



181 WEST HIGH STREET
SOMERVILLE, NJ 08876

908 927 0100 p
908 927 0181 f

TRAFFIC IMPACT ASSESSMENT

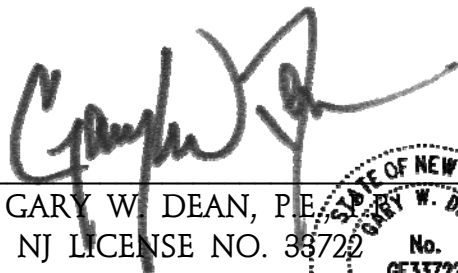
FOR

WEST ORANGE PLAZA

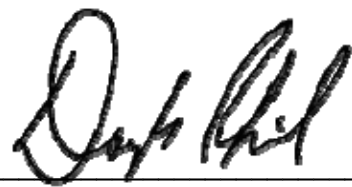
PROPOSED EXPANSION

BLOCK 152.01, LOTS 1445 & 1445.05
PROSPECT AVENUE (CR 577), EAGLE ROCK AVENUE (CR 611)
AND WOODHULL AVENUE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

MAY 17, 2023


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18129
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TRAFFIC ENGINEERING
PARKING STUDIES
HIGHWAY DESIGN
DOT ACCESS PERMITS
MUNICIPAL CONSULTING

INTRODUCTION

The owners of the West Orange Plaza shopping center have submitted a site plan application to the Township Planning Board for proposed site improvements and an expansion of the existing retail shopping center. The proposal also includes modifications to significantly improve site access, pedestrian circulation and parking. A façade replacement and interior modifications of the existing main retail building for use as a Target store is a cornerstone of the project.

Target also proposes to use a portion of the lower level of their leased space as a stock room and fulfillment center to facilitate local delivery operations to Target customers. Specifically, the development includes the proposed fit-out of 110,000 square feet in the existing basement area of the main retail building with approximately 50,000 square feet to be used for a parcel/order fulfillment for Target with the remaining 60,000+/- square feet to be used for stock room for the Target store.

This traffic impact assessment has been prepared as part of the site plan application to the West Orange Planning Board to evaluate the current and projected traffic conditions in the immediate site vicinity. The site has frontages along Prospect Avenue and Eagle Rock Avenue (Figure 1). Site access currently exists via full-movement, signalized driveways along both Eagle Rock Avenue and Prospect Avenue. Additionally, there is an unsignalized access along Prospect Avenue, which prohibits left-turn egress.

The proposal includes expanding the existing 297,448 square foot shopping center with 37,751 square feet of additional retail/restaurant space in separate “pad” buildings for a total building area of 335,199 square feet. Access will generally remain the same, however the existing, unconventional channelized, right-turn ingress along southbound Prospect Avenue at the signalized driveway will be eliminated and replaced with a traditional right turn lane at the intersection. In addition, the Eagle Rock Avenue access will be improved for dual left turn/through exiting lanes. Other, minor geometric changes are proposed at the signalized driveways to improve traffic operations. Internal circulation will also be improved with a re-design of the interior parking areas.



Dolan & Dean Consulting Engineers, LLC (D&D) has been commissioned by the applicant to prepare this Traffic Impact Assessment for the proposed expansion. The site suitability for the proposed development has been evaluated, based on a traffic engineering review. Accordingly, this analysis includes the following information:

- A review of the existing roadway and current traffic conditions in the site vicinity, including roadway configuration, on-street and existing site traffic volumes and operations and roadway capacities;
- An estimate of the additional traffic that would be expected at full occupancy of the existing center, plus the additional traffic generated by the proposed expansion, including an identification of “new” traffic to the area;
- A site plan review focusing on the access design, interior circulation, and parking supply with specific emphasis placed on the proposed ingress and egress.
- A site plan review focusing on pedestrian circulation and connectivity both within the site and to offsite sidewalks.



EXISTING CONDITIONS

EXISTING ROADWAY CONDITIONS

Prospect Avenue is under Essex County jurisdiction and is designated as County Route 577. Prospect Avenue generally provides two lanes for each travel direction in the vicinity of I-280 and transitions to one lane in each direction north of the site. The posted speed limit along the Prospect Avenue site frontage is 40 miles per hour.

Eagle Rock Avenue is also under Essex County jurisdiction and is designated as County Route 611. It has a general east-west orientation and begins to the west at Ridgedale Avenue in East Hanover, continues past the site running east where it meets its terminus at its intersection with Harrison Avenue and Main Street in West Orange. Eagle Rock Avenue generally provides two lanes for each travel direction and along the site frontage and has multiple turn lanes at the signalized intersections with Woodhull Avenue and Prospect Avenue. While there is no posted speed limit near the site, The County straight line diagram shows and the statutory limit would be 35 miles per hour.

Woodhull Avenue is a local roadway with a general north-south orientation running parallel to Prospect Avenue. Woodhull Avenue begins at the site access along Eagle Rock Avenue to the north and meets its southerly terminus at Harrington Terrace to the south. Residential homes are located along Woodhull Avenue, south of CVS.

Woodhull Avenue, Eagle Rock Avenue and the West Orange Plaza driveway form a 4-leg signalized intersection to the west of the signalized intersection of Eagle Rock Avenue and Prospect Avenue. These intersections were upgraded as part of an Essex County improvement project to enhance safety, increase capacity and improve traffic operations.

At the Woodhull Avenue intersection with Eagle Rock Avenue, eastbound Eagle Rock Avenue provides an exclusive left-turn lane, an exclusive through lane, and a shared thru/right-turn lane. The westbound Eagle Rock Avenue approach provides an exclusive through lane and a shared thru/right-turn lane. Northbound Woodhull Avenue provides one lane for left-turns, through



movements and right-turn movements, while the southbound West Orange Plaza driveway provides a shared left-turn/thru lane and a channelized right-turn lane.

The improvements at the Eagle Rock Avenue/Prospect Avenue intersection provide the northbound Prospect Avenue approach with an exclusive left-turn lane, two exclusive through lanes and exclusive right-turn lane. The southbound approach provides one exclusive left-turn lane, an exclusive through lane and a shared thru/right-turn lane. The eastbound Eagle Rock Avenue approach provides a shared left-turn/thru lane, an exclusive through lane, and an exclusive right-turn lane. The westbound approach provides an exclusive left-turn lane, a shared left turn/thru lane and a shared thru/right turn lane.

At the West Orange Plaza unsignalized access on Prospect Avenue, one right-turn only lane is provided for exiting movements. Southbound Prospect Avenue provides one through lane and one shared through/right-turn lane. Northbound Prospect Avenue provides an exclusive left-turn ingress lane and two exclusive through lanes.

At the signalized site access on Prospect Avenue, exclusive left-turn and right-turn egress lanes are provided. The northbound Prospect Avenue approach provides a shared left/thru lane and an exclusive thru lane. The southbound Prospect Avenue approach currently provides two exclusive thru lanes and an unconventional channelized right-turn lane.

EXISTING TRAFFIC VOLUMES

To examine the existing traffic conditions in the site vicinity, manual turning movement counts were recently conducted during weekday evening and Saturday midday time periods when West Orange Plaza traffic is typically at peak levels. Vehicular traffic counts were conducted as follows:

- Prospect Avenue and Eagle Rock Avenue – Saturday, March 18, 2023, from 11:00 a.m. to 2:00 p.m. and Thursday, March 16, 2023, from 4:00 p.m. to 6:30 p.m.
- Prospect Avenue and unsignalized driveway – Saturday, April 1, 2023, from 11:00 a.m. to 2:00 p.m. and Tuesday, April 4, 2023, from 4:00 p.m. to 6:30 p.m.



- Prospect Avenue and signalized driveway – Saturday, April 1, 2023, from 11:00 a.m. to 2:00 p.m. and Tuesday, April 4, 2023, from 4:00 p.m. to 6:30 p.m.
- Eagle Rock Avenue, Woodhull Avenue and site driveway – Saturday, April 1, 2023, from 11:00 a.m. to 2:00 p.m. and Tuesday, April 4, 2023, from 4:00 p.m. to 6:30 p.m.

The traffic counts indicate that there is a one-hour interval during each time period when overall street traffic reaches its highest levels. For reference the evening peak hour occurred from 5:00 p.m. to 6:00 p.m. and the Saturday peak hour occurred from 12:45 p.m. to 1:45 p.m. The existing volumes are illustrated on Figures 2 and 3.

ANALYSIS OF EXISTING TRAFFIC CONDITIONS

Level of Service/Delay analyses were performed for the subject intersections using Synchro software. During the counts, traffic conditions could best be characterized as busy with queuing and delays observed at the intersection approaches, as would be expected during peak traffic hours.

Based on the analysis and as shown on Figure 4, all movements at the signalized intersection of Eagle Rock Avenue and Woodhull Avenue/site driveway operate at a Level of Service “D” or better during the peak hours.

At the Eagle Rock Avenue intersection with Prospect Avenue, all movements operate at a Level of Service “E” or better.

Movements at the site driveways along Prospect Avenue all were found to operate at Level of Service “D” or better during both peak hours.



TRAFFIC CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

PROJECTED TRIP GENERATION

The potential traffic generation from any use is directly related to the type, size, and characteristic of the use itself. The specific location of a particular use may also affect trip generation such as volumes of passing street traffic and competing uses. As a recommended practice by the Institute of Transportation Engineers (ITE) to best determine future traffic arising from an existing, known use, the existing site traffic volumes and existing building areas were used to project future additional site traffic.

Specifically, the proposed expansion includes an approximately 12.7% increase in the current building area, therefore a conservative 13% increase was applied to the adjusted existing volumes (at full occupancy) to generate the projected site traffic. The adjustment to account for full occupancy will be described in further detail under “no-build” conditions below.

Table I shows the additional volumes arising from the new retail/service area. . From a practical perspective, the future traffic increases will generally be lower than forecast, as existing patrons may also visit the new stores or restaurants while already on-site.

TABLE I
PROJECTED TRIP GENERATION
13% INCREASE OF EXISTING (FULL OCCUPANCY) SITE TRAFFIC

Time Period	Enter	Exit
Evening Peak Hour	116	116
Saturday Peak Hour	128	128

Furthermore, a significant component of typical retail generated traffic is not “new” traffic per se. Particularly during peak evening hours, much of the site traffic will be comprised of “pass-by” trips. Pass-by trips are defined as: “. . .trips attracted to a particular development from the traffic “passing-by” on the adjacent street.”¹ Based on ITE data, 34% of the evening peak hour traffic and 26% of the Saturday peak hour site traffic volumes are considered pass-by traffic.

¹ ITE Journal, May 1992 – “Refinement of Procedures Used for Estimating Pass-By Trip Percentages



For the proposed fulfillment operations by Target, the ITE Land Use Code 155 – “High Cube Fulfillment Center Warehouse” is applicable for the proposed fulfillment center. As previously mentioned, the stock room component will serve the retail store and is therefore not expected to draw new traffic for this particular site component.

When possible, for a known site or end user, the ITE Trip Generation Manual Handbook recommends using site-specific data as a preferred as a more accurate means to predict future traffic characteristics for a given development instead of using the published ITE rates collected at many different sites. Through consultation with the applicant, the proposed facility will operate 24/7 as a non-sort, fulfillment center with an average of 16 employees per 12-hour shift, with shift change occurring at 6:00 a.m. and 6:00 p.m.

Further, as is characteristic of a fulfillment center, the facility will be used for last mile delivery purposes, where a pre-sorted trailer or van will deliver merchandise to the center that will then be staged for delivery to customers via car, sprinter van, or small delivery (aka, “box” truck). A maximum of 24 last-mile delivery vehicles are proposed to be used per dispatch and the facility could see up to eight, 30-minute dispatch pickup windows per day, occurring from 7:30 a.m. to 8:30 a.m., and from 12:00 pm. to 2:00 p.m. Lastly, an average of four, WB-62 trucks would visit the facility per day, with deliveries occurring in the early morning or mid-evening periods.

Table I summarizes the anticipated weekday evening and mid-day Saturday peak hour site trips for the fulfillment center based on the information provided by the applicant.

TABLE II
TRIP GENERATION
50,000 SF TARGET FULFILLMENT CENTER COMPONENT

Vehicle Type	Weekday Evening Peak Hour			Mid-day Saturday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Employee	16	16	32	0	0	0
Last Mile Delivery	0	0	0	48	48	96
Trailer	2	2	4	0	0	0
Total	18	18	36	48	48	96



As shown in Table II, the fulfillment facility will generate a minimal level of additional traffic activity. The increase in traffic equates to approximately one new trip added to the network approximately every two minutes during the evening peak hour, and every half minute during the Saturday peak hour.

The new, site-generated volumes associated with the proposed shopping center expansion and Target fulfillment center are shown on appended Figure 5 and are assumed to follow the current existing traffic patterns as observed from the traffic counts.



FUTURE TRAFFIC CONDITIONS

FUTURE TRAFFIC VOLUMES

Traffic routinely fluctuates along various state and county roadways, as well as local streets, and varies not only day-to-day, but also on a monthly and yearly basis. As a result of both normal “background” traffic growth, (attributed to continued regional growth and changes in driver demographics), and new traffic generated by specific projects, traffic demands on the roadways in the vicinity of the site may increase over current demands.

Regional traffic growth patterns as compiled by the New Jersey Department of Transportation (NJDOT) were examined for this analysis. Based on NJDOT growth patterns for roadways in Essex County, traffic volumes along the adjacent roadways are conservatively projected to annually increase by 2.0% during the peak hours. The existing traffic volumes were increased by the growth rate for an additional two years to develop the future “base no-build” volumes.

In addition to background growth, the existing shopping center volumes were adjusted to account for a current (as of April 2023) 48% tenant vacancy that was present during the conduct of the traffic counts. Figures 6 and 7 depict the future “no build” traffic volumes inclusive of background growth and vacancy adjustments.

To gauge the cumulative effects of the additional traffic generated by the proposed retail expansion and fulfillment center, it is necessary to develop composite future traffic volumes that include new site activity. The total future “build” traffic volumes were calculated adding the estimated trip generation to the “no build” volumes. The total future (i.e. “build”) peak hour traffic volumes are depicted on Figures 8 and 9 for the evening and Saturday peak hours.

ANALYSIS OF FUTURE TRAFFIC CONDITIONS

An analysis of future roadway and driveway operations was completed including the traffic added by the proposed retail expansion. As both roadways are under Essex County jurisdiction, any impacts to the adjacent intersections will be reviewed and addressed (if/as needed) with the County planning/engineering offices.



However, based on the low projected volumes of new traffic, there will be very minimal impacts to the subject intersections. The resulting “no-build” and “build” peak hour levels of service are depicted on Figures 10 and 11. As shown, all movements at the site driveways will continue to operate at acceptable Level of Service “D” or better during both peak hours. The analysis shows that sufficient driveway and intersection capacity exists to accommodate the increase in the projected site traffic.

The analyses also take into consideration the additional turning lane to exit the site on Eagle Rock Road for double left turns. This design would lessen the queuing into the site at the signal, by providing double the capacity for traffic to exit the site. In addition, the unconventional existing right-turn lane on southbound Prospect Avenue would be redesigned in a traditional design that will enhance the access and improve safety. Both improvements will be subject to Essex County approval.

At the intersection of Eagle Rock Avenue and Prospect Avenue, all movements will operate unchanged from “no-build” conditions with the exception of the southbound thru/right-turn movement, which is projected to operate at Level of Service “F”, with an associated delay increase of only 9.6 seconds. While timing changes to the signal could mitigate the change, such would do at the expense of other movements that would also operate with long delays. The complex intersection design and multi-phase signal operations will continue to have inherent design limitations that will operate with long delays, irrespective of any refinements to the signal operations.

It is also expected that this study has overestimated the potential for significant external traffic “growth” due to demographic changes with an aging population, the continued reliance on online shopping, delivery services and more recent remote employee work changes that have proven successful as a result of the COVID-19 pandemic. In all likelihood, ambient street traffic and future growth will not reach those levels projected in this study. Even disregarding those circumstances, the findings reach in this study demonstrate that the proposed expansion will have minimal impacts on off-site traffic operations.

SITE ACCESS, CIRCULATION & PARKING

A traffic engineering review has been made of the site plans prepared by Petry Engineering, LLC with particular attention focused on the site circulation, sufficiency of the proposed parking supply and overall site access. The following items address on-site design characteristics:

- As noted, the three existing driveways will continue to serve the site. The northerly access on Prospect Avenue will be improved by removing the elongated, channelized right-turn ingress and in lieu thereof, a conventional, right turn lane would be provided directly at the intersection. As suggested during the preliminary technical review of the proposal, the Eagle Rock Avenue access will provide an additional left-turn lane for exiting vehicles. Additional striping improvements will also be made at all existing driveways to better direct traffic in a clearer, safer and more efficient manner. With these proposed changes, the driveways will provide safe and efficient access to the site, assuming reasonable and prudent driver behavior.
- Four loading docks are proposed on the western side of the building to facilitate trailer unloading for the fulfillment center.
- As previously mentioned, the fulfillment center will have 16 on-site employees per shift. Therefore, a maximum employee parking demand of 32 occupied spaces could be experienced at shift change. Further, the vehicles associated with last mile delivery will not require designated parking spaces, as package loading will occur within the confines of the fulfillment center. Lastly, the four loading bays can be used as *defacto* parking for any trailers that may serve the property.

For the proposed expansion, 1,204 parking spaces are proposed while the Ordinance requires 1,475 spaces.

To gauge the sufficiency of the proposed supply, the 5th Edition of ITE's Parking Generation Manual was reviewed to examine empirical data collected at existing shopping centers, particularly as parking demand has been steadily declining at retail centers over the past 10-15 years even though the centers remain fully leased.

As shopping habits and patterns have changed primarily due to e-commerce, no longer are vast parking supplies needed at retail plazas, resulting in significant expanses of vacant parking – even during peak holiday seasons. As a result, both demands and parking duration have diminished resulting in more parking turnover and in turn, culminating in less required parking.

Based on the ITE data for peak demand periods, 945 spaces would be needed for the expanded plaza. The proposed supply of 1,204 spaces is 28% more than the center needs for peak day-to-day demands.

As such, the proposed on-site parking supply of 1,204 spaces will continue to offer sufficient parking spaces under peak demand periods.

PEDESTRIAN CIRCULATION

Sidewalks have been added along the entire frontage of the shopping center, with connecting walkways and crosswalks that will provide access to each of the retail buildings. The Target façade improvements include a plaza along the main access aisle near the front doors to calm traffic and promote pedestrian safety. Wide sidewalks are provided throughout the center for safe pedestrian travel and bike racks have been provided to support pedestrian utilization of the site. Pedestrian and vehicular traffic have ample separation and conflicts would be minimized.

CONCLUSIONS

In summary, from a detailed analysis of projected future traffic conditions, the proposed shopping center expansion and fulfillment center would not generate significant new traffic increases that would result in deficient operating conditions along the adjacent roadway network. The expansion will primarily result in a nominal traffic increase that will essentially replace site traffic that has diminished due to changes in shopping habits and increase in e-commerce options.

The site has been designed to accommodate pedestrians, passenger vehicles, delivery trucks, refuse trucks, and emergency vehicles. The proposed parking supply is expected to adequately accommodate anticipated demands. The plan has been prepared consistent with accepted traffic engineering and design standards by providing accessible and sufficient parking areas that will continue to adequately serve the anticipated employee and visitor demands.

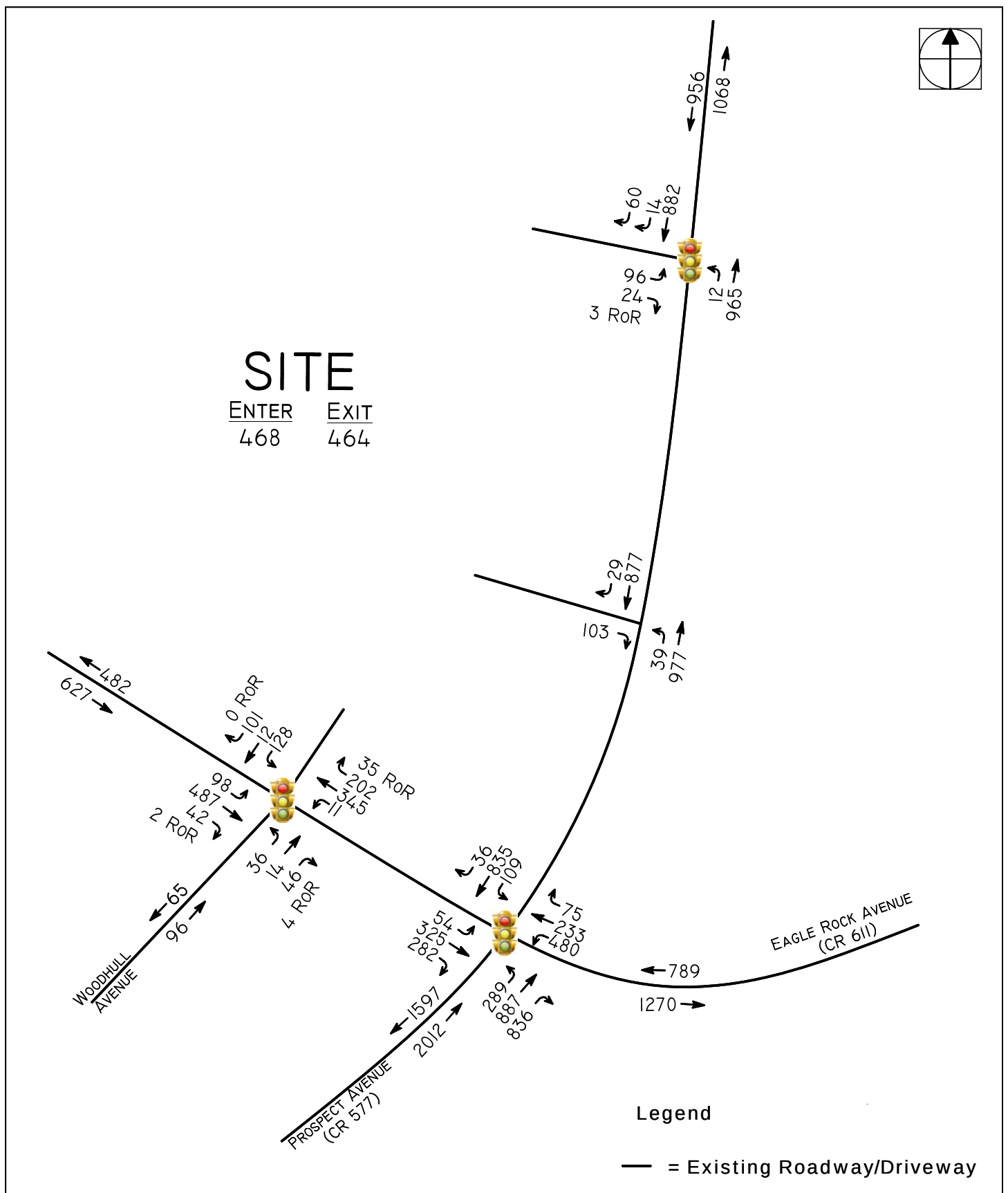


TECHNICAL APPENDIX



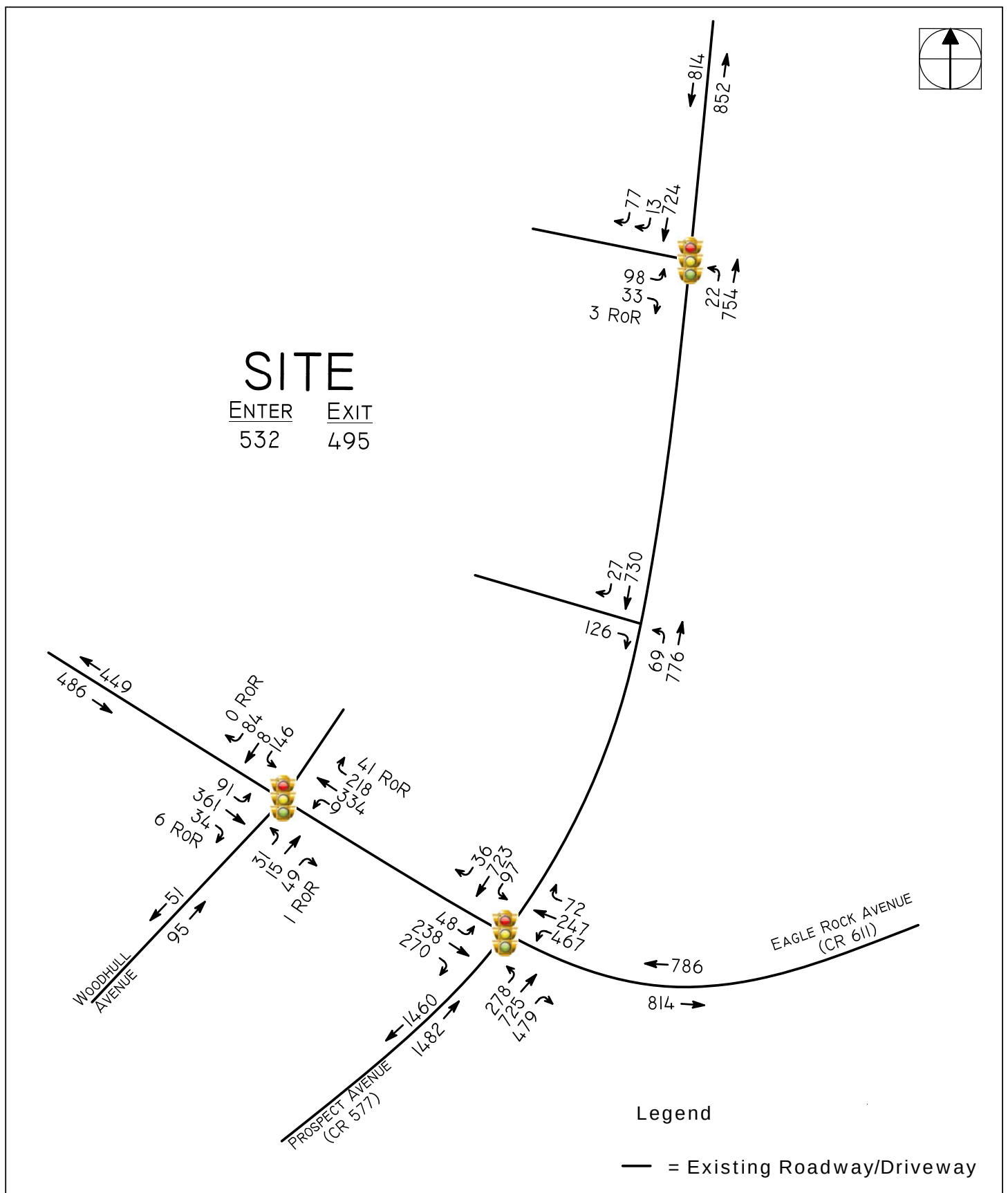
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE I



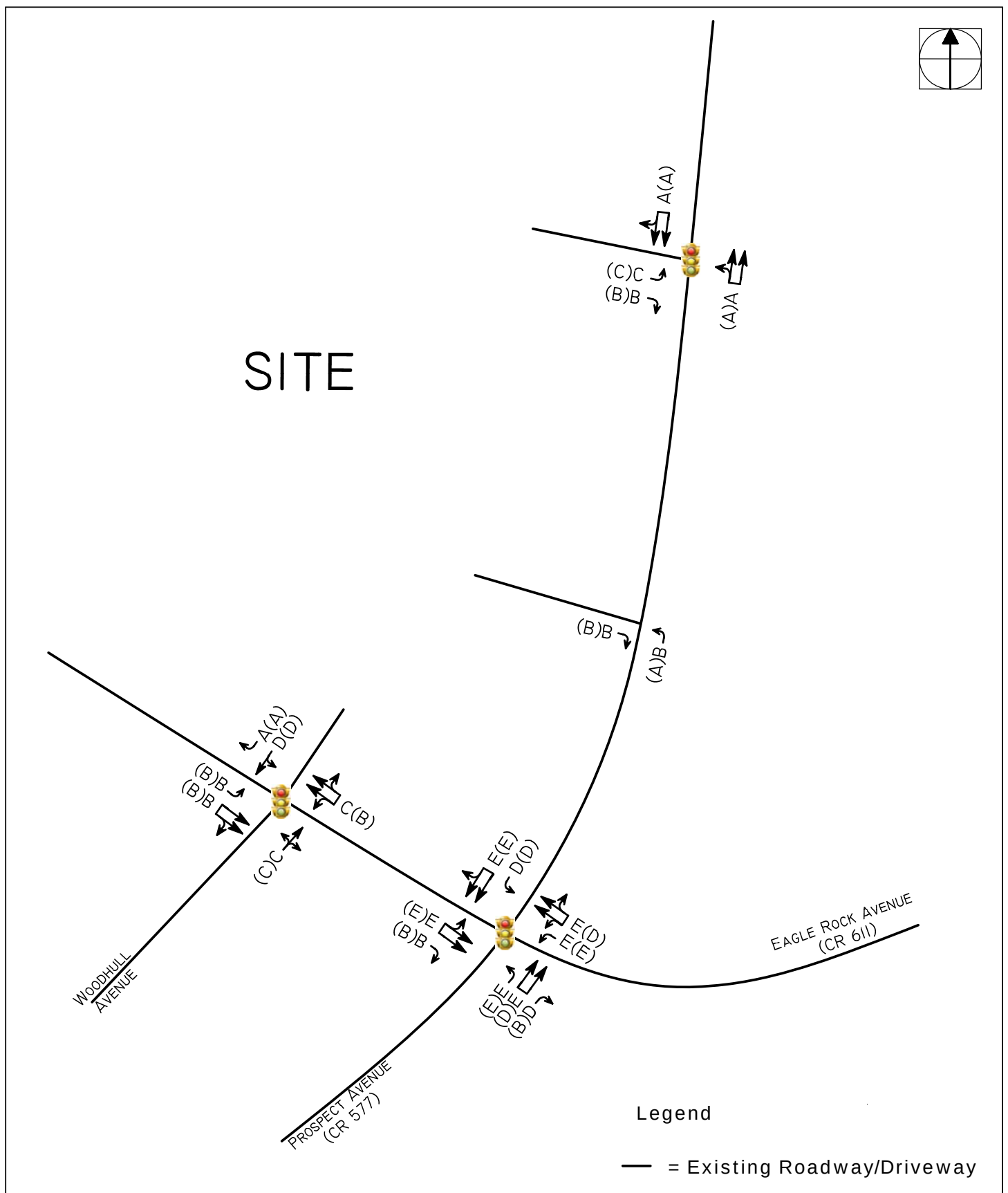
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 2



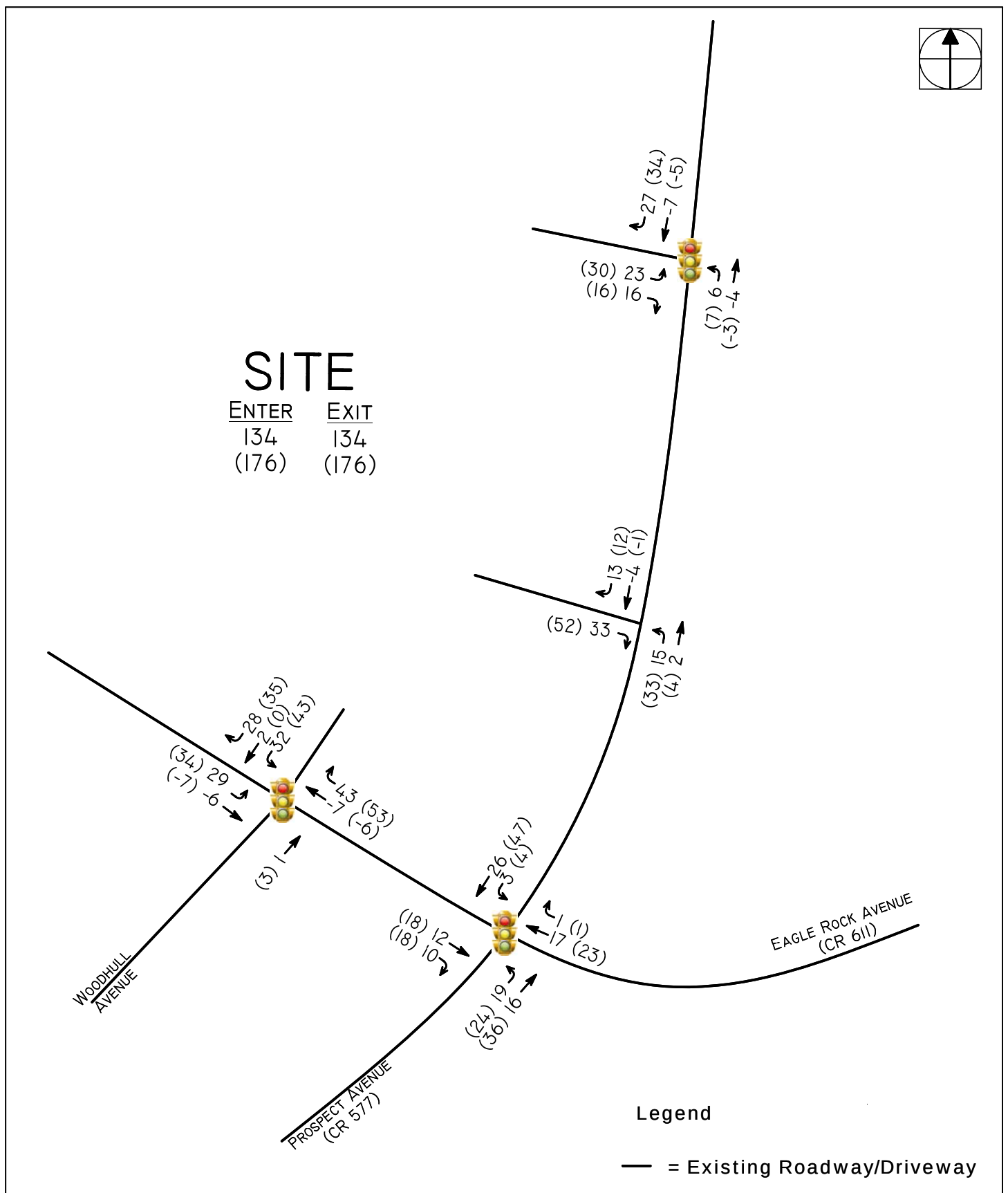
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 3



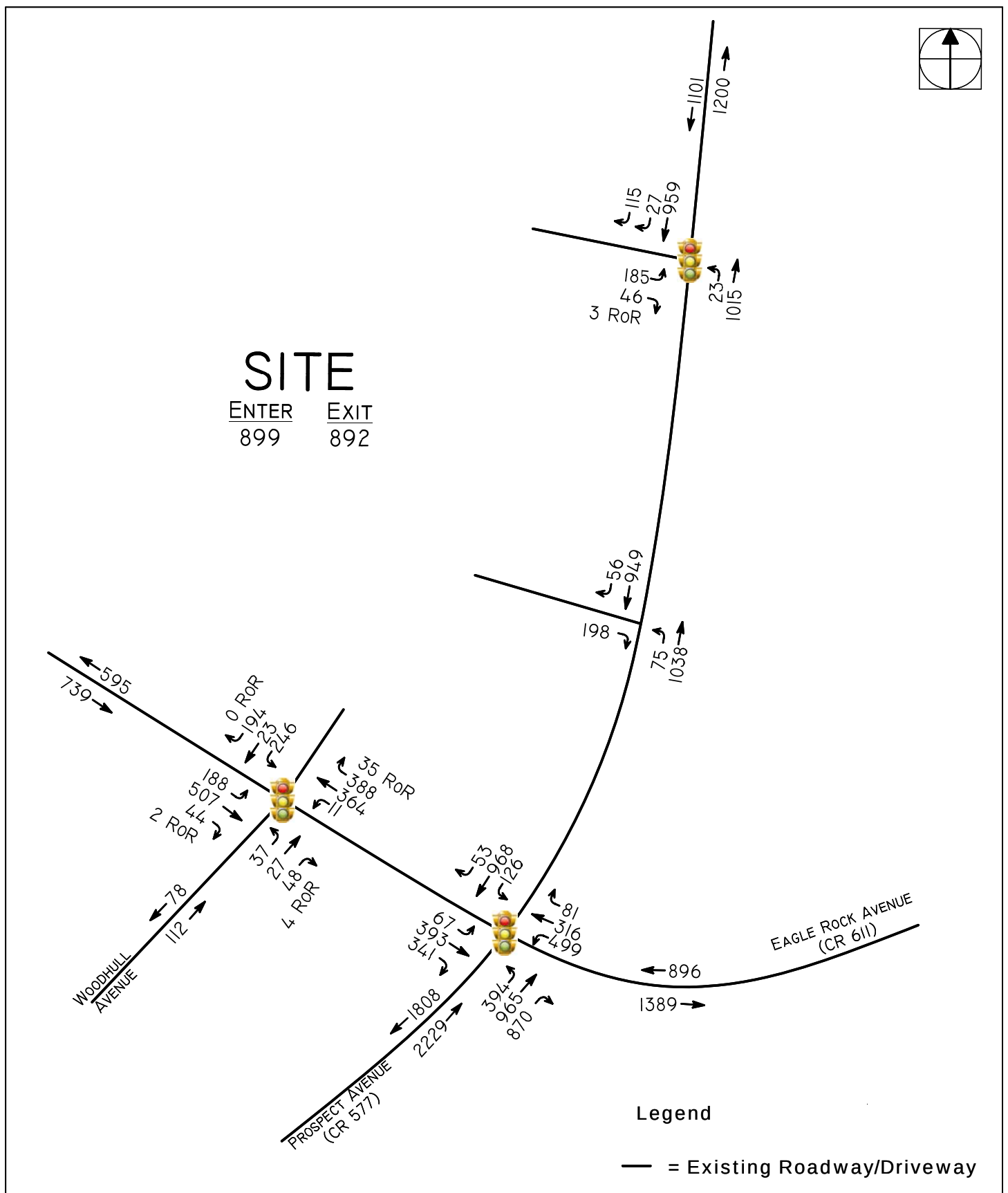
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 4



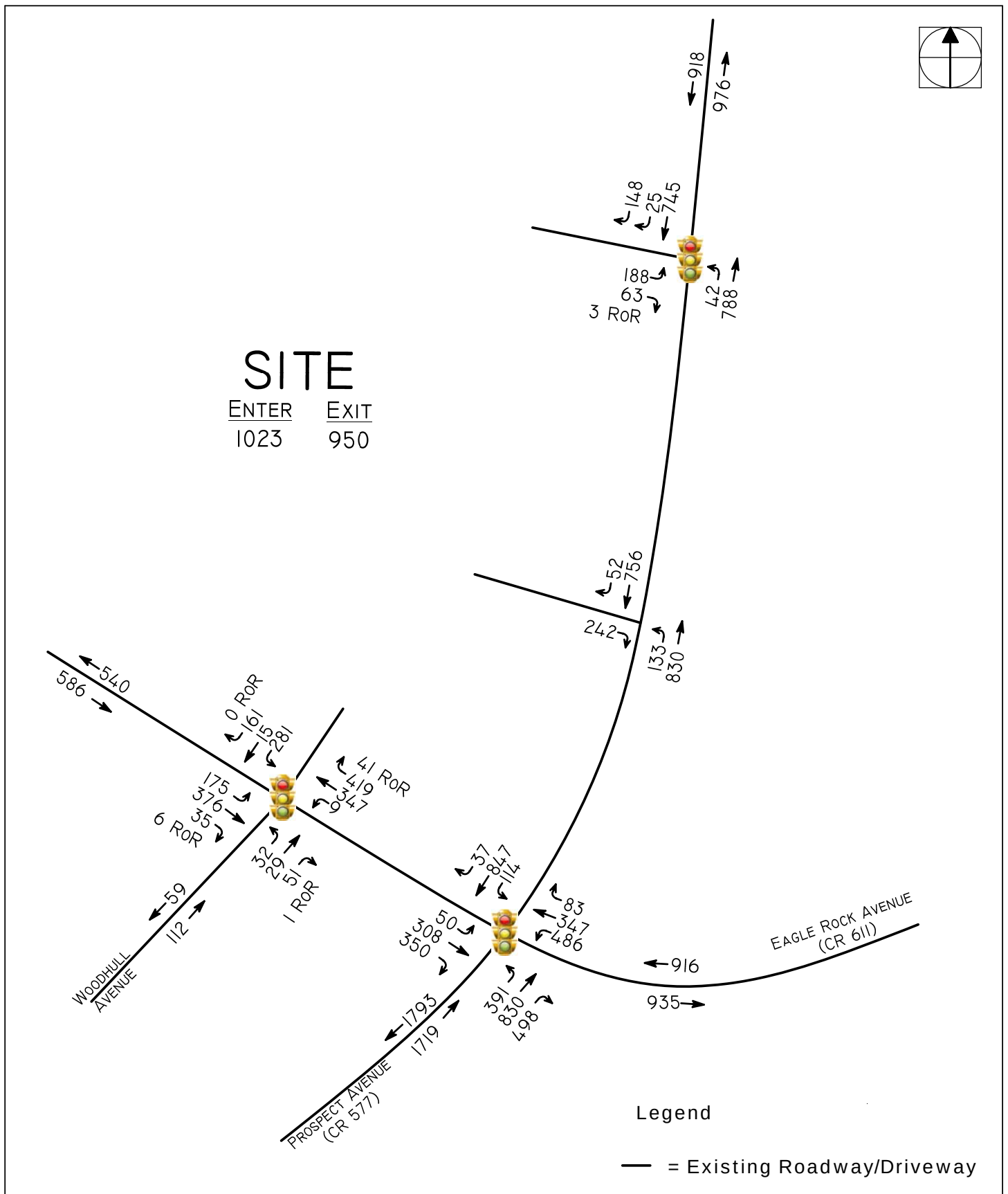
WEST ORANGE PLAZA
 TOWNSHIP OF WEST ORANGE
 ESSEX COUNTY, NEW JERSEY

FIGURE 5



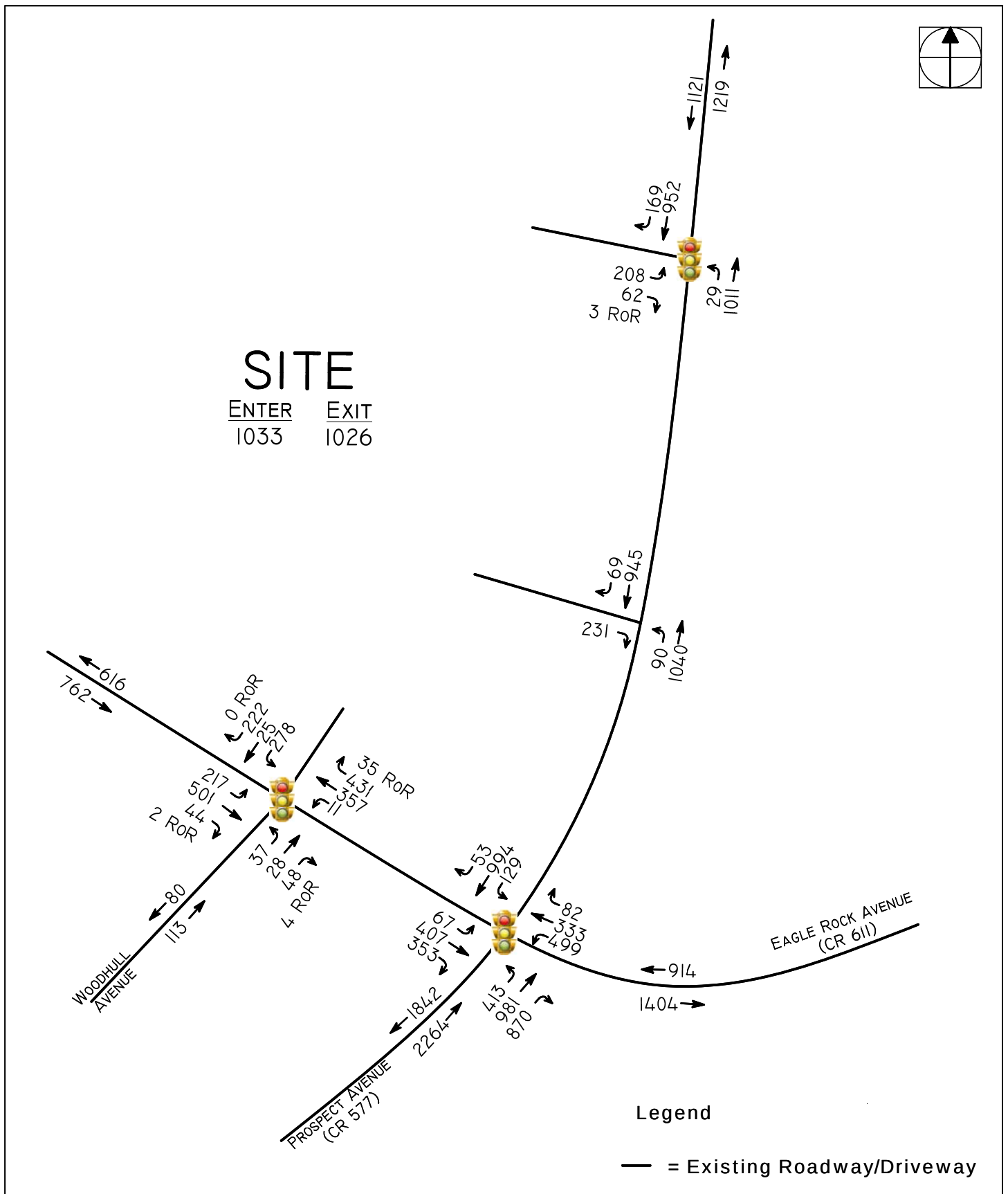
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 6



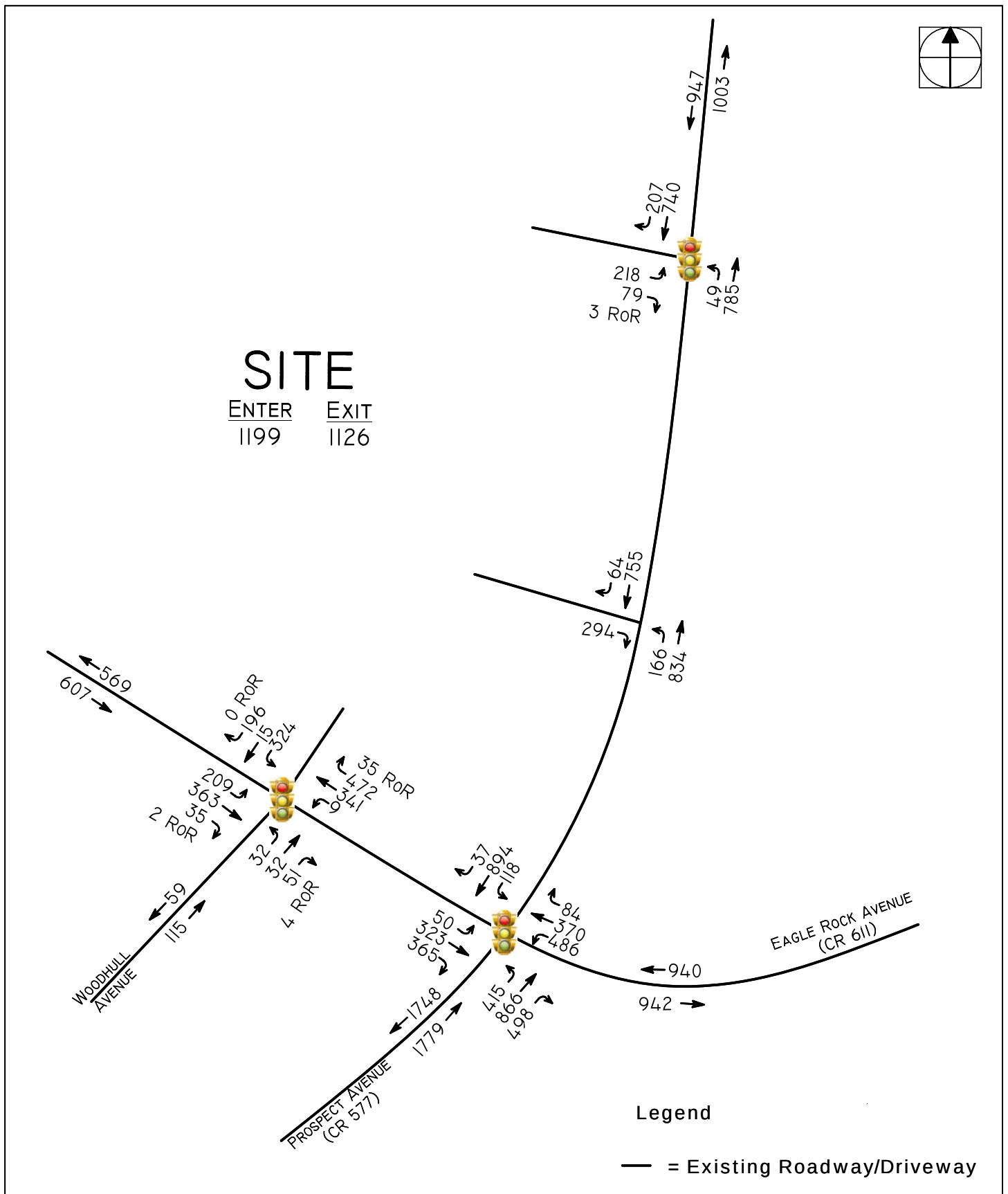
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 7



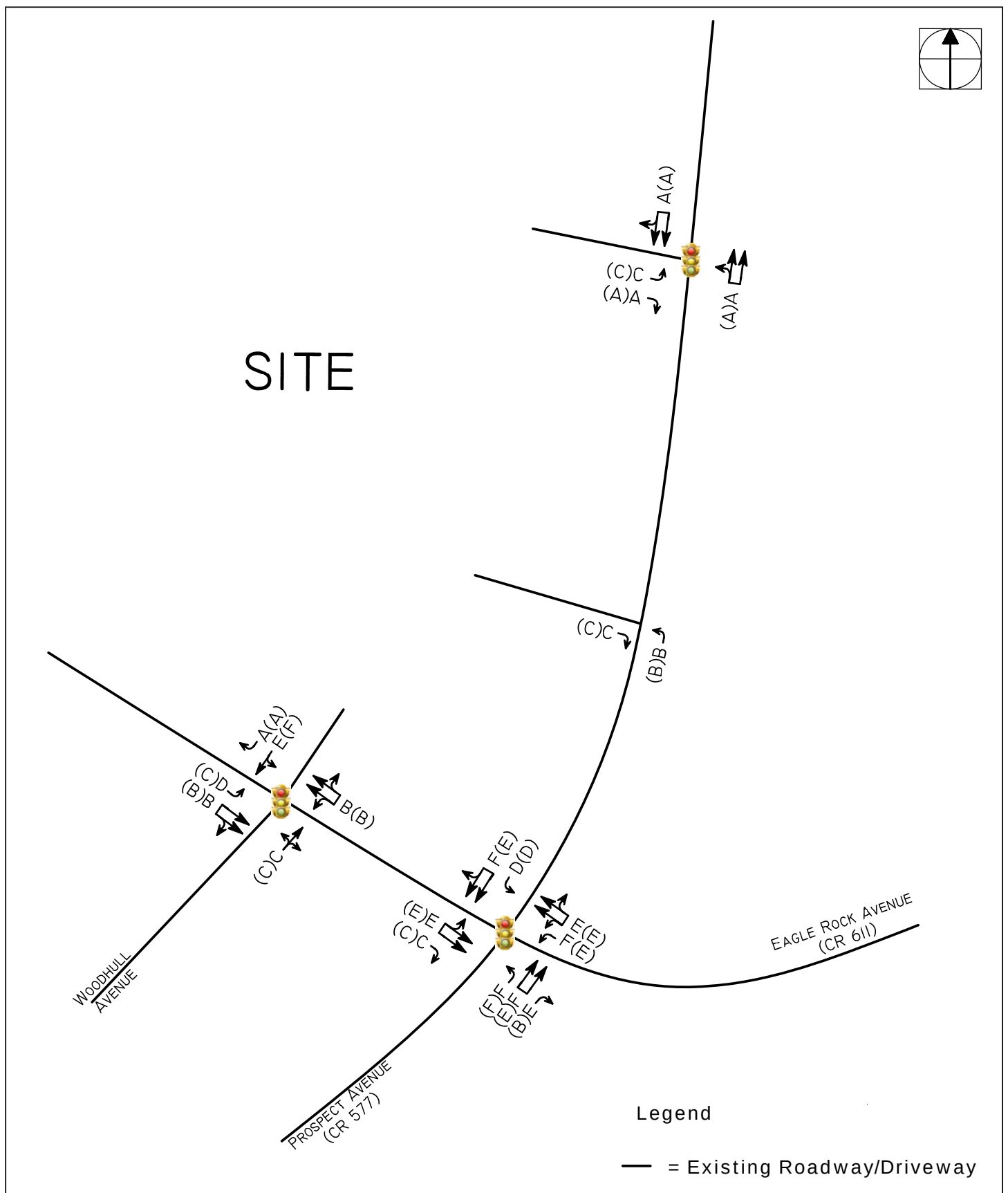
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 8



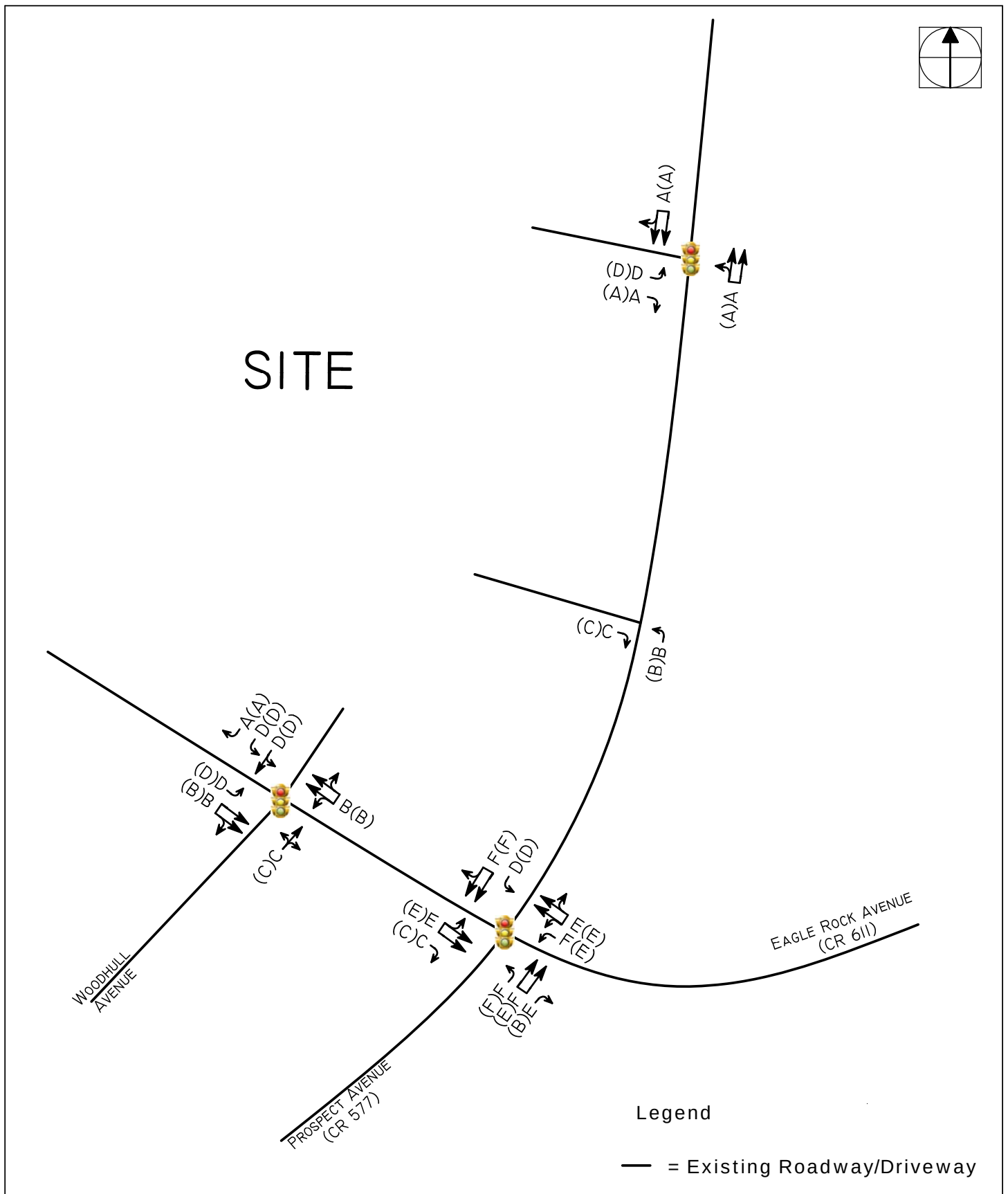
WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 9



WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE 10



WEST ORANGE PLAZA
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

FIGURE II

Pm Ex
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	325	282	480	233	75	289	887	836	109	835	36
Future Volume (vph)	54	325	282	480	233	75	289	887	836	109	835	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.978				0.850		0.994	
Flt Protected		0.993		0.950	0.980		0.950			0.950		
Satd. Flow (prot)	0	3524	1553	1626	3277	0	1787	3574	1599	1770	3521	0
Flt Permitted		0.993		0.950	0.980		0.950			0.950		
Satd. Flow (perm)	0	3524	1553	1626	3277	0	1787	3574	1599	1770	3521	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									585		3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	2%	4%	1%	1%	2%	1%	1%	1%	2%	2%	0%
Adj. Flow (vph)	55	332	288	490	238	77	295	905	853	111	852	37
Shared Lane Traffic (%)				45%								
Lane Group Flow (vph)	0	387	288	269	536	0	295	905	853	111	889	0
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4						2			
Detector Phase	4	4	5	8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	13.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	40.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	30.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	34.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	C-Max	Max	Max	
Act Effect Green (s)		19.2	50.3	25.7	25.7		29.1	34.0	34.0	29.1	34.0	
Actuated g/C Ratio		0.15	0.39	0.20	0.20		0.22	0.26	0.26	0.22	0.26	
v/c Ratio		0.74	0.48	0.84	0.83		0.74	0.97	1.00	0.28	0.96	
Control Delay		62.0	18.3	72.8	61.9		60.1	70.3	47.2	41.8	76.9	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		62.0	18.3	72.8	61.9		60.1	70.3	47.2	41.8	76.9	
LOS		E	B	E	E		E	E	D	D	E	
Approach Delay		43.4			65.5			59.3			73.0	

Pm Ex
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			E			E		
Queue Length 50th (ft)		166	93	235	233		240	398	~313	69	418	
Queue Length 95th (ft)		215	138	#410	#333		#387	#535	#612	113	#539	
Internal Link Dist (ft)		275			1215			488			505	
Turn Bay Length (ft)				500					200	170		
Base Capacity (vph)		623	601	329	663		400	934	850	396	923	
Starvation Cap Reductn		0	4	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.62	0.48	0.82	0.81		0.74	0.97	1.00	0.28	0.96	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 61.0

Intersection LOS: E

Intersection Capacity Utilization 84.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: prospect & eagle rock

					
Ø1	Ø2 (R)		Ø4	Ø8	
30 s	40 s		29 s	31 s	
					
Ø5	Ø6				
30 s	40 s				

Pm Ex
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings

Pm Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	487	42	11	345	202	36	14	46	128	12	101
Future Volume (vph)	98	487	42	11	345	202	36	14	46	128	12	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.946			0.936				0.850
Flt Protected	0.950				0.999			0.982			0.956	
Satd. Flow (prot)	1805	3440	0	0	3391	0	0	1727	0	0	1800	1599
Flt Permitted	0.241				0.937			0.982			0.956	
Satd. Flow (perm)	458	3440	0	0	3180	0	0	1727	0	0	1800	1599
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		18			181							187
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	4%	0%	0%	1%	0%	3%	0%	0%	1%	0%	1%
Adj. Flow (vph)	102	507	44	11	359	210	38	15	48	133	13	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	551	0	0	580	0	0	101	0	0	146	105
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.0			6.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effect Green (s)	26.1	24.1			16.2			19.7			10.2	10.2
Actuated g/C Ratio	0.37	0.34			0.23			0.28			0.15	0.15
v/c Ratio	0.36	0.46			0.66			0.21			0.56	0.27
Control Delay	16.1	17.6			19.9			24.8			36.0	2.2
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	16.1	17.6			19.9			24.8			36.0	2.2
LOS	B	B			B			C			D	A
Approach Delay		17.4			19.9			24.8			21.8	

Pm Ex
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings
Pm Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	27	88			81			35			59	0
Queue Length 95th (ft)	48	112			116			82			110	6
Internal Link Dist (ft)		514			275			218			157	
Turn Bay Length (ft)	200											
Base Capacity (vph)	283	1729			1294			485			308	429
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.36	0.32			0.45			0.21			0.47	0.24

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 19.5

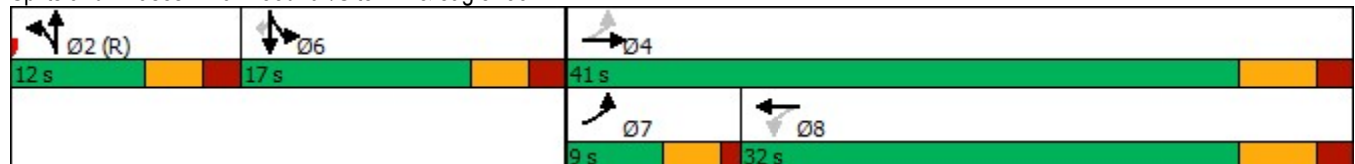
Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: woodhull/Site Dw & eagle rock



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	96	24	12	965	882	14
Future Volume (vph)	96	24	12	965	882	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.998	
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1805	1615	0	3571	3529	0
Flt Permitted	0.950			0.941		
Satd. Flow (perm)	1805	1615	0	3364	3529	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		26			3	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	2%	7%
Adj. Flow (vph)	102	26	13	1027	938	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	26	0	1040	953	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	9.0	9.0		48.4	48.4	
Actuated g/C Ratio	0.14	0.14		0.74	0.74	
v/c Ratio	0.41	0.11		0.42	0.36	
Control Delay	29.8	11.0		4.7	4.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.8	11.0		4.7	4.6	
LOS	C	B		A	A	
Approach Delay	26.0			4.7	4.6	
Approach LOS	C			A	A	
Queue Length 50th (ft)	38	0		72	66	
Queue Length 95th (ft)	74	18		m98	114	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	332			487	418	
Turn Bay Length (ft)						
Base Capacity (vph)	361	343		2502	2626	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.28	0.08		0.42	0.36	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 26 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 6.0

Intersection LOS: A

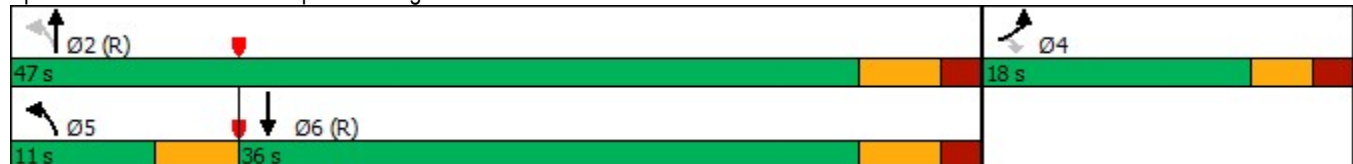
Intersection Capacity Utilization 49.6%

ICU Level of Service A

Analysis Period (min) 15

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

Splits and Phases: 10: Prospect & n. signal access



Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	103	39	977	877	29
Future Vol, veh/h	0	103	39	977	877	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	6	2	3
Mvmt Flow	0	108	41	1028	923	31
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	477	954	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	540	729	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	540	729	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.3	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	729	-	540	-	-	
HCM Lane V/C Ratio	0.056	-	0.201	-	-	
HCM Control Delay (s)	10.2	-	13.3	-	-	
HCM Lane LOS	B	-	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-	

Sat Ex
3: prospect & eagle rock

Lanes, Volumes, Timings

Sat Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	238	270	467	247	72	278	725	479	97	723	36
Future Volume (vph)	48	238	270	467	247	72	278	725	479	97	723	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.979				0.850		0.993	
Flt Protected		0.992		0.950	0.981		0.950			0.950		
Satd. Flow (prot)	0	3581	1599	1595	3282	0	1787	3574	1599	1805	3518	0
Flt Permitted		0.992		0.950	0.981		0.950			0.950		
Satd. Flow (perm)	0	3581	1599	1595	3282	0	1787	3574	1599	1805	3518	0
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												4
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	1%	3%	0%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	48	240	273	472	249	73	281	732	484	98	730	36
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	288	273	264	530	0	281	732	484	98	766	0
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)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	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	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4	5	8	8		5	2	8	1	6	

Sat Ex
3: prospect & eagle rock

Lanes, Volumes, Timings
Sat Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4				2							
Detector Phase	4	4	5	8	8		5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	5.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	31.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	31.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	23.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	25.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag	Lead				Lead				Lag	Lead		
Lead-Lag Optimize?	Yes				Yes				Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	None	Max	Max	
Act Effect Green (s)		15.7	47.2	28.8	28.8		29.4	34.0	62.8	29.4	34.0	
Actuated g/C Ratio		0.12	0.36	0.22	0.22		0.23	0.26	0.48	0.23	0.26	
v/c Ratio		0.67	0.47	0.75	0.73		0.70	0.78	0.63	0.24	0.83	
Control Delay		62.1	19.2	61.0	53.4		57.6	51.5	16.9	41.6	61.9	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		62.1	19.3	61.0	53.4		57.6	51.5	16.9	41.6	61.9	
LOS		E	B	E	D		E	D	B	D	E	
Approach Delay		41.3			55.9			41.5			59.6	
Approach LOS		D			E			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 48.7

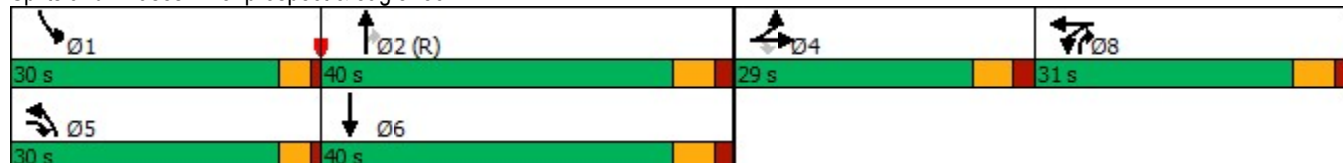
Intersection LOS: D

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: prospect & eagle rock



Sat Ex
6: woodhull/site & eagle rock

Lanes, Volumes, Timings
Sat Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	361	34	9	334	218	31	15	49	146	8	84
Future Volume (vph)	91	361	34	9	334	218	31	15	49	146	8	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.942			0.930				0.850
Flt Protected	0.950				0.999			0.984			0.955	
Satd. Flow (prot)	1805	3531	0	0	3371	0	0	1721	0	0	1797	1615
Flt Permitted	0.212				0.943			0.984			0.955	
Satd. Flow (perm)	403	3531	0	0	3182	0	0	1721	0	0	1797	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		20			231							187
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	0%	11%	1%	0%	0%	0%	2%	1%	0%	0%
Adj. Flow (vph)	98	388	37	10	359	234	33	16	53	157	9	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	425	0	0	603	0	0	102	0	0	166	90
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)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	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	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	0.0
Detector 1 Queue (s)	0.0	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	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	

Sat Ex
6: woodhull/site & eagle rock

Lanes, Volumes, Timings
Sat Ex

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.0			6.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effect Green (s)	25.1	23.1			15.4			20.3			10.5	10.5
Actuated g/C Ratio	0.36	0.33			0.22			0.29			0.15	0.15
v/c Ratio	0.38	0.36			0.69			0.20			0.61	0.22
Control Delay	17.1	16.6			18.8			24.5			37.9	1.3
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	17.1	16.6			18.8			24.5			37.9	1.3
LOS	B	B			B			C			D	A
Approach Delay		16.7			18.8			24.5			25.0	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 19.5

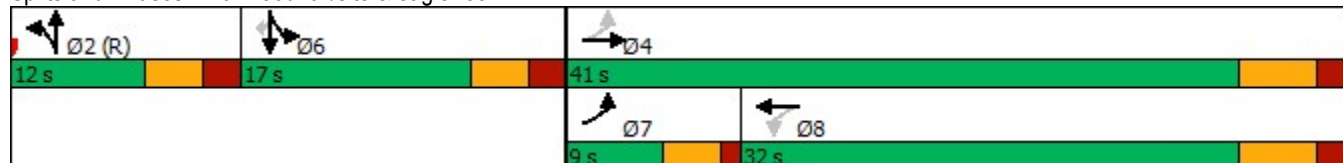
Intersection LOS: B

Intersection Capacity Utilization 56.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: woodhull/site & eagle rock





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	98	33	22	754	724	13
Future Volume (vph)	98	33	22	754	724	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr't		0.850			0.997	
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1787	1568	0	3572	3530	0
Flt Permitted	0.950			0.924		
Satd. Flow (perm)	1787	1568	0	3304	3530	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35			4	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	3%	0%	1%	2%	0%
Adj. Flow (vph)	103	35	23	794	762	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	35	0	817	776	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
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	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	9.0	9.0		48.3	48.3	
Actuated g/C Ratio	0.14	0.14		0.74	0.74	
v/c Ratio	0.42	0.14		0.33	0.30	
Control Delay	30.0	10.2		1.6	4.3	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	30.0	10.2		1.6	4.3	
LOS	C	B		A	A	
Approach Delay	25.0			1.6	4.3	
Approach LOS	C			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 26 (40%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 4.7

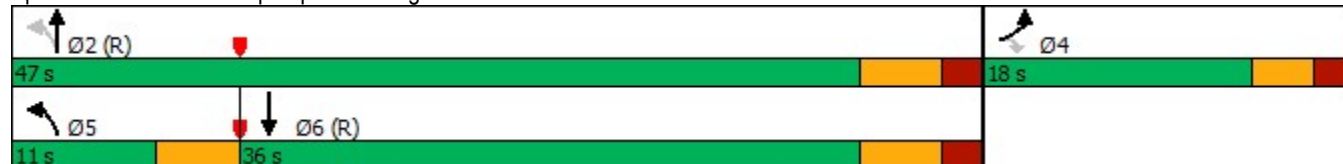
Intersection LOS: A

Intersection Capacity Utilization 51.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: prospect & n. sig access



Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	126	69	776	730	27
Future Vol, veh/h	0	126	69	776	730	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	131	72	808	760	28
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	394	788	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	611	840	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	611	840	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.5	0.8		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	840	-	611	-	-	
HCM Lane V/C Ratio	0.086	-	0.215	-	-	
HCM Control Delay (s)	9.7	-	12.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.8	-	-	

Pm NoBuild
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm NoBuild

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	393	341	499	316	81	394	965	870	126	968	53
Future Volume (vph)	67	393	341	499	316	81	394	965	870	126	968	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.980				0.850		0.992	
Flt Protected		0.993		0.950	0.984		0.950			0.950		
Satd. Flow (prot)	0	3524	1553	1626	3297	0	1787	3574	1599	1770	3514	0
Flt Permitted		0.993		0.950	0.984		0.950			0.950		
Satd. Flow (perm)	0	3524	1553	1626	3297	0	1787	3574	1599	1770	3514	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									552		4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	2%	4%	1%	1%	2%	1%	1%	1%	2%	2%	0%
Adj. Flow (vph)	68	401	348	509	322	83	402	985	888	129	988	54
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	469	348	305	609	0	402	985	888	129	1042	0
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4						2			
Detector Phase	4	4	5	8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	13.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	40.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	30.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	34.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	C-Max	Max	Max	
Act Effect Green (s)		21.3	49.8	26.2	26.2		26.5	34.0	34.0	26.5	34.0	
Actuated g/C Ratio		0.16	0.38	0.20	0.20		0.20	0.26	0.26	0.20	0.26	
v/c Ratio		0.81	0.58	0.93	0.92		1.10	1.05	1.08	0.36	1.13	
Control Delay		64.3	20.5	86.8	70.8		125.5	90.9	71.7	43.8	121.8	
Queue Delay		0.2	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		64.6	20.5	86.8	70.8		125.5	90.9	71.7	43.8	121.8	
LOS		E	C	F	E		F	F	E	D	F	
Approach Delay		45.8			76.2			89.5			113.2	

Pm NoBuild
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm NoBuild

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			F			F		
Queue Length 50th (ft)		200	119	283	282		~391	~476	~465	81	~547	
Queue Length 95th (ft)		261	172	#487	#407		#594	#611	#720	129	#687	
Internal Link Dist (ft)		275			1215			488			505	
Turn Bay Length (ft)				500					200	170		
Base Capacity (vph)		623	595	327	664		364	934	825	361	922	
Starvation Cap Reductn		11	4	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.77	0.59	0.93	0.92		1.10	1.05	1.08	0.36	1.13	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 85.6

Intersection LOS: F

Intersection Capacity Utilization 98.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: prospect & eagle rock

			
Ø1	Ø2 (R)	Ø4	Ø8
30 s	40 s	29 s	31 s
			
Ø5	Ø6		
30 s	40 s		

Pm NoBuild
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings

Pm NoBuild

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	507	44	11	364	388	37	27	48	246	23	194
Future Volume (vph)	188	507	44	11	364	388	37	27	48	246	23	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.924			0.942				0.850
Flt Protected	0.950				0.999			0.984			0.956	
Satd. Flow (prot)	1805	3440	0	0	3316	0	0	1744	0	0	1800	1599
Flt Permitted	0.184				0.942			0.984			0.956	
Satd. Flow (perm)	350	3440	0	0	3127	0	0	1744	0	0	1800	1599
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		18			404							202
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	4%	0%	0%	1%	0%	3%	0%	0%	1%	0%	1%
Adj. Flow (vph)	196	528	46	11	379	404	39	28	50	256	24	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	574	0	0	794	0	0	117	0	0	280	202
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.0			6.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effct Green (s)	28.7	26.7			17.7			15.3			12.0	12.0
Actuated g/C Ratio	0.41	0.38			0.25			0.22			0.17	0.17
v/c Ratio	0.79	0.43			0.73			0.31			0.91	0.46
Control Delay	37.8	15.8			14.8			29.6			64.4	8.2
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	37.8	15.8			14.8			29.6			64.4	8.2
LOS	D	B			B			C			E	A
Approach Delay		21.4			14.8			29.6			40.9	

Pm NoBuild
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings
Pm NoBuild

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			C			D		
Queue Length 50th (ft)	54	90			76			43			120	0
Queue Length 95th (ft)	#96	104			114			#115			#252	52
Internal Link Dist (ft)		514			275			218			157	
Turn Bay Length (ft)	200											
Base Capacity (vph)	247	1729			1415			381			308	441
Starvation Cap Reductn	0	0			0			0			0	0
Spillback Cap Reductn	0	0			0			0			0	0
Storage Cap Reductn	0	0			0			0			0	0
Reduced v/c Ratio	0.79	0.33			0.56			0.31			0.91	0.46

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 23.7

Intersection LOS: C

Intersection Capacity Utilization 73.9%

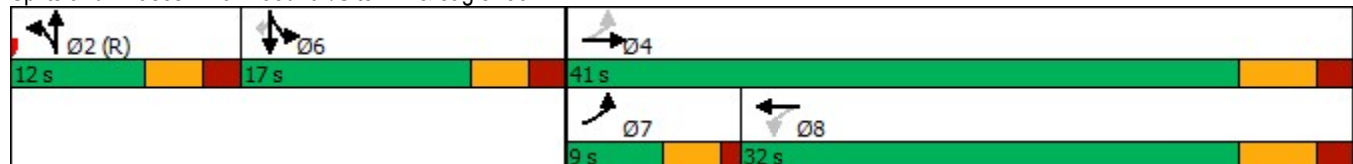
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: woodhull/Site Dw & eagle rock



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	185	46	23	1015	959	27
Future Volume (vph)	185	46	23	1015	959	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.996	
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1805	1615	0	3571	3520	0
Flt Permitted	0.950			0.918		
Satd. Flow (perm)	1805	1615	0	3282	3520	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		49			6	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	2%	7%
Adj. Flow (vph)	197	49	24	1080	1020	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	197	49	0	1104	1049	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	11.2	11.2		42.8	42.8	
Actuated g/C Ratio	0.17	0.17		0.66	0.66	
v/c Ratio	0.63	0.15		0.51	0.45	
Control Delay	34.2	8.7		7.1	6.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	34.2	8.7		7.1	6.4	
LOS	C	A		A	A	
Approach Delay	29.1			7.1	6.4	
Approach LOS	C			A	A	
Queue Length 50th (ft)	72	0		117	93	
Queue Length 95th (ft)	130	24		m99	135	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	332			487	418	
Turn Bay Length (ft)						
Base Capacity (vph)	361	362		2159	2317	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.55	0.14		0.51	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 26 (40%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 9.1

Intersection LOS: A

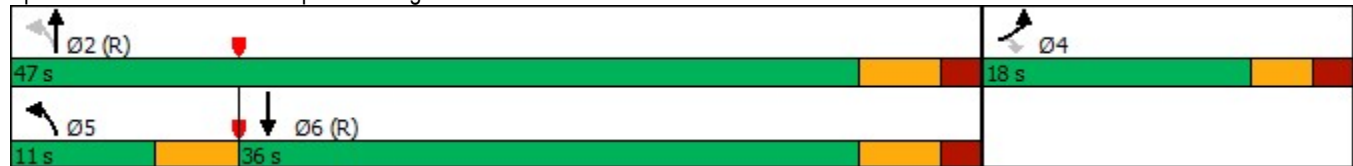
Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 10: Prospect & n. signal access



Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↗↖	↗↖	
Traffic Vol, veh/h	0	198	75	1038	949	56
Future Vol, veh/h	0	198	75	1038	949	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	6	2	3
Mvmt Flow	0	208	79	1093	999	59
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	529	1058	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	499	666	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	499	666	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.3	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	666	-	499	-	-	
HCM Lane V/C Ratio	0.119	-	0.418	-	-	
HCM Control Delay (s)	11.1	-	17.3	-	-	
HCM Lane LOS	B	-	C	-	-	
HCM 95th %tile Q(veh)	0.4	-	2	-	-	

Sat Nb
3: prospect & eagle rock

Lanes, Volumes, Timings
Sat Nb

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	308	350	486	347	83	391	830	498	114	847	37
Future Volume (vph)	50	308	350	486	347	83	391	830	498	114	847	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.980				0.850		0.994	
Flt Protected		0.993		0.950	0.985		0.950			0.950		
Satd. Flow (prot)	0	3585	1599	1595	3308	0	1787	3574	1599	1805	3521	0
Flt Permitted		0.993		0.950	0.985		0.950			0.950		
Satd. Flow (perm)	0	3585	1599	1595	3308	0	1787	3574	1599	1805	3521	0
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												3
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	1%	3%	0%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	51	311	354	491	351	84	395	838	503	115	856	37
Shared Lane Traffic (%)				38%								
Lane Group Flow (vph)	0	362	354	304	622	0	395	838	503	115	893	0
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)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	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	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4	5	8	8		5	2	8	1	6	

Sat Nb
3: prospect & eagle rock

Lanes, Volumes, Timings
Sat Nb

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4				2							
Detector Phase	4	4	5	8	8		5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	5.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	31.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	31.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	23.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	25.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag	Lead				Lead				Lag	Lead		
Lead-Lag Optimize?	Yes				Yes				Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	None	Max	Max	
Act Effect Green (s)		18.4	46.7	29.3	29.3		26.3	34.0	63.3	26.3	34.0	
Actuated g/C Ratio		0.14	0.36	0.23	0.23		0.20	0.26	0.49	0.20	0.26	
v/c Ratio		0.72	0.62	0.85	0.83		1.09	0.90	0.65	0.32	0.97	
Control Delay		61.3	22.2	70.3	59.3		122.7	59.7	17.4	43.8	77.2	
Queue Delay		0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		61.3	22.3	70.3	59.3		122.7	59.7	17.4	43.8	77.2	
LOS		E	C	E	E		F	E	B	D	E	
Approach Delay		42.0			62.9			61.8			73.4	
Approach LOS		D			E			E			E	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 61.4

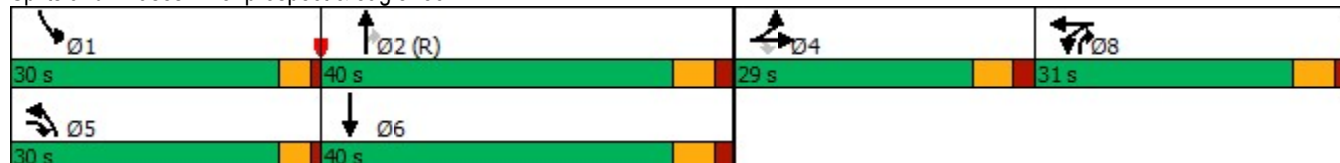
Intersection LOS: E

Intersection Capacity Utilization 92.1%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: prospect & eagle rock



Sat Nb
6: woodhull/site & eagle rock

Lanes, Volumes, Timings
Sat Nb

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	376	35	9	347	419	32	29	51	281	15	161
Future Volume (vph)	175	376	35	9	347	419	32	29	51	281	15	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.919			0.938				0.850
Flt Protected	0.950				0.999			0.986			0.955	
Satd. Flow (prot)	1805	3531	0	0	3295	0	0	1741	0	0	1797	1615
Flt Permitted	0.183				0.946			0.986			0.955	
Satd. Flow (perm)	348	3531	0	0	3120	0	0	1741	0	0	1797	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		20			451							187
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	0%	11%	1%	0%	0%	0%	2%	1%	0%	0%
Adj. Flow (vph)	188	404	38	10	373	451	34	31	55	302	16	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	442	0	0	834	0	0	120	0	0	318	173
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)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	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	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	0.0
Detector 1 Queue (s)	0.0	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	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	

Sat Nb
6: woodhull/site & eagle rock

Lanes, Volumes, Timings
Sat Nb

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	0.0
Total Lost Time (s)	4.0	6.0			6.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effect Green (s)	28.8	26.8			17.8			15.2			12.0	12.0
Actuated g/C Ratio	0.41	0.38			0.25			0.22			0.17	0.17
v/c Ratio	0.76	0.32			0.74			0.32			1.03	0.40
Control Delay	33.9	14.2			14.1			30.9			92.5	7.0
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	33.9	14.2			14.1			30.9			92.5	7.0
LOS	C	B			B			C			F	A
Approach Delay		20.1			14.1			30.9			62.4	
Approach LOS		C			B			C			E	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 28.3

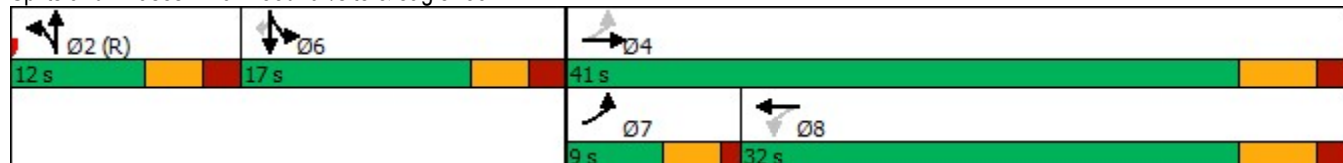
Intersection LOS: C

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: woodhull/site & eagle rock



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	188	63	42	788	745	25
Future Volume (vph)	188	63	42	788	745	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr't		0.850			0.995	
Flt Protected	0.950			0.997		
Satd. Flow (prot)	1787	1568	0	3565	3524	0
Flt Permitted	0.950			0.880		
Satd. Flow (perm)	1787	1568	0	3147	3524	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		66			7	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	3%	0%	1%	2%	0%
Adj. Flow (vph)	198	66	44	829	784	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	66	0	873	810	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
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	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	11.3	11.3		42.7	42.7	
Actuated g/C Ratio	0.17	0.17		0.66	0.66	
v/c Ratio	0.64	0.20		0.42	0.35	
Control Delay	34.6	8.4		3.0	5.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	34.6	8.4		3.0	5.7	
LOS	C	A		A	A	
Approach Delay	28.0			3.0	5.7	
Approach LOS	C			A	A	

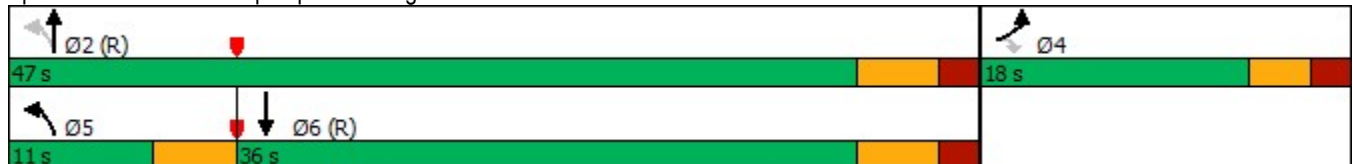
Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 26 (40%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 7.5
Intersection Capacity Utilization 69.0%
Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 10: prospect & n. sig access



Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↗↗	↘↘	
Traffic Vol, veh/h	0	242	133	830	756	52
Future Vol, veh/h	0	242	133	830	756	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	252	139	865	788	54
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	421	842	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	587	802	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	587	802	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.7	1.4		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	802	-	587	-	-	
HCM Lane V/C Ratio	0.173	-	0.429	-	-	
HCM Control Delay (s)	10.4	-	15.7	-	-	
HCM Lane LOS	B	-	C	-	-	
HCM 95th %tile Q(veh)	0.6	-	2.1	-	-	

Pm Build
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	407	353	499	333	82	413	981	870	129	994	53
Future Volume (vph)	67	407	353	499	333	82	413	981	870	129	994	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.980				0.850		0.992	
Flt Protected		0.993		0.950	0.984		0.950			0.950		
Satd. Flow (prot)	0	3524	1553	1626	3297	0	1787	3574	1599	1770	3514	0
Flt Permitted		0.993		0.950	0.984		0.950			0.950		
Satd. Flow (perm)	0	3524	1553	1626	3297	0	1787	3574	1599	1770	3514	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									547		4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	2%	4%	1%	1%	2%	1%	1%	1%	2%	2%	0%
Adj. Flow (vph)	68	415	360	509	340	84	421	1001	888	132	1014	54
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	0	483	360	310	623	0	421	1001	888	132	1068	0
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4						2			
Detector Phase	4	4	5	8	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	13.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	40.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	30.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	34.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	C-Max	Max	Max	
Act Effect Green (s)		21.5	49.5	26.5	26.5		26.0	34.0	34.0	26.0	34.0	
Actuated g/C Ratio		0.17	0.38	0.20	0.20		0.20	0.26	0.26	0.20	0.26	
v/c Ratio		0.83	0.61	0.94	0.93		1.18	1.07	1.08	0.37	1.16	
Control Delay		65.3	21.2	87.2	72.0		151.0	96.1	73.4	44.2	130.9	
Queue Delay		0.3	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		65.6	21.2	87.2	72.0		151.0	96.1	73.4	44.2	130.9	
LOS		E	C	F	E		F	F	E	D	F	
Approach Delay		46.7			77.0			97.4			121.4	

Pm Build
3: prospect & eagle rock

Lanes, Volumes, Timings
Pm Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			E			F			F		
Queue Length 50th (ft)		206	124	289	290		~424	~491	~472	83	~572	
Queue Length 95th (ft)		270	179	#500	#421		#631	#627	#726	134	#712	
Internal Link Dist (ft)		275			1215			488			505	
Turn Bay Length (ft)				500					200	170		
Base Capacity (vph)		623	591	331	672		357	934	822	354	922	
Starvation Cap Reductn		11	4	0	0		0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0		0	0	0	0	0	
Storage Cap Reductn		0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio		0.79	0.61	0.94	0.93		1.18	1.07	1.08	0.37	1.16	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 91.1

Intersection LOS: F

Intersection Capacity Utilization 101.1%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: prospect & eagle rock

			
Ø1	Ø2 (R)	Ø4	Ø8
30 s	40 s	29 s	31 s
			
Ø5	Ø6		
30 s	40 s		

Pm Build
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings
Pm Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	501	44	11	357	431	37	28	48	278	25	222
Future Volume (vph)	217	501	44	11	357	431	37	28	48	278	25	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.988			0.919			0.943				0.850
Flt Protected	0.950				0.999			0.984		0.950	0.960	
Satd. Flow (prot)	1805	3440	0	0	3300	0	0	1746	0	1698	1718	1599
Flt Permitted	0.183				0.943			0.984		0.950	0.960	
Satd. Flow (perm)	348	3440	0	0	3115	0	0	1746	0	1698	1718	1599
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		19			449							231
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	4%	0%	0%	1%	0%	3%	0%	0%	1%	0%	1%
Adj. Flow (vph)	226	522	46	11	372	449	39	29	50	290	26	231
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	226	568	0	0	832	0	0	118	0	157	159	231
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
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			5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effect Green (s)	30.0	28.0			17.8			15.4		10.6	10.6	10.6
Actuated g/C Ratio	0.43	0.40			0.25			0.22		0.15	0.15	0.15
v/c Ratio	0.81	0.41			0.74			0.31		0.61	0.61	0.53
Control Delay	39.1	14.8			14.2			30.6		38.2	38.1	9.0
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	0.0
Total Delay	39.1	14.8			14.2			30.6		38.2	38.1	9.0
LOS	D	B			B			C		D	D	A
Approach Delay		21.7			14.2			30.6			25.8	

Pm Build
6: woodhull/Site Dw & eagle rock

Lanes, Volumes, Timings
Pm Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			B			C			C		
Queue Length 50th (ft)	63	88			74			43		66	66	0
Queue Length 95th (ft)	#123	101			112			#123		125	125	55
Internal Link Dist (ft)		514			275			218			157	
Turn Bay Length (ft)	200											
Base Capacity (vph)	279	1729			1439			384		291	294	465
Starvation Cap Reductn	0	0			5			0		0	0	0
Spillback Cap Reductn	0	0			0			0		0	0	0
Storage Cap Reductn	0	0			0			0		0	0	0
Reduced v/c Ratio	0.81	0.33			0.58			0.31		0.54	0.54	0.50

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 20.4

Intersection LOS: C

Intersection Capacity Utilization 68.5%

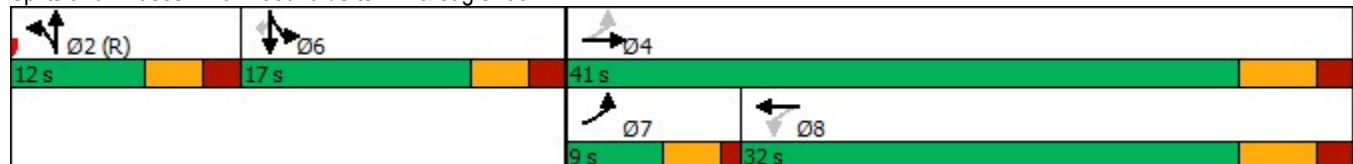
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: woodhull/Site Dw & eagle rock



Pm Build
10: Prospect & n. signal access

Lanes, Volumes, Timings
Pm Build

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	62	29	1011	952	169
Future Volume (vph)	208	62	29	1011	952	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.977	
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1805	1615	0	3572	3432	0
Flt Permitted	0.950			0.893		
Satd. Flow (perm)	1805	1615	0	3193	3432	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		66			41	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	2%	7%
Adj. Flow (vph)	221	66	31	1076	1013	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	221	66	0	1107	1193	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	11.7	11.7		42.3	42.3	
Actuated g/C Ratio	0.18	0.18		0.65	0.65	
v/c Ratio	0.68	0.19		0.53	0.53	
Control Delay	36.1	8.2		8.0	7.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	36.1	8.2		8.0	7.1	
LOS	D	A		A	A	
Approach Delay	29.7			8.0	7.1	
Approach LOS	C			A	A	
Queue Length 50th (ft)	81	0		128	115	
Queue Length 95th (ft)	#146	28		m104	160	

Pm Build
10: Prospect & n. signal access

Lanes, Volumes, Timings
Pm Build



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	332			487	418	
Turn Bay Length (ft)						
Base Capacity (vph)	361	375		2080	2249	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.61	0.18		0.53	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 26 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 10.0

Intersection LOS: B

Intersection Capacity Utilization 69.5%

ICU Level of Service C

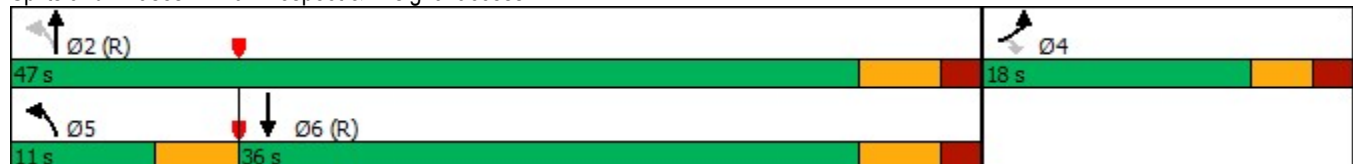
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: Prospect & n. signal access



Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	231	90	1040	945	69
Future Vol, veh/h	0	231	90	1040	945	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	6	2	3
Mvmt Flow	0	243	95	1095	995	73
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	534	1068	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	496	660	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	496	660	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19	0.9		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	660	-	496	-	-	
HCM Lane V/C Ratio	0.144	-	0.49	-	-	
HCM Control Delay (s)	11.4	-	19	-	-	
HCM Lane LOS	B	-	C	-	-	
HCM 95th %tile Q(veh)	0.5	-	2.7	-	-	

Sat B

Lanes, Volumes, Timings

3: prospect & eagle rock

Sat B

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	323	365	486	370	84	415	866	498	118	894	37
Future Volume (vph)	50	323	365	486	370	84	415	866	498	118	894	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	500		0	0		200	170		0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.980				0.850		0.994	
Flt Protected		0.993		0.950	0.986		0.950			0.950		
Satd. Flow (prot)	0	3585	1599	1595	3314	0	1787	3574	1599	1805	3521	0
Flt Permitted		0.993		0.950	0.986		0.950			0.950		
Satd. Flow (perm)	0	3585	1599	1595	3314	0	1787	3574	1599	1805	3521	0
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)												3
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		355			1295			568			585	
Travel Time (s)		8.1			29.4			12.9			13.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	1%	3%	0%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	51	326	369	491	374	85	419	875	503	119	903	37
Shared Lane Traffic (%)				36%								
Lane Group Flow (vph)	0	377	369	314	636	0	419	875	503	119	940	0
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)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	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	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4	5	8	8		5	2	8	1	6	

Sat B
3: prospect & eagle rock

Lanes, Volumes, Timings
Sat B

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4				2							
Detector Phase	4	4	5	8	8		5	2	8	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	7.0	5.0	5.0		7.0	7.0	5.0	7.0	7.0	
Minimum Split (s)	29.0	29.0	12.0	31.0	31.0		12.0	13.0	31.0	17.0	17.0	
Total Split (s)	29.0	29.0	30.0	31.0	31.0		30.0	40.0	31.0	30.0	40.0	
Total Split (%)	22.3%	22.3%	23.1%	23.8%	23.8%		23.1%	30.8%	23.8%	23.1%	30.8%	
Maximum Green (s)	23.0	23.0	26.0	25.0	25.0		26.0	34.0	25.0	26.0	34.0	
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	
Lead/Lag	Lead				Lead				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	None	None		Max	C-Max	None	Max	Max	
Act Effect Green (s)		18.8	46.8	29.2	29.2		26.0	34.0	63.2	26.0	34.0	
Actuated g/C Ratio		0.14	0.36	0.22	0.22		0.20	0.26	0.49	0.20	0.26	
v/c Ratio		0.73	0.64	0.88	0.85		1.17	0.94	0.65	0.33	1.02	
Control Delay		61.5	22.8	74.3	61.0		149.0	64.7	17.5	44.4	86.8	
Queue Delay		0.0	0.1	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		61.5	23.0	74.3	61.0		149.0	64.7	17.5	44.4	86.8	
LOS		E	C	E	E		F	E	B	D	F	
Approach Delay		42.5			65.4			71.2			82.0	
Approach LOS		D			E			E			F	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay: 67.8

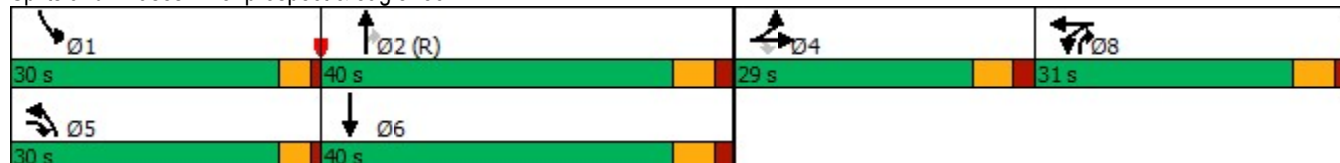
Intersection LOS: E

Intersection Capacity Utilization 95.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: prospect & eagle rock



Sat B

Lanes, Volumes, Timings

6: woodhull/site & eagle rock

Sat B

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	363	35	9	341	472	32	32	51	324	15	196
Future Volume (vph)	209	363	35	9	341	472	32	32	51	324	15	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.987			0.914			0.940				0.850
Flt Protected	0.950				0.999			0.986		0.950	0.956	
Satd. Flow (prot)	1805	3531	0	0	3279	0	0	1745	0	1698	1710	1615
Flt Permitted	0.183				0.947			0.986		0.950	0.956	
Satd. Flow (perm)	348	3531	0	0	3108	0	0	1745	0	1698	1710	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		21			508							211
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		594			355			298			237	
Travel Time (s)		13.5			8.1			6.8			5.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	0%	11%	1%	0%	0%	0%	2%	1%	0%	0%
Adj. Flow (vph)	225	390	38	10	367	508	34	34	55	348	16	211
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	225	428	0	0	885	0	0	123	0	181	183	211
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)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	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	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	0.0
Detector 1 Queue (s)	0.0	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	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4			8		2	2		6	6	

Sat B
6: woodhull/site & eagle rock

Lanes, Volumes, Timings
Sat B

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8								6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	1.0	5.0		5.0	5.0		2.5	2.5		5.0	5.0	5.0
Minimum Split (s)	9.0	22.5		22.5	22.5		12.0	12.0		17.0	17.0	17.0
Total Split (s)	9.0	41.0		32.0	32.0		12.0	12.0		17.0	17.0	17.0
Total Split (%)	12.9%	58.6%		45.7%	45.7%		17.1%	17.1%		24.3%	24.3%	24.3%
Maximum Green (s)	5.0	35.0		26.0	26.0		7.0	7.0		12.0	12.0	12.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
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			5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effect Green (s)	29.8	27.8			17.8			15.2		10.9	10.9	10.9
Actuated g/C Ratio	0.43	0.40			0.25			0.22		0.16	0.16	0.16
v/c Ratio	0.82	0.30			0.76			0.32		0.68	0.69	0.49
Control Delay	40.4	13.5			13.7			31.1		41.8	41.9	8.6
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	0.0
Total Delay	40.4	13.5			13.7			31.1		41.8	41.9	8.6
LOS	D	B			B			C		D	D	A
Approach Delay		22.8			13.7			31.1			29.7	
Approach LOS		C			B			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 52 (74%), Referenced to phase 2:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 21.4

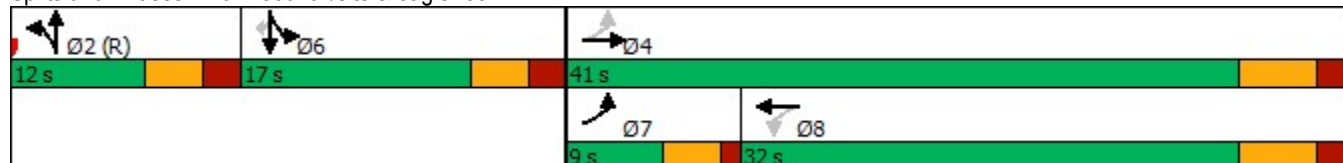
Intersection LOS: C

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: woodhull/site & eagle rock



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	218	79	49	785	740	207
Future Volume (vph)	218	79	49	785	740	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr't		0.850			0.967	
Flt Protected	0.950			0.997		
Satd. Flow (prot)	1787	1568	0	3566	3437	0
Flt Permitted	0.950			0.840		
Satd. Flow (perm)	1787	1568	0	3004	3437	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		83			73	
Link Speed (mph)	30			30	30	
Link Distance (ft)	412			567	498	
Travel Time (s)	9.4			12.9	11.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	3%	0%	1%	2%	0%
Adj. Flow (vph)	229	83	52	826	779	218
Shared Lane Traffic (%)						
Lane Group Flow (vph)	229	83	0	878	997	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
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	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						

Sat B
10: prospect & n. sig access

Lanes, Volumes, Timings
Sat B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	18.0	18.0	11.0	22.5	22.5	
Total Split (s)	18.0	18.0	11.0	47.0	36.0	
Total Split (%)	27.7%	27.7%	16.9%	72.3%	55.4%	
Maximum Green (s)	13.0	13.0	7.0	41.0	30.0	
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Act Effect Green (s)	11.8	11.8		42.2	42.2	
Actuated g/C Ratio	0.18	0.18		0.65	0.65	
v/c Ratio	0.70	0.24		0.45	0.44	
Control Delay	37.6	8.0		4.0	6.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	37.6	8.0		4.0	6.1	
LOS	D	A		A	A	
Approach Delay	29.7			4.0	6.1	
Approach LOS	C			A	A	

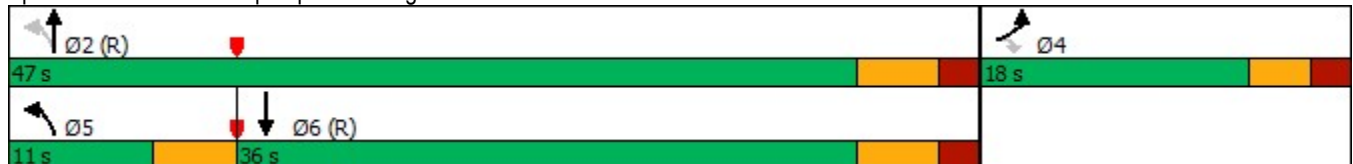
Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 26 (40%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 8.6
Intersection Capacity Utilization 76.4%
Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service D

Splits and Phases: 10: prospect & n. sig access



Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	294	166	834	755	64
Future Vol, veh/h	0	294	166	834	755	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	1	2	0
Mvmt Flow	0	306	173	869	786	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	427	853	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	0	582	795	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	582	795	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.8	1.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	795	-	582	-	-	
HCM Lane V/C Ratio	0.218	-	0.526	-	-	
HCM Control Delay (s)	10.8	-	17.8	-	-	
HCM Lane LOS	B	-	C	-	-	
HCM 95th %tile Q(veh)	0.8	-	3.1	-	-	

National Data & Surveying Services Intersection Turning Movement Count

Location: Woodhull Ave & Eagle Rock Ave
City: West Orange
Control: Signalized

Project ID: 23-340048-001
Date: 4/4/2023

Data - Total

NS/EW Streets:		Woodhull Ave				Woodhull Ave				Eagle Rock Ave				Eagle Rock Ave				
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
	4:00 PM	6	3	9	0	34	2	25	0	14	97	7	0	3	92	42	0	334
	4:15 PM	4	5	9	0	30	1	24	0	17	113	7	0	3	86	56	0	355
	4:30 PM	6	3	9	0	34	2	25	0	14	96	7	0	3	92	42	0	333
	4:45 PM	4	5	12	0	29	4	16	0	17	119	8	0	1	95	65	0	375
	5:00 PM	9	5	11	0	33	2	18	0	20	119	12	0	0	82	60	0	371
	5:15 PM	7	3	11	0	30	2	25	0	26	119	5	0	1	78	54	0	361
	5:30 PM	10	3	7	0	32	5	28	0	29	130	10	0	5	94	41	0	394
	5:45 PM	10	3	17	0	33	3	30	0	23	115	15	0	5	91	47	0	392
	6:00 PM	14	3	10	0	23	5	25	0	26	90	8	0	3	72	49	0	328
	6:15 PM	11	2	10	0	33	4	32	0	20	110	10	0	3	105	46	0	386
TOTAL VOLUMES :		NL 81	NT 35	NR 105	NU 0	SL 311	ST 30	SR 248	SU 0	EL 206	ET 1108	ER 89	EU 0	WL 27	WT 887	WR 502	WU 0	TOTAL 3629
APPROACH %'s :		36.65%	15.84%	47.51%	0.00%	52.80%	5.09%	42.11%	0.00%	14.68%	78.97%	6.34%	0.00%	1.91%	62.64%	35.45%	0.00%	
PEAK HR :		05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :		36	14	46	0	128	12	101	0	98	483	42	0	11	345	202	0	1518
PEAK HR FACTOR :		0.900	0.700	0.676	0.000	0.970	0.600	0.842	0.000	0.845	0.929	0.700	0.000	0.550	0.918	0.842	0.000	0.963
		0.800				0.913				0.922				0.976				

5:00 - 6:00 PM

Total	36	14	46	0	128	12	101	0	98	483	42	0	11	345	202	0	0
HV	1	0	0	0	1	0	1	0	0	18	0	0	0	3	0	0	0
HV%	3%	0%	0%	0%	1%	0%	1%	0%	0%	4%	0%	0%	0%	1%	0%	0%	0%

National Data & Surveying Services Intersection Turning Movement Count

Location: Woodhull Ave & Eagle Rock Ave
City: West Orange
Control: Signalized

Project ID: 23-340048-001
Date: 4/1/2023

Data - Total

NS/EW Streets:	Woodhull Ave				Woodhull Ave				Eagle Rock Ave				Eagle Rock Ave				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
11:00 AM	6	3	6	0	21	2	15	0	18	69	8	0	3	66	30	0	247
11:15 AM	2	3	6	0	17	6	20	0	16	97	7	0	2	62	27	0	265
11:30 AM	7	4	7	0	21	2	16	0	12	69	11	0	4	62	36	0	251
11:45 AM	9	5	5	0	24	4	15	0	20	87	8	0	2	62	57	0	298
12:00 PM	7	5	7	0	28	5	26	0	17	93	13	0	2	58	51	0	312
12:15 PM	6	1	5	0	29	3	26	0	11	96	10	0	2	75	48	0	312
12:30 PM	11	6	13	0	28	5	22	0	27	83	7	0	2	74	46	0	324
12:45 PM	9	1	8	0	36	2	15	0	22	73	4	0	3	74	54	0	301
1:00 PM	9	3	10	0	36	2	17	0	21	79	14	0	0	80	56	0	327
1:15 PM	6	2	14	0	35	3	30	0	23	81	5	0	2	76	49	0	326
1:30 PM	7	9	11	0	39	1	22	0	25	82	11	0	4	65	59	0	335
1:45 PM	6	3	20	0	55	5	24	0	22	77	9	0	4	92	49	0	366
TOTAL VOLUMES :	NL 85	NT 45	NR 112	NU 0	SL 369	ST 40	SR 248	SU 0	EL 234	ET 986	ER 107	EU 0	WL 30	WT 846	WR 562	WU 0	TOTAL 3664
APPROACH %'s :	35.12%	18.60%	46.28%	0.00%	56.16%	6.09%	37.75%	0.00%	17.63%	74.30%	8.06%	0.00%	2.09%	58.83%	39.08%	0.00%	
PEAK HR :	01:00 PM - 02:00 PM																TOTAL
PEAK HR VOL :	28	17	55	0	165	11	93	0	91	319	39	0	10	313	213	0	1354
PEAK HR FACTOR :	0.778	0.472	0.688	0.000	0.750	0.550	0.775	0.000	0.910	0.973	0.696	0.000	0.625	0.851	0.903	0.000	0.925
	0.862				0.801				0.951				0.924				

12:45 - 1:45 PM

Total	31	15	43	0	146	8	84	0	91	315	34	0	9	295	218	0
HV	0	0	1	0	1	0	0	0	0	2	0	0	1	2	1	0
HV%	0%	0%	2%	0%	1%	0%	0%	0%	0%	1%	0%	0%	11%	1%	0%	0%

National Data & Surveying ServicesIntersection Turning Movement Count

Location: Prospect Ave & Frank's Pizza Dwy

City: West Orange

Control: 1-Way Yield(EB)

Project ID: 23-340048-002

Date: 4/1/2023

Data - Total

NS/EW Streets:		Prospect Ave				Prospect Ave				Whole Foods Market_Poke Le Le Dwy				Whole Foods Market_Poke Le Le Dwy				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	1 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	0 ET	1 ER	0 EU	0 WL	0 WT	0 WR	0 WU		
11:00 AM	10	168	0	0	0	154	8	0	0	0	8	0	0	0	0	0	348	
11:15 AM	13	171	0	0	0	178	7	0	2	0	27	0	0	0	0	0	398	
11:30 AM	11	183	0	0	0	203	10	0	0	0	17	0	0	0	0	0	424	
11:45 AM	12	210	0	0	0	173	6	0	1	0	23	0	0	0	0	0	425	
12:00 PM	17	191	0	0	0	176	8	0	0	0	17	0	0	0	0	0	409	
12:15 PM	25	172	0	0	0	168	6	0	1	0	26	0	0	0	0	0	398	
12:30 PM	12	179	0	0	0	198	3	0	0	0	27	0	0	0	0	0	419	
12:45 PM	16	191	0	0	0	185	5	0	0	0	32	0	0	0	0	0	429	
1:00 PM	19	178	0	0	0	169	5	0	2	0	22	0	0	0	0	0	395	
1:15 PM	14	188	0	0	0	189	12	0	1	0	39	0	0	0	0	0	443	
1:30 PM	20	195	0	0	0	175	5	0	0	0	33	0	0	0	0	0	428	
1:45 PM	14	182	0	0	0	195	3	0	1	0	35	0	0	0	0	0	430	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	183	2208	0	0	0	2163	78	0	8	0	306	0	0	0	0	0	4946	
	7.65%	92.35%	0.00%	0.00%	0.00%	96.52%	3.48%	0.00%	2.55%	0.00%	97.45%	0.00%						
PEAK HR :	01:00 PM - 02:00 PM																TOTAL	
PEAK HR VOL :	67	743	0	0	0	728	25	0	4	0	129	0	0	0	0	0	1696	
PEAK HR FACTOR :	0.838	0.953	0.000	0.000	0.000	0.933	0.521	0.000	0.500	0.000	0.827	0.000	0.000	0.000	0.000	0.000	0.957	
	0.942				0.937				0.831									

12:45 - 1:45 PM

Total	69	752	0	0	0	718	27	0	3	0	126	0	0	0	0	0
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HV	0	11	0	0	0	12	0	0	0	0	0	0	0	0	0
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[illegible]

National Data & Surveying ServicesIntersection Turning Movement Count

Location: Prospect Ave & Whole Foods Market/Poke Le Le Dwy
City: West Orange
Control: Signalized

Project ID: 23-340048-003
Date: 4/4/2023

Data - Total

NS/EW Streets:		Prospect Ave				Prospect Ave				Frank's Pizza Dwy				Frank's Pizza Dwy																															
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND																																
	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0																												
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL																											
	4:00 PM	0	213	0	0	0	222	2	0	17	23	0	3	0	0	0	0	0	480																										
	4:15 PM	5	200	0	0	0	228	6	0	17	24	0	6	0	0	0	0	486																											
	4:30 PM	3	254	0	0	0	231	7	0	15	26	0	6	0	0	0	0	542																											
	4:45 PM	2	234	0	0	0	217	1	0	11	30	0	7	0	0	0	0	502																											
	5:00 PM	5	238	0	0	0	196	1	0	18	23	0	4	0	0	0	0	485																											
	5:15 PM	3	232	0	0	0	221	3	0	10	28	0	7	0	0	0	0	504																											
	5:30 PM	3	251	0	0	0	214	5	0	20	21	0	4	0	0	0	0	518																											
5:45 PM	1	251	0	0	0	174	5	0	12	24	0	9	0	0	0	0	476																												
6:00 PM	4	213	0	0	0	209	1	0	10	17	0	9	0	0	0	0	463																												
6:15 PM	1	204	0	0	0	201	3	0	15	29	0	4	0	0	0	0	0	457																											
TOTAL VOLUMES :		NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL																										
APPROACH %:		27	2290	0	0	0	2113	34	0	145	245	0	59	0	0	0	0	0	4913																										
PEAK HR :		04:30 PM - 05:30 PM				0.00%				92.19%				1.48%				0.00%				6.33%				80.59%				0.00%				19.41%				0.00%							
PEAK HR VOL :		13	958	0	0	0	865	12	0	54	107	0	24	0	0	0	0	0	0	2033																									
PEAK HR FACTOR :		0.650	0.943	0.000	0.000	0.000	0.936	0.429	0.000	0.750	0.892	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.000	0.938																									
		0.945																																											

5:00 - 6:00 PM

Total 12 972 0 0 0 805 14 0 60 96 0 24 0 0 0 0 0 0 0
 HV 0 6 0 0 0 15 1 0 2 0 0 0 0 0 0 0 0 0 0
 HV% 0% 1% 0% 0% 0% 2% 7% 0% 3% 0% 0% 0% 0% 0% 0% 0% 0% 0%



National Data & Surveying Services Intersection Turning Movement Count

Location: Prospect Ave & Whole Foods Market/Poke Le Le Dwy
City: West Orange
Control: Signalized

Project ID: 23-340048-003
Date: 4/1/2023

Data - Total

NS/EW Streets:	Prospect Ave				Prospect Ave				Frank's Pizza Dwy				Frank's Pizza Dwy					
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
11:00 AM	2	167	0	0	0	154	1	0	14	19	0	7	0	0	0	0	0	364
11:15 AM	0	173	0	0	0	179	6	0	20	18	0	7	0	0	0	0	0	403
11:30 AM	4	176	0	0	0	207	4	0	16	19	0	7	0	0	0	0	0	433
11:45 AM	7	207	0	0	0	171	1	0	20	35	0	6	0	0	0	0	0	447
12:00 PM	4	184	0	0	0	177	3	0	11	24	0	8	0	0	0	0	0	411
12:15 PM	2	174	0	0	0	175	1	0	20	26	0	4	0	0	0	0	0	402
12:30 PM	2	172	0	0	0	188	2	0	19	20	0	7	0	0	0	0	0	410
12:45 PM	2	194	0	0	0	191	2	0	17	25	0	4	0	0	0	0	0	435
1:00 PM	7	167	0	0	0	162	5	0	21	27	0	14	0	0	0	0	0	403
1:15 PM	5	183	0	0	0	182	3	0	19	26	0	12	0	0	0	0	0	430
1:30 PM	8	194	0	0	0	177	3	0	20	20	0	3	0	0	0	0	0	425
1:45 PM	1	179	0	0	0	190	2	0	26	19	0	12	0	0	0	0	0	429
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %s :	44	2170	0	0	0	2153	33	0	223	278	0	91	0	0	0	0	0	4992
	1.99%	98.01%	0.00%	0.00%	0.00%	89.37%	1.37%	0.00%	9.26%	75.34%	0.00%	24.66%	0.00%					
PEAK HR :	15	740	0	0	0	734	14	0	67	96	0	28	0	0	0	0	0	1694
PEAK HR VOL :	0.536	0.894	0.000	0.000	0.000	0.886	0.583	0.000	0.838	0.686	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.947
PEAK HR FACTOR :			0.882				0.898				0.756							

12:45 - 1:45 PM

Total	22	738	0	0	0	712	13	0	77	98	0	33	0	0	0	0	0	0
HV	0	11	0	0	0	11	0	0	0	1	0	1	0	0	0	0	0	0
HV%	0%	1%	0%	0%	0%	2%	0%	0%	0%	1%	0%	3%	0%	0%	0%	0%	0%	0%



National Data & Surveying ServicesIntersection Turning Movement Count

Location: Prospect Ave & Eagle Rock Ave
City: West Orange
Control: Signalized

Project ID: 23-340038-001
Date: 3/16/2023

Data - Total

NS/EW Streets:		Prospect Ave				Prospect Ave				Eagle Rock Ave				Eagle Rock Ave				
PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	1.5 ET	1 ER	0 EU	1.5 WL	1 WT	0.5 WR	0 WU	
	4:00 PM	77	216	169	0	20	207	7	0	7	86	74	0	140	51	16	0	1070
	4:15 PM	75	228	174	0	32	214	6	0	12	72	80	0	126	58	18	0	1095
	4:30 PM	56	225	199	0	26	211	11	0	11	61	58	0	116	58	20	0	1052
	4:45 PM	71	228	189	0	22	185	11	0	10	81	56	0	133	53	11	0	1050
	5:00 PM	74	225	209	0	21	205	7	0	10	71	88	0	117	54	19	0	1100
	5:15 PM	73	193	204	0	20	205	11	0	12	84	69	0	136	53	10	0	1070
	5:30 PM	61	197	193	0	32	217	8	0	18	94	67	0	95	59	26	0	1067
	5:45 PM	74	200	230	0	36	208	9	0	10	74	56	0	132	62	14	0	1105
	6:00 PM	74	221	202	0	24	184	5	0	8	92	65	0	113	55	22	0	1065
	6:15 PM	74	195	194	0	31	178	13	0	18	76	66	0	120	53	16	0	1034
TOTAL VOLUMES :		NL 709	NT 2128	NR 1963	NU 0	SL 264	ST 2014	SR 88	SU 0	EL 116	ET 791	ER 679	EU 0	WL 1228	WT 556	WR 172	WU 0	TOTAL 10708
APPROACH %'s :		14.77%	44.33%	40.90%	0.00%	11.16%	85.12%	3.72%	0.00%	7.31%	49.87%	42.81%	0.00%	62.78%	28.43%	8.79%	0.00%	
PEAK HR :		05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :		282	815	836	0	109	835	35	0	50	323	280	0	480	228	69	0	4342
PEAK HR FACTOR :		0.953	0.906	0.909	0.000	0.757	0.962	0.795	0.000	0.694	0.859	0.795	0.000	0.882	0.919	0.663	0.000	0.982
		0.951				0.952				0.912				0.934				

5:00 - 6:00 PM

Total	282	815	836	0	109	835	35	0	50	323	280	0	480	228	69	0
HV	3	11	5	0	2	15	0	0	0	8	10	0	3	3	2	0
HV%	1%	1%	1%	0%	2%	2%	0%	0%	0%	2%	4%	0%	1%	1%	3%	0%

National Data & Surveying Services Intersection Turning Movement Count

Location: Prospect Ave & Eagle Rock Ave
City: West Orange
Control: Signalized

Project ID: 23-340038-001
Date: 3/18/2023

Data - Total

NS/EW Streets:	Prospect Ave				Prospect Ave				Eagle Rock Ave				Eagle Rock Ave				
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	1.5 ET	1 ER	0 EU	1.5 WL	1 WT	0.5 WR	0 WU	
11:00 AM	57	143	102	0	22	182	2	0	7	41	52	0	98	46	7	0	759
11:15 AM	61	164	113	0	17	171	14	0	7	54	63	0	122	47	21	0	854
11:30 AM	62	185	106	0	18	202	14	0	15	39	48	0	130	67	17	1	904
11:45 AM	68	162	115	0	29	197	13	0	17	62	66	0	122	56	21	0	928
12:00 PM	40	149	112	0	35	177	10	0	8	37	62	0	125	62	25	0	842
12:15 PM	72	167	125	0	17	177	15	0	14	71	73	0	114	58	16	0	919
12:30 PM	64	179	126	0	27	206	12	0	8	61	51	0	115	45	16	0	910
12:45 PM	72	195	118	0	26	181	12	0	16	61	72	0	109	61	10	0	933
1:00 PM	64	181	111	0	24	190	9	0	12	54	77	0	116	66	18	0	922
1:15 PM	72	177	135	0	24	170	10	0	11	66	62	0	124	53	22	0	926
1:30 PM	70	172	115	0	23	182	5	0	9	57	59	0	118	67	22	0	899
1:45 PM	84	151	114	0	22	165	11	0	13	56	62	0	131	56	19	0	884
TOTAL VOLUMES :	NL 786	NT 2025	NR 1392	NU 0	SL 284	ST 2200	SR 127	SU 0	EL 137	ET 659	ER 747	EU 0	WL 1424	WT 684	WR 214	WU 1	TOTAL 10680
APPROACH %'s :	18.70%	48.18%	33.12%	0.00%	10.88%	84.26%	4.86%	0.00%	8.88%	42.71%	48.41%	0.00%	61.30%	29.44%	9.21%	0.04%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	272	732	490	0	101	747	43	0	47	242	262	0	464	225	66	0	3691
PEAK HR FACTOR :	0.944	0.938	0.907	0.000	0.935	0.907	0.896	0.000	0.734	0.917	0.851	0.000	0.935	0.852	0.750	0.000	0.989
	0.970				0.909				0.924				0.944				

12:45 - 1:45 PM

Total	278	725	479	0	97	723	36	0	48	238	270	0	467	247	72	0
HV	4	5	4	0	0	15	0	0	0	1	2	0	3	0	0	0
HV%	1%	1%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%