
TRAFFIC SIGNAL DESIGN REPORT

For

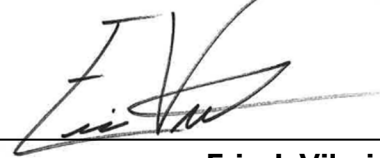
The Intersection of:
Eagle Rock Avenue (CR 611) and Oval Road/Laurel Avenue
Township of West Orange
Essex County, New Jersey

Prepared By:

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LANGAN

21 January 2026
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Table of Contents

EXECUTIVE SUMMARY.....	1
DESCRIPTION OF EXISTING CONDITIONS	3
Roads.....	3
Eagle Rock Avenue (County Route (CR) 611)	3
Laurel Avenue (CR 634).....	3
Oval Road.....	3
Intersections	3
Eagle Rock Avenue (CR 611) and Laurel Avenue (CR 634)	3
Eagle Rock Avenue (CR 611) and Oval Road	3
Eagle Rock Avenue (CR 611) and Crestmont Country Club Driveway.....	4
Traffic Volumes	4
ESTIMATE OF FUTURE CONDITIONS.....	4
TRAFFIC SIGNAL WARRANT ANALYSIS.....	5
ANALYSIS OF TRAFFIC OPERATIONS.....	7
Level of Service Criteria	7
Capacity Analysis	8
CONCLUSIONS	9

List of Figures

Figure 1 - Site Location Map

Figure 2 - 2024 Existing Traffic Volumes

Figure 3 - 2027 Build Traffic Volumes

List of Tables

Table 1 – Intersection Capacity Analysis

Appendices

Appendix A - Traffic Counts

Appendix B - Signal Warrant Analysis

Appendix C - Intersection Capacity Analysis

EXECUTIVE SUMMARY

Langan Engineering and Environmental Services was retained to prepare a Traffic Signal Design Report for the existing unsignalized intersection of Eagle Rock Avenue (County Route (CR) 611) and Oval Road. The purpose of this report is to evaluate existing traffic and roadway conditions and to determine the appropriateness and design of traffic signal control in accordance with Essex County standards, New Jersey Department of Transportation (NJDOT) requirements, and the Manual on Uniform Traffic Control Devices (MUTCD).

The study area is located in the Township of West Orange, Essex County, New Jersey, under Essex County jurisdiction. The proposed traffic signal and associated signal improvements are being implemented in connection with the West Essex LLC development, Planning Board Application No. PB 24-01.

This report evaluates traffic operations at the following study intersections along Eagle Rock Avenue (CR 611):

- **Eagle Rock Avenue (CR 611) & Laurel Avenue (CR 634):** A T-shaped intersection operating under traffic signal control. The eastbound Eagle Rock Avenue approach provides one exclusive through lane and one shared through/channelized right turn lane. The westbound Eagle Rock Avenue approach provides one exclusive left turn lane and two through lanes. The northbound Laurel Avenue approach provides one exclusive left turn lane and one exclusive right turn lane.
- **Eagle Rock Avenue (CR 611) & Oval Road:** A T-shaped intersection currently operating under stop control. The eastbound Eagle Rock Avenue approach provides one shared left turn/through lane and one exclusive through lane. The westbound Eagle Rock Avenue approach provides one exclusive through lane and one shared through/right turn lane. The southbound Oval Road approach provides one shared left turn/right turn lane and is stop controlled

In addition to evaluating proposed signalization at Eagle Rock Avenue (CR 611) & Oval Road, this study includes an assessment of signal coordination with the adjacent signalized intersection at Eagle Rock Avenue (CR 611) & Laurel Avenue (CR 634) to support consistent traffic operations along the Eagle Rock Avenue corridor.

As part of the signalization of Oval Road at Eagle Rock Avenue (CR 611), the Cresmont Country Club driveway along Eagle Rock Avenue (CR 611) will be aligned directly opposite Oval Road.

The driveway realignment has been evaluated in combination with the proposed traffic signal and coordination improvements.

Based on the analyses conducted and the findings presented in this report, the following operational and geometric improvements were identified to accommodate existing and anticipated traffic conditions associated with ongoing development in the study area. These improvements are proposed in conjunction with the recommended traffic signalization and are summarized below by study intersection:

- **Eagle Rock Avenue (CR 611) and Oval Road / Crestmont Country Club Drwy**
 - Proposed signalization of the intersection
 - Peak Hour, 4-Hour, and 8-Hour Warrants Met
 - Widen the eastbound Eagle Rock Avenue (CR 611) approach to provide one 155-foot left-turn lane, one exclusive through lane, and one through/right-turn lane.
 - Westbound Eagle Rock Avenue (CR 611) approach to continue to provide a one exclusive through lane and one shared through/right-turn lane.
 - Relocate the existing Crestmont Country Club Exit-Only Driveway along Eagle Rock Avenue (CR 611) to intersect Eagle Rock Avenue (CR 611) directly across from Oval Road.
 - Northbound approach to provide one left-turn lane and one shared through/right-turn lane.
 - Restripe the southbound Oval Road approach to provide one left-turn lane and one shared through/right-turn lane.
- **Eagle Rock Avenue (CR 611) and Laurel Avenue (CR 634)**
 - Extend the westbound Eagle Rock Avenue (CR 611) left-turn lane to increase storage length from the existing 120 feet to 405 feet.
 - Timing mitigation
 - Coordinate the signal timings with the proposed signal at the intersection of Eagle Rock Avenue (CR 611) and Oval Road / Crestmont Country Club Driveway
 - Increase the maximum cycle length to 90 seconds during both the AM and PM peak hours.

DESCRIPTION OF EXISTING CONDITIONS

This section describes the roads that comprise the subject intersections and the existing traffic volumes. The preparation of a traffic signal design report requires a thorough understanding of the existing road conditions and traffic volumes. We conducted a desktop visit to determine existing physical conditions. We also collected traffic volumes with turning movement counts at the two study intersections to establish existing traffic volumes.

Roads

Eagle Rock Avenue (County Route (CR) 611)

Eagle Rock Avenue (CR 611) is classified as an urban minor arterial and is under Essex County jurisdiction. The roadway has a general east-west orientation and generally provides two travel lanes each direction. The posted speed limit is 40mph.

Laurel Avenue (CR 634)

Laurel Avenue (CR 634) is classified as an urban minor arterial and is under Essex County jurisdiction. The roadway has a general north-south orientation and generally provides one travel lane each direction. The posted speed limit is 35mph.

Oval Road

Oval Road is classified a local road and is under municipal jurisdiction. The roadway has a general north-south orientation and provides one travel lane in each direction. There is no posted speed limit in the immediate study area.

Intersections

Eagle Rock Avenue (CR 611) and Laurel Avenue (CR 634)

Laurel Avenue (CR 634) intersects Eagle Rock Avenue (CR 611) to form a T-shaped intersection under signal control. The eastbound Eagle Rock Avenue (CR 611) approach provides one exclusive through lane and one shared through/channelized right-turn lane. The westbound Eagle Rock Avenue (CR 611) approach provides one left-turn lane and two through lanes. The northbound Laurel Avenue (CR 634) approach provides one left-turn lane and one right-turn lane.

Eagle Rock Avenue (CR 611) and Oval Road

Oval Road intersects Eagle Rock Avenue (CR 611) to form a T-shaped intersection under stop-control. The eastbound Eagle Rock Avenue (CR 611) approach provides one shared left-turn/through lane and one exclusive through lane. The westbound Eagle Rock Avenue (CR 611) approach provides one exclusive through lane and one shared through/right-turn lane. The

southbound Oval Road approach provides one shared left-turn/right-turn lane and is stop-controlled.

Eagle Rock Avenue (CR 611) and Crestmont Country Club Driveway

The Crestmont Country Club driveway intersects Eagle Rock Avenue (CR 611) to form a T-shaped stop-controlled intersection. The eastbound and westbound Eagle Rock Avenue (CR 611) approaches provide two through lanes. The northbound Crestmont Country Club driveway approach provides on shared left-turn/right-turn lane and is stop-controlled.

Traffic Volumes

We arranged for turning movement traffic counts to be conducted during the morning and evening peak periods on a typical weekday at the study intersections to examine traffic conditions near the development. Specifically, turning movement counts were conducted on Tuesday, 14 May 2024, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. Note that the intersection of Eagle Rock Road (CR 611) and Oval Road was counted on the same day from 7:00 AM to 7:00 PM.

The traffic counts identify distinct times during the weekday morning and evening when traffic experienced its highest levels. We determined that the weekday morning peak hour occurred from 8:00 AM to 9:00 AM and the weekday evening peak hour occurred from 5:00 PM to 6:00 PM. Figure 1 illustrates the existing traffic count volumes. The traffic count data is included in Appendix A.

ESTIMATE OF FUTURE CONDITIONS

This section of the report summarizes the methodology used to develop future traffic volumes. We project a design year of 2027. Future traffic volumes were projected to account for both existing traffic conditions and additional traffic generated by general background growth and approved or pending developments in the surrounding area. Existing peak-hour traffic volumes were increased using a compounded annual growth rate of 1.75 percent, as established by the New Jersey Department of Transportation (NJDOT) for short-term growth projections in Essex County.

In addition to background traffic growth, traffic generated by the West Essex LLC development (Planning Board Application No. PB 24-01) was incorporated into the analysis. Traffic volumes associated with this development were estimated based on a review of the project-specific traffic impact study and trip-generation data published by the Institute of Transportation Engineers (ITE) in Trip Generation, 11th Edition. As previously discussed under Application No. PB 24-01, the

project also includes the proposed signalization of the intersection of Eagle Rock Avenue (CR 611) and Oval Road. As part of the signalization improvements, the existing exit-only Crestmont Country Club driveway along Eagle Rock Avenue will be relocated and realigned to intersect Eagle Rock Avenue directly opposite Oval Road, forming the southern leg of the new signalized intersection. The realigned driveway will continue to operate as an egress-only facility under traffic signal control.

The resulting 2027 Build peak hour traffic volumes are illustrated in Figure 2.

TRAFFIC SIGNAL WARRANT ANALYSIS

We performed a traffic signal warrant analysis using the 2023 Manual on Uniform Traffic Control Devices (MUTCD) standards. There are nine warrants described in the MUTCD. We only evaluated the traffic volume based warrants. The installation of a traffic signal should only be considered if one or more of the signal warrants are met.

We evaluated the Build traffic volumes to determine if they meet any of the traffic volume based warrants. We used the 12 hours of data collected in the turning movement counts for the intersection of Eagle Rock Avenue (CR 611) with Oval Road and the Crestmont Country Club driveway to generate the warrant volumes. We used the same methodology described in the Estimate of Future Conditions section above, to derive the weekday hourly 2027 Build traffic volumes.

Appendix B contains the warrant summary reports and volume information. The traffic volume based warrant analysis results are as follows:

- Warrant 1 (Eight-Hour Vehicular Volume)
 - Build Condition A or B - Met: 11 hours met (8 required)
 - Build Condition A and B - Met: 12 hours met (8 required)
- Warrant 2 (Four-Hour Vehicular Volume)
 - Build - Met: 11 hours met (4 required)
- Warrant 3 (Peak Hour)
 - Build - Met: 5 hour met (1 required)

Based on the analysis results, the intersection of Eagle Rock Avenue (CR 611) with Oval Road and the Crestmont Country Club driveway would satisfy all three MUTCD traffic signal warrants under the 2027 Build condition. In the absence of signal control, the intersection would be expected to operate with substantial delays and queueing on the minor approaches, particularly along Oval Road, which provides primary access to nearby residential neighborhoods. The lack

of a traffic signal could also result in unsafe operating conditions for vehicles entering and exiting Eagle Rock Avenue (CR 611), especially for turning movements under increased traffic volumes.

ANALYSIS OF TRAFFIC OPERATIONS

This section describes the capacity analysis we conducted to assess traffic operations for the Build (Unsignalized) and Build (Signalized) conditions. Capacity analysis provides an indication of the adequacy of road facilities to serve traffic demand.

Level of Service Criteria

Level of Service (LOS) is the term used to denote different operating conditions that occur on a given road segment under various traffic-volume demands. LOS is a qualitative measure that considers a number of factors including road geometry, speed, travel delay and freedom to maneuver. LOS designations range from A to F and provide an index of operational qualities of a road segment or an intersection. LOS A represents the best operating conditions; LOS F represents the worst.

LOS designations are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection. For unsignalized intersections, the analysis considers the operation of all movements that conflict with other movements, such as main-line left turns and traffic exiting a side street. The evaluation criteria used to analyze the study area intersections are based on the Highway Capacity Manual, 6th edition, (HCM), published by the Transportation Research Board and the Synchro and HCS programs.

The HCM defines LOS for signalized intersections as follows:

<u>LOS</u>	<u>Control Delay per Vehicle</u>
A	≤10 sec
B	>10 and ≤20 sec
C	>20 and ≤35 sec
D	>35 and ≤55 sec
E	>55 and ≤80 sec
F	>80 sec

The HCM defines LOS for unsignalized intersections as follows:

<u>LOS</u>	<u>Delay Range (sec/veh)</u>
A	≤10 sec
B	>10 and ≤15 sec
C	>15 and ≤25 sec
D	>25 and ≤35 sec
E	>35 and ≤50 sec
F	>50 sec

Capacity Analysis

We conducted capacity analyses for the two study intersections. The results indicate that the proposed traffic signal will not significantly affect traffic operations along Eagle Rock Avenue (County Route 611), while improving the accommodation of turning movements from Oval Road and the Crestmont Country Club driveway. In addition, the proposed left-turn lanes at both intersections will address existing substandard operations and are expected to adequately accommodate forecasted 95th-percentile queues.

Table 1 summarizes the Build (Unsignalized) and Build (Signalized) Levels of Service (LOS) at each study intersection during the weekday morning and evening peak hours. All capacity analysis worksheets are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary

Intersection	Lane Use	Build AM (Unsignalized)		Build PM (Unsignalized)		Build AM (Signalized)		Build PM (Signalized)	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized Intersection									
Eagle Rock Avenue (CR 611) and Laurel Avenue (CR 634)	Overall	C	22.0	C	20.6	B	18.6	C	21.1
	EB-TR	A	9.5	C	22.8	B	17.2	C	22.4
	WB-L	E	56.0	C	22.6	C	31.2	C	22.1
	WB-T	A	8.1	B	11.2	A	4.3	A	5.6
	NB-L	C	31.7	D	36.6	C	33.7	D	43.1
	NB-R	A	5.8	A	4.6	A	5.5	A	5.2
Eagle Rock Avenue (CR 611) and Oval Road / Crestmont Country Club Drwy	Overall	-	-	-	-	B	12.6	B	12.2
	EB-L	-	-	-	-	A	9.3	B	10.9
	EB-T	-	-	-	-	B	10.6	B	11.3
	WB-TR	-	-	-	-	B	11.6	B	11.2
	NB-L	-	-	-	-	C	23.0	C	25.6
	NB-TR	-	-	-	-	A	0.0	A	0.0
	SB-L	-	-	-	-	C	32.2	C	29.9
	SB-TR	-	-	-	-	B	11.9	B	12.1
Unsignalized Intersection									
Eagle Rock Avenue (CR 611) and Oval Road	EB-L	A	9.8	A	9.5	-	-	-	-
	SB-LR	F	95.6	F	65.3	-	-	-	-

Based on HCS (Highway Capacity Software):

*Level of Service (Average vehicle delay [seconds per vehicle])

CONCLUSIONS

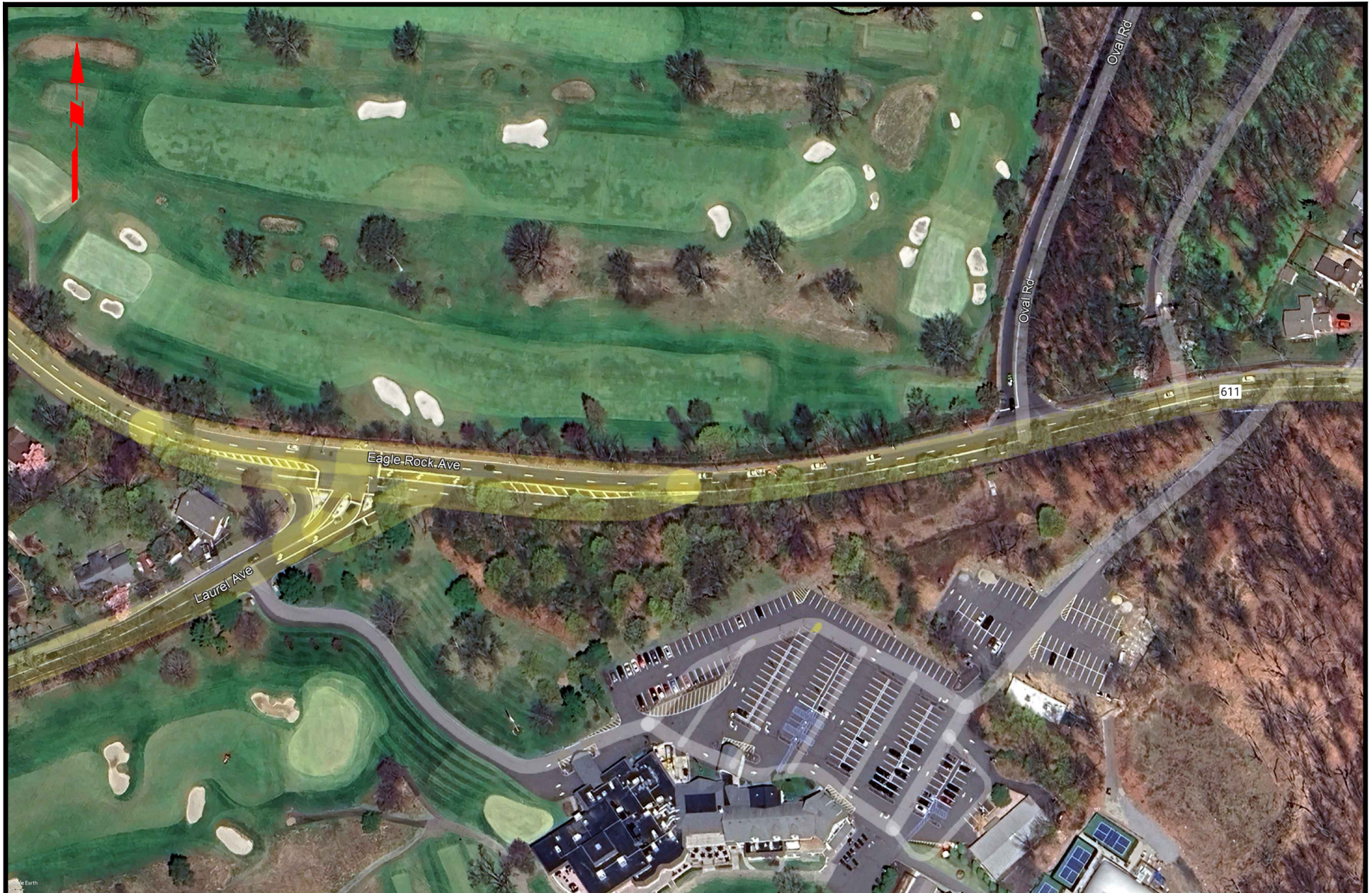
Based on the signal warrant evaluations and capacity analyses presented in this report, it is concluded that the proposed traffic signal at the intersection of Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Country Club Driveway is both warranted and operationally justified under the 2027 Build condition. The intersection satisfies the applicable MUTCD traffic signal warrants, including the Eight-Hour Vehicular Volume, Four-Hour Vehicular Volume, and Peak Hour warrants, reflecting existing and anticipated traffic demands associated with general background growth and the West Essex LLC development (Planning Board Application No. PB 24-01).

The operational analyses demonstrate that, without signal control, the intersection would experience excessive delays and queueing on the side-street approaches, particularly along Oval Road, which provides primary access to nearby residential neighborhoods. Under unsignalized conditions, these conditions could result in inefficient operations and potential safety concerns for vehicles entering and exiting Eagle Rock Avenue.

With the implementation of the proposed traffic signal, associated lane reconfigurations, and the realignment of the Crestmont Country Club driveway, the intersection is projected to operate at acceptable Levels of Service during both the weekday morning and evening peak hours. The proposed left-turn lanes and signal phasing are expected to improve traffic flow, reduce delays, and accommodate projected 95th-percentile queues. Additionally, the proposed signal timing and coordination with the adjacent signalized intersection at Eagle Rock Avenue (CR 611) and Laurel Avenue (CR 634) will help maintain efficient progression along the Eagle Rock Avenue (CR 611) corridor.

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FIGURES



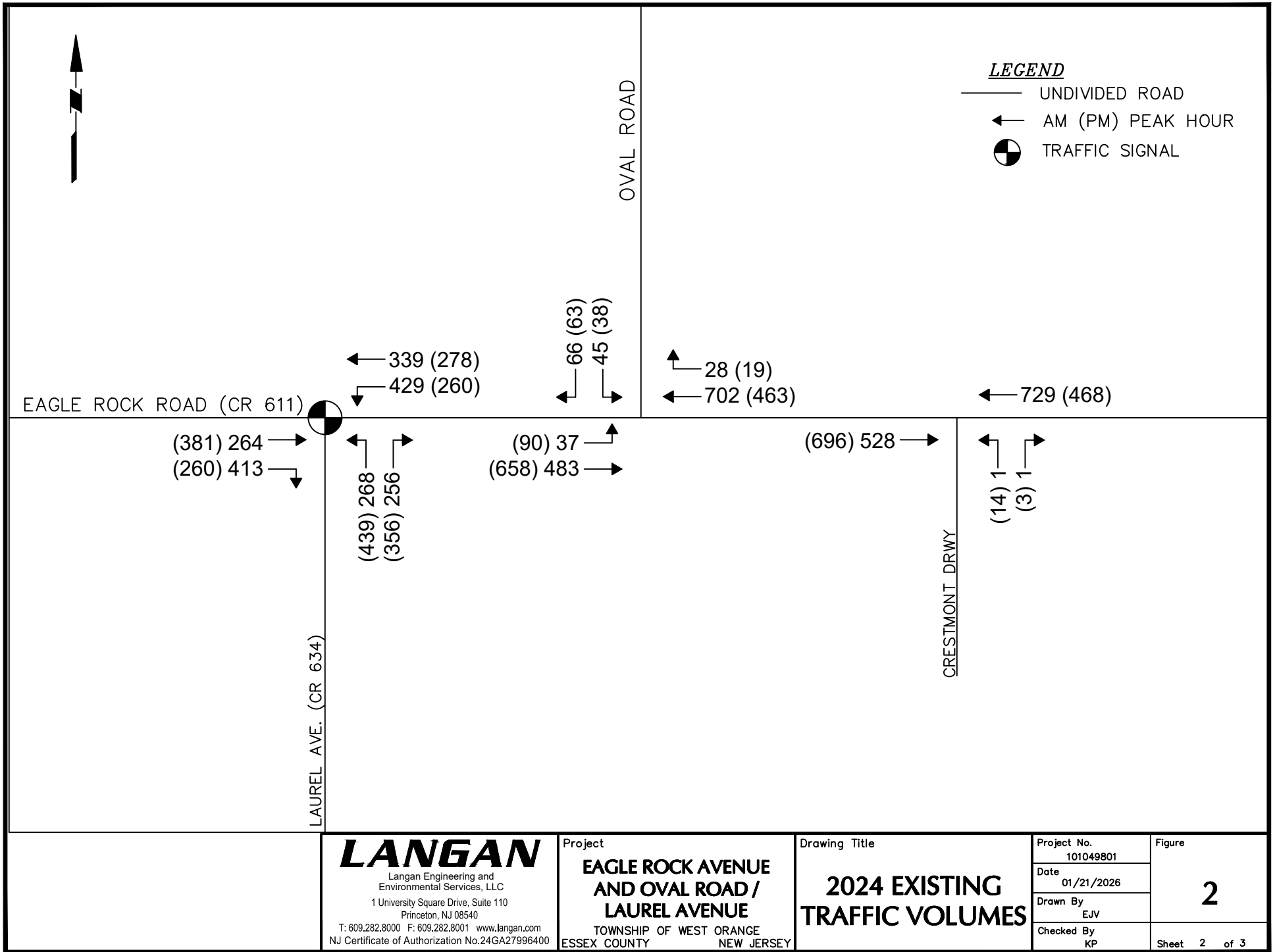
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 NJ Certificate of Authorization No.24GA27996400

Project
**EAGLE ROCK AVENUE
 AND OVAL ROAD /
 LAUREL AVENUE**
 TOWNSHIP OF WEST ORANGE
 ESSEX COUNTY NEW JERSEY

Drawing Title
**SITE LOCATION
 MAP**

Project No.
 101049801
 Date
 01/21/2026
 Drawn By
 EJV
 Checked By
 KP

Figure
1
 Sheet 1 of 3



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Project

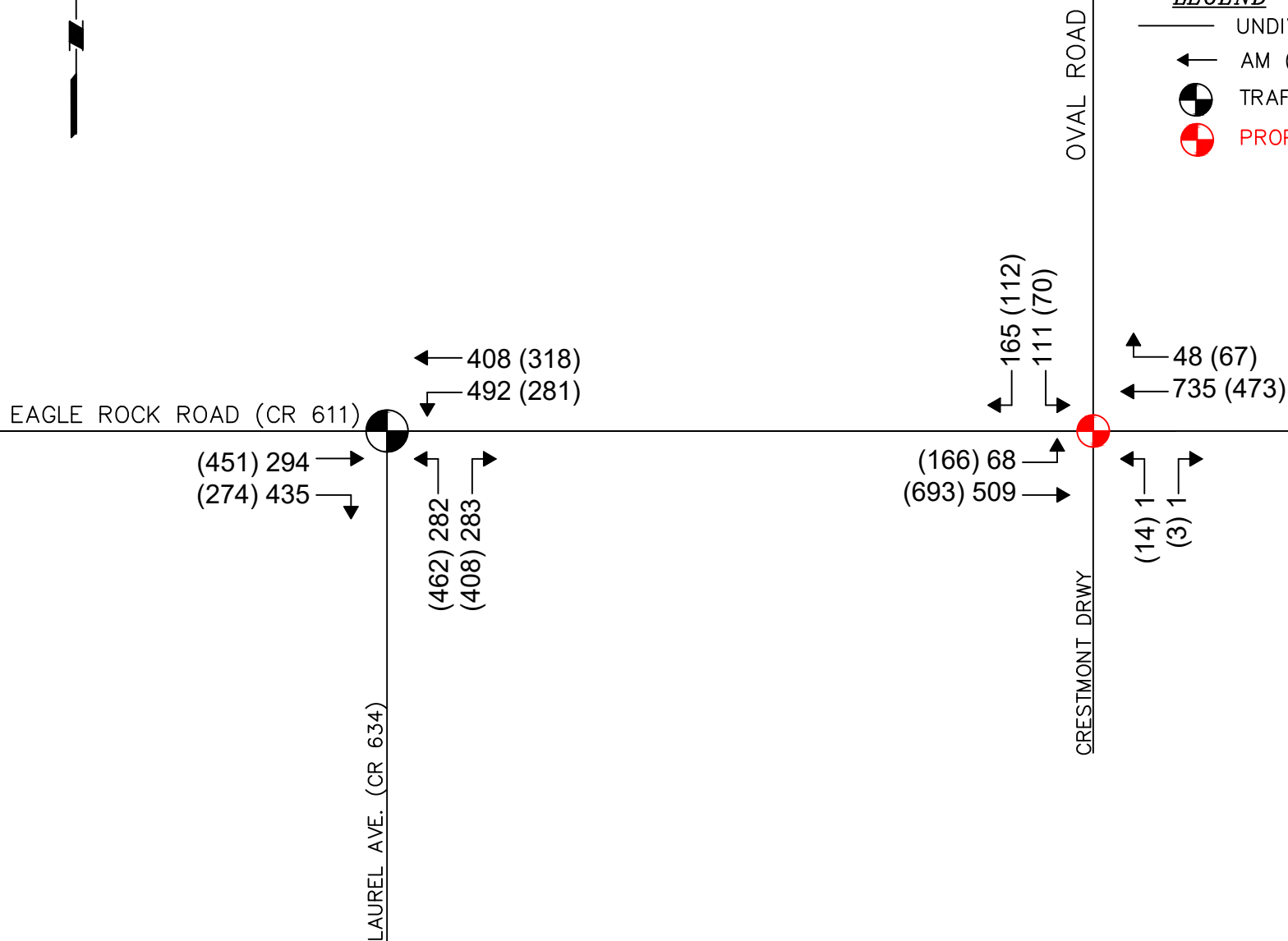
EAGLE ROCK AVENUE AND OVAL ROAD / LAUREL AVENUE

TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title

2024 EXISTING TRAFFIC VOLUMES

Project No. 101049801	Figure 2
Date 01/21/2026	
Drawn By EJV	
Checked By KP	
Sheet 2 of 3	



LEGEND

- UNDIVIDED ROAD
- AM (PM) PEAK HOUR
- TRAFFIC SIGNAL
- PROPOSED TRAFFIC SIGNAL

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Project
**EAGLE ROCK AVENUE
AND OVAL ROAD /
LAUREL AVENUE**
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

Drawing Title
**2027 BUILD
TRAFFIC VOLUMES**

Project No. 101049801	Figure 3
Date 01/21/2026	
Drawn By EJV	
Checked By KP	Sheet 3 of 3

APPENDIX A

TRAFFIC COUNTS

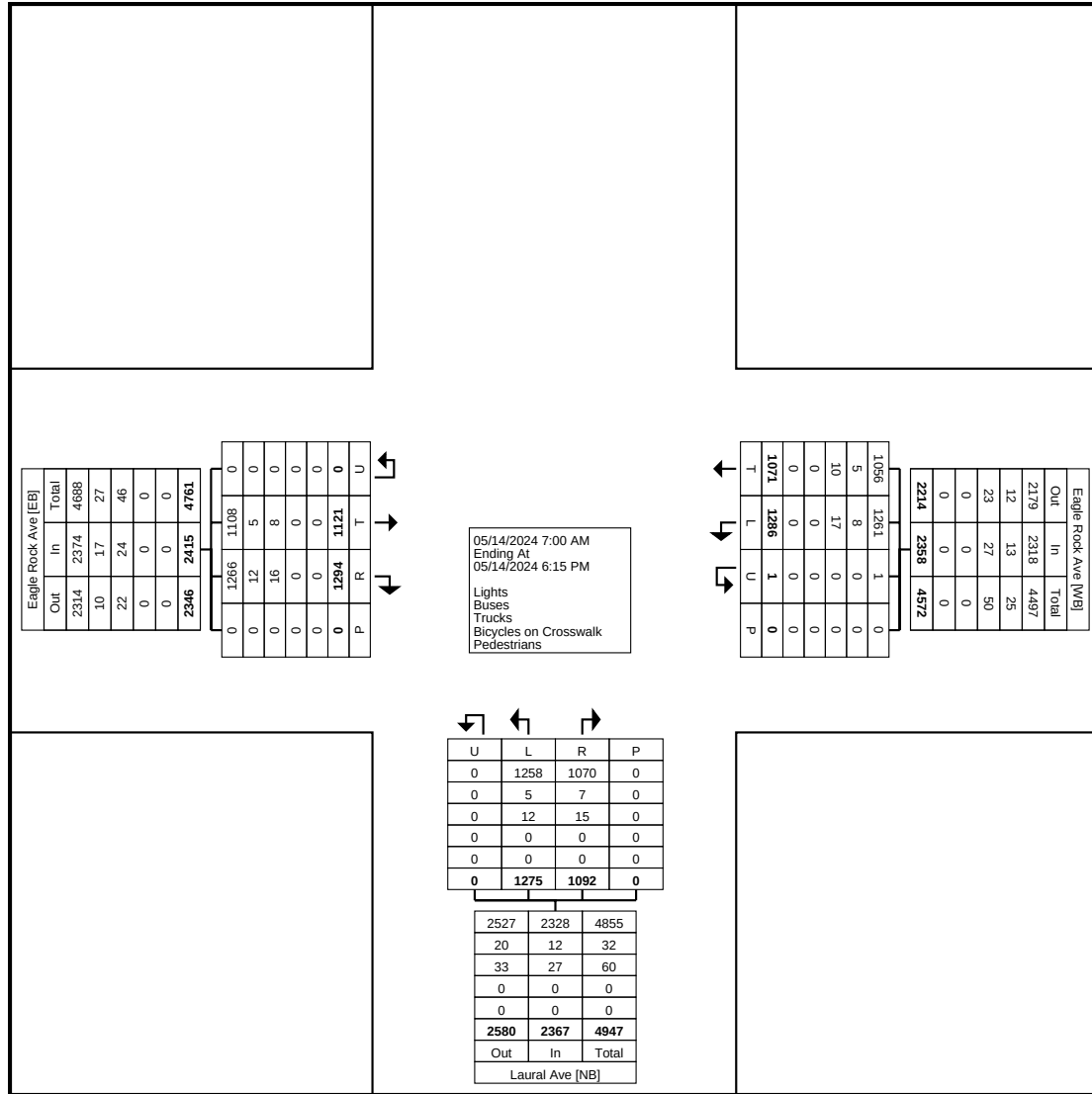
West Orange, NJ
Eagle Rock Ave & Laurel Ave
Tuesday, May 14, 2024
Location: 40.812278, -
74.273118

Coatesville, PA, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: Eagle Rock Ave &
Laural Ave
Site Code:
Start Date: 05/14/2024
Page No: 1

Turning Movement Data

Start Time	Eagle Rock Ave Eastbound						Eagle Rock Ave Westbound					Laural Ave Northbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	
7:00 AM	27	33	40	0	0	100	70	33	0	0	103	33	13	7	0	0	53	256
7:15 AM	31	29	50	0	0	110	83	47	0	0	130	55	16	16	0	0	87	327
7:30 AM	55	59	48	0	0	162	102	78	0	0	180	42	27	14	0	0	83	425
7:45 AM	58	42	53	0	0	153	103	74	0	0	177	73	40	23	0	0	136	466
Hourly Total	171	163	191	0	0	525	358	232	0	0	590	203	96	60	0	0	359	1474
8:00 AM	66	54	57	0	0	177	90	80	0	0	170	49	29	39	0	0	117	464
8:15 AM	68	63	41	0	0	172	105	81	0	0	186	60	24	31	0	0	115	473
8:30 AM	71	74	47	0	0	192	100	76	0	0	176	78	43	18	0	0	139	507
8:45 AM	59	44	33	0	0	136	104	79	0	0	183	81	48	24	0	0	153	472
Hourly Total	264	235	178	0	0	677	399	316	0	0	715	268	144	112	0	0	524	1916
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	78	32	32	0	0	142	91	74	0	0	165	91	65	11	0	0	167	474
4:15 PM	60	51	31	0	0	142	65	61	0	0	126	102	76	22	0	0	200	468
4:30 PM	79	42	31	0	0	152	62	53	0	0	115	86	55	19	0	0	160	427
4:45 PM	82	48	11	0	0	141	63	57	0	0	120	86	51	25	0	0	162	423
Hourly Total	299	173	105	0	0	577	281	245	0	0	526	365	247	77	0	0	689	1792
5:00 PM	108	43	27	0	0	178	74	65	1	0	140	89	62	21	0	0	172	490
5:15 PM	101	50	21	0	0	172	70	80	0	0	150	99	62	41	0	0	202	524
5:30 PM	92	37	17	0	0	146	49	73	0	0	122	110	44	37	0	0	191	459
5:45 PM	86	34	20	0	0	140	55	60	0	0	115	141	53	36	0	0	230	485
Hourly Total	387	164	85	0	0	636	248	278	1	0	527	439	221	135	0	0	795	1958
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1121	735	559	0	0	2415	1286	1071	1	0	2358	1275	708	384	0	0	2367	7140
Approach %	46.4	30.4	23.1	0.0	-	-	54.5	45.4	0.0	-	-	53.9	29.9	16.2	0.0	-	-	-
Total %	15.7	10.3	7.8	0.0	-	33.8	18.0	15.0	0.0	-	33.0	17.9	9.9	5.4	0.0	-	33.2	-
Lights	1108	718	548	0	-	2374	1261	1056	1	-	2318	1258	691	379	0	-	2328	7



Turning Movement Data Plot

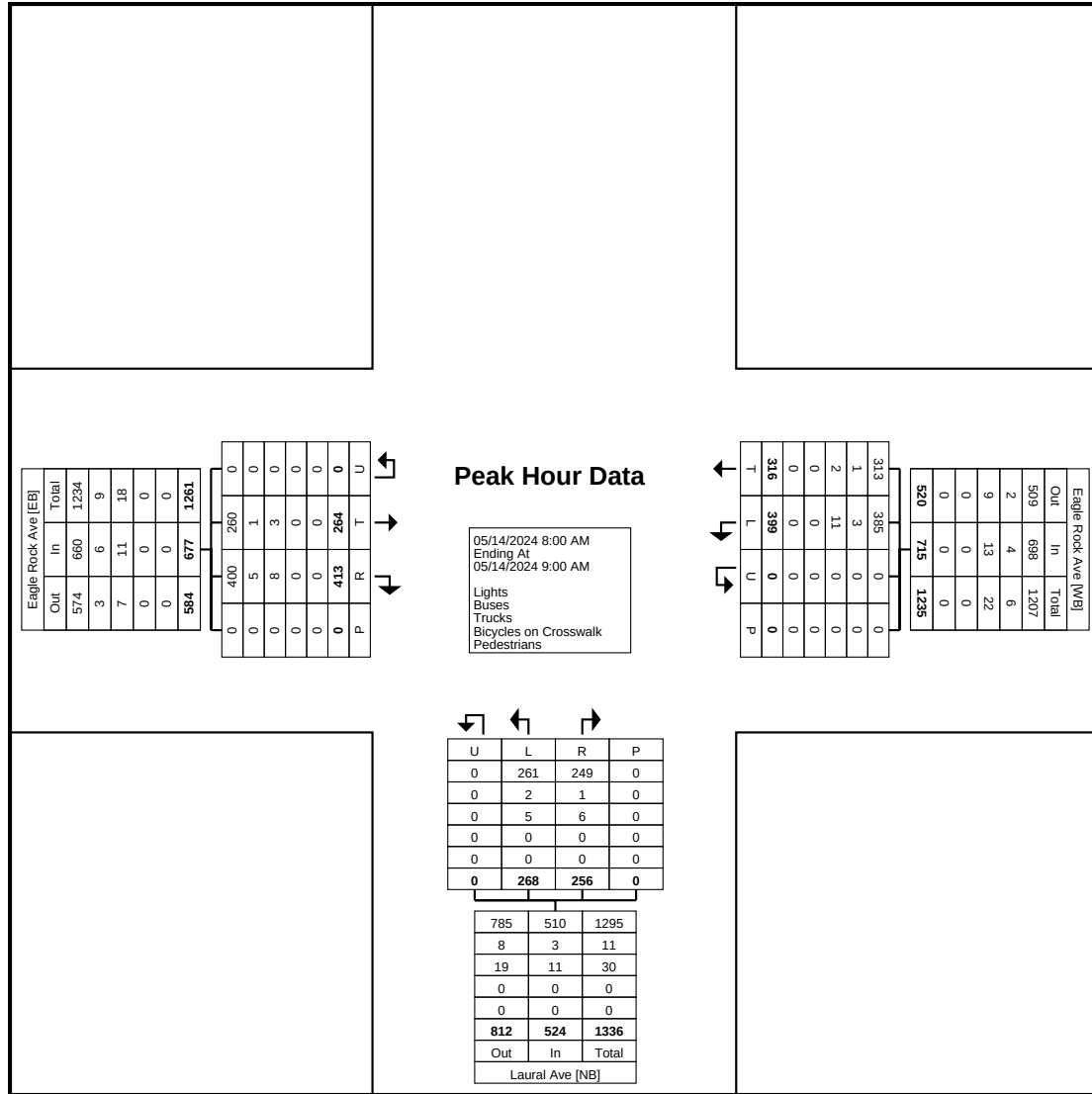
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Coatesville, PA, Pennsylvania, United States 19320
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Count Name: Eagle Rock Ave &
Laural Ave
Site Code:
Start Date: 05/14/2024
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

[illegible]



Turning Movement Peak Hour Data Plot (8:00 AM)

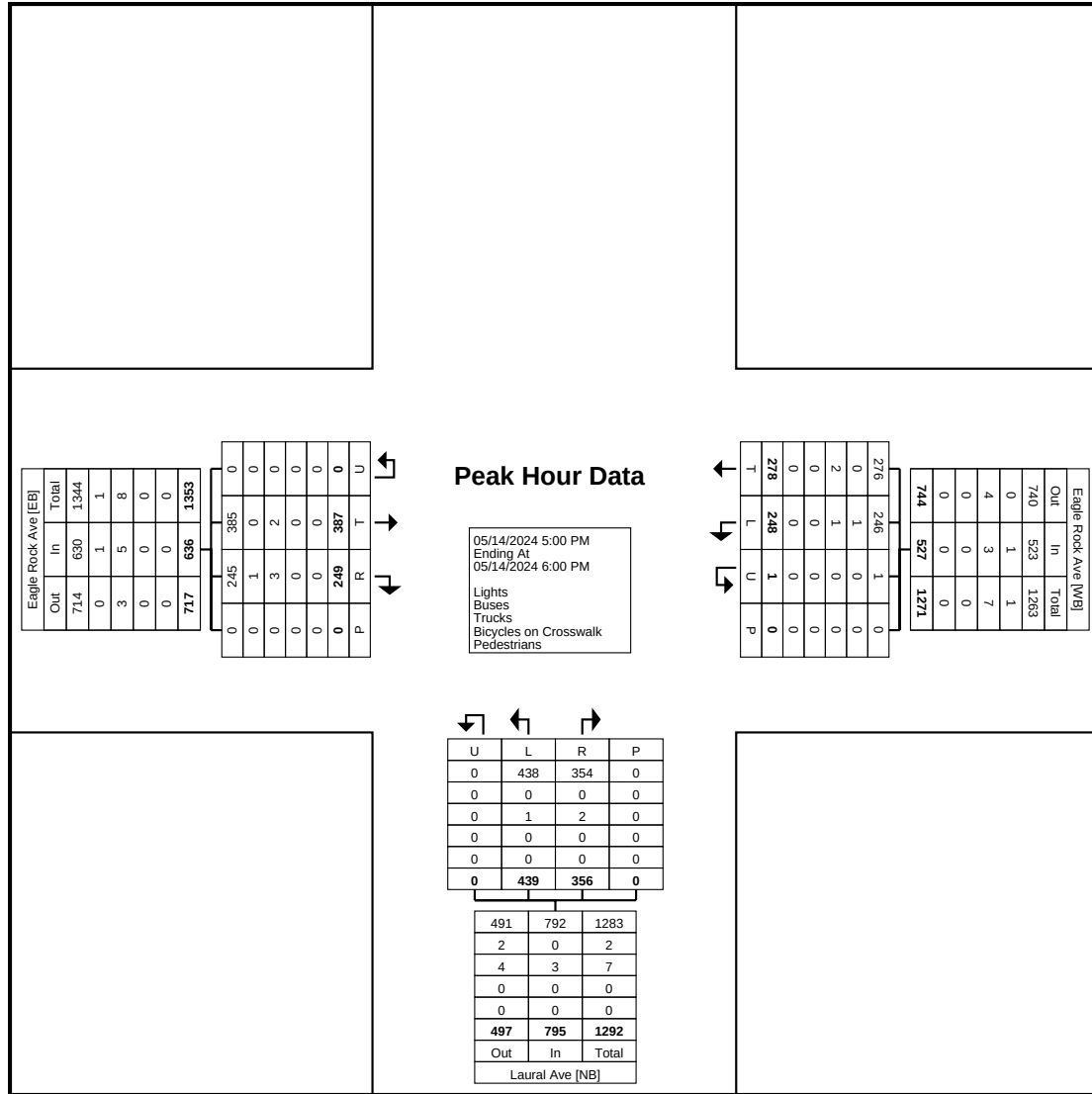
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Count Name: Eagle Rock Ave &
Laural Ave
Site Code:
Start Date: 05/14/2024
Page No: 5

Turning Movement Peak Hour Data (5:00 PM)

[illegible]



Turning Movement Peak Hour Data Plot (5:00 PM)



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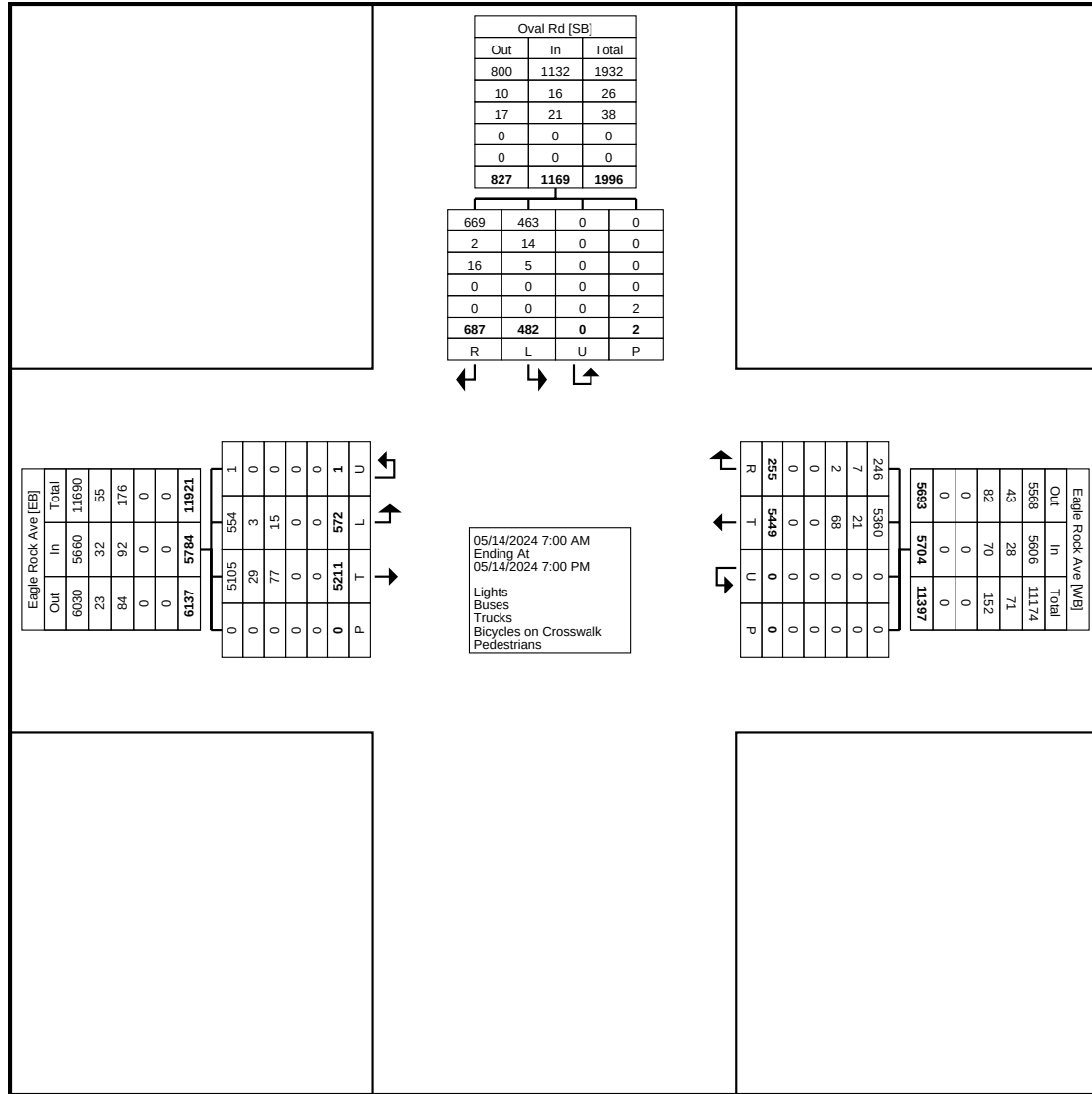
West Orange, NJ
Eagle Rock Ave & Oval Rd
Tuesday, May 14, 2024
Location: 40.812483, -
74.270069

Count Name: Eagle Rock Ave &
Oval Rd
Site Code:
Start Date: 05/14/2024
Page No: 1

Turning Movement Data

Start Time	Eagle Rock Ave Eastbound					Eagle Rock Ave Westbound					Oval Rd Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
7:00 AM	4	45	0	0	49	78	6	0	0	84	21	23	0	0	44	177
7:15 AM	2	62	0	0	64	118	5	0	0	123	23	18	0	0	41	228
7:30 AM	11	92	0	0	103	160	4	0	0	164	12	16	0	0	28	295
7:45 AM	7	117	0	0	124	143	3	0	0	146	13	32	0	0	45	315
Hourly Total	24	316	0	0	340	499	18	0	0	517	69	89	0	0	158	1015
8:00 AM	7	124	0	0	131	167	2	0	0	169	10	17	0	0	27	327
8:15 AM	7	122	0	0	129	176	6	0	0	182	13	18	0	0	31	342
8:30 AM	12	109	0	0	121	177	11	0	0	188	11	15	0	0	26	335
8:45 AM	11	123	0	0	134	182	9	0	0	191	11	16	0	0	27	352
Hourly Total	37	478	0	0	515	702	28	0	0	730	45	66	0	0	111	1356
9:00 AM	8	94	0	0	102	117	10	0	0	127	13	9	0	0	22	251
9:15 AM	10	76	0	0	86	99	3	0	0	102	6	17	0	0	23	211
9:30 AM	5	75	0	0	80	87	11	0	0	98	14	18	0	0	32	210
9:45 AM	7	74	0	0	81	91	10	0	0	101	5	19	0	0	24	206
Hourly Total	30	319	0	0	349	394	34	0	0	428	38	63	0	0	101	878
10:00 AM	10	59	0	0	69	66	9	0	0	75	4	9	0	0	13	157
10:15 AM	9	79	0	0	88	108	4	0	0	112	12	7	0	0	19	219
10:30 AM	8	81	0	0	89	89	6	0	0	95	11	20	0	0	31	215
10:45 AM	6	75	0	0	81	78	6	0	0	84	7	13	0	0	20	185
Hourly Total	33	294	0	0	327	341	25	0	0	366	34	49	0	0	83	776
11:00 AM	14	65	0	0	79	93	3	0	0	96	10	10	0	0	20	195
11:15 AM	12	67	0	0	79	89	6	0	0	95	9	9	0	0	18	192
11:30 AM	10	83	0	0	93	102	2	0	0	104	8	16	0	0	24	221
11:45 AM	8	104	0	0	112	103	3	0	0	106	6	27	0	0	33	251
Hourly Total	44	319	0	0	363	387	14	0	0	401	33	62	0	0	95	859
12:00 PM	12	78	0	0	90	103	7	0	0	110	5	13	0	0	18	218
12:15 PM	18	104	0	0	122	102	0	0	0	102	6	14	0	0	20	244
12:30 PM	10	106	0	0	116	97	6	0	0	103	5	13	0	0	18	237
12:45 PM	8	90	0	0	98	106	6	0	0	112	10	9	0	0	19	229
Hourly Total	48	378	0	0	426	408	19	0	0	427	26	49	0	0	75	928
1:00 PM	12	112	0	0	124	94	6	0	0	100	8	11	0	0	19	243
1:15 PM	11	92	0	0	103	81	3	0	0	84	5	10	0	1	15	202
1:30 PM	13	79	0	0	92	80	3	0	0	83	9	25	0	0	34	209
1:45 PM	12	96	0	0	108	104	5	0	0	109	9	9	0	0	18	235
Hourly Total	48	379	0	0	427	359	17	0	0	376	31	55	0	1	86	889
2:00 PM	9	96	0	0	105	106	3	0	0	109	9	11	0	0	20	234
2:15 PM	10	98	0	0	108	129	2	0	0	131	18	8	0	0	26	265
2:30 PM	6	88	0	0	94	118	5	0	0	123	8	12	0	0	20	237
2:45 PM	11	123	0	0	134	127	10	0	0	137	9	14	0	0	23	294
Hourly Total	36	405	0	0	441	480	20	0	0	500	44	45	0	0	89	1030
3:00 PM	11	116	0	0	127	114	2	0	0	116	12	12	0	0	24	267
3:15 PM	18	121	0	0	139	129	6	0	0	135	9	23	0	1	32	306
3:30 PM	17	153	0	0	170	139	6	0	0	145	11	11	0	0	22	337
3:45 PM	20	198	0	0	218	131	4	0	0	135	12	18	0	0	30	383
Hourly Total	66	588	0	0	654	513	18	0	0	531	44	64	0	1	108	1293
4:00 PM	11	141	0	0	152	144	7	0	0	151	7	16	0	0	23	326
4:15 PM	16	143	0	0	159	117	1	0	0	118	13	16	0	0	29	306
4:30 PM	15	143	0	0	158	105	3	0	0	108	13	10	0	0	23	289
4:45 PM	15	157	0	0	172	121	4	0	0	125	16	11	0	0	27	324
Hourly Total	57	584	0	0	641	487	15	0	0	502	49	53	0	0	102	1245
5:00 PM	16	180	0	0	196	116	6	0	0	122	9	17	0	0	26	344
5:15 PM	29	172	0	0	201	131	4	0	0	135	9	19	0	0	28	364
5:30 PM	19	162	0	0	181	113	4	0	0	117	10	12	0	0	22	320
5:45 PM	26	144	1	0	171	101	5	0	0	106	10	15	0	0	25	302
Hourly Total	90	658	1	0	749	461	19	0	0	480	38	63	0	0	101	1330
6:00 PM	19	143	0	0	162	124	8	0	0	132	11	8	0	0	19	313
6:15 PM	13	139	0	0	152	122	6	0	0	128	10	7	0	0	17	297
6:30 PM	15	115	0	0	130	92	6	0	0	98	6	9	0	0	15	243
6:45 PM	12	96	0	0	108	80	8	0	0	88	4	5	0	0	9	205

Hourly Total	59	493	0	0	552	418	28	0	0	446	31	29	0	0	60	1058
Grand Total	572	5211	1	0	5784	5449	255	0	0	5704	482	687	0	2	1169	12657
Approach %	9.9	90.1	0.0	-	-	95.5	4.5	0.0	-	-	41.2	58.8	0.0	-	-	-
Total %	4.5	41.2	0.0	-	45.7	43.1	2.0	0.0	-	45.1	3.8	5.4	0.0	-	9.2	-
Lights	554	5105	1	-	5660	5360	246	0	-	5606	463	669	0	-	1132	12398
% Lights	96.9	98.0	100.0	-	97.9	98.4	96.5	-	-	98.3	96.1	97.4	-	-	96.8	98.0
Buses	3	29	0	-	32	21	7	0	-	28	14	2	0	-	16	76
% Buses	0.5	0.6	0.0	-	0.6	0.4	2.7	-	-	0.5	2.9	0.3	-	-	1.4	0.6
Trucks	15	77	0	-	92	68	2	0	-	70	5	16	0	-	21	183
% Trucks	2.6	1.5	0.0	-	1.6	1.2	0.8	-	-	1.2	1.0	2.3	-	-	1.8	1.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot

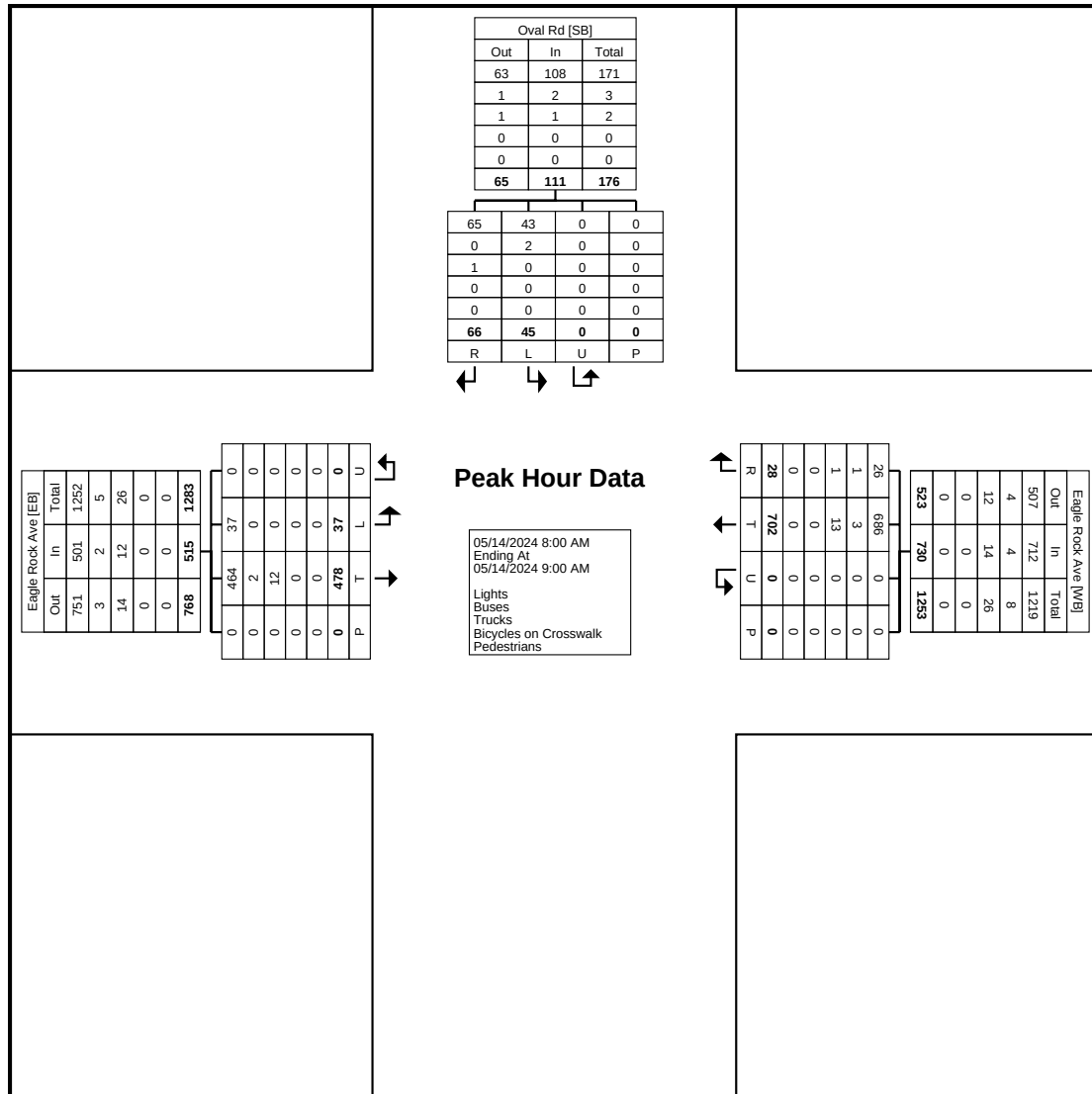
West Orange, NJ
Eagle Rock Ave & Oval Rd
Tuesday, May 14, 2024
Location: 40.812483, -
74.270069

Coatesville, PA, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: Eagle Rock Ave &
Oval Rd
Site Code:
Start Date: 05/14/2024
Page No: 4

Turning Movement Peak Hour Data (8:00 AM)

[illegible]



Turning Movement Peak Hour Data Plot (8:00 AM)

Eagle Rock Ave & Oval Rd - TMC

Tue May 14, 2024

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1187482, Location: 40.812483, -74.270069



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Eagle Rock Ave Eastbound					Eagle Rock Ave Westbound					Oval Rd Southbound					
Time	L	T	U	App	Ped*	T	R	U	App	Ped*	L	R	U	App	Ped*	Int
2024-05-14 5:00PM	16	180	0	196	0	116	6	0	122	0	9	17	0	26	0	344
5:15PM	29	172	0	201	0	131	4	0	135	0	9	19	0	28	0	364
5:30PM	19	162	0	181	0	113	4	0	117	0	10	12	0	22	0	320
5:45PM	26	144	1	171	0	101	5	0	106	0	10	15	0	25	0	302
Total	90	658	1	749	0	461	19	0	480	0	38	63	0	101	0	1330
% Approach	12.0%	87.9%	0.1%	-	-	96.0%	4.0%	0%	-	-	37.6%	62.4%	0%	-	-	-
% Total	6.8%	49.5%	0.1%	56.3%	-	34.7%	1.4%	0%	36.1%	-	2.9%	4.7%	0%	7.6%	-	-
PHF	0.776	0.914	0.250	0.932	-	0.880	0.792	-	0.889	-	0.950	0.829	-	0.902	-	0.913
Lights	90	654	1	745	-	459	19	0	478	-	37	63	0	100	-	1323
% Lights	100%	99.4%	100%	99.5%	-	99.6%	100%	0%	99.6%	-	97.4%	100%	0%	99.0%	-	99.5%
Articulated Trucks and Single-Unit Trucks	0	4	0	4	-	1	0	0	1	-	1	0	0	1	-	6
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0.5%	-	0.2%	0%	0%	0.2%	-	2.6%	0%	0%	1.0%	-	0.5%
Buses	0	0	0	0	-	1	0	0	1	-	0	0	0	0	-	1
% Buses	0%	0%	0%	0%	-	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	-	0.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Eagle Rock Ave & Oval Rd - TMC

Tue May 14, 2024

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

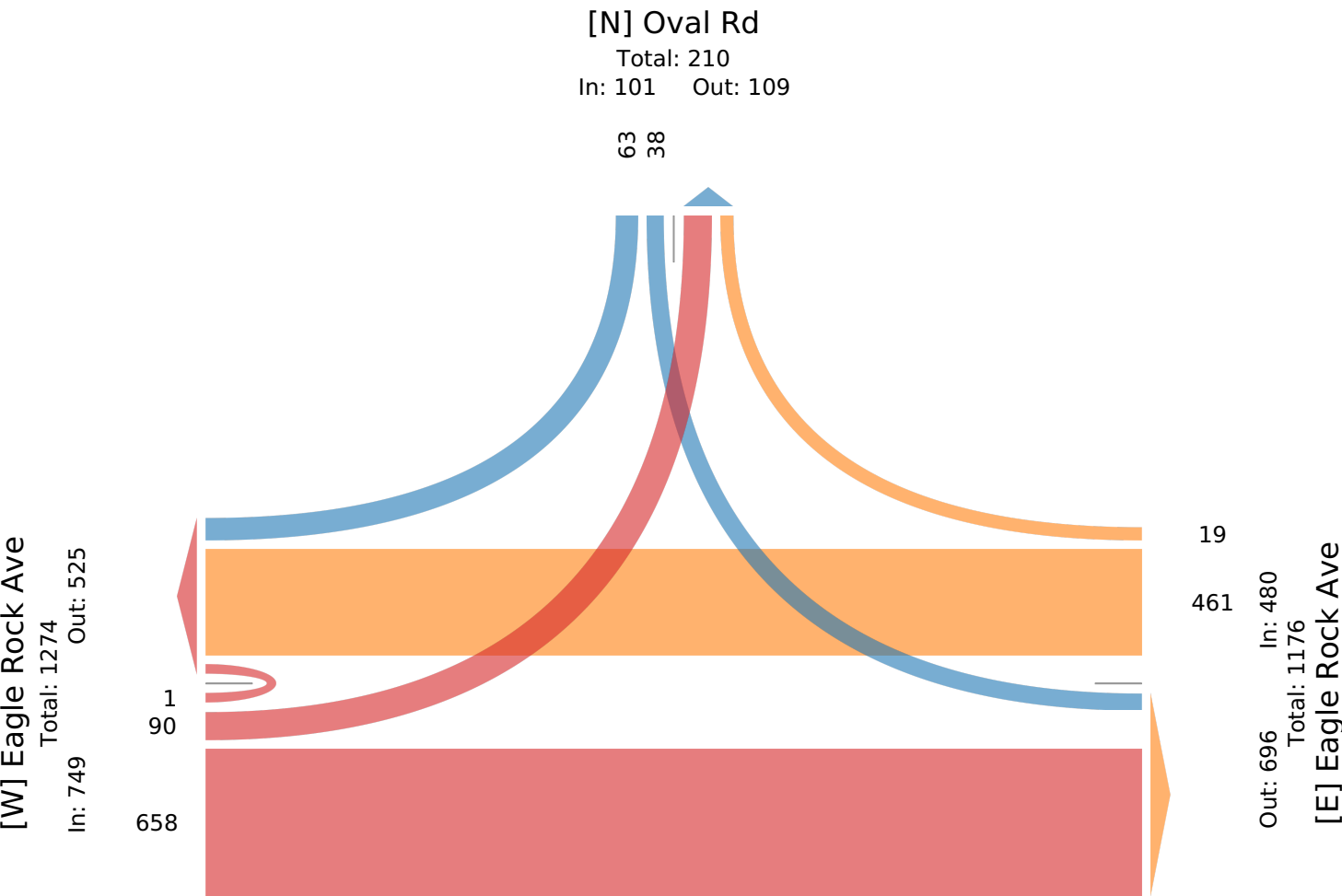
All Movements

ID: 1187482, Location: 40.812483, -74.270069



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US



West Orange, NJ
Eagle Rock Ave & Crestmont
Country Club
Tuesday, May 14, 2024
Location: 40.812619, -
74.268966

Coatesville, PA, Pennsylvania, United States 19320
610-466-1469
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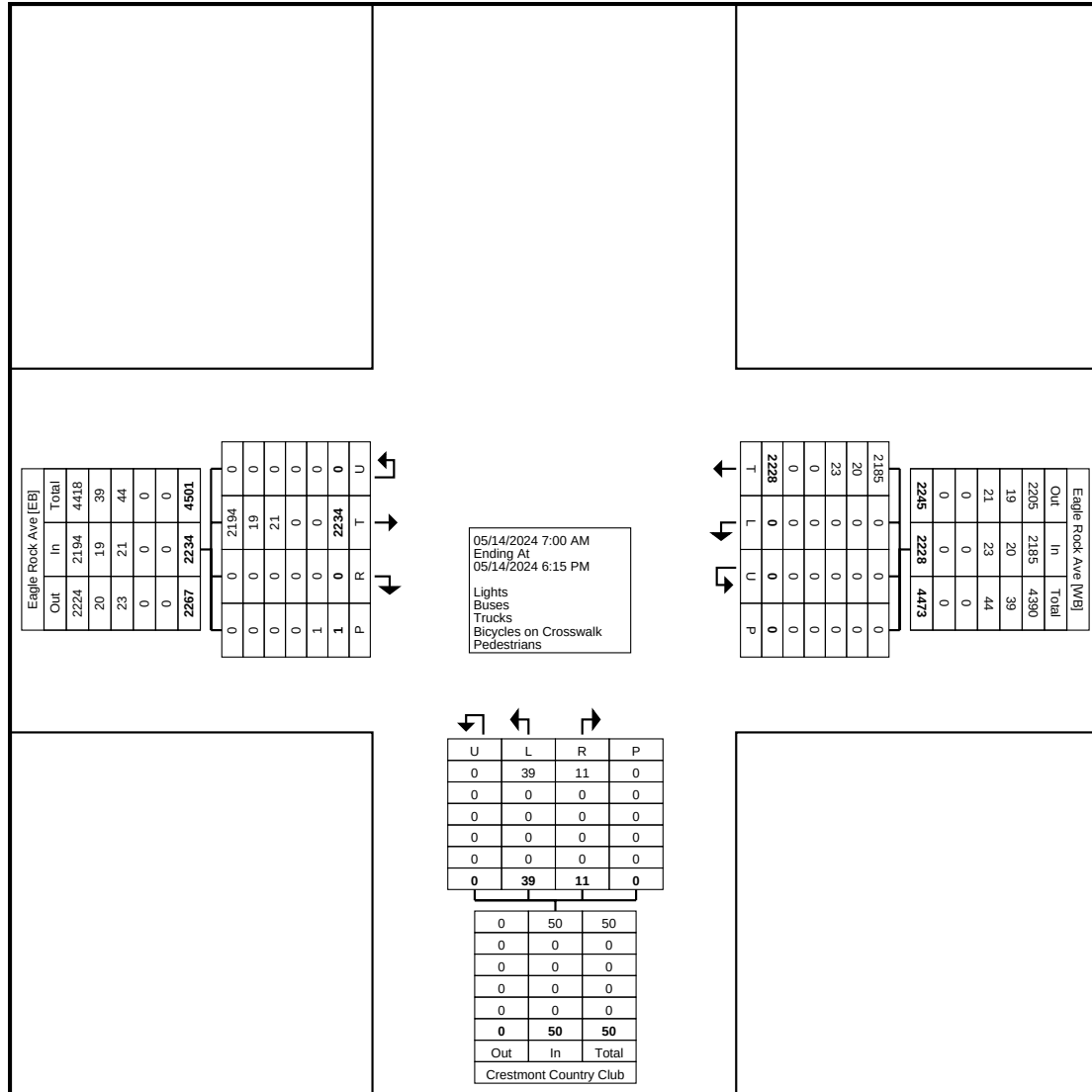
Count Name: Eagle Rock Ave &
Crestmont County Club
Site Code:
Start Date: 05/14/2024
Page No: 1

Turning Movement Data

Start Time	Eagle Rock Ave Eastbound					Eagle Rock Ave Westbound					Crestmont Country Club Northbound					Int. Total
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
7:00 AM	67	0	0	0	67	0	87	0	0	87	0	0	0	0	0	154
7:15 AM	84	0	0	0	84	0	119	0	0	119	0	1	0	0	1	204
7:30 AM	98	0	0	0	98	0	165	0	0	165	2	0	0	0	2	265
7:45 AM	126	0	0	0	126	0	147	0	0	147	1	0	0	0	1	274
Hourly Total	375	0	0	0	375	0	518	0	0	518	3	1	0	0	4	897
8:00 AM	139	0	0	0	139	0	171	0	0	171	0	0	0	0	0	310
8:15 AM	134	0	0	0	134	0	185	0	0	185	1	0	0	0	1	320
8:30 AM	123	0	0	0	123	0	181	0	0	181	0	0	0	0	0	304
8:45 AM	126	0	0	0	126	0	194	0	0	194	0	1	0	0	1	321
Hourly Total	522	0	0	0	522	0	731	0	0	731	1	1	0	0	2	1255
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	156	0	0	0	156	0	141	0	0	141	10	0	0	0	10	307
4:15 PM	153	0	0	0	153	0	114	0	0	114	5	2	0	0	7	274
4:30 PM	154	0	0	0	154	0	115	0	0	115	1	1	0	0	2	271
4:45 PM	168	0	0	0	168	0	124	0	0	124	5	3	0	0	8	300
Hourly Total	631	0	0	0	631	0	494	0	0	494	21	6	0	0	27	1152
5:00 PM	194	0	0	1	194	0	121	0	0	121	5	1	0	0	6	321
5:15 PM	184	0	0	0	184	0	134	0	0	134	5	0	0	0	5	323
5:30 PM	166	0	0	0	166	0	122	0	0	122	1	1	0	0	2	290
5:45 PM	162	0	0	0	162	0	108	0	0	108	3	1	0	0	4	274
Hourly Total	706	0	0	1	706	0	485	0	0	485	14	3	0	0	17	1208
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2234	0	0	1	2234	0	2228	0	0	2228	39	11	0	0	50	4512
Approach %	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	78.0	22.0	0.0	-	-	-
Total %	49.5	0.0	0.0	-	49.5	0.0	49.4	0.0	-	49.4	0.9	0.2	0.0	-	1.1	-
Lights	2194	0	0	-	2194	0	2185	0	-	2185	39	11	0	-	50	4429
% Lights	98.2	-	-	-	98.2	-	98.1	-	-	98.1	100.0	100.0	-	-	100.0	98.2
Buses	19	0	0	-	19	0	20	0	-	20	0	0	0	-	0	39
% Buses	0.9	-	-	-	0.9	-	0.9	-	-	0.9	0.0	0.0	-	-	0.0	0.9
Trucks	21	0	0	-	21	0	23	0	-	23	0	0	0	-	0	44
% Trucks	0.9	-	-	-	0.9	-	1.0	-	-	1.0	0.0	0.0	-	-	0.0	1.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

West Orange, NJ
Eagle Rock Ave & Crestmont
Country Club
Tuesday, May 14, 2024
Location: 40.812619, -
74.268966

Count Name: Eagle Rock Ave &
Crestmont Country Club
Site Code:
Start Date: 05/14/2024
Page No: 2



Turning Movement Data Plot

West Orange, NJ
Eagle Rock Ave & Crestmont
Country Club
Tuesday, May 14, 2024
Location: 40.812619, -
74.268966

Coatesville, PA, Pennsylvania, United States 19320
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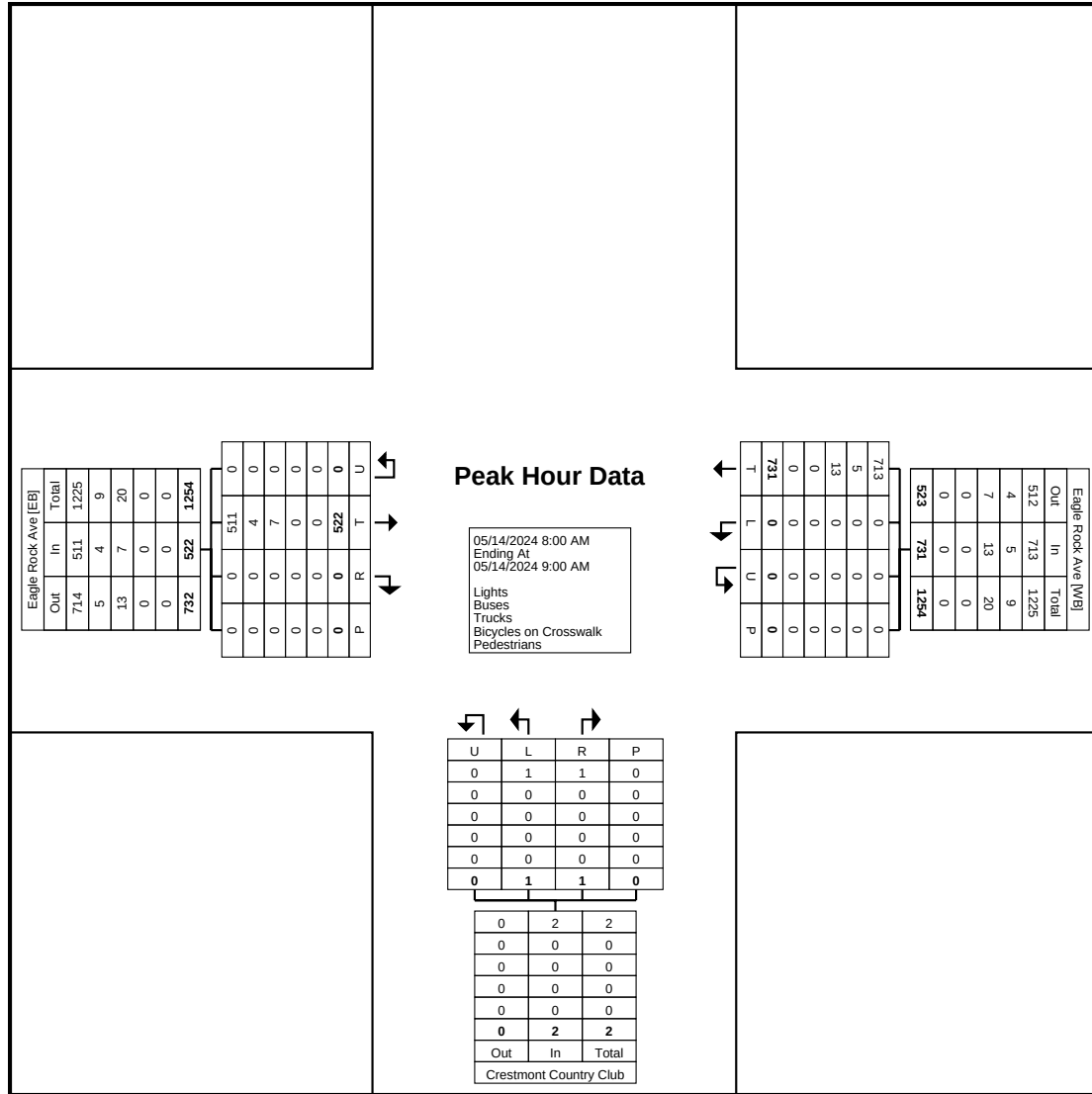
Count Name: Eagle Rock Ave &
Crestmont County Club
Site Code:
Start Date: 05/14/2024
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

[illegible]

West Orange, NJ
Eagle Rock Ave & Crestmont
Country Club
Tuesday, May 14, 2024
Location: 40.812619, -
74.268966

Count Name: Eagle Rock Ave &
Crestmont Country Club
Site Code:
Start Date: 05/14/2024
Page No: 4



Turning Movement Peak Hour Data Plot (8:00 AM)

Eagle Rock Ave & Crestmont County Club - TMC

Tue May 14, 2024

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1187483, Location: 40.812619, -74.268966



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US

Leg Direction	Eagle Rock Ave Eastbound					Eagle Rock Ave Westbound					Crestmont Country Club Northbound					
Time	T	R	U	App	Ped*	L	T	U	App	Ped*	L	R	U	App	Ped*	Int
2024-05-14 5:00PM	194	0	0	194	1	0	121	0	121	0	5	1	0	6	0	321
5:15PM	184	0	0	184	0	0	134	0	134	0	5	0	0	5	0	323
5:30PM	166	0	0	166	0	0	122	0	122	0	1	1	0	2	0	290
5:45PM	162	0	0	162	0	0	108	0	108	0	3	1	0	4	0	274
Total	706	0	0	706	1	0	485	0	485	0	14	3	0	17	0	1208
% Approach	100%	0%	0%	-	-	0%	100%	0%	-	-	82.4%	17.6%	0%	-	-	-
% Total	58.4%	0%	0%	58.4%	-	0%	40.1%	0%	40.1%	-	1.2%	0.2%	0%	1.4%	-	-
PHF	0.910	-	-	0.910	-	-	0.905	-	0.905	-	0.700	0.750	-	0.708	-	0.935
Lights	701	0	0	701	-	0	483	0	483	-	14	3	0	17	-	1201
% Lights	99.3%	0%	0%	99.3%	-	0%	99.6%	0%	99.6%	-	100%	100%	0%	100%	-	99.4%
Articulated Trucks and Single-Unit Trucks	5	0	0	5	-	0	0	0	0	-	0	0	0	0	-	5
% Articulated Trucks and Single-Unit Trucks	0.7%	0%	0%	0.7%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.4%
Buses	0	0	0	0	-	0	2	0	2	-	0	0	0	0	-	2
% Buses	0%	0%	0%	0%	-	0%	0.4%	0%	0.4%	-	0%	0%	0%	0%	-	0.2%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Eagle Rock Ave & Crestmont County Club - TMC

Tue May 14, 2024

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

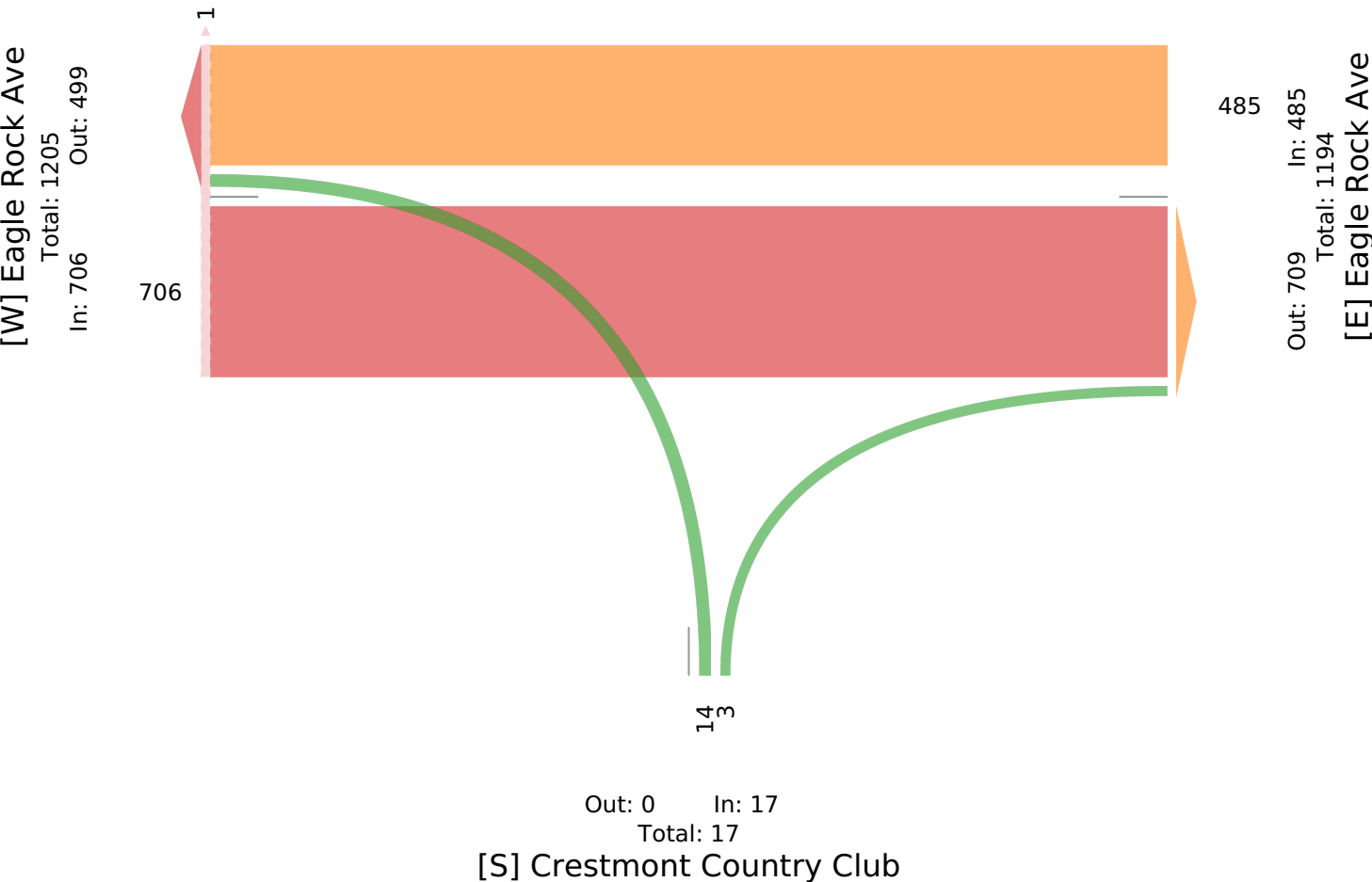
All Movements

ID: 1187483, Location: 40.812619, -74.268966



Provided by: Tri-State Traffic Data, Inc.

184 Baker Road,
Coatesville, PA, 19320, US



APPENDIX B
TRAFFIC SIGNAL WARRANT ANALYSIS

SIGNAL WARRANT VOLUME WORKSHEET

	Table 1 - Existing Traffic Volumes Eagle Rock and Oval					
	EB		WB		SB	
	Left	Thru	Thru	Right	Left	Right
Weeday Time						
7:00 AM	24	316	499	18	69	89
8:00 AM	37	478	702	28	45	66
9:00 AM	30	319	394	34	38	63
10:00 AM	33	294	341	25	34	49
11:00 AM	44	319	387	14	33	62
12:00 PM	48	378	408	19	26	49
1:00 PM	48	379	359	17	31	55
2:00 PM	36	405	480	20	44	45
3:00 PM	66	588	513	18	44	64
4:00 PM	57	584	487	15	49	53
5:00 PM	90	658	461	19	38	63
6:00 PM	59	493	418	28	31	29

	Table 2 - No-Build Traffic Volumes Eagle Rock and Oval					
	EB		WB		SB	
	Left	Thru	Thru	Right	Left	Right
Weeday Time						
7:00 AM	30	393	620	22	86	111
8:00 AM	46	594	872	35	56	82
9:00 AM	37	396	489	42	47	78
10:00 AM	41	365	424	31	42	61
11:00 AM	55	396	481	17	41	77
12:00 PM	60	470	507	24	32	61
1:00 PM	60	471	446	21	39	68
2:00 PM	45	503	596	25	55	56
3:00 PM	82	730	637	22	55	80
4:00 PM	71	726	605	19	61	66
5:00 PM	112	817	573	24	47	78
6:00 PM	73	612	519	35	39	36

Weeday Time	WEST ESSEX HIGHLANDS, LLC		
	Enter	Exit	Total
7:00 AM	42	141	183
8:00 AM	38	128	166
9:00 AM	22	74	96
10:00 AM	18	61	79
11:00 AM	18	61	79
12:00 PM	60	38	98
1:00 PM	57	37	94
2:00 PM	51	32	83
3:00 PM	63	41	104
4:00 PM	93	60	153
5:00 PM	122	78	200
6:00 PM	117	74	191

	Table 3- WEST ESSEX HIGHLANDS, LLC Eagle Rock and Oval					
	EB		WB		SB	
	Left	Thru	Thru	Right	Left	Right
Weeday Time						
7:00 AM	25	0	0	17	56	85
8:00 AM	23	1	1	15	51	77
9:00 AM	13	2	2	9	30	44
10:00 AM	11	3	3	7	24	37
11:00 AM	11	4	4	7	24	37
12:00 PM	36	5	5	24	15	23
1:00 PM	34	6	6	23	15	22
2:00 PM	31	7	7	20	13	19
3:00 PM	38	8	8	25	16	25
4:00 PM	56	9	9	37	24	36
5:00 PM	73	10	10	49	31	47
6:00 PM	70	11	11	47	30	44

	Table 4 - Build Eagle Rock and Oval					
	EB		WB		SB	
	Left	Thru	Thru	Right	Left	Right
Weeday Time						
7:00 AM	55	393	620	39	142	196
8:00 AM	69	595	873	50	107	159
9:00 AM	50	398	491	51	77	122
10:00 AM	52	368	427	38	66	98
11:00 AM	66	400	485	24	65	114
12:00 PM	96	475	512	48	47	84
1:00 PM	94	477	452	44	54	90
2:00 PM	76	510	603	45	68	75
3:00 PM	120	738	645	47	71	105
4:00 PM	127	735	614	56	85	102
5:00 PM	185	827	583	73	78	125
6:00 PM	143	623	530	82	69	80

Warrants Summary Report

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Intersection Information:

	Major Street	Minor Street
Street Name	Eagle Rock Avenue (CR 611)	Oval Road
Direction	EB/WB	SB
Number of Lanes	2	1
Approach Speed	30	30

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	Yes	
Condition A or B Met?	Yes	11 Hours met (8 required)
Condition A and B Met?	Yes	12 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	11 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	5 Hours met (1 required)

Warrant 1: Eight-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Intersection Information:

Major Street Name: Eagle Rock Avenue (CR 611)

Major Street Direction: EB/WB

Minor Street Direction: SB

WARRANT 1 MET? Yes

Details:

Condition A Met? Yes 8 Hours met (8 required) at 100%

Condition B Met? Yes 11 Hours met (8 required) at 100%

Hour	Major Street Vehicles (Total of Both Approaches)		High Volume Minor Approach Vehicles		100% Standard Met? Cond. A OR Cond. B		80% Standard Met? Cond. A AND Cond. B	
					Condition A 100% Column	Condition B 100% Column	Condition A 80% Column	Condition B 80% Column
07:00 to 08:00	1,107		338		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes				
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes				
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes				
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes				
08:00 to 09:00	1,587		266		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes				
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes				
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes				
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes				
09:00 to 10:00	989		199		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes				
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes				
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes				
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes				

Warrant 1: Eight-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

10:00 to 11:00		885		164		Yes*	No	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
11:00 to 12:00		975		179		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
12:00 to 13:00		1,131		131		No	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	No					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
13:00 to 14:00		1,067		144		No	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	No					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
14:00 to 15:00		1,234		143		No	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	No					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					

Warrant 1: Eight-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

15:00 to 16:00		1,550		176		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
16:00 to 17:00		1,532		187		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
17:00 to 18:00		1,668		203		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	Yes					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					
18:00 to 19:00		1,378		149		No	Yes*	Yes*	Yes*
Condition A	Volume >= 100% column (600)?	Yes	Volume >= 100% column (150)?	No					
	Volume >= 80% column (480)?	Yes	Volume >= 80% column (120)?	Yes					
Condition B	Volume >= 100% column (900)?	Yes	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (720)?	Yes	Volume >= 80% column (60)?	Yes					

Warrant 2: Four-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Intersection Information:

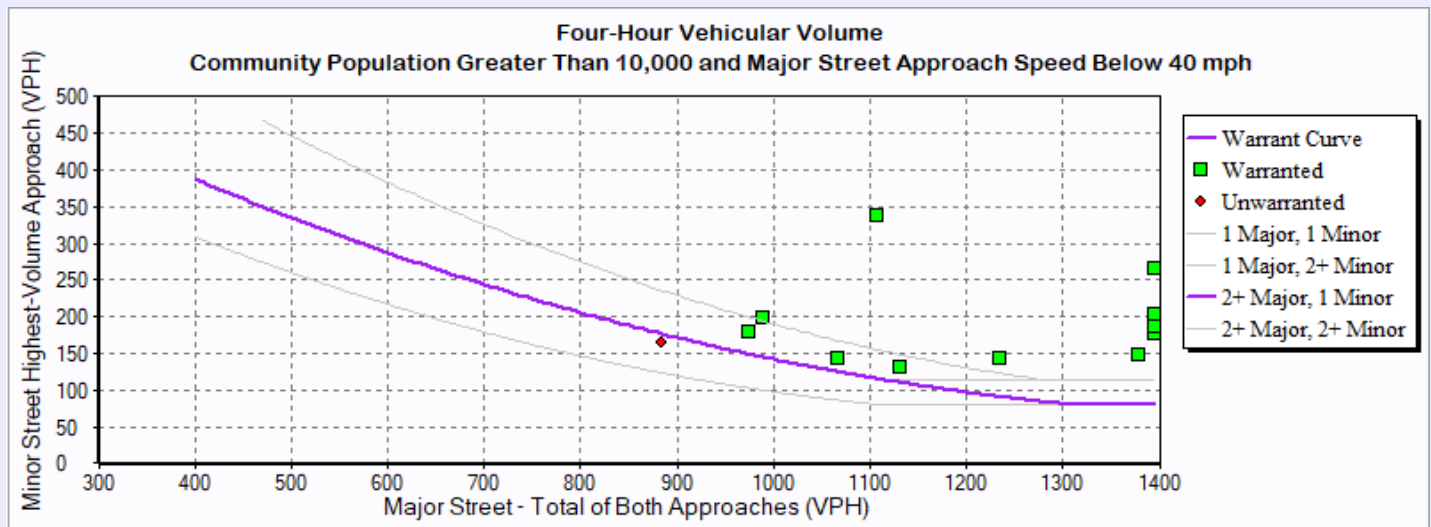
	Major Street	Minor Street
Street Name	Eagle Rock Avenue (CR 611)	Oval Road
Direction	EB/WB	SB
Number of Lanes	2	1
Approach Speed	30	30

Warrant 2 Met? **Yes**

Details:

Notes 11 Hours met (4 required)

Low population? **No**



Warrant 2: Four-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Hourly Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
00:00:00 - 01:00:00	0	0
01:00:00 - 02:00:00	0	0
02:00:00 - 03:00:00	0	0
03:00:00 - 04:00:00	0	0
04:00:00 - 05:00:00	0	0
05:00:00 - 06:00:00	0	0
06:00:00 - 07:00:00	0	0
07:00:00 - 08:00:00	1,107	338
08:00:00 - 09:00:00	1,587	266
09:00:00 - 10:00:00	989	199
10:00:00 - 11:00:00	885	164
11:00:00 - 12:00:00	975	179
12:00:00 - 13:00:00	1,131	131
13:00:00 - 14:00:00	1,067	144
14:00:00 - 15:00:00	1,234	143
15:00:00 - 16:00:00	1,550	176
16:00:00 - 17:00:00	1,532	187
17:00:00 - 18:00:00	1,668	203
18:00:00 - 19:00:00	1,378	149
19:00:00 - 20:00:00	0	0
20:00:00 - 21:00:00	0	0
21:00:00 - 22:00:00	0	0
22:00:00 - 23:00:00	0	0

Warrant 2: Four-hour Vehicular Volume

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

23:00:00 - 00:00:00

0

0

Warranted Hours

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
07:00:00 - 08:00:00	1,107.00	338.00
08:00:00 - 09:00:00	1,587.00	266.00
09:00:00 - 10:00:00	989.00	199.00
11:00:00 - 12:00:00	975.00	179.00
12:00:00 - 13:00:00	1,131.00	131.00
13:00:00 - 14:00:00	1,067.00	144.00
14:00:00 - 15:00:00	1,234.00	143.00
15:00:00 - 16:00:00	1,550.00	176.00
16:00:00 - 17:00:00	1,532.00	187.00
17:00:00 - 18:00:00	1,668.00	203.00
18:00:00 - 19:00:00	1,378.00	149.00

Note: Only data of hours warranted is represented in the above table.

Warrant 3: Peak Hour

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Intersection Information:

	Major Street	Minor Street
Street Name	Eagle Rock Avenue (CR 611)	Oval Road
Direction	EB/WB	SB
Number of Lanes	2	1
Approach Speed	30	30

Warrant 3 Met? **Yes**

Details

Low Population? **No**

Condition A Met? **No**

Condition B Met? **Yes**

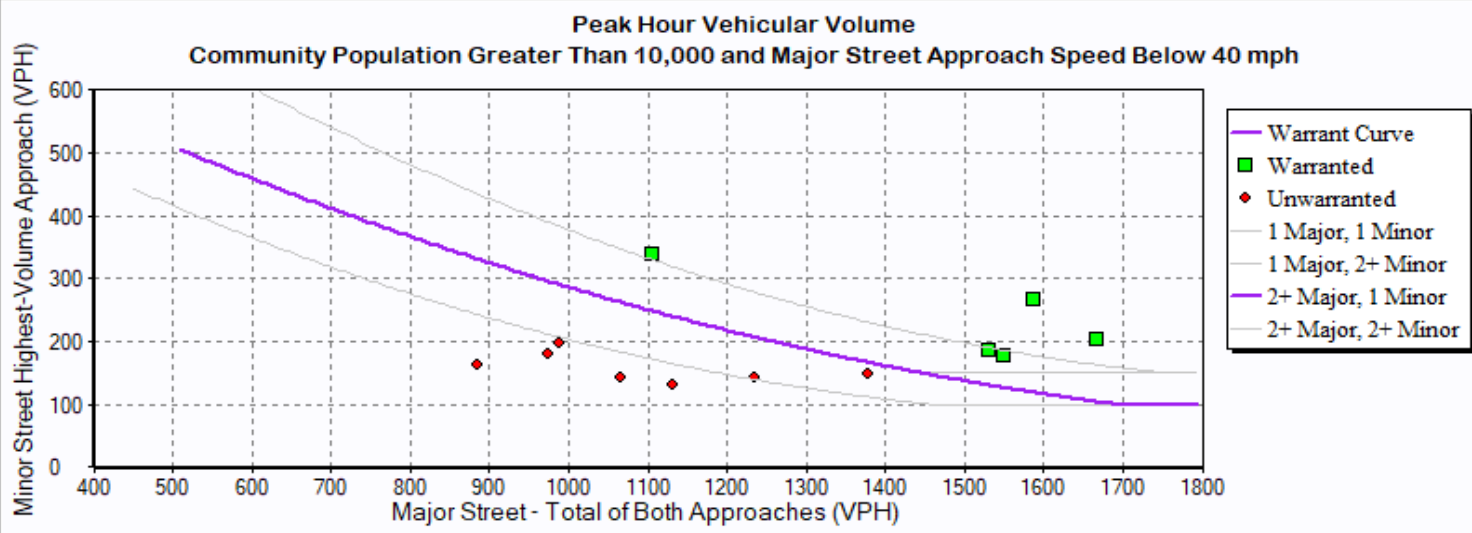
Notes 0 Hours met (1 required)

Notes 5 Hours met (1 required)

Minor Approach Time Delay Condition Met? **Not Met**

Minor Approach Volume Condition Met? **Met**

Total Entering Intersection Volume Condition Met? **Not Met**



Warrant 3: Peak Hour

1: Eagle Rock Avenue (CR 611) and Oval Road/Crestmont Drwy

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:00	1,107	338
8:00	1,587	266
9:00	989	199
10:00	885	164
11:00	975	179
12:00	1,131	131
13:00	1,067	144
14:00	1,234	143
15:00	1,550	176
16:00	1,532	187
17:00	1,668	203
18:00	1,378	149

APPENDIX C
INTERSECTION CAPACITY ANALYSIS

**2027 BUILD
UNSIGNALIZED**

Lanes, Volumes, Timings

2027 Build (Unsignalized)

1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)

AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	294	435	492	408	282	283
Future Volume (vph)	294	435	492	408	282	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.910					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3215	0	1752	3574	1770	1583
Flt Permitted			0.225		0.950	
Satd. Flow (perm)	3215	0	415	3574	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	458					298
Link Speed (mph)	40			40	35	
Link Distance (ft)	265			386	204	
Travel Time (s)	4.5			6.6	4.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	3%	3%	1%	2%	2%
Adj. Flow (vph)	309	458	518	429	297	298
Shared Lane Traffic (%)						
Lane Group Flow (vph)	767	0	518	429	297	298
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			12	12	
Link Offset(ft)	0			0	25	
Crosswalk Width(ft)	35			10	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	8	8

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases	6					
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	19.0		7.0	29.0	7.0	7.0
Minimum Split (s)	26.0		10.0	36.0	13.0	13.0
Total Split (s)	26.0		15.0	41.0	33.0	33.0
Total Split (%)	35.1%		20.3%	55.4%	44.6%	44.6%
Maximum Green (s)	19.0		12.0	34.0	27.0	27.0
Yellow Time (s)	5.0		3.0	5.0	4.0	4.0
All-Red Time (s)	2.0		0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0		3.0	7.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None
Act Effect Green (s)	19.1		38.2	34.1	14.5	14.5
Actuated g/C Ratio	0.31		0.62	0.55	0.24	0.24
v/c Ratio	0.59		1.00	0.22	0.71	0.50
Control Delay (s/veh)	9.5		56.0	8.1	31.7	5.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5		56.0	8.1	31.7	5.8
LOS	A		E	A	C	A
Approach Delay (s/veh)	9.5			34.3	18.7	
Approach LOS	A			C	B	
90th %ile Green (s)	19.0		12.0	34.0	21.4	21.4
90th %ile Term Code	Max		Max	Hold	Gap	Gap
70th %ile Green (s)	19.0		12.0	34.0	17.1	17.1
70th %ile Term Code	Max		Max	Hold	Gap	Gap
50th %ile Green (s)	19.0		12.0	34.0	14.4	14.4
50th %ile Term Code	Max		Max	Hold	Gap	Gap
30th %ile Green (s)	19.0		12.0	34.0	12.0	12.0
30th %ile Term Code	Max		Max	Hold	Gap	Gap
10th %ile Green (s)	19.0		12.0	34.0	8.8	8.8
10th %ile Term Code	Max		Max	Hold	Gap	Gap
Stops (vph)	242		235	192	241	35
Fuel Used(gal)	8		11	5	4	1
CO Emissions (g/hr)	576		748	340	283	71
NOx Emissions (g/hr)	112		146	66	55	14
VOC Emissions (g/hr)	134		173	79	66	16
Dilemma Vehicles (#)	58		0	25	0	0
Queue Length 50th (ft)	45		118	38	103	0
Queue Length 95th (ft)	107		#369	76	176	50
Internal Link Dist (ft)	185			306	124	
Turn Bay Length (ft)			120			
Base Capacity (vph)	1310		518	1977	777	600
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.59		1.00	0.22	0.38	0.50

Intersection Summary

Area Type: Other

Cycle Length: 74

Actuated Cycle Length: 61.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.00

Intersection Signal Delay (s/veh): 22.0

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 68.4

70th %ile Actuated Cycle: 64.1

50th %ile Actuated Cycle: 61.4

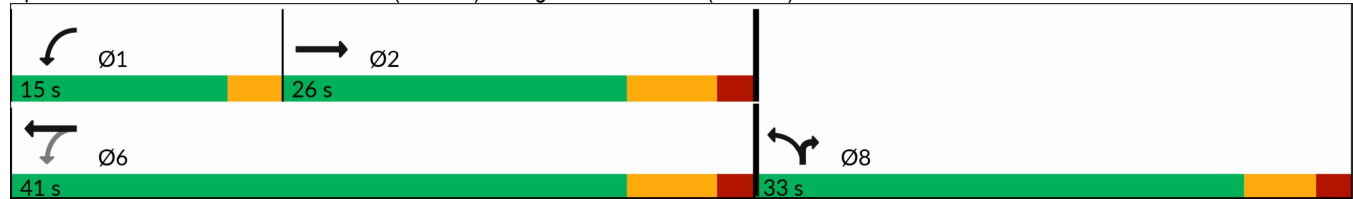
30th %ile Actuated Cycle: 59

10th %ile Actuated Cycle: 55.8

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)



HCM 7th TWSC
2: Eagle Rock Avenue (CR 611) & Oval Road

2027 Build (Unsignalized)
AM Peak Hour

Intersection						
Int Delay, s/veh	16.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	509	735	48	111	165
Future Vol, veh/h	68	509	735	48	111	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	3	2	4	2	1
Mvmt Flow	71	530	766	50	116	172
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	816	0	-	0	1197	408
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.1	-	-	-	6.84	6.92
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.31
Pot Cap-1 Maneuver	821	-	-	-	178	596
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	821	-	-	-	160	596
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	641	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	1.85	0		95.64		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	424	-	-	-	285	
HCM Lane V/C Ratio	0.086	-	-	-	1.01	
HCM Ctrl Dly (s/v)	9.8	0.8	-	-	95.6	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.3	-	-	-	10.6	

Lanes, Volumes, Timings

2027 Build (Unsignalized)

1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)

PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	451	274	281	318	462	408
Future Volume (vph)	451	274	281	318	462	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.943					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3391	0	1787	3574	1805	1615
Flt Permitted			0.193		0.950	
Satd. Flow (perm)	3391	0	363	3574	1805	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	166					439
Link Speed (mph)	40			40	35	
Link Distance (ft)	265			386	204	
Travel Time (s)	4.5			6.6	4.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	1%	0%	0%
Adj. Flow (vph)	485	295	302	342	497	439
Shared Lane Traffic (%)						
Lane Group Flow (vph)	780	0	302	342	497	439
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			12	12	
Link Offset(ft)	0			0	25	
Crosswalk Width(ft)	35			10	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	8	8

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases	6					
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	19.0		7.0	29.0	7.0	7.0
Minimum Split (s)	26.0		10.0	36.0	13.0	13.0
Total Split (s)	26.0		15.0	41.0	33.0	33.0
Total Split (%)	35.1%		20.3%	55.4%	44.6%	44.6%
Maximum Green (s)	19.0		12.0	34.0	27.0	27.0
Yellow Time (s)	5.0		3.0	5.0	4.0	4.0
All-Red Time (s)	2.0		0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0		3.0	7.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Recall Mode	Min		None	Min	None	None
Act Effect Green (s)	19.2		36.7	32.6	21.9	21.9
Actuated g/C Ratio	0.28		0.54	0.48	0.32	0.32
v/c Ratio	0.72		0.73	0.20	0.85	0.54
Control Delay (s/veh)	22.8		22.6	11.2	36.6	4.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.8		22.6	11.2	36.6	4.6
LOS	C		C	B	D	A
Approach Delay (s/veh)	22.8			16.5	21.6	
Approach LOS	C			B	C	
90th %ile Green (s)	19.0		12.0	34.0	27.0	27.0
90th %ile Term Code	Max		Max	Hold	Max	Max
70th %ile Green (s)	19.0		12.0	34.0	27.0	27.0
70th %ile Term Code	Max		Max	Hold	Max	Max
50th %ile Green (s)	19.0		11.7	33.7	23.8	23.8
50th %ile Term Code	Max		Gap	Hold	Gap	Gap
30th %ile Green (s)	19.0		9.4	31.4	19.3	19.3
30th %ile Term Code	Max		Gap	Hold	Gap	Gap
10th %ile Green (s)	19.0		7.1	29.1	14.0	14.0
10th %ile Term Code	Max		Gap	Hold	Gap	Gap
Stops (vph)	495		148	169	397	39
Fuel Used(gal)	13		4	4	7	1
CO Emissions (g/hr)	885		303	292	497	89
NOx Emissions (g/hr)	172		59	57	97	17
VOC Emissions (g/hr)	205		70	68	115	21
Dilemma Vehicles (#)	52		0	17	0	0
Queue Length 50th (ft)	127		68	43	194	0
Queue Length 95th (ft)	203		#173	72	#339	55
Internal Link Dist (ft)	185			306	124	
Turn Bay Length (ft)			120			
Base Capacity (vph)	1082		451	1816	728	820
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.72		0.67	0.19	0.68	0.54

Intersection Summary

Area Type: Other

Cycle Length: 74

Actuated Cycle Length: 67.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 20.6

Intersection LOS: C

Intersection Capacity Utilization 76.6%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 74

70th %ile Actuated Cycle: 74

50th %ile Actuated Cycle: 70.5

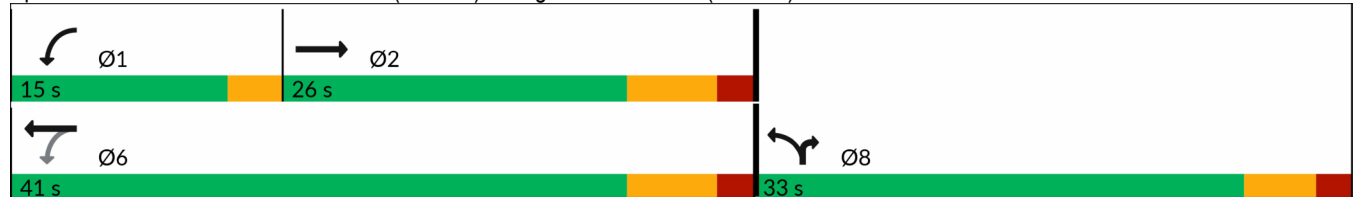
30th %ile Actuated Cycle: 63.7

10th %ile Actuated Cycle: 56.1

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)



HCM 7th TWSC
2: Eagle Rock Avenue (CR 611) & Oval Road

2027 Build (Unsignalized)
PM Peak Hour

Intersection						
Int Delay, s/veh	9.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	166	693	473	67	70	112
Future Vol, veh/h	166	693	473	67	70	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	0	0	0	1	0
Mvmt Flow	182	762	520	74	77	123

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	593	0	0 1302 297
Stage 1	-	-	- 557 -
Stage 2	-	-	- 746 -
Critical Hdwy	4.12	-	- 6.82 6.9
Critical Hdwy Stg 1	-	-	- 5.82 -
Critical Hdwy Stg 2	-	-	- 5.82 -
Follow-up Hdwy	2.21	-	- 3.51 3.3
Pot Cap-1 Maneuver	986	-	- 154 706
Stage 1	-	-	- 540 -
Stage 2	-	-	- 432 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	986	-	- 118 706
Mov Cap-2 Maneuver	-	-	- 118 -
Stage 1	-	-	- 414 -
Stage 2	-	-	- 432 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.05	0	65.32
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	696	-	-	-	241
HCM Lane V/C Ratio	0.185	-	-	-	0.829
HCM Ctrl Dly (s/v)	9.5	1.5	-	-	65.3
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	6.5

**2027 BUILD
SIGNALIZED**

Lanes, Volumes, Timings

1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)

2027 Build (Signalized)

AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	294	435	492	408	282	283
Future Volume (vph)	294	435	492	408	282	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	12	12
Storage Length (ft)		0	575		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.910					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3107	0	1694	3455	1770	1583
Flt Permitted			0.167		0.950	
Satd. Flow (perm)	3107	0	298	3455	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	443					298
Link Speed (mph)	40			40	35	
Link Distance (ft)	265			830	204	
Travel Time (s)	4.5			14.1	4.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	3%	3%	1%	2%	2%
Adj. Flow (vph)	309	458	518	429	297	298
Shared Lane Traffic (%)						
Lane Group Flow (vph)	767	0	518	429	297	298
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			11	12	
Link Offset(ft)	0			0	25	
Crosswalk Width(ft)	35			15	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Prot

Scenario 1 2027 Build (Signalized) 11:52 am 01/21/2026 AM Peak Hour

Synchro 12 Report

Langan

Page 1

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Protected Phases	2		1	6	8	8
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	20.0		7.0	30.0	25.0	25.0
Minimum Split (s)	26.0		10.0	36.0	32.0	32.0
Total Split (s)	35.0		15.0	50.0	40.0	40.0
Total Split (%)	38.9%		16.7%	55.6%	44.4%	44.4%
Maximum Green (s)	29.0		12.0	44.0	33.0	33.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		0.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		3.0	6.0	7.0	7.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Recall Mode	C-Min		None	C-Min	None	None
Act Effect Green (s)	20.9		54.7	51.7	25.3	25.3
Actuated g/C Ratio	0.23		0.61	0.57	0.28	0.28
v/c Ratio	0.72		0.85	0.22	0.60	0.45
Control Delay (s/veh)	17.2		31.2	4.3	33.7	5.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.2		31.2	4.3	33.7	5.5
LOS	B		C	A	C	A
Approach Delay (s/veh)	17.2			19.0	19.6	
Approach LOS	B			B	B	
90th %ile Green (s)	24.5		22.9	50.4	26.6	26.6
90th %ile Term Code	Coord		Max	Coord	Gap	Gap
70th %ile Green (s)	20.0		29.0	52.0	25.0	25.0
70th %ile Term Code	Coord		Max	Coord	Min	Min
50th %ile Green (s)	20.0		29.0	52.0	25.0	25.0
50th %ile Term Code	Coord		Max	Coord	Min	Min
30th %ile Green (s)	20.0		29.0	52.0	25.0	25.0
30th %ile Term Code	Coord		Max	Coord	Min	Min
10th %ile Green (s)	20.0		29.0	52.0	25.0	25.0
10th %ile Term Code	Coord		Max	Coord	Min	Min
Stops (vph)	294		321	75	238	31
Fuel Used(gal)	10		9	3	4	1
CO Emissions (g/hr)	692		633	237	289	68
NOx Emissions (g/hr)	135		123	46	56	13
VOC Emissions (g/hr)	160		147	55	67	16
Dilemma Vehicles (#)	41		0	22	0	0
Queue Length 50th (ft)	88		80	19	149	0
Queue Length 95th (ft)	145		#412	27	229	58
Internal Link Dist (ft)	185			750	124	
Turn Bay Length (ft)			575			
Base Capacity (vph)	1301		611	1984	649	659
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.59		0.85	0.22	0.46	0.45

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 18.6

Intersection LOS: B

Intersection Capacity Utilization 84.4%

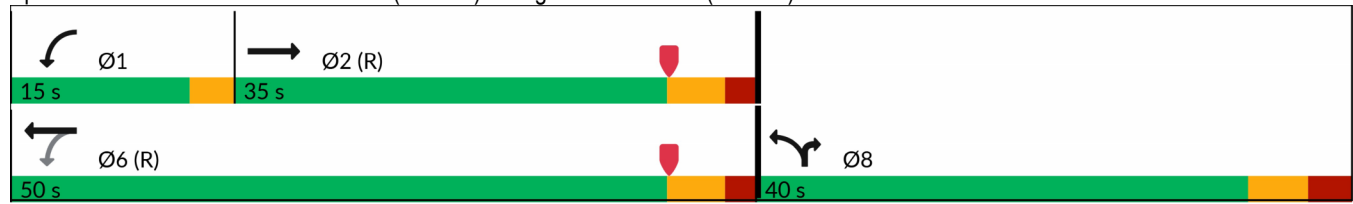
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)



Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	509	0	0	735	48	1	0	1	111	0	165
Future Volume (vph)	68	509	0	0	735	48	1	0	1	111	0	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	11	11	12	12	12	11	12	13
Storage Length (ft)	150		0	140		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.991			0.850				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1745	3388	0	0	3386	0	1805	1615	0	1711	0	1652
Flt Permitted	0.281						0.950			0.615		
Satd. Flow (perm)	516	3388	0	0	3386	0	1805	1615	0	1107	0	1652
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					9			405				172
Link Speed (mph)		40			40			25				25
Link Distance (ft)		830			376			327				217
Travel Time (s)		14.1			6.4			8.9				5.9
Peak Hour Factor	0.96	0.96	0.92	0.92	0.96	0.96	0.92	0.92	0.92	0.96	0.92	0.96
Heavy Vehicles (%)	0%	3%	0%	0%	2%	4%	0%	0%	0%	2%	0%	1%
Adj. Flow (vph)	71	530	0	0	766	50	1	0	1	116	0	172
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	530	0	0	816	0	1	1	0	116	0	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.04	1.00	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2		1	2	1
Detector Template	Left	Thru			Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100			100		20	100		20	100	20
Trailing Detector (ft)	0	0			0		0	0		0	0	0
Detector 1 Position(ft)	0	0			0		0	0		0		0
Detector 1 Size(ft)	20	6			6		20	6		20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		pm+pt	NA		pm+pt		Perm

Scenario 1 2027 Build (Signalized) 11:52 am 01/21/2026 AM Peak Hour

Synchro 12 Report

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Page 4

Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6		3	8		7		
Permitted Phases	2						8			4		4
Detector Phase	5	2			6		3	8		7		4
Switch Phase												
Minimum Initial (s)	7.0	48.0			37.0		15.0	7.0		15.0		7.0
Minimum Split (s)	11.0	54.0			43.0		18.0	14.0		18.0		14.0
Total Split (s)	11.0	54.0			43.0		22.0	14.0		22.0		14.0
Total Split (%)	12.2%	60.0%			47.8%		24.4%	15.6%		24.4%		15.6%
Maximum Green (s)	8.0	48.0			37.0		19.0	7.0		19.0		7.0
Yellow Time (s)	3.0	4.0			4.0		3.0	3.0		3.0		3.0
All-Red Time (s)	0.0	2.0			2.0		0.0	4.0		0.0		4.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	3.0	6.0			6.0		3.0	7.0		3.0		7.0
Lead/Lag	Lead				Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	2.0	2.0			2.0		3.0	2.0		2.0		2.0
Recall Mode	None	C-Min			C-Min		None	None		None		None
Act Effct Green (s)	66.3	63.3			55.1		18.5	7.7		17.9		10.1
Actuated g/C Ratio	0.74	0.70			0.61		0.21	0.09		0.20		0.11
v/c Ratio	0.15	0.22			0.39		0.00	0.00		0.36		0.51
Control Delay (s/veh)	9.3	10.6			11.6		23.0	0.0		32.2		11.9
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay (s/veh)	9.3	10.6			11.6		23.0	0.0		32.2		11.9
LOS	A	B			B		C	A		C		B
Approach Delay (s/veh)		10.5			11.6			11.5			20.0	
Approach LOS		B			B			B			C	
90th %ile Green (s)	7.8	48.3			37.5		15.0	10.7		15.0		10.7
90th %ile Term Code	Gap	Coord			Coord		Min	Hold		Min		Gap
70th %ile Green (s)	7.0	66.0			56.0		0.0	0.0		15.0		11.0
70th %ile Term Code	Min	Coord			Coord		Skip	Skip		Min		Hold
50th %ile Green (s)	7.0	66.0			56.0		0.0	0.0		15.0		11.0
50th %ile Term Code	Min	Coord			Coord		Skip	Skip		Min		Hold
30th %ile Green (s)	7.0	66.0			56.0		0.0	0.0		15.0		11.0
30th %ile Term Code	Min	Coord			Coord		Skip	Skip		Min		Hold
10th %ile Green (s)	0.0	70.0			70.0		0.0	7.0		0.0		7.0
10th %ile Term Code	Skip	Coord			Coord		Skip	Hold		Skip		Min
Stops (vph)	32	265			395		2	0		89		27
Fuel Used(gal)	1	7			11		0	0		2		1
CO Emissions (g/hr)	58	459			746		1	0		108		85
NOx Emissions (g/hr)	11	89			145		0	0		21		16
VOC Emissions (g/hr)	13	106			173		0	0		25		20
Dilemma Vehicles (#)	0	39			43		0	0		0		0
Queue Length 50th (ft)	14	75			110		1	0		61		0
Queue Length 95th (ft)	m50	170			243		4	0		84		58
Internal Link Dist (ft)		750			296			247			137	
Turn Bay Length (ft)	150											
Base Capacity (vph)	488	2381			2076		436	509		395		338
Starvation Cap Reductn	0	0			0		0	0		0		0
Spillback Cap Reductn	0	0			0		0	0		0		0

Scenario 1 2027 Build (Signalized) 11:52 am 01/21/2026 AM Peak Hour

Synchro 12 Report

Langan

Page 5

Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0		0	0		0		0
Reduced v/c Ratio	0.15	0.22			0.39		0.00	0.00		0.29		0.51

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 74 (82%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay (s/veh): 12.6

Intersection LOS: B

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611)

	Ø2 (R)								Ø3				Ø4
54 s								22 s				14 s	
	Ø5		Ø6 (R)						Ø7				Ø8
11 s		43 s						22 s				14 s	

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	451	274	281	318	462	408
Future Volume (vph)	451	274	281	318	462	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	12	12
Storage Length (ft)		0	575		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			50		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.943					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3278	0	1728	3455	1805	1615
Flt Permitted			0.214		0.950	
Satd. Flow (perm)	3278	0	389	3455	1805	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	150					426
Link Speed (mph)	40			40	35	
Link Distance (ft)	265			830	204	
Travel Time (s)	4.5			14.1	4.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	1%	0%	0%
Adj. Flow (vph)	485	295	302	342	497	439
Shared Lane Traffic (%)						
Lane Group Flow (vph)	780	0	302	342	497	439
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	10			11	12	
Link Offset(ft)	0			0	25	
Crosswalk Width(ft)	35			15	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.04	1.04	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (ft)	100		20	100	20	20
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	6		20	6	20	20
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)	94			94		
Detector 2 Size(ft)	6			6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Prot

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Protected Phases	2		1	6	8	8
Permitted Phases			6			
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	20.0		7.0	30.0	25.0	25.0
Minimum Split (s)	26.0		10.0	36.0	32.0	32.0
Total Split (s)	35.0		15.0	50.0	40.0	40.0
Total Split (%)	38.9%		16.7%	55.6%	44.4%	44.4%
Maximum Green (s)	29.0		12.0	44.0	33.0	33.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		0.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		3.0	6.0	7.0	7.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Recall Mode	C-Min		None	C-Min	None	None
Act Effect Green (s)	32.2		50.9	47.9	29.1	29.1
Actuated g/C Ratio	0.36		0.57	0.53	0.32	0.32
v/c Ratio	0.61		0.74	0.19	0.85	0.54
Control Delay (s/veh)	22.4		22.1	5.6	43.1	5.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.4		22.1	5.6	43.1	5.2
LOS	C		C	A	D	A
Approach Delay (s/veh)	22.4			13.4	25.4	
Approach LOS	C			B	C	
90th %ile Green (s)	29.0		12.0	44.0	33.0	33.0
90th %ile Term Code	Coord		Max	Coord	Max	Max
70th %ile Green (s)	25.6		15.8	44.4	32.6	32.6
70th %ile Term Code	Coord		Max	Coord	Gap	Gap
50th %ile Green (s)	30.1		14.4	47.5	29.5	29.5
50th %ile Term Code	Coord		Gap	Coord	Gap	Gap
30th %ile Green (s)	36.8		11.8	51.6	25.4	25.4
30th %ile Term Code	Coord		Gap	Coord	Gap	Gap
10th %ile Green (s)	39.5		9.5	52.0	25.0	25.0
10th %ile Term Code	Coord		Gap	Coord	Min	Min
Stops (vph)	483		115	84	416	43
Fuel Used(gal)	12		4	3	8	1
CO Emissions (g/hr)	872		278	208	550	95
NOx Emissions (g/hr)	170		54	41	107	18
VOC Emissions (g/hr)	202		64	48	127	22
Dilemma Vehicles (#)	40		0	12	0	0
Queue Length 50th (ft)	158		27	19	259	5
Queue Length 95th (ft)	227		#170	25	365	65
Internal Link Dist (ft)	185			750	124	
Turn Bay Length (ft)			575			
Base Capacity (vph)	1292		416	1838	661	810
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.60		0.73	0.19	0.75	0.54

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 21.1

Intersection LOS: C

Intersection Capacity Utilization 76.6%

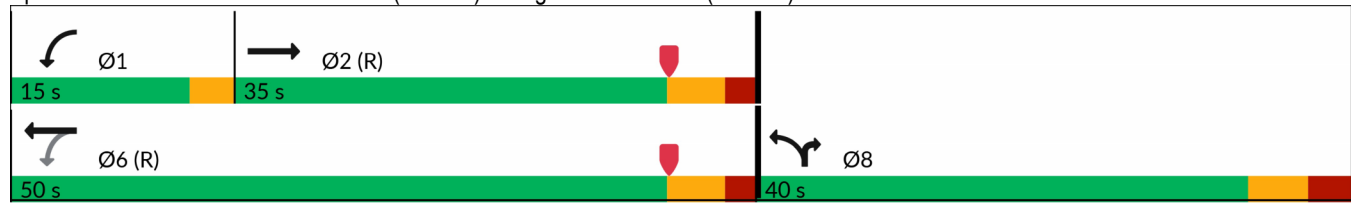
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Laurel Avenue (CR 634) & Eagle Rock Avenue (CR 611)



Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	693	0	0	473	67	14	0	3	70	0	112
Future Volume (vph)	166	693	0	0	473	67	14	0	3	70	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	11	11	12	12	12	11	13	13
Storage Length (ft)	150		0	140		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr't					0.981			0.850				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1745	3455	0	0	3423	0	1805	1615	0	1728	0	1669
Flt Permitted	0.369						0.950			0.635		
Satd. Flow (perm)	678	3455	0	0	3423	0	1805	1615	0	1155	0	1669
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					21			352				123
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		830			376			327			217	
Travel Time (s)		14.1			6.4			8.9			5.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	182	762	0	0	520	74	15	0	3	77	0	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	762	0	0	594	0	15	3	0	77	0	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.04	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2		1	2	1
Detector Template	Left	Thru			Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100			100		20	100		20	100	20
Trailing Detector (ft)	0	0			0		0	0		0	0	0
Detector 1 Position(ft)	0	0			0		0	0		0	0	0
Detector 1 Size(ft)	20	6			6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		pm+pt	NA		pm+pt		Perm

Scenario 2 2027 Build (Signalized) 10:26 am 01/21/2026 PM Peak Hour

Synchro 12 Report

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Page 4

Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6		3	8		7		
Permitted Phases	2						8			4		4
Detector Phase	5	2			6		3	8		7		4
Switch Phase												
Minimum Initial (s)	7.0	48.0			37.0		15.0	7.0		15.0		7.0
Minimum Split (s)	11.0	54.0			43.0		18.0	14.0		18.0		14.0
Total Split (s)	11.0	54.0			43.0		22.0	14.0		22.0		14.0
Total Split (%)	12.2%	60.0%			47.8%		24.4%	15.6%		24.4%		15.6%
Maximum Green (s)	7.0	48.0			37.0		19.0	7.0		19.0		7.0
Yellow Time (s)	4.0	4.0			4.0		3.0	3.0		3.0		3.0
All-Red Time (s)	0.0	2.0			2.0		0.0	4.0		0.0		4.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	4.0	6.0			6.0		3.0	7.0		3.0		7.0
Lead/Lag	Lead				Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	2.0	2.0			2.0		3.0	2.0		2.0		2.0
Recall Mode	None	C-Min			C-Min		None	None		None		None
Act Effct Green (s)	65.5	63.5			52.1		18.3	7.5		17.7		9.9
Actuated g/C Ratio	0.73	0.71			0.58		0.20	0.08		0.20		0.11
v/c Ratio	0.31	0.31			0.30		0.04	0.01		0.24		0.42
Control Delay (s/veh)	10.9	11.3			11.2		25.6	0.0		29.9		12.1
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay (s/veh)	10.9	11.3			11.2		25.6	0.0		29.9		12.1
LOS	B	B			B		C	A		C		B
Approach Delay (s/veh)		11.3			11.2			21.4			19.0	
Approach LOS		B			B			C			B	
90th %ile Green (s)	8.4	49.4			37.0		15.0	9.6		15.0		9.6
90th %ile Term Code	Max	Coord			Coord		Min	Hold		Min		Gap
70th %ile Green (s)	7.7	66.0			54.3		0.0	0.0		15.0		11.0
70th %ile Term Code	Gap	Coord			Coord		Skip	Skip		Min		Hold
50th %ile Green (s)	7.0	66.0			55.0		0.0	0.0		15.0		11.0
50th %ile Term Code	Min	Coord			Coord		Skip	Skip		Min		Hold
30th %ile Green (s)	7.0	66.0			55.0		0.0	0.0		15.0		11.0
30th %ile Term Code	Min	Coord			Coord		Skip	Skip		Min		Hold
10th %ile Green (s)	7.0	70.0			59.0		0.0	7.0		0.0		7.0
10th %ile Term Code	Min	Coord			Coord		Skip	Hold		Skip		Min
Stops (vph)	80	364			260		12	0		55		21
Fuel Used(gal)	2	9			7		0	0		1		1
CO Emissions (g/hr)	146	635			504		11	1		66		59
NOx Emissions (g/hr)	28	123			98		2	0		13		11
VOC Emissions (g/hr)	34	147			117		3	0		15		14
Dilemma Vehicles (#)	0	53			30		0	0		0		0
Queue Length 50th (ft)	32	94			73		7	0		39		0
Queue Length 95th (ft)	130	254			163		19	0		61		50
Internal Link Dist (ft)		750			296			247			137	
Turn Bay Length (ft)	150											
Base Capacity (vph)	581	2436			1989		431	457		396		293
Starvation Cap Reductn	0	0			0		0	0		0		0
Spillback Cap Reductn	0	0			0		0	0		0		0

Scenario 2 2027 Build (Signalized) 10:26 am 01/21/2026 PM Peak Hour

Synchro 12 Report

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Page 5

Lanes, Volumes, Timings

2027 Build (Signalized)

2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611) PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0			0		0	0		0		0
Reduced v/c Ratio	0.31	0.31			0.30		0.03	0.01		0.19		0.42

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 74 (82%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay (s/veh): 12.2

Intersection LOS: B

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Crestmont Country Club Drwy/Oval Road & Eagle Rock Avenue (CR 611)

	Ø2 (R)			Ø3			Ø4
54 s			22 s			14 s	
	Ø5		Ø6 (R)		Ø7		Ø8
11 s		43 s		22 s		14 s	