

Attachment A-7

MEMORANDUM

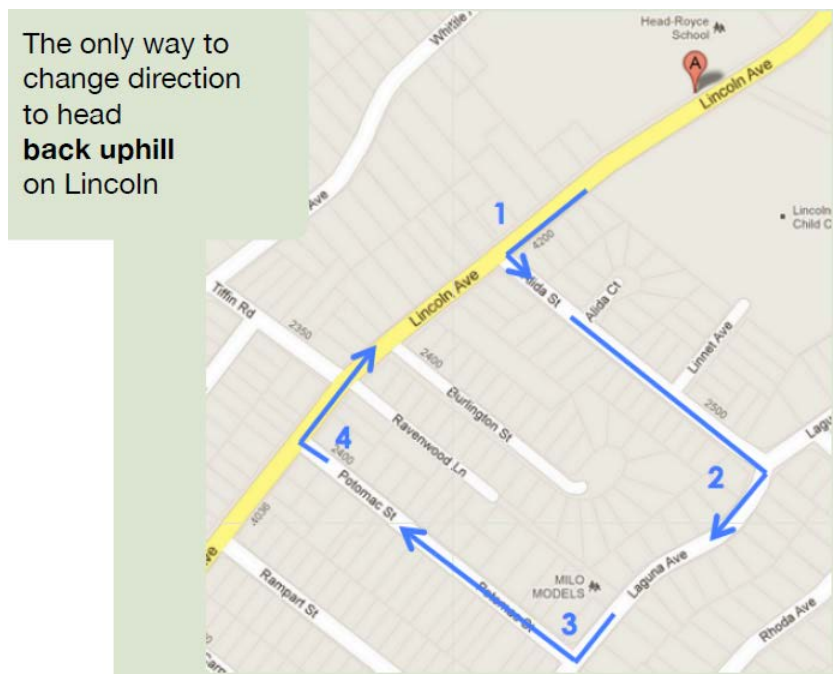
To: Annie Mudge
From: Nelson\Nygaard
Date: October 22, 2015
Subject: The loop count analysis

This memo reports on the results of a count of vehicles conducted during October 2015 on the designated Head Royce “loop” during the morning drop-off and afternoon pick-up periods. It also compares these results to automated counts collected as part of the Head Royce Traffic Impact Analysis during spring of 2014.

“The Loop”

In its Transportation Policy Guide, Head Royce instructs all affiliates to change direction on Lincoln Ave by using “The Loop” and not to make U-turns on Lincoln Avenue or surrounding surface streets. Drivers traveling downhill (west-bound) who need to return up Lincoln Ave towards Highway 13 must turn left on Alida St, then right on Laguna St, right on Potomac Street and then right on Lincoln Ave to head uphill (east) as show in Figure 1 below.

Figure 1 Designated Head Royce “Loop” for Downhill (west-bound) traffic



Source: Image taken from Head Royce School Transportation Policy Guide, 2014-2015

Methodology

Manual vehicle counts were conducted on 10/8/2015 during the drop-off and pick-up times from 7:30am to 9am and from 2:30pm to 4:00pm. Cars were counted in 15-minute increments to understand not just the total number of cars but also the timing of driving activity.

Our staff counted all vehicles traveling into and out of Alida Street (the beginning of the loop) and Potomac Street (the end of the loop) at Lincoln Avenue during the count period. Those vehicles making a southbound left turn into Alida Street and making a right turn out of Potomac were attributed to Head Royce. This methodology was designed to allow the team to understand the total number of vehicles traveling on Alida and Potomac Streets during the count periods and what portion of those vehicles are affiliated with Head Royce School.

Results were compared to 2014 counts which are described in the 2015 traffic study “Head Royce School Transportation Assessment for Proposed C.U.P. Modification.” (This report has already been submitted to the City.) That study conducted automated counts of all vehicle movements (including left and right turns) during the morning and afternoon peak periods (7:00 to 9:00 am and 3:00 to 6:00 pm) at five intersections, one of which was Lincoln Avenue and Alida Street. Counts were conducted on two days: a typical weekday when Head Royce School **was** in session and a typical weekday when school **was not** in session and not generating any trips.¹ These counts were compared to understand the portion of the vehicle trips that can be attributed to Head Royce.

2014 Counts of Left Turns onto Alida Street from Lincoln Avenue

A summary of findings from the 2014 counts are:

- Morning Peak Hour (7:45-8:45 am): There were 80 cars turning left onto Alida from Lincoln on a school day and 25 on a non-school day, therefore approximately 55 cars are attributable to Head Royce
- Afternoon Peak Hour (3:00-4:00 pm): There were 84 cars turning left onto Alida from Lincoln on a school day and 31 on a non-school day, therefore approximately 53 cars are attributable to Head Royce.

Full results of both count days are provided in the appendices to the traffic study. Appendix A provides the non-school day counts when Head Royce School *was not* in session, and Appendix B provides the school day counts when Head Royce *was* in session.

2015 “Loop” Counts Results & Comparison to 2014

Table 1 summarizes the number of vehicles traveling on Alida and Potomac Streets and the portion of those vehicles associated with Head Royce drop-off and pick-up operations. Key findings include:

- Morning:
 - 40 Head Royce vehicles used the loop from Alida to Potomac between 7:30 and 9:00am (this supports the findings of the 2014 traffic study which showed approximately 53 vehicles used the loop during the morning drop-off period).
 - 15% of total 2-way morning traffic on Alida Street was attributed to Head Royce.

¹

- 45% of total 2-way morning traffic on Potomac Street was attributed to Head Royce.
- **Afternoon:**
 - 29 Head Royce vehicles used the loop between 2:30 and 4:00pm.
 - 10% of total 2-way afternoon traffic on Alida Street was attributed to Head Royce.
 - 58% of total 2-way afternoon traffic on Potomac Street was attributed to Head Royce.

Table 1 Loop Traffic Counts, October 8, 2015

Time	Head Royce Vehicles Using The Loop	Alida Street		Potomac Street	
		Total 2-way Traffic	Head Royce Share of Traffic	Total 2-way Traffic	Head Royce Share of Traffic
7:30-7:45am	1	28	4%	7	14%
7:45-8:00am	7	60	12%	13	54%
8:00-8:15am	12	52	23%	25	48%
8:15-8:30am	19	66	29%	33	58%
8:30-8:45am	0	32	0%	5	0%
8:45-9:00am	1	24	4%	6	17%
AM TOTAL	40	262	15%	89	45%
2:30-2:45pm	1	43	2%	5	20%
2:45-3:00pm	4	47	9%	8	50%
3:00-3:15pm	3	45	7%	6	50%
3:15-3:30pm	5	60	8%	7	71%
3:30-3:45pm	13	64	20%	18	72%
3:45-4:00pm	3	46	7%	6	50%
PM TOTAL	29	305	10%	50	58%
STUDY TOTAL	69	567	12%	139	50%

General Notes and Observations

The following represent some general notes and observations gathered during the count period.

- Travel time through the loop was observed to be 2-3 minutes, which would correspond to an average speed of 19-29 mph. This is typical of neighborhood streets.
- No fast or aggressive driving was observed by Head Royce vehicles through study area.
- There is significant traffic generated by residents on both streets; many households appear to have multiple vehicles.
- One local AC Transit school route was counted as a Head Royce vehicle during the morning count period.
- One local 605 AC Transit bus with students and one AC Transit Transbay bus were counted as Head Royce vehicles during the afternoon period.
- Afternoon pick-up and southbound Lincoln Avenue was obstructed by garbage truck for about 5 minutes, which caused some congestion.

Conclusion

Based on the data points described here, Head Royce generates approximately 38-55 trips per hour on the "Loop," representing approximately 10-15% of total two-way traffic on Alida Avenue and 50-70% of left-turning traffic onto Alida from Lincoln Avenue. Daily fluctuations do occur.

The number of cars on the Loop attributable to Head Royce from the 2014 counts was similar to the number of cars on the Loop attributable to Head Royce in this 2015 study, thus validating the accuracy of the methodology in distinguishing between Head Royce and non-Head Royce traffic.



HEAD ROYCE SCHOOL

Transportation Assessment for Proposed PUD Modification

September 2015



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1 INTRODUCTION

PURPOSE & BACKGROUND

The purpose of this report is to assess potential transportation impacts resulting from a proposed modification to the school's existing Planned Unit Development (PUD) permit to accommodate an accelerated increase in enrollment at Head Royce School.

Head Royce is currently operating under a Planned Unit Development (PUD) permit that was approved as part of the school's 2006 Master Plan. The 2006 PUD allowed a phased increase in enrollment from approximately 700 students to a maximum of 906 students by 2021 in three phases: Phase I = 782 students; Phase II = 844 students and Phase III = 906 students. The phases of enrollment are linked to the provision of off-street parking and other improvements. In addition, the final phase of enrollment (906) is linked to a target date of 2021. The School has already installed the parking and physical improvements required to reach 906 enrollment. However, because it is not yet 2021, currently permitted enrollment under the PUD is 844 students. The school is requesting that the target year of 2021 be removed from the PUD so that the school can reach the 906 enrollment cap earlier. Current enrollment for the 2015/2016 school year is 875.

Throughout this report, enrollment is inclusive of grades K-12 (divided into Upper, Middle and Lower schools). No changes to site access or new construction would occur under this proposed PUD modification.

In determining whether a project will result in a significant impact to the environment, CEQA normally requires use of existing physical conditions as the environmental baseline. At the City's request, this analysis assumes a baseline of 844 students (the current permitted enrollment), even though actual enrollment is 875.

PROPOSED PROJECT

For purposes of this report, the proposed PUD modification will be referred to as the "Proposed Project" and the baseline will be the permitted (844), as opposed to actual (875), enrollment. Therefore, this report studies the increase in enrollment from a "baseline permitted" enrollment of 844 students to a "permitted plus project" enrollment of 906 students. In the context of this study, the Proposed Project represents an increase in permitted enrollment of approximately seven percent. However, it should be noted that current enrollment at Head Royce is approximately 875 students, so this represents an increase of 3.5% over current conditions.

CAMPUS ACCESS

Site Access

Site access is provided as follows:

- Students arriving and departing via bus or parent drop-off/pick-up are accommodated via on-street loading areas located adjacent to sidewalks on both sides of Lincoln Avenue between the Head Royce Driveway (study intersection #2) and the Pedestrian Crossing (study intersection #6). Figure 1-3 provides a photo of the sidewalk adjacent to the drop-off, adjacent to the primary campus entrance on Lincoln Avenue.
- Access to the majority of on-site parking is provided from Lincoln Avenue via the Head Royce Driveway (study intersection #2).
- Secondary access to a limited supply of on-site faculty parking is provided via a gated entrance at the rear of campus accessible via Funston Street, traveling through study intersection #5. Student drop-offs & pick-ups are not permitted via this entrance.

Figure 1-2 Campus Site Plan

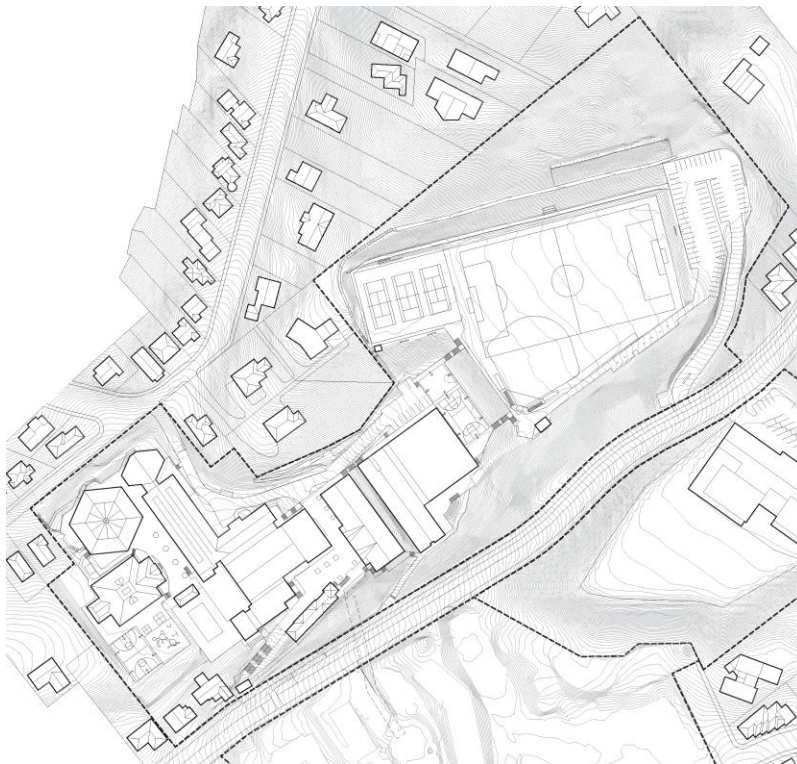


Figure 1-3 Campus Access – Photo Looking West on Lincoln Avenue (Sidewalk & Drop-off)



Parking for 157 cars is provided on the Head-Royce campus. The upper lot, accessed through the main Head-Royce driveway off of Lincoln Avenue, has space for approximately 135 cars, 10 of which are reserved carpool spaces. This lot is used by students (only juniors and seniors), faculty, and staff. The remaining 22 spaces are located behind the Pavilion building which is adjacent to the middle school; these are assigned to a small group of faculty, staff, and administrators and can only be accessed by the back driveway off of Whittle Ave. Head-Royce also uses spaces at the former Lincoln Child Center which is located across Lincoln Avenue.

Carpooling

Head Royce provides a ridematching service for those parents who are interested in carpooling as the school encourages families not served by buses to carpool. Head-Royce families interested in connecting with other families for carpooling can access a detailed map of all school families. Upper School student drivers who are interested in carpooling with fellow HRS students must complete a carpooling agreement and return it to the Upper School office. The school provides preferential parking for 10 student/faculty carpools in the Upper Lot. Priority is given to drivers with 3 people in their cars, then to people with 2 people in their car.

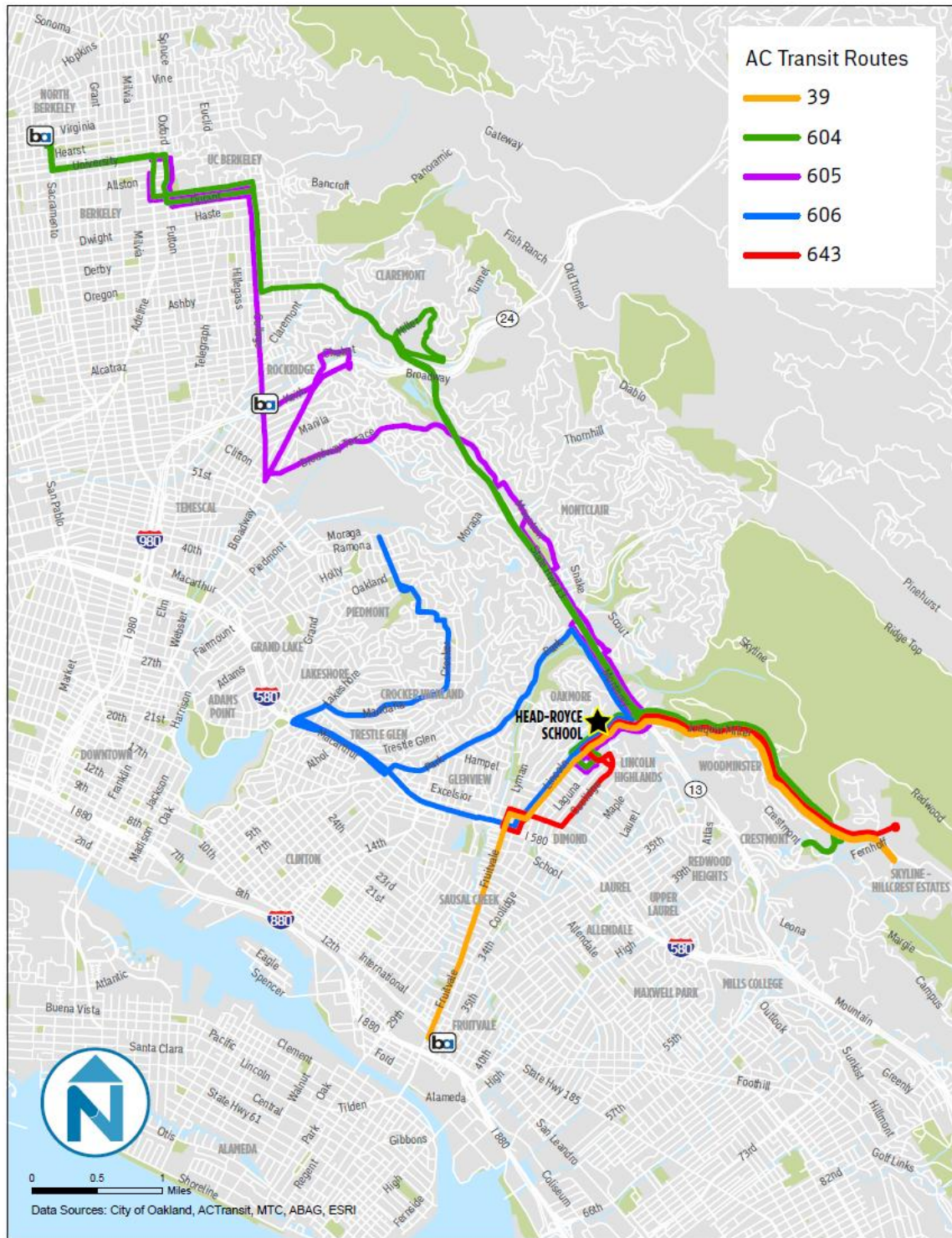
Bus Service

AC Transit operates three dedicated school bus routes (604, 605 & 606), as well as a non-dedicated bus route (39) that runs all day to connect Head-Royce to the Fruitvale BART station and Skyline High School. Figure 1-2 shows the service area of these routes. Students are eligible for the AC Transit 31-Day Youth bus pass which is \$20/month for unlimited local rides. There is a one-time process to create a personalized AC Transit Youth pass that includes the student's photo. Students can also ride AC Transit without a pass by paying \$1.05 per ride. Figure 1-4 shows the service areas of the AC Transit routes serving Head Royce School.

Head-Royce has contracted with Michael's Transportation to provide subsidized school buses to supplement AC Transit service. There is an annual fee to use the service. Michael's Transportation operates five bus routes. Figure 1-5 shows the off-campus bus stop locations serving each route.

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Figure 1-4 AC Transit Route Map to/from Head Royce School



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Figure 1-5 Michael's School Bus Service – Off Campus Bus Stop Locations



IMPACT CRITERIA

Based on City of Oakland impact criteria guidelines,¹ the Proposed Project would have a significant impact on traffic operations at a study intersection if any of the following thresholds are exceeded as a result of the Proposed Project:

1. At a study, signalized intersection which is located outside the Downtown area, the project would cause the level of service (LOS) to degrade to worse than LOS D (i.e., LOS E);
2. At a study, signalized intersection which is located within the Downtown area, the project would cause the LOS to degrade to worse than LOS E (i.e., LOS F); NOTE: THIS CRITERION DOES NOT APPLY TO THIS ANALYSIS SINCE ALL STUDY INTERSECTIONS ARE LOCATED OUTSIDE OF THE DOWNTOWN AREA.
3. At a study, signalized intersection outside the Downtown area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds or degrade to worse than LOS E (i.e., LOS F);
4. At a study, signalized intersection for all areas where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more or degrade to worse than LOS E (i.e., LOS F);
5. At a study, signalized intersection for all areas where the level of service is LOS F, the project would cause (a) the overall volume-to-capacity (“V/C”) ratio to increase 0.01 or more or (b) the critical movement V/C ratio to increase 0.02 or more;
6. At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume traffic signal warrant;
7. For a roadway segment of the Congestion Management Program (CMP) Network, the project would cause (a) the LOS to degrade from LOS E or better to LOS F or (b) the V/C ratio to increase 0.03 or more for a roadway segment that would operate at LOS F without the project. NOTE: THIS CRITERION DOES NOT APPLY TO THIS ANALYSIS SINCE THE STUDY INTERSECTIONS ARE NOT LOCATED ON DESIGNATED CMP FACILITIES.²
8. Cause congestion of regional significance on a roadway segment on the Metropolitan Transportation System (MTS) evaluated per the requirements of the Land Use Analysis Program of the CMP consistency with City policies concerning infill and transit-oriented development, the proximity of the project to other jurisdictions, and the magnitude of the project’s contribution based on V/C ratios. NOTE: THIS CRITERION DOES NOT APPLY TO THIS ANALYSIS SINCE THE STUDY INTERSECTIONS ARE NOT LOCATED ON DESIGNATED CMP FACILITIES.³
9. Result in substantially increased travel times for AC Transit buses. [NOTE: Factors to consider in evaluating the potential impact include, but are not limited to, the proximity

¹ City of Oakland *CEQA Threshold of Significance Guidelines*, August 24, 2011.

² In Oakland, the CMP Network includes all state highways plus the following streets: portions of Martin Luther King Jr. Way, Webster/Posey Tubes, 23rd Ave., 29th Ave., and Hegenberger Rd. (Source: City of Oakland *CEQA Threshold of Significance Guidelines*, August 24, 2011; Page 23).

³ Ibid.

- of the project site to the transit corridor(s), the function of the roadway segment(s), and the characteristics of the potentially affected bus route(s). The evaluation may require a qualitative and/or quantitative analysis depending upon these relevant factors.].
10. Directly or indirectly cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard due to a new or existing physical design feature or incompatible uses [NOTE: Factors to consider in evaluating the potential impact to roadway users due to physical design features and incompatible uses include, but are not limited to, collision history and the adequacy of existing traffic controls.]
 11. Directly or indirectly result in a permanent substantial decrease in pedestrian safety [NOTE: Consider whether factors related to pedestrian safety such as, but not limited to, the following are substantial in nature:
 - Degradation of existing pedestrian facilities, including the following:
 - ◊ Removal of existing pedestrian refuge islands and/or bulbouts
 - ◊ Increase of street crossing distance
 - ◊ Permanent removal or significant narrowing of an existing sidewalk, path, marked crossing, or pedestrian access way
 - ◊ Increase in pedestrian or vehicle volume at unsignalized or uncontrolled intersections
 - ◊ Sidewalk overcrowding
 - Addition of new vehicle travel lanes and/or turn lanes
 - Permanent removal of existing sidewalk-street buffering elements (e.g., on-street parking.)
 12. Directly or indirectly result in a permanent substantial decrease in bicyclist safety [NOTE: Consider whether factors related to bicyclist safety such as, but not limited to, the following are substantial in nature:
 - Removal or degradation of existing bikeways
 - Addition of new vehicle travel lanes and/or turn lanes
 - Addition of vehicle driveway entrances(s) that degrade(s) bicycle safety, with consideration given to the following:
 - ◊ Number of proposed vehicle driveway entrances
 - ◊ Location of proposed vehicle driveway entrance(s)
 - ◊ Visibility between bicyclists on travelway and motorists using the proposed vehicle driveway entrance(s)]
 13. Directly or indirectly result in a permanent substantial decrease in bus rider safety [NOTE: Consider whether factors related to bus rider safety such as, but not limited to, the following are substantial in nature:
 - Removal or degradation of existing bus facilities
 - Siting of bus stops in locations without marked crossings, with insufficient sidewalks, or in isolated or unlit areas
 - Addition of new bus riders that creates overcrowding at a bus stop];
 - 14. Generate substantial multi-modal traffic traveling across at-grade railroad crossings that cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a

permanent and substantial transportation hazard. [NOTE: If the project will generate substantial multi-modal traffic across an at-grade railroad crossing, a Diagnostic Review will be required in consultation with the California Public Utilities Commission. The Review should include roadway and rail descriptions, collision history, traffic volumes for all modes, train volumes, vehicular speeds, train speeds, and existing rail and traffic controls.] NOTE: THIS CRITERION DOES NOT APPLY SINCE THERE ARE NO AT-GRADE RAILROAD CROSSINGS NEAR THE PROJECT SITE.

2 TRAFFIC IMPACTS

This section provides an assessment of potential motor vehicle traffic impacts resulting from the Proposed Project. This assessment is based on a comparison of the following three scenarios:

- Existing Conditions -- based on April 22, 2014 peak-period intersection counts that were conducted with an enrollment of 880 students
- Baseline Permitted Conditions -- based on subtracting trips generated by enrollment exceeding the permitted enrollment of 844 students
- Permitted plus Project Conditions -- based on the addition of trips generated by the Proposed Project that would increase permitted enrollment from 844 to 906 students

Project impact findings are based on the change from Baseline Permitted Conditions to Permitted plus Project conditions.

MOTOR VEHICLE TRIP GENERATION

Nelson\Nygaard prepared a forecast of the net increase in trips resulting from the Proposed Project based on national trip generation rates identified by the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition* (2012).

Figure 2-1 shows the applicable trip generation rate for private K-12 schools for typical peak hour conditions (Morning and Afternoon School Peak Hours) and for daily trips. The Morning Peak Hour occurs from 7:45 to 8:45 am at Head Royce School, while Afternoon School Peak Hour occurs from 3:00 to 4:00 pm.

Figure 2-1 Motor Vehicle Trip Generation Rate

Land Use	Unit	Morning Peak Hour	Afternoon School Peak Hour	Daily Trips
Private School K-12 (ITE Land Use 536)	Number of students	0.81 (61% inbound / 39% outbound)	0.58 (42% inbound / 58% outbound)	2.48 (50% inbound / 50% outbound)

Figure 2-2 shows the motor vehicle trip generation forecast resulting from the proposed increase in permitted enrollment from 844 to 906 students. As shown, the Proposed Project would generate 50 Morning Peak Hour vehicle trips (31 inbound & 19 outbound); 35 Afternoon School Peak Hour trips (15 inbound & 20 outbound); and 154 daily vehicle trips (77 inbound & 77 outbound).

Figure 2-2 Motor Vehicle Trip Generation Forecast – Proposed Project

	Unit	AM Peak Hour Trips	Afternoon School Peak Hour Trips	Daily Trips
Permitted Enrollment	844 students	684 (417 inbound & 267 outbound)	490 (206 inbound & 284 outbound)	2,093
Proposed Enrollment	906 students	734 (448 inbound & 286 outbound)	525 (221 inbound & 304 outbound)	2,247
Net Increase	62 students*	50 (31 inbound & 19 outbound)	35 (15 inbound & 20 outbound)	154 (77 inbound & 77 outbound)

**Note: The actual net increase from conditions at the time of the traffic assessment was 26 students.*

VEHICLE TRIP DISTRIBUTION & ASSIGNMENT

The distribution of Project-generated vehicle trips (i.e., the directional pattern of those trips), and the assignment of Project-generated vehicle trips to each study intersection is based on a comparison of weekday peak-period counts conducted in 2014 on two different days:

- Non-school day intersection counts were conducted on Thursday, February 20, 2014 – a weekday in which Head Royce School was closed for the entire week.
- School day counts were conducted on Tuesday, April 22, 2014 – a weekday in which Head Royce was in session.

The peak-period counts were conducted from 7:00 to 9:00 am and 3:00 to 6:00 pm at five intersections (study intersections 1-5) including bicycle and pedestrian volumes. Traffic volumes at study intersection #6 (the intersection of Lincoln Avenue with the signalized pedestrian crossing adjacent to campus) were derived from approach volumes at the adjacent study intersections on Lincoln Avenue.

The results of both count days are provided in the appendices to this report. Appendix A provides the non-school day counts conducted on Thursday, February 20, 2014 when Head Royce School was not in session, and Appendix B provides the school day counts conducted on Tuesday, April 22, 2014.

Figures 2-3 and 2-4 provide a comparison of Existing Volumes on both count days, for purposes of estimating the portion of vehicle trips generated by Head Royce School at each study intersection based on the net trips through each intersection when school was in session.

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Figure 2-3 Existing Traffic Volume Comparison – Morning Peak Hour

Intersection	Non-school Weekday	Schoolday	Net Trips on School Day – Morning Peak Hour
1. Lincoln Ave & Monterey Blvd	1,300	1,615	315
2. Lincoln Ave & Head Royce Driveway	594	1,086	492
3. Lincoln Ave & Alida St	604	1,034	430
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	579	939	360
5. Whittle Ave & Funston Pl	28	46	18
6. Lincoln Ave & Pedestrian Crossing	594	1,011	417

Source: Nelson\Nygaard based on comparison of peak-hour traffic volumes on non-school weekday (Thursday, February 20, 2014) and school weekday (Tuesday, April 22, 2014).

Figure 2-4 Existing Traffic Volume Comparison – Afternoon School Peak Hour

Intersection	Non-school Weekday	Schoolday	Net Trips on School Day – Afternoon School Peak Hour
1. Lincoln Ave & Monterey Blvd	1,219	1,417	198
2. Lincoln Ave & Head Royce Driveway	572	820	248
3. Lincoln Ave & Alida St	562	813	251
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	522	740	218
5. Whittle Ave & Funston Pl	33	31	-2
6. Lincoln Ave & Pedestrian Crossing	562	789	227

Source: Nelson\Nygaard based on comparison of peak-hour traffic volumes on non-school weekday (Thursday, February 20, 2014) and school weekday (Tuesday, April 22, 2014).

Based on the school trip distribution pattern described above, which are based on the existing enrollment of 880 students, the school contribution to intersection volumes under Baseline Permitted Conditions (with currently permitted enrollment of 844 students) and Permitted Plus Project Conditions (with proposed enrollment of 906 students) was extrapolated based on the proportional change in enrollment under each scenario. Figures 2-5 and 2-6 show the school-generated vehicle trips through each intersection under each scenario.

Figure 2-5 School-generated Vehicle Trips through each Intersection – Morning Peak Hour

Intersection	Existing Conditions (880 students)	Baseline Permitted Conditions (844 students)	Permitted Plus Project Conditions (906 students)
1. Lincoln Ave & Monterey Blvd	315	302	324
2. Lincoln Ave & Head Royce Driveway	492	472	507
3. Lincoln Ave & Alida St	430	412	443
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	360	345	371
5. Whittle Ave & Funston Pl	18	17	19
6. Lincoln Ave & Pedestrian Crossing	417	400	429

Source: Nelson\Nygaard

Figure 2-6 School-generated Vehicle Trips through each Intersection – Afternoon School Peak Hour

Intersection	Existing Conditions (880 students)	Baseline Permitted Conditions (844 students)	Permitted Plus Project Conditions (906 students)
1. Lincoln Ave & Monterey Blvd	198	190	204
2. Lincoln Ave & Head Royce Driveway	248	238	255
3. Lincoln Ave & Alida St	251	241	258
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	218	209	224
5. Whittle Ave & Funston Pl	0	0	0
6. Lincoln Ave & Pedestrian Crossing	227	218	234

Source: Nelson\Nygaard

Figures 2-7 shows the resulting trip assignment for the Proposed Project, based on the net change in school-generated vehicle trips between Baseline Permitted Conditions (with the currently permitted enrollment of 844 students) and Permitted Plus Project conditions (with proposed enrollment of 906 students).

Figure 2-7 Vehicle Trip Assignment – Proposed Project

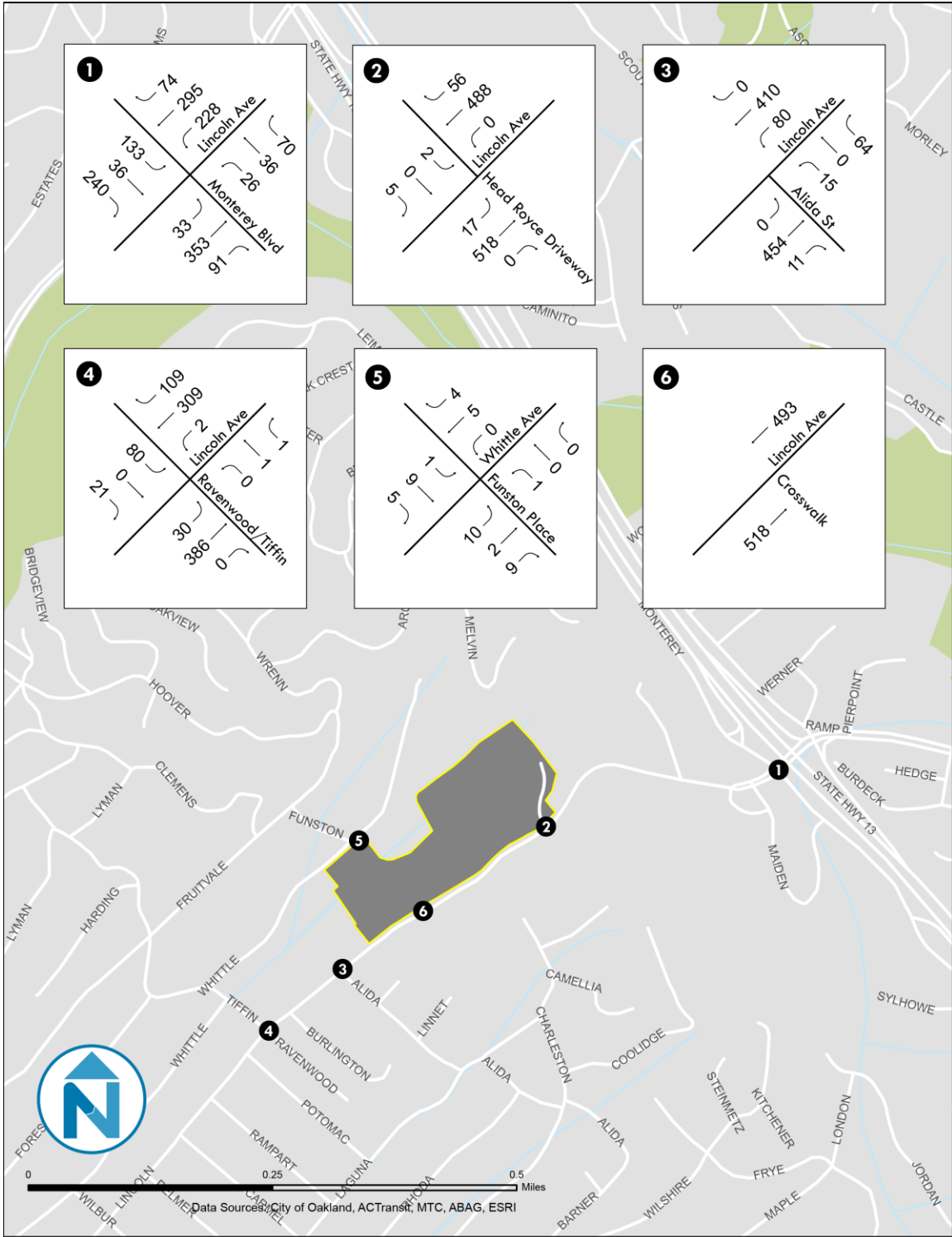
Intersection	Morning Peak Hour	Afternoon School Peak Hour
1. Lincoln Ave & Monterey Blvd	22	14
2. Lincoln Ave & Head Royce Driveway	35	17
3. Lincoln Ave & Alida St	31	17
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	26	15
5. Whittle Ave & Funston Pl	2	0
6. Lincoln Ave & Pedestrian Crossing	29	16

TRAFFIC OPERATIONS – EXISTING CONDITIONS

This section describes existing traffic operations. Figures 2-8 and 2-9 show the existing motor vehicle turning movements for each approach 8 during the AM and PM Peak Hour at each study intersection.

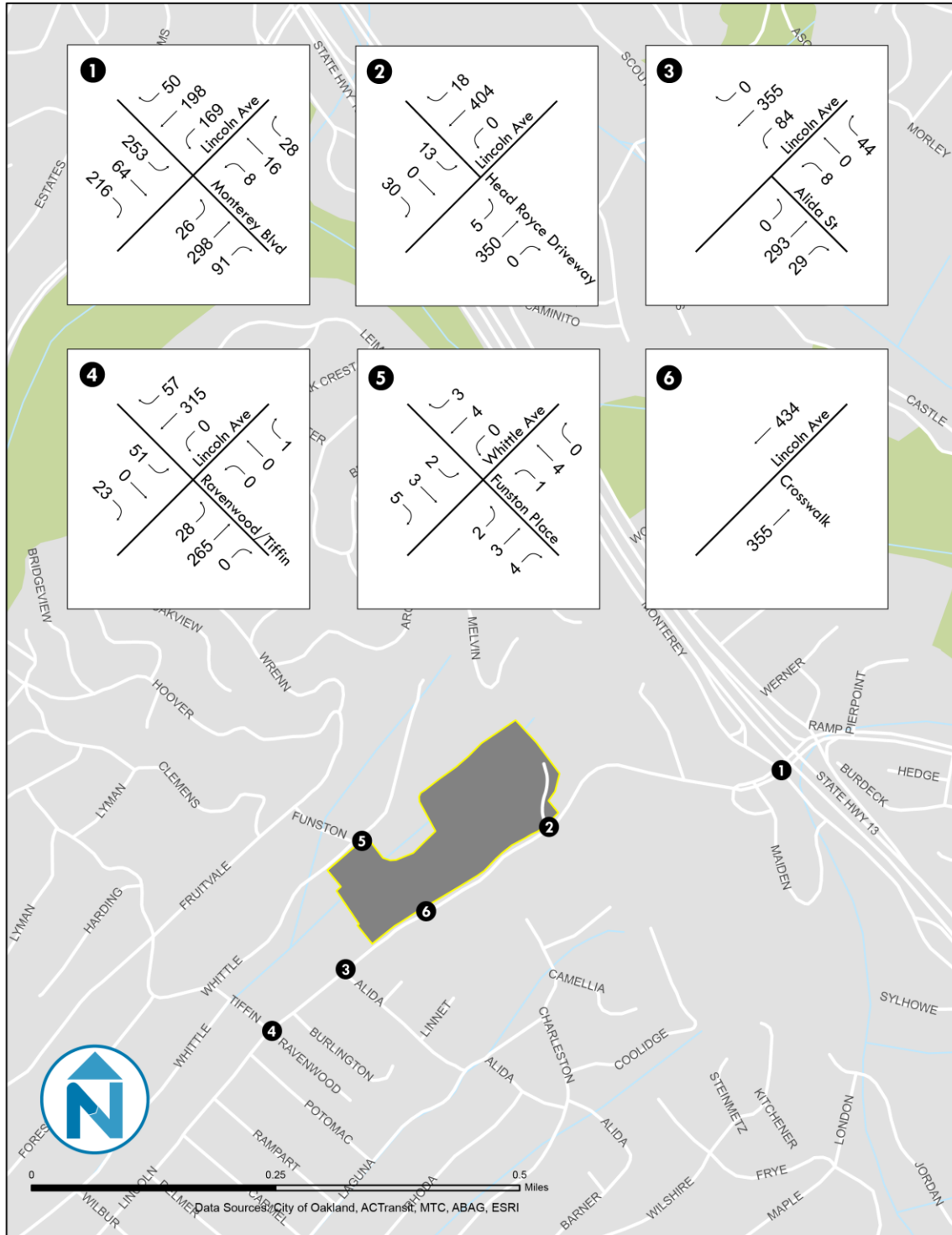
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Figure 2-8 Existing Traffic Volumes by Turning Movement - Morning Peak Hour



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Figure 2-9 Existing Traffic Volumes by Turning Movement - Afternoon School Peak Hour



Level of Service Definition

Traffic operations are typically evaluated based on intersection level of service (LOS) standards précised by methodology described in the Highway Capacity Manual (HCM). LOS is a qualitative measure based on average delay to vehicles.

Figure 2-10 provides a standard definition for intersection level of service, summarizing the relative delay based on HCM methodology.

Figure 2-10 Intersection Level of Service (LOS) Definitions

LOS	Flow Type	Operational Characteristics	Intersection Control Delay (seconds/vehicle)	
			Signal Control	Stop-sign Control
A	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	< 10	0 – 10
B	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS A. Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	> 10 – 20	> 10 – 15
C	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	> 20 – 35	> 15 – 25
D	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	> 35 – 55	> 25 – 35
E	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection.	> 55 – 80	> 35 – 50
F	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Queue spillovers from other locations restrict or prevent movement.	> 80	> 50

Source: Highway Capacity Manual (HCM) 2010

At signalized intersections, and at all-way stop-sign controlled intersections, LOS is based on average delay for all approaches. At side-street stop-sign controlled intersections, LOS is based on average delay for the worst approach (i.e., a side-street approaching a stop-sign).

Peak Hour Level of Service – Existing Conditions

Figure 2-11 shows the existing LOS and average delay during the AM and PM Peak Hours at each study intersection. As shown, each intersection operates acceptably at LOS D or better.

Figure 2-11 Peak Hour Traffic Level of Service – Existing Conditions

Intersection	Control	AM Peak Hour		Afternoon School Peak Hour	
		LOS	Avg Delay (sec)	LOS	Avg Delay (sec)
1. Lincoln Ave & Monterey Blvd	All-way Stop-sign	D	<35	D	<35
2. Lincoln Ave & Head Royce Driveway	Signal	B	14.2	A	<10
3. Lincoln Ave & Alida St	Side-street Stop-sign	C	20.4	B	12.9
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	All-way Stop-sign	C	19.5	B	11.3
5. Whittle Ave & Funston Pl	Uncontrolled	A	<10	A	<10
6. Lincoln Ave & Pedestrian Crossing	Signal	C	31.0	C	34.5

Bold indicates unacceptable LOS E or F based on adopted City of Oakland standards.

Source: Nelson\Nygaard analysis based on April 22, 2014 intersection turning movement counts.

Figure 2-12 Afternoon School Peak – Photo Looking East on Lincoln Avenue



During the afternoon school peak-hour, curb-side space immediately adjacent to the main campus entrances are restricted until approximately 3:15 pm, allowing buses to access curb-side loading spaces. Most arriving parents are held in the church parking lot – adjacent to the intersection of Lincoln and Monterey Streets – and released as curb-side pick-up space becomes available.

TRAFFIC OPERATIONS – BASLINE PERMITTED CONDITIONS (WITHOUT PROJECT)

This section describes Baseline Permitted Conditions, based on currently permitted enrollment of 844 students. Since existing enrollment is 880 students, the Permitted Conditions evaluation is based on subtracting a portion of existing trips. Figure 2-13 shows the number of vehicle trips subtracted from each study intersection for purposes of evaluating Baseline Permitted Conditions.

Figure 2-13 Reduction in Vehicle Trips at Each Intersection for Baseline Permitted Conditions scenario

Intersection	AM Peak Hour	Afternoon School Peak Hour
1. Lincoln Ave & Monterey Blvd	-13	-8
2. Lincoln Ave & Head Royce Driveway	-20	-10
3. Lincoln Ave & Alida St	-18	-10
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	-15	-9
5. Whittle Ave & Funston Pl	-1	0
6. Lincoln Ave & Pedestrian Crossing	-17	-9

Source: Nelson\Nygaard

Figure 2-14 shows the resulting Baseline Permitted Conditions LOS at each study intersection. As shown, average delay is reduced slightly – less than one second at each study intersection – in comparison with Existing Conditions.

Figure 2-14 Peak Hour Traffic Level of Service – Baseline Permitted Conditions (without Project)

Intersection	Control	AM Peak Hour		PM Peak Hour	
		LOS	Avg Delay (sec)	LOS	Avg Delay (sec)
1. Lincoln Ave & Monterey Blvd	All-way Stop-sign	D	<35	D	<35
2. Lincoln Ave & Head Royce Driveway	Signal	B	13.4	A	<10
3. Lincoln Ave & Alida St	Side-street Stop-sign	C	19.7	B	12.8
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	All-way Stop-sign	C	18.6	B	11.2
5. Whittle Ave & Funston Pl	Uncontrolled	A	<10	A	<10
6. Lincoln Ave & Pedestrian Crossing	Signal	C	29.7	C	33.6

Bold indicates unacceptable LOS E or F based on adopted City of Oakland standards.

Source: Nelson\Nygaard

TRAFFIC OPERATIONS – PERMITTED PLUS PROJECT CONDITIONS

Figure 2-15 shows the Permitted Plus Project LOS at each study intersection, based on the addition of Project trips as shown on Figure 2-7. As shown, average delay increases by less than two (2) seconds at each study intersection and the Proposed Project would not result in unacceptable LOS E or F at any study intersection.

Figure 2-15 Peak Hour Traffic Level of Service – Permitted Plus Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		LOS	Avg Delay (sec)	LOS	Avg Delay (sec)
1. Lincoln Ave & Monterey Blvd	All-way Stop-sign	D	<35	D	<35
2. Lincoln Ave & Head Royce Driveway	Signal	B	14.8	A	<10
3. Lincoln Ave & Alida St	Side-street Stop-sign	C	21.0	B	13.0
4. Lincoln Ave & Ravenwood Ln / Tiffin Rd	All-way Stop-sign	C	20.1	B	11.4
5. Whittle Ave & Funston Pl	Uncontrolled	A	<10	A	<10
6. Lincoln Ave & Pedestrian Crossing	Signal	C	32.0	D	35.6

Bold indicates unacceptable LOS E or F based on adopted City of Oakland standards.

Source: Nelson\Nygaard

TRAFFIC IMPACT FINDINGS

Based on the comparison of Baseline Permitted and Permitted plus Project Conditions, the Proposed Project is not anticipated to result in unacceptable LOS E or F. Therefore, impacts to study intersections resulting from the Proposed Project would be less than significant

3 MULTIMODAL IMPACTS

This section provides an assessment of multimodal impacts to bicycle, pedestrian and transit circulation.

BICYCLE IMPACTS

The Proposed Project will not significantly impact bicycle facilities:

- There will no removal or degradation of existing bikeways under the Proposed Project
- There will be no addition of new vehicle travel lanes and/or turn lanes under the Project
- There will be no new or modified vehicle driveway entrances(s) under the Proposed Project

Increases in bicycle volumes would be negligible, since very few students currently bicycle to/from Head Royce School.

Based on the findings described above, impacts to bicycle circulation resulting from the Proposed Project will be less than significant.

PEDESTRIAN IMPACTS

The Proposed Project is not anticipated to result in a degradation of existing pedestrian facilities:

- There will be no removal of existing pedestrian refuge islands and/or bulbouts under the Proposed Project
- There will be no increase of street crossing distance under the Proposed Project
- There will be no removal or narrowing of existing sidewalks, paths, marked crossings, or pedestrian access ways under the Project
- There will no additional vehicle travel lanes and/or turn lanes added under the Proposed Project
- There will be no removal of existing sidewalk-street buffering elements (e.g., on-street parking.)

Increases in pedestrian or vehicle volume at unsignalized or uncontrolled intersections will be relatively minor and is not anticipated to result in sidewalk overcrowding.

Based on the findings described above, impacts to pedestrians resulting from the Proposed Project will be less than significant.

Figure 3-1 Existing Sidewalks –Photo Looking West on Lincoln Avenue



TRANSIT IMPACTS

The Proposed Project will not significantly impact transit access:

- There will be no removal or degradation of existing bus facilities under the Proposed Project.
- There will be change to existing bus stops under the Proposed Project.
- The Proposed Project would potentially generate 10-15 additional morning transit riders – combined total of AC Transit and Michael’s Transportation – divided between nine bus routes. The additional ridership is not expected to result in a significant increase in transit ridership that would exceed transit capacity. Impacts to transit resulting from the Proposed Project would be less than significant.

APPENDICES

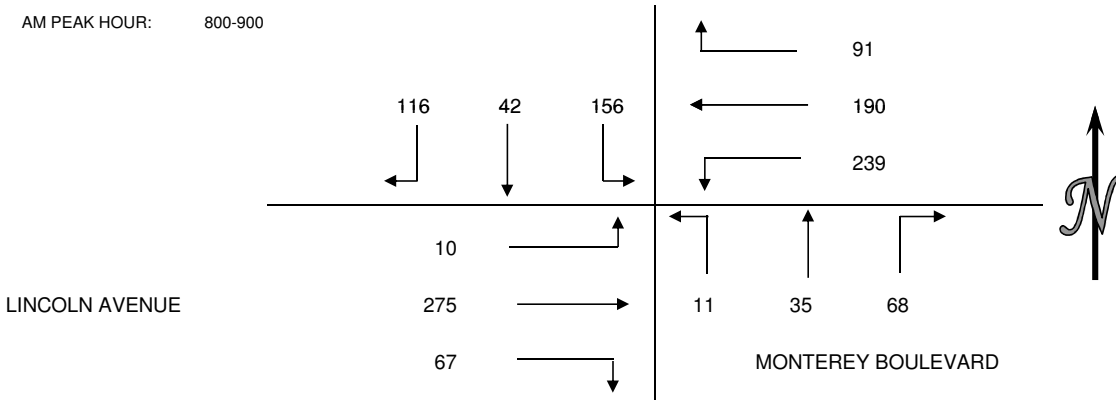
APPENDIX A - INTERSECTION COUNTS (NON-SCHOOL WEEKDAY)

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S MONTEREY BOULEVARD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	14	7	22	2	7	18	7	2	0	11	35	3	128
715-730	13	5	25	9	12	15	5	2	1	8	43	0	138
730-745	21	6	39	14	20	34	11	3	3	6	56	0	213
745-800	22	15	48	22	43	30	15	5	2	13	76	2	293
800-815	28	12	36	39	49	54	23	15	3	16	79	5	359
815-830	26	8	40	23	43	61	15	6	2	10	75	1	310
830-845	31	8	49	15	60	58	20	7	2	22	61	4	337
845-900	31	14	31	14	38	66	10	7	4	19	60	0	294
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	70	33	134	47	82	97	38	12	6	38	210	5	772
715-815	84	38	148	84	124	133	54	25	9	43	254	7	1003
730-830	97	41	163	98	155	179	64	29	10	45	286	8	1175
745-845	107	43	173	99	195	203	73	33	9	61	291	12	1299
800-900	116	42	156	91	190	239	68	35	11	67	275	10	1300

AM PEAK HOUR: 800-900



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	2	2	4
715-730	3	0	1	0	4
730-745	0	0	0	0	0
745-800	5	0	2	2	9
800-815	0	0	0	0	0
815-830	0	0	0	1	1
830-845	0	0	0	0	0
845-900	0	0	0	1	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	8	0	5	4	17
715-815	8	0	3	2	13
730-830	5	0	2	3	10
745-845	5	0	2	3	10
800-900	0	0	0	2	2

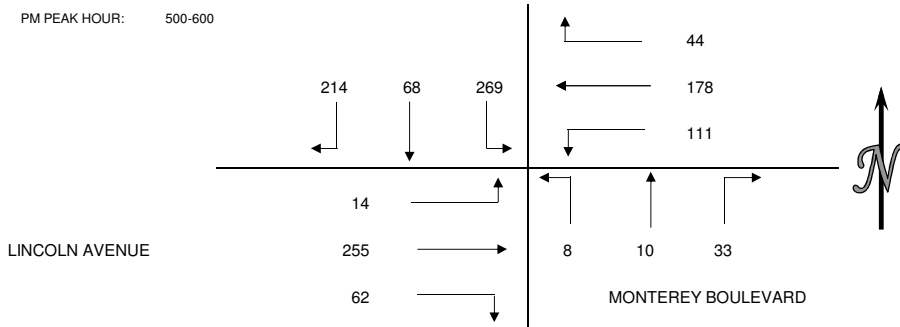
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	1	0	0	1
730-745	0	2	1	0	3
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	1	1
845-900	0	0	0	1	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	3	1	0	4
715-815	0	3	1	0	4
730-830	0	2	1	0	3
745-845	0	0	0	1	1
800-900	0	0	0	2	2

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S MONTEREY BOULEVARD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	41	18	66	8	31	37	6	4	1	21	61	5	299
315-330	42	18	55	7	53	60	3	2	2	27	70	2	341
330-345	45	21	60	10	42	44	1	3	1	14	58	4	303
345-400	46	10	60	10	38	22	3	4	0	18	54	11	276
400-415	40	13	64	11	43	25	5	2	0	23	49	4	279
415-430	51	15	59	6	41	30	2	1	1	12	57	1	276
430-445	40	21	58	5	36	32	2	6	4	18	61	6	289
445-500	46	17	51	14	42	22	13	4	1	21	66	1	298
500-515	50	19	73	13	34	22	12	6	2	15	57	3	306
515-530	53	14	68	11	34	37	9	3	0	16	56	3	304
530-545	66	20	61	7	45	22	6	0	4	17	69	5	322
545-600	45	15	67	13	65	30	6	1	2	14	73	3	334
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	174	67	241	35	164	163	13	13	4	80	243	22	1219
315-415	173	62	239	38	176	151	12	11	3	82	231	21	1199
330-430	182	59	243	37	164	121	11	10	2	67	218	20	1134
345-445	177	59	241	32	158	109	12	13	5	71	221	22	1120
400-500	177	66	232	36	162	109	22	13	6	74	233	12	1142
415-515	187	72	241	38	153	106	29	17	8	66	241	11	1169
430-530	189	71	250	43	146	113	36	19	7	70	240	13	1197
445-545	215	70	253	45	155	103	40	13	7	69	248	12	1230
500-600	214	68	269	44	178	111	33	10	8	62	255	14	1266

PM PEAK HOUR: 500-600



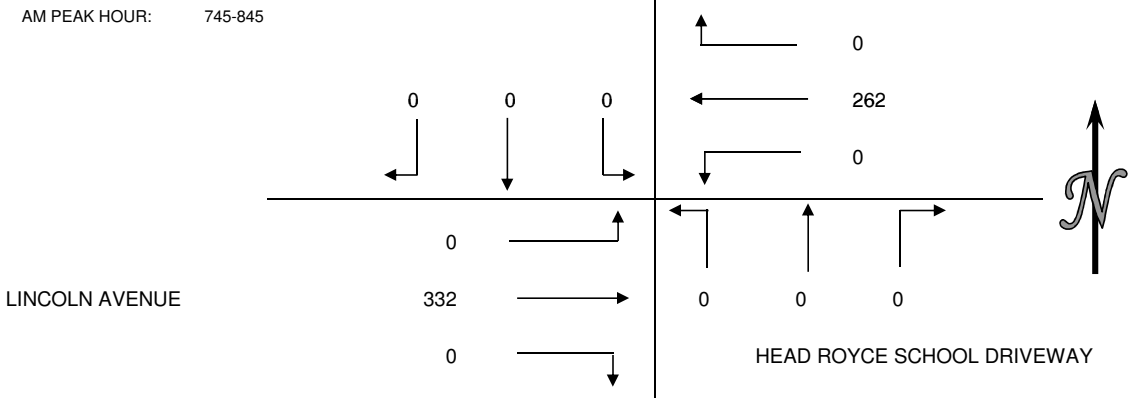
PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	0	0	1	0	1
315-330	1	0	0	0	1
330-345	0	2	3	0	5
345-400	0	0	2	0	2
400-415	3	0	0	1	4
415-430	3	0	4	1	8
430-445	2	0	0	1	3
445-500	0	0	1	0	1
500-515	0	0	3	0	3
515-530	1	0	0	2	3
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	1	2	6	0	9
315-415	4	2	5	1	12
330-430	6	2	9	2	19
345-445	8	0	6	3	17
400-500	8	0	5	3	16
415-515	5	0	8	2	15
430-530	3	0	4	3	10
445-545	1	0	4	2	7
500-600	1	0	3	2	6

BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	4	0	1	0	5
315-330	0	0	0	1	1
330-345	0	1	0	1	2
345-400	0	1	0	0	1
400-415	0	0	0	3	3
415-430	0	0	3	1	4
430-445	1	2	0	0	3
445-500	0	0	0	1	1
500-515	0	0	0	1	1
515-530	3	0	0	0	3
530-545	1	0	0	0	1
545-600	1	1	0	0	2
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	4	2	1	2	9
315-415	0	2	0	5	7
330-430	0	2	3	5	10
345-445	1	3	3	4	11
400-500	1	2	3	5	11
415-515	1	2	3	3	9
430-530	4	2	0	2	8
445-545	4	0	0	2	6
500-600	5	1	0	1	7

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S HEAD ROYCE SCHOOL DRIVEWAY
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS														
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-715	0	0	1	0	28	0	0	0	0	0	62	0	91	
715-730	0	0	0	1	33	0	0	0	0	0	55	1	90	
730-745	0	0	0	0	53	0	0	0	0	0	82	0	135	
745-800	0	0	0	0	63	0	0	0	0	0	100	0	163	
800-815	0	0	0	0	75	0	0	0	0	0	86	0	161	
815-830	0	0	0	0	55	0	0	0	0	0	77	0	132	
830-845	0	0	0	0	69	0	0	0	0	0	69	0	138	
845-900	1	0	0	0	81	0	0	0	0	0	64	2	148	
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-800	0	0	1	1	177	0	0	0	0	0	299	1	479	
715-815	0	0	0	1	224	0	0	0	0	0	323	1	549	
730-830	0	0	0	0	246	0	0	0	0	0	345	0	591	
745-845	0	0	0	0	262	0	0	0	0	0	332	0	594	
800-900	1	0	0	0	280	0	0	0	0	0	296	2	579	



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	1	1
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	1	0	0	0	1
845-900	1	0	0	0	1
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	1	1
715-815	0	0	0	0	0
730-830	0	0	0	0	0
745-845	1	0	0	0	1
800-900	2	0	0	0	2

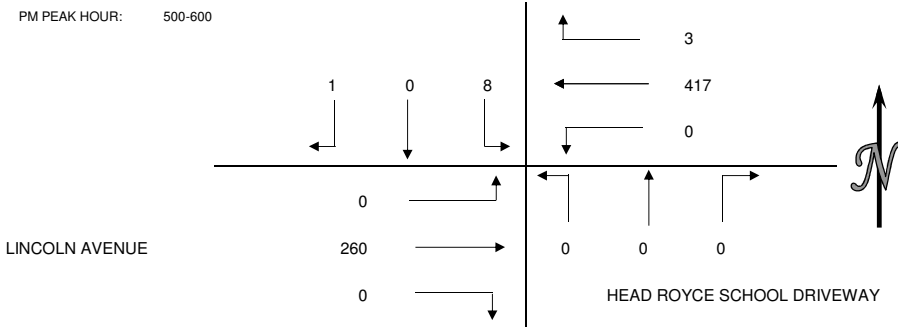
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S HEAD ROYCE SCHOOL DRIVEWAY
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	0	0	2	0	75	0	0	0	0	0	71	1	149
315-330	0	0	1	0	70	0	0	0	0	0	70	1	142
330-345	0	0	1	2	61	0	0	0	0	0	69	1	134
345-400	2	0	2	2	76	0	0	0	0	0	63	2	147
400-415	1	0	3	2	90	0	0	0	0	0	72	1	169
415-430	0	0	1	2	77	0	0	0	0	0	61	0	141
430-445	1	0	3	3	79	0	0	0	0	0	54	2	142
445-500	2	0	1	4	100	0	0	0	0	0	67	1	175
500-515	1	0	4	1	100	0	0	0	0	0	61	0	167
515-530	0	0	0	0	111	0	0	0	0	0	68	0	179
530-545	0	0	3	1	93	0	0	0	0	0	70	0	167
545-600	0	0	1	1	113	0	0	0	0	0	61	0	176
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	2	0	6	4	282	0	0	0	0	0	273	5	572
315-415	3	0	7	6	297	0	0	0	0	0	274	5	592
330-430	3	0	7	8	304	0	0	0	0	0	265	4	591
345-445	4	0	9	9	322	0	0	0	0	0	250	5	599
400-500	4	0	8	11	346	0	0	0	0	0	254	4	627
415-515	4	0	9	10	356	0	0	0	0	0	243	3	625
430-530	4	0	8	8	390	0	0	0	0	0	250	3	663
445-545	3	0	8	6	404	0	0	0	0	0	266	1	688
500-600	1	0	8	3	417	0	0	0	0	0	260	0	689

PM PEAK HOUR: 500-600



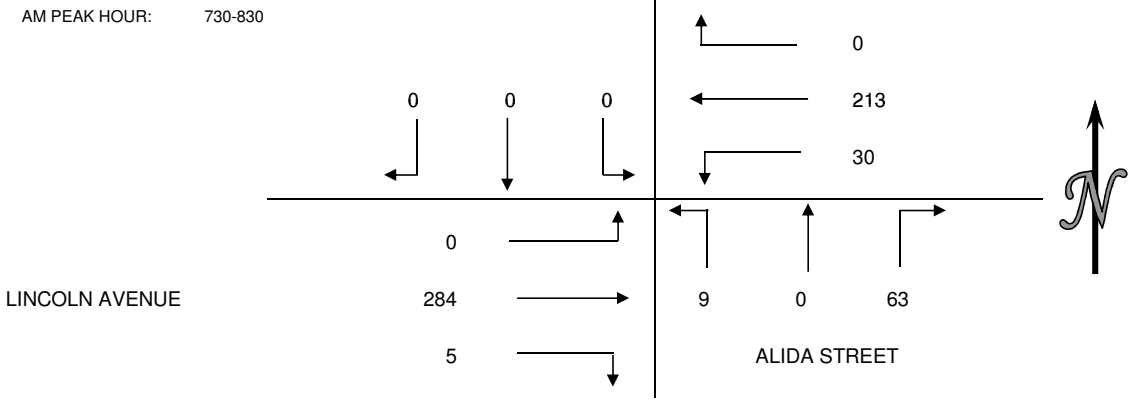
PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	3	0	0	0	3
315-330	4	0	0	0	4
330-345	0	0	0	0	0
345-400	1	0	0	0	1
400-415	0	0	0	0	0
415-430	0	0	0	1	1
430-445	1	0	0	0	1
445-500	1	0	0	0	1
500-515	1	0	0	0	1
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	8	0	0	0	8
315-415	5	0	0	0	5
330-430	1	0	0	1	2
345-445	2	0	0	1	3
400-500	2	0	0	1	3
415-515	3	0	0	1	4
430-530	3	0	0	0	3
445-545	2	0	0	0	2
500-600	1	0	0	0	1

BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	2	0	0	0	2
345-400	0	0	0	0	0
400-415	0	0	0	0	0
415-430	1	0	0	0	1
430-445	1	0	0	1	2
445-500	1	0	0	0	1
500-515	4	0	0	0	4
515-530	1	0	0	0	1
530-545	0	0	0	0	0
545-600	1	0	0	0	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	2	0	0	0	2
315-415	2	0	0	0	2
330-430	3	0	0	0	3
345-445	2	0	0	1	3
400-500	3	0	0	1	4
415-515	7	0	0	1	8
430-530	7	0	0	1	8
445-545	6	0	0	0	6
500-600	6	0	0	0	6

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S ALIDA STREET
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	0	0	0	0	27	1	18	0	3	1	48	0	98
715-730	0	0	0	0	21	4	11	0	3	0	43	0	82
730-745	0	0	0	0	43	12	16	0	3	0	68	0	142
745-800	0	0	0	0	50	7	14	0	2	0	84	0	157
800-815	0	0	0	0	70	4	13	0	2	0	70	0	159
815-830	0	0	0	0	50	7	20	0	2	5	62	0	146
830-845	0	0	0	0	45	7	8	0	6	3	67	0	136
845-900	0	0	0	0	72	14	10	0	7	2	53	0	158
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	0	0	0	0	141	24	59	0	11	1	243	0	479
715-815	0	0	0	0	184	27	54	0	10	0	265	0	540
730-830	0	0	0	0	213	30	63	0	9	5	284	0	604
745-845	0	0	0	0	215	25	55	0	12	8	283	0	598
800-900	0	0	0	0	237	32	51	0	17	10	252	0	599



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	2	0	2
715-730	0	0	1	0	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	1	2	0	3
815-830	0	1	2	0	3
830-845	0	1	2	0	3
845-900	0	0	2	0	2
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	3	0	3
715-815	0	1	3	0	4
730-830	0	2	4	0	6
745-845	0	3	6	0	9
800-900	0	3	8	0	11

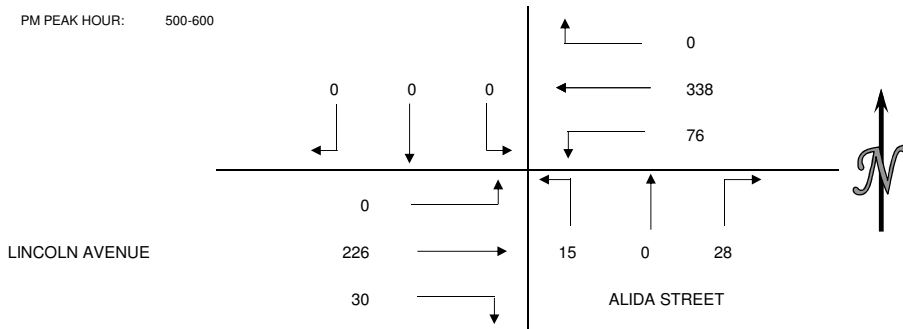
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	1	0	0	1
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	1	0	0	1
745-845	0	1	0	0	1
800-900	0	1	0	0	1

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S ALIDA STREET
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	0	0	0	0	83	7	12	0	4	7	62	0	175
315-330	0	0	0	0	55	9	5	0	0	3	57	0	129
330-345	0	0	0	0	66	4	8	0	1	7	48	0	134
345-400	0	0	0	0	48	11	10	0	0	5	50	0	124
400-415	0	0	0	0	77	12	9	0	5	5	60	0	168
415-430	0	0	0	0	67	20	11	0	3	3	40	0	144
430-445	0	0	0	0	65	15	10	0	4	4	52	0	150
445-500	0	0	0	0	86	15	8	0	2	5	47	0	163
500-515	0	0	0	0	85	16	6	0	7	8	54	0	176
515-530	0	0	0	0	86	21	3	0	6	4	62	0	182
530-545	0	0	0	0	83	22	12	0	1	10	59	0	187
545-600	0	0	0	0	84	17	7	0	1	8	51	0	168
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	0	0	0	0	252	31	35	0	5	22	217	0	562
315-415	0	0	0	0	246	36	32	0	6	20	215	0	555
330-430	0	0	0	0	258	47	38	0	9	20	198	0	570
345-445	0	0	0	0	257	58	40	0	12	17	202	0	586
400-500	0	0	0	0	295	62	38	0	14	17	199	0	625
415-515	0	0	0	0	303	66	35	0	16	20	193	0	633
430-530	0	0	0	0	322	67	27	0	19	21	215	0	671
445-545	0	0	0	0	340	74	29	0	16	27	222	0	708
500-600	0	0	0	0	338	76	28	0	15	30	226	0	713

PM PEAK HOUR: 500-600



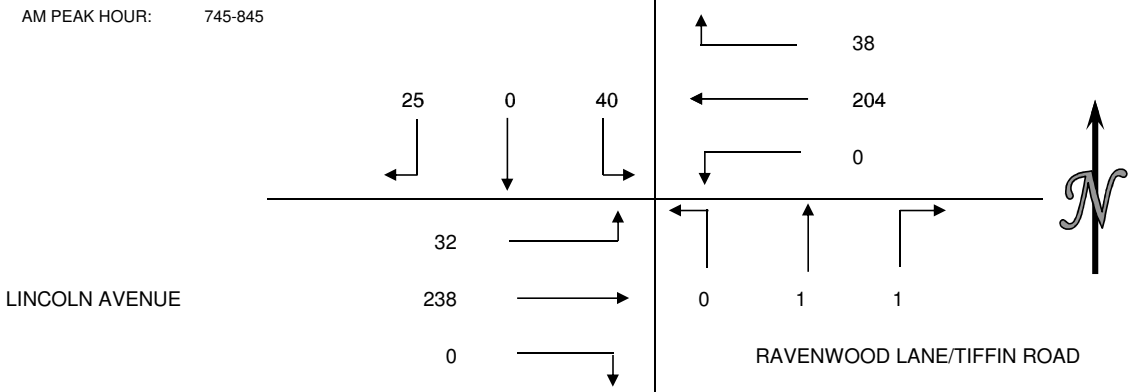
PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	1	0	0	1
330-345	0	1	0	0	1
345-400	0	1	0	0	1
400-415	0	0	2	0	2
415-430	0	1	0	0	1
430-445	0	0	3	0	3
445-500	0	2	0	0	2
500-515	0	1	0	0	1
515-530	0	0	2	0	2
530-545	0	0	3	0	3
545-600	0	0	4	0	4
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	3	0	0	3
315-415	0	3	2	0	5
330-430	0	3	2	0	5
345-445	0	2	5	0	7
400-500	0	3	5	0	8
415-515	0	4	3	0	7
430-530	0	3	5	0	8
445-545	0	3	5	0	8
500-600	0	1	9	0	10

BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	0	1	0	0	1
415-430	0	0	1	0	1
430-445	0	0	1	0	1
445-500	0	1	0	0	1
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	1	0	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	0	0	0
315-415	0	1	0	0	1
330-430	0	1	1	0	2
345-445	0	1	2	0	3
400-500	0	2	2	0	4
415-515	0	1	2	0	3
430-530	0	1	1	0	2
445-545	0	1	0	0	1
500-600	0	0	1	0	1

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S RAVENWOOD LANE/TIFFIN ROAD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS														
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-715	1	0	12	1	21	0	1	0	1	0	33	1	71	
715-730	5	0	8	8	23	0	0	0	0	0	33	3	80	
730-745	6	0	6	8	38	0	0	0	0	0	57	2	117	
745-800	4	0	11	5	45	0	0	0	0	0	76	6	147	
800-815	3	0	8	12	63	0	0	0	0	0	57	10	153	
815-830	12	0	11	8	45	0	0	1	0	0	52	8	137	
830-845	6	0	10	13	51	0	1	0	0	0	53	8	142	
845-900	1	0	9	15	56	0	0	0	0	0	52	2	135	
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-800	16	0	37	22	127	0	1	0	1	0	199	12	415	
715-815	18	0	33	33	169	0	0	0	0	0	223	21	497	
730-830	25	0	36	33	191	0	0	1	0	0	242	26	554	
745-845	25	0	40	38	204	0	1	1	0	0	238	32	579	
800-900	22	0	38	48	215	0	1	1	0	0	214	28	567	



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	1	3	0	4
715-730	0	0	1	0	1
730-745	0	5	1	0	6
745-800	0	2	2	0	4
800-815	2	0	0	0	2
815-830	1	0	11	0	12
830-845	0	2	3	0	5
845-900	0	2	1	0	3
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	LEG
700-800	0	8	7	0	15
715-815	2	7	4	0	13
730-830	3	7	14	0	24
745-845	3	4	16	0	23
800-900	3	4	15	0	22

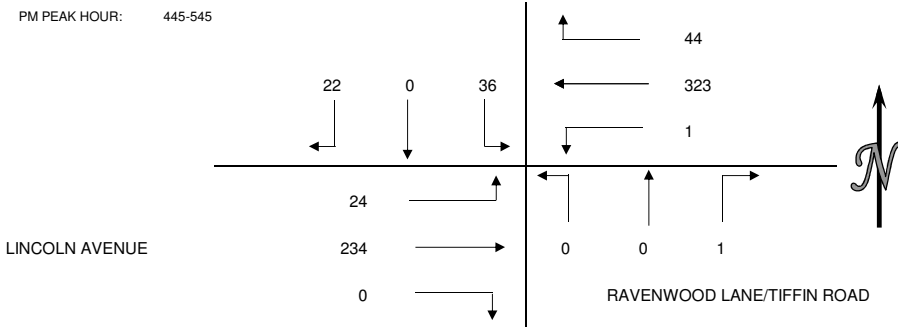
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	2	2
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	1	0	1
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	LEG
700-800	0	0	0	2	2
715-815	0	0	0	0	0
730-830	0	0	1	0	1
745-845	0	0	1	0	1
800-900	0	0	1	0	1

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S RAVENWOOD LANE/TIFFIN ROAD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	6	0	10	7	65	0	0	0	0	0	51	4	143
315-330	10	0	4	10	59	0	0	0	0	0	57	3	143
330-345	8	0	8	7	56	0	0	0	0	0	49	0	128
345-400	5	0	10	11	36	0	0	0	0	0	40	6	108
400-415	5	1	11	11	78	0	0	0	0	0	54	5	165
415-430	6	0	6	9	51	0	0	0	0	0	47	2	121
430-445	3	0	5	10	57	0	0	0	0	0	49	4	128
445-500	3	0	7	8	75	0	0	0	0	0	43	6	142
500-515	3	0	8	10	86	0	1	0	0	0	55	9	172
515-530	5	0	10	12	77	0	0	0	0	0	57	6	167
530-545	11	0	11	14	85	1	0	0	0	0	79	3	204
545-600	2	0	6	15	54	0	0	0	0	0	35	4	116
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	29	0	32	35	216	0	0	0	0	0	197	13	522
315-415	28	1	33	39	229	0	0	0	0	0	200	14	544
330-430	24	1	35	38	221	0	0	0	0	0	190	13	522
345-445	19	1	32	41	222	0	0	0	0	0	190	17	522
400-500	17	1	29	38	261	0	0	0	0	0	193	17	556
415-515	15	0	26	37	269	0	1	0	0	0	194	21	563
430-530	14	0	30	40	295	0	1	0	0	0	204	25	609
445-545	22	0	36	44	323	1	1	0	0	0	234	24	685
500-600	21	0	35	51	302	1	1	0	0	0	226	22	659

PM PEAK HOUR: 445-545



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	1	0	0	0	1
315-330	0	0	2	0	2
330-345	0	0	0	0	0
345-400	0	0	2	2	4
400-415	0	0	2	0	2
415-430	3	1	0	0	4
430-445	0	3	5	0	8
445-500	0	0	0	0	0
500-515	3	1	0	0	4
515-530	1	0	0	0	1
530-545	0	0	1	1	2
545-600	0	3	3	0	6
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	1	0	4	2	7
315-415	0	0	6	2	8
330-430	3	1	4	2	10
345-445	3	4	9	2	18
400-500	3	4	7	0	14
415-515	6	5	5	0	16
430-530	4	4	5	0	13
445-545	4	1	1	1	7
500-600	4	4	4	1	13

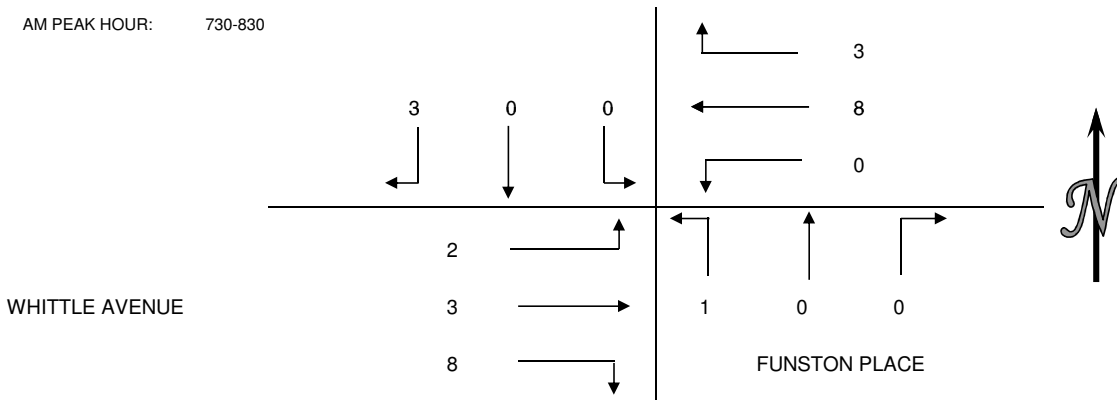
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	1	1
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	0	0	1	0	1
415-430	0	0	1	0	1
430-445	1	0	1	1	3
445-500	0	0	2	0	2
500-515	2	0	0	0	2
515-530	2	0	0	0	2
530-545	0	0	0	0	0
545-600	0	0	0	1	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	0	1	1
315-415	0	0	1	1	2
330-430	0	0	2	0	2
345-445	1	0	3	1	5
400-500	1	0	5	1	7
415-515	3	0	4	1	8
430-530	5	0	3	1	9
445-545	4	0	2	0	6
500-600	4	0	0	1	5

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S FUNSTON PLACE
 E/W WHITTLE AVENUE
 CITY: OAKLAND

VEHICLE COUNTS														
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	EBLT	TOTAL
700-715	0	0	0	1	1	0	0	0	0	0	0	0	0	2
715-730	0	0	0	0	2	0	0	0	0	0	0	0	1	3
730-745	1	0	0	0	3	0	0	0	0	4	0	0	0	8
745-800	1	0	0	1	3	0	0	0	0	0	0	0	2	7
800-815	0	0	0	0	1	0	0	0	1	2	2	0	0	6
815-830	1	0	0	2	1	0	0	0	0	2	1	0	0	7
830-845	1	1	0	1	2	0	0	0	0	2	1	0	0	8
845-900	1	0	0	0	0	0	0	0	0	0	2	0	0	3
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	EBLT	TOTAL
700-800	2	0	0	2	9	0	0	0	0	4	0	3	3	20
715-815	2	0	0	1	9	0	0	0	1	6	2	3	3	24
730-830	3	0	0	3	8	0	0	0	1	8	3	2	2	28
745-845	3	1	0	4	7	0	0	0	1	6	4	2	2	28
800-900	3	1	0	3	4	0	0	0	1	6	6	0	0	24

AM PEAK HOUR: 730-830



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	1	0	0	0	1
745-800	1	0	0	0	1
800-815	1	0	0	0	1
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	1	0	1
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	2	0	0	0	2
715-815	3	0	0	0	3
730-830	3	0	0	0	3
745-845	2	0	0	0	2
800-900	1	0	1	0	2

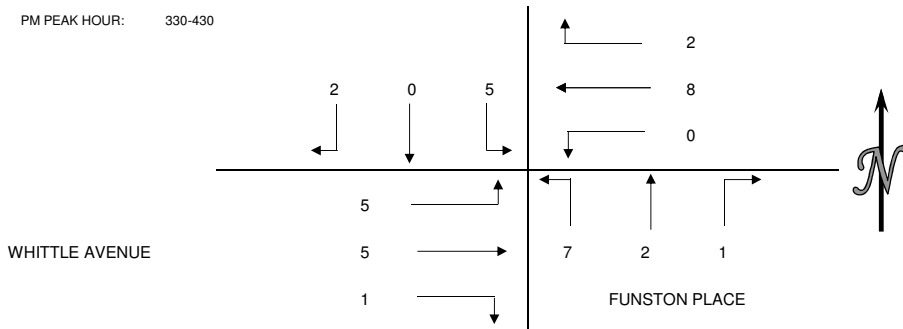
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	1	0	1	2
830-845	0	0	0	0	0
845-900	0	0	1	0	1
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	1	0	1	2
745-845	0	1	0	1	2
800-900	0	1	1	1	3

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: HEAD ROYCE SCHOOL, OAKLAND
 DATE: THURSDAY, FEBRUARY 20, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S FUNSTON PLACE
 E/W WHITTLE AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	0	0	0	0	0	0	0	0	1	1	1	0	3
315-330	1	0	0	0	2	0	0	0	0	1	0	0	4
330-345	1	0	1	2	4	0	0	0	3	1	3	0	15
345-400	1	0	2	0	0	0	1	2	3	0	0	2	11
400-415	0	0	1	0	1	0	0	0	1	0	1	2	6
415-430	0	0	1	0	3	0	0	0	0	0	1	1	6
430-445	1	0	0	0	0	0	0	0	1	0	0	0	2
445-500	0	0	1	1	1	0	0	0	2	0	0	1	6
500-515	0	1	0	0	2	0	0	1	1	0	2	1	8
515-530	1	0	1	2	2	0	0	1	0	0	3	0	10
530-545	2	0	1	1	3	0	0	0	2	0	0	1	10
545-600	1	0	1	1	1	0	0	0	0	0	2	3	9
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	3	0	3	2	6	0	1	2	7	3	4	2	33
315-415	3	0	4	2	7	0	1	2	7	2	4	4	36
330-430	2	0	5	2	8	0	1	2	7	1	5	5	38
345-445	2	0	4	0	4	0	1	2	5	0	2	5	25
400-500	1	0	3	1	5	0	0	0	4	0	2	4	20
415-515	1	1	2	1	6	0	0	1	4	0	3	3	22
430-530	2	1	2	3	5	0	0	2	4	0	5	2	26
445-545	3	1	3	4	8	0	0	2	5	0	5	3	34
500-600	4	1	3	4	8	0	0	2	3	0	7	5	37

PM PEAK HOUR: 330-430



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	5	0	0	1	6
345-400	0	0	0	0	0
400-415	0	0	1	1	2
415-430	0	0	1	0	1
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	2	2	2	3	9
515-530	0	2	0	0	2
530-545	1	0	0	0	1
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	5	0	0	1	6
315-415	5	0	1	2	8
330-430	5	0	2	2	9
345-445	0	0	2	1	3
400-500	0	0	2	1	3
415-515	2	2	3	3	10
430-530	2	4	2	3	11
445-545	3	4	2	3	12
500-600	3	4	2	3	12

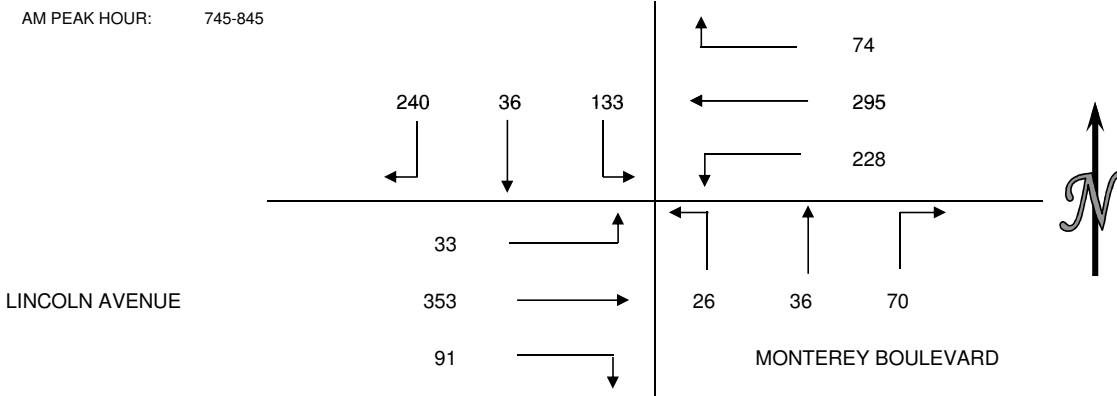
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	0	0	2	0	2
345-400	0	0	0	1	1
400-415	0	0	0	0	0
415-430	0	0	1	0	1
430-445	0	0	1	0	1
445-500	0	0	0	0	0
500-515	0	1	0	0	1
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	2	1	3
315-415	0	0	2	1	3
330-430	0	0	3	1	4
345-445	0	0	2	1	3
400-500	0	0	2	0	2
415-515	0	1	2	0	3
430-530	0	1	1	0	2
445-545	0	1	0	0	1
500-600	0	1	0	0	1

APPENDIX B - INTERSECTION COUNTS (SCHOOL DAY)

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S MONTEREY BOULEVARD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	16	11	25	3	10	16	6	1	0	11	40	2	141
715-730	21	10	22	3	21	39	10	1	1	15	44	2	189
730-745	30	9	35	6	27	27	16	3	3	18	67	2	243
745-800	51	6	31	10	63	35	11	6	3	10	86	6	318
800-815	85	8	32	19	95	60	25	16	16	31	100	10	497
815-830	53	11	30	27	81	61	20	8	5	24	78	12	410
830-845	51	11	40	18	56	72	14	6	2	26	89	5	390
845-900	30	12	41	19	50	55	10	6	3	16	39	7	288
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	118	36	113	22	121	117	43	11	7	54	237	12	891
715-815	187	33	120	38	206	161	62	26	23	74	297	20	1247
730-830	219	34	128	62	266	183	72	33	27	83	331	30	1468
745-845	240	36	133	74	295	228	70	36	26	91	353	33	1615
800-900	219	42	143	83	282	248	69	36	26	97	306	34	1585



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	1	0	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	3	1	4
830-845	0	0	1	0	1
845-900	0	0	1	0	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	1	0	1
715-815	0	0	1	0	1
730-830	0	0	3	1	4
745-845	0	0	4	1	5
800-900	0	0	5	1	6

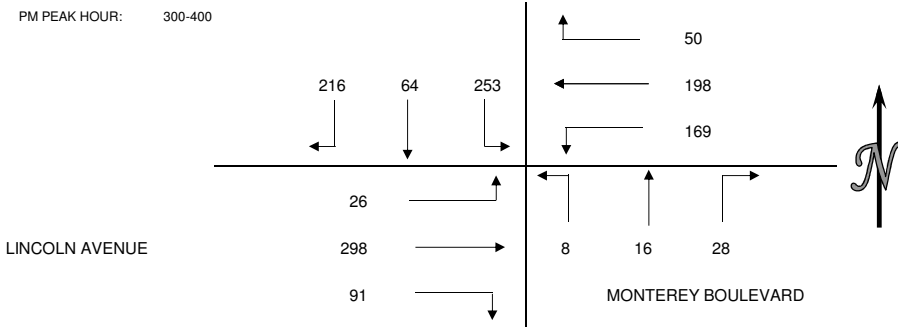
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	1	1	0	2
730-745	0	2	0	1	3
745-800	0	1	0	1	2
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	1	0	0	1	2
845-900	0	2	0	1	3
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	4	1	2	7
715-815	0	4	1	2	7
730-830	0	3	0	2	5
745-845	1	1	0	2	4
800-900	1	2	0	2	5

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S MONTEREY BOULEVARD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	63	15	51	6	48	24	14	6	4	19	60	8	318
315-330	46	15	70	15	68	66	8	4	1	22	74	6	395
330-345	56	15	64	15	46	39	4	4	1	38	104	7	393
345-400	51	19	68	14	36	40	2	2	2	12	60	5	311
400-415	59	9	59	7	43	31	3	2	4	18	42	1	278
415-430	45	19	50	12	47	26	7	2	0	18	70	7	303
430-445	52	21	60	15	52	26	4	1	3	24	45	6	309
445-500	61	23	36	11	49	29	4	4	0	26	54	6	303
500-515	61	23	45	6	35	34	2	3	1	19	64	7	300
515-530	72	18	73	15	54	28	6	6	2	28	63	3	368
530-545	70	20	67	14	59	40	6	0	2	27	73	8	386
545-600	40	16	69	19	40	27	4	7	6	20	65	6	319
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	216	64	253	50	198	169	28	16	8	91	298	26	1417
315-415	212	58	261	51	193	176	17	12	8	90	280	19	1377
330-430	211	62	241	48	172	136	16	10	7	86	276	20	1285
345-445	207	68	237	48	178	123	16	7	9	72	217	19	1201
400-500	217	72	205	45	191	112	18	9	7	86	211	20	1193
415-515	219	86	191	44	183	115	17	10	4	87	233	26	1215
430-530	246	85	214	47	190	117	16	14	6	97	226	22	1280
445-545	264	84	221	46	197	131	18	13	5	100	254	24	1357
500-600	243	77	254	54	188	129	18	16	11	94	265	24	1373

PM PEAK HOUR: 300-400



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	2	0	0	0	2
315-330	0	0	0	0	0
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	1	1	0	0	2
415-430	0	0	0	0	0
430-445	0	0	1	0	1
445-500	0	0	1	21	22
500-515	0	0	1	0	1
515-530	0	0	0	1	1
530-545	1	1	1	2	5
545-600	4	0	5	2	11
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	2	0	0	0	2
315-415	1	1	0	0	2
330-430	1	1	0	0	2
345-445	1	1	1	0	3
400-500	1	1	2	21	25
415-515	0	0	3	21	24
430-530	0	0	3	22	25
445-545	1	1	3	24	29
500-600	5	1	7	5	18

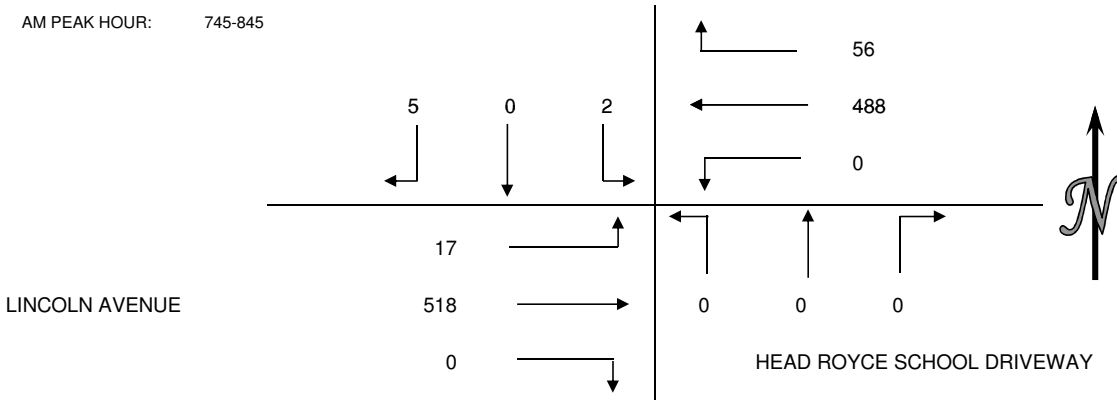
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	1	3	2	6
330-345	0	0	2	0	2
345-400	0	0	0	0	0
400-415	0	0	1	0	1
415-430	0	1	0	2	3
430-445	0	0	0	0	0
445-500	0	1	1	0	2
500-515	0	1	1	2	4
515-530	0	0	2	8	10
530-545	0	3	0	4	7
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	1	5	2	8
315-415	0	1	6	2	9
330-430	0	1	3	2	6
345-445	0	1	1	2	4
400-500	0	2	2	2	6
415-515	0	3	2	4	9
430-530	0	2	4	10	16
445-545	0	5	4	14	23
500-600	0	4	3	14	21

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S HEAD ROYCE SCHOOL DRIVEWAY
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	1	0	1	0	26	0	0	0	0	0	57	2	87
715-730	1	0	0	7	49	0	0	0	0	0	77	1	135
730-745	1	0	0	5	50	0	0	0	0	0	85	3	144
745-800	1	0	0	13	91	0	0	0	0	0	108	6	219
800-815	4	0	0	28	175	0	0	0	0	0	134	8	349
815-830	0	0	1	14	130	0	0	0	0	0	148	1	294
830-845	0	0	1	1	92	0	0	0	0	0	128	2	224
845-900	0	0	0	1	83	0	0	0	0	0	75	0	159
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	4	0	1	25	216	0	0	0	0	0	327	12	585
715-815	7	0	0	53	365	0	0	0	0	0	404	18	847
730-830	6	0	1	60	446	0	0	0	0	0	475	18	1006
745-845	5	0	2	56	488	0	0	0	0	0	518	17	1086
800-900	4	0	2	44	480	0	0	0	0	0	485	11	1026

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	1	1
745-800	0	0	0	0	0
800-815	3	0	0	4	7
815-830	10	0	0	6	16
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	1	1
715-815	3	0	0	5	8
730-830	13	0	0	11	24
745-845	13	0	0	10	23
800-900	13	0	0	10	23

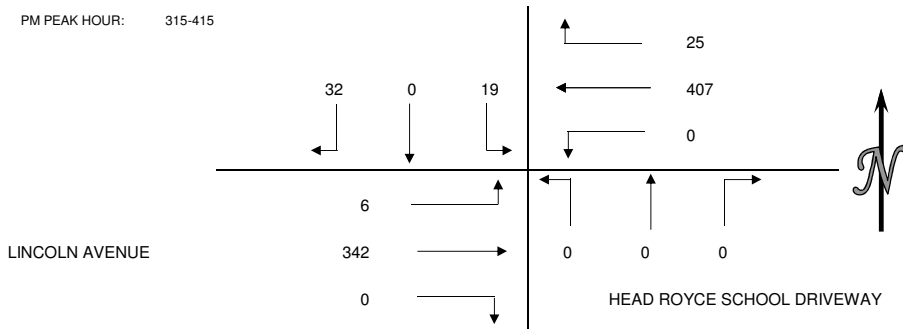
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S HEAD ROYCE SCHOOL DRIVEWAY
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	1	0	0	1	107	0	0	0	0	0	72	0	181
315-330	6	0	3	6	109	0	0	0	0	0	83	0	207
330-345	18	0	2	1	98	0	0	0	0	0	133	1	253
345-400	5	0	8	10	90	0	0	0	0	0	62	4	179
400-415	3	0	6	8	110	0	0	0	0	0	64	1	192
415-430	10	0	3	0	91	0	0	0	0	0	59	0	163
430-445	5	0	2	1	89	0	0	0	0	0	83	0	180
445-500	1	0	0	2	91	0	0	0	0	0	67	3	164
500-515	4	0	2	1	88	0	0	0	0	0	72	2	169
515-530	1	0	3	2	102	0	0	0	0	0	78	1	187
530-545	8	0	3	1	125	0	0	0	0	0	67	1	205
545-600	5	0	4	2	102	0	0	0	0	0	89	1	203
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	30	0	13	18	404	0	0	0	0	0	350	5	820
315-415	32	0	19	25	407	0	0	0	0	0	342	6	831
330-430	36	0	19	19	389	0	0	0	0	0	318	6	787
345-445	23	0	19	19	380	0	0	0	0	0	268	5	714
400-500	19	0	11	11	381	0	0	0	0	0	273	4	699
415-515	20	0	7	4	359	0	0	0	0	0	281	5	676
430-530	11	0	7	6	370	0	0	0	0	0	300	6	700
445-545	14	0	8	6	406	0	0	0	0	0	284	7	725
500-600	18	0	12	6	417	0	0	0	0	0	306	5	764

PM PEAK HOUR: 315-415



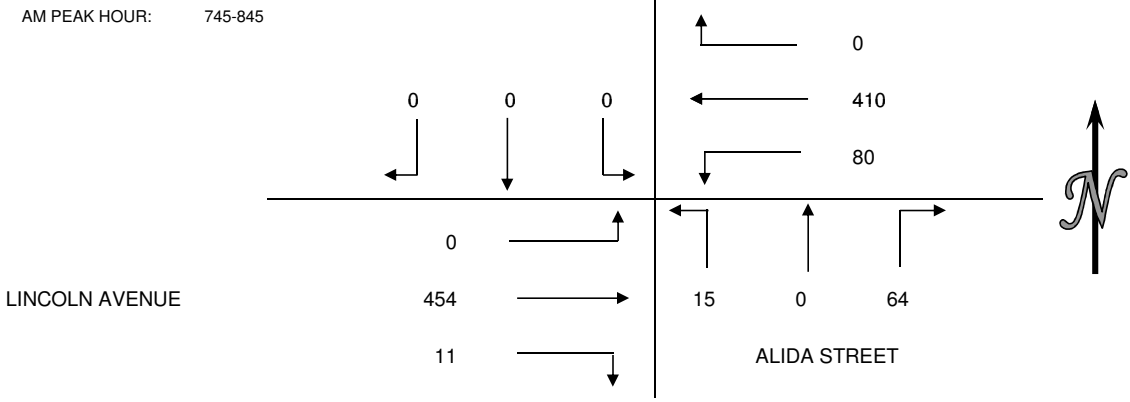
PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	3	0	0	4	7
330-345	2	0	0	7	9
345-400	2	0	0	0	2
400-415	2	0	0	0	2
415-430	0	0	0	0	0
430-445	1	0	0	1	2
445-500	0	0	0	0	0
500-515	1	0	0	3	4
515-530	1	0	0	0	1
530-545	0	0	0	0	0
545-600	2	0	0	1	3
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	7	0	0	11	18
315-415	9	0	0	11	20
330-430	6	0	0	7	13
345-445	5	0	0	1	6
400-500	3	0	0	1	4
415-515	2	0	0	4	6
430-530	3	0	0	4	7
445-545	2	0	0	3	5
500-600	4	0	0	4	8

BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	1	1
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	0	0	0	0	0
415-430	0	0	0	0	0
430-445	1	0	0	0	1
445-500	0	0	0	0	0
500-515	1	0	0	0	1
515-530	0	0	0	0	0
530-545	2	0	0	0	2
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	0	1	1
315-415	0	0	0	1	1
330-430	0	0	0	0	0
345-445	1	0	0	0	1
400-500	1	0	0	0	1
415-515	2	0	0	0	2
430-530	2	0	0	0	2
445-545	3	0	0	0	3
500-600	3	0	0	0	3

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S ALIDA STREET
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	0	0	0	0	19	1	8	0	4	0	54	0	86
715-730	0	0	0	0	36	1	17	0	1	0	60	0	115
730-745	0	0	0	0	43	5	16	0	6	2	77	0	149
745-800	0	0	0	0	75	11	11	0	5	2	118	0	222
800-815	0	0	0	0	124	34	18	0	4	3	134	0	317
815-830	0	0	0	0	137	28	28	0	5	4	106	0	308
830-845	0	0	0	0	74	7	7	0	1	2	96	0	187
845-900	0	0	0	0	62	12	7	0	3	9	67	0	160
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	0	0	0	0	173	18	52	0	16	4	309	0	572
715-815	0	0	0	0	278	51	62	0	16	7	389	0	803
730-830	0	0	0	0	379	78	73	0	20	11	435	0	996
745-845	0	0	0	0	410	80	64	0	15	11	454	0	1034
800-900	0	0	0	0	397	81	60	0	13	18	403	0	972



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	2	0	0	2
715-730	0	1	3	0	4
730-745	0	2	0	0	2
745-800	0	0	0	1	1
800-815	0	0	0	0	0
815-830	0	0	3	0	3
830-845	0	2	2	0	4
845-900	0	1	0	0	1
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	5	3	1	9
715-815	0	3	3	1	7
730-830	0	2	3	1	6
745-845	0	2	5	1	8
800-900	0	3	5	0	8

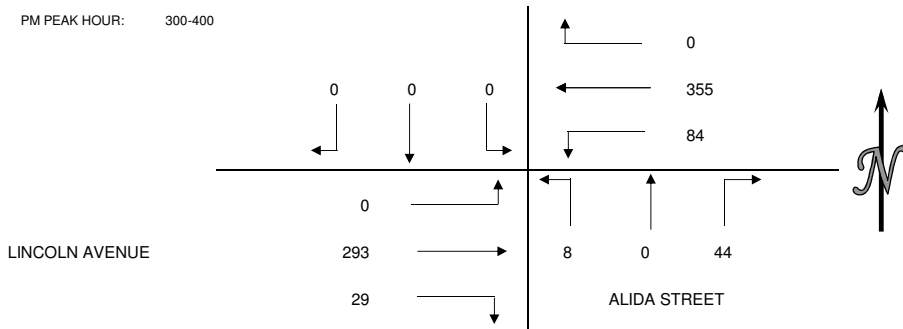
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S ALIDA STREET
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	0	0	0	0	86	9	6	0	1	7	68	0	177
315-330	0	0	0	0	83	29	9	0	2	8	69	0	200
330-345	0	0	0	0	97	33	18	0	4	10	84	0	246
345-400	0	0	0	0	89	13	11	0	1	4	72	0	190
400-415	0	0	0	0	83	18	8	0	3	7	58	0	177
415-430	0	0	0	0	82	14	9	0	1	5	55	0	166
430-445	0	0	0	0	74	14	9	0	2	6	60	0	165
445-500	0	0	0	0	98	10	9	0	2	7	59	0	185
500-515	0	0	0	0	71	17	5	0	1	3	64	0	161
515-530	0	0	0	0	80	20	9	0	5	6	70	0	190
530-545	0	0	0	0	97	27	9	0	2	2	65	0	202
545-600	0	0	0	0	80	36	4	0	1	8	70	0	199
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	0	0	0	0	355	84	44	0	8	29	293	0	813
315-415	0	0	0	0	352	93	46	0	10	29	283	0	813
330-430	0	0	0	0	351	78	46	0	9	26	269	0	779
345-445	0	0	0	0	328	59	37	0	7	22	245	0	698
400-500	0	0	0	0	337	56	35	0	8	25	232	0	693
415-515	0	0	0	0	325	55	32	0	6	21	238	0	677
430-530	0	0	0	0	323	61	32	0	10	22	253	0	701
445-545	0	0	0	0	346	74	32	0	10	18	258	0	738
500-600	0	0	0	0	328	100	27	0	9	19	269	0	752

PM PEAK HOUR: 300-400



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	2	0	0	2
315-330	0	3	35	1	39
330-345	0	1	1	0	2
345-400	0	0	0	0	0
400-415	0	0	2	0	2
415-430	0	1	2	1	4
430-445	0	2	0	0	2
445-500	0	0	1	1	2
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	1	0	0	1
545-600	0	1	0	0	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	6	36	1	43
315-415	0	4	38	1	43
330-430	0	2	5	1	8
345-445	0	3	4	1	8
400-500	0	3	5	2	10
415-515	0	3	3	2	8
430-530	0	2	1	1	4
445-545	0	1	1	1	3
500-600	0	2	0	0	2

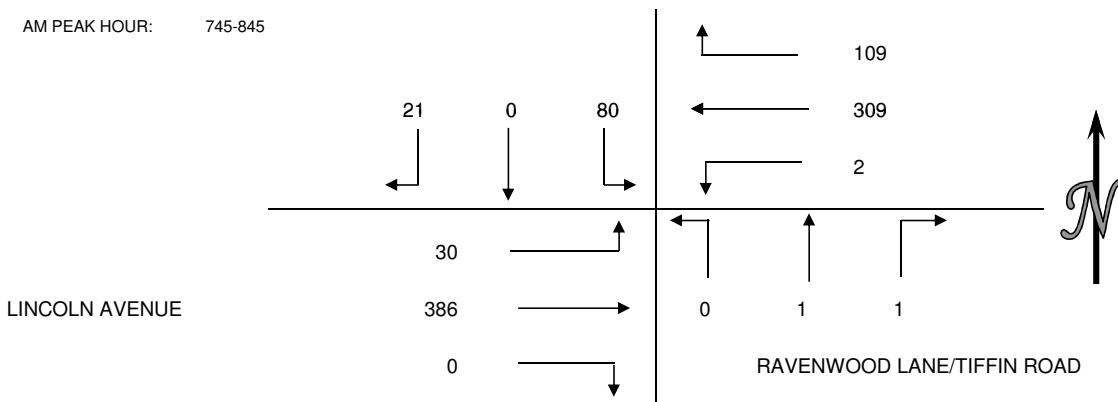
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	0	0	0	0	0
415-430	0	0	0	0	0
430-445	0	0	2	0	2
445-500	0	0	1	0	1
500-515	0	0	0	0	0
515-530	0	0	0	0	0
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	0	0	0
315-415	0	0	0	0	0
330-430	0	0	0	0	0
345-445	0	0	2	0	2
400-500	0	0	3	0	3
415-515	0	0	3	0	3
430-530	0	0	3	0	3
445-545	0	0	1	0	1
500-600	0	0	0	0	0

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S RAVENWOOD LANE/TIFFIN ROAD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	3	0	11	4	25	0	0	0	0	0	18	0	61
715-730	2	0	8	2	33	0	0	0	0	0	44	6	95
730-745	4	0	11	11	41	0	0	0	0	0	54	1	122
745-800	4	0	19	16	53	0	0	0	0	0	102	3	197
800-815	9	0	24	35	80	1	0	0	0	0	107	13	269
815-830	4	0	22	46	112	1	0	1	0	0	105	7	298
830-845	4	0	15	12	64	0	1	0	0	0	72	7	175
845-900	3	0	6	11	66	0	1	0	0	0	54	6	147
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	13	0	49	33	152	0	0	0	0	0	218	10	475
715-815	19	0	62	64	207	1	0	0	0	0	307	23	683
730-830	21	0	76	108	286	2	0	1	0	0	368	24	886
745-845	21	0	80	109	309	2	1	1	0	0	386	30	939
800-900	20	0	67	104	322	2	2	1	0	0	338	33	889

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	1	0	0	1
715-730	1	0	2	0	3
730-745	1	5	2	0	8
745-800	0	0	0	0	0
800-815	1	0	2	1	4
815-830	1	1	9	0	11
830-845	0	2	5	2	9
845-900	1	0	0	1	2
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	2	6	4	0	12
715-815	3	5	6	1	15
730-830	3	6	13	1	23
745-845	2	3	16	3	24
800-900	3	3	16	4	26

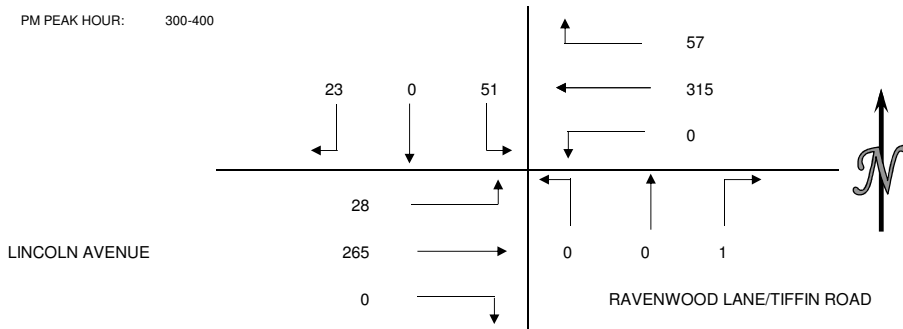
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-715	0	1	0	0	1
715-730	0	0	0	1	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	1	1
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
700-800	0	1	0	1	2
715-815	0	0	0	1	1
730-830	0	0	0	1	1
745-845	0	0	0	1	1
800-900	0	0	0	1	1

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S RAVENWOOD LANE/TIFFIN ROAD
 E/W LINCOLN AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	5	0	17	9	83	0	0	0	0	0	65	4	183
315-330	8	0	14	18	81	0	1	0	0	0	73	7	202
330-345	3	0	9	17	83	0	0	0	0	0	84	10	206
345-400	7	0	11	13	68	0	0	0	0	0	43	7	149
400-415	5	0	10	14	79	1	1	0	0	0	45	7	162
415-430	6	0	11	17	66	1	0	0	0	0	46	5	152
430-445	6	0	14	17	63	1	1	0	0	0	55	6	163
445-500	7	0	13	15	78	0	0	1	0	0	57	3	174
500-515	5	0	13	12	71	0	2	0	0	0	51	12	166
515-530	3	0	15	22	64	0	0	0	0	0	62	8	174
530-545	8	0	14	18	74	0	0	0	0	0	53	5	172
545-600	7	0	9	21	69	1	1	0	0	0	67	4	179
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	23	0	51	57	315	0	1	0	0	0	265	28	740
315-415	23	0	44	62	311	1	2	0	0	0	245	31	719
330-430	21	0	41	61	296	2	1	0	0	0	218	29	669
345-445	24	0	46	61	276	3	2	0	0	0	189	25	626
400-500	24	0	48	63	286	3	2	1	0	0	203	21	651
415-515	24	0	51	61	278	2	3	1	0	0	209	26	655
430-530	21	0	55	66	276	1	3	1	0	0	225	29	677
445-545	23	0	55	67	287	0	2	1	0	0	223	28	686
500-600	23	0	51	73	278	1	3	0	0	0	233	29	691

PM PEAK HOUR: 300-400



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	0	0	2	1	3
315-330	12	0	1	0	13
330-345	1	0	2	0	3
345-400	6	0	1	0	7
400-415	0	1	1	1	3
415-430	1	0	2	0	3
430-445	0	0	2	0	2
445-500	2	1	1	0	4
500-515	2	2	2	1	7
515-530	2	0	4	1	7
530-545	2	0	2	1	5
545-600	3	0	1	1	5
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	19	0	6	1	26
315-415	19	1	5	1	26
330-430	8	1	6	1	16
345-445	7	1	6	1	15
400-500	3	2	6	1	12
415-515	5	3	7	1	16
430-530	6	3	9	2	20
445-545	8	3	9	3	23
500-600	9	2	9	4	24

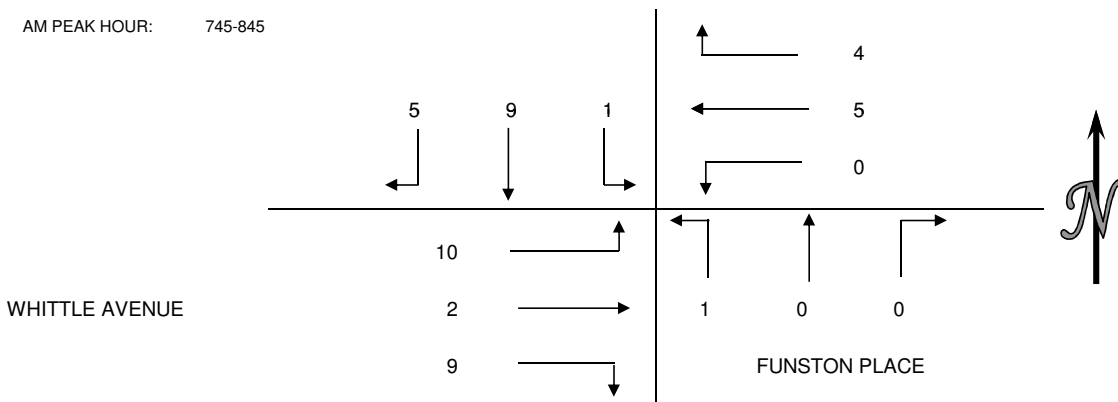
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	0	0	0	0
330-345	0	0	0	0	0
345-400	0	0	0	0	0
400-415	0	0	0	0	0
415-430	0	0	0	0	0
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	0	0	1	1
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	0	0	0	0
315-415	0	0	0	0	0
330-430	0	0	0	0	0
345-445	0	0	0	0	0
400-500	0	0	0	0	0
415-515	0	0	0	0	0
430-530	0	0	0	1	1
445-545	0	0	0	1	1
500-600	0	0	0	1	1

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON\NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 7:00 AM TO 9:00 AM
 INTERSECTION: N/S FUNSTON PLACE
 E/W WHITTLE AVENUE
 CITY: OAKLAND

VEHICLE COUNTS														
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-715	1	1	0	1	0	0	0	0	0	0	0	1	4	
715-730	0	1	0	0	2	0	0	1	1	0	0	3	8	
730-745	1	1	0	1	1	0	0	0	1	1	1	3	10	
745-800	1	2	0	0	2	0	0	0	0	3	0	1	9	
800-815	0	4	1	0	0	0	0	0	1	5	0	4	15	
815-830	2	3	0	2	0	0	0	0	0	0	2	1	10	
830-845	2	0	0	2	3	0	0	0	0	1	0	4	12	
845-900	0	0	0	1	1	0	0	1	0	0	1	1	5	
HOURLY TOTALS	1	2	3	4	5	6	7	8	9	10	11	12		
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL	
700-800	3	5	0	2	5	0	0	1	2	4	1	8	31	
715-815	2	8	1	1	5	0	0	1	3	9	1	11	42	
730-830	4	10	1	3	3	0	0	0	2	9	3	9	44	
745-845	5	9	1	4	5	0	0	0	1	9	2	10	46	
800-900	4	7	1	5	4	0	0	1	1	6	3	10	42	

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	2	1	0	1	4
745-800	9	9	10	10	38
800-815	3	14	10	15	42
815-830	3	6	8	6	23
830-845	0	1	1	1	3
845-900	1	1	2	1	5
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	11	10	10	11	42
715-815	14	24	20	26	84
730-830	17	30	28	32	107
745-845	15	30	29	32	106
800-900	7	22	21	23	73

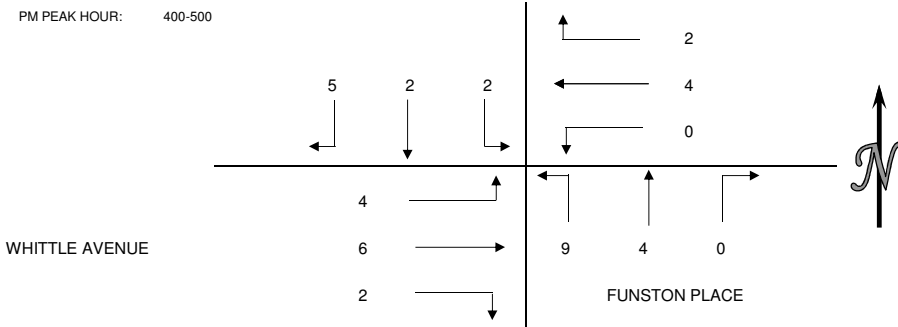
BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOURLY TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	0	0	0	0
715-815	0	0	0	0	0
730-830	0	0	0	0	0
745-845	0	0	0	0	0
800-900	0	0	0	0	0

INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: NELSON/NYGAARD CONSULTING ASSOCIATES
 PROJECT: OAKLAND SCHOOLS TRAFFIC COUNTS
 DATE: TUESDAY APRIL 22, 2014
 PERIOD: 3:00 PM TO 6:00 PM
 INTERSECTION: N/S FUNSTON PLACE
 E/W WHITTLE AVENUE
 CITY: OAKLAND

VEHICLE COUNTS													
15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	2	1	1	1	0	0	0	3	0	1	1	1	11
315-330	1	1	0	1	1	0	0	0	1	1	0	0	6
330-345	1	1	0	1	2	0	0	0	0	1	2	0	8
345-400	1	0	1	0	1	0	0	1	0	1	0	1	6
400-415	0	0	1	0	2	0	0	1	3	2	1	0	10
415-430	2	2	0	1	0	0	0	1	2	0	2	2	12
430-445	3	0	1	0	2	0	0	1	1	0	1	1	10
445-500	0	0	0	1	0	0	0	1	3	0	2	1	8
500-515	0	0	0	0	1	0	0	0	1	1	2	1	6
515-530	2	0	1	1	2	0	0	1	1	0	2	1	11
530-545	2	0	2	0	3	0	0	3	0	0	3	0	13
545-600	0	0	0	0	0	0	0	0	0	0	5	4	9
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	5	3	2	3	4	0	0	4	1	4	3	2	31
315-415	3	2	2	2	6	0	0	2	4	5	3	1	30
330-430	4	3	2	2	5	0	0	3	5	4	5	3	36
345-445	6	2	3	1	5	0	0	4	6	3	4	4	38
400-500	5	2	2	2	4	0	0	4	9	2	6	4	40
415-515	5	2	1	2	3	0	0	3	7	1	7	5	36
430-530	5	0	2	2	5	0	0	3	6	1	7	4	35
445-545	4	0	3	2	6	0	0	5	5	1	9	3	38
500-600	4	0	3	1	6	0	0	4	2	1	12	6	39

PM PEAK HOUR: 400-500



PEDESTRIAN COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	2	0	1	3
315-330	0	8	0	2	10
330-345	0	3	0	3	6
345-400	0	13	0	4	17
400-415	0	29	0	4	33
415-430	9	15	0	8	32
430-445	0	1	0	1	2
445-500	1	0	0	2	3
500-515	0	3	0	0	3
515-530	0	0	0	2	2
530-545	0	1	0	1	2
545-600	0	3	0	4	7
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	26	0	10	36
315-415	0	53	0	13	66
330-430	9	60	0	19	88
345-445	9	58	0	17	84
400-500	10	45	0	15	70
415-515	10	19	0	11	40
430-530	1	4	0	5	10
445-545	1	4	0	5	10
500-600	0	7	0	7	14

BICYCLE COUNTS					
15 MIN COUNTS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
300-315	0	0	0	0	0
315-330	0	1	0	0	1
330-345	0	1	0	0	1
345-400	0	0	0	0	0
400-415	0	1	0	0	1
415-430	0	0	0	0	0
430-445	0	0	0	0	0
445-500	0	0	0	0	0
500-515	0	0	0	0	0
515-530	0	1	0	0	1
530-545	0	0	0	0	0
545-600	0	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD	LEG	LEG	LEG	LEG	TOTAL
300-400	0	2	0	0	2
315-415	0	3	0	0	3
330-430	0	2	0	0	2
345-445	0	1	0	0	1
400-500	0	1	0	0	1
415-515	0	0	0	0	0
430-530	0	1	0	0	1
445-545	0	1	0	0	1
500-600	0	1	0	0	1

APPENDIX C – LEVEL OF SERVICE REPORTS

Lanes, Volumes, Timings
1: Lincoln Ave & Monterey Blvd

5/9/2014



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	133	36	240	26	36	70	33	353	91	228	295	74
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.921			0.928			0.971			0.981	
Flt Protected		0.984			0.990			0.997			0.981	
Satd. Flow (prot)	0	1688	0	0	1711	0	0	3426	0	0	3406	0
Flt Permitted		0.984			0.990			0.997			0.981	
Satd. Flow (perm)	0	1688	0	0	1711	0	0	3426	0	0	3406	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		333			437			176			267	
Travel Time (s)		7.6			9.9			4.0			6.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	40	267	29	40	78	37	392	101	253	328	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	455	0	0	147	0	0	530	0	0	663	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.4%
Analysis Period (min)	15
	ICU Level of Service C

Lanes, Volumes, Timings 2: Lincoln Ave & Head-Royce School Driveway

5/9/2014



Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	2	5	17	518	488	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899				0.986	
Flt Protected	0.988			0.998		
Satd. Flow (prot)	1655	0	0	1859	1837	0
Flt Permitted	0.988			0.973		
Satd. Flow (perm)	1655	0	0	1812	1837	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6				14	
Link Speed (mph)	30			30	30	
Link Distance (ft)	283			803	1336	
Travel Time (s)	6.4			18.3	30.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	2	6	21	632	595	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	653	663	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
Turn Type	Prot		custom	NA	NA	
Protected Phases	6				8	
Permitted Phases			4	4		
Minimum Split (s)	23.0		23.0	23.0	23.0	
Total Split (s)	24.0		36.0	36.0	36.0	
Total Split (%)	40.0%		60.0%	60.0%	60.0%	
Maximum Green (s)	19.0		31.0	31.0	31.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effect Green (s)	19.0			31.0	31.0	
Actuated g/C Ratio	0.32			0.52	0.52	
v/c Ratio	0.02			0.70	0.69	
Control Delay	10.3			15.4	15.5	
Queue Delay	0.0			0.0	0.0	
Total Delay	10.3			15.4	15.5	
LOS	B			B	B	

Lanes, Volumes, Timings
 2: Lincoln Ave & Head-Royce School Driveway

5/9/2014

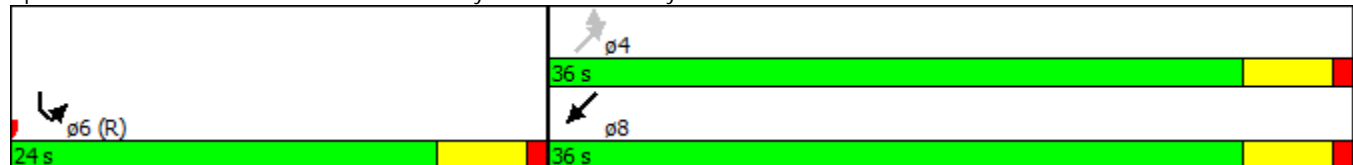


Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Approach Delay	10.3			15.4	15.5	
Approach LOS	B			B	B	
Queue Length 50th (ft)	1			110	162	
Queue Length 95th (ft)	7			186	228	
Internal Link Dist (ft)	203			723	1256	
Turn Bay Length (ft)						
Base Capacity (vph)	528			936	955	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.02			0.70	0.69	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2: and 6:SBL, Start of Green
Natural Cycle:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	15.4
Intersection LOS:	B
Intersection Capacity Utilization	52.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 2: Lincoln Ave & Head-Royce School Driveway



Lanes, Volumes, Timings
3: Lincoln Ave

5/9/2014



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	15	64	454	11	80	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.891		0.997			
Flt Protected	0.991					0.992
Satd. Flow (prot)	1645	0	1857	0	0	1848
Flt Permitted	0.991					0.992
Satd. Flow (perm)	1645	0	1857	0	0	1848
Link Speed (mph)	30		30			30
Link Distance (ft)	799		462			390
Travel Time (s)	18.2		10.5			8.9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	18	77	547	13	96	494
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	560	0	0	590
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	65.3%
	ICU Level of Service C
Analysis Period (min)	15

Lanes, Volumes, Timings
 4: Lincoln Ave & Ravenwood Lane/Tiffin Road

5/9/2014



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	80	0	21	0	1	1	30	386	0	2	309	109
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.972			0.932						0.965	
Flt Protected		0.962						0.996				
Satd. Flow (prot)	0	1742	0	0	1736	0	0	1855	0	0	1798	0
Flt Permitted		0.962						0.996				
Satd. Flow (perm)	0	1742	0	0	1736	0	0	1855	0	0	1798	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		369			553			534			462	
Travel Time (s)		8.4			12.6			12.1			10.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	89	0	23	0	1	1	33	429	0	2	343	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	2	0	0	462	0	0	466	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	61.2%
ICU Level of Service	B
Analysis Period (min)	15

Lanes, Volumes, Timings
5: Whittle Ave & Funston Place

5/9/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	1	9	5	1	0	0	10	2	9	0	5	4
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.957						0.942			0.939	
Flt Protected		0.997			0.950			0.977				
Satd. Flow (prot)	0	1777	0	0	1770	0	0	1714	0	0	1749	0
Flt Permitted		0.997			0.950			0.977				
Satd. Flow (perm)	0	1777	0	0	1770	0	0	1714	0	0	1749	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		245			255			1009			293	
Travel Time (s)		5.6			5.8			22.9			6.7	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	1	12	6	1	0	0	13	3	12	0	6	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	1	0	0	28	0	0	11	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other















Control Type: Unsignalized

Intersection Capacity Utilization 17.9% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
6: Lincoln Ave

5/9/2014

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	0	0	0	0	0	0	0	518	0	0	490	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	0	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	1863	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		163			156			390			803	
Travel Time (s)		3.7			3.5			8.9			18.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	0	0	0	0	632	0	0	598	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	632	0	0	598	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)		0			0			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
Turn Type								NA			NA	
Protected Phases								4			8	
Permitted Phases												
Minimum Split (s)								21.0			21.0	
Total Split (s)								36.0			36.0	
Total Split (%)								60.0%			60.0%	
Maximum Green (s)								31.0			31.0	
Yellow Time (s)								4.0			4.0	
All-Red Time (s)								1.0			1.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)								31.0			31.0	
Actuated g/C Ratio								0.52			0.52	
v/c Ratio								0.66			0.62	
Control Delay								14.7			13.8	
Queue Delay								0.0			0.0	
Total Delay								14.7			13.8	
LOS								B			B	

Lanes, Volumes, Timings
6: Lincoln Ave

5/9/2014

Lane Group	ø2
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Minimum Split (s)	23.0
Total Split (s)	24.0
Total Split (%)	40%
Maximum Green (s)	19.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	7.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lanes, Volumes, Timings

6: Lincoln Ave

5/9/2014

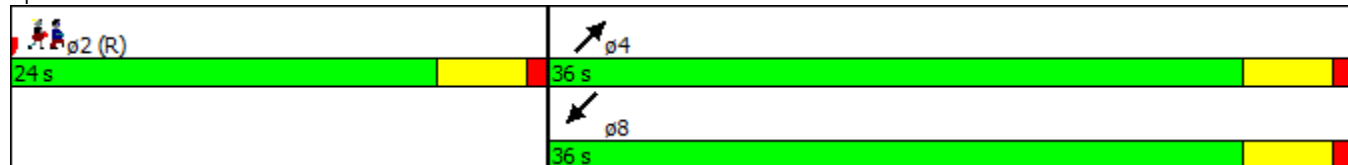


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Approach Delay								14.7			13.8	
Approach LOS								B			B	
Queue Length 50th (ft)								153			102	
Queue Length 95th (ft)								215			178	
Internal Link Dist (ft)		83			76			310			723	
Turn Bay Length (ft)												
Base Capacity (vph)								962			962	
Starvation Cap Reductn								0			0	
Spillback Cap Reductn								0			0	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.66			0.62	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:Ped and 6:, Start of Green
Natural Cycle:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	14.3
Intersection LOS:	B
Intersection Capacity Utilization:	31.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: Lincoln Ave



Lane Group	ø2
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
 1: Lincoln Ave & Monterey Blvd

5/1/2014



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	253	64	216	8	16	28	26	298	91	169	198	50
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.945			0.928			0.967			0.982	
Flt Protected		0.977			0.992			0.997			0.980	
Satd. Flow (prot)	0	1720	0	0	1715	0	0	3412	0	0	3406	0
Flt Permitted		0.977			0.992			0.997			0.980	
Satd. Flow (perm)	0	1720	0	0	1715	0	0	3412	0	0	3406	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		333			437			176			267	
Travel Time (s)		7.6			9.9			4.0			6.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	281	71	240	9	18	31	29	331	101	188	220	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	592	0	0	58	0	0	461	0	0	464	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.1%
Analysis Period (min)	15
	ICU Level of Service C

Lanes, Volumes, Timings 2: Lincoln Ave & Head-Royce School Driveway

5/1/2014

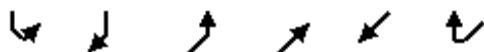


Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	13	30	0	350	404	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.906				0.994	
Flt Protected	0.985					
Satd. Flow (prot)	1662	0	0	1863	1852	0
Flt Permitted	0.985					
Satd. Flow (perm)	1662	0	0	1863	1852	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	37				6	
Link Speed (mph)	30			30	30	
Link Distance (ft)	283			803	1336	
Travel Time (s)	6.4			18.3	30.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	16	37	0	427	493	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	0	427	515	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
Turn Type	Prot			NA	NA	
Protected Phases	6				8	
Permitted Phases				4		
Minimum Split (s)	23.0			23.0	23.0	
Total Split (s)	24.0			36.0	36.0	
Total Split (%)	40.0%			60.0%	60.0%	
Maximum Green (s)	19.0			31.0	31.0	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	1.0			1.0	1.0	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effect Green (s)	19.0			31.0	31.0	
Actuated g/C Ratio	0.32			0.52	0.52	
v/c Ratio	0.10			0.44	0.54	
Control Delay	8.1			8.8	12.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	8.1			8.8	12.2	
LOS	A			A	B	

Lanes, Volumes, Timings

2: Lincoln Ave & Head-Royce School Driveway

5/1/2014

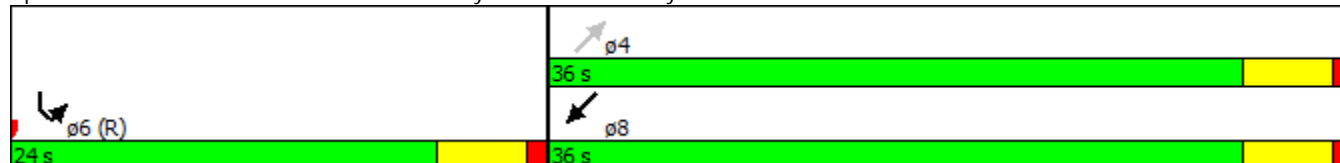


Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Approach Delay	8.1			8.8	12.2	
Approach LOS	A			A	B	
Queue Length 50th (ft)	4			55	112	
Queue Length 95th (ft)	21			85	162	
Internal Link Dist (ft)	203			723	1256	
Turn Bay Length (ft)						
Base Capacity (vph)	551			962	959	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.10			0.44	0.54	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2: and 6:SBL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	10.5
Intersection LOS:	B
Intersection Capacity Utilization	34.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 2: Lincoln Ave & Head-Royce School Driveway



Lanes, Volumes, Timings
3: Lincoln Ave

5/1/2014



Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	8	44	293	29	84	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.886		0.988			
Flt Protected	0.992					0.991
Satd. Flow (prot)	1637	0	1840	0	0	1846
Flt Permitted	0.992					0.991
Satd. Flow (perm)	1637	0	1840	0	0	1846
Link Speed (mph)	30		30			30
Link Distance (ft)	799		462			390
Travel Time (s)	18.2		10.5			8.9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	10	53	353	35	101	428
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	388	0	0	529
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.8%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
 4: Lincoln Ave & Ravenwood Lane/Tiffin Road

5/1/2014



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑			↑			↑			↑	
Volume (vph)	51	0	23	0	0	1	28	265	0	0	315	57
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.958			0.865						0.979	
Flt Protected		0.967						0.995				
Satd. Flow (prot)	0	1726	0	0	1611	0	0	1853	0	0	1824	0
Flt Permitted		0.967						0.995				
Satd. Flow (perm)	0	1726	0	0	1611	0	0	1853	0	0	1824	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		369			553			534			462	
Travel Time (s)		8.4			12.6			12.1			10.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	57	0	26	0	0	1	31	294	0	0	350	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	1	0	0	325	0	0	413	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
5: Whittle Ave & Funston Place

5/1/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	2	3	5	1	4	0	2	3	4	0	4	3
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.938						0.944			0.940	
Flt Protected		0.989			0.992			0.988				
Satd. Flow (prot)	0	1728	0	0	1848	0	0	1737	0	0	1751	0
Flt Permitted		0.989			0.992			0.988				
Satd. Flow (perm)	0	1728	0	0	1848	0	0	1737	0	0	1751	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		245			255			1009			293	
Travel Time (s)		5.6			5.8			22.9			6.7	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	3	4	6	1	5	0	3	4	5	0	5	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	6	0	0	12	0	0	9	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)		0			0			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
Sign Control		Stop			Stop			Stop			Stop	

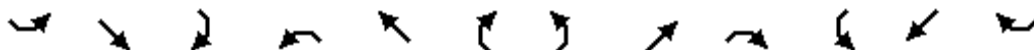
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings

6: Lincoln Ave

5/1/2014



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations								↑			↑	
Volume (vph)	0	0	0	0	0	0	0	337	0	0	434	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	0	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	1863	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		163			156			390			803	
Travel Time (s)		3.7			3.5			8.9			18.3	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	0	0	0	0	411	0	0	529	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	411	0	0	529	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)		0			0			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
Turn Type								NA			NA	
Protected Phases								4			8	
Permitted Phases												
Minimum Split (s)								21.0			21.0	
Total Split (s)								36.0			36.0	
Total Split (%)								60.0%			60.0%	
Maximum Green (s)								31.0			31.0	
Yellow Time (s)								4.0			4.0	
All-Red Time (s)								1.0			1.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)								31.0			31.0	
Actuated g/C Ratio								0.52			0.52	
v/c Ratio								0.43			0.55	
Control Delay								10.7			10.9	
Queue Delay								0.0			0.0	
Total Delay								10.7			10.9	
LOS								B			B	

Lanes, Volumes, Timings
6: Lincoln Ave

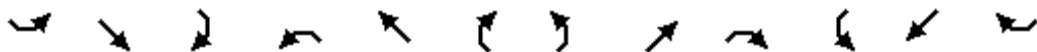
5/1/2014

Lane Group	ø2
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Minimum Split (s)	23.0
Total Split (s)	24.0
Total Split (%)	40%
Maximum Green (s)	19.0
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Walk Time (s)	7.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	

Lanes, Volumes, Timings

6: Lincoln Ave

5/1/2014

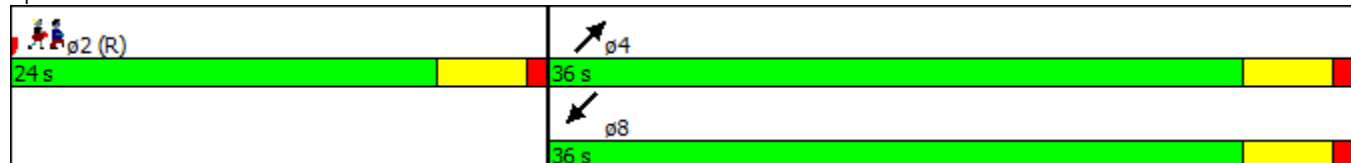


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Approach Delay								10.7			10.9	
Approach LOS								B			B	
Queue Length 50th (ft)								84			72	
Queue Length 95th (ft)								125			137	
Internal Link Dist (ft)		83			76			310			723	
Turn Bay Length (ft)												
Base Capacity (vph)								962			962	
Starvation Cap Reductn								0			0	
Spillback Cap Reductn								0			0	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.43			0.55	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:Ped and 6:, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	10.8
Intersection LOS:	B
Intersection Capacity Utilization:	27.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: Lincoln Ave



Lane Group	ø2
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	
