

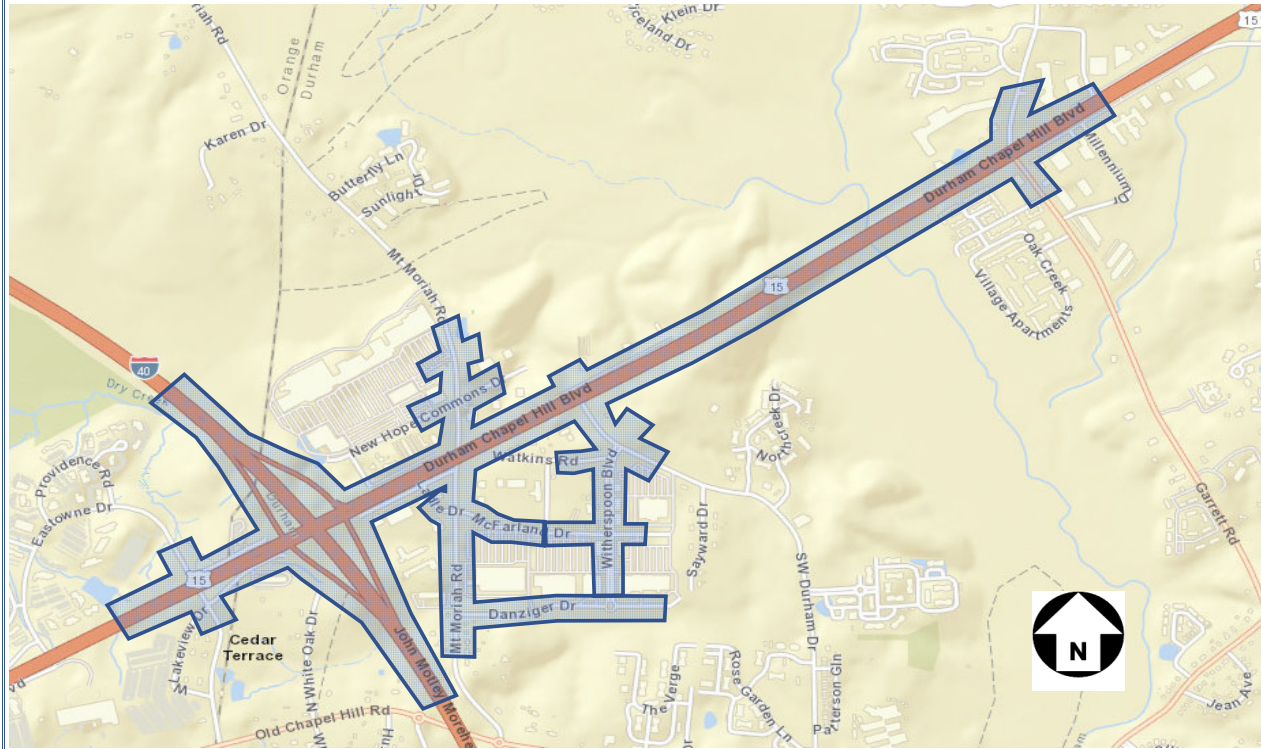


Express Design Traffic Volume (EDTV) Report



US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Durham
Upgrade Corridor to Expressway

STIP No. U-6067 SPOT ID: H090366-A WBS No. 34263.1.1
Durham/Orange DIVISION 5/7



PROJECT STUDY AREA

PREPARED BY: Patriot Transportation Engineering, PLLC
1/23/2023

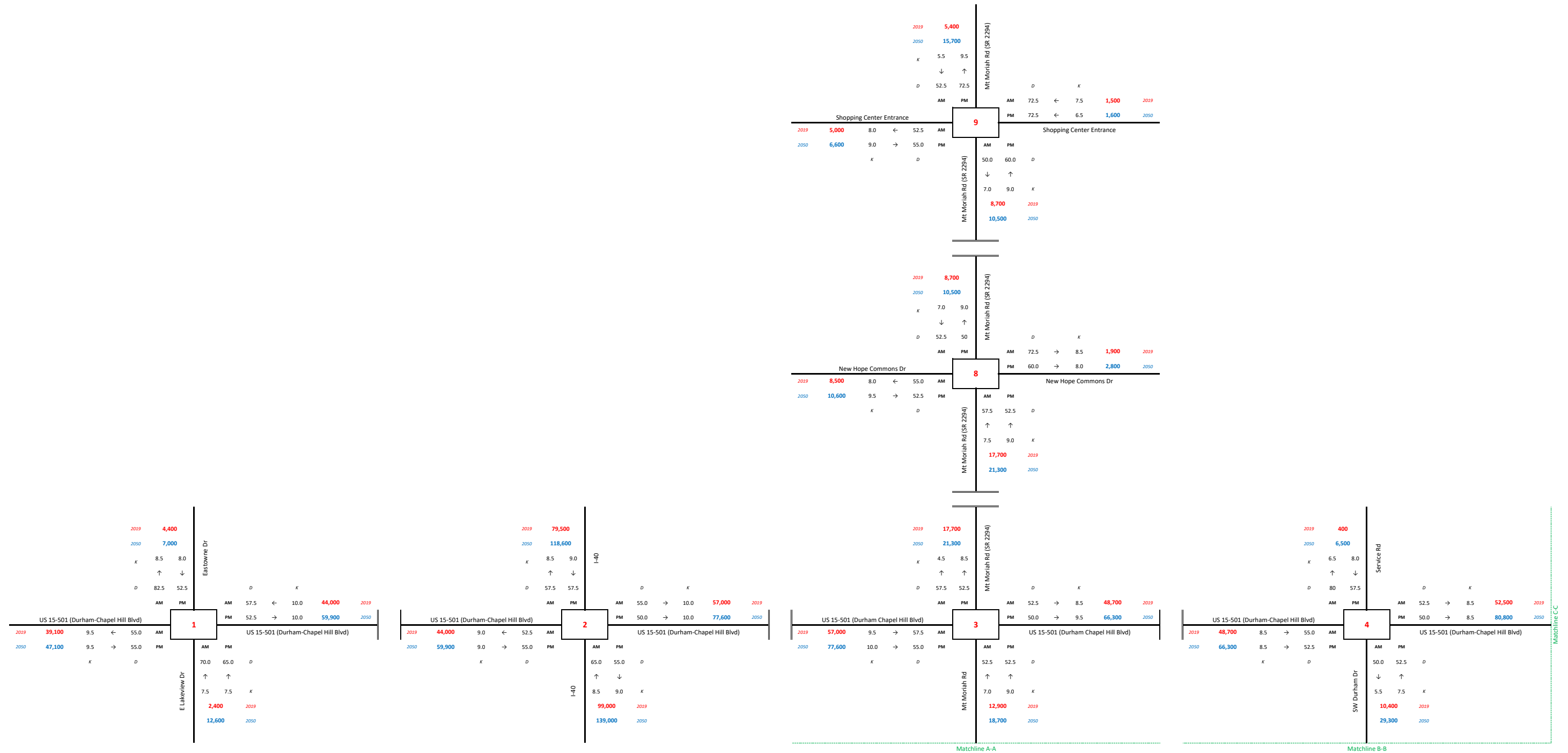


Fiscally Constrained Projects

MTP (MPO Area) or STIP (RPO Area): Durham-Chapel Hill-Carrboro MPO (2050 MTP)	I-3306A (I-40 widening from Durham Co Line to NC 86); U-5717 (new interchange at US 15-501/Garrett Rd); U-5304 (US 15-501 capacity improvements from Ephesus Church Rd to I-40)
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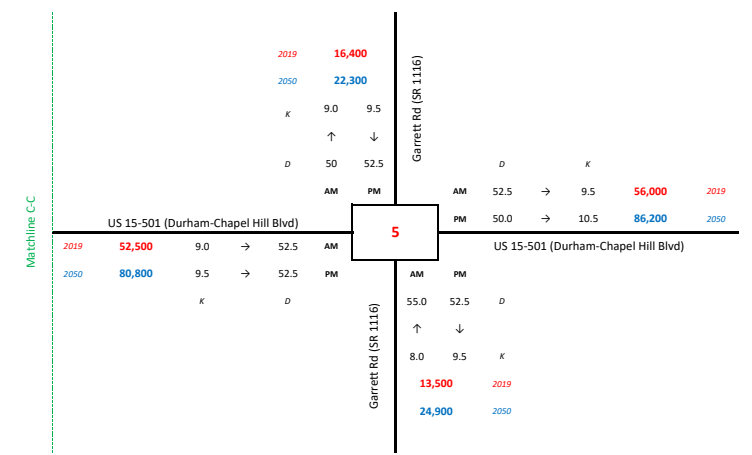
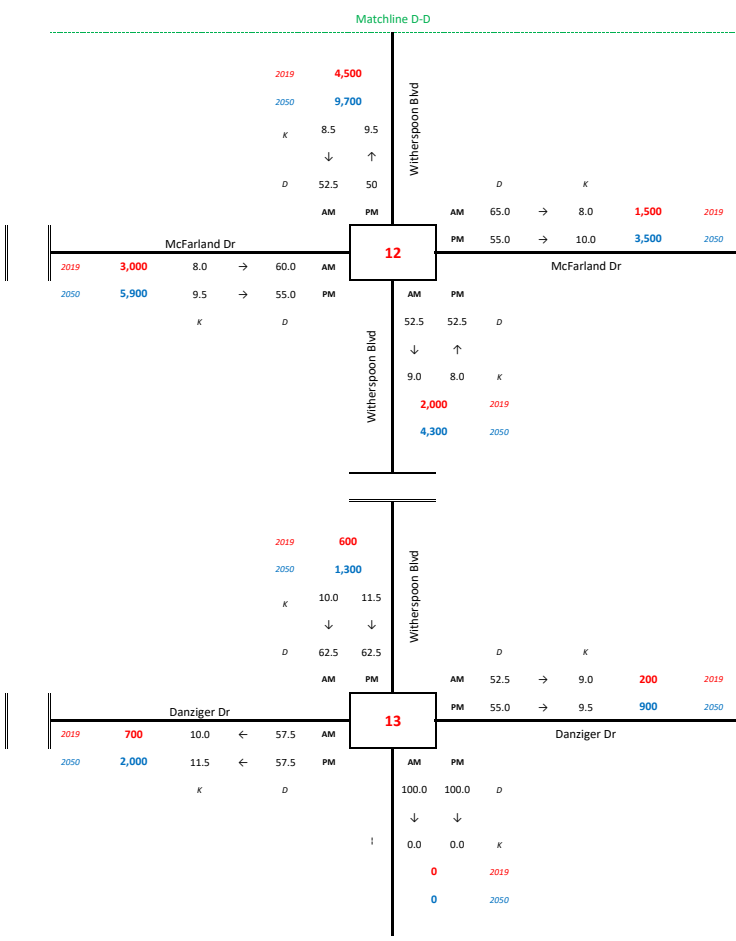
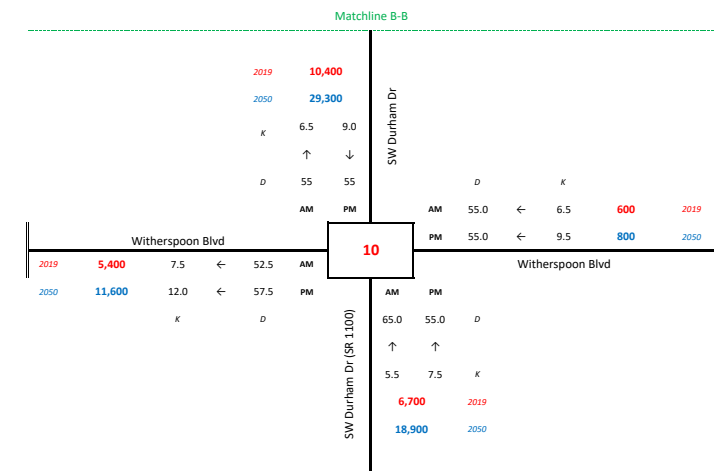
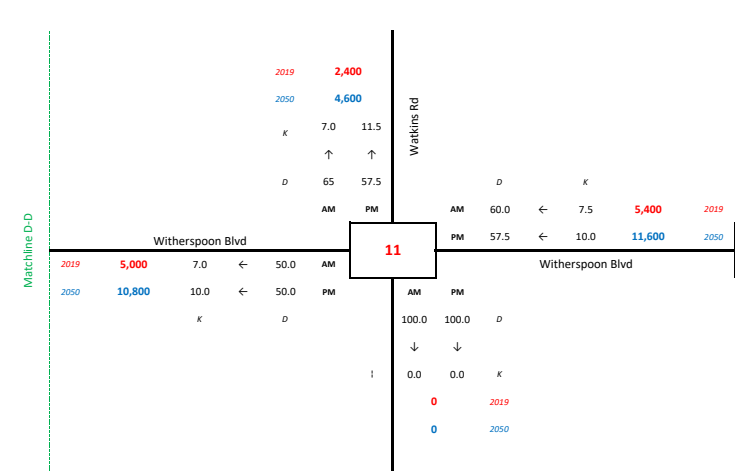
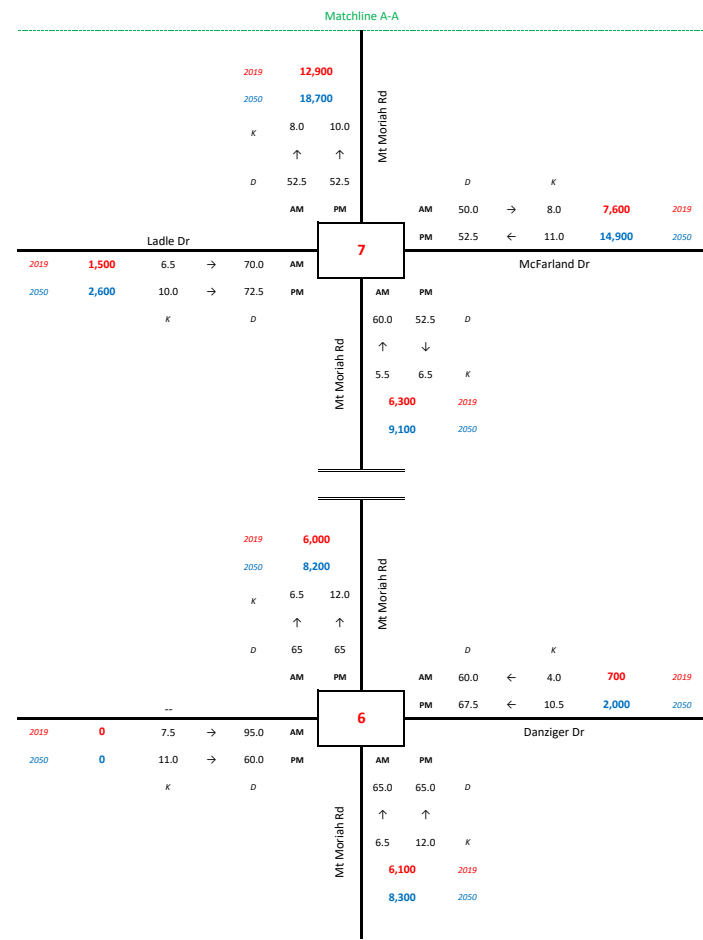
Traffic Count Data

Int ID	Count ID	Count Date	Intersection	AADT Source	2019 NCDOT AADT Web Map	Model	Version
1	MT-17639-01	4/18/2019	US 15-501 (Durham-Chapel Hill Blvd) @ Eastowne Dr			North Carolina Statewide Model (NCSTM)	Gen 4.5
2	MT-17467-06	3/5/2019	I-40 @ US 15-501 (Durham-Chapel Hill Blvd)			Triangle Regional Model	v6.2
3	8295	2/22/2022	15-501 (Durham Chapel Hill Blvd) @ Mt Moriah Rd (SR 22	Travel Demand Models Utilized			
4	MT-17639-03	4/18/2019	US 15-501 (Durham-Chapel Hill Blvd) @ SW Durham Dr				
5	8294	2/22/2022	S 15-501 (Durham-Chapel Hill Blvd) @ Garrett Rd (SR 111)				
6	MT-17639-06	4/18/2019	Mt Moriah Rd @ Danziger Dr				
7	MT-17639-05	4/18/2019	Mt Moriah Rd @ McFarland Dr/Ladle Dr	BASE YEAR	2019		
8	MT-17639-07	4/18/2019	Mt Moriah Rd (SR 2294) @ New Hope Commons Dr	FUTURE YEAR	2050		
9	MT-17639-08	4/18/2019	Mt Moriah Rd (SR 2294) @ Shopping Center Ent	REPORT STATUS	Final	CORRIDOR PROJECT	No
10	MT-17639-09	4/18/2019	SW Durham Dr (SR 1100) @ Witherspoon Blvd	Int ID	Count ID	Count Date	Intersection
11	9168	8/30/2022	Witherspoon Blvd @ Watkins Rd				
12	9169	8/30/2022	Witherspoon Blvd @ McFarland Dr				
13	9170	8/30/2022	Witherspoon Blvd @ Danziger Dr				

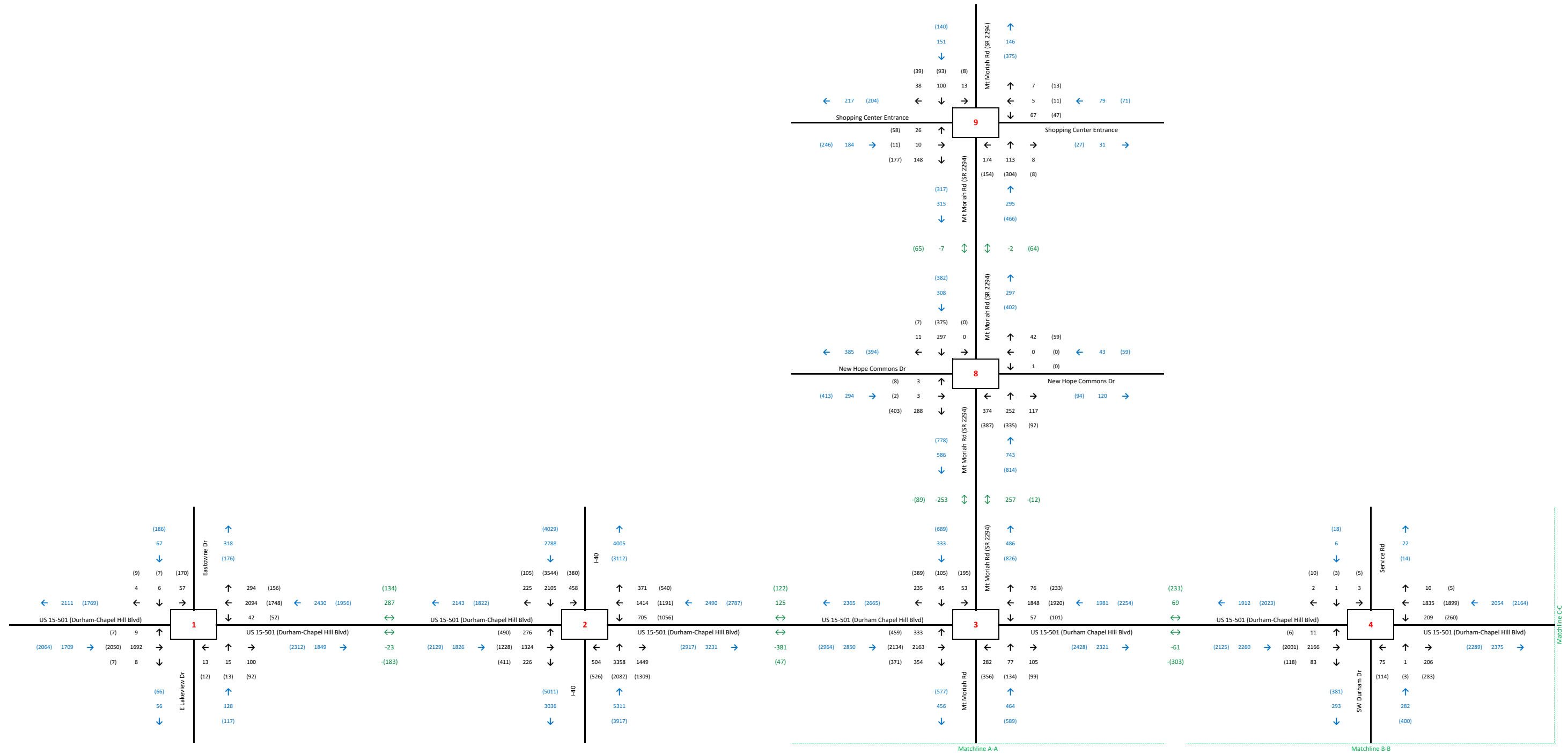


2019/2050		Express-Design Traffic Volumes		SHEET 1 OF 2	
LEGEND			TIP:	U-6067	
##	Intersection Number		COUNTY:	Durham/Orange	
K	Design Hour Factor		DATE:	January 23, 2023	
D	Directional Distribution		PREPARED BY:	Patriot Transportation Engineering, PLLC	
2019	Base Year AADT Volume		LOCATION:	US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur	
2050	Future Year AADT Volume		PROJECT:	Upgrade Corridor to Expressway	
			WBS:	34263.1.1	
			DIVISION:	5/7	





2019/2050	Express-Design Traffic Volumes	SHEET 2 OF 2
	<p>LEGEND</p> <p>## Intersection Number</p> <p>K Design Hour Factor</p> <p>D Directional Distribution</p> <p>2019 Base Year AADT Volume</p> <p>2050 Future Year AADT Volume</p>	
<p>TIP: U-6067</p> <p>COUNTY: Durham/Orange</p> <p>DATE: January 23, 2023</p> <p>PREPARED BY: Patriot Transportation Engineering, PLLC</p> <p>LOCATION: US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur</p> <p>PROJECT: Upgrade Corridor to Expressway</p>		<p>WBS: 34263.1.1</p> <p>DIVISION: 5/7</p>



UNBALANCED

2019

Base Year (Existing)

SHEET 1 OF 2

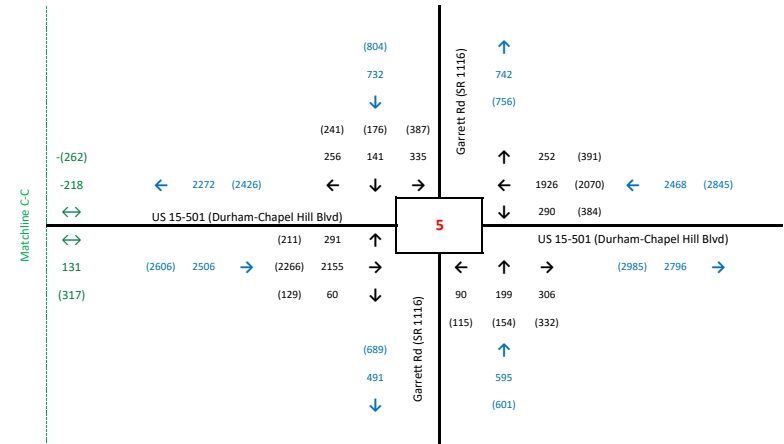
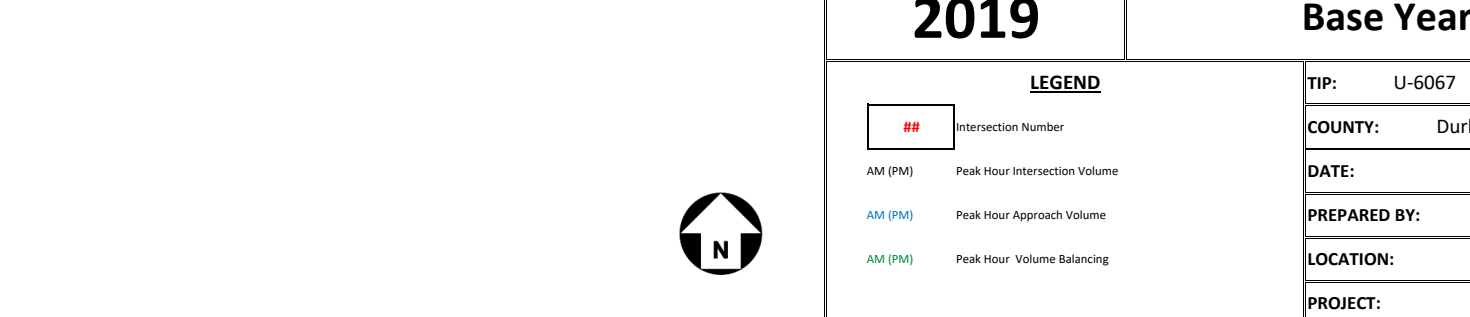
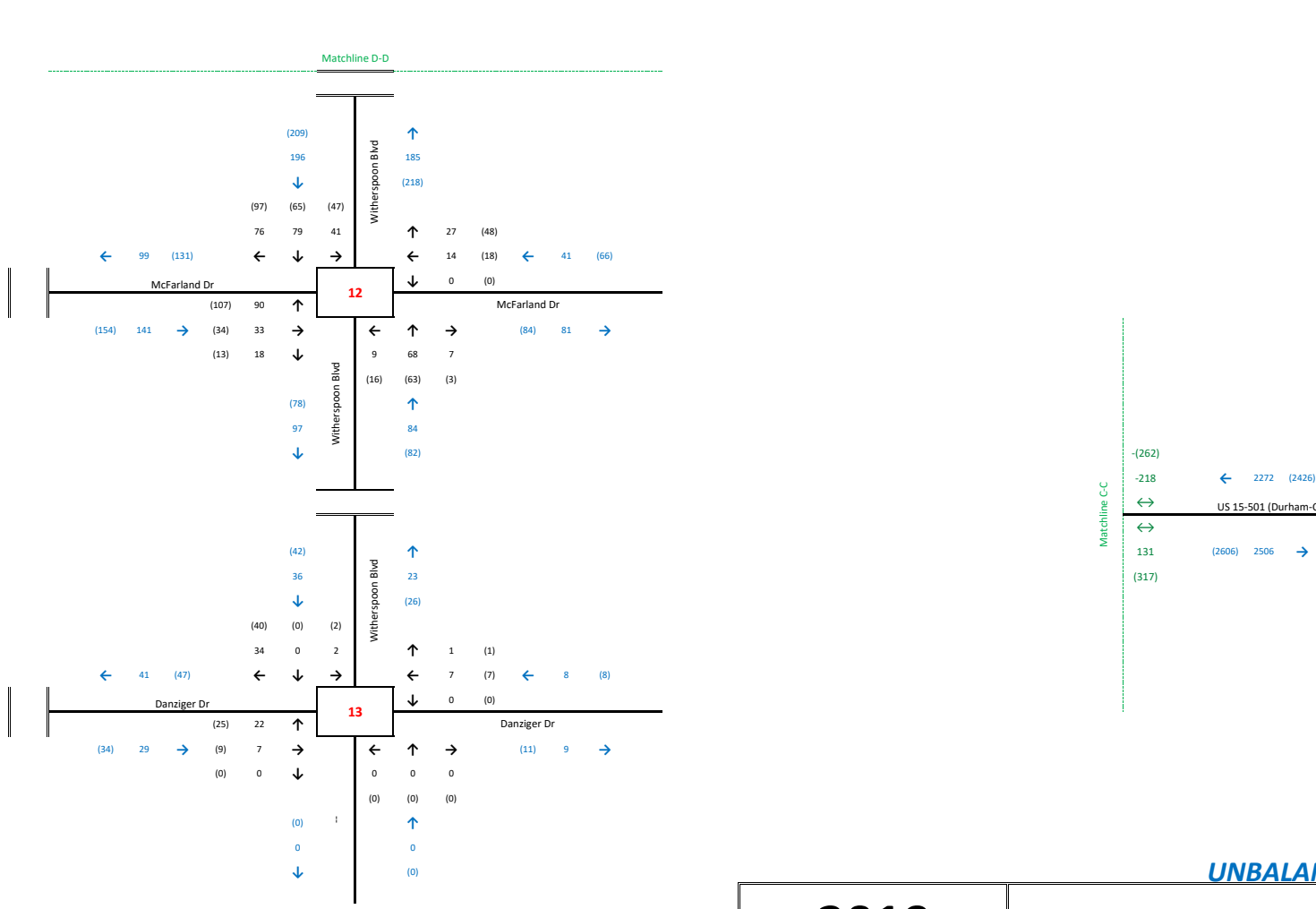
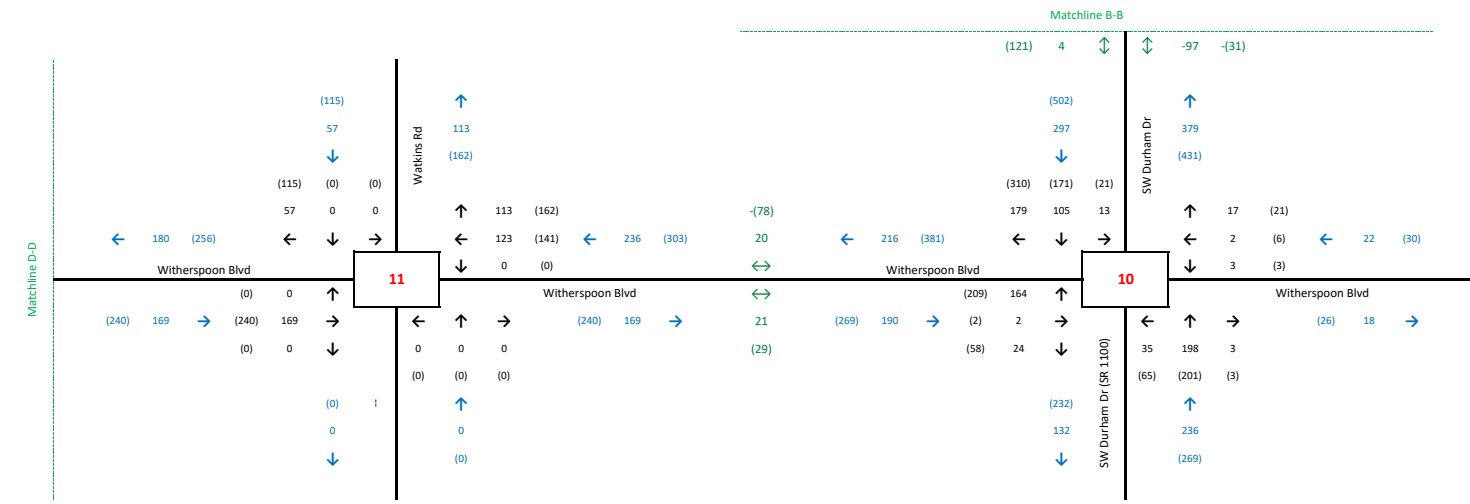
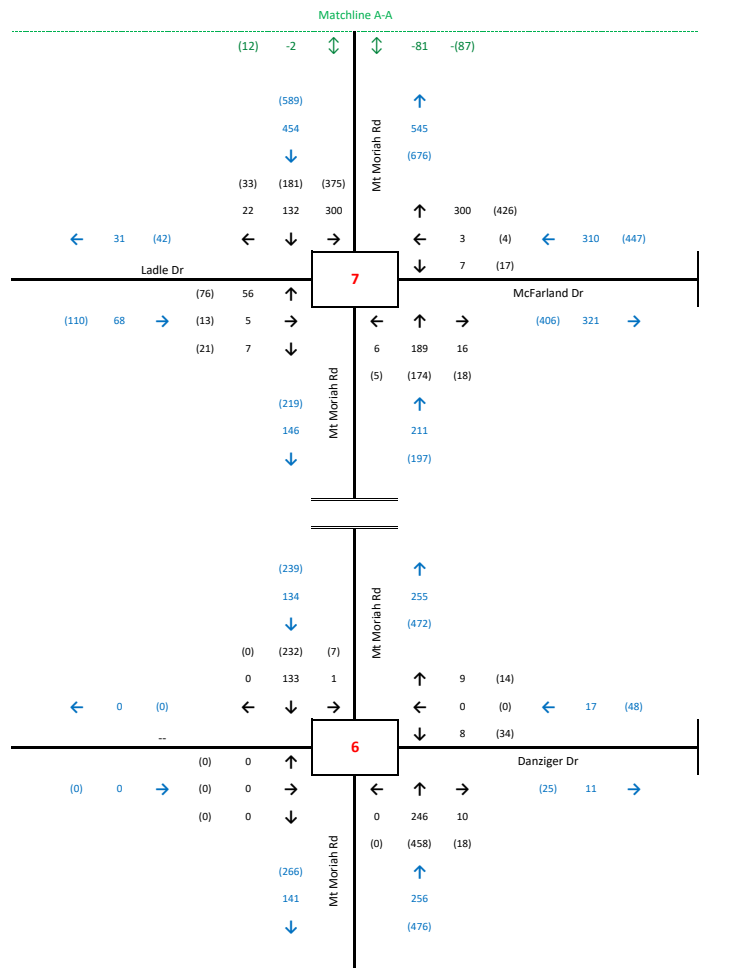
LEGEND

- ## Intersection Number
- AM (PM) Peak Hour Intersection Volume
- AM (PM) Peak Hour Approach Volume
- AM (PM) Peak Hour Volume Balancing



TIP:	U-6067	WBS:	34263.1.1
COUNTY:	Durham/Orange	DIVISION:	5/7
DATE:	January 23, 2023		
PREPARED BY:	Patriot Transportation Engineering, PLLC		
LOCATION:	US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur		
PROJECT:	Upgrade Corridor to Expressway		

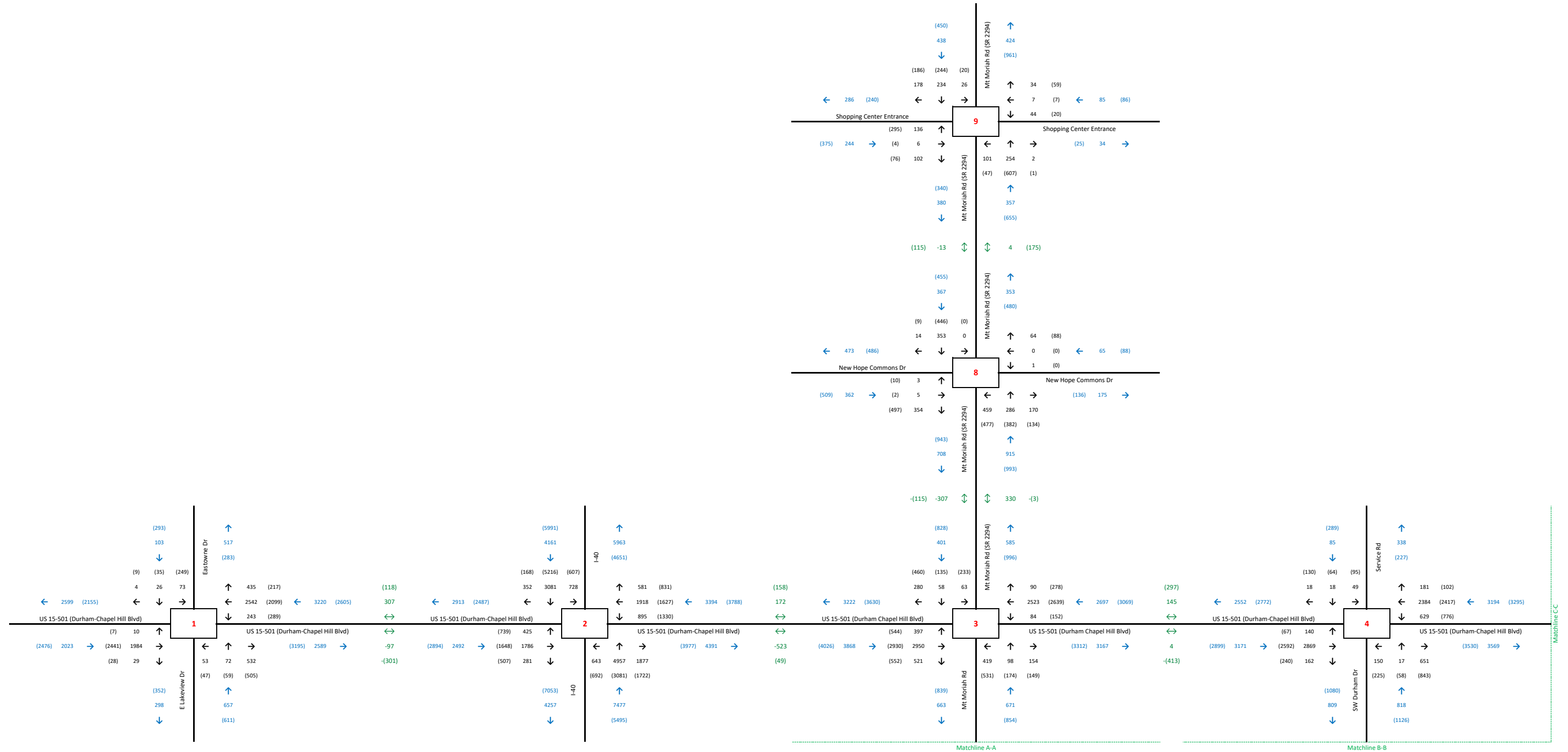
TURNING MOVEMENT VOLUMES



UNBALANCED

2019	Base Year (Existing)	SHEET 2 OF 2
<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: U-6067</p> <p>COUNTY: Durham/Orange</p> <p>DATE: January 23, 2023</p> <p>PREPARED BY: Patriot Transportation Engineering, PLLC</p> <p>LOCATION: US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur</p> <p>PROJECT: Upgrade Corridor to Expressway</p>
		<p>WBS: 34263.1.1</p> <p>DIVISION: 5/7</p>

TURNING MOVEMENT VOLUMES



2050

Future Year Build

SHEET 1 OF 2

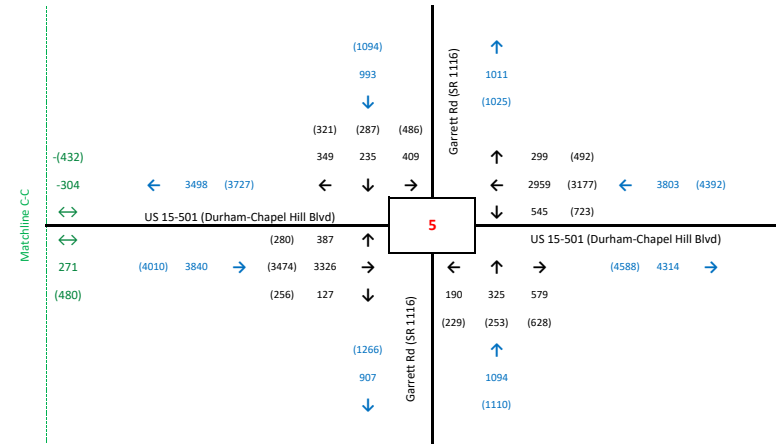
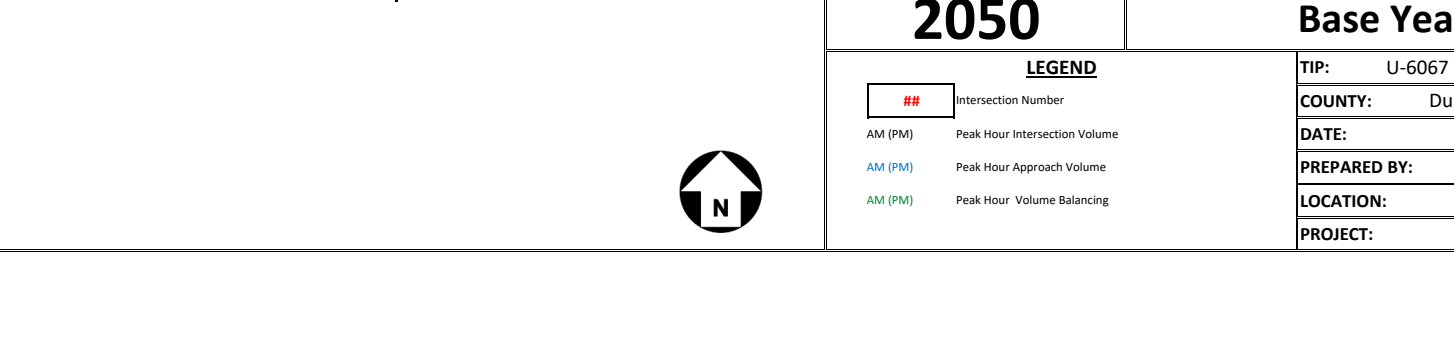
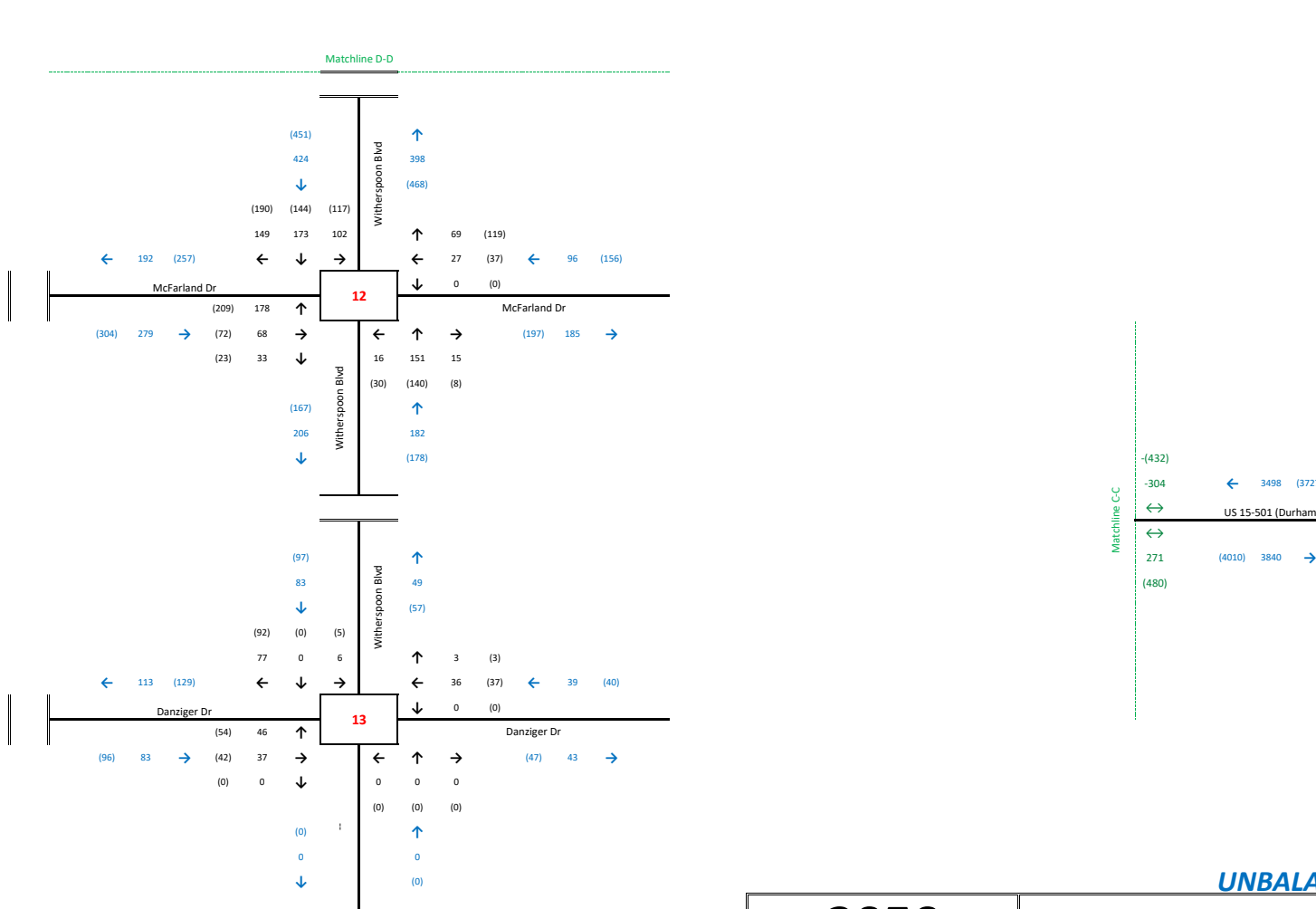
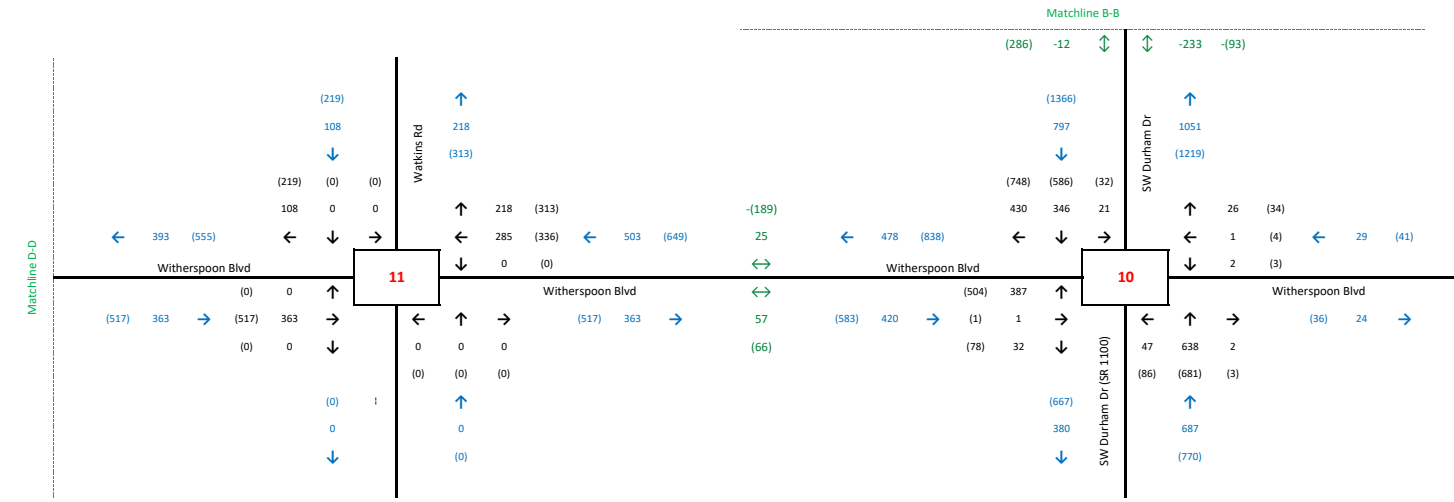
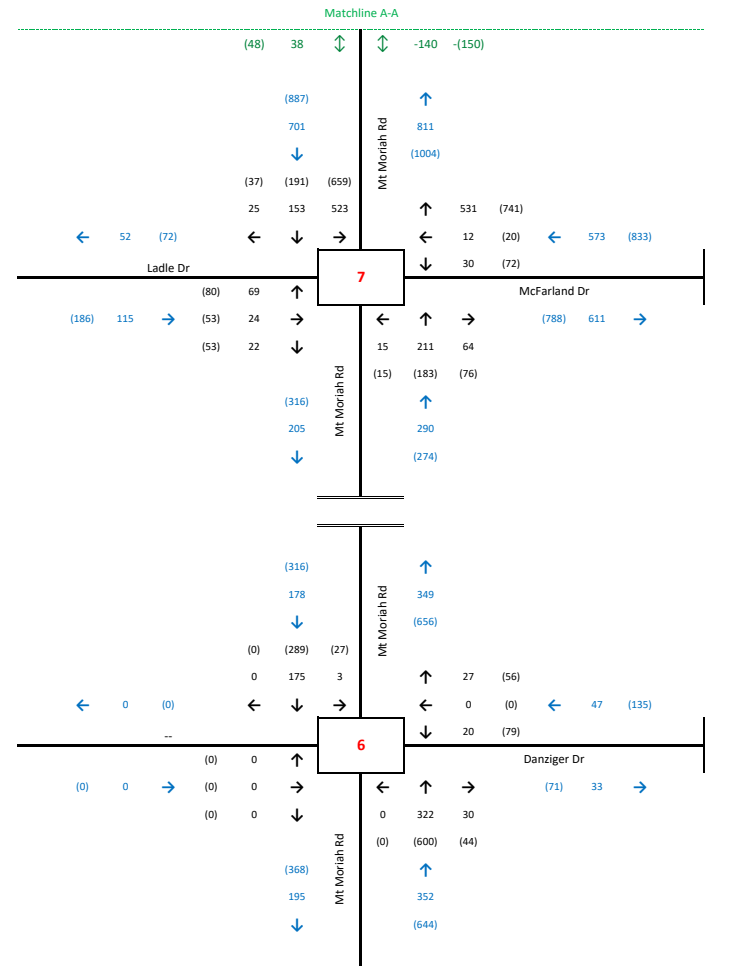
LEGEND

- ## Intersection Number
- AM (PM) Peak Hour Intersection Volume
- AM (PM) Peak Hour Approach Volume
- AM (PM) Peak Hour Volume Balancing

TIP:	U-6067	WBS:	34263.1.1
COUNTY:	Durham/Orange	DIVISION:	5/7
DATE:	January 23, 2023		
PREPARED BY:	Patriot Transportation Engineering, PLLC		
LOCATION:	US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur		
PROJECT:	Upgrade Corridor to Expressway		

UNBALANCED

TURNING MOVEMENT VOLUMES

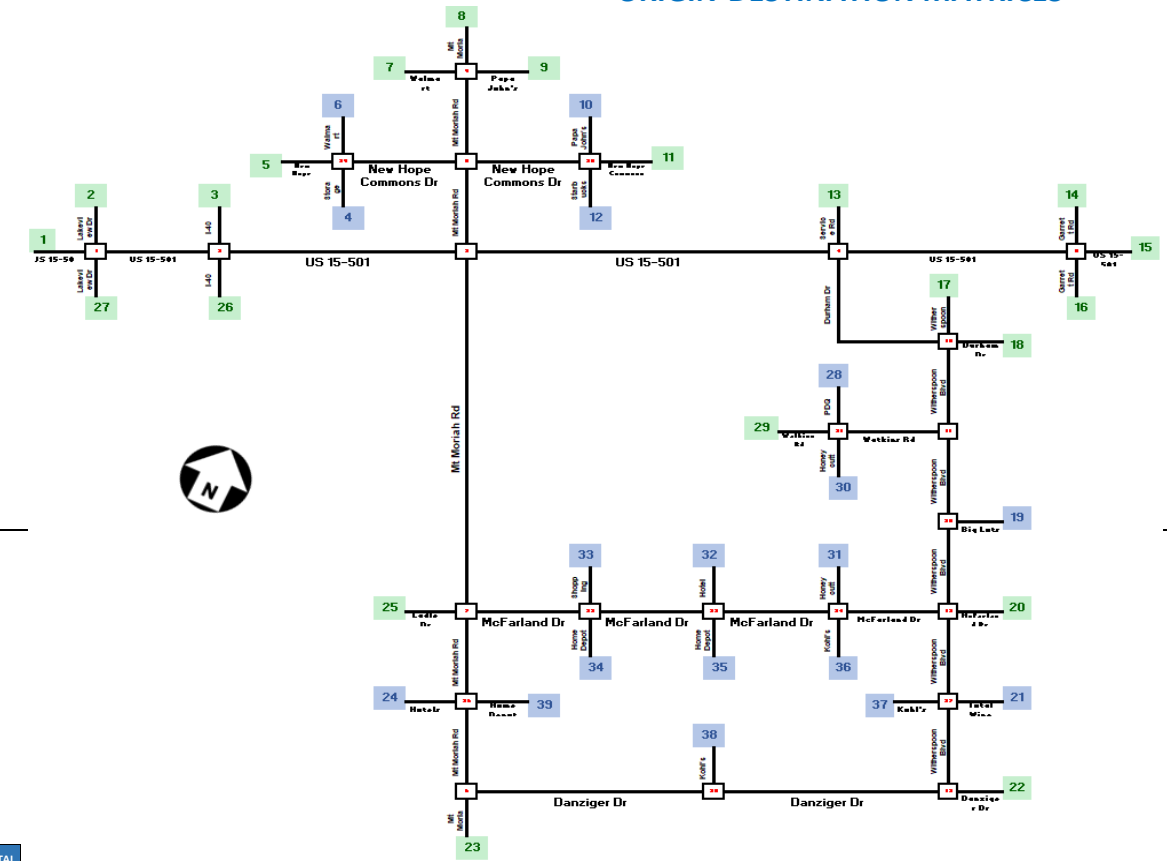


UNBALANCED

2050	Base Year (Existing)		SHEET 2 OF 2
	<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>		
TIP: U-6067		WBS: 34263.1.1	
COUNTY: Durham/Orange		DIVISION: 5/7	
DATE: January 23, 2023		PREPARED BY: Patriot Transportation Engineering, PLLC	
LOCATION: US 15/US 501 Durham County from I-40 to US 15/US 501 BUS in Dur		PROJECT: Upgrade Corridor to Expressway	



ORIGIN-DESTINATION MATRICES



UNCONSTRAINED MATRICES

AM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	TOTAL
1	0	12	79	16	2	52	29	4	2	8	0	13	2	82	935	30	2	6	2	10	4	0	3	0	3	272	8	15	4	0	7	8	8	15	0	7	1	0	3	1644
2	3	0	6	0	0	2	0	0	0	0	0	0	0	1	17	1	0	0	0	0	0	0	0	0	0	0	31	3	0	0	0	0	0	0	0	0	0	0	0	64
3	171	68	0	8	0	17	11	1	0	4	0	7	1	24	153	20	3	10	0	10	3	0	16	0	2	2225	17	8	0	0	1	3	22	9	0	5	0	0	1	2820
4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	
5	5	0	4	0	0	0	0	0	0	0	0	0	0	2	9	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	22
6	62	6	21	0	0	0	0	0	0	0	0	0	0	18	116	11	0	3	0	0	0	0	12	0	0	28	2	0	0	0	0	0	0	0	0	0	0	0	0	279
7	18	0	8	0	0	0	0	69	15	0	0	0	0	9	40	9	0	0	0	0	0	0	3	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	185
8	5	1	3	12	0	14	36	0	12	0	0	0	0	3	16	2	0	1	1	3	1	0	5	0	0	33	0	0	0	0	0	1	2	1	0	1	0	0	0	153
9	17	2	11	0	0	2	15	3	0	0	0	0	0	4	17	1	0	1	0	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
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11	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	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	2	1	0	22	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	0	25
13	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
14	70	6	28	0	0	15	15	3	0	0	0	6	1	0	263	161	0	16	3	8	0	0	5	0	0	86	1	9	16	2	0	1	0	5	0	5	1	0	1	727
15	995	54	147	17	7	139	67	6	1	30	0	19	10	186	0	192	6	64	12	17	7	0	30	3	7	178	12	43	122	32	2	8	12	23	0	20	11	1	3	2483
16	62	2	33	0	0	20	8	3	0	1	0	2	1	167	236	0	1	4	3	1	0	0	2	1	2	14	0	5	7	2	0	1	1	3	0	1	1	0	0	584
17	3	0	2	0	0	0	0	0	0	0	0	0	0	0	10	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	20
18	15	0	21	0	0	8	2	2	0	1	0	3	1	30	102	11	1	0	1	0	0	1	0	0	6	0	11	8	5	0	0	0	1	0	3	1	0	0	234	
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22	0	0	0	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	0	0	0	0	9
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24	10	0	5	0	0	0	0	0	0	0	0	0	0	1	23	1	0	0	0	1	0	0	3	0	0	6	0	0	0	0	0	1	0	0	0	0	0	0	1	52
25	11	0	7	0	0	2	0	1	0	0	0	0	0	5	27	2	0	0	0	1	0	0	2	0	0	6	0	0	0	0	0	0	0	3	0	0	0	0	0	67
26	515	132	3501	15	4	61	25	37	2	16	0	23	5	176	606	38	5	17	4	12	3	9	11	2	6	0	13	34	0	0	5	11	35	29	0	18	0	0	3	5373
27	21	28	10	0	0	0	0	0	0	0	0	0	0	2	18	5	0	0	0	0	0	4	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122
28	7	0	5	0	0	0	0	0	0	0	0	0	0	1	20	1	0	2	1	0	0	0	1	0	0	8	0	0	21	21	0	0	0	0	0	0	0	0	0	88
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31	5	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
32	2	0	2	0	0	0	0	0	0	0	0	0	0	1	7	0	0	1	1	2	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	22
33	28	1	11	0	0	5	0	2	0	2	0	1	0	4	30	2	0	0	0	1	0	0	6	0	2	13	0	0	0	0	0	0	2	0	0	0	0	0	0	110
34	19	0	10	0	0	0	0	3	0	0	0	0	0	7	29	2	0	0	0	4	0	0	8	0	0	15	0	0	0	0	0	0	3	0	0	0	0	0	0	100
35	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	6
36	4	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	6	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	44
37	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12	0	0	0	0	0	0	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
38	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	0	0	0	0	0	0	0	0	0	0	0	0
39	3	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	2080	314	3959	70	14	353	215	144	32	99	0	92	21	751	2846	495	18	130	31	79	57	9	142	6	29	3002	56	188	178	67	16	42	94	105	0	75	44	3	21	15877

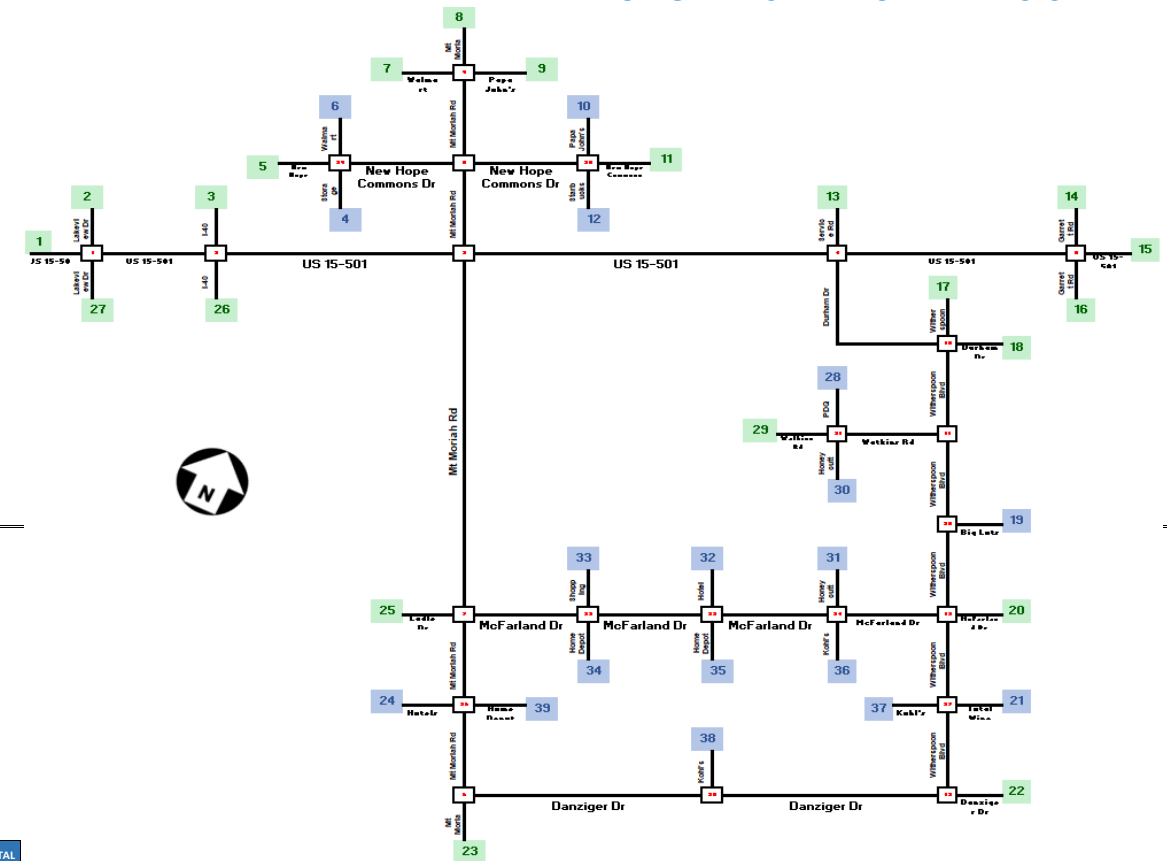
AM PEAK

2019

Base Year (Existing)

TIP:	U-6067	
COUNTY:	Durham/Orange	
WBS:	34263.1.1	DIVISION: 5/7
DATE:	January 23, 2023	
PREPARED BY:	Patriot Transportation Engineering, PLLC	
LOCATION:	Durham County from I-40 to US 15/US 501 B	
PROJECT:	Upgrade Corridor to Expressway	

ORIGIN-DESTINATION MATRICES



UNCONSTRAINED MATRICES

PM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	TOTAL	
1	0	5	101	18	2	53	27	15	1	13	0	17	2	86	969	49	2	13	6	14	7	1	7	6	4	486	8	30	5	2	6	12	25	16	1	12	2	0	5	2028	
2	6	0	25	1	0	3	1	1	0	1	0	1	0	3	40	2	0	1	0	1	0	0	0	0	0	0	83	14	1	0	0	0	0	1	0	0	0	0	0	0	185
3	128	16	0	6	1	22	13	7	1	9	0	12	1	33	209	28	2	16	2	9	4	0	14	5	4	3456	16	23	1	1	2	4	19	11	0	7	0	0	2	4084	
4	3	1	1	0	0	0	0	1	0	0	0	0	0	1	5	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
5	5	0	2	1	0	0	0	0	0	0	0	0	0	1	12	1	0	0	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
6	67	4	21	0	0	0	0	0	0	0	0	0	0	20	172	20	1	9	1	1	2	0	23	1	1	51	1	6	2	0	2	4	4	0	0	3	0	0	1	417	
7	19	0	8	0	0	0	0	112	14	0	0	0	0	7	47	5	0	2	0	1	1	0	7	0	0	18	0	2	0	0	1	1	2	0	0	2	0	0	0	249	
8	4	0	1	4	0	15	28	0	8	0	0	0	0	3	11	2	0	2	0	2	1	0	10	0	0	32	0	3	0	0	1	1	4	2	0	2	0	0	1	137	
9	9	0	4	0	0	2	5	7	0	0	0	0	0	2	20	2	0	1	0	0	0	0	4	0	0	12	0	0	0	0	0	1	0	0	0	0	0	0	0	69	
10	0	0	0	0	0	0	0	2	4	0	0	0	0	8	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	14	
11	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	0	0	0	0	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	2	3	0	34	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	0	0	39
13	2	0	1	0	0	0	0	1	0	0	0	0	0	1	8	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
14	65	3	21	4	1	18	8	8	0	4	0	5	1	0	256	190	0	23	3	3	3	0	15	0	1	131	2	15	18	3	1	1	2	3	0	3	3	0	1	815	
15	810	36	123	26	8	139	61	43	2	37	0	32	7	223	0	308	9	109	16	19	16	1	59	16	11	434	10	75	133	37	4	11	19	26	1	28	22	1	6	2918	
16	43	3	28	2	0	15	6	7	0	4	0	3	1	173	247	0	1	5	1	1	1	0	3	1	1	29	1	6	13	2	0	1	1	2	0	1	2	0	0	604	
17	4	0	4	0	0	0	0	1	0	0	0	0	0	1	8	1	0	2	0	0	0	0	0	0	0	6	0	0	4	0	0	0	0	0	0	0	0	0	0	0	31
18	11	0	12	1	0	9	4	9	0	3	0	3	1	18	100	8	4	0	2	2	1	0	2	0	0	12	1	25	25	10	0	1	1	2	0	4	3	0	0	274	
19	3	0	1	0	0	1	0	1	0	0	0	0	0	1	10	1	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	1	1	0	0	0	2	1	0	0	27
20	10	1	5	0	0	1	1	4	0	0	0	0	0	3	16	1	1	1	0	0	0	1	0	0	7	0	1	1	0	1	3	1	2	0	3	2	0	0	66		
21	5	1	4	0	0	1	0	3	0	0	0	0	0	3	15	1	0	1	0	0	0	0	6	0	0	4	0	1	0	0	1	1	0	0	0	5	17	2	0	71	
22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
23	12	1	35	8	2	38	12	31	0	17	0	8	0	15	103	6	1	3	1	3	9	6	0	6	9	10	0	13	1	1	5	5	27	32	0	8	4	7	32	471	
24	3	0	1	0	0	1	1	0	0	1	0	0	0	1	13	1	0	0	0	0	0	0	3	0	0	5	0	0	0	0	1	0	0	1	0	0	0	0	0	1	33
25	8	0	5	0	0	4	1	3	0	1	0	0	0	7	42	4	0	1	1	1	1	0	10	0	0	10	0	1	0	0	1	0	4	2	0	1	0	0	1	109	
26	366	76	2603	15	2	46	24	82	1	13	0	14	1	110	401	25	4	14	3	12	7	0	10	9	5	0	11	36	4	2	5	8	25	25	1	13	1	0	4	3978	
27	14	21	9	2	0	2	1	1	0	1	0	1	0	1	19	1	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116
28	15	0	8	0	0	2	2	5	0	0	0	0	0	7	48	4	1	9	9	1	1	0	5	1	0	17	0	0	54	61	0	0	0	0	0	0	0	0	0	250	
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31	6	0	4	0	0	1	1	3	0	0	0	0	0	1	9	1	0	1	0	2	1	0	5	1	0	6	0	0	0	0	0	0	0	0	4	2	1	0	0	49	
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33	28	1	16	1	0	3	3	10	0	1	0	2	0	6	51	4	0	0	0	1	0	0	14	1	3	32	0	0	0	0	0	0	0	4	0	0	0	0	0	181	
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36	8	0	4	0	0	2	2	3	0	0	0	0	0	4	25	2	0	3	1	2	0	0	4	0	1	7	0	0	0	0	1	1	0	0	0	0	0	0	0	70	
37	2	0	0	0	0	1	0	0	0	0	0	0	0	3	21	2	0	3	2	2	15	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	55	
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
39	5	0	2	0	0	1	1	1	0	0	0	0	0	1	7	1	0	0	0	0	0	0	19	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Total	1685	169	3063	89	16	383	206	375	27	139	0	106	14	746	2962	680	27	230	56	84	73	10	257	48	41	4940	64	343	274	128	34	59	138	132	7	96	57	10	54	17822	

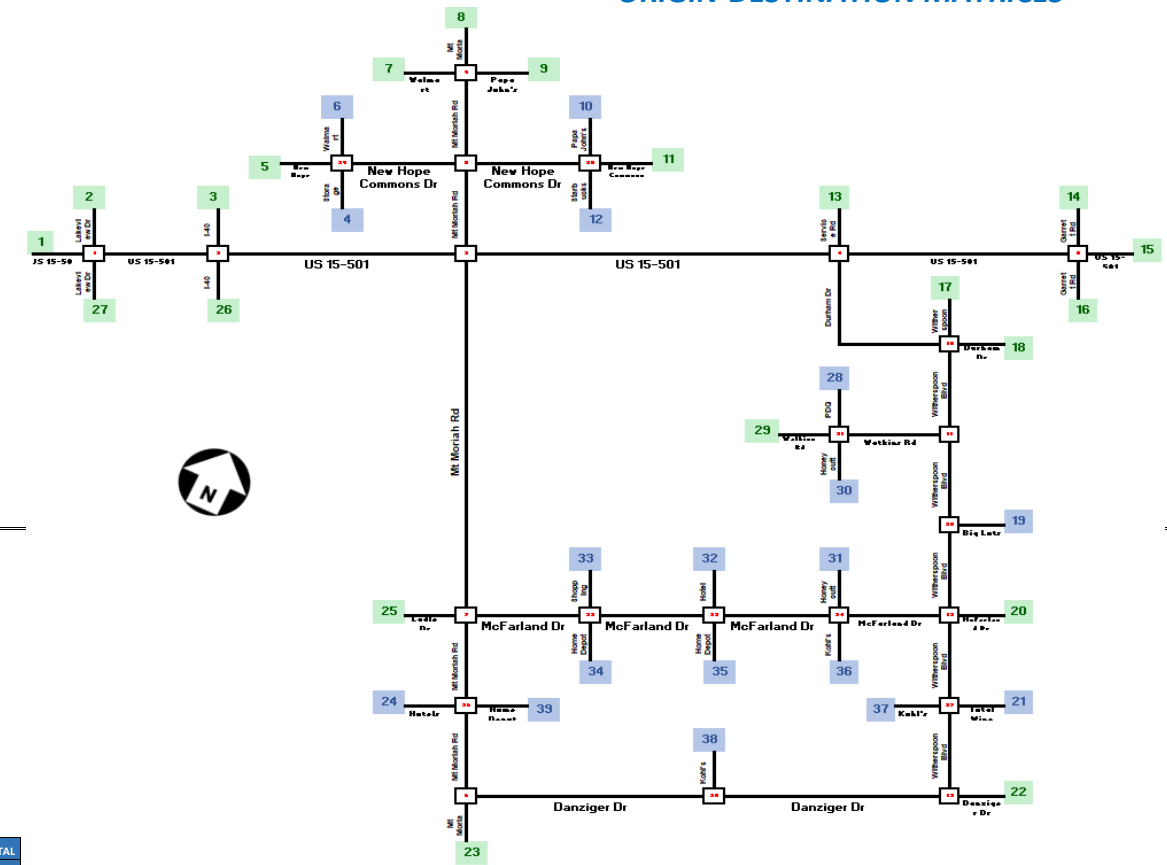
PM PEAK

2019

Base Year (Existing)

TIP:	U-6067		
COUNTY:	Durham/Orange		
WBS:	34263.1.1	DIVISION:	5/7
DATE:	January 23, 2023		
PREPARED BY:	Patriot Transportation Engineering, PLLC		
LOCATION:	Durham County from I-40 to US 15/US 501 B		
PROJECT:	Upgrade Corridor to Expressway		

ORIGIN-DESTINATION MATRICES



UNCONSTRAINED MATRICES

AM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	TOTAL
1	0	12	104	13	2	48	25	12	1	7	0	11	25	82	1147	43	2	13	3	17	8	0	2	0	4	258	33	20	6	0	16	12	12	23	0	10	1	0	5	1977
2	4	0	10	0	0	2	0	0	0	0	0	0	0	1	28	2	0	0	0	0	0	0	0	0	0	39	16	0	0	0	0	0	0	0	0	0	0	0	0	102
3	226	101	0	10	0	23	14	4	0	5	0	9	19	35	279	43	4	33	0	25	9	0	17	0	4	3133	103	16	0	0	3	7	49	21	0	11	0	0	3	4206
4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5	5	0	6	0	0	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	27
6	60	7	30	0	0	0	0	0	0	0	0	0	0	20	156	17	0	7	0	0	0	0	9	0	0	29	9	0	0	0	0	0	0	0	0	0	0	0	0	344
7	12	0	8	0	0	0	0	153	7	0	0	0	0	7	37	10	0	0	0	0	0	0	2	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	246
8	13	3	12	30	0	38	93	0	23	0	0	0	0	9	58	9	0	7	4	15	6	0	11	0	0	93	0	0	0	0	4	9	5	0	4	0	0	0	446	
9	14	2	14	0	0	2	12	8	0	0	0	0	0	4	20	1	0	2	0	0	0	0	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	85	
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14	67	6	40	0	0	15	14	9	0	0	6	14	0	348	251	0	38	5	15	0	0	4	0	0	88	4	13	24	4	0	2	0	8	0	8	1	0	2	986	
15	1187	72	258	19	10	173	78	24	1	36	0	22	169	248	0	372	8	190	24	39	19	0	29	7	13	226	66	77	226	70	6	16	24	47	0	40	15	4	7	3822
16	89	3	69	0	0	30	11	14	0	1	0	3	20	267	465	0	2	14	7	3	0	0	2	3	4	21	0	11	16	5	0	2	2	7	0	2	2	0	1075	
17	3	0	3	0	0	0	0	0	0	0	0	0	0	14	0	0	5	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	28	
18	30	0	62	0	0	17	4	13	0	2	0	6	29	68	284	36	2	0	3	0	0	0	2	0	0	13	0	33	25	19	0	0	3	10	2	0	0	663		
19	6	0	2	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	7	3	0	41	
20	20	2	8	0	0	0	0	0	0	0	0	0	0	4	19	0	0	4	0	0	0	1	0	3	4	0	0	0	0	0	9	0	12	0	11	0	0	97		
21	12	0	12	0	0	0	0	0	0	0	0	0	0	1	28	0	0	0	0	0	0	12	0	0	4	0	0	0	0	0	0	0	0	0	0	61	0	129		
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23	4	1	44	2	1	15	4	27	0	14	0	4	0	21	88	4	0	2	0	2	34	0	0	7	2	0	0	0	0	2	3	11	17	0	12	1	6	16	344	
24	13	0	10	0	0	0	0	0	0	0	0	0	0	1	42	2	0	0	0	3	0	0	3	0	0	8	0	0	0	0	2	0	0	0	0	0	0	2	86	
25	15	0	14	0	0	3	0	4	0	0	0	0	0	7	49	4	0	0	0	3	0	0	2	0	0	8	0	0	0	0	0	7	0	0	0	0	0	116		
26	505	145	5058	14	5	62	24	119	1	16	0	22	69	193	819	61	5	42	6	23	7	44	9	4	9	0	58	50	0	12	18	58	49	0	30	0	0	6	7543	
27	96	144	68	0	0	0	0	0	0	0	0	0	10	114	37	0	0	0	0	0	0	15	0	0	166	0	0	0	0	0	0	0	0	0	0	0	0	0	650	
28	9	0	9	0	0	0	0	0	0	0	0	0	0	1	35	2	0	6	2	0	0	1	0	0	11	0	0	41	49	0	0	0	0	0	0	0	0	166		
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	4	0	3	6	0	0	0	0	0	0	0	47	0	11	0	0	0	0	0	0	0	94			
30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125		
31	11	0	7	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	2	0	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	38	
32	3	0	4	0	0	0	0	0	0	0	0	2	13	0	0	0	3	2	5	0	0	2	0	0	3	0	0	0	0	0	5	0	0	0	0	0	0	42		
33	44	2	26	0	0	8	0	10	0	3	0	2	7	65	5	0	0	0	3	0	0	8	0	5	22	0	0	0	0	0	5	0	0	0	0	0	0	215		
34	29	0	22	0	0	0	0	15	0	0	0	0	12	60	5	0	0	0	12	0	0	10	0	0	24	0	0	0	0	0	8	0	0	0	0	0	0	197		
35	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	13			
36	6	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	17	0	0	2	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	86		
37	0	0	0	0	0	0	0	0	0	0	0	0	4	18	0	0	0	0	0	52	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75		
38	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	0	0	0	0	0	0	0	0	0	0	0	
39	6	0	3	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	8	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	28		
Total	2505	500	5904	88	18	436	281	415	33	106	0	100	345	1023	4378	911	23	369	62	188	135	44	192	14	52	4210	289	356	338	158	39	82	182	202	0	145	86	10	41	24260

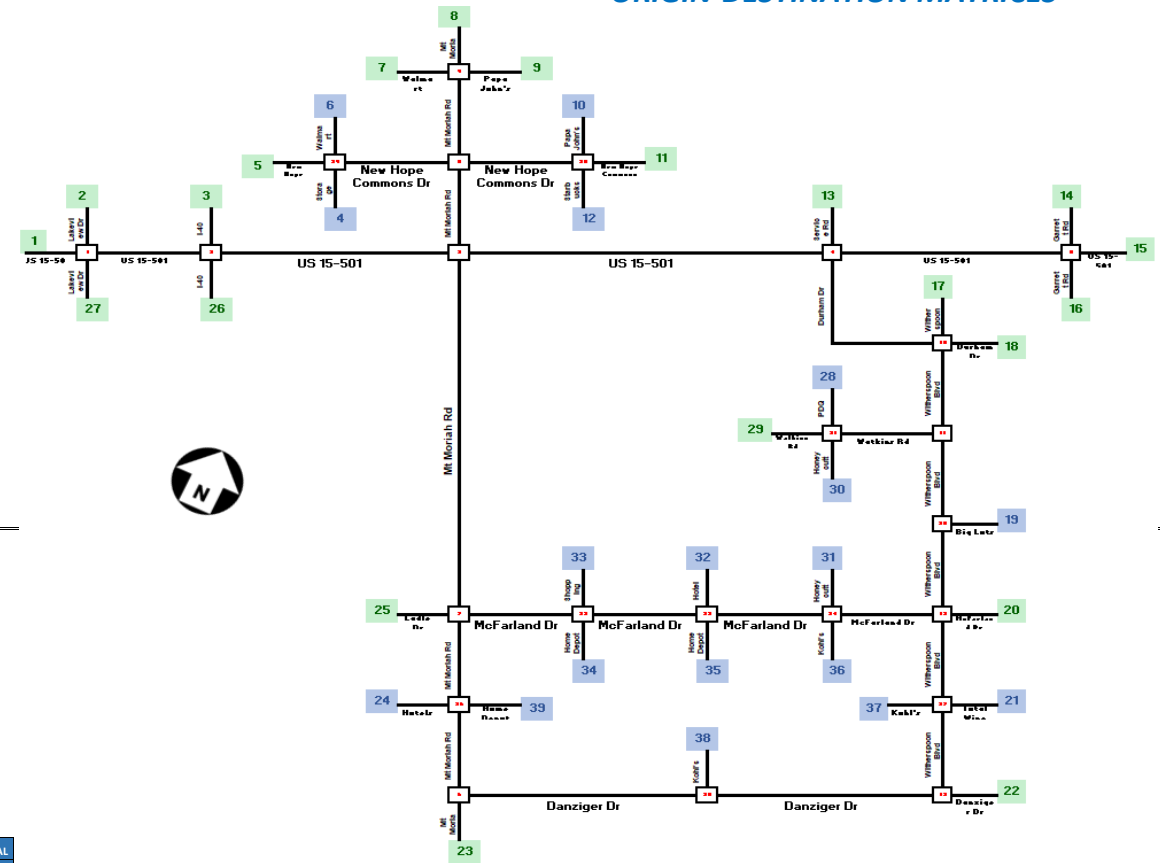
AM PEAK

2050

Future Year Build

TIP:	U-6067	
COUNTY:	Durham/Orange	
WBS:	34263.1.1	DIVISION: 5/7
DATE:	January 23, 2023	
PREPARED BY:	Patriot Transportation Engineering, PLLC	
LOCATION:	Durham County from I-40 to US 15/US 501 B	
PROJECT:	Upgrade Corridor to Expressway	

ORIGIN-DESTINATION MATRICES



UNCONSTRAINED MATRICES

AM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	TOTAL		
1	0	5	133	17	2	50	24	38	1	11	0	15	24	87	1175	74	2	29	9	25	13	5	6	9	6	476	34	41	7	3	12	19	40	26	2	18	3	0	9	2450		
2	6	0	39	1	0	3	1	3	0	1	0	1	0	4	57	4	0	3	0	2	0	0	0	0	0	96	69	2	0	0	0	0	2	0	0	0	0	0	0	294		
3	171	22	0	8	2	30	17	26	1	11	0	15	18	48	369	62	3	51	5	23	11	0	18	10	8	4928	98	46	2	2	6	9	45	26	0	15	0	0	5	6111		
4	3	1	1	0	0	0	0	3	0	0	0	0	0	1	6	2	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	21		
5	5	0	3	1	0	0	0	0	0	0	0	0	0	1	16	2	0	0	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	34		
6	65	4	29	0	0	0	0	0	0	0	0	0	0	21	219	32	1	21	2	2	4	0	22	2	2	53	4	9	3	0	4	7	7	0	0	5	0	0	2	520		
7	13	0	8	0	0	0	0	212	8	0	0	0	0	5	42	6	0	3	0	1	1	0	5	0	0	13	0	2	0	0	1	1	2	0	0	2	0	0	0	325		
8	10	0	4	11	0	40	70	0	17	0	0	0	0	8	37	8	0	12	0	10	5	0	25	0	0	88	0	12	0	0	5	5	18	9	0	8	0	0	5	407		
9	7	0	5	0	0	2	4	16	0	0	0	0	0	2	21	3	0	2	0	0	0	0	3	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	76		
10	0	0	0	0	0	0	2	9	0	0	0	0	6	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	17	
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12	0	0	0	0	0	0	2	8	0	32	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	0	0	42	
13	26	0	18	0	0	0	0	36	0	0	0	0	0	14	135	0	0	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	297	
14	63	3	29	4	1	18	8	22	0	4	0	5	13	0	328	304	0	54	5	6	6	0	14	0	2	136	9	22	26	5	2	2	3	5	0	5	4	0	2	1110		
15	947	43	206	32	13	167	69	140	2	41	0	35	108	286	0	594	10	306	32	43	38	6	68	29	20	541	53	131	232	80	10	23	39	54	2	52	37	3	14	4506		
16	63	4	59	3	0	22	9	28	0	5	0	4	19	277	475	0	1	17	2	3	3	0	4	2	2	45	7	13	28	5	0	3	3	5	0	2	4	0	0	1117		
17	4	0	6	0	0	0	0	3	0	0	0	0	1	10	2	0	5	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	43		
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19	4	0	2	0	0	1	0	4	0	0	0	0	2	19	2	0	3	0	0	0	0	0	0	0	0	3	0	2	0	0	3	2	0	0	0	0	5	2	0	0	54	
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28	19	0	14	0	0	3	2	17	0	0	0	0	10	79	8	1	27	19	2	3	0	6	2	0	23	0	0	101	141	0	0	0	0	0	0	0	0	0	0	0	477	
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Total	2020	267	4555	114	23	471	270	1084	30	144	0	114	221	1010	4544	1250	34	642	113	193	171	48	352	83	71	6910	333	653	519	299	83	119	266	260	18	184	110	28	106	27712		

6000

6000

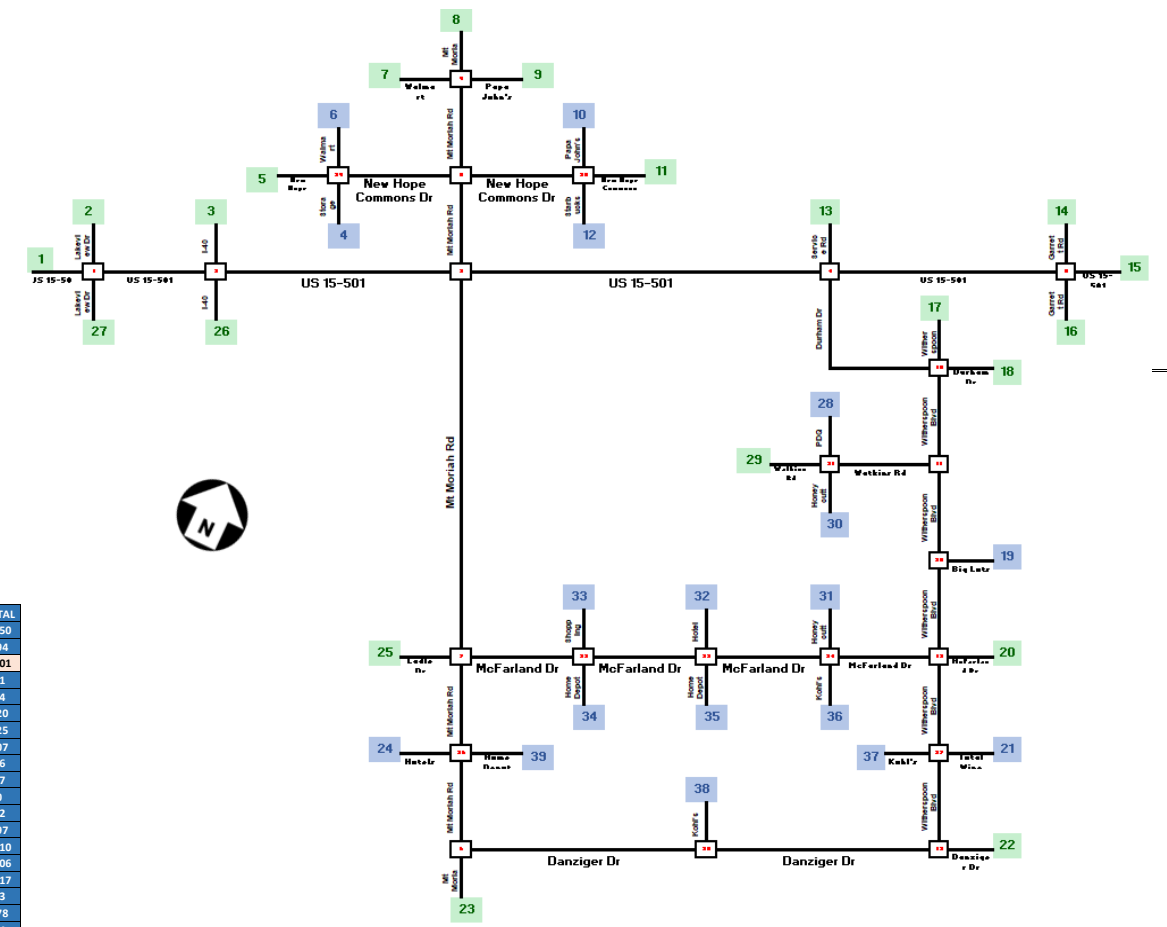
PM PEAK

2050

Future Year Build

TIP:	U-6067	
COUNTY:	Durham/Orange	
WBS:	34263.1.1	DIVISION: 5/7
DATE:	January 23, 2023	
PREPARED BY:	Patriot Transportation Engineering, PLLC	
LOCATION:	Durham County from I-40 to US 15/US 501 B	
PROJECT:	Upgrade Corridor to Expressway	

ORIGIN-DESTINATION MATRICES



CONSTRAINED MATRICES

PM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	TOTAL	
1	0	5	133	17	2	50	24	38	1	11	0	15	24	87	1175	74	2	29	9	25	13	5	6	9	6	476	34	41	7	3	12	19	40	26	2	18	3	0	9	2450	
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3	171	22	0	8	2	30	17	26	1	11	0	15	18	48	369	62	3	51	5	23	11	0	18	10	8	4018	98	46	2	2	6	9	45	26	0	15	0	0	0	5	5201
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6	65	4	29	0	0	0	0	0	0	0	0	0	0	21	219	32	1	21	2	2	4	0	22	2	2	53	4	9	3	0	4	7	7	0	0	5	0	0	2	520	
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15	947	43	206	32	13	167	69	140	2	41	0	35	108	286	0	594	10	306	32	43	38	6	68	29	20	541	53	131	232	80	10	23	39	54	2	52	37	3	14	4506	
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29	2	0	4	0	0	1	0	3	0	0	0	0	0	5	28	6	1	9	13	2	0	0	1	0	0	3	0	95	0	21	0	0	0	0	0	0	0	0	194		
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32	4	0	4	0	0	0	0	4	0	0	0	0	0	2	18	2	0	7	2	11	6	0	3	0	0	6	0	0	0	0	0	0	0	0	2	6	2	0	0	79	
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Total	2020	267	4555	114	23	471	270	1084	30	144	0	114	221	1010	4544	1250	34	642	113	193	171	48	352	83	71	6000	333	653	519	299	83	119	266	260	18	184	110	28	106	25802	



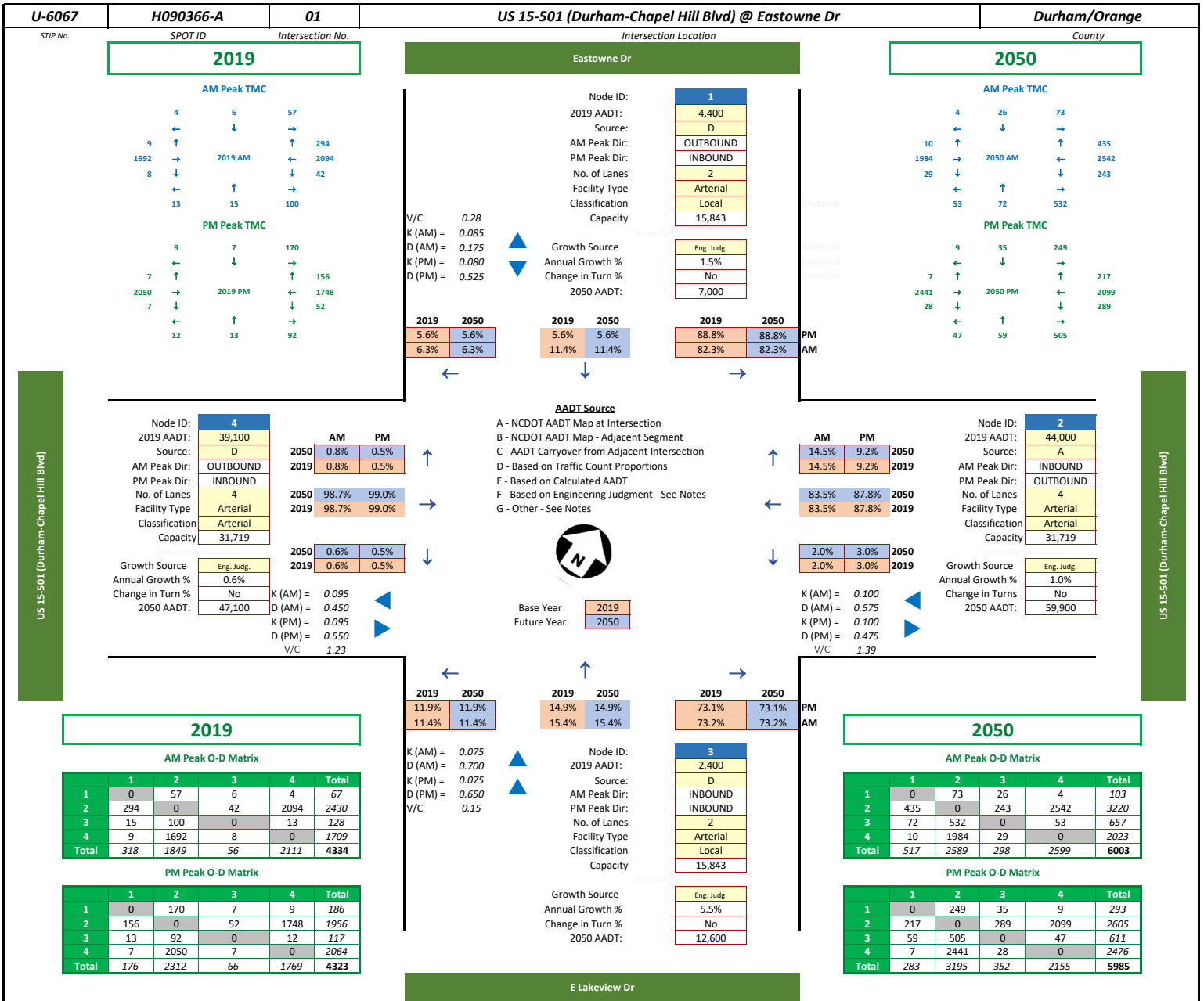
6000

PM PEAK

2050

Future Year Build

TIP:	U-6067
COUNTY:	Durham/Orange
WBS:	34263.1.1
DIVISION:	5/7
DATE:	January 23, 2023
PREPARED BY:	Patriot Transportation Engineering, PLLC
LOCATION:	Durham County from I-40 to US 15/US 501 B
PROJECT:	Upgrade Corridor to Expressway



Volume Development Notes

According to the NCDOT AADT Map, the east leg ATR is 1, but 4 was chosen to remain consistent with the other count stations along US 15-501.

Called US 15-501 Arterial instead of Freeway because it behaves more as an arterial in the study area.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

Node 1 - Growth rate based on considering both the TRM and the forecast.

Node 2 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

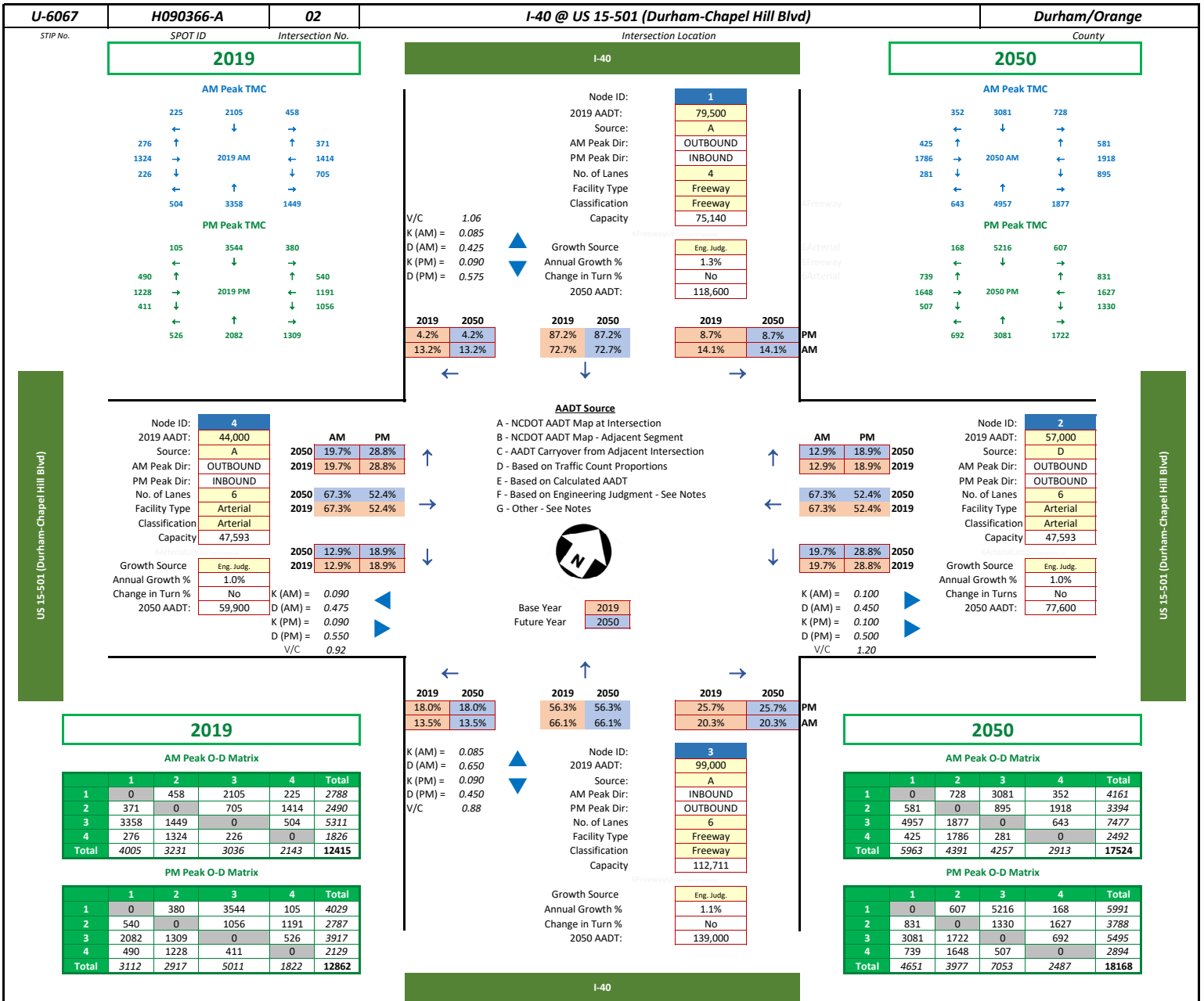
Node 3 - Growth rate based on considering both the TRM and the forecast.

Node 4 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)			STIP/Year	Previous Forecast			Socioeconomic			Selected	AADT DATA					
	Scenario	Base Year			Scenario	Base Year		County	Durham	Orange		1999-2019 CAGR	2009-2019 CAGR	Latest Year	AADT		
		2017	2045			CAGR	2016									2050	CAGR
Node 1	50530.2811	74366.4439	1.39%	Node 1	1197.2917	1713.02525	1.06%	Node 1	4600	9500	2.83%	OSBM	1.2%	0.9%	Node 1	2019	44,000
Node 2	50530.2811	74366.4439	1.39%	Node 2	59736.6589	83343.9336	0.98%	Node 2	45600	60100	1.07%	NCSTM (Pop)	1.7%	1.6%	Node 2	2019	44,000
Node 3	50530.2811	74366.4439	1.39%	Node 3	4000.99043	18890.3267	4.67%	Node 3	2500	13000	6.55%	Freeway	1.9%	1.5%	Node 3	2019	44,000
Node 4	50530.2811	74366.4439	1.39%	Node 4	55720.7886	66255.7413	0.51%	Node 4	40900	46800	0.52%	Arterial	1.4%	1.2%	Node 4	2019	42,500
												Collector	2.1%	2.8%			
												Local	2.1%	2.8%			



Volume Development Notes

According to the NCDOT AADT Map, the west leg ATR is 1, but 4 was chosen to remain consistent with the other count stations along US 15-501.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

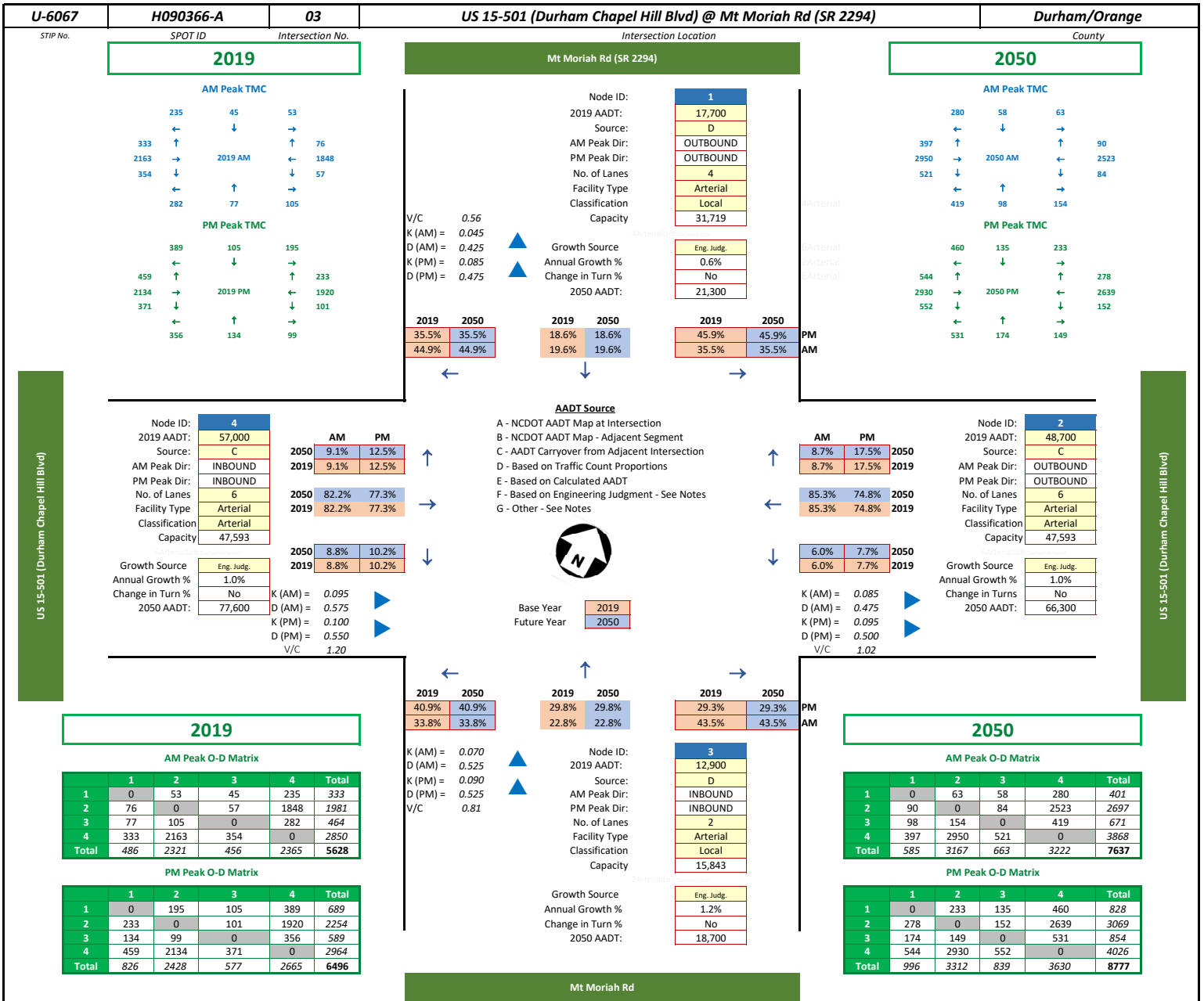
Growth Rate Notes

- Node 1 - Growth rate based on considering the TRM, the forecast, and the NCSTM.
- Node 2 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.
- Node 3 - Growth rate based on considering the TRM, the forecast, and the NCSTM.
- Node 4 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic			Selected	AAADT DATA						
	Scenario	Base Year		Future Year	Scenario	Base Year	Future Year	Scenario	Base Year		Future Year	CAGR	1999-2019 CAGR	2009-2019 CAGR	Latest Year	AADT	
																	2017
Node 1	72176.6487	106874.03	1.41%	Node 1	87530.0965	130661.731	1.19%	Node 1	85000	130400	1.66%	OSBM	1.2%	0.9%	Node 1	2019	79,500
Node 2	43329.9828	57339.5292	1.01%	Node 2	74690.4944	106135.724	1.04%	Node 2	54000	68200	0.90%	NCSTM (Emp)	1.8%	1.7%	Node 2	2019	99,000
Node 3	93632.7977	124786.506	1.03%	Node 3	105098.736	147947.042	1.01%	Node 3	103000	147900	1.40%	Freeway	1.9%	1.5%	Node 3	2019	44,000
Node 4	50530.2811	74366.4439	1.39%	Node 4	59736.6589	83343.9336	0.98%	Node 4	45600	60100	1.07%	Arterial	1.4%	1.2%	Node 4	2019	44,000
												Collector	2.1%	2.8%			
												Local	2.1%	2.8%			



Volume Development Notes

Used 4 for the number of lanes on the north leg even though there is only one SBT lane, because there is a full width left-turn lane all the way back to the next intersection and the left-turn volume is high compared to the through lanes.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

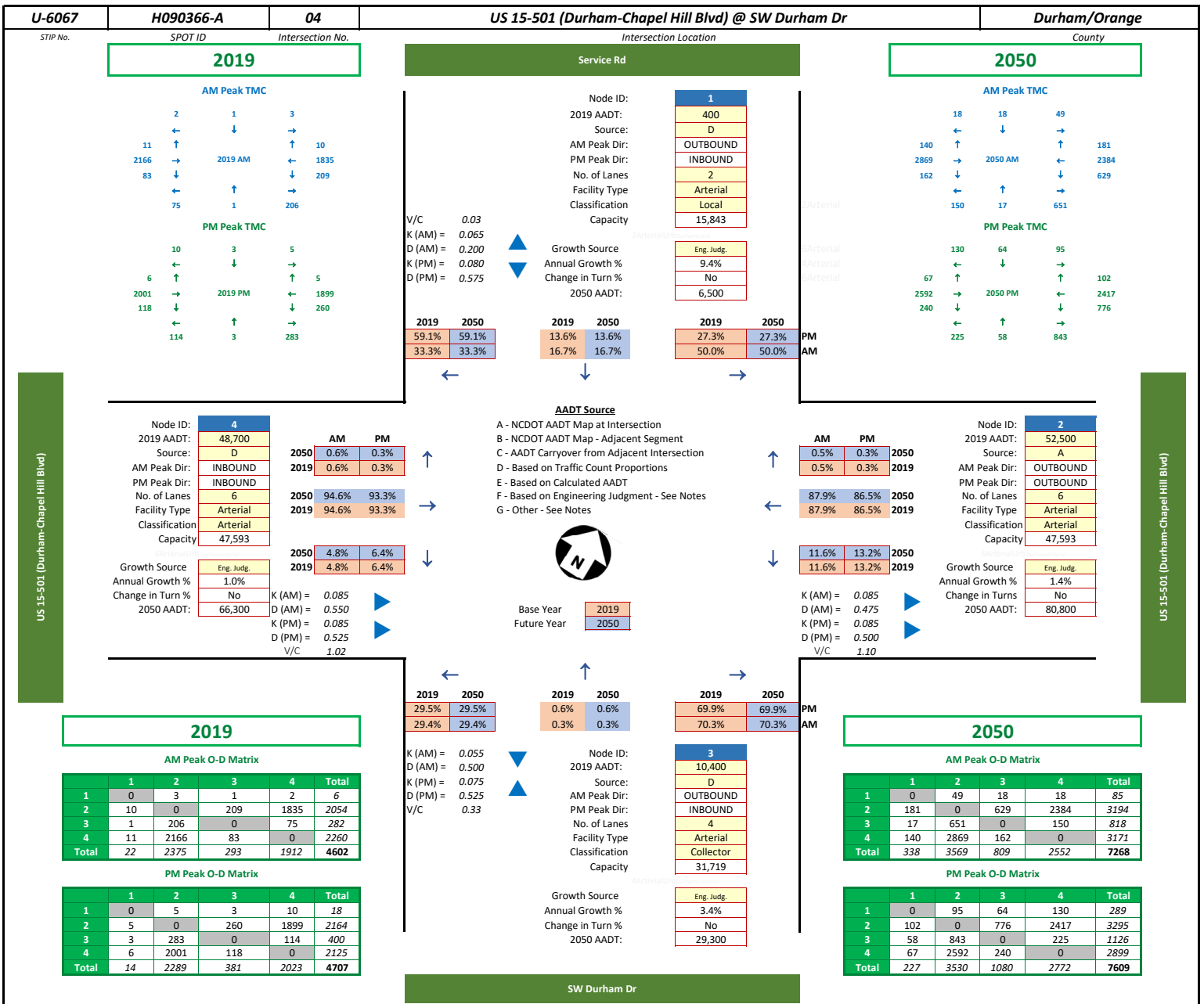
Growth Rate Notes

- Node 1 - Growth rate based on the TRM. Forecast includes grade separation at intersection.
- Node 2 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.
- Node 3 - Growth rate based on the TRM. Forecast includes grade separation at intersection.
- Node 4 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic				Selected	AADT DATA				
	Scenario	Base Year		Future Year	Scenario	Base Year	Future Year	Scenario	OSBM	NCSTM (Pop)		NCSTM (Emp)	1999-2019 CAGR	2009-2019 CAGR	Latest Year	AADT
Node 1	43329.9828	57339.5292	1.01%	Node 1	25621.3527	31275.222	0.59%	Node 1	17500	4900	-4.78%	1.8%	1.7%	Node 1		
Node 2				Node 2	71522.2079	105198.811	1.14%	Node 2	52700	68200	1.00%	1.8%	1.5%	Node 2		
Node 3				Node 3	8799.6699	12322.3306	1.00%	Node 3	13200	4900	-3.74%	1.8%	1.2%	Node 3		
Node 4				Node 4	74690.4944	106135.724	1.04%	Node 4	54000	68200	0.90%	2.1%	2.8%	Node 4		



Volume Development Notes

Used 4 lanes on the south leg because there is a two-lane cross section on the northbound approach for the entire segment back to the next intersection and the turning movements are the heaviest moves.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

Node 1 - This intersection node is Node 13 in the OD matrix. In the Build scenario, Node 13 will still exist as a side street to the Durham Dr extension. As such, the growth rate was chosen to reflect potential growth in the No-Build and Build scenario for Node 13, and not necessarily the growth in volume on the north leg of this intersection. The chosen growth rate reflects the available land that could be developed, and is based on the volume growth of the corresponding centroid connector in the TRM. The CC shows a growth of app. 17,000 vehicles. The growth was split to this location and to Mt Moriah Rd on the north side of the study area and to New Hope Commons Blvd Ext (Int 30). Around 6,000 vehicles was allocated to this intersection node, and around 10,000 vehicles was allocated to the north side of Mt Moriah Rd and 1,000 vehicles to New Hope Commons Blvd Ext.

Node 2 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

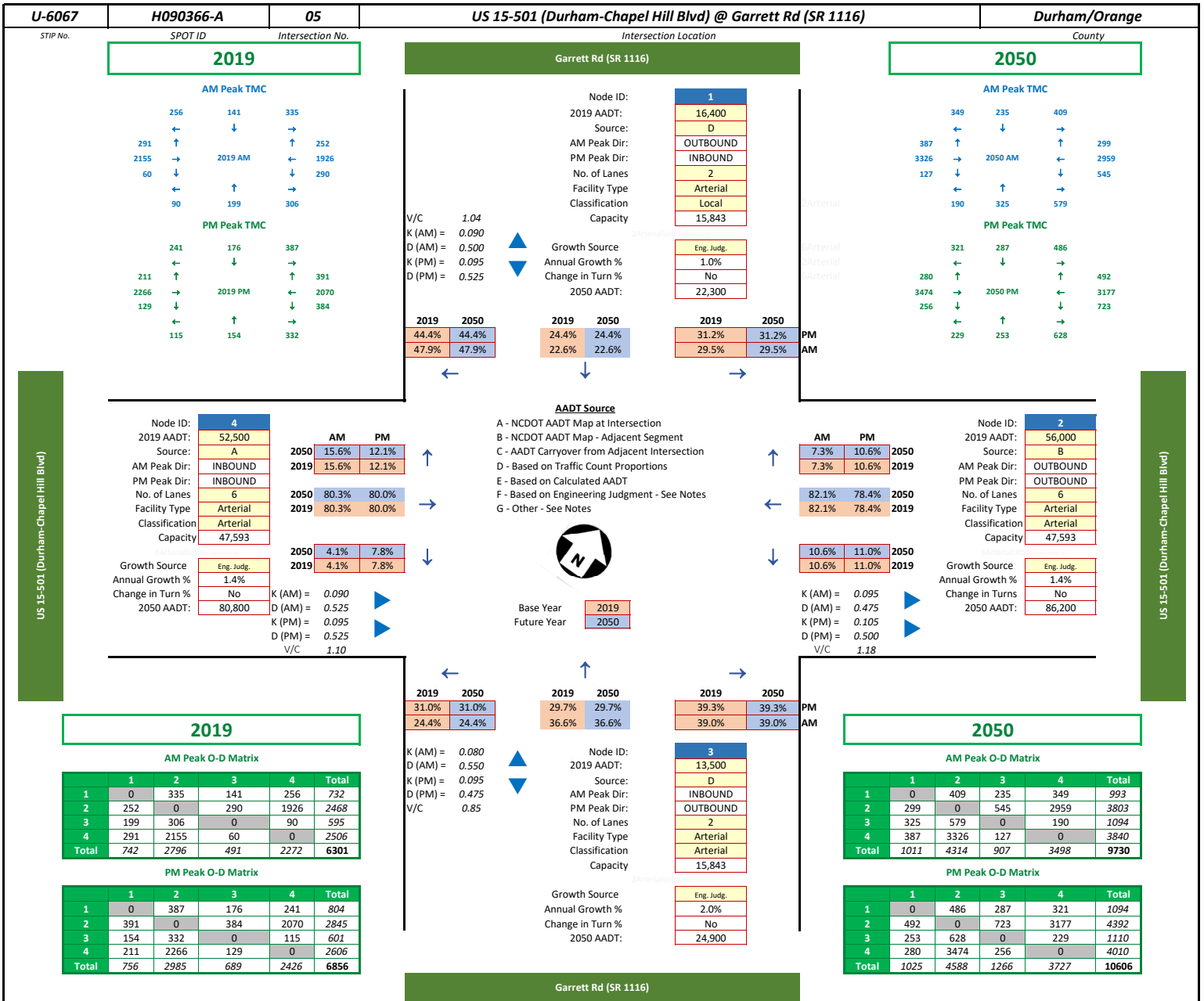
Node 3 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.

Node 4 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)			STIP/Year	Previous Forecast			Socioeconomic				Selected	AADT DATA			
	Scenario	Base Year	Future Year		Scenario	Base Year	Future Year	Scenario	County	Durham	Orange		1999-2019 CAGR	2009-2019 CAGR	Latest Year	AADT
		2017	2045			CAGR	2016									
Node 1				Node 1	400	16100	15.27%	OSBM	1.2%	0.9%			Node 1			
Node 2	43329.9828	57339.5292	1.01%	Node 2	71427.9258	116110.949	1.44%	NCSTM (Pop)	1.7%	1.6%			Node 2	2019	52,500	
Node 3				Node 3	16079.0692	42858.3788	2.93%	Freeway	1.9%	1.5%	1.07%	2.40%	Node 3			
Node 4	43329.9828	57339.5292	1.01%	Node 4	71522.2079	105198.811	1.14%	Arterial	1.4%	1.2%			Node 4			
								Collector	2.1%	2.8%						
								Local	2.1%	2.8%						



Volume Development Notes

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

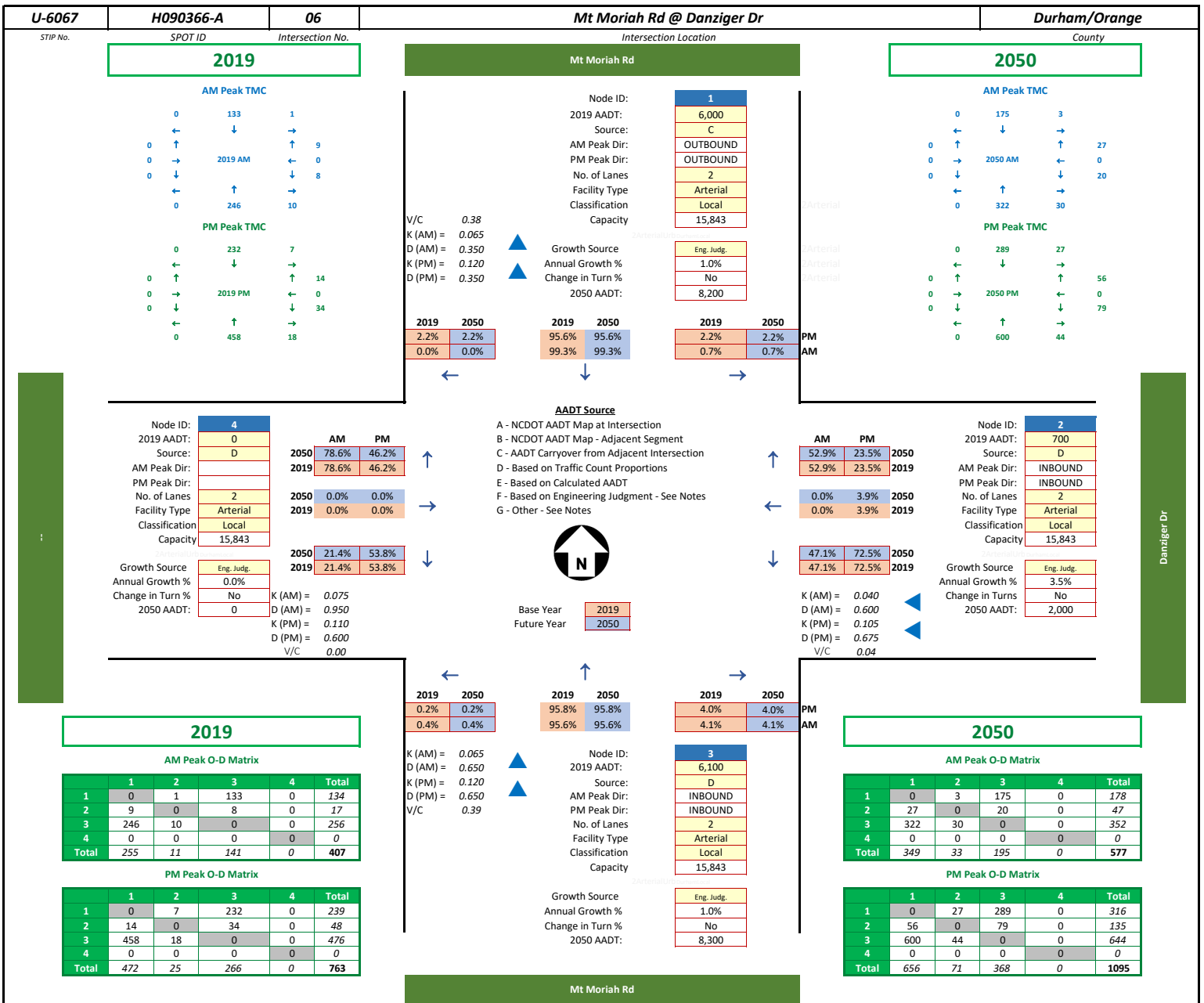
- Node 1 - Proposed new interchange should draw traffic. Growth rate based on considering both the TRM and the forecast. More weight given to forecast, which will still result in AADT greater than the TRM volume.
- Node 2 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.
- Node 3 - Proposed new interchange should draw traffic. Growth rate based on considering both the TRM and the forecast. More weight given to forecast, which will still result in AADT greater than the TRM volume.
- Node 4 - Growth rate based on considering both the TRM and the forecast. Less weight given to the NCSTM.

57011.5981
59099.3506
116110.9487

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic		Selected	AADT DATA				
	Scenario	Triangle Regional Model		Scenario	Scenario	County	Durham	Orange		Year	AADT			
		Base Year										Future Year	2017 - 2045	2016 - 2050
Node 1	63100.5925	79880.9134	0.85%	Node 1	9884.09514	18386.4932	1.84%	Node 1	OSBM	1.2%	0.9%	Node 1	2019	56,000
Node 2	24674.2104	35788.3761	1.34%	Node 2	64435.7168	96078.4143	1.18%	Node 2	NCSTM (Pop)	1.7%	1.6%	Node 2	2019	56,000
Node 3	43329.9828	57339.5292	1.01%	Node 3	4957.08692	20432.2438	4.25%	Node 3	Freeway	1.9%	1.5%	Node 3	2019	56,000
Node 4				Node 4	71427.9258	116110.949	1.44%	Node 4	Arterial	1.4%	1.2%	Node 4	2019	52,500
									Collector	2.1%	2.8%			
									Local	2.1%	2.8%			



Volume Development Notes

West leg volumes not considered for OD matrix because the driveway access is not truly at the Danziger Dr intersection and Build Designs add new roadway to form west leg of intersection.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

Node 1 - Growth rate based on the TRM growth rate on south side of intersection and TRM rate at Intersection 7.

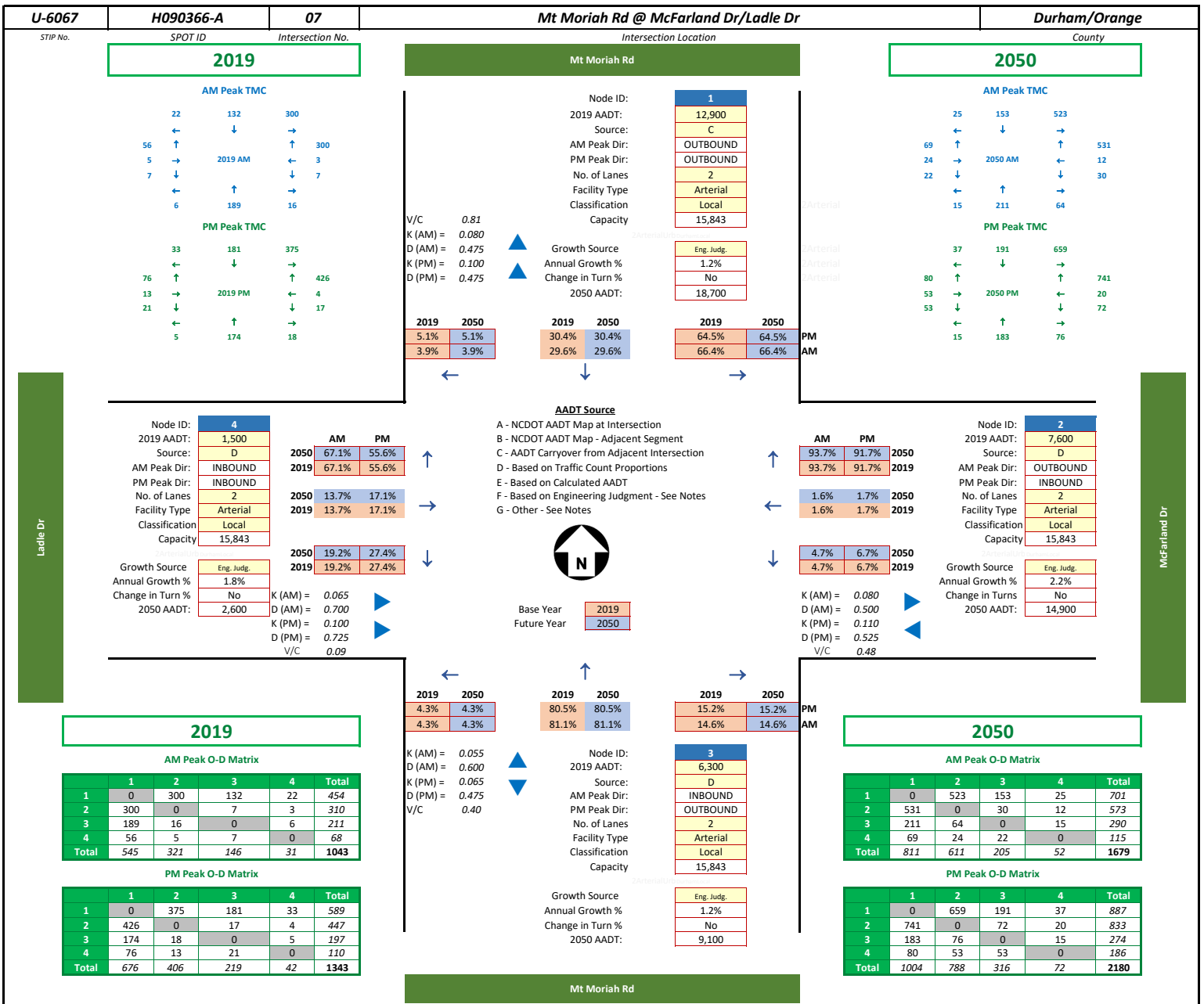
Node 2 - Growth rate based primarily on the TRM. The forecast includes a grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Node 3 - Growth rate based on the TRM. Forecast includes grade separation at intersection of US 15-501 and Mt Moriah Rd.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)			STIP/Year	Previous Forecast			Socioeconomic			Selected	AADT DATA			
	Scenario	2017 - 2045			Scenario	U-6067 (2019)		County	Durham			Orange	Latest Year	AADT	
		Base Year	Future Year			CAGR	Base Year		Future Year	OSBM					NCSTM (Emp)
Node 1	2017	2045	CAGR	Node 1	2019	2045	CAGR	OSBM	1.2%	0.9%	NCSTM (Pop)	1.7%	1.6%	Node 1	
Node 2				Node 2	5900	8100	1.23%	NCSTM (Emp)	1.8%	1.7%	Node 2			Node 2	
Node 3				Node 3	700	5400	8.17%	Freeway	1.9%	1.5%	Node 3			Node 3	2017
Node 4				Node 4	6200	5900	-0.19%	Arterial	1.4%	1.2%	Node 4			Node 4	6,300
								Collector	2.1%	2.8%					
								Local	2.1%	2.8%					



Volume Development Notes

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

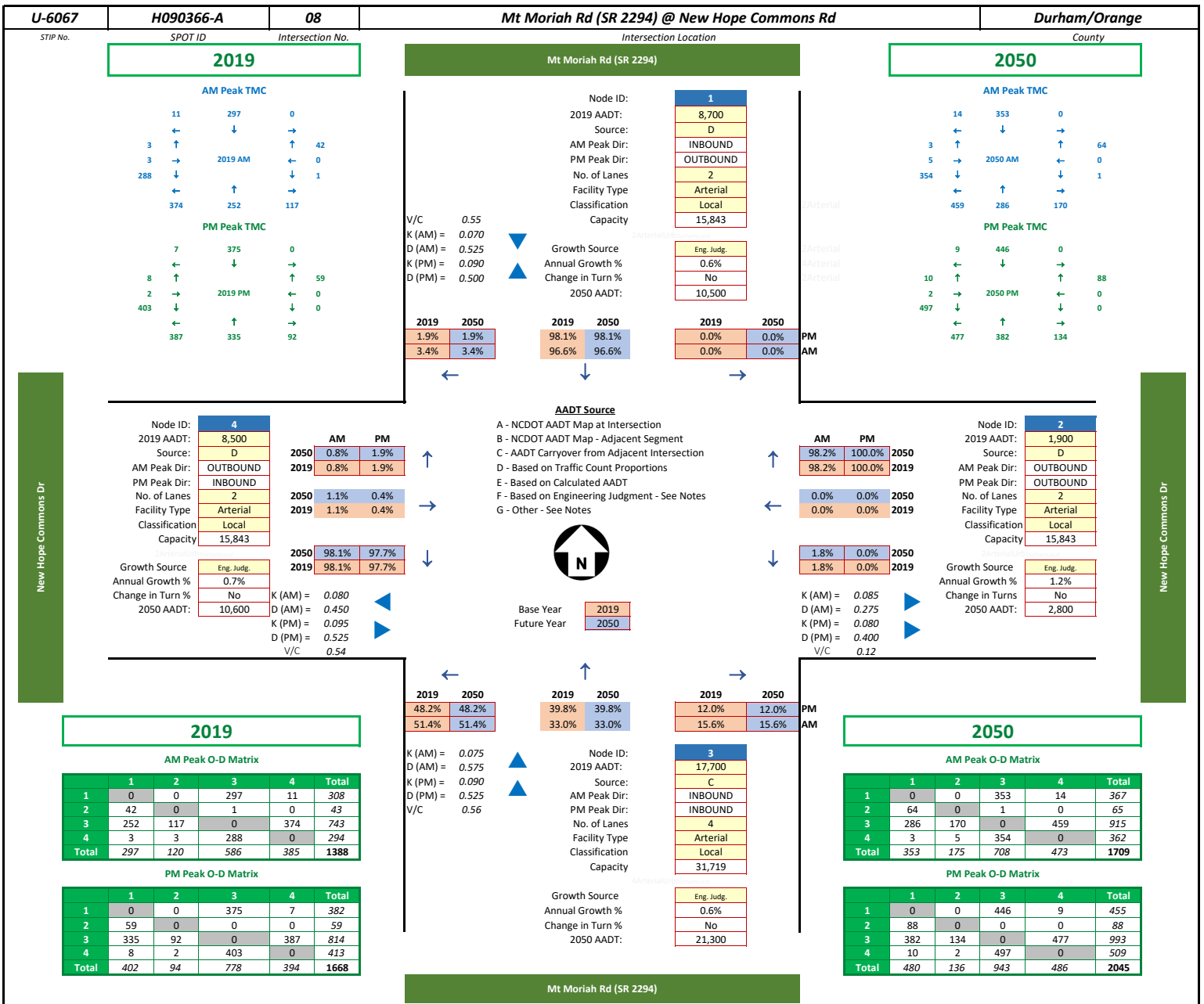
Growth Rate Notes

- Node 1 - Growth rate based on the TRM. Forecast includes grade separation at intersection of US 15-501 and Mt Moriah Rd.
- Node 2 - Growth rate based on rate chosen at Int 22.
- Node 3 - Growth rate based on the TRM. Forecast includes grade separation at intersection of US 15-501 and Mt Moriah Rd.
- Node 4 - Growth rate based on the TRM growth from the corresponding centroid connector. The CC shows a growth of about 3,500 vehicles with a growth rate of 1.33%. A compromise growth rate was chosen for this node and for Node 4 at Int 26 (also in the CC area) that is higher than the CC growth rate but which results in a volume growth that is lower than the total growth.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic		Selected	AAADT DATA				
	Scenario	Base Year		Future Year	Scenario	Base Year	Future Year	CAGR		County	Durham	Orange	Latest Year	AADT
Node 1	8799.6699	12322.3306	1.00%	Node 1	13200	4900	-3.74%	OSBM	1.2%	0.9%	Node 1			
Node 2				Node 2	7500	8100	0.30%	NCSTM (Pop)	1.7%	1.6%	Node 2			
Node 3	8799.6699	12322.3306	1.00%	Node 3	7200	9500	1.07%	NCSTM (Emp)	1.8%	1.7%	Node 3			
Node 4				Node 4	1500	1500	0.00%	Freeway	1.9%	1.5%	Node 4			
								Arterial	1.4%	1.2%				
								Collector	2.1%	2.8%				
								Local	2.1%	2.8%				



Volume Development Notes

The additional future year model run did not include the New Hope Commons Drive and centroid connector like the Base Year model run. So, the 2016 model volumes were consolidated along Mt Moriah Rd to match the 2050 network setup. The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

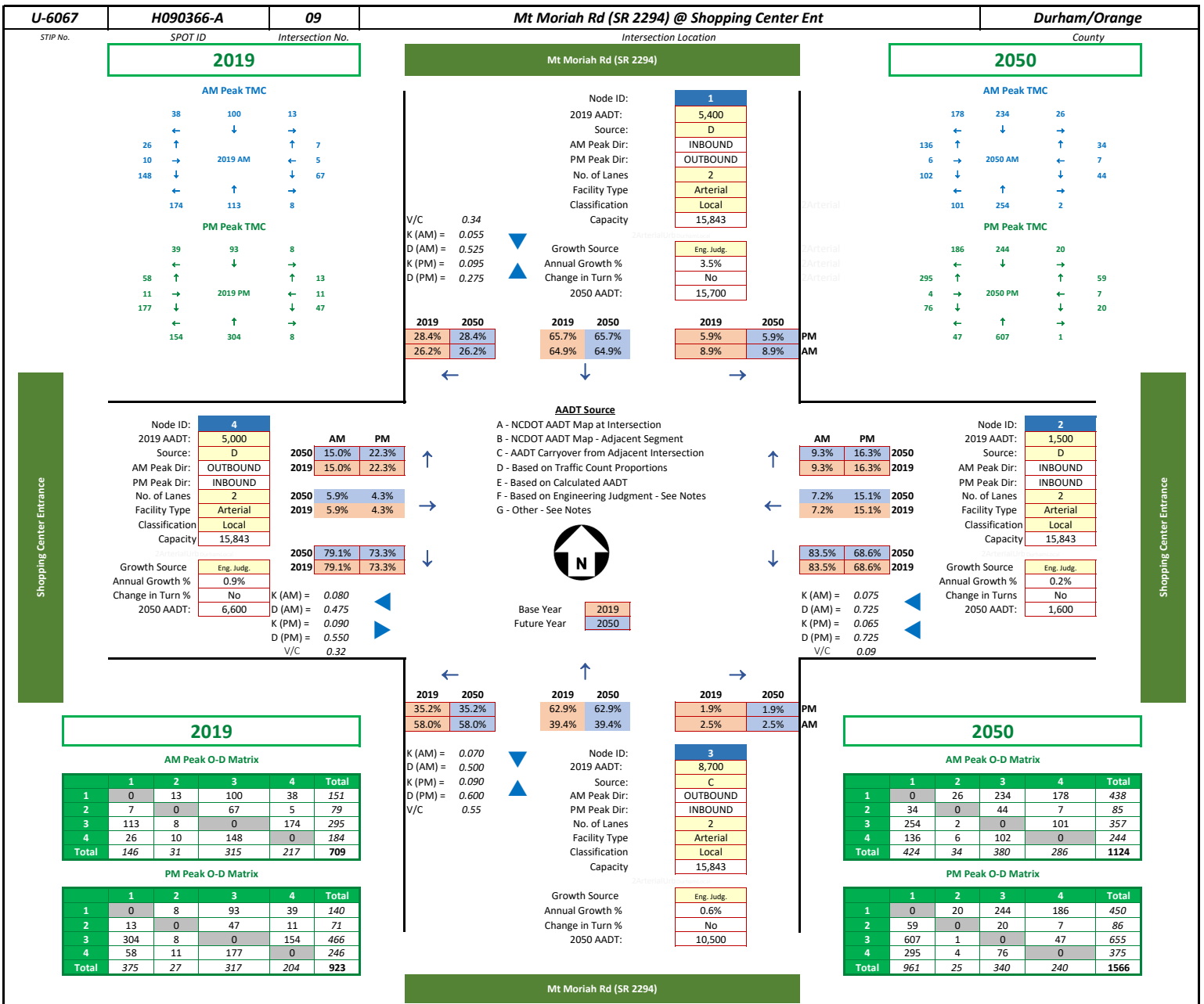
- Node 1 - Growth rate based on the TRM. Forecast includes grade separation at US 15-501/Mt Moriah Rd intersection.
- Node 2 - Growth rate based on growth chosen at Int 30.
- Node 3 - Growth rate based on the TRM. Forecast includes grade separation at US 15-501/Mt Moriah Rd intersection.
- Node 4 - Growth rate based on growth chosen at Int 29.

1101
16891
17992
0.9388061
22588
21206
1382
31275.222
10069
1101.1617
16891.055
17992.217
8730.2974
16891.055
25621.353

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic			Selected	AAADT DATA			
	Base Year	Future Year		CAGR	U-6067 (2019)			County	Durham		Orange	Latest	AADT	
					Base Year	Future Year	2019 - 2045							
Scenario	2017	2045	CAGR	2019	2045	CAGR	OSBM	1.2%	0.9%	1999-2019	2009-2019	Node 1	2015	5,300
Year							NCSTM (Pop)	1.7%	1.6%	CAGR	CAGR	Node 2		
Node 1				7500	5200	-1.40%	NCSTM (Emp)	1.8%	1.7%	-0.78%	0.96%	Node 3		
Node 2				2100	2100	0.00%	Freeway	1.9%	1.5%			Node 4		
Node 3				17500	4900	-4.78%	Arterial	1.4%	1.2%					
Node 4				9300	7200	-0.98%	Collector	2.1%	2.8%					
							Local	2.1%	2.8%					



Volume Development Notes

The additional future year model run did not include the New Hope Commons Drive and centroid connector like the Base Year model run. So, the 2016 model volumes were consolidated along Mt Moriah Rd to match the 2050 network setup. (See Int 08)

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

Node 1 - Growth rate based on the TRM. Forecast includes grade separation at US 15-501/Mt Moriah Rd intersection. The chosen growth rate reflects the available land that could be developed, and is based on the volume growth of the corresponding centroid connector in the TRM. The CC shows a growth of app. 17,000 vehicles. The growth was split to this location and to the service road opposite SW Durham Rd at US 15-501 and to New Hope Commons Blvd Ext (Int 30). Around 10,000 vehicles was allocated to this intersection node, and around 6,000 vehicles was allocated opposite of SW Durham Rd and 1,000 vehicles to New Hope Commons Blvd Ext.

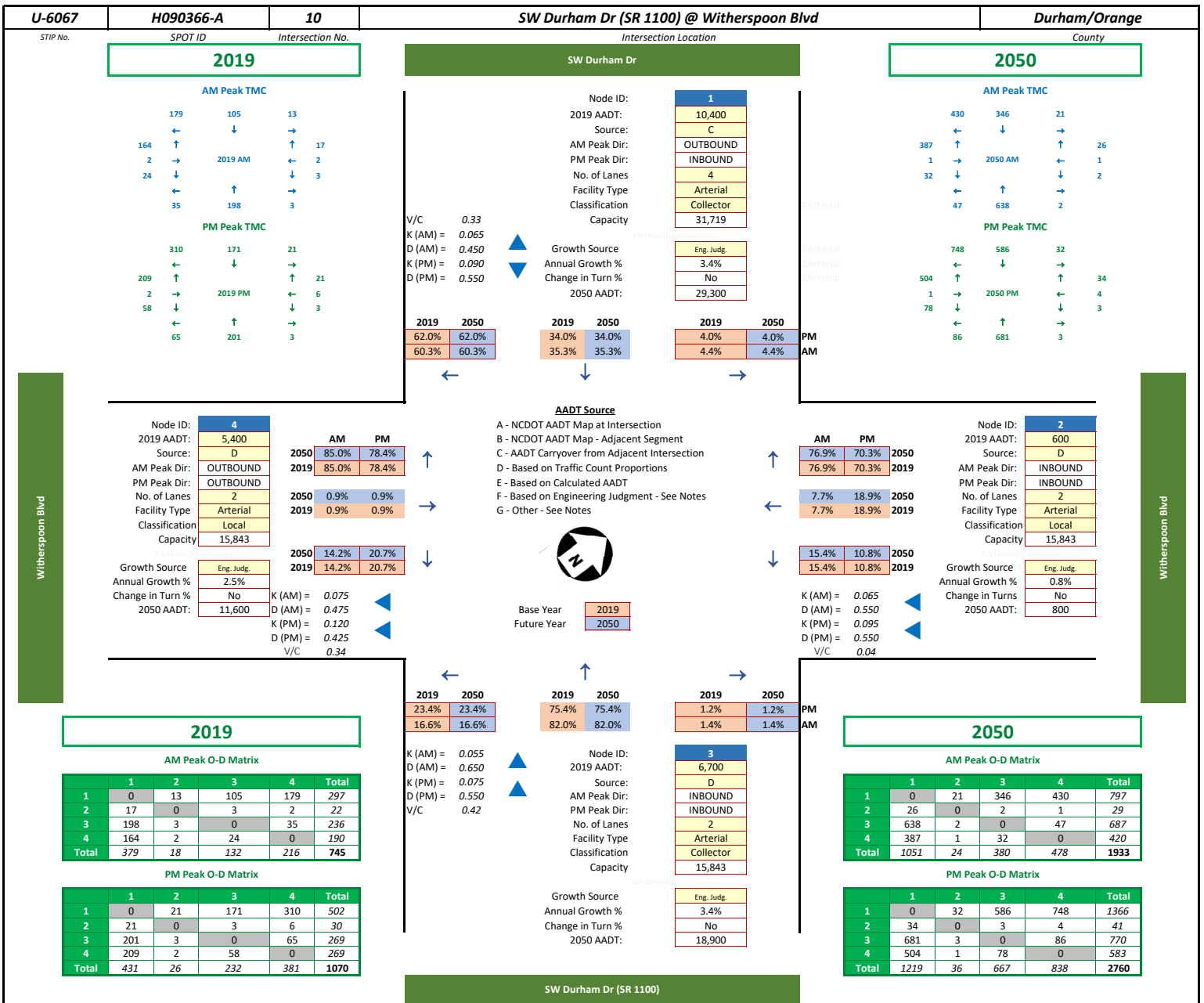
Node 2 - Background minimal growth only - area looks built out. There is undeveloped land to the east, but it would be on the far side of any possible extension of SW Durham Rd.

Node 3 - Growth rate based on the TRM. Forecast includes grade separation at US 15-501/Mt Moriah Rd intersection.

Node 4 - Growth rate based on the TRM. Forecast includes grade separation at US 15-501/Mt Moriah Rd intersection. The chosen growth rate is based on the volume growth of the corresponding centroid connector in the TRM. The CC shows a growth of app. 4,600 vehicles. The growth was split to this location and to Mt Moriah Rd on the north side and to New Hope Commons Blvd (Int 29). Around 1,600 vehicles was allocated to this node, and around 600 vehicles was allocated to Mt Moriah Rd and 2,400 vehicles to New Hope Commons Blvd.

GROWTH RATE DATA

Model	North Carolina Statewide Model (NCSTM)		Triangle Regional Model		STIP/Year	Previous Forecast			Socioeconomic			Selected	AADT DATA				
	Base Year	Future Year	2017 - 2045	CAGR		Scenario	Base Year	Future Year	2019 - 2045	County	Durham		Orange	1999-2019	2009-2019	Latest	AADT
Node 1	2017	2045	2017 - 2045	CAGR	Node 1	2019	2045	CAGR	OSBM	1.2%	0.9%						
Node 2					Node 2	5900	11100	2.46%	NCSTM (Pop)	1.7%	1.6%						
Node 3					Node 3	1500	1500	0.00%	Freeway	1.9%	1.5%						
Node 4					Node 4	7500	5200	-1.40%	Arterial	1.4%	1.2%						
						5500	8000	1.45%	Collector	2.1%	2.8%						
									Local	2.1%	2.8%						



Volume Development Notes

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

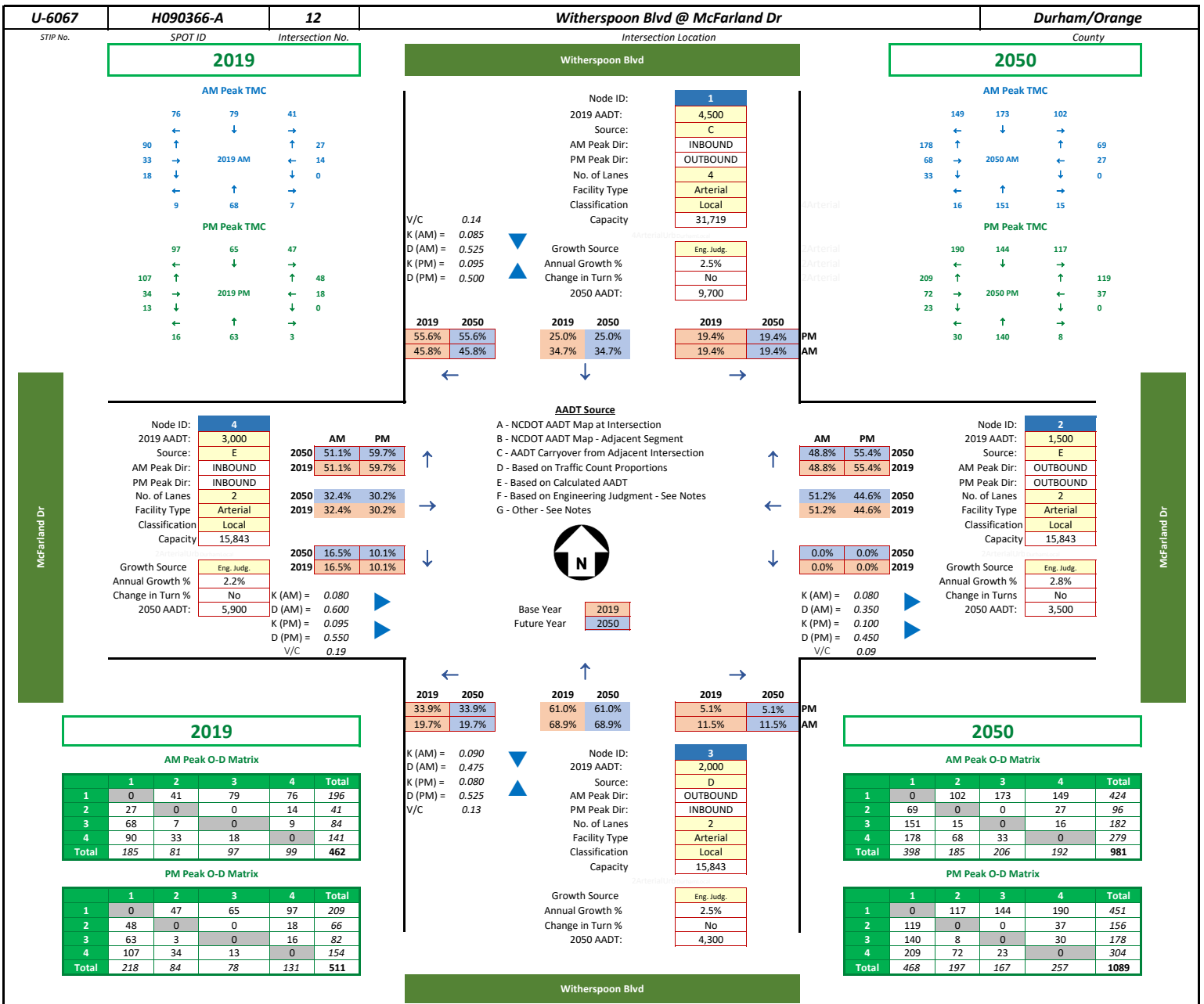
Growth Rate Notes

- Node 1 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.
- Node 2 - Background growth chosen based on undeveloped land to the east. Some of the model's growth on SW Durham Rd, via the Centroid Connector, may come to this leg.
- Node 3 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.
- Node 4 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic			Selected	AAADT DATA		
	Scenario	Base Year		Future Year	Scenario	Base Year	Future Year	County	Durham		Orange	Latest Year	AADT
Node 1	16079.0692	2017	2045	Node 1	2019	2045	OSBM	1.2%	0.9%	Node 1			
Node 2	16079.0692	2017	2045	Node 2	2019	2045	NCSTM (Pop)	1.7%	1.6%	Node 2			
Node 3	5146.84248	2017	2045	Node 3	2019	2045	NCSTM (Emp)	1.8%	1.7%	Node 3			
Node 4	12541.9838	2017	2045	Node 4	2019	2045	Freeway	1.9%	1.5%	Node 4			
							Arterial	1.4%	1.2%				
							Collector	2.1%	2.8%				
							Local	2.1%	2.8%				



Volume Development Notes

Source E was chosen for the east and west legs, based on engineering judgment. Using Source D on the west leg results in a volume that is greater than the AADT on the west leg of Int 24, which is counter to observed volumes. Source E was used on the east leg to maintain the general ratio of traffic to the west leg shown in the count.

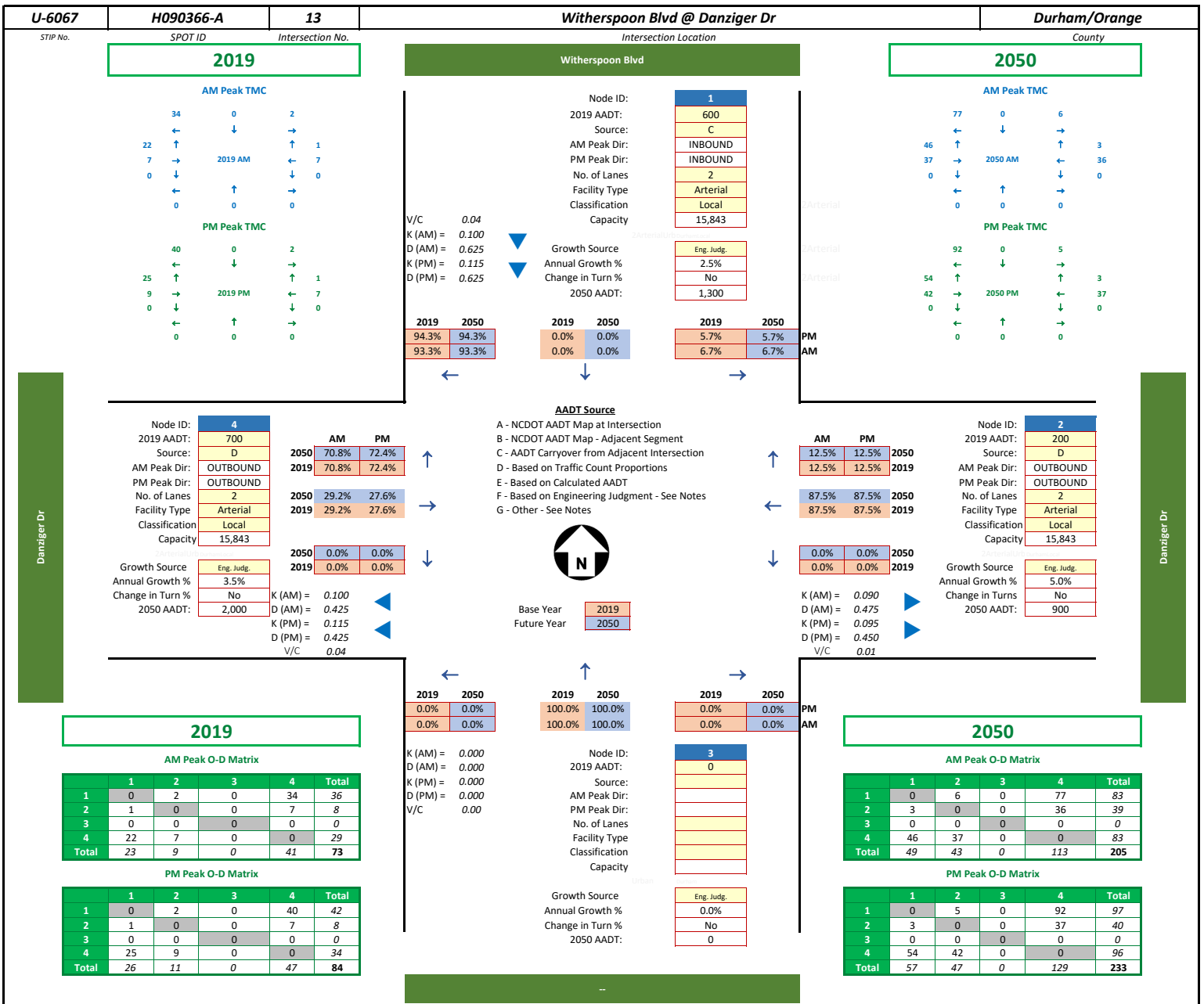
Growth Rate Notes

- Node 1 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.
- Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the Base Year AADT at each location with some adjustments based on engineering judgment.
- Node 3 - Growth rate based on TRM and north side of intersection.
- Node 4 - Growth rate based on growth chosen at Int 24. TRM value for this leg is from a centroid connector.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Triangle Regional Model		Scenario	Previous Forecast		Socioeconomic		Selected	AAADT DATA				
	Base Year	Future Year		2017 - 2045	Base Year		Future Year	2016 - 2050	Base Year	Future Year		County	Durham	Orange	Year	AAADT
	Year	Year		CAGR	Year		Year	CAGR	Year	Year		OSBM	NCSTM (Pop)	NCSTM (Emp)	Year	Year
Node 1	2017	2045		2016	2050	2.50%			1.2%	1.7%	1.7%	Node 1				
Node 2				29081.1763	29081.1763				1.8%	1.9%	1.5%	Node 2				
Node 3									1.4%	1.2%	1.2%	Node 3				
Node 4				12541.9838	29081.1763	2.50%			2.1%	2.1%	2.8%	Node 4				
									2.1%	2.1%	2.8%					



Volume Development Notes

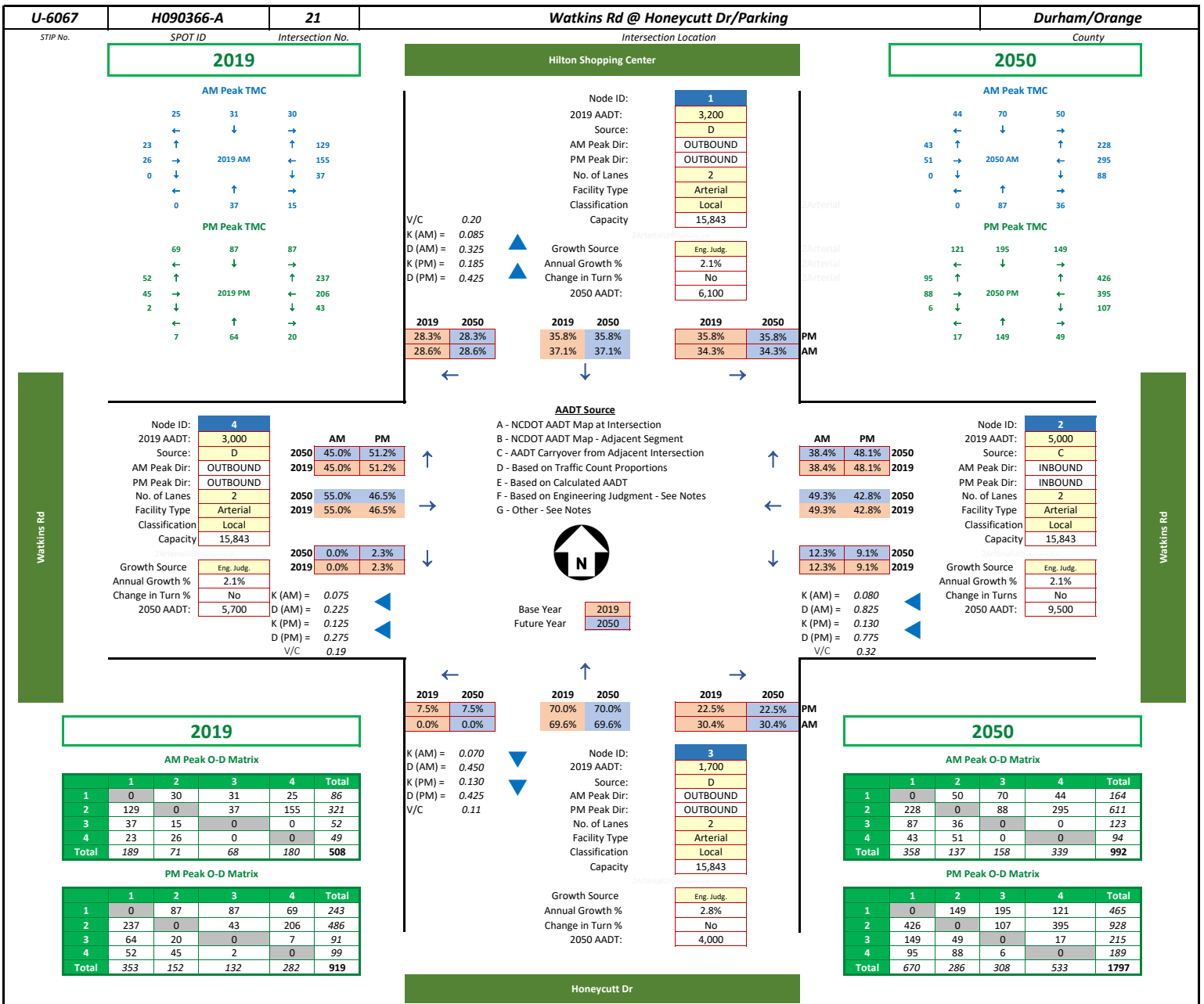
Growth Rate Notes

- Node 1 - Growth rate based on growth chosen at Int 27.
- Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.
- Node 4 - Growth rate based on growth chosen at Int 06.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Triangle Regional Model		Scenario	Previous Forecast		Socioeconomic		Selected	AADT DATA				
	Base Year	Future Year		2017 - 2045	Base Year		Future Year	2016 - 2050	Base Year	Future Year		County	Durham	Orange	Year	AADT
	Year	Year		CAGR	Year		Year	CAGR	Year	Year		CAGR	CAGR	CAGR	Year	AADT
Node 1									OSBM	1.2%	0.9%	Node 1				
Node 2									NCSTM (Pop)	1.7%	1.6%	Node 2				
Node 3									NCSTM (Emp)	1.8%	1.7%	Node 3				
Node 4									Freeway	1.9%	1.5%	Node 4				
									Arterial	1.4%	1.2%					
									Collector	2.1%	2.8%					
									Local	2.1%	2.8%					



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

Growth Rate Notes

Growth rate for Nodes 1, 3, and 4 based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

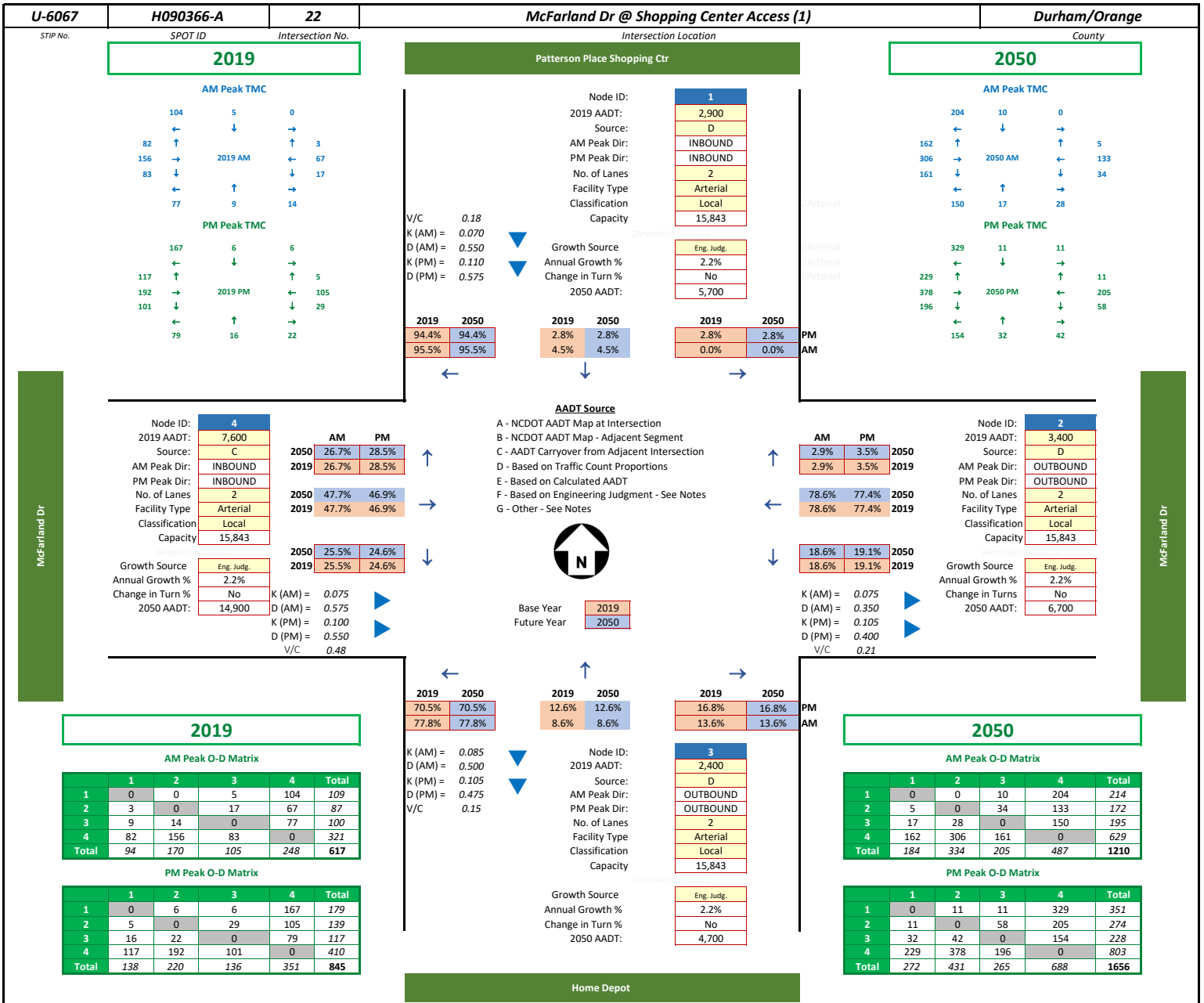
Node 2 - Growth rate based on growth chosen at north and west legs.

Count-based	Base	Future	Growth	Scenario	
				2019	2050
3,200	3480	6,680	21	1	2.1%
3,000	3263	6,263	21	4	2.1%
1,700	1849	3,549	21	3	2.8%
500	544	1,044	24	1	2.8%
900	979	1,879	23	1	2.2%
2,900	3154	6,054	22	1	2.2%
2,400	2610	5,010	22	3	2.2%
100	109	209	23	3	2.3%
1,500	1631	3,131	24	3	2.2%
1,000	1088	2,088	27	4	2.2%
100	109	209	25	1	3.0%
1,400	1523	2,923	26	2	2.2%
800	870	1,670	28	2	2.2%
1,500	1631	3,131	12	2	2.8%
1,300	1414	2,714	27	2	2.8%
200	218	418	13	2	5.0%
Future Year CC total	41497	22,500	24,470	46,970	
	2.65%				
	24470		25,270		

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)			STIP/Year	Triangle Regional Model			Socioeconomic		Selected	AADT		
	Scenario	Base Year	Future Year		Scenario	Base Year	Future Year	County	Durham		Orange	Year	AADT
		2017	2045			CAGR	2016						
Node 1				Node 1			OSBM	1.2%	0.9%	2.1%			
Node 2				Node 2			NCSTM (Pop)	1.7%	1.6%	2.1%			
Node 3				Node 3			NCSTM (Emp)	1.8%	1.7%	2.1%			
Node 4				Node 4			Freeway	1.9%	1.5%	2.8%			
							Arterial	1.4%	1.2%	2.1%			
							Collector	2.1%	2.8%	2.1%			
							Local	2.1%	2.8%	2.1%			



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

Growth Rate Notes

Growth rate for Nodes 1 and 3 based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

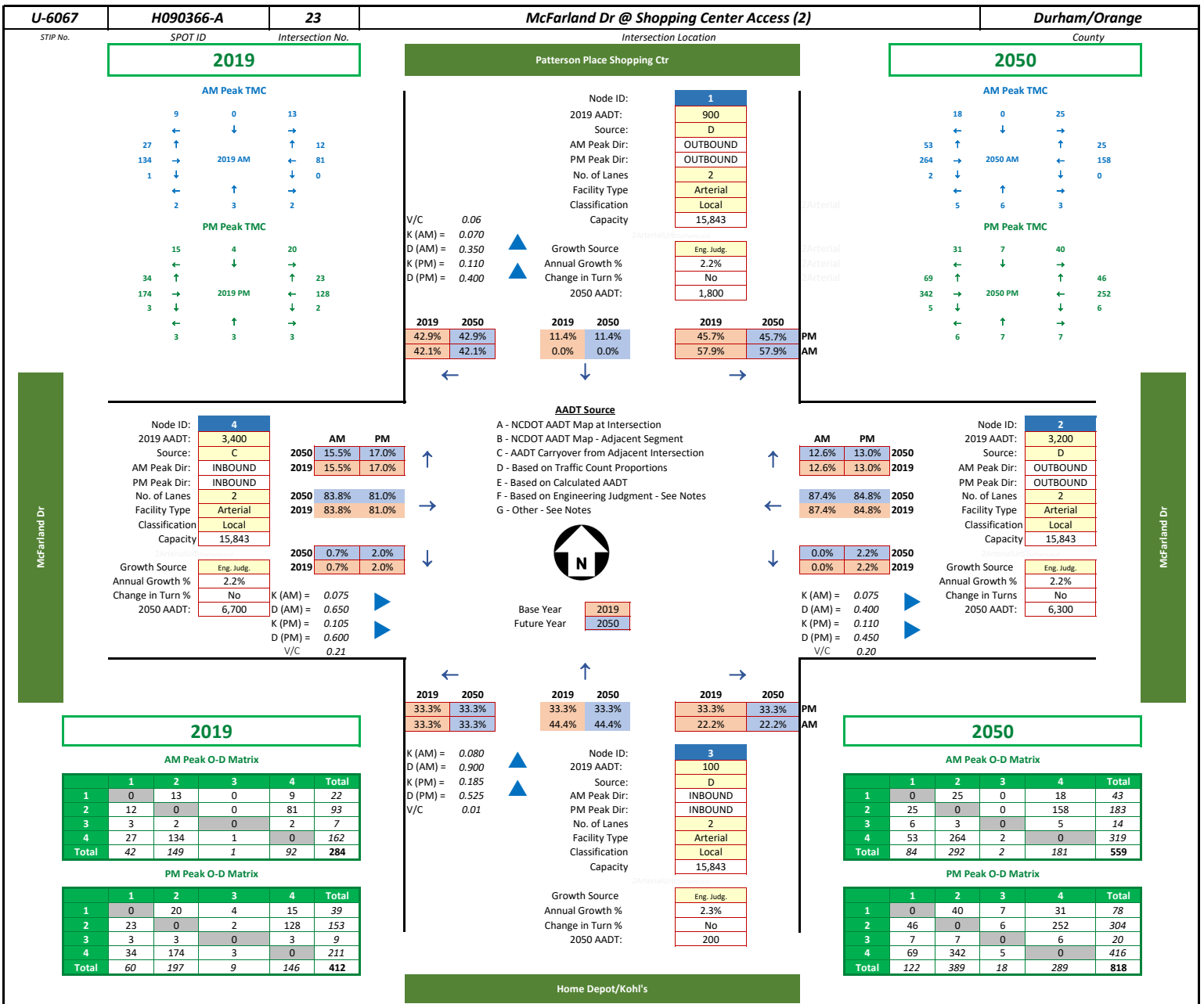
Node 2 - Growth rate based on growth chosen at north and south legs.

Node 4 - Growth rate based on growth chosen at north and south legs.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast		Socioeconomic		Selected	AAADT DATA	
	Base Year	Future Year		Base Year	Future Year	County	Orange		Year	AAADT
	2017	2045		2016	2050	OSBM	NCSTM (Pop)		1999-2019	2009-2019
Scenario	2017	2045	2016	2050	1.2%	1.7%	CAGR	CAGR		
Year					1.8%	1.7%			Node 1	
Node 1					1.8%	1.7%			Node 2	
Node 2					1.9%	1.5%			Node 3	
Node 3					1.4%	1.2%			Node 4	
Node 4					2.1%	2.8%				
					2.1%	2.8%				



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

Growth Rate Notes

Growth rate for Nodes 1 and 3 based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

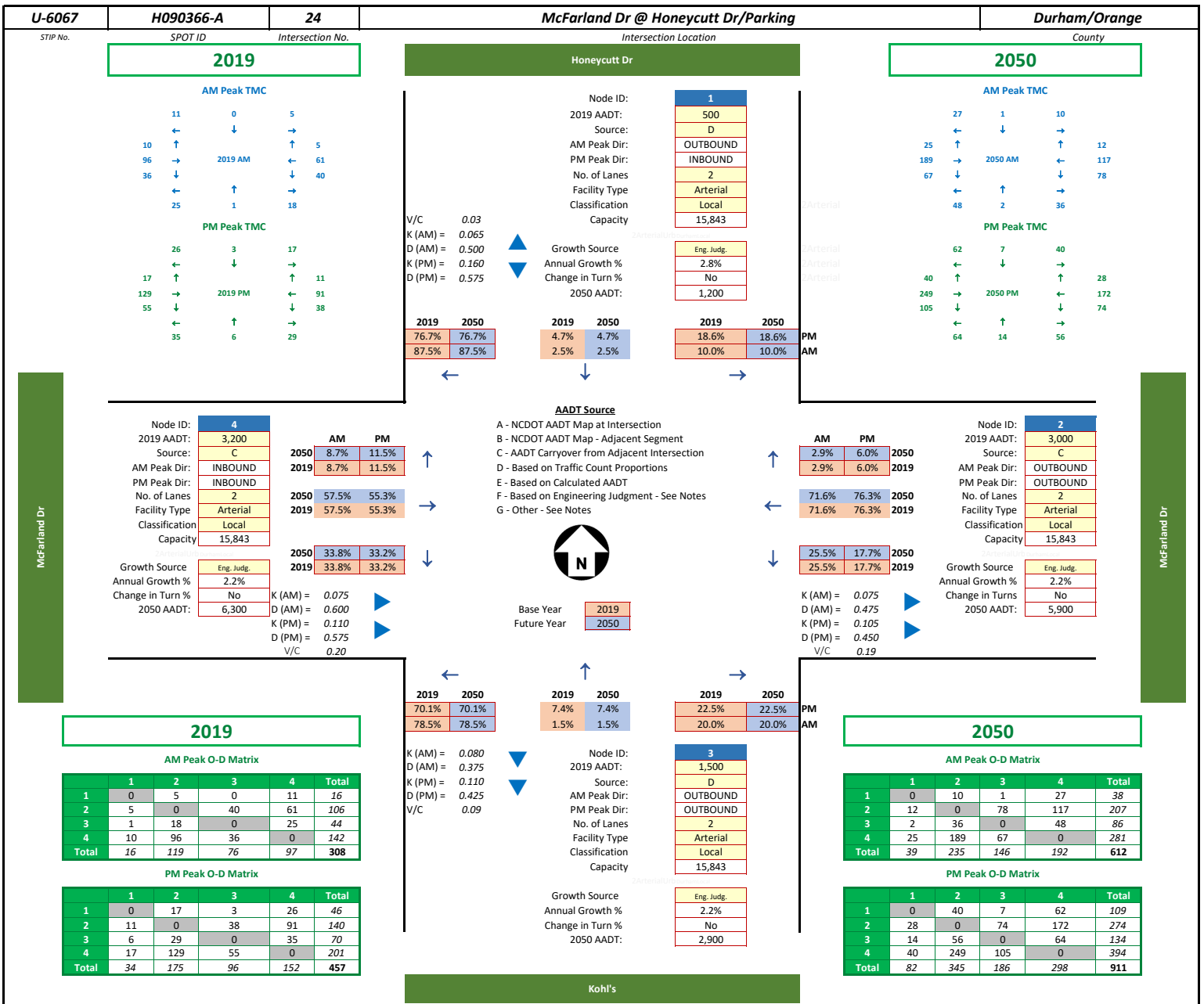
Node 2 - Growth rate based on growth chosen at north and south legs.

Node 4 - Growth rate based on growth chosen at north and south legs.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast		Socioeconomic		Selected	AADT DATA			
	Base Year	Future Year		CAGR	Base Year	Future Year	County		Durham	Orange	Year	AADT
Node 1	2017	2045		2016	2050	OSBM	1.2%	0.9%	1999-2019	2009-2019	Node 1	
Node 2						NCSTM (Pop)	1.7%	1.6%			Node 2	
Node 3						NCSTM (Emp)	1.8%	1.7%			Node 3	
Node 4						Freeway	1.9%	1.5%			Node 4	
						Arterial	1.4%	1.2%				
						Collector	2.1%	2.8%				
						Local	2.1%	2.8%				



2019

AM Peak O-D Matrix

	1	2	3	4	Total
1	0	5	0	11	16
2	5	0	40	61	106
3	1	18	0	25	44
4	10	96	36	0	142
Total	16	119	76	97	308

PM Peak O-D Matrix

	1	2	3	4	Total
1	0	17	3	26	46
2	11	0	38	91	140
3	6	29	0	35	70
4	17	129	55	0	201
Total	34	175	96	152	457

2050

AM Peak O-D Matrix

	1	2	3	4	Total
1	0	10	1	27	38
2	12	0	78	117	207
3	2	36	0	48	86
4	25	189	67	0	281
Total	39	235	146	192	612

PM Peak O-D Matrix

	1	2	3	4	Total
1	0	40	7	62	109
2	28	0	74	172	274
3	14	56	0	64	134
4	40	249	105	0	394
Total	82	345	186	298	911

Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

Growth Rate Notes

Growth rate for Nodes 1 and 3 based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

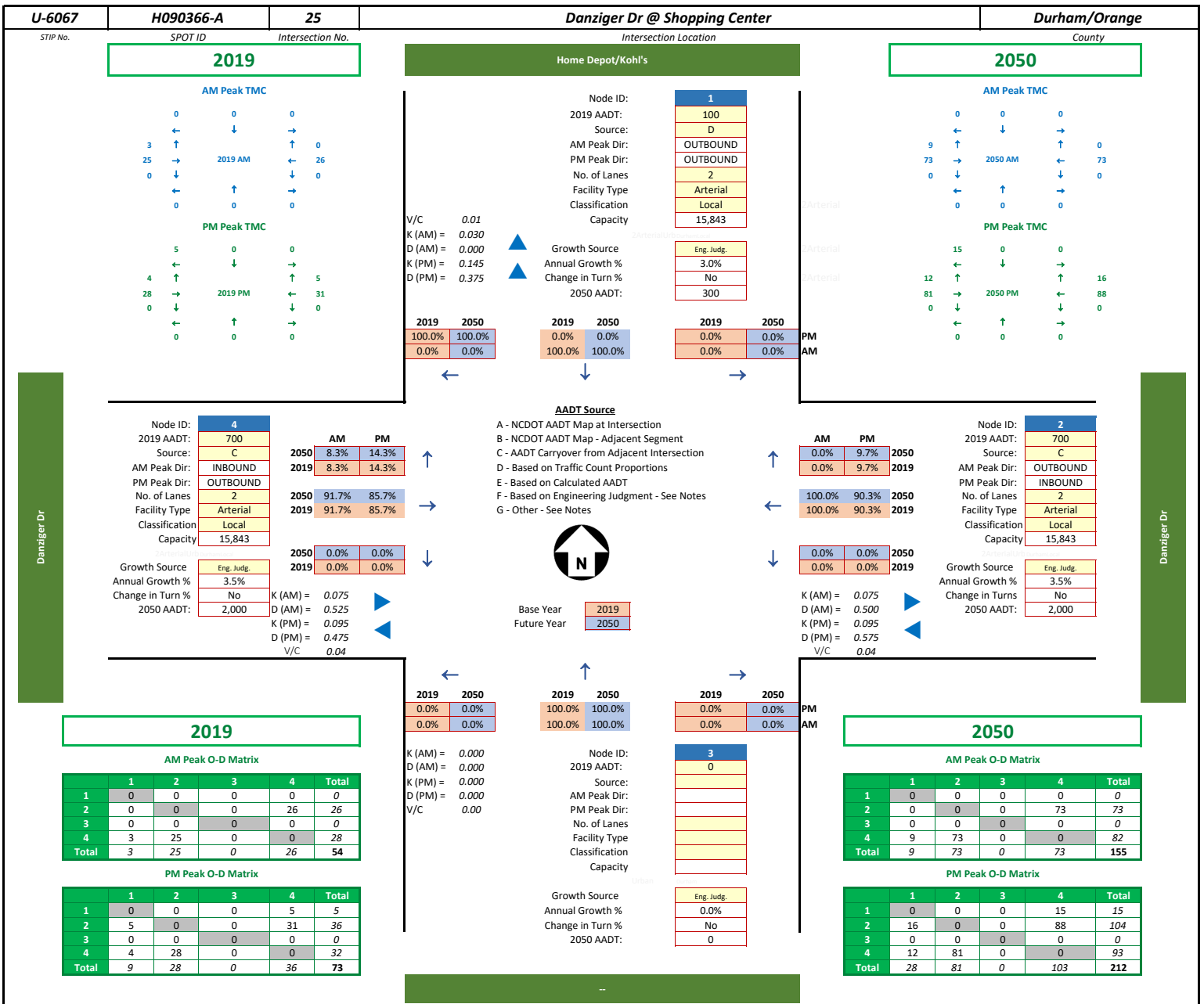
Node 2 - Growth rate based on growth chosen at south leg.

Node 4 - Growth rate based on growth chosen at south leg.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast		Socioeconomic		Selected	AAADT DATA							
	Base Year	Future Year		Base Year	Future Year	County	Orange		Year	AAADT						
	2017	2045		2016	2050	OSBM	1.2%		1.2%	0.9%						
Scenario	2017	2045	CAGR	Scenario	2016	2050	CAGR	Scenario	2019-2019	2009-2019	Selected	Node 1	1.7%	1.6%	Node 1	
Year				Year				Year				Node 2	1.8%	1.7%	Node 2	
Node 1				Node 1				Node 1				Node 3	1.9%	1.5%	Node 3	
Node 2				Node 2				Node 2				Node 4	1.4%	1.2%	Node 4	
Node 3				Node 3				Node 3				Node 4	2.1%	2.8%	Node 4	
Node 4				Node 4				Node 4				Node 4	2.1%	2.8%	Node 4	



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

Growth Rate Notes

Growth rate for Node 1 based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

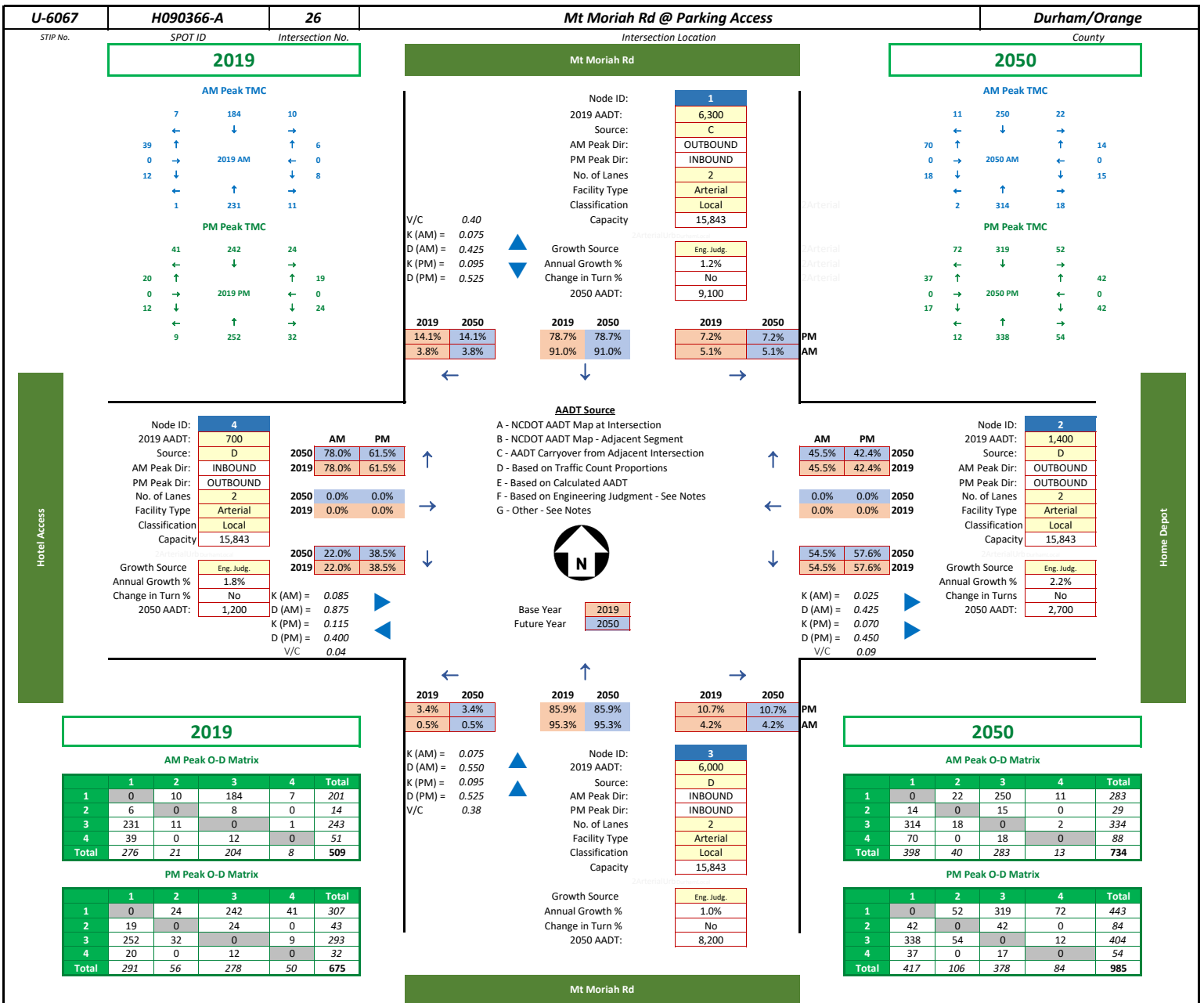
Node 2 - Growth rate based on growth chosen at Int 06.

Node 4 - Growth rate based on growth chosen at Int 06.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Triangle Regional Model		Socioeconomic	Selected	Latest Year	AADT								
	Base Year	Future Year		Base Year	Future Year					County							
	2017	2045		2016	2050					OSBM							
Scenario	2017	2045	CAGR	Scenario	2016	2050	CAGR	Scenario	Base Year	Future Year	CAGR	NCSTM (Pop)	1.7%	1.6%	Node 1		
Year	2017	2045	CAGR	Year	2016	2050	CAGR	Year	Base Year	Future Year	CAGR	NCSTM (Emp)	1.8%	1.7%	Node 2		
Node 1				Node 1	4484.91024	12415.4548	3.04%	Node 1				Freeway	1.9%	1.5%	Node 2		
Node 2				Node 2				Node 2				Arterial	1.4%	1.2%	Node 3		
Node 3				Node 3				Node 3				Collector	2.1%	2.8%	Node 3		
Node 4				Node 4	4484.91024	12415.4548	3.04%	Node 4				Local	2.1%	2.8%	Node 4		



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

The 2045 volumes from the U-6067 forecast are from the No-Build scenario. It should be noted, however, that the forecast No-Build scenario includes the grade separation of the US 15-501/Mt Moriah Rd intersection and the SW Durham Rd extension.

Growth Rate Notes

Node 1 - Growth rate based on the TRM. Forecast includes grade separation at intersection of US 15-501 and Mt Moriah Rd.

Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the Base Year AADT at each location with some adjustments based on engineering judgment.

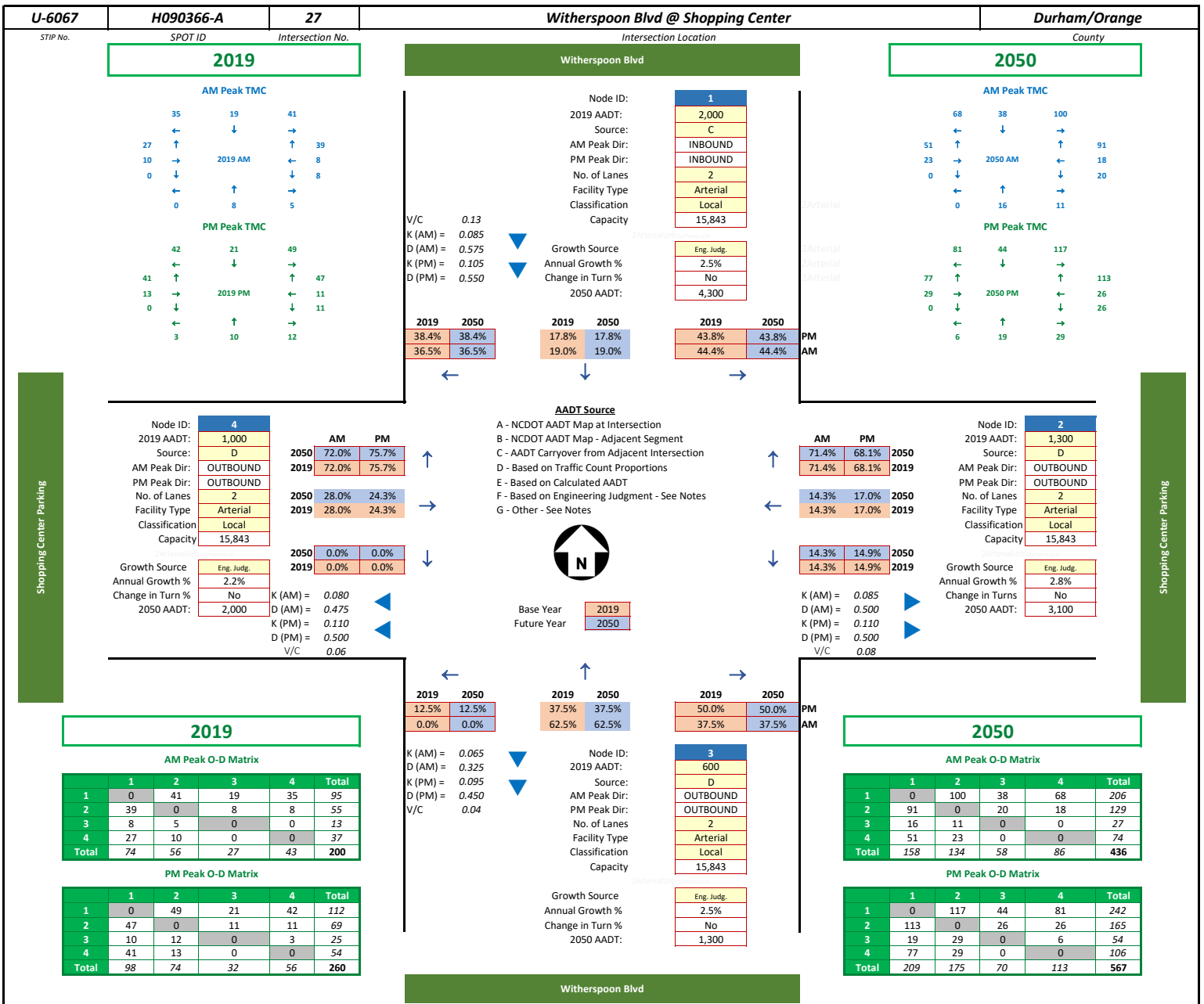
Node 3 - Growth rate based on the TRM growth rate on north side of intersection and TRM rate at Intersection 7.

Node 4 - Growth rate based on the TRM growth from the corresponding centroid connector. The CC shows a growth of about 3,500 vehicles with a growth rate of 1.33%. A compromise growth rate was chosen for this node and for Node 4 at Int 07 (also in the CC area) that is higher than the CC growth rate but which results in a volume growth that is lower than the total growth.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast			Socioeconomic			Selected	AAADT DATA		
	Scenario	Triangle Regional Model		U-6067 (2019)			Durham Orange				Latest Year	AADT	
		Base Year		Future Year	2017 - 2045	Base Year	Future Year	2019 - 2045	OSBM				NCSTM (Pop)
Node 1	2017	2045	CAGR	2019	2045	CAGR	1.2%	1.7%	1.8%	1.2%	1.8%	Node 1	
Node 2				7200	9500	1.07%	1.8%	1.7%	1.5%	1.5%	1.5%	Node 2	
Node 3				5615.38575	5359.5648	-0.14%	1.9%	1.5%	1.4%	1.2%	1.2%	Node 3	
Node 4				6124.41167	9611.92335	1.33%	2.1%	2.8%	2.1%	2.8%	2.1%	Node 4	



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

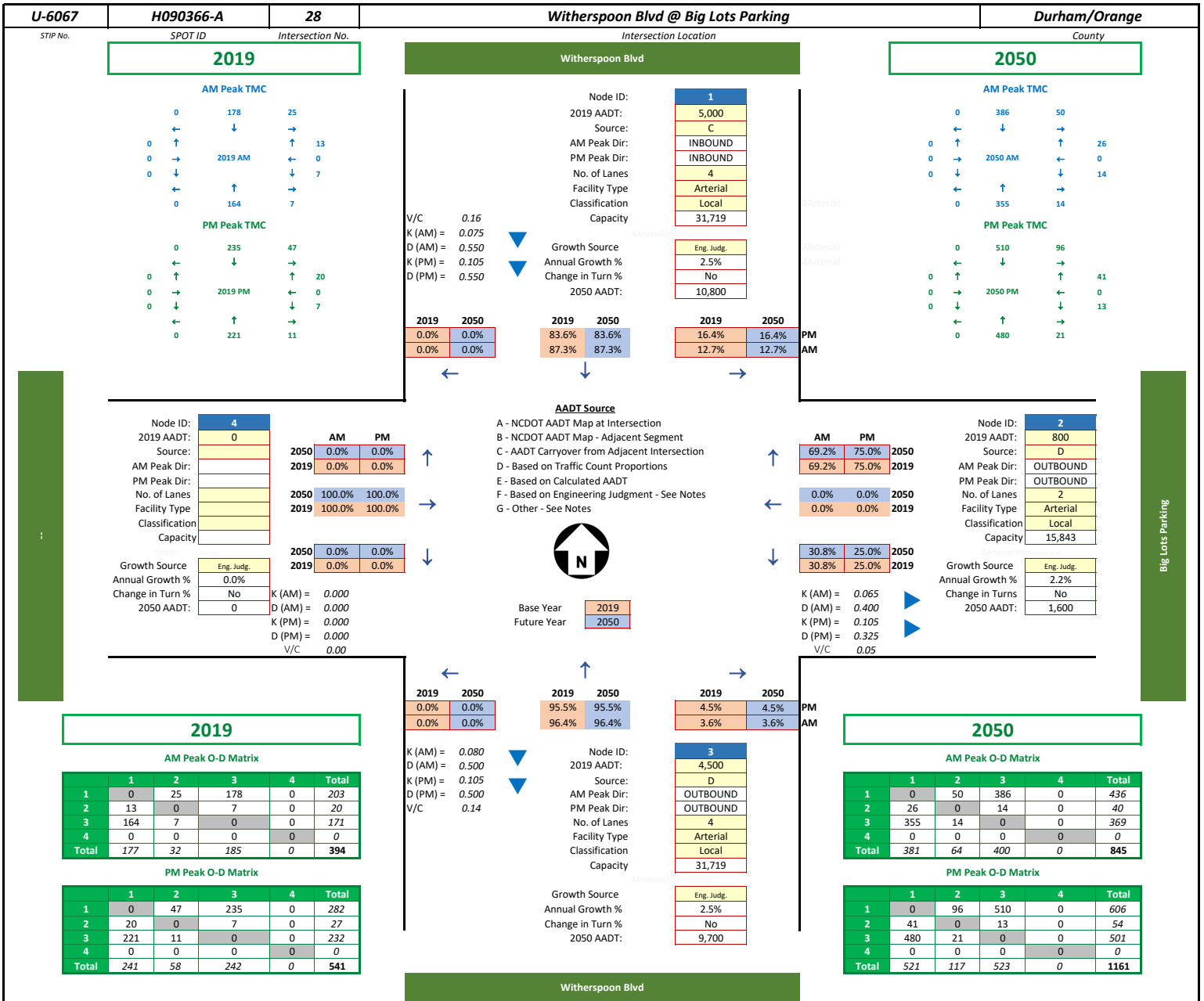
Growth Rate Notes

- Node 1 - Growth rate based on growth chosen at Int 12.
- Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.
- Node 3 - Growth rate based on growth chosen at Int 12.
- Node 4 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the base year AADT at each location with some adjustments based on engineering judgment.

GROWTH RATE DATA

AAADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast		Socioeconomic		Selected	AAADT			
	Base Year	Future Year		CAGR	Base Year	Future Year	CAGR		1999-2019 CAGR	2009-2019 CAGR	Latest Year	AADT
Node 1	2017	2045		2016	2050		OSBM	1.2%	0.9%	Node 1		
Node 2							NCSTM (Pop)	1.7%	1.6%	Node 2		
Node 3							NCSTM (Emp)	1.8%	1.7%	Node 3		
Node 4							Freeway	1.9%	1.5%	Node 4		
							Arterial	1.4%	1.2%			
							Collector	2.1%	2.8%			
							Local	2.1%	2.8%			



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

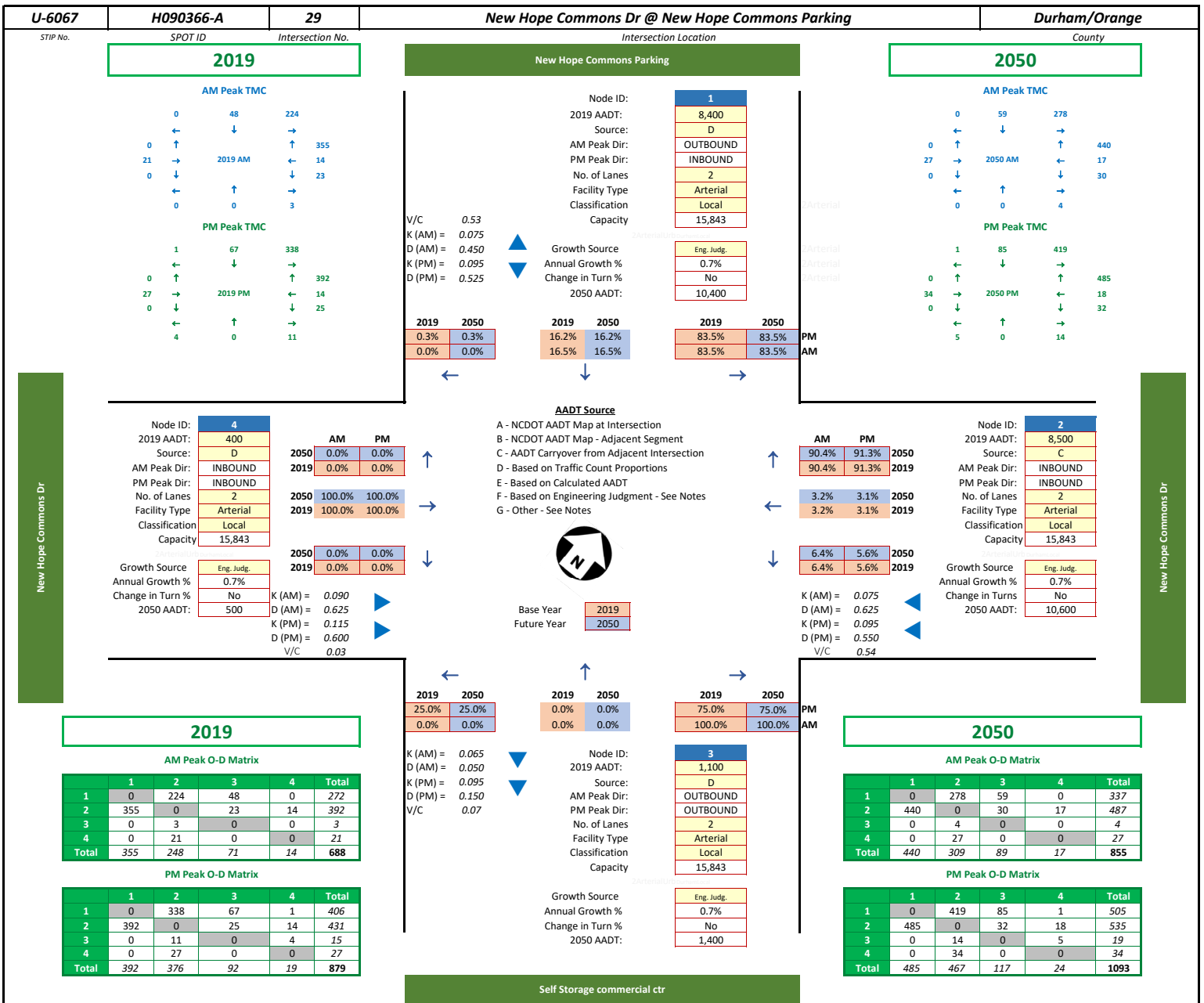
Growth Rate Notes

- Node 1 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.
- Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the volume growth of the corresponding centroid connectors in the TRM. The CCs show a growth of app. 24,000 vehicles. The growth was split to the boundary nodes proportionally based on the Base Year AADT at each location with some adjustments based on engineering judgment.
- Node 3 - Growth rate based on the TRM. Forecast includes extension of SW Durham Rd on north side of intersection.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		Triangle Regional Model			STIP / Year	Previous Forecast		Socioeconomic				Selected	AADT				
	Scenario	Base Year	Future Year	2017 - 2045	CAGR		Scenario	Base Year	Future Year	CAGR	County	Durham		Orange	1999-2019	2009-2019	Latest	AADT
Node 1						Node 1				OSBM	1.2%	0.9%						
Node 2						Node 2				NCSTM (Emp)	1.8%	1.7%						
Node 3						Node 3				Freeway	1.9%	1.5%						
Node 4						Node 4				Arterial	1.4%	1.2%						
										Collector	2.1%	2.8%						
										Local	2.1%	2.8%						



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

The additional future year model run did not include the New Hope Commons Drive and centroid connector like the Base Year model run. So, the 2016 model volumes were consolidated along Mt Moriah Rd to match the 2050 network setup. (See Int 08)

Growth Rate Notes

Node 1 - See below

Node 2 - Growth rate based on growth chosen at Int 08.

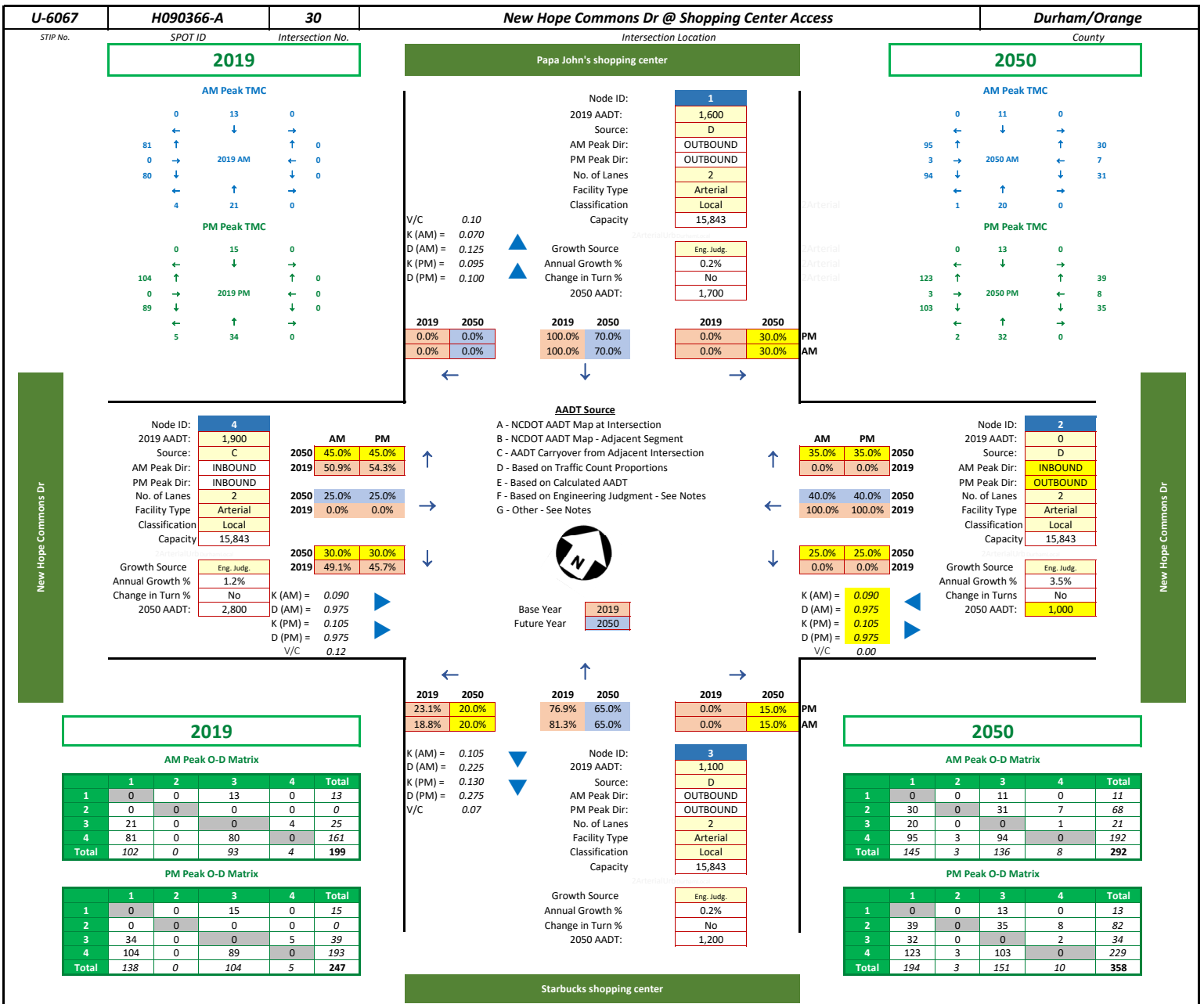
Node 3 - See below

Node 4 - See below

Nodes 1, 2, and 3
Growth rate based on the TRM. The chosen growth rate is based on the volume growth of the corresponding centroid connector in the TRM.
The CC shows a growth of app. 4,600 vehicles. The growth was split to the external nodes at this location and to Mt Moriah Rd on the north side and to New Hope Commons Blvd (Int 09). Around 2,400 vehicles was allocated to this intersection, and around 600 vehicles was allocated to Mt Moriah Rd and 1,600 vehicles to New Hope Commons (Int 09).

	1101.16172
	16891.0553
Base	17992.21702
Future	22587.9057
	4595.68868

GROWTH RATE DATA										AADT DATA		
Model	North Carolina Statewide Model (NCSTM)			STIP/Year	Previous Forecast			Socioeconomic		Selected	Latest Year	AADT
	Base Year	Future Year	2017 - 2045 CAGR		Base Year	Future Year	2016 - 2050 CAGR	County	Orange			
Scenario	2017	2045	CAGR	Scenario	Base Year	Future Year	CAGR	OSBM	1.2%	0.9%		
Year				Year				NCSTM (Pop)	1.7%	1.6%	Node 1	
Node 1				Node 1				NCSTM (Emp)	1.8%	1.7%	Node 2	
Node 2				Node 2				Freeway	1.9%	1.5%	Node 3	
Node 3				Node 3				Arterial	1.4%	1.2%	Node 4	
Node 4				Node 4				Collector	2.1%	2.8%		
								Local	2.1%	2.8%		



Volume Development Notes

The Streetlight TMC is based on an average from all weekdays in 2019. Therefore, the Seasonal Factor has been overwritten to be 1.00.

In the future, a connection to the east is assumed at Node 2 to accommodate future development. See below for growth assumptions. Because the Base Year has zero volume, the Future Year turning percentages were estimated based on engineering judgment. The K and D factors were copied from the west leg.

Growth Rate Notes

Node 1 - Background minimal growth only - area looks built out.

Node 2 - Growth rate based on the TRM. The chosen growth rate reflects the available land that could be developed to the east, and is based on the volume growth of the corresponding centroid connector in the TRM. The CC shows a growth of app. 17,000 vehicles. The growth was split to this location and to the service road opposite SW Durham Rd at US 15-501 and to Mt Moriah Rd (Int 09). Around 1,000 vehicles was allocated to this intersection node, and around 6,000 vehicles was allocated opposite of SW Durham Rd and 10,000 vehicles to Mt Moriah Rd. The Future Year volume was input manually, because the base year volume is 0.

Node 3 - Background minimal growth only - area looks built out.

Node 4 - Growth rate based on growth chosen at Int 08.

GROWTH RATE DATA

AADT DATA

Model	North Carolina Statewide Model (NCSTM)		STIP/Year	Previous Forecast		Socioeconomic		Selected	AADT																														
	Base Year	Future Year		Base Year	Future Year	County	Year		Year	AADT																													
	2017	2045		2016	2050	OSBM	1999-2019		2009-2019	Latest																													
Scenario	2017	2045	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR	Scenario	2016	2050	CAGR
Node 1				Node 1				Node 1				Node 1				Node 1				Node 1			Node 1				Node 1				Node 1			Node 1			Node 1		
Node 2				Node 2				Node 2				Node 2				Node 2				Node 2			Node 2				Node 2				Node 2			Node 2			Node 2		
Node 3				Node 3				Node 3				Node 3				Node 3				Node 3			Node 3				Node 3				Node 3			Node 3			Node 3		
Node 4				Node 4				Node 4				Node 4				Node 4				Node 4			Node 4				Node 4				Node 4			Node 4			Node 4		