



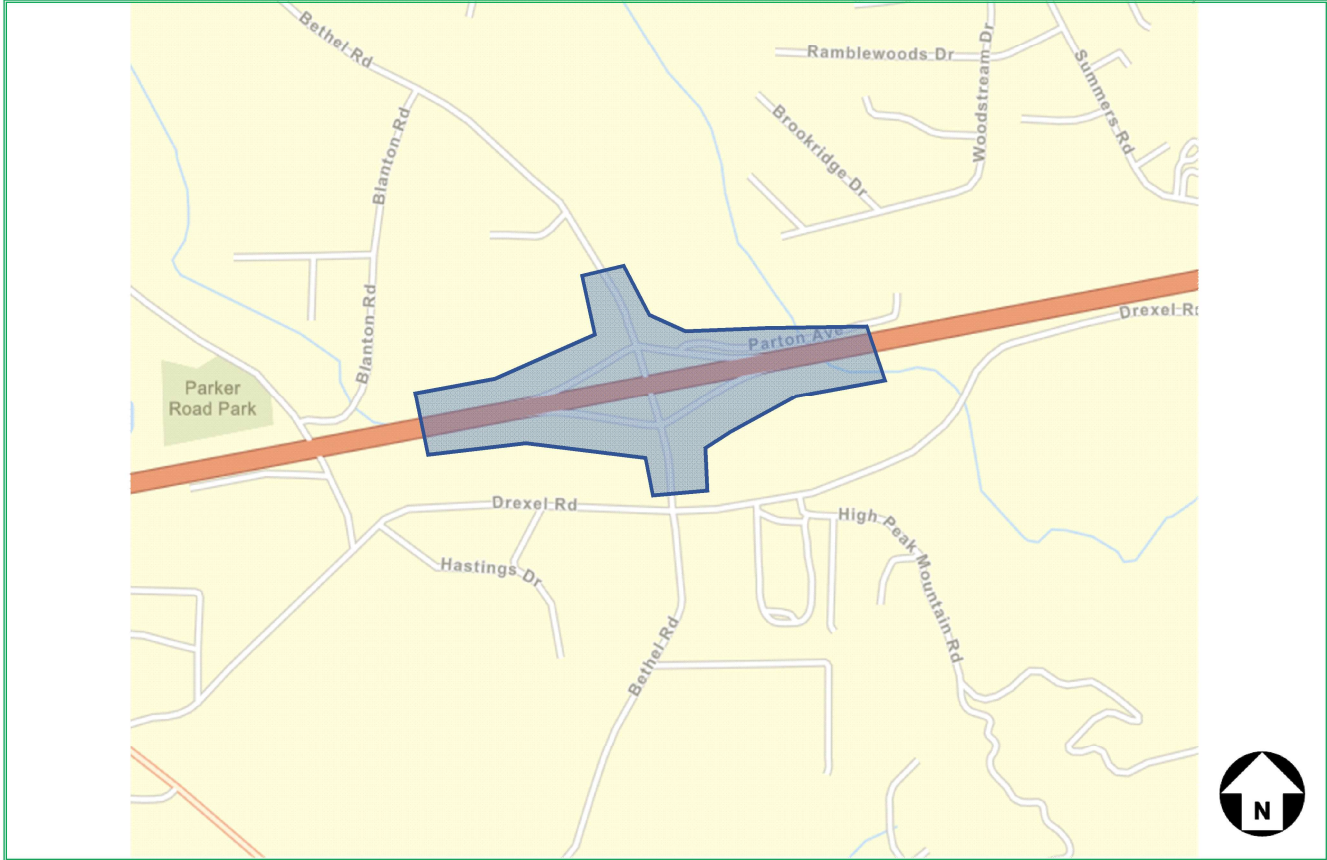
Preliminary – Do Not Use for Construction



SPOT Travel Time Savings Report

I-40 at SR 1704 (Bethel Rd) 8 - Improve Interchange

STIP No. -- SPOT ID: H250692 WBS No. 34263.1.1 Burke DIVISION: 13
2/18/2026 VHB Engineering NC, P.C.



ID	Road Name	External	2025 AADT	2035 AADT	ID	Road Name	External	2025 AADT	2035 AADT
01N	SR 1704 (Bethel Road)	No	4,200	4,700					
01E	I-40	Yes	47,500	50,700					
01S	SR 1704 (Bethel Road)	Yes	3,200	3,400					
01W	I-40	Yes	46,000	49,000					
02N	SR 1704 (Bethel Road)	Yes	3,800	4,300					
02E	SR 1831 (Parton Avenue)	Yes							
02S	SR 1704 (Bethel Road)	No	4,200	4,700					

2025 AM Peak Travel Time Saving	0
2025 PM Peak Travel Time Saving	-1
2025 Total Daily Vehicles	50,250
2025 Daily Travel Time Savings	-2.0
2035 AM Peak Travel Time Saving	0
2035 PM Peak Travel Time Saving	-1
2035 Total Daily Vehicles	53,700
2035 Daily Travel Time Savings	-1.9
Days per Year	260
Travel Time Savings Duration	10 Years

Existing Congestion Level	Non-Congested
Daily Savings Conversion Factor	2.25

10-year Travel Time Savings			
-5,000 hours			
Travel Time Savings Per Vehicle			
2025	0 sec/veh	2035	0 sec/veh

Description of Proposed Design

Relocate ramp intersection SR 1831 (Parton Ave) to fifth leg of roundabout at I-40 at SR 1704 (Bethel Rd) ramp terminal.



Figure 1

Existing Conditions

SHEET 1 OF 1

LEGEND

TIP:	--	WBS:	34263.1.1
COUNTY:	Burke	DIVISION:	13
DATE:	February 18, 2026		
PREPARED BY:	VHB Engineering NC, P.C.		
LOCATION:	I-40 at SR 1704 (Bethel Rd)		
PROJECT:	8 - Improve Interchange		



Relocate Ramp Intersection to Ramp Terminal with Roundabout

Figure 2	Proposed Designs	SHEET 1 OF 1
LEGEND	TIP: --	WBS: 34263.1.1
	COUNTY: Burke	DIVISION: 13
	DATE: February 18, 2026	
	PREPARED BY: VHB Engineering NC, P.C.	
	LOCATION: I-40 at SR 1704 (Bethel Rd)	
	PROJECT: 8 - Improve Interchange	

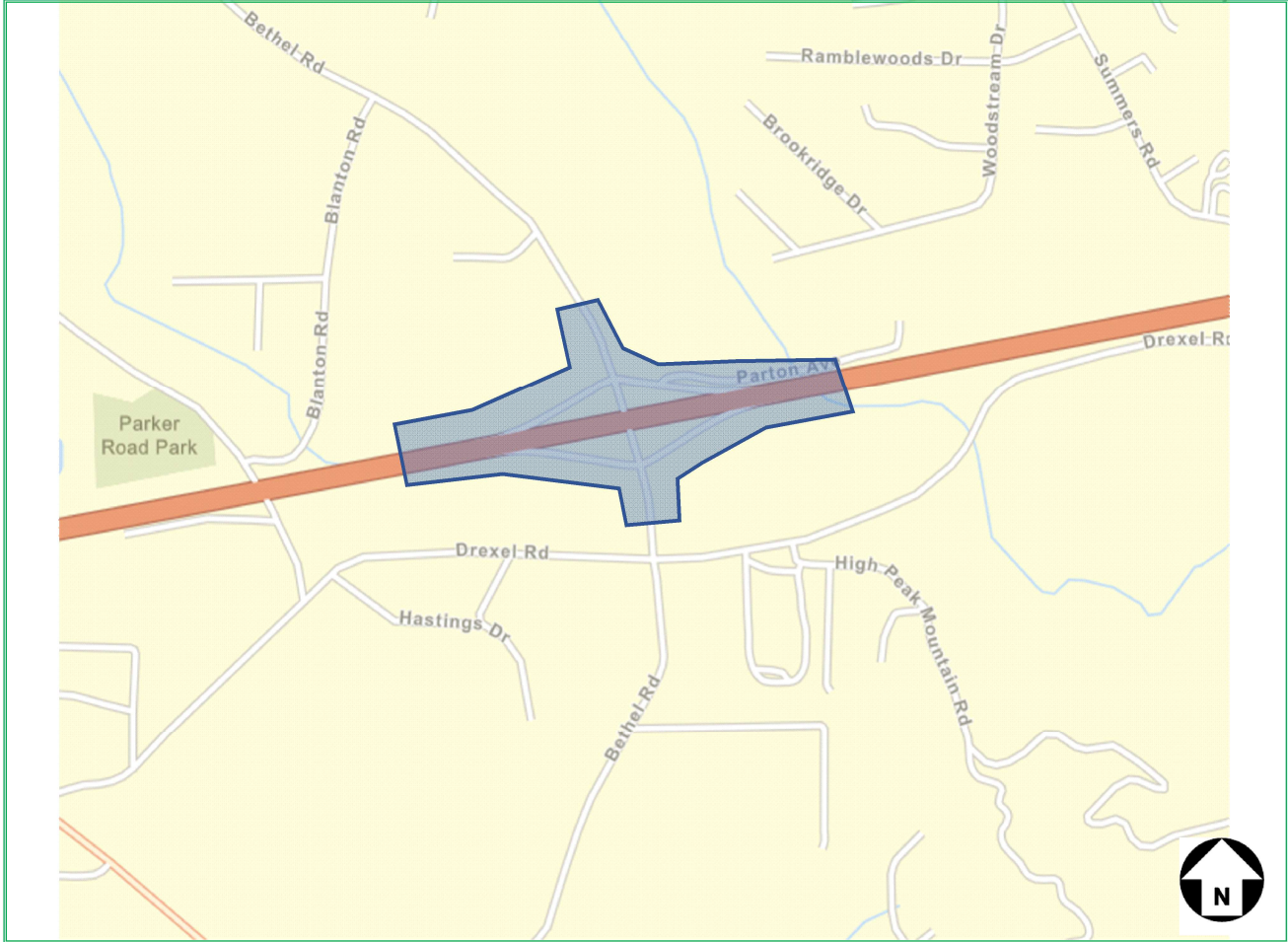


SPOT Volume Report



**I-40 at SR 1704 (Bethel Rd)
8 - Improve Interchange**

STIP No. -- SPOT ID: H250692 WBS No. 34263.1.1
Burke DIVISION: 13



PROJECT STUDY AREA

PREPARED BY: VHB Engineering NC, P.C.
2/5/2026



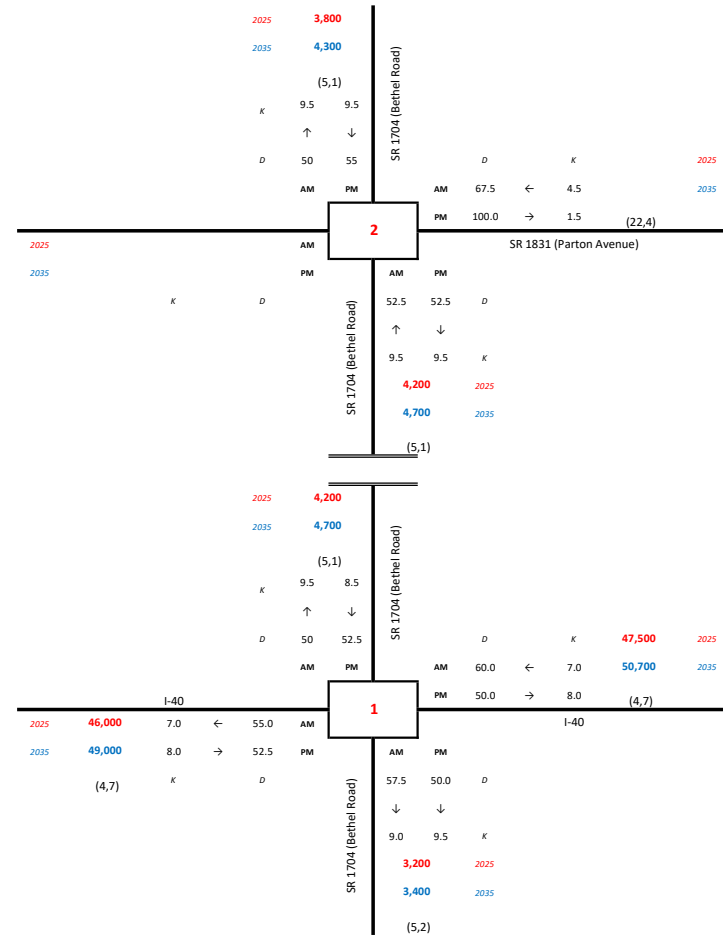
Committed Projects in Study Area

STIP Project and Description: 2026-2035 NCDOT STIP	N/A
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Int_ID	Count_ID	Count Date	Intersection	AADT Source	2023 NCDOT AADT Web Map	Model	Version
1	19375	10/22/2025	I-40 at SR 1704 (Bethel Road)			North Carolina Statewide Model (NCSTM)	Gen 4.5
2	19375	10/22/2025	SR 1704 (Bethel Road) @ SR 1831 (Parton Avenue)				

Travel Demand Model Utilized

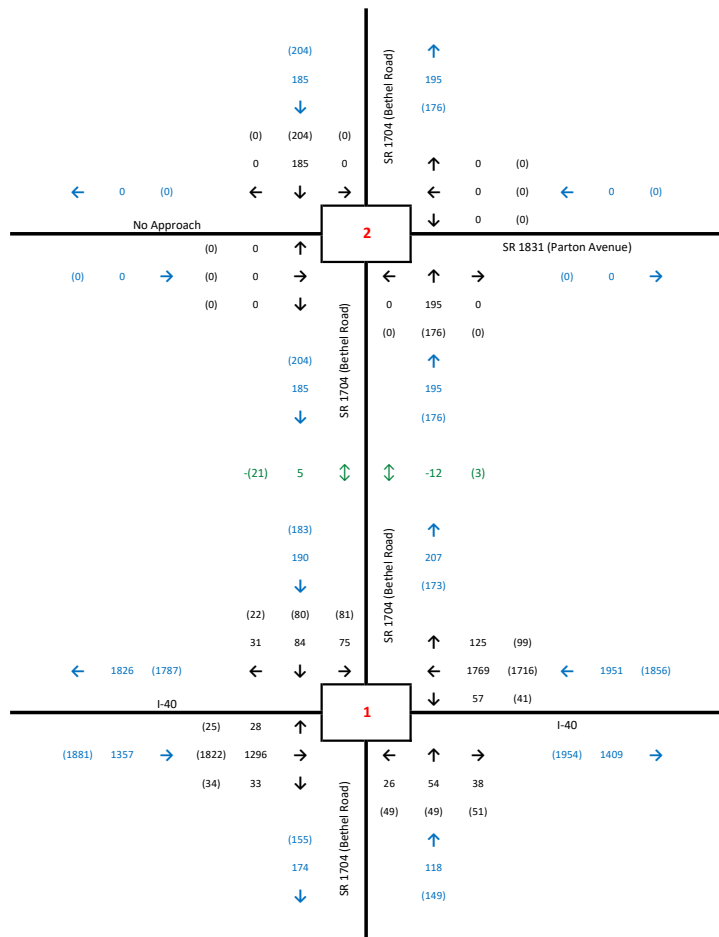
BASE YEAR	2025
FUTURE YEAR	2035
REPORT STATUS	Final
CORRIDOR PROJECT	Yes



2025/2035		SPOT Traffic Volumes		SHEET 1 OF 1	
LEGEND		TIP: --		WBS: 34263.1.1	
##	Intersection Number	COUNTY: Burke		DIVISION: 13	
K	Design Hour Factor	DATE: February 5, 2026			
D	Directional Distribution	PREPARED BY: VHB Engineering NC, P.C.			
(Dual, TTST)	Heavy Vehicle Percentage (Dual, TTST)	LOCATION: I-40 at SR 1704 (Bethel Rd)			
2025	Base Year AADT Volume	PROJECT: 8 - Improve Interchange			
2035	Future Year AADT Volume				

Prioritization Status: PB.0

TURNING MOVEMENT VOLUMES (SPOT)



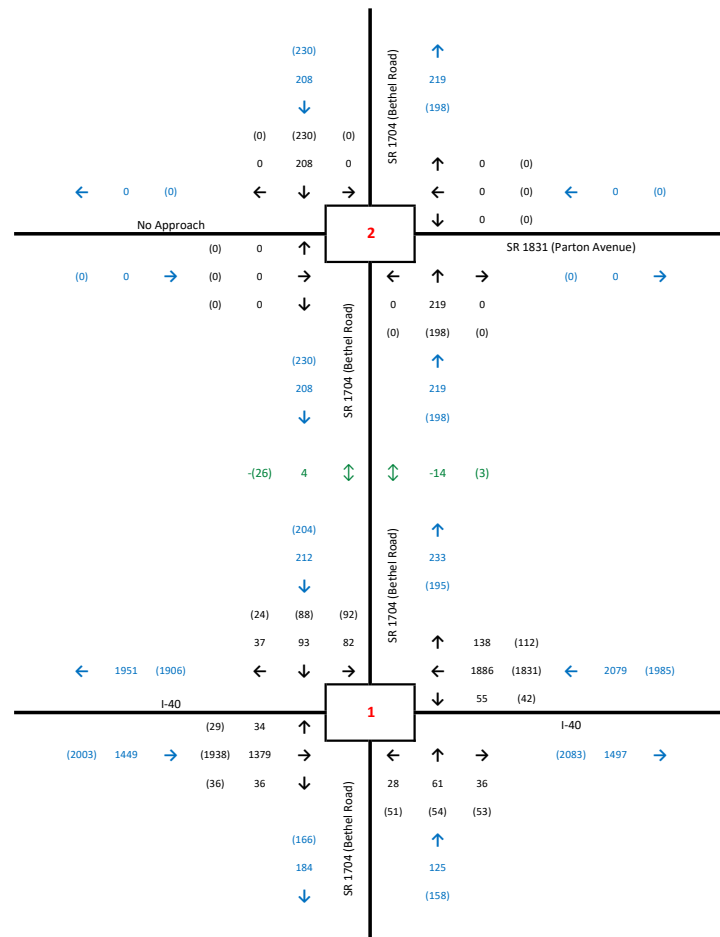
Prioritization Status: P8.0

UNBALANCED

2025	Base Year (Existing)	SHEET 1 OF 1
<p>LEGEND</p> <p>## Intersection Number</p> <p>AM (PM) Peak Hour Intersection Volume</p> <p>AM (PM) Peak Hour Approach Volume</p> <p>AM (PM) Peak Hour Volume Balancing</p>		<p>TIP: --</p> <p>WBS: 34263.1.1</p> <p>COUNTY: Burke</p> <p>DIVISION: 13</p> <p>DATE: February 5, 2026</p> <p>PREPARED BY: VHB Engineering NC, P.C.</p> <p>LOCATION: I-40 at SR 1704 (Bethel Rd)</p> <p>PROJECT: 8 - Improve Interchange</p>



TURNING MOVEMENT VOLUMES (SPOT)



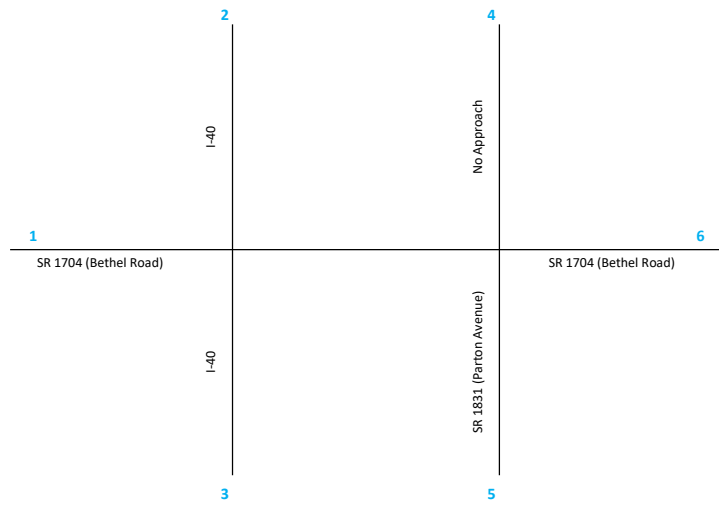
Prioritization Status: P8.0

UNBALANCED



2035	Future Year Build	SHEET 1 OF 1
LEGEND		TIP: --
##	Intersection Number	WBS: 34263.1.1
AM (PM)	Peak Hour Intersection Volume	COUNTY: Burke
AM (PM)	Peak Hour Approach Volume	DIVISION: 13
AM (PM)	Peak Hour Volume Balancing	DATE: February 5, 2026
		PREPARED BY: VHB Engineering NC, P.C.
		LOCATION: I-40 at SR 1704 (Bethel Rd)
		PROJECT: 8 - Improve Interchange

ORIGIN-DESTINATION MATRICES (SPOT)

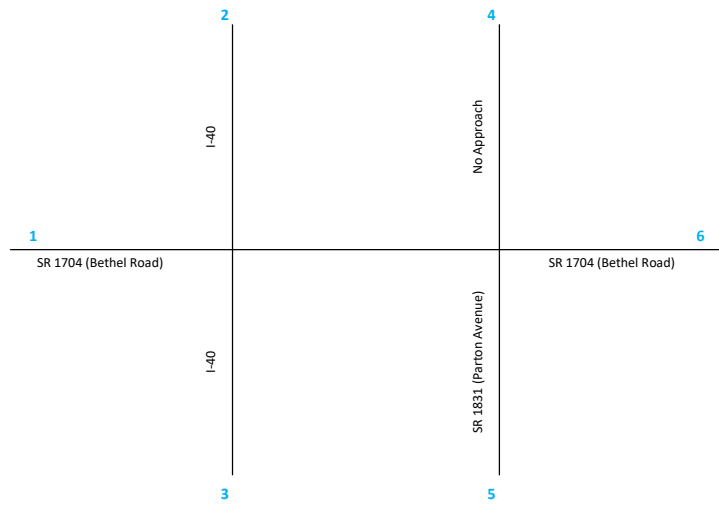


AM	1	2	3	4	5	6	TOTAL
1	0	27	39	0	0	52	118
2	33	0	1298	0	0	26	1357
3	58	1773	0	0	0	117	1948
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	83	30	73	0	0	0	186
Total	174	1830	1410	0	0	195	3609

PM	1	2	3	4	5	6	TOTAL
1	0	49	50	0	0	50	149
2	32	0	1817	0	0	26	1875
3	39	1714	0	0	0	101	1854
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	84	26	93	0	0	0	203
Total	155	1789	1960	0	0	177	4081

2025		Base Year (Existing)	
TIP:	--	34263.1.1	
COUNTY:	Burke	DIVISION: 13	
DATE:	February 5, 2026		
PREPARED BY:	VHB Engineering NC, P.C.		
LOCATION:	I-40 at SR 1704 (Bethel Rd)		
PROJECT:	8 - Improve Interchange		

ORIGIN-DESTINATION MATRICES (SPOT)



AM	1	2	3	4	5	6	TOTAL
1	0	29	37	0	0	59	125
2	36	0	1381	0	0	31	1448
3	56	1890	0	0	0	129	2075
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	92	36	80	0	0	0	208
Total	184	1955	1498	0	0	219	3856

PM	1	2	3	4	5	6	TOTAL
1	0	51	52	0	0	55	158
2	34	0	1931	0	0	30	1995
3	40	1829	0	0	0	114	1983
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	93	29	107	0	0	0	229
Total	167	1909	2090	0	0	199	4365

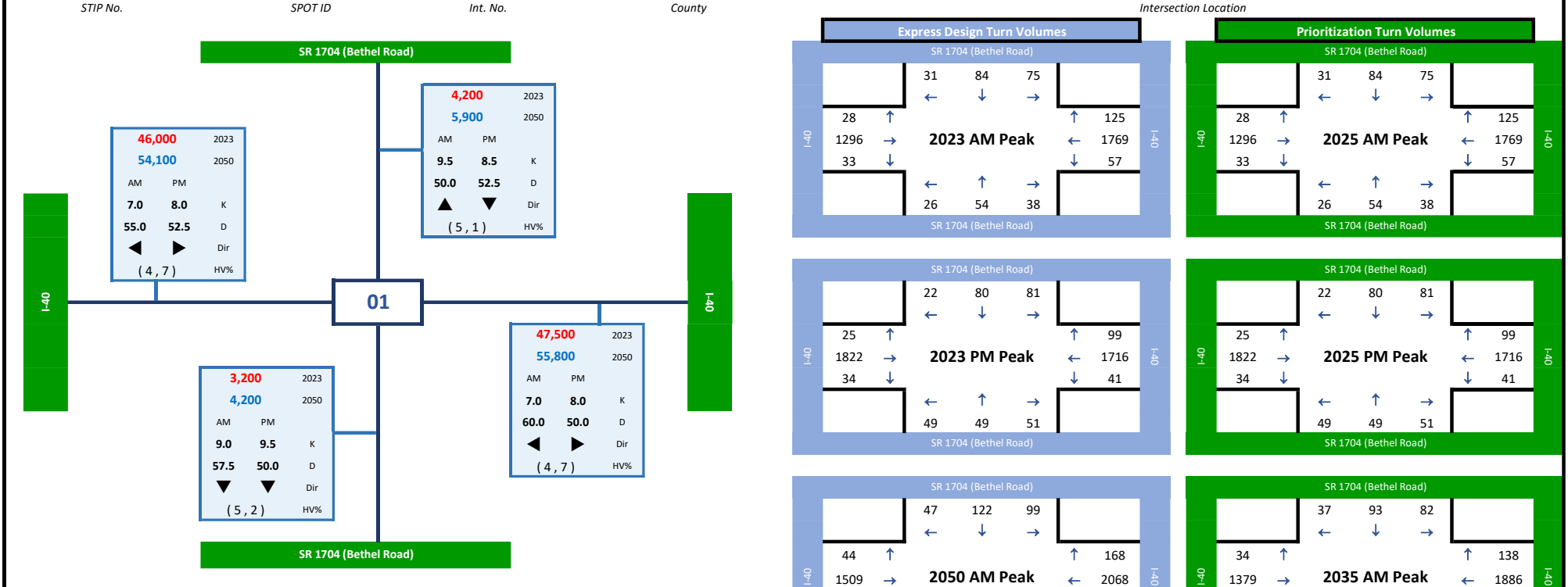


Prioritization Status:

P8.0

2035		Future Year Build	
TIP: --		34263.1.1	
COUNTY: Burke		DIVISION: 13	
DATE: February 5, 2026			
PREPARED BY: VHB Engineering NC, P.C.			
LOCATION: I-40 at SR 1704 (Bethel Rd)			
PROJECT: 8 - Improve Interchange			

--	H250692	01	Burke	I-40 at SR 1704 (Bethel Road)
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Express Design Turn Volumes				
SR 1704 (Bethel Road)				
	31	84	75	
	←	↓	→	
28	↑		↑	125
1296	→	2023 AM Peak		←
33	↓		↓	57
	←	↑	→	
	26	54	38	
SR 1704 (Bethel Road)				

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
	31	84	75	
	←	↓	→	
28	↑		↑	125
1296	→	2025 AM Peak		←
33	↓		↓	57
	←	↑	→	
	26	54	38	
SR 1704 (Bethel Road)				

Express Design Turn Volumes				
SR 1704 (Bethel Road)				
	22	80	81	
	←	↓	→	
25	↑		↑	99
1822	→	2023 PM Peak		←
34	↓		↓	41
	←	↑	→	
	49	49	51	
SR 1704 (Bethel Road)				

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
	22	80	81	
	←	↓	→	
25	↑		↑	99
1822	→	2025 PM Peak		←
34	↓		↓	41
	←	↑	→	
	49	49	51	
SR 1704 (Bethel Road)				

Express Design Turn Volumes				
SR 1704 (Bethel Road)				
	47	122	99	
	←	↓	→	
44	↑		↑	168
1509	→	2050 AM Peak		←
42	↓		↓	63
	←	↑	→	
	34	80	41	
SR 1704 (Bethel Road)				

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
	37	93	82	
	←	↓	→	
34	↑		↑	138
1379	→	2035 AM Peak		←
36	↓		↓	55
	←	↑	→	
	28	61	36	
SR 1704 (Bethel Road)				

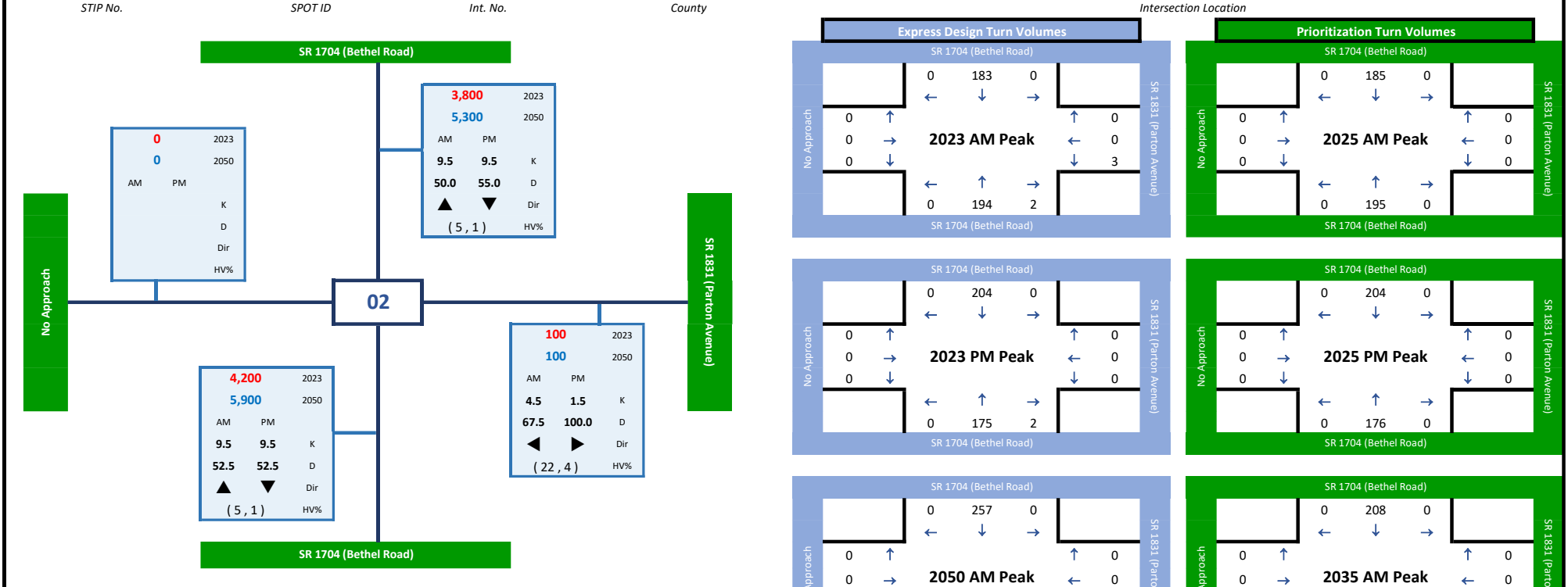
Express Design Turn Volumes				
SR 1704 (Bethel Road)				
	31	115	110	
	←	↓	→	
36	↑		↑	136
2125	→	2050 PM Peak		←
42	↓		↓	48
	←	↑	→	
	61	72	61	
SR 1704 (Bethel Road)				

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
	24	88	92	
	←	↓	→	
29	↑		↑	112
1938	→	2035 PM Peak		←
36	↓		↓	42
	←	↑	→	
	51	54	53	
SR 1704 (Bethel Road)				

Approach	Road Name	Route Type	No. of Lanes	Facility Type	Functional Class	Capacity	2023 V/C Ratio
North	SR 1704 (Bethel Road)	SR	2	Arterial	Collector	14,259	0.29
East	I-40	Interstate	4	Freeway	Freeway	67,626	0.70
South	SR 1704 (Bethel Road)	SR	2	Arterial	Collector	14,259	0.22
West	I-40	Interstate	4	Freeway	Freeway	67,626	0.68

Approach	Road Name	Express Design Traffic Volumes			Prioritization Traffic Volumes		
		2023 AADT	2023-2050 CAGR	2050 AADT	2025 AADT	2025-2035 CAGR	2035 AADT
North	SR 1704 (Bethel Road)	4,200	1.3%	5,900	4,200	1.2%	4,700
East	I-40	47,500	0.6%	55,800	47,500	0.7%	50,700
South	SR 1704 (Bethel Road)	3,200	1.0%	4,200	3,200	0.5%	3,400
West	I-40	46,000	0.6%	54,100	46,000	0.6%	49,000

--	H250692	02	Burke	SR 1704 (Bethel Road) @ SR 1831 (Parton Avenue)
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Express Design Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	183	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2023 AM Peak				
SR 1704 (Bethel Road)	0	194	2	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	3	
	0	←	0	

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	185	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2025 AM Peak				
SR 1704 (Bethel Road)	0	195	0	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Express Design Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	204	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2023 PM Peak				
SR 1704 (Bethel Road)	0	175	2	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	204	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2025 PM Peak				
SR 1704 (Bethel Road)	0	176	0	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Express Design Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	257	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2050 AM Peak				
SR 1704 (Bethel Road)	0	272	2	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	3	
	0	←	0	

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	208	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2035 AM Peak				
SR 1704 (Bethel Road)	0	219	0	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Express Design Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	286	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2050 PM Peak				
SR 1704 (Bethel Road)	0	246	2	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Prioritization Turn Volumes				
SR 1704 (Bethel Road)				
No Approach	0	230	0	SR 1831 (Parton Avenue)
	←	↓	→	
	0	↑	0	
	0	→	0	
2035 PM Peak				
SR 1704 (Bethel Road)	0	198	0	SR 1831 (Parton Avenue)
	←	↑	→	
	0	↓	0	
	0	←	0	

Approach	Road Name	Route Type	No. of Lanes	Facility Type	Functional Class	Capacity	2023 V/C Ratio
North	SR 1704 (Bethel Road)	SR	2	Arterial	Collector	14,259	0.27
East	SR 1831 (Parton Avenue)	SR	2	Arterial	Local	14,259	0.01
South	SR 1704 (Bethel Road)	SR	2	Arterial	Collector	14,259	0.29
West	No Approach		0	0	0	#N/A	#N/A

Approach	Road Name	Express Design Traffic Volumes			Prioritization Traffic Volumes		
		2023 AADT	2023-2050 CAGR	2050 AADT	2025 AADT	2025-2035 CAGR	2035 AADT
North	SR 1704 (Bethel Road)	3,800	1.3%	5,300	3,800	1.2%	4,300
East	SR 1831 (Parton Avenue)	100	0.2%	100	0	0.9%	0
South	SR 1704 (Bethel Road)	4,200	1.3%	5,900	4,200	1.2%	4,700
West	No Approach	0	0.0%	0	0	0.0%	0