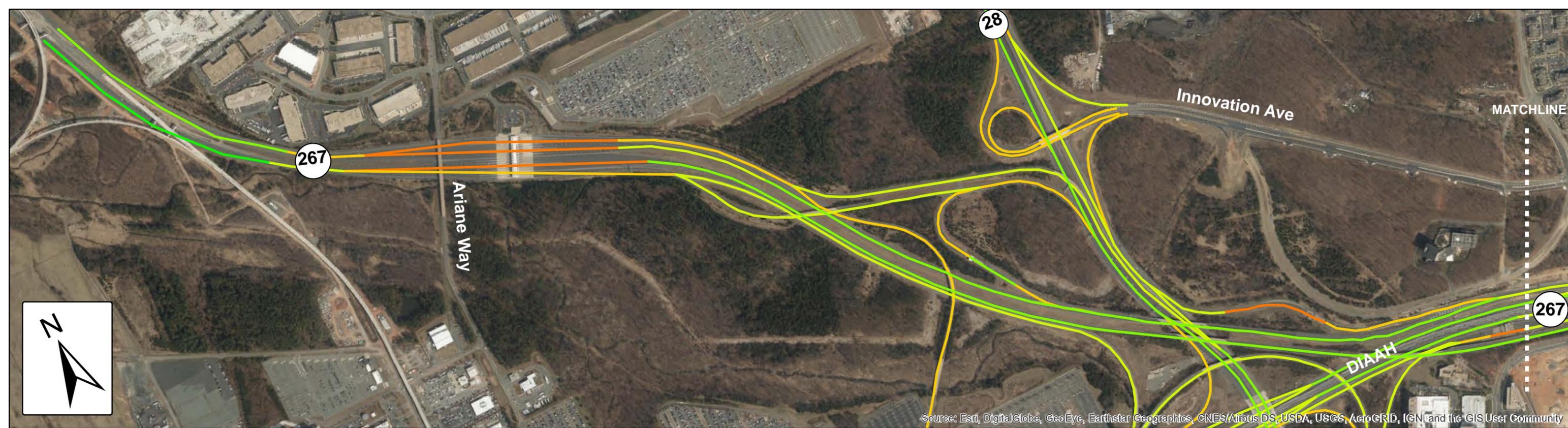
**Route 28 Corridor**  
**Mainline and Ramp Speed**  
**2025 No-Build Eastbound**  
**Widening PM**



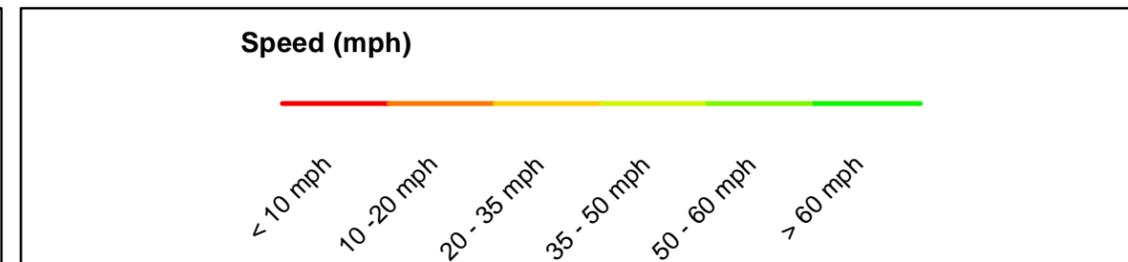


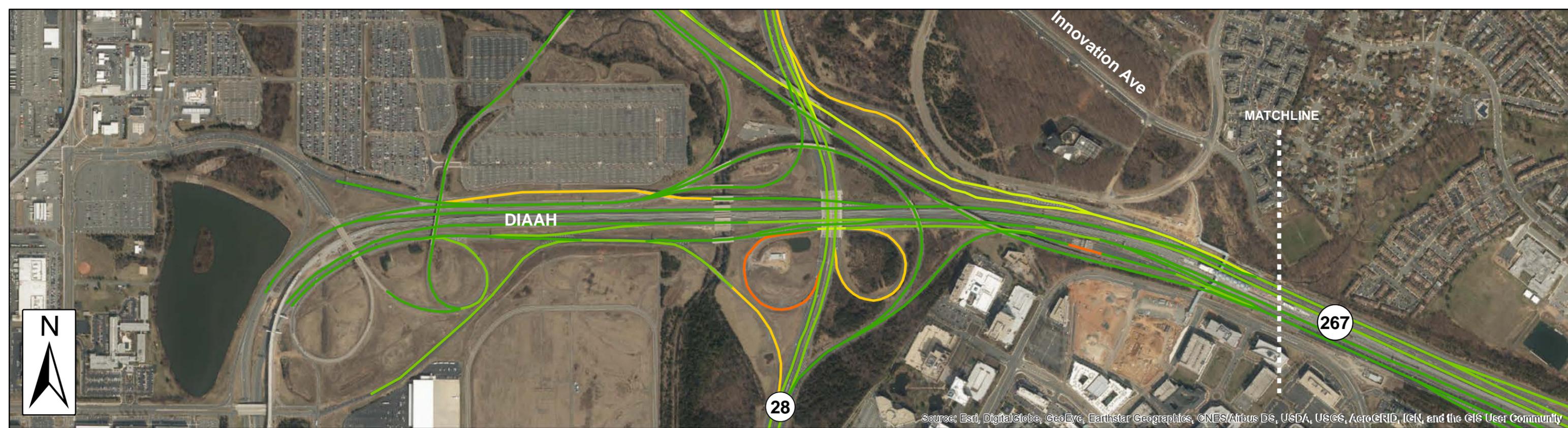
**Route 267 Corridor  
 Mainline and Ramp Density  
 2025 No-Build Eastbound  
 Widening PM**



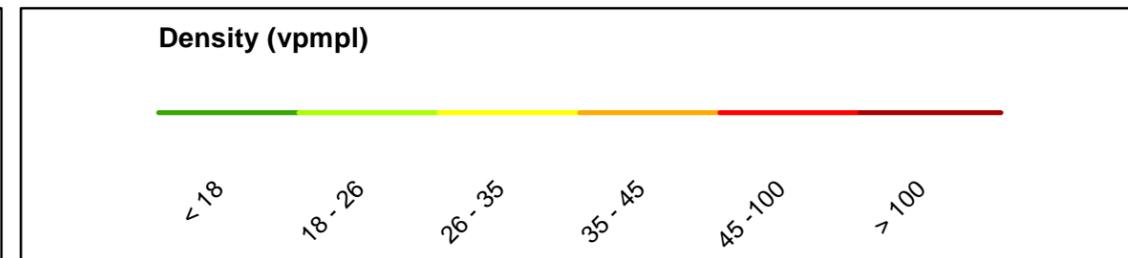


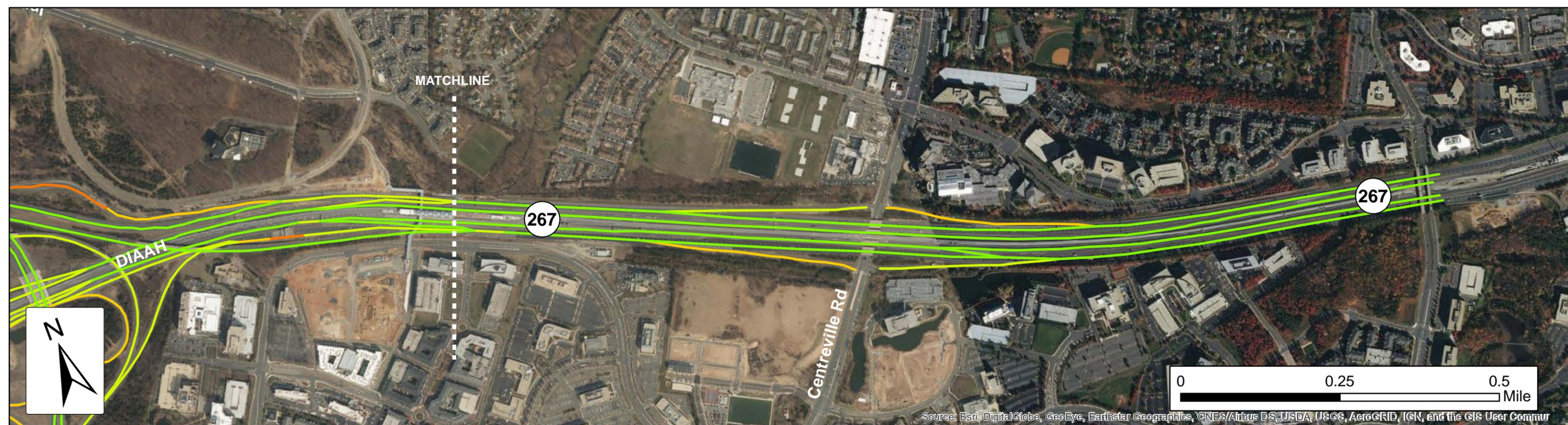
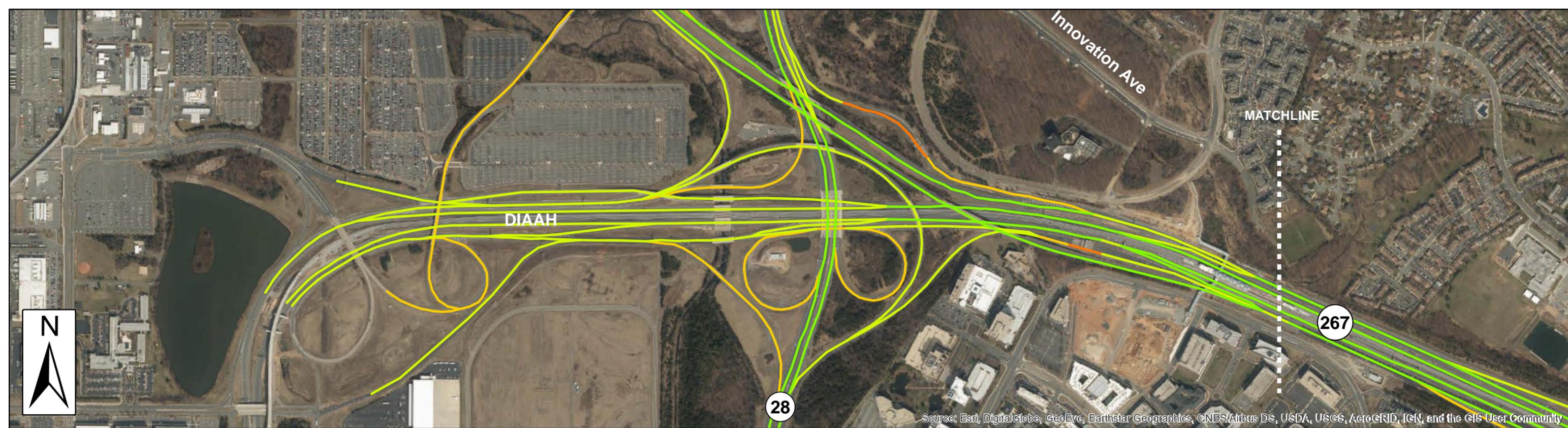
**Route 267 Corridor  
Mainline and Ramp Speed  
2025 No-Build Eastbound  
Widening PM**





**DIAAH Corridor  
Mainline and Ramp Density  
2025 No-Build Eastbound  
Widening PM**





**DIAAH Corridor  
Mainline and Ramp Speed  
2025 No-Build Eastbound  
Widening PM**

