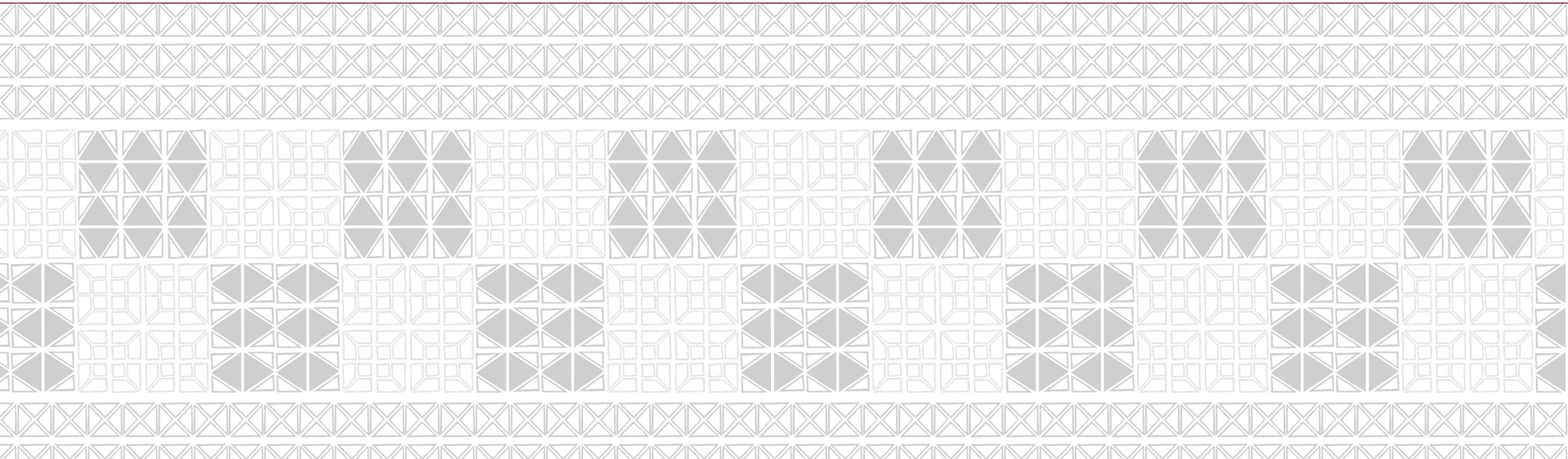


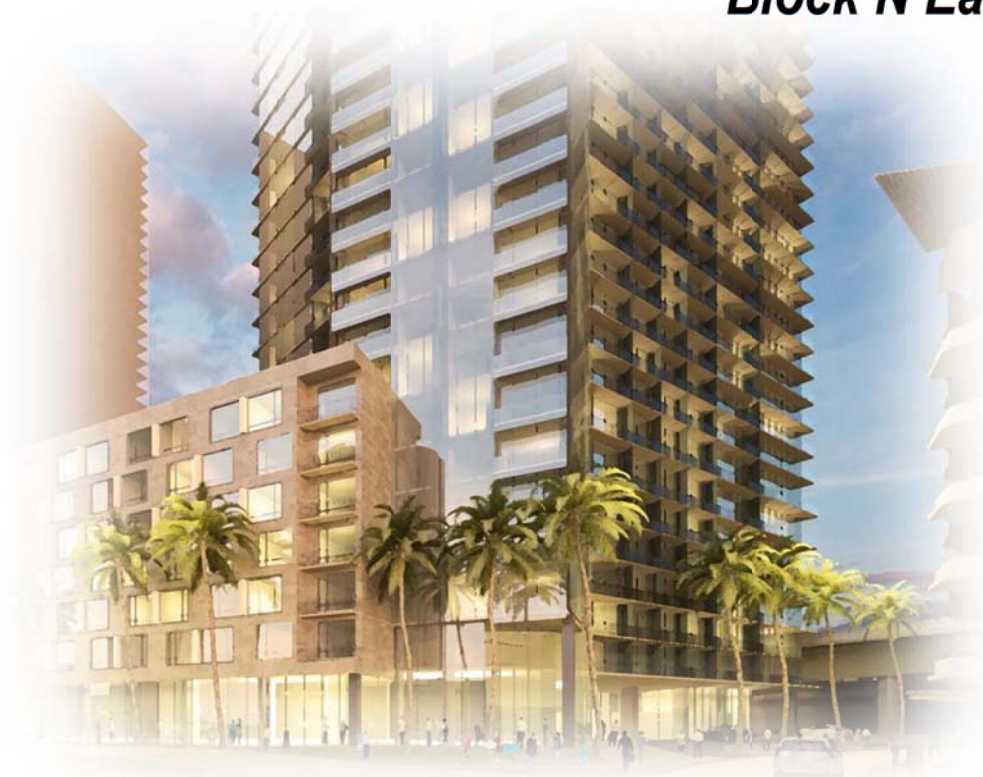
APPENDIX C

TRAFFIC IMPACT REPORT



Traffic Impact Report

Block N East



Prepared for:
The Howard Hughes Corporation

Prepared by:
Wilson Okamoto Corporation

August 2016

TRAFFIC IMPACT REPORT

FOR

BLOCK N EAST

Prepared for:

The Howard Hughes Corporation
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August 2016

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I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the potential traffic impacts resulting from the Block N East development of the Ward Village Master Plan in Kakaako on the island of Oahu. The Block N East development entails the replacement of existing uses and parking areas with new residential and commercial/retail uses.

B. Scope of Study

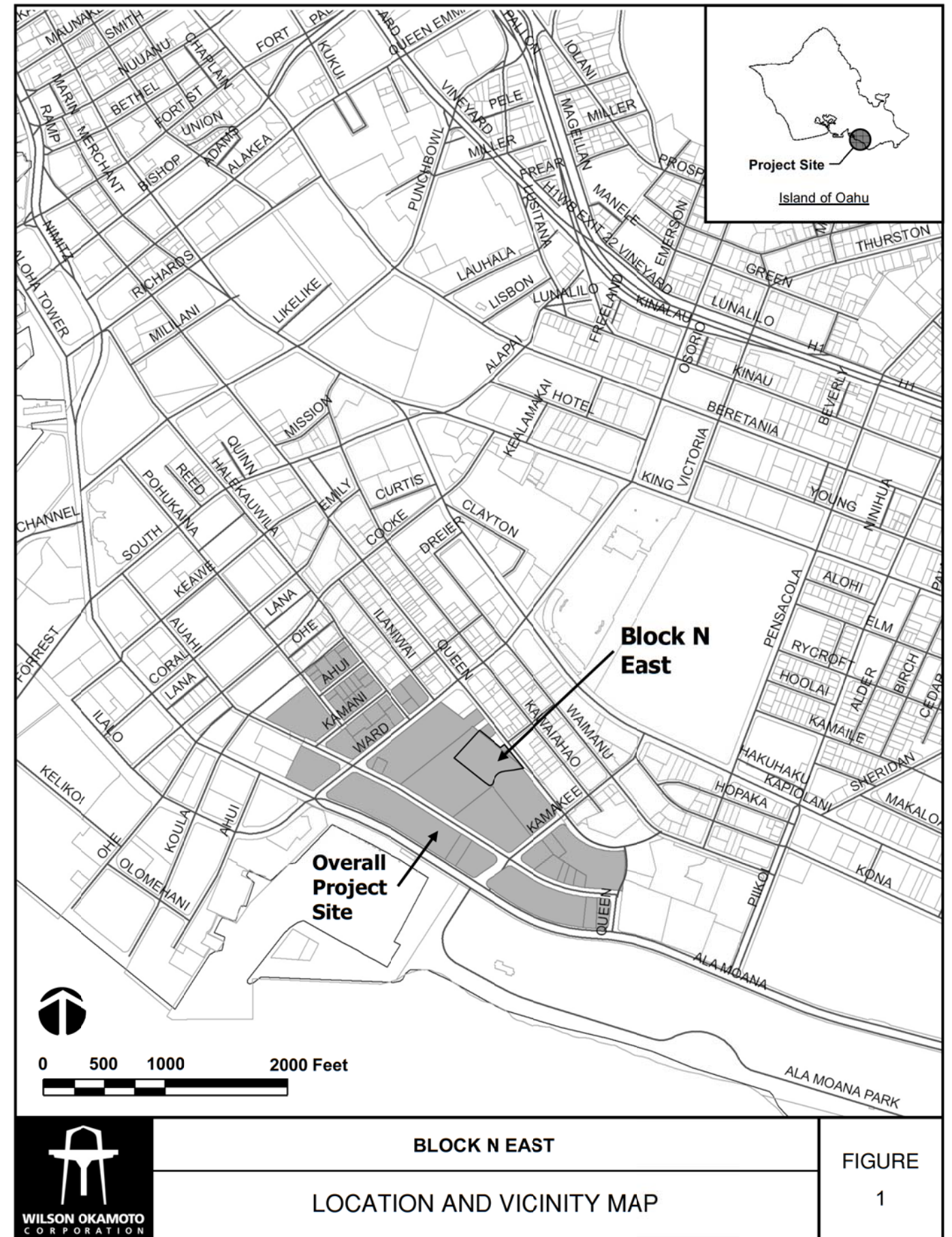
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

The project site for the proposed Block N East development is located adjacent to Queen Street in Kakaako on the island of Oahu (see Figure 1). Primary access is expected to be provided via the north-south connector road (referred to as “Private Drive”) between Queen Street and Auahi Street with secondary access provided via the Halekauwila Street Extension off Kamakee Street. The project site is anticipated to be bounded by Queen Street to the north, Private Drive to the east, the Halekauwila Street Extension to the south, and commercial uses to the west.



BLOCK N EAST
LOCATION AND VICINITY MAP

FIGURE
1

B. Project Characteristics

The Block N East development is included in Phase 2 of the overall Ward Village Master Plan. The overall Ward Village Master Plan entails the redevelopment of Ward Warehouse, Ward Center, Ward Entertainment Center, Ward Village Shops, and other surrounding commercial and office buildings in five (5) phases over the next 10-15 years. Phases 1A and 1B are currently under design and/or construction and are expected to be completed by the Year 2019. The Block N East portion of the master plan is expected to be completed by the Year 2020 and include approximately 20,000 square feet of commercial/retail space with 750 multi-family residential units. Primary access for this development is anticipated to be provided via Private Drive between Queen Street and Auahi Street with secondary access provided via the Halekauwila Street Extension off Kamakee Street. Figure 2 shows the proposed project site plan.

III. EXISTING TRAFFIC CONDITIONS

A. Area Roadway System

East-west traffic flow through the Kakaako area is served by a number of existing major roadways which include Ala Moana Boulevard, Queen Street, and Kapiolani Boulevard that provide continuous east-west corridors through the project vicinity. These major roadways are supported by a network of smaller connector roadways including Auahi Street, Pohukaina Street, and Halekauwila Street that provide alternate east-west routes through the surrounding areas. North-south traffic through the Kakaako area is served by a number of existing major roadways including Ward Avenue and Piikoi Street that provide either one-way or two-way corridors through the project vicinity. These major roadways are supported by a network of smaller connector roadways including Cooke Street and Kamakee Street that provide alternate north-south routes through the surrounding areas. Figure 3 shows the existing lane use at key locations within the study area.

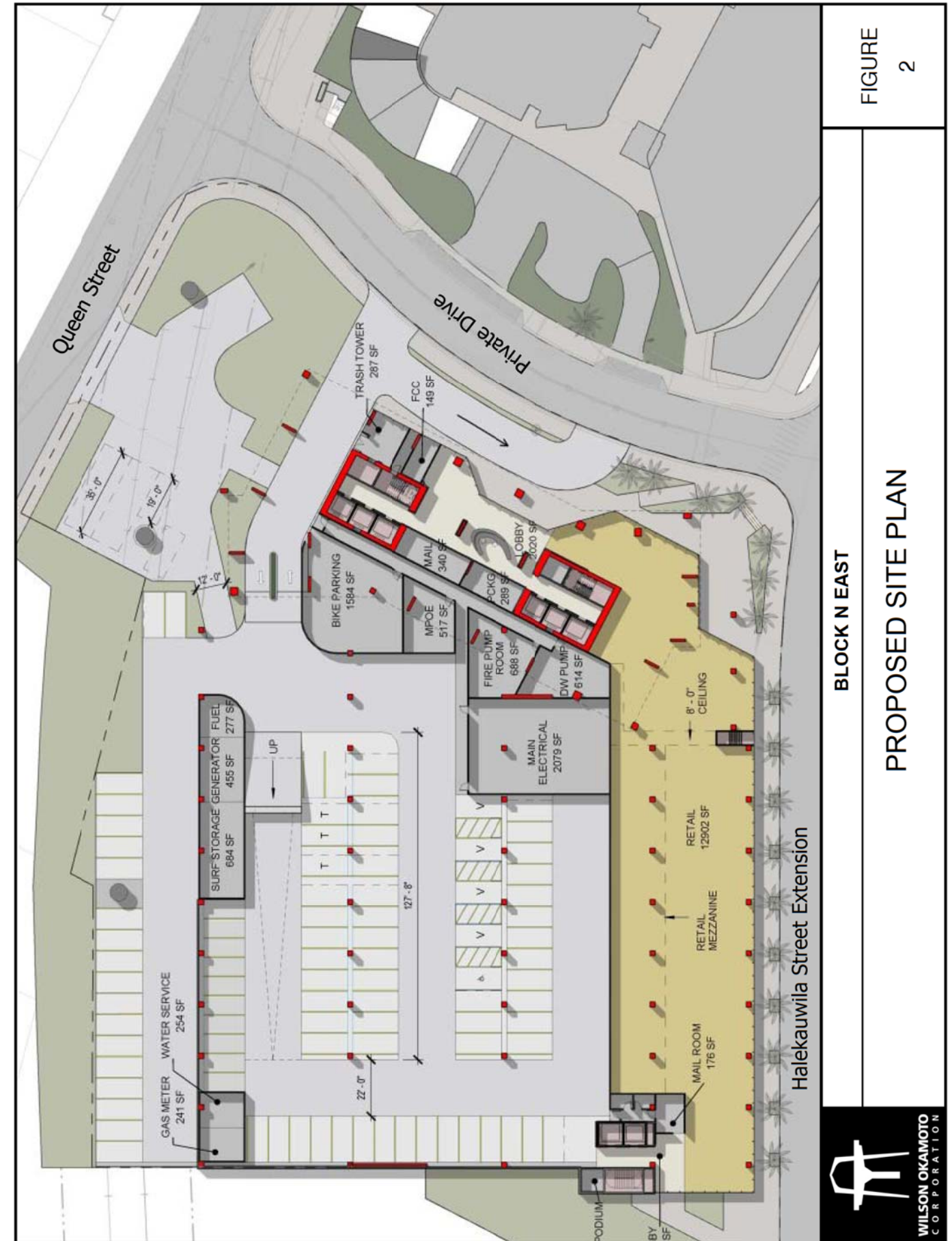
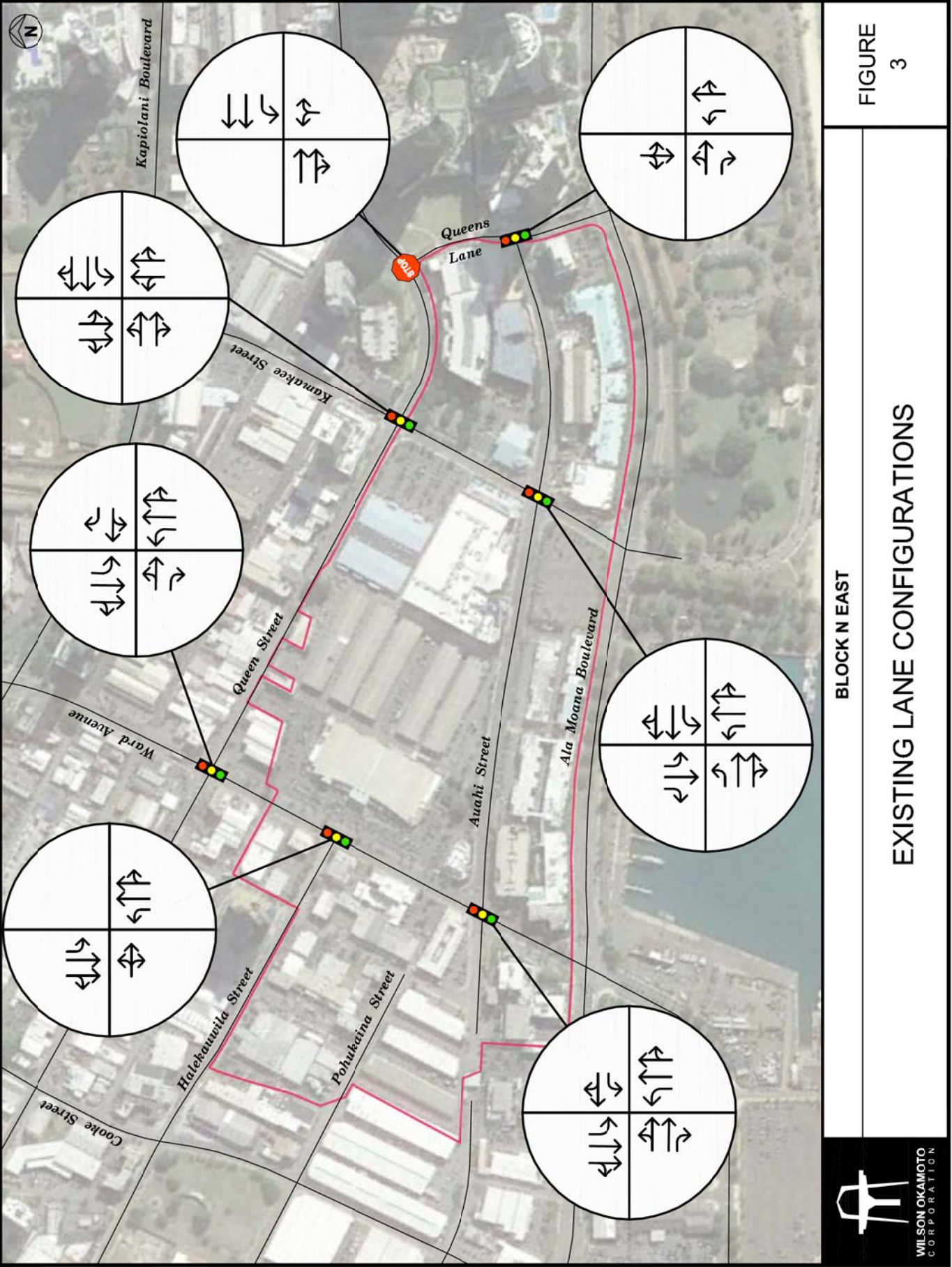


FIGURE 2

BLOCK N EAST
PROPOSED SITE PLAN





B. Traffic Volumes and Conditions

1. General

a. Field Investigation

The existing traffic count data utilized for this study consisted of turning movement count surveys at approximately 46 locations during the weekday morning peak hours of 6:00 AM and 9:00 AM and afternoon peak hours of 3:00 PM and 6:00 PM. The surveys were conducted during March and April 2015 at the intersections along the following roadways:

- Kapiolani Boulevard between Cooke Street and Piikoi Street
- Kona Street between Kamakee Street and Piikoi Street
- Waimanu Street between Ward Avenue and Piikoi Street
- Kawaiahao Street between Cooke Street and Kamakee Street
- Queen Street between Cooke Street and Waimanu Street
- Ward Avenue with Ilaniwai Street
- Halekauwila Street between Cooke Street and Ward Avenue
- Pohukaina Street between Cooke Street and Kamani Street
- Auahi Street between South Street and Queens Lane
- Ala Moana Boulevard between Cooke Street and Piikoi Street

These field investigations were supplemented by updated surveys at key intersections conducted in April 2016. A comparison of these volumes with the 2015 traffic data indicates that volumes along the study roadways have remained relatively stable over the past year and, as such, the 2015 traffic data is assumed to be representative of existing (Year 2016) traffic conditions. Appendix A includes the existing traffic count data.

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the “Highway Capacity Manual”, Transportation Research Board, 2000, and the “Synchro” software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic.

LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS “A” through “F”; LOS “A” representing ideal or free-flow traffic operating conditions and LOS “F” unacceptable or potentially congested traffic operating conditions.

“Volume-to-Capacity” (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road’s carrying capacity. The LOS definitions are included in Appendix B.

2. Baseline Peak Hour Traffic

a. General

Figures 4 and 5 show the baseline Year 2019 AM and PM peak hour traffic volumes at key locations within the study area which includes the development of other projects in the vicinity, as well as, Phases 1A and 1B of the Ward Village Master Plan. Those phases are expected to include residential and commercial/retail uses for Blocks C East, K, M, and O. The baseline traffic conditions are based on the projected Year 2019 conditions included in the “Transportation Master Plan for the Ward Village Master Plan” dated May 2016.

The AM peak hour of traffic generally occurs between 7:15 AM and 8:15 AM while the PM peak hour of traffic generally occurs between 4:30 PM and 5:30 PM. Although the peak hours of traffic generally occur around the same time periods at each of the study intersections, the absolute commuter peak hour time periods for each intersection may differ slightly. The analysis is based on these absolute commuter peak hour time periods to identify the traffic impacts resulting from the proposed project. LOS calculations for the core intersections are included in Appendix C.

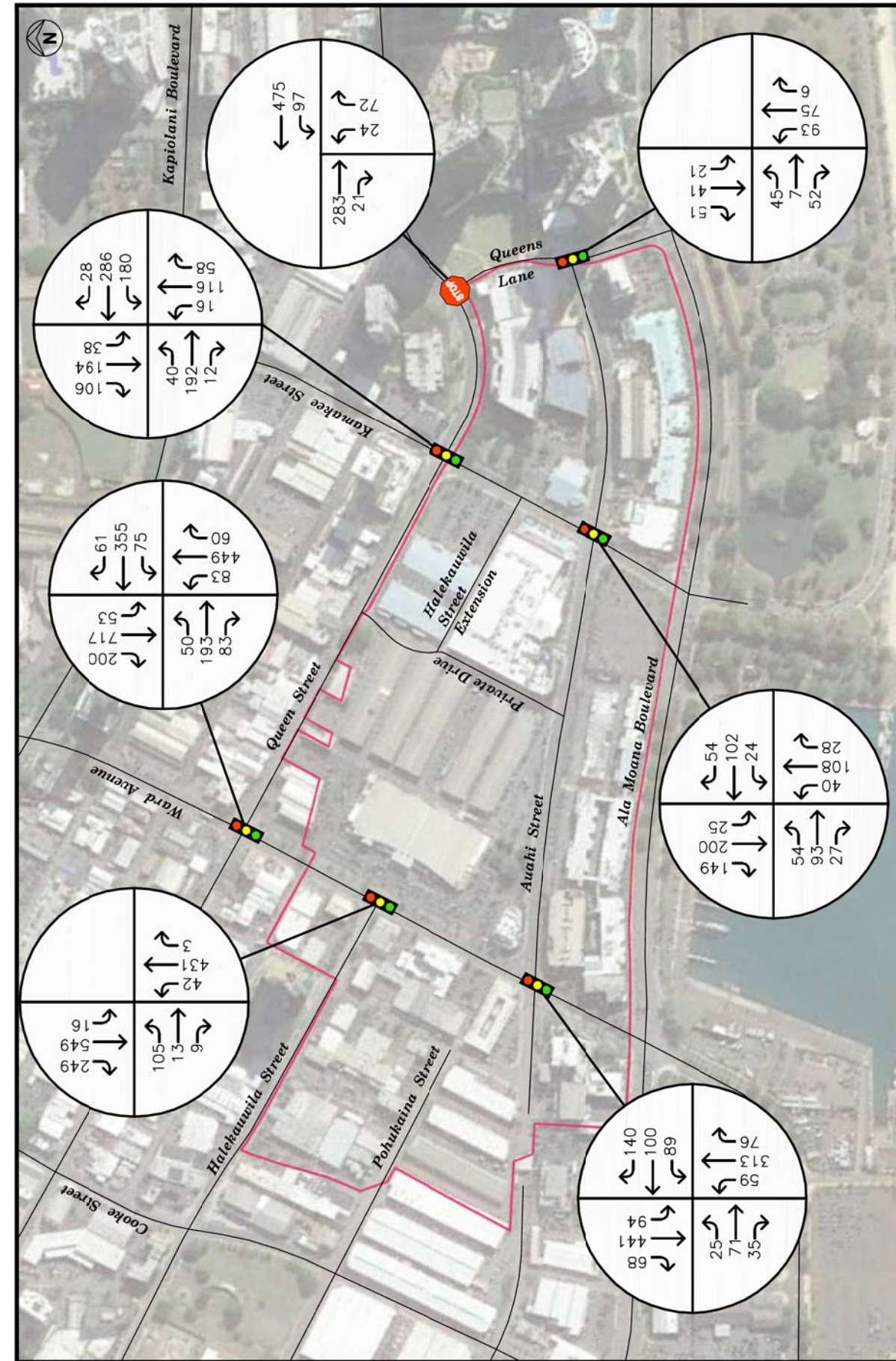
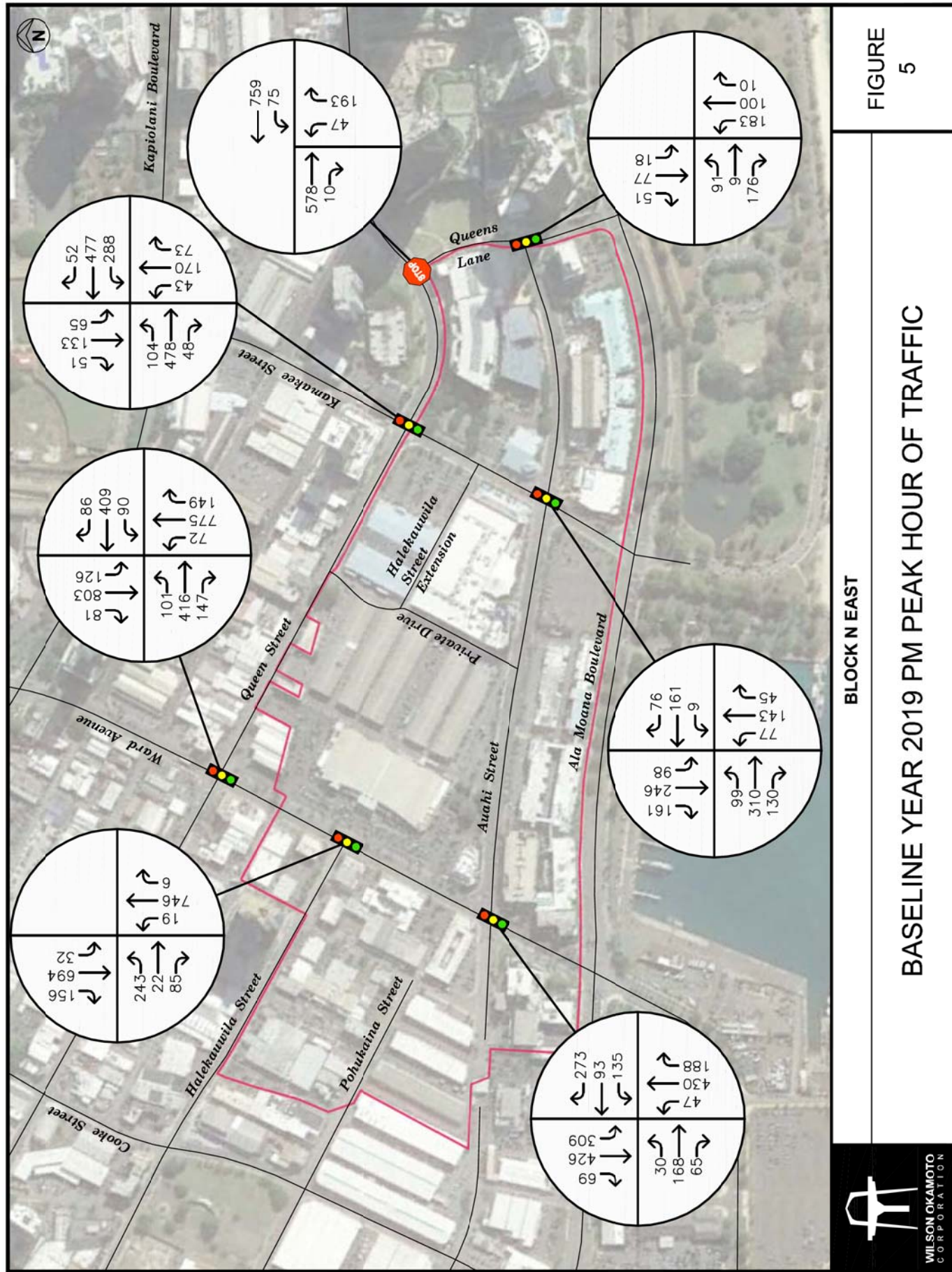


FIGURE 4
BASELINE YEAR 2019 AM PEAK HOUR OF TRAFFIC
BLOCK N EAST





b. Ward Avenue and Queen Street

At the intersection with Queen Street, Ward Avenue carries 592 vehicles northbound and 970 vehicles southbound during the AM peak hour of traffic. During the PM peak period, traffic volumes are higher with 996 vehicles traveling northbound and 1,010 vehicles traveling southbound. Both approaches of Ward Avenue operate at LOS “C” during the AM peak period and LOS “D” during the PM peak period.

The Queen Street approaches of the intersection carry 326 vehicles eastbound and 491 vehicles westbound during AM peak hour of traffic. During the PM peak period, traffic volumes are higher with 664 vehicles traveling eastbound and 585 vehicles traveling westbound. Both approaches of Queen Street operate at LOS “C” during the AM peak period and LOS “F” during the PM peak period.

c. Queen Street and Kamakee Street

At the intersection with Kamakee Street, Queen Street carries 244 vehicles eastbound and 494 vehicles westbound during the AM peak hour of traffic. During the PM peak period, traffic volumes are higher with 630 vehicles traveling eastbound and 817 vehicles traveling westbound. The eastbound approach of Queen Street operates at LOS “B” and LOS “C” during the AM and PM peak hours, respectively, while the westbound approach operates at LOS “B” during both peak periods.

The Kamakee Street approaches carry 190 vehicles northbound and 338 vehicles southbound during the AM peak hour of traffic. During the PM peak period, the overall traffic volume is higher with 286 vehicles traveling northbound and 249 vehicles traveling southbound. Both approaches of Kamakee Street operate at LOS “B” during the AM peak period and LOS “C” during the PM peak period.

d. Queen Street and Queens Lane

At the intersection with Queens Lane, Queen Street carries 304 vehicles eastbound and 572 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 588 vehicles traveling eastbound and 834 vehicles traveling westbound. The westbound left-turn traffic movement operates at LOS "A" during both peak periods.

Queens Lane carries 96 vehicles northbound during the AM peak period and 240 vehicles during the PM peak period. The Queens Lane approach operates at LOS "B" during both peak periods.

e. Ward Avenue and Halekauwila Street

At the intersection with Halekauwila Street, Ward Avenue carries 476 vehicles northbound and 814 vehicles southbound during the AM peak hour of traffic. During the PM peak period, the traffic volumes are higher with 771 vehicles traveling northbound and 882 vehicles traveling southbound. Both approaches of Ward Avenue operate at LOS "A" and LOS "B" during the AM and PM peak periods, respectively.

The Halekauwila Street approach of the intersection carries 127 vehicles eastbound during the AM peak period and 350 vehicles during the PM peak period. The eastbound approach of Halekauwila Street operates at LOS "B" during both peak periods.

f. Ward Avenue and Auahi Street

At the intersection with Auahi Street, Ward Avenue carries 448 vehicles northbound and 603 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 665 vehicles traveling northbound and 804 vehicles traveling southbound. The northbound approach of Ward Avenue operates at LOS "A" during both peak periods, while the southbound approach operates at LOS "A" and LOS "B" during the AM and PM peak periods, respectively.

The Auahi Street approaches of the intersection carry 131 vehicles eastbound and 329 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 263 vehicles traveling eastbound and 501 vehicles traveling westbound. The eastbound approach of Auahi Street operates at LOS "B" during both peak periods, while the westbound approach operates at LOS "B" and LOS "C" during the AM and PM peak periods, respectively.

g. Kamakee Street and Auahi Street

At the intersection with Auahi Street, Kamakee Street carries 176 vehicles northbound and 374 vehicles southbound during the AM peak period. During the PM peak period, traffic volumes are higher with 265 vehicles traveling northbound and 505 vehicles traveling southbound. Both approaches of Kamakee Street operate at LOS "A" during the AM peak period and LOS "C" during the PM peak period.

Auahi Street carries 174 vehicles eastbound and 180 vehicles westbound during the AM peak period. During the PM peak period, traffic volumes are higher with 539 vehicles traveling eastbound and 246 vehicles traveling westbound. The eastbound approach of Auahi Street operates at LOS "C" and LOS "B" during the AM and PM peak periods, respectively, while the westbound approach operates at LOS "B" during both peak periods.

h. Auahi Street, Queens Lane, and Queen Street

At the intersection with Queens Lane and Queen Street, Auahi Street carries 104 vehicles eastbound during the AM peak period and 276 vehicles during the PM peak period. The eastbound approach of Auahi Street operates at LOS "B" during both peak periods.

The Queens Lane approach carries 113 vehicles southbound during the AM peak period and 146 vehicles during the PM peak period. The Queens Lane approach operates at LOS "B" during both peak periods. The northbound approach is comprised of

Queen Street which carries 174 vehicles during the AM peak period and 293 vehicles during the PM peak period. The Queen Street approach also operates at LOS “B” during both peak periods.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in “Trip Generation, 9th Edition,” 2012. The ITE trip generation rates are developed empirically by correlating the vehicle trip generation data with various land use characteristics such as the number of vehicle trips generated per dwelling unit or 1,000 square feet of development. The trip generation methodology developed by ITE also includes provisions for pass-by trips, internal capture of trips, and multi-modal trips. Pass-by trips are generated when vehicles that would be traveling through the area, whether or not the project was developed and make an intermediate stop at the project site between their origin and primary destination. Internal capture of trips accounts for vehicles that visit more than one destination within the same area without adding external vehicular trips to the surrounding major roadways. Multi-modal trips are trips made utilizing non-motorized modes of travel such as walking and biking, as well as trips made using transit. The project site is currently served by established, convenient transit routes that may reduce the number of vehicular trips added to the surrounding major roadways. In addition, the City and County of Honolulu is currently developing a fixed guideway transit system that will extend from Kapolei to potentially the central Honolulu area thereby providing an alternate mode of travel through the Kakaako area. However, the planned system is not expected to be completed prior to the completion of the Block N East development and, as such, is not incorporated into projected conditions. The trip generation characteristics for the proposed project were adjusted to account for the influence of these factors, as well as, to account for

the trip generation characteristics of the existing uses that will be replaced by the new development. Table 1 summarizes the adjusted trip generation characteristics of the new development that incorporates the influence of the aforementioned factors. Appendix D includes a detailed trip generation worksheet for the Block N East development.

Table 1: Adjusted Peak Hour Trip Generation

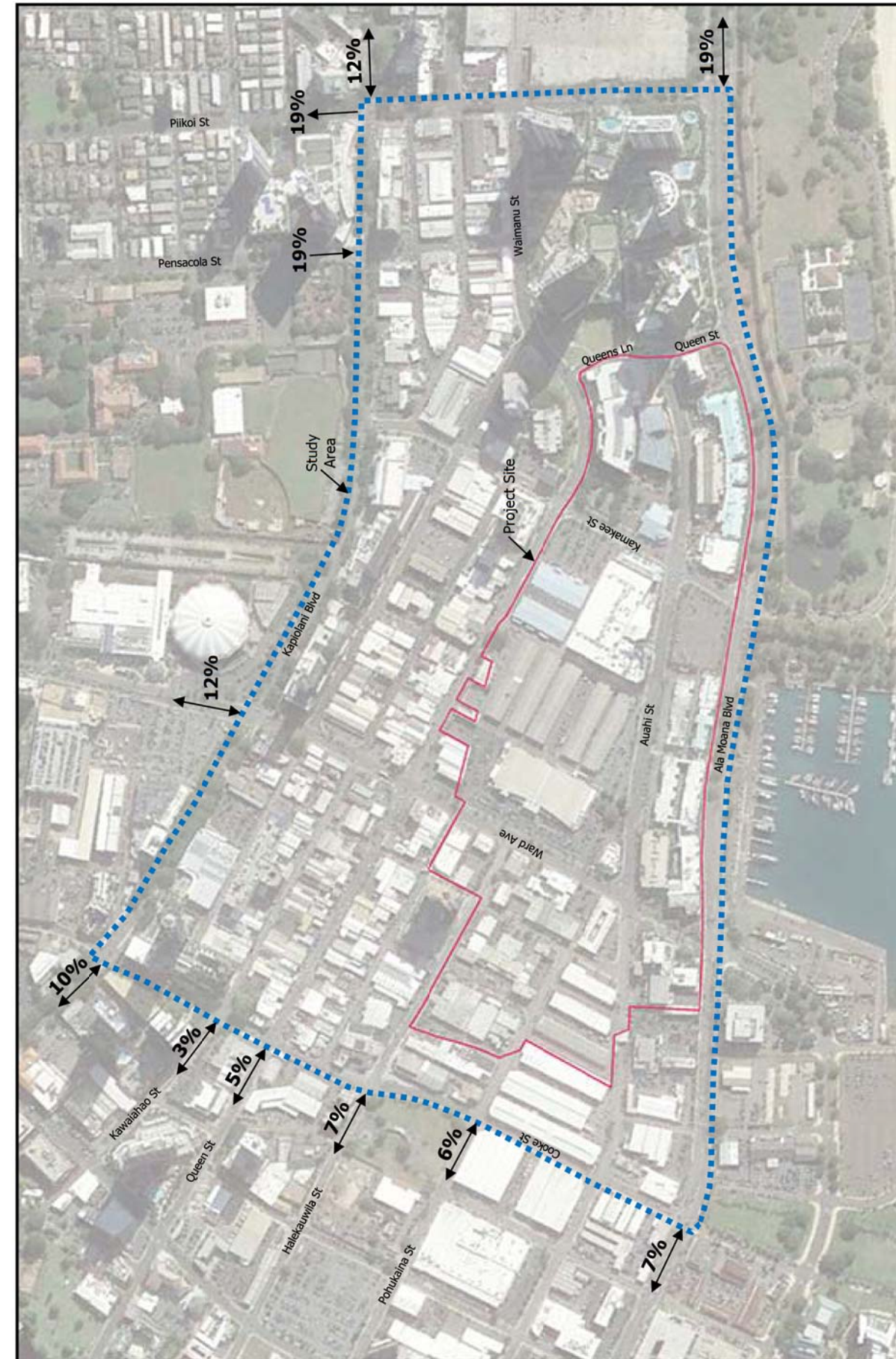
COMMERCIAL/RETAIL (SHOPPING CENTER)		
INDEPENDENT VARIABLE: 1,000 sf of development = 15		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	3
	EXIT	-1
	TOTAL	2
PM PEAK	ENTER	-16
	EXIT	-18
	TOTAL	-34
FINE DINING RESTAURANT (QUALITY RESTAURANT)		
INDEPENDENT VARIABLE: 1,000 sf of development = 5		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	12
	EXIT	-4
	TOTAL	8
PM PEAK	ENTER	-17
	EXIT	-11
	TOTAL	-28
RESIDENTIAL (CONDOMINIUM/TOWNHOUSE)		
INDEPENDENT VARIABLE: Dwelling Units = 750		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	28
	EXIT	200
	TOTAL	228
PM PEAK	ENTER	184
	EXIT	86
	TOTAL	270
TOTALS		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	43
	EXIT	195
	TOTAL	238
PM PEAK	ENTER	151
	EXIT	57
	TOTAL	208

2. Trip Distribution and Through Traffic Forecasting Methodology

The travel forecast utilized for this study is based on the OMPO regional forecasting model which contains estimated land usage for the island of Oahu by the Year 2035 including the development of other projects such as the adjacent Kamehameha Schools/Bishop Estate (KSBE) lands to the west. The travel forecast utilized for the OMPO model is based on Socio-Economic Data (SED) which represents the population distribution within a multitude of traffic analysis zones. The model utilizes this data to forecast individual vehicle trips between destinations within the model. The use of the OMPO model more accurately reflects the anticipated impacts of development on the island more than the use of historical travel patterns or traffic count data. Figures 6 to 8 show the trip distribution percentages and the distribution of site-generated traffic during the AM and PM peak periods based on the OMPO model. In addition, since population estimates for the island of Oahu indicate that population growth is expected to be relatively linear to the Year 2035, a linear growth in traffic was also assumed over that period. As such, a growth factor was determined for the Year 2020.

B. Total Traffic Volumes Without Project

The projected Year 2020 AM and PM peak period traffic volumes and operating conditions without the Block N East development are shown in Figures 9 and 10, and summarized in Table 2. The analysis incorporates the development of other projects in the area, Phases 1A and 1B of the Ward Villages Master Plan, and anticipated ambient growth in traffic in the vicinity. The baseline levels of service are provided for comparison purposes. LOS calculations are included in Appendix E.

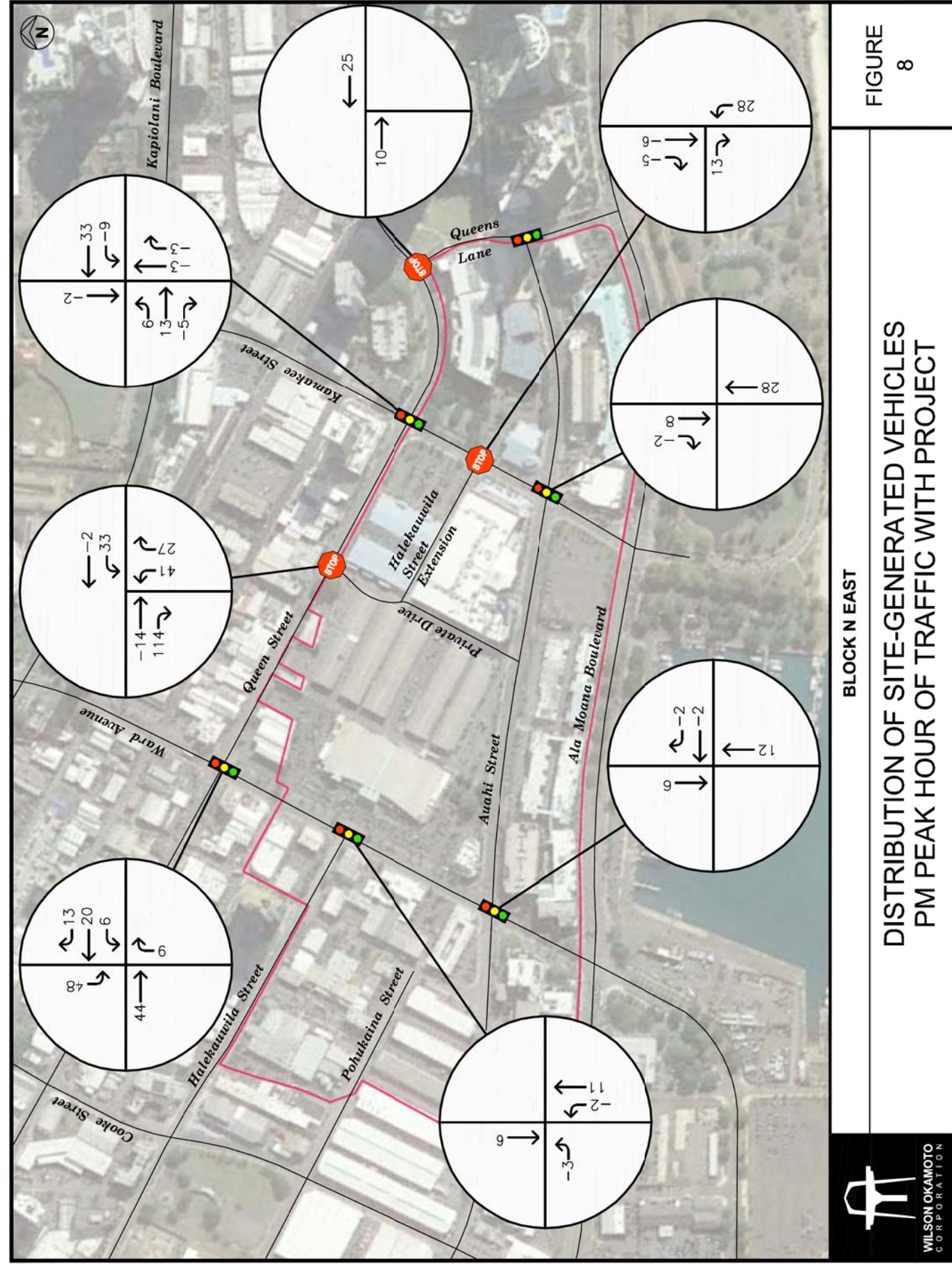
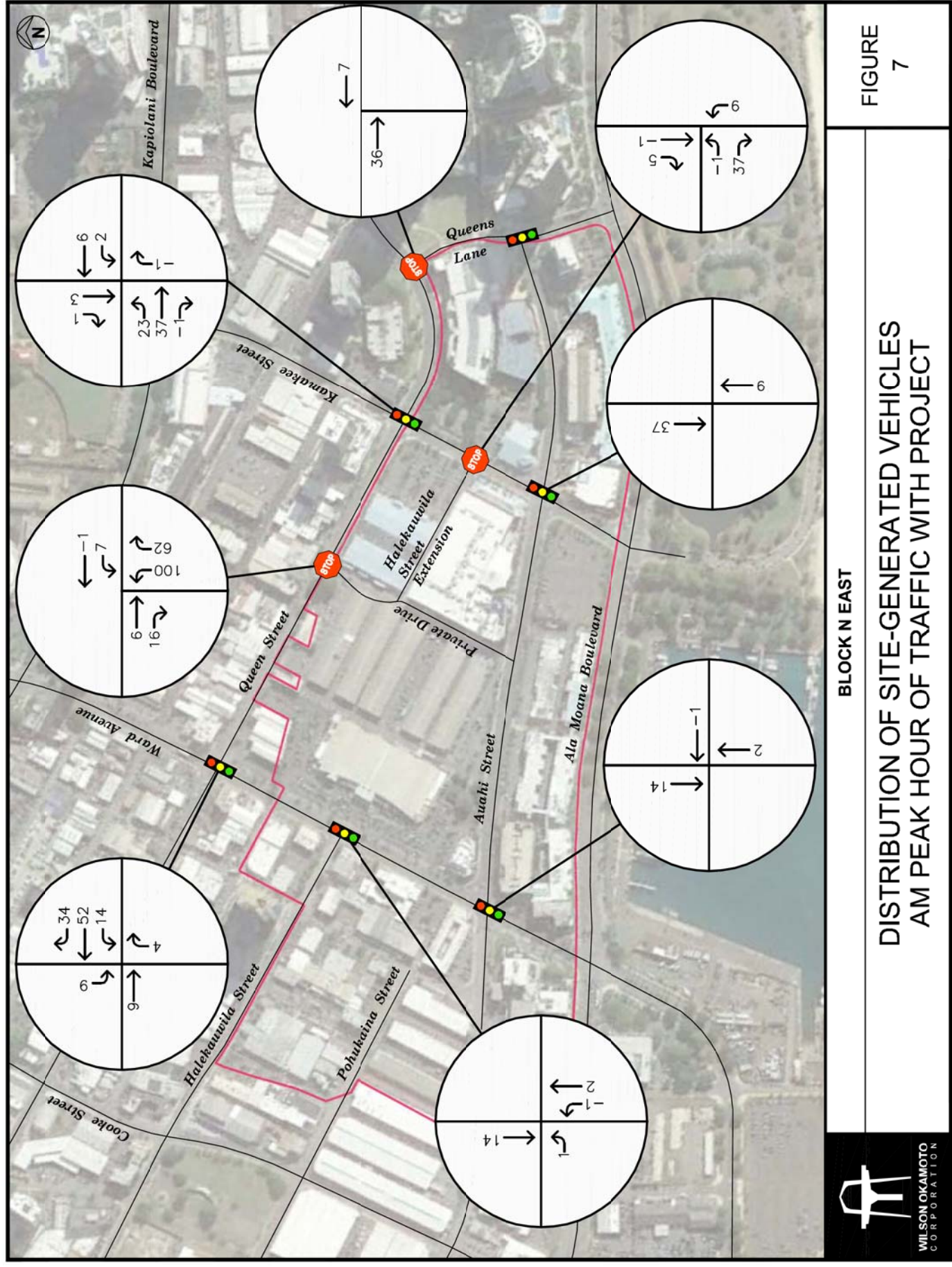


BLOCK N EAST

DISTRIBUTION OF EXTERNAL SITE-GENERATED TRIPS

FIGURE 6





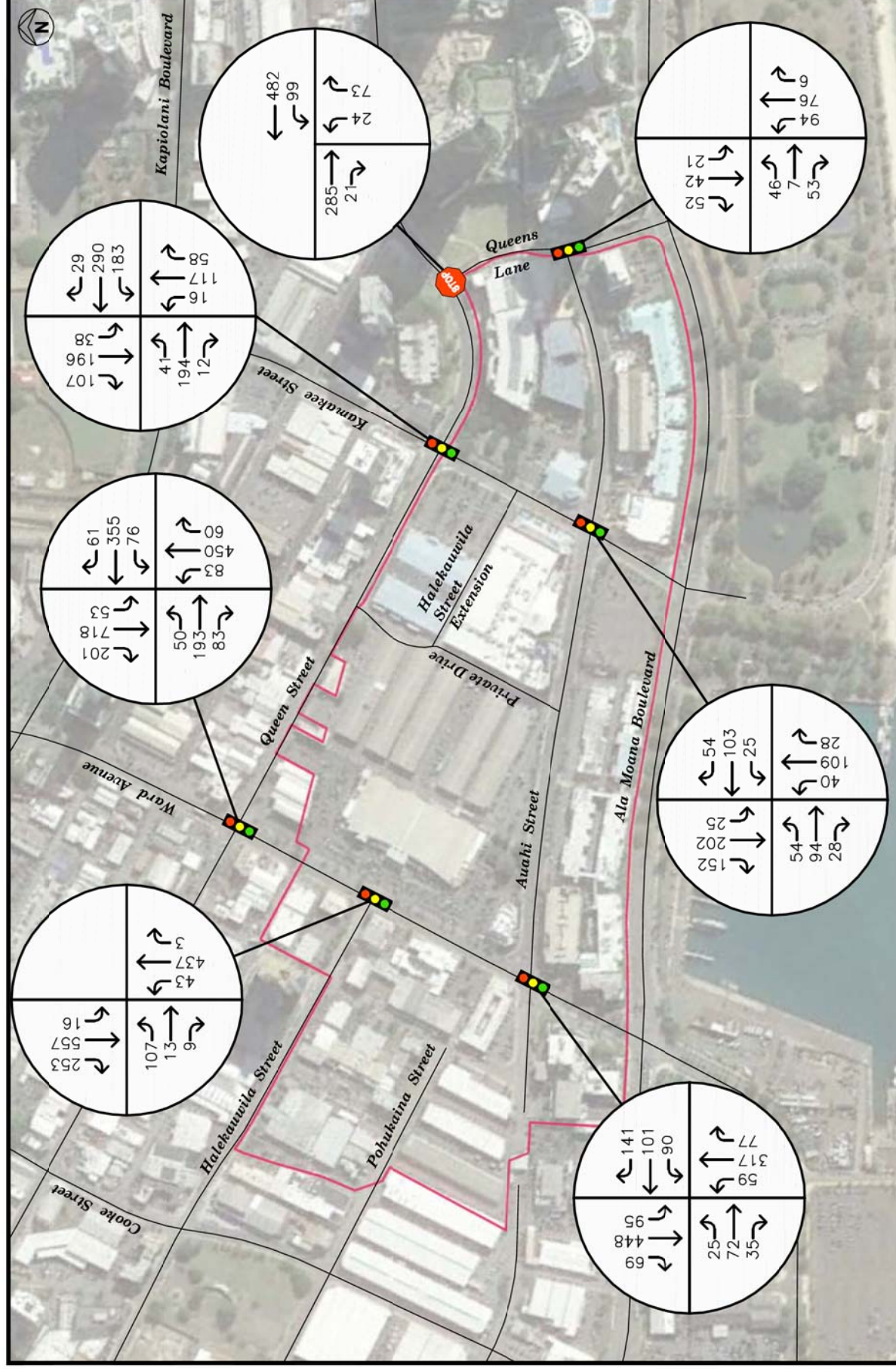


FIGURE 9
YEAR 2020 AM PEAK HOUR OF TRAFFIC WITHOUT PROJECT
BLOCK N EAST

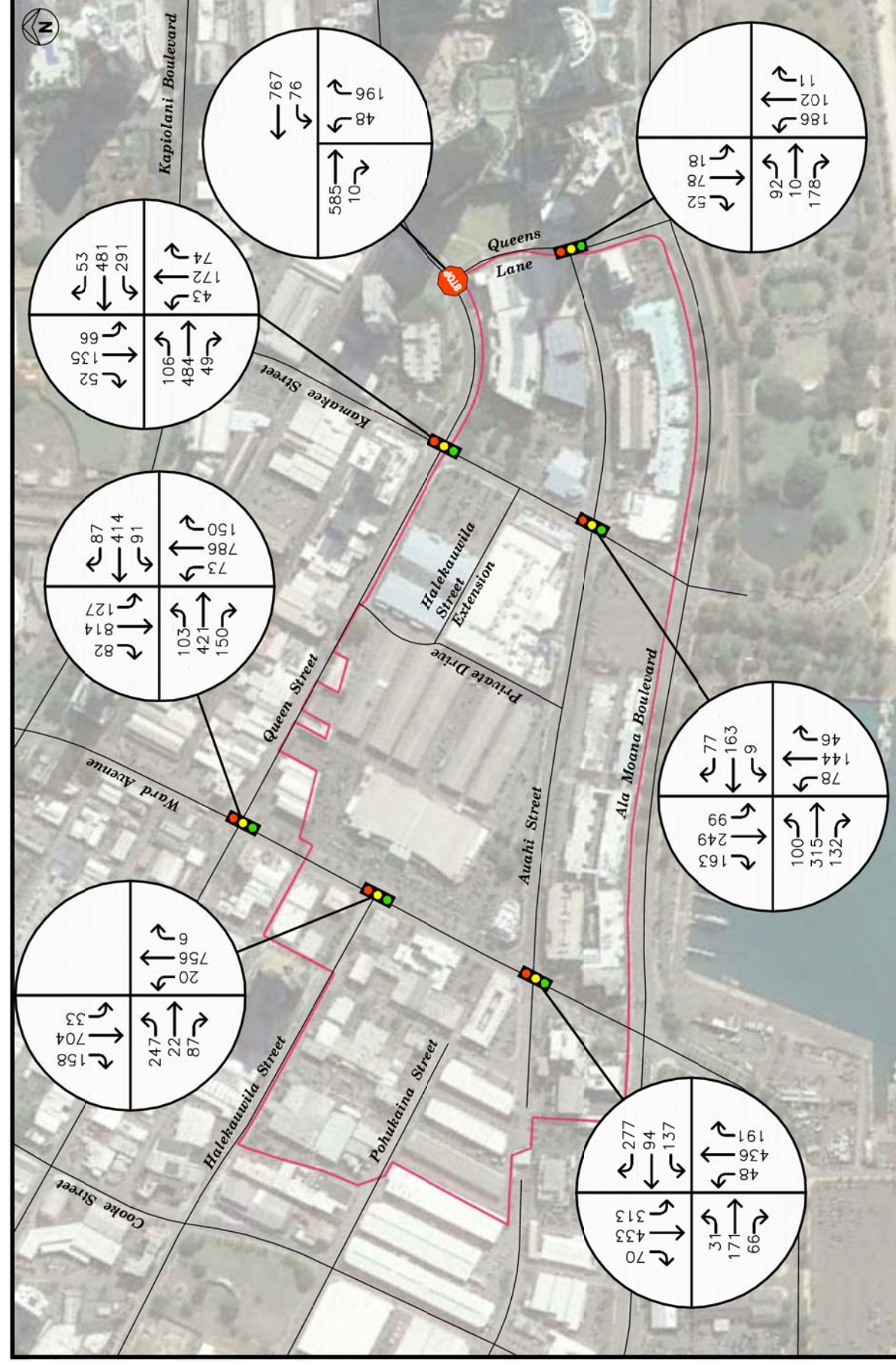


FIGURE 10
YEAR 2020 PM PEAK HOUR OF TRAFFIC WITHOUT PROJECT
BLOCK N EAST



Table 2: Baseline and Projected Year 2020 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM		PM	
		Base- line	Year 2020 w/out Proj	Base- line	Year 2020 w/out Proj
Ward Ave/ Queen St	Eastbound	C	C	F	F
	Westbound	C	C	F	F
	Northbound	C	C	D	D
	Southbound	C	C	D	E
Queen St/ Kamakee St	Eastbound	B	B	C	C
	Westbound	B	B	B	B
	Northbound	B	B	C	C
	Southbound	B	B	C	C
Queen St/ Queens Ln	Westbound (LT*)	A	A	A	A
	Northbound	B	B	B	B
Ward Ave/ Halekauwila St	Eastbound	B	B	B	B
	Northbound	A	A	B	B
	Southbound	A	A	B	B
Ward Ave/ Auahi St	Eastbound	B	B	B	B
	Westbound	B	B	C	C
	Northbound	A	A	A	A
	Southbound	A	A	B	B
Kamakee St/ Auahi St	Eastbound	C	C	B	B
	Westbound	B	B	B	B
	Northbound	A	A	C	C
	Southbound	A	A	C	C
Auahi St/ Queens Ln/ Queen St	Eastbound	B	B	B	B
	Northbound	B	B	B	B
	Southbound	B	B	B	B

*LT = Left-Turn

Under Year 2020 without project conditions, traffic operations are generally expected to remain similar to baseline conditions. Along Ward Avenue, traffic operations at the intersections with Halekauwila Street and Auahi Street are expected to continue operating at LOS “B” or better during the AM peak period and LOS “C”

or better during the PM peak period. However, at the intersection with Queen Street, traffic operations are expected to deteriorate from LOS “D” to LOS “E” along the southbound approach during the PM peak period. Traffic operations at the remaining study intersections are expected to operate at levels of service similar to baseline conditions.

C. Total Traffic Volumes With Project

Figures 11 and 12 show the Year 2020 cumulative AM and PM peak hour traffic conditions resulting from the completion of the Block N East development. The cumulative volumes consist of site-generated traffic superimposed over Year 2020 projected traffic demands. The traffic impacts resulting from the proposed project are addressed in the following section.

V. TRAFFIC IMPACT ANALYSIS

The Year 2020 cumulative AM and PM peak hour traffic conditions with the completion of the Block N East development are summarized in Table 3. The intersection of Ward Avenue and Queen Street is assumed to be modified under with project conditions to alleviate the anticipated levels of service. At that intersection, lane use modifications are expected to provide an exclusive left-turn lane and a shared through and right-turn lane along both approaches of Queen Street. The baseline and projected Year 2020 (Without Project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix F.

Table 3: Baseline and Projected Year 2020 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM			PM		
		Base- line	Year 2020		Base- line	Year 2020	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
Ward Ave/ Queen St*	Eastbound	C	C	B	F	F	D
	Westbound	C	C	C	F	F	D
	Northbound	C	C	C	D	D	D
	Southbound	C	C	C	D	E	D

*Intersection improvement implemented.

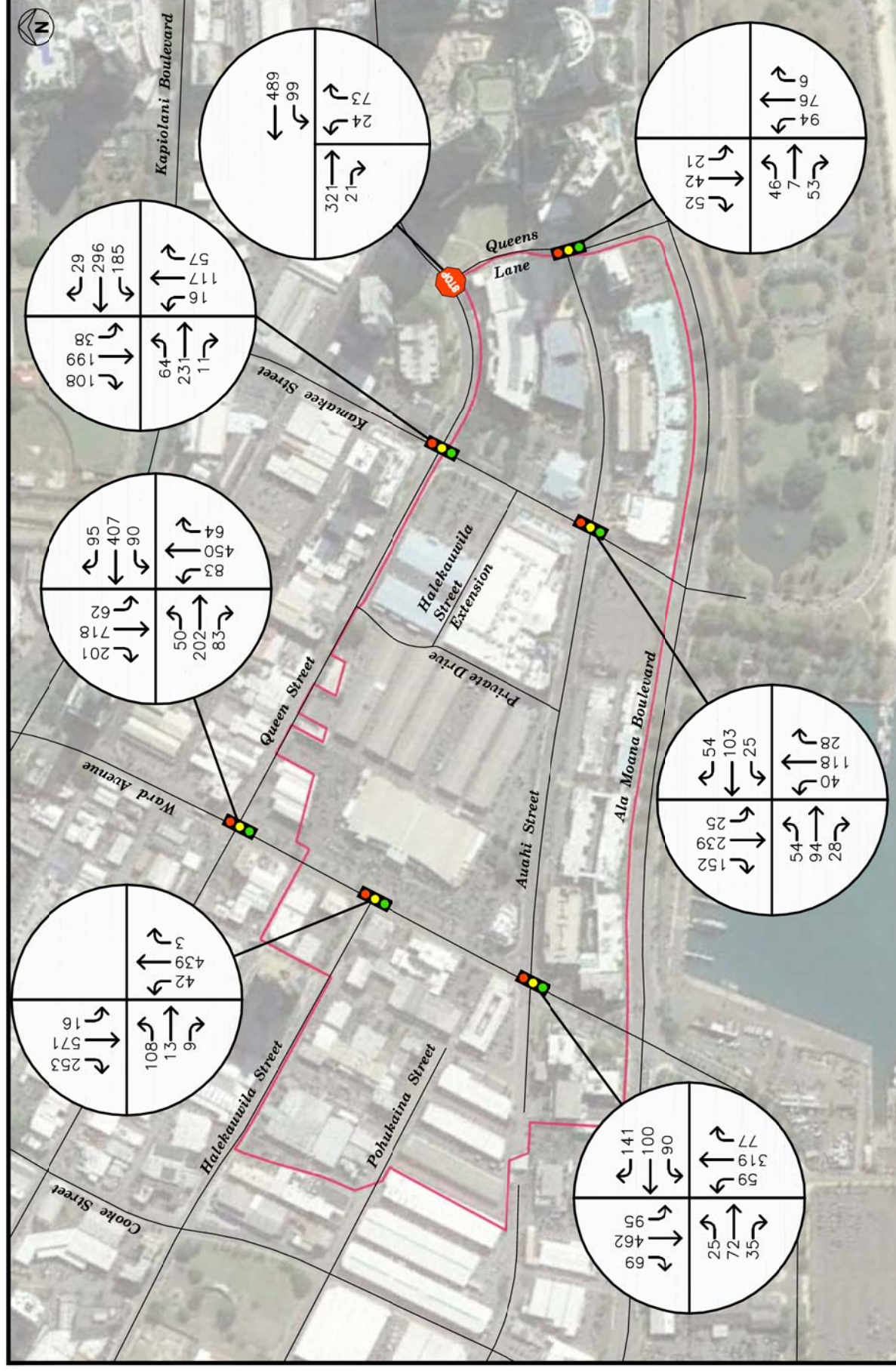


FIGURE 11

YEAR 2020 AM PEAK HOUR OF TRAFFIC WITH PROJECT

BLOCK N EAST

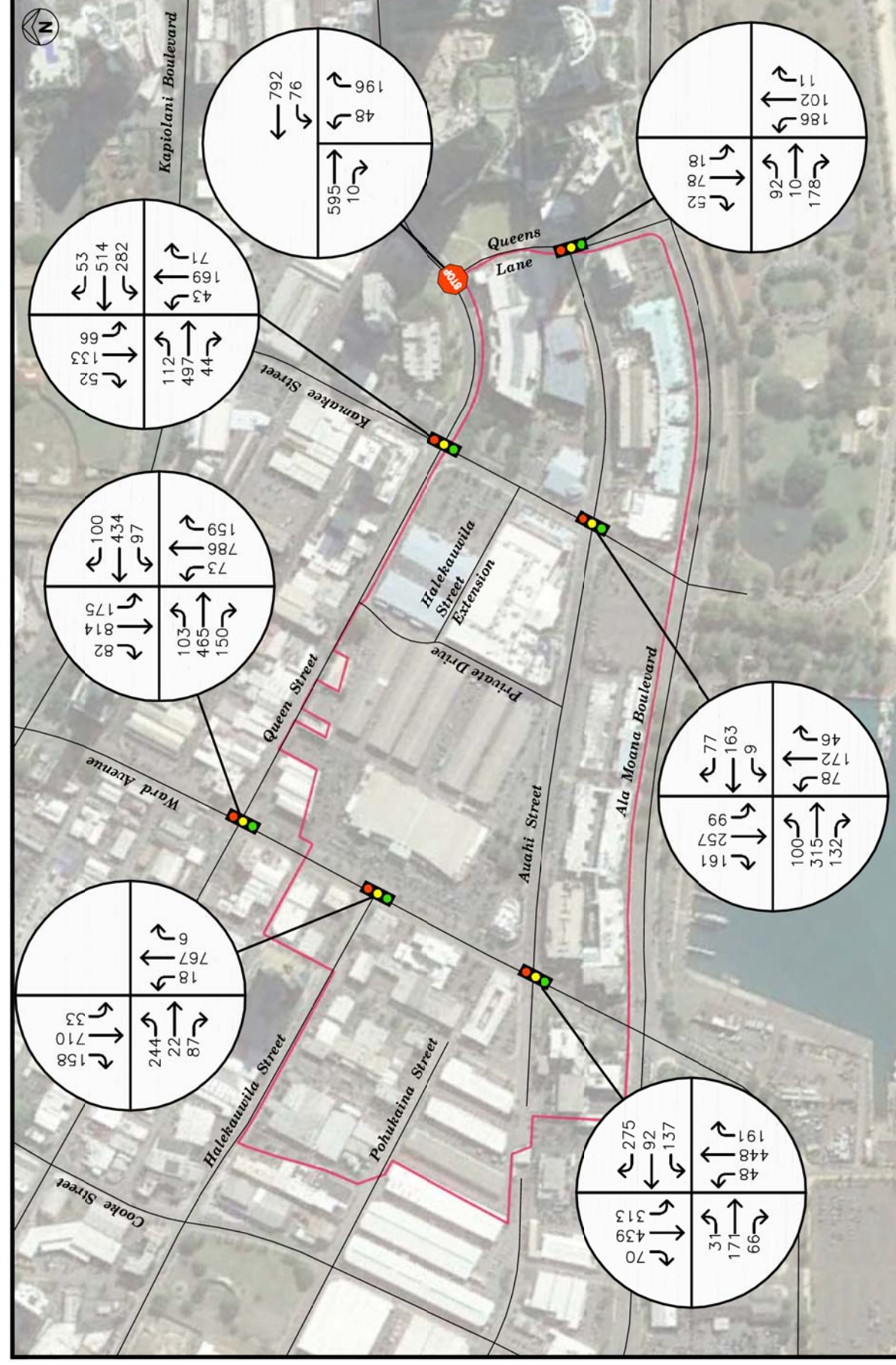


FIGURE 12

YEAR 2020 PM PEAK HOUR OF TRAFFIC WITH PROJECT

BLOCK N EAST



**Table 3: Baseline and Projected Year 2020 (Without and With Project)
LOS Traffic Operating Conditions (Cont'd)**

Intersection	Approach/ Critical Movement	AM			PM		
		Base- line	Year 2020		Base- line	Year 2020	
			w/out Proj	w/ Proj		w/out Proj	w/ Proj
Queen St/ Kamakee St	Eastbound	B	B	B	C	C	C
	Westbound	B	B	B	B	B	B
	Northbound	B	B	B	C	C	C
	Southbound	B	B	B	C	C	C
Queen St/ Queens Ln	Westbound	A	A	A	A	A	A
	Northbound	B	B	B	B	B	B
Ward Ave/ Halekauwila St	Eastbound	B	B	B	B	B	B
	Northbound	A	A	A	B	B	B
	Southbound	A	A	A	B	B	B
Ward Ave/ Auahi St	Eastbound	B	B	B	B	B	B
	Westbound	B	B	B	C	C	C
	Northbound	A	A	A	A	A	A
	Southbound	A	A	A	B	B	B
Kamakee St/ Auahi St	Eastbound	C	C	C	B	B	B
	Westbound	B	B	B	B	B	B
	Northbound	A	A	A	C	C	C
	Southbound	A	A	A	C	C	C
Queens Ln/ Queen St/ Auahi St	Eastbound	B	B	B	B	B	B
	Northbound	B	B	B	B	B	B
	Southbound	B	B	B	B	B	B

Traffic operations under Year 2020 with project conditions are generally expected to remain similar to without project conditions despite the addition of site-generated vehicles to the surrounding roadways. Along Ward Avenue, at the intersections with Halekauwila Street and Auahi Street traffic operations are expected to continue operating at LOS “B” or better during the AM peak period and LOS “C” or better during the PM peak. At the intersection with Queen Street traffic operations are expected to improve to LOS “C” or better during the AM peak period and LOS “D” or better during the PM peak period primarily due to the lane use modifications along Queen Street. At the remaining study intersections, traffic

operations are expected to continue to operate at levels of service similar to without project conditions.

VI. RECOMMENDATIONS

Based on the analysis of the traffic data, the following are the recommendations of this study to be incorporated in the project design.

1. Maintain sufficient sight distance for motorists to safely enter and exit the project driveway.
2. Provide adequate on-site loading and off-loading service areas and prohibit off-site loading operations.
3. Provide adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.
4. Provide sufficient turning radii at all project driveways to avoid or minimize vehicle encroachments to oncoming traffic lanes.
5. Modify the lane use on both of the Queen Street approaches at the intersection with Ward Avenue to provide an exclusive left-turn lane and a shared through and right-turn lane. The layout and dimensions of these lanes should be determined during the design of the projects as listed above.
6. Consider actively managing the loading area to minimize vehicular conflicts to the adjacent intersection of Queen Street and Private Drive.
7. Continue to develop and/or enhance bicycle and pedestrian facilities, as well as, public transportation services in the project vicinity as described in the “Transportation Master Plan for the Ward Villages Master Plan,” dated May 2016,

VII. CONCLUSION

The project site for the Ward Village Master Plan currently encompasses Ward Warehouse, Ward Centre, Ward Entertainment Center, Ward Village Shops, and other surrounding commercial and office buildings. The overall master plan is expected to be implemented in five (5) phases over the next 10-15 years and entail the redevelopment of most of the existing commercial, office, and industrial spaces. Block N East is a part of Phase 2 of the master plan which is expected to include new commercial/retail space and residential units adjacent to Queen Street midway between Ward Avenue and Kamakee Street. With the implementation of the aforementioned recommendations, traffic operations

at the study intersections with the Block N East development are generally expected to operate at levels of service similar to without project conditions. However, since the Ward Village Master Plan is expected to be developed in phases over a period of 10+ years, it is recommended that Traffic Impact Analysis Reports (TIARs) be prepared for each phase of the project to verify future conditions and ensure necessary mitigation measures are implemented.

APPENDIX A
EXISTING TRAFFIC COUNT DATA

WILSON UKAMOTO Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JC, CY
Counters: D4-3888, D4-5677
Weather: Clear

File Name : AuaKam AM
Site Code : 00000006
Start Date : 3/3/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Kamani Street Thru = Vehicles Entering Bank Of Hawaii Parking Garage Southbound				Auahi Street Left = Turn Into Bank Of Hawaii Driveway Westbound				Bank Of Hawaii Driveway Northbound				Auahi Street Eastbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	App. Total				App. Total				App. Total				App. Total					
06:00 AM	5	1	0	0	1	6	2	0	0	0	0	1	0	0	0	0	0	16
06:15 AM	4	0	1	0	5	0	15	0	0	0	2	0	0	0	0	0	0	28
06:30 AM	9	0	1	0	0	0	14	0	0	0	1	0	0	0	0	0	0	25
06:45 AM	9	0	2	1	1	0	22	0	0	0	0	0	0	0	0	0	0	36
Total	27	1	4	1	7	6	53	0	66	0	4	0	4	2	0	0	2	105
07:00 AM	12	0	0	1	3	1	39	0	43	0	0	0	0	0	0	0	0	56
07:15 AM	24	4	0	1	3	0	37	0	40	0	1	0	0	0	0	0	0	70
07:30 AM	13	0	0	0	5	1	49	0	55	0	0	0	0	0	1	0	0	69
07:45 AM	12	1	1	3	4	5	40	0	49	0	3	0	3	1	0	0	1	70
Total	61	5	1	5	15	7	165	0	187	0	4	0	4	1	1	0	2	265
08:00 AM	19	1	1	0	4	1	40	0	45	0	4	0	4	2	0	0	0	72
08:15 AM	26	3	1	0	9	1	50	0	60	0	4	0	4	0	1	0	0	95
08:30 AM	30	4	2	1	12	2	35	0	49	0	5	0	5	1	1	0	0	93
08:45 AM	38	6	2	1	10	0	24	0	34	0	5	0	5	2	1	0	0	89
Total	113	14	6	2	35	4	149	0	188	0	18	0	18	5	3	0	0	349
Grand Total	201	20	11	8	57	17	367	0	441	0	0	26	0	8	4	0	0	719
Apprch %	83.8	8.3	4.6	3.3	12.9	3.9	83.2	0	61.3	0	0	100	0	66.7	33.3	0	0	1.7
Total %	28	2.8	1.5	1.1	7.9	2.4	51	0	61.3	0	0	3.6	0	1.1	0.6	0	0	1.7

Start Time	Kamani Street Thru = Vehicles Entering Bank Of Hawaii Parking Garage Southbound				Auahi Street Left = Turn Into Bank Of Hawaii Driveway Westbound				Bank Of Hawaii Driveway Northbound				Auahi Street Eastbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	App. Total				App. Total				App. Total				App. Total					
08:00 AM	19	1	1	0	4	1	40	0	45	0	0	4	0	2	0	0	0	72
08:15 AM	26	3	1	0	9	1	50	0	60	0	0	4	0	0	1	0	0	95
08:30 AM	30	4	2	1	12	2	35	0	49	0	5	0	5	1	1	0	0	92
08:45 AM	38	6	2	1	10	0	24	0	34	0	5	0	5	2	1	0	0	88
Total Volume	113	14	6	2	35	4	149	0	188	0	0	18	0	5	3	0	0	347
% App. Total	85	10.5	4.5	1.7	18.6	2.1	79.3	0	78.3	0	0	100	0	62.5	37.5	0	0	8
PHF	.743	.583	.750	.723	.729	.500	.745	.783	.900	.000	.000	.900	.000	.625	.750	.000	.000	.913

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

WILSON UKAMOTO Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: CY, JC
Counters: D4-3888, D4-5677
Weather: Clear

File Name : AuaKam PM
Site Code : 00000006
Start Date : 3/3/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Kamani Street Thru = Vehicles Entering Bank Of Hawaii Parking Garage Southbound				Auahi Street Westbound				Bank Of Hawaii Driveway Northbound				Auahi Street Eastbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	App. Total				App. Total				App. Total				App. Total					
03:00 PM	34	2	1	0	2	0	30	0	32	0	0	10	0	0	2	0	0	81
03:15 PM	47	2	1	0	7	0	56	0	63	0	6	0	6	1	2	0	0	122
03:30 PM	50	2	1	3	6	1	41	0	48	0	5	0	5	3	1	0	0	113
03:45 PM	50	1	0	0	5	0	37	0	42	0	4	0	4	1	0	0	0	98
Total	181	7	3	3	20	1	164	0	185	0	0	25	0	5	5	0	0	414
04:00 PM	42	2	0	1	4	0	34	0	38	0	0	12	0	4	0	0	0	103
04:15 PM	47	0	1	0	4	1	42	0	44	0	0	7	0	0	2	0	0	101
04:30 PM	52	1	0	0	2	1	43	0	46	0	0	7	0	4	0	0	0	114
04:45 PM	53	1	0	0	5	0	31	0	36	0	0	7	0	3	0	0	0	100
Total	194	4	1	1	20	2	150	0	164	0	0	33	0	11	10	0	0	418
05:00 PM	49	0	0	0	5	0	53	1	59	0	0	13	0	7	2	0	0	130
05:15 PM	46	0	0	0	3	0	34	0	37	0	0	0	0	1	1	0	0	85
05:30 PM	50	0	0	0	4	0	42	0	46	0	8	0	8	1	3	0	0	108
05:45 PM	45	3	0	0	8	0	32	0	40	1	0	9	0	1	0	1	0	100
Total	190	3	0	0	20	0	161	1	182	1	0	30	0	10	6	1	0	423
Grand Total	565	14	4	4	52	3	475	1	531	1	0	88	0	26	21	1	0	1255
Apprch %	96.3	2.4	0.7	0.7	9.8	0.6	89.5	0.2	42.3	0.1	0	98.9	0	54.2	43.8	2.1	0	3.8
Total %	45	1.1	0.3	0.3	4.1	0.2	37.8	0.1	42.3	0.1	0	7	0	2.1	1.7	0.1	0	3.8

Start Time	Kamani Street Thru = Vehicles Entering Bank Of Hawaii Parking Garage Southbound				Auahi Street Westbound				Bank Of Hawaii Driveway Northbound				Auahi Street Eastbound					
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
	App. Total				App. Total				App. Total				App. Total					
04:15 PM	47	0	1	0	1	1	42	0	44	0	0	7	0	0	2	0	0	101
04:30 PM	52	1	0	0	2	1	43	0	46	0	0	7	0	4	4	0	0	114
04:45 PM	53	1	0	0	5	0	31	0	36	0	0	7	0	3	0	0	0	100
05:00 PM	49	0	0	0	5	0	53	0	58	0	0	13	0	7	2	0	0	129
Total Volume	201	2	1	0	13	2	169	0	184	0	0	34	0	14	8	0	0	444
% App. Total	98.5	1	0.5	0	7.1	1.1	91.8	0	79.3	0	0	100	0	63.6	36.4	0	0	8.6
PHF	.948	.500	.250	.944	.650	.500	.797	.793	.654	.000	.000	.654	.000	.500	.500	.000	.000	.860

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, GC
Counters: D4-5676, D4-5675
Weather: Clear

File Name : WarAua AM
Site Code : 00000003
Start Date : 3/3/2015
Page No : 1

Start Time	Ward Avenue Southbound						Auahi Street Westbound						Ward Avenue Northbound						Auahi Street Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
06:00 AM	10	70	7	1	88	8	5	2	6	21	2	29	10	1	42	2	1	2	3	8	159										
06:15 AM	7	77	6	3	93	9	7	8	6	30	7	38	10	0	55	1	2	4	3	10	188										
06:30 AM	5	75	8	2	90	8	4	3	6	21	1	42	11	0	54	2	3	5	3	13	178										
06:45 AM	13	73	7	2	95	17	10	7	3	37	6	48	12	0	66	1	6	4	4	15	213										
Total	35	295	28	8	366	42	26	20	21	109	16	157	43	1	217	6	12	15	13	46	738										
07:00 AM	11	84	15	3	113	9	14	12	9	44	13	50	14	0	77	2	4	5	5	16	250										
07:15 AM	15	105	9	7	136	16	23	8	16	63	7	56	10	0	73	3	12	7	6	28	300										
07:30 AM	16	90	13	7	126	16	18	21	18	73	25	69	15	0	109	1	8	6	3	18	326										
07:45 AM	12	77	10	9	108	20	30	11	17	78	15	73	20	0	108	0	7	7	8	22	316										
Total	54	356	47	26	483	61	85	52	60	258	60	248	59	0	367	6	31	25	22	84	1192										
08:00 AM	18	96	10	8	132	17	17	24	11	69	12	78	12	0	102	3	11	3	6	23	326										
08:15 AM	15	116	10	9	150	26	33	18	17	94	21	73	21	0	115	10	11	7	5	33	392										
08:30 AM	25	103	21	8	157	22	22	31	20	95	13	79	22	0	114	6	18	8	10	42	408										
08:45 AM	27	86	24	12	149	19	11	29	8	67	10	66	18	0	94	5	24	15	13	57	367										
Total	85	401	65	37	588	84	83	102	56	325	56	296	73	0	425	24	64	33	34	155	1493										
Grand Total	174	1052	140	71	1437	187	194	174	137	692	132	701	175	1	1009	36	107	73	69	285	3423										
Approch %	12.1	73.2	9.7	4.9		27	28	25.1	19.8		13.1	69.5	17.3	0.1		12.6	37.5	25.6	24.2												
Total %	5.1	30.7	4.1	2.1		42	5.5	5.7	5.1		4	20.2	5.1			1.1	3.1	2.1	2												

Start Time	Ward Avenue Southbound						Auahi Street Westbound						Ward Avenue Northbound						Auahi Street Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
08:00 AM	18	96	10	8	124	17	17	24	11	58	12	78	12	0	102	3	11	3	6	23	301										
08:15 AM	15	116	10	9	141	26	33	18	17	77	21	73	21	0	115	10	11	7	5	33	361										
08:30 AM	25	103	21	8	149	22	22	31	20	75	13	79	22	0	114	6	18	8	10	42	408										
08:45 AM	27	86	24	12	137	19	11	29	8	59	10	66	18	0	94	5	24	15	13	57	367										
Total	85	401	65	37	551	84	83	102	56	269	56	296	73	0	425	24	64	33	34	155	1493										
% App. Total	15.4	72.8	11.8			31.2	30.9	37.9			13.2	69.6	17.2			19.8	52.9	27.3													
PHF	.787	.864	.677		.924	.808	.629	.823		.873	.667	.937	.830		.924	.600	.667	.550		.688	.923										

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: GC, DY
Counters: D4-5675, D4-5676
Weather: Clear

File Name : WarAua PM
Site Code : 00000003
Start Date : 3/3/2015
Page No : 1

Start Time	Ward Avenue Southbound						Auahi Street Westbound						Ward Avenue Northbound						Auahi Street Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
03:00 PM	37	74	20	10	141	39	16	56	21	132	6	77	20	9	112	8	20	14	9	51	436										
03:15 PM	44	107	33	13	197	26	43	52	21	142	12	86	28	4	130	8	20	14	6	48	517										
03:30 PM	40	88	13	13	154	36	26	52	20	134	9	82	31	9	131	15	22	16	9	62	481										
03:45 PM	39	92	16	12	159	31	23	60	36	150	10	76	36	6	128	10	34	14	7	65	502										
Total	160	361	82	48	651	132	108	220	98	558	37	321	115	28	501	41	96	58	31	226	1936										
04:00 PM	42	100	13	14	169	35	24	39	23	121	5	83	33	9	130	13	27	14	11	65	485										
04:15 PM	54	102	9	10	175	42	18	51	27	138	16	89	34	12	151	9	36	18	14	79	543										
04:30 PM	60	85	12	16	173	34	12	58	21	125	19	99	40	8	156	10	32	21	7	70	524										
04:45 PM	68	84	8	20	180	39	18	49	16	122	10	87	34	3	134	9	42	14	4	69	505										
Total	224	371	42	60	697	150	72	197	87	506	50	348	141	32	571	41	139	67	36	283	2057										
05:00 PM	59	103	10	17	189	31	34	62	18	145	17	78	39	8	142	8	39	16	12	75	551										
05:15 PM	79	99	17	14	209	27	18	50	24	119	8	95	46	10	159	9	37	18	11	75	562										
05:30 PM	70	100	18	14	202	42	19	51	25	137	13	97	47	10	167	7	33	21	10	71	577										
05:45 PM	71	101	21	9	202	29	14	55	19	117	7	93	46	11	157	5	47	7	10	69	545										
Total	279	403	66	54	802	129	85	218	86	518	45	363	178	39	625	29	156	62	43	290	2235										
Grand Total	663	1135	190	162	2150	411	265	635	271	1582	132	1032	434	99	1697	111	391	187	110	799	6228										
Approch %	30.8	52.8	8.8	7.5		26	16.8	40.1	17.1		7.8	60.8	25.6	5.8		13.9	48.9	23.4	13.8												
Total %	10.6	18.2	3.1	2.6		6.6	4.3	10.2	4.4	25.4	2.1	16.6	7	1.6		1.8	6.3	3	1.8												

Start Time	Ward Avenue Southbound						Auahi Street Westbound						Ward Avenue Northbound						Auahi Street Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left					

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: CM
Counters: TU-2050
Weather: Clear

File Name : KamAua AM
Site Code : 00000004
Start Date : 4/12/2016
Page No : 1

Start Time	Kamakee Street Southbound						Auahi Street Westbound						Kamakee Street Northbound						Auahi Street Eastbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
	06:00 AM	1	16	14	4	35	12	1	6	1	4	12	3	5	5	8	21	4	9	3	7	23	91	
06:15 AM	3	24	15	9	51	22	2	3	1	16	22	6	17	5	7	35	2	12	3	21	38	146		
06:30 AM	5	22	22	16	65	21	1	6	2	12	21	10	19	5	13	47	4	8	9	10	31	164		
06:45 AM	7	34	21	14	76	15	2	6	5	2	15	6	18	13	7	44	8	11	1	13	33	168		
Total	16	96	72	43	227	70	6	21	9	34	70	25	59	28	35	147	18	40	16	51	125	569		
07:00 AM	6	30	20	3	59	22	0	12	4	6	22	7	11	6	4	28	4	19	3	7	33	142		
07:15 AM	5	24	33	3	65	34	1	24	4	5	34	7	21	1	4	33	2	15	1	7	25	157		
07:30 AM	5	46	40	11	102	31	1	21	4	5	31	7	22	4	5	38	5	12	0	5	22	193		
07:45 AM	11	43	36	5	95	25	2	18	3	2	25	5	27	4	4	40	6	28	3	5	42	202		
Total	27	143	129	22	321	112	4	75	15	18	112	26	81	15	17	139	17	74	7	24	122	694		
08:00 AM	11	31	37	7	86	36	0	24	5	7	36	22	24	7	3	56	5	32	2	3	42	220		
08:15 AM	13	35	40	11	99	30	3	16	5	6	30	4	33	4	3	44	6	35	2	4	47	220		
08:30 AM	6	33	34	13	86	25	4	17	3	1	25	9	19	6	2	36	6	25	2	2	35	182		
08:45 AM	7	25	40	6	78	24	1	13	8	2	24	8	14	8	9	39	9	32	2	10	53	194		
Total	37	124	151	37	349	115	8	70	21	16	115	43	90	25	17	175	26	124	8	19	177	816		
Grand Total	80	363	352	102	897	297	18	166	45	68	297	94	230	68	69	461	61	238	31	94	424	2079		
Apprch %	8.9	40.5	39.2	11.4			6.1	55.9	15.2	22.9		20.4	49.9	14.8	15		14.4	56.1	7.3	22.2				
Total %	3.8	17.5	16.9	4.9	43.1	14.3	0.9	8	2.2	3.3	14.3	4.5	11.1	3.3	3.3	22.2	2.9	11.4	1.5	4.5	20.4			

Start Time	Kamakee Street Southbound						Auahi Street Westbound						Kamakee Street Northbound						Auahi Street Eastbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
	07:30 AM	5	46	40	4	91	26	1	21	4	4	26	7	22	4	4	33	5	12	0	3	17	167	
07:45 AM	11	43	36	3	90	23	2	18	3	3	23	5	27	4	4	36	6	28	3	3	37	186		
08:00 AM	11	31	37	7	79	29	0	24	5	7	29	22	24	7	5	53	5	32	2	2	39	200		
08:15 AM	13	35	40	6	88	24	3	16	5	5	24	4	33	4	4	41	6	35	2	4	43	196		
Total Volume	40	155	153	17	348	102	6	79	17	17	102	38	106	19	163	163	22	107	7	7	136	749		
% App. Total	11.5	44.5	44	4.4			5.9	77.5	16.7	11.7		23.3	65	11.7		16.2	78.7	5.1						
PHF	.769	.842	.956		.956	.879	.500	.823	.850		.879	.432	.803	.679		.769	.917	.764	.583		.791	.936		

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Counted By: JH, PA
Counters: TU-2050, TU-1957
Weather: Clear

File Name : KamAua PM
Site Code : 00000004
Start Date : 4/12/2016
Page No : 1

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Start Time	Kamakee Street Southbound						Auahi Street Westbound						Kamakee Street Northbound						Auahi Street Eastbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
	03:00 PM	12	41	32	45	130	50	1	24	19	6	50	11	24	6	21	62	36	56	4	24	120	362	
03:15 PM	7	41	29	34	111	52	3	30	6	13	52	10	18	6	10	44	28	56	2	9	95	302		
03:30 PM	11	56	36	40	143	80	2	46	14	18	80	13	21	7	17	58	32	48	4	11	95	376		
03:45 PM	5	60	38	24	127	62	3	28	8	23	62	10	34	10	12	66	20	62	6	19	107	362		
Total	35	198	135	143	511	244	9	128	47	60	244	44	97	29	60	230	116	222	16	63	417	1402		
04:00 PM	16	55	28	25	124	75	8	33	9	25	75	12	27	5	3	47	26	39	3	3	71	317		
04:15 PM	6	38	32	44	120	74	1	38	9	26	74	10	22	10	2	44	27	53	11	3	94	332		
04:30 PM	13	34	39	32	118	55	5	26	11	13	55	8	31	11	9	59	37	39	5	4	85	317		
04:45 PM	5	45	27	36	113	47	3	17	6	21	47	9	20	10	4	43	34	74	6	12	126	329		
Total	40	172	126	137	475	251	17	114	35	85	251	39	100	36	18	193	124	205	25	22	376	1295		
05:00 PM	12	58	37	37	144	45	3	14	7	21	45	11	19	10	7	47	28	58	4	5	95	331		
05:15 PM	21	49	27	25	122	41	3	19	10	9	41	19	32	11	4	66	12	67	8	6	93	322		
05:30 PM	16	47	35	40	138	72	1	33	5	33	72	11	16	13	0	40	40	28	63	10	11	112	362	
05:45 PM	19	48	31	22	120	60	8	21	6	25	60	13	21	8	3	45	27	59	2	9	97	322		
Total	68	202	130	124	524	218	15	87	28	88	218	54	88	42	14	198	95	247	24	31	397	1337		
Grand Total	143	572	391	404	1510	713	41	329	110	233	713	137	285	107	92	621	335	674	65	116	1190	4034		
Apprch %	9.5	37.9	25.9	26.8			5.8	46.1	15.4	32.7		22.1	45.9	17.2	14.8		28.2	56.5	5.5	9.7				
Total %	3.5	14.2	9.7	10	37.4	17.7	1	8.2	2.7	5.8	17.7	3.4	7.1	2.7	2.3	15.4	8.3	16.7	1.6	2.9	29.5			

Peak Hour Analysis From 03:00 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 03:30 PM

Start Time	Kamakee Street Southbound						Auahi Street Westbound						Kamakee Street Northbound						Auahi Street Eastbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
	03:30 PM	11	56	36	36	103	103	2	46	14	14	62	13	21	7	41	32	48	4	4	84	290		
03:45 PM	5	60	38	28	103	39	3	28	8	8	39	10	34	10	5	54	20	62	3	6	88	284		
04:00 PM	16	55	55	28	99	50	8	33	9	9	50	12	27	5	44	44	26	39	3	3	68	261		
04:15 PM	6	38	32	32	76	48	1	38	9	7	48	10	22	10	42	42	27	53	11	11	91	257		
Total Volume	38	209	134	134	381	199	14	145	40	40	199	45	104	32	181	181	105	202	24	24	331	1092		
% App. Total	10	54.9	35.2				7	72.9	20.1			24.9	57.5	17.7			31.7	61	7.3					
PHF	.594	.871	.882		.925	.802	.438	.788	.714		.802	.865	.765	.800		.838	.820	.815	.545		.909	.941		

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: KW, AC
Counters: TU-650, TU-0649
Weather: Clear

File Name : AuaQue AM
Site Code : 00000001
Start Date : 3/3/2015
Page No : 1

Start Time	Groups Printed- Unshifted																
	Queen's Lane Southbound			Honua Building Westbound			Queen Street Northbound			Auahi Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	Int. Total		
06:00 AM	1	6	2	0	0	7	9	7	0	5	21	1	1	0	3	5	42
06:15 AM	4	1	3	0	0	5	6	7	1	0	14	1	2	3	8	14	41
06:30 AM	3	4	4	3	0	3	13	5	0	0	18	2	0	1	9	12	47
06:45 AM	1	5	4	4	0	7	5	4	1	3	13	4	1	5	7	17	51
Total	9	16	13	7	0	22	33	23	2	8	66	8	4	9	27	48	181
07:00 AM	4	3	5	1	0	2	11	8	1	3	23	1	0	5	5	11	49
07:15 AM	3	8	7	3	0	5	18	14	3	2	37	6	1	9	14	30	93
07:30 AM	3	4	6	1	0	5	19	12	0	3	34	8	2	6	9	25	78
07:45 AM	1	9	7	2	0	3	18	22	4	6	50	6	3	5	16	30	102
Total	11	24	25	7	0	15	66	56	8	14	144	21	6	25	44	96	322
08:00 AM	2	7	11	4	0	5	14	17	2	14	47	11	1	8	22	42	118
08:15 AM	7	7	9	4	0	2	26	16	2	5	49	12	2	16	12	42	120
08:30 AM	5	6	3	2	0	4	18	18	2	5	43	4	4	13	12	33	96
08:45 AM	6	10	18	2	0	5	20	21	0	10	51	14	0	7	13	34	126
Total	20	30	41	12	0	16	78	72	6	34	190	41	7	44	59	151	460
Grand Total	40	70	79	26	0	53	177	151	16	56	400	70	17	78	130	295	963
Apprch %	18.6	32.6	36.7	12.1	0	100	44.2	37.8	4	14	23.7	23.7	5.8	26.4	44.1	13.5	30.6
Total %	4.2	7.3	8.2	2.7	0	5.5	18.4	15.7	1.7	5.8	41.5	7.3	1.8	8.1	13.5	9.6	30.6

Start Time	Groups Printed- Unshifted															
	Queen's Lane Southbound			Honua Building Westbound			Queen Street Northbound			Auahi Street Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	Int. Total	
08:00 AM	2	7	11	0	0	0	14	17	2	2	33	11	1	8	20	73
08:15 AM	7	7	9	0	0	0	26	16	2	2	44	12	2	16	30	97
08:30 AM	5	6	3	0	0	0	18	18	2	2	38	4	4	13	21	73
08:45 AM	6	10	18	0	0	0	20	21	0	0	41	14	0	7	21	96
Total Volume	20	30	41	0	0	0	78	72	6	6	156	41	7	44	92	339
% App. Total	22	33	45.1	0	0	0	50	46.2	3.8	3.8	44.6	44.6	7.6	47.8	7.67	.874
PHF	.714	.750	.569	.000	.000	.000	.750	.857	.750	.750	.886	.732	.438	.688	.767	.874

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:
Counters:
Weather:

File Name : AuaQue PM
Site Code : 00000001
Start Date : 3/3/2015
Page No : 1

Start Time	Groups Printed- Unshifted																
	Queen's Lane Southbound			Honua Driveway Westbound			Queen Street Northbound			Auahi Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	Int. Total		
03:00 PM	3	11	7	18	0	9	18	14	4	8	44	19	4	31	6	60	152
03:15 PM	6	13	10	26	0	11	29	22	4	22	77	24	3	30	29	86	229
03:30 PM	10	17	7	17	0	8	28	28	0	3	59	24	2	30	9	65	183
03:45 PM	6	13	19	14	0	9	33	14	4	10	61	27	3	28	24	82	204
Total	25	54	43	75	0	37	108	76	12	43	241	94	12	119	68	293	768
04:00 PM	4	23	11	8	0	8	27	19	3	17	66	26	0	22	4	52	172
04:15 PM	7	14	8	7	0	10	35	16	1	16	68	27	1	25	21	74	188
04:30 PM	4	13	13	18	0	8	38	23	3	15	79	29	2	26	18	75	210
04:45 PM	11	9	10	12	0	18	31	23	3	14	71	24	0	35	11	70	201
Total	26	59	42	45	0	44	131	81	10	62	284	106	3	108	54	271	771
05:00 PM	8	21	8	18	0	11	40	26	3	13	82	17	3	36	29	85	233
05:15 PM	4	16	14	9	0	7	45	23	3	31	102	28	1	44	35	108	260
05:30 PM	2	15	7	19	0	12	46	21	2	16	85	27	1	44	24	96	236
05:45 PM	3	18	16	14	0	17	27	26	2	17	72	15	4	43	14	76	216
Total	17	70	45	60	0	47	158	96	10	77	341	87	9	167	102	365	945
Grand Total	68	183	130	180	0	128	397	255	32	182	866	287	24	394	224	929	2484
Apprch %	12.1	32.6	23.2	32.1	0	100	45.8	29.4	3.7	21	30.9	30.9	2.6	42.4	24.1	9	37.4
Total %	2.7	7.4	5.2	7.2	0	5.2	16	10.3	1.3	7.3	34.9	11.6	1	15.9	9	37.4	

Start Time	Groups Printed- Unshifted																
	Queen's Lane Southbound			Honua Driveway Westbound			Queen Street Northbound			Auahi Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	Int. Total		
05:00 PM	8	21	8	18	0	11	40	26	3	13	82	17	3	36	29	85	233
05:15 PM	4	16	14	9	0	7	45	23	3	31	102	28	1	44	35	108	260
05:30 PM	2	15	7	19	0	12	46	21	2	16	85	27	1	44	24	96	236
05:45 PM	3	18	16	14	0	17	27	26	2	17	72	15	4	43	14	76	216
Total Volume	17	70	45	60	0	47	158	96	10	77	341	87	9	167	102	365	945
% App. Total	8.9	36.5	23.4	31.2	0	100	46.3	28.2	2.9	22.6	83.6	23.8	2.5	45.8	27.9	9.45	30.6
PHF	.531	.833	.703	.789	.000	.691	.859	.923	.833	.621	.836	.777	.563	.949	.729	.845	.909

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-5674, D4-5671
Weather:Clear

File Name : SouAua AM
Site Code : 00000001
Start Date : 3/4/2015
Page No : 1

Groups Printed- Unshifted

Start Time	South Street Southbound			Auahi Street Westbound			South Street Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	App. Total	Int. Total	
06:00 AM	0	8	0	3	0	4	0	0	4	0	31	4	8	36	0	54
06:15 AM	5	7	0	5	0	4	0	0	4	0	32	4	11	36	0	59
06:30 AM	8	5	0	7	0	8	0	0	8	0	47	3	16	50	0	81
06:45 AM	6	7	0	5	0	7	0	0	7	0	51	5	13	56	0	83
Total	19	27	0	20	0	23	0	0	23	0	161	16	48	178	0	277
07:00 AM	4	18	0	5	0	9	0	0	9	0	71	2	22	73	0	122
07:15 AM	12	17	0	4	0	14	0	0	14	0	78	3	20	81	0	136
07:30 AM	6	16	0	7	0	6	0	0	6	0	91	2	15	93	0	133
07:45 AM	8	21	0	7	0	9	0	0	9	0	74	6	17	80	0	132
Total	30	72	0	23	0	38	0	0	38	0	314	13	74	327	0	523
08:00 AM	10	16	0	6	0	15	0	0	15	0	68	5	21	73	0	124
08:15 AM	10	20	0	4	0	17	0	0	17	0	76	3	22	79	0	133
08:30 AM	6	17	0	3	0	8	0	0	8	0	61	8	17	69	0	120
08:45 AM	8	9	0	4	0	6	0	0	6	0	70	8	13	78	0	115
Total	34	62	0	17	0	46	0	0	46	0	275	24	73	299	0	492
Grand Total	83	161	0	60	0	107	0	0	107	0	750	53	195	804	0	1292
Approch %	28.3	54.9	0	30.8	0	54.9	0	0	54.9	0	93.3	6.6	15.1	62.2	0	62.2
Total %	6.4	12.5	0	4.6	0	8.3	0	0	8.3	0	58	4.1	2.2	0.1	0.1	0.1

Start Time	South Street Southbound			Auahi Street Westbound			South Street Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	App. Total	Int. Total	
07:30 AM	6	16	0	7	0	6	0	0	6	0	91	2	13	93	0	128
07:45 AM	8	21	0	7	0	9	0	0	9	0	74	6	16	80	0	125
08:00 AM	10	16	0	6	0	15	0	0	15	0	68	5	21	73	0	120
08:15 AM	10	20	0	4	0	17	0	0	17	0	76	3	21	79	0	130
Total Volume	34	73	0	24	0	47	0	0	47	0	309	16	71	325	0	503
% App. Total	31.8	68.2	0	33.8	0	66.2	0	0	66.2	0	95.1	4.9	.845	.874	0	.967
PHF	.850	.869	.000	.857	.000	.691	.000	.892	.845	.000	.849	.667	.845	.874	.000	.967

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-5671, D4-5674
Weather:Clear

File Name : SouAua PM
Site Code : 00000001
Start Date : 3/4/2015
Page No : 1

Groups Printed- Unshifted

Start Time	South Street Southbound			Auahi Street Westbound			South Street Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	App. Total	Int. Total	
03:00 PM	5	28	0	10	0	9	0	0	9	0	48	3	21	51	0	112
03:15 PM	8	23	0	7	0	11	0	0	11	0	56	1	19	57	0	112
03:30 PM	12	32	0	2	0	15	0	0	15	0	61	5	19	66	0	133
03:45 PM	4	24	0	6	0	14	0	0	14	0	60	4	22	64	0	119
Total	29	107	0	25	0	49	0	0	49	0	225	13	81	238	0	476
04:00 PM	9	33	0	12	0	9	0	0	9	0	62	4	24	66	0	140
04:15 PM	6	30	0	3	0	17	0	0	17	0	66	3	20	69	0	130
04:30 PM	7	59	0	9	0	13	0	0	13	0	80	9	22	89	0	180
04:45 PM	10	35	0	8	0	16	0	0	16	0	83	13	25	96	0	173
Total	32	157	0	32	0	55	0	0	55	0	291	29	91	320	0	623
05:00 PM	8	55	0	7	0	10	0	0	10	0	85	5	20	90	0	179
05:15 PM	12	53	0	8	0	19	0	0	19	0	84	11	31	95	0	196
05:30 PM	9	24	0	5	0	8	0	0	8	0	67	4	24	71	0	139
05:45 PM	4	21	0	2	0	11	0	0	11	0	84	10	18	94	0	142
Total	33	153	0	22	0	48	0	0	48	0	320	30	93	350	0	656
Grand Total	94	417	0	79	0	152	0	0	152	0	836	72	265	908	0	1755
Approch %	16.2	71.6	0	29.8	0	57.4	0	0	57.4	0	92.1	7.9	12.8	0	0	51.7
Total %	5.4	23.8	0	4.5	0	8.7	0	0	8.7	0	47.6	4.1	1.9	0	0	0

Start Time	South Street Southbound			Auahi Street Westbound			South Street Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	App. Total	Int. Total	
04:30 PM	7	59	0	9	0	13	0	0	13	0	80	9	22	89	0	177
04:45 PM	10	35	0	8	0	16	0	0	16	0	83	13	24	96	0	165
05:00 PM	8	55	0	7	0	10	0	0	10	0	85	5	17	90	0	170
05:15 PM	12	53	0	8	0	19	0	0	19	0	84	11	27	95	0	187
Total Volume	37	202	0	32	0	58	0	0	58	0	332	38	90	370	0	699
% App. Total	15.5	84.5	0	35.6	0	64.4	0	0	64.4	0	89.7	10.3	.833	.964	0	.934
PHF	.771	.856	.000	.889	.000	.763	.000	.905	.833	.000	.976	.731	.833	.964	.000	.934

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: TU-0653, TU-0654
Weather: Clear

File Name : CooAua AM
Site Code : 00000002
Start Date : 3/4/2015
Page No : 1

Start Time	Groups Printed- Unshifted										Int. Total						
	Cooke Street Southbound			Auahi Street Westbound			Cooke Street Northbound			Auahi Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		Thru	Right				
06:00 AM	2	18	3	1	2	9	2	8	1	2	1	2	2	3	2	9	62
06:15 AM	5	7	6	1	0	3	1	8	11	0	1	20	3	1	1	6	49
06:30 AM	3	17	8	1	2	3	0	10	12	2	4	28	2	2	1	6	69
06:45 AM	3	12	10	2	2	1	0	10	21	1	1	33	3	2	2	10	80
Total	13	54	27	5	4	5	22	32	52	4	8	96	10	8	7	31	260
07:00 AM	5	20	9	3	1	5	6	8	16	2	2	28	6	4	0	3	93
07:15 AM	4	20	5	2	1	4	13	7	31	3	1	42	4	3	1	9	101
07:30 AM	6	29	5	2	1	0	9	5	28	1	2	39	7	4	2	15	111
07:45 AM	10	26	3	1	3	1	7	6	24	1	0	31	11	3	0	4	101
Total	25	95	22	8	6	10	35	29	99	7	5	140	28	14	3	55	406
08:00 AM	9	29	6	4	2	4	13	5	24	2	1	32	12	5	1	2	124
08:15 AM	11	23	10	1	2	2	14	6	27	2	0	41	13	7	3	3	136
08:30 AM	8	39	5	1	2	2	14	0	30	3	3	41	11	5	1	18	130
08:45 AM	6	30	8	2	6	3	13	1	23	1	0	38	9	4	2	17	124
Total	34	121	29	8	12	11	54	12	89	8	4	152	45	21	7	81	514
Grand Total	72	270	78	21	22	26	111	25	184	96	256	19	17	43	17	24	1180
Approch %	16.3	61.2	17.7	4.8	12	14.1	60.3	13.6	24.7	66	4.9	4.4	49.7	25.7	10.2	14.4	
Total %	6.1	22.9	6.6	1.8	1.9	2.2	9.4	2.1	15.6	8.1	21.7	1.6	1.4	3.6	1.4	2	14.2

Start Time	Cooke Street Southbound						Auahi Street Westbound						Cooke Street Northbound						Auahi Street Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
08:00 AM	9	29	6	44	2	4	13	19	5	24	2	31	12	5	5	1	18	112						
08:15 AM	11	23	10	44	2	2	14	18	12	27	2	41	13	7	3	41	23	126						
08:30 AM	8	39	5	52	2	2	14	18	5	30	3	38	11	5	1	17	125							
08:45 AM	6	30	8	44	6	3	13	22	13	24	1	38	9	4	2	15	119							
Total Volume	34	121	29	184	12	11	54	77	35	105	8	148	45	21	7	73	482							
% App. Total	18.5	65.8	15.8	885	15.6	14.3	70.1	875	23.6	70.9	5.4	902	61.6	28.8	9.6	73	482							
PHF	.773	.776	.725	.885	.500	.688	.964	.875	.673	.875	.667	.902	.865	.750	.583	.793	.956							

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: TU-0653, TU-0654
Weather: Clear

File Name : CooAua PM
Site Code : 00000002
Start Date : 3/4/2015
Page No : 1

Start Time	Groups Printed- Unshifted										Int. Total						
	Cooke Street Southbound			Auahi Street Westbound			Cooke Street Northbound			Auahi Street Eastbound							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		Thru	Right				
03:00 PM	8	29	3	4	1	3	11	0	15	5	22	3	0	2	3	16	105
03:15 PM	5	36	3	0	3	1	19	6	29	6	31	0	2	5	2	29	141
03:30 PM	11	54	8	4	5	5	16	6	32	4	27	2	0	33	4	24	166
03:45 PM	14	47	9	3	5	4	16	5	30	5	24	5	2	36	2	17	156
Total	38	166	23	11	14	13	62	17	106	20	104	10	4	138	6	15	568
04:00 PM	7	50	4	5	6	8	25	5	44	4	27	1	0	32	2	13	155
04:15 PM	6	51	10	3	3	17	6	27	0	32	4	1	1	37	8	14	150
04:30 PM	10	45	18	0	1	9	15	2	27	1	22	4	2	29	3	23	152
04:45 PM	9	40	8	7	6	4	21	5	28	7	26	2	5	40	4	7	164
Total	34	186	40	15	8	22	78	18	126	12	107	11	8	138	13	82	621
05:00 PM	5	49	8	1	4	4	26	6	40	6	20	1	0	27	4	1	147
05:15 PM	3	41	7	1	0	3	22	2	27	1	18	0	1	20	3	1	111
05:30 PM	5	43	7	0	1	1	19	7	28	0	24	1	3	28	6	5	127
05:45 PM	7	34	12	4	1	2	11	2	16	6	20	1	0	27	13	2	120
Total	20	167	34	6	6	10	78	17	111	13	82	3	4	102	35	10	505
Grand Total	92	519	97	32	28	45	218	52	343	45	293	24	16	378	135	36	1694
Approch %	12.4	70.1	13.1	4.3	8.2	13.1	63.6	15.2	11.9	77.5	6.3	4.2	57.9	15.5	9.9	16.7	
Total %	5.4	30.6	5.7	1.9	1.7	2.7	12.9	3.1	20.2	2.7	17.3	1.4	0.9	22.3	8	2.1	13.8

Start Time	Cooke Street Southbound						Auahi Street Westbound						Cooke Street Northbound						Auahi Street Eastbound					
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
03:30 PM	11	54	8	73	5	5	16	26	4	27	2	33	4	27	2	33	19	151						
03:45 PM	14	47	9	70	5	4	16	25	5	24	5	34	12	2	1	15	144							
04:00 PM	7	50	4	61	6	8	25	39	4	27	1	32	8	2	1	11	143							
04:15 PM	8	51	10	69	1	3	17	21	0	32	4	36	8	4	1	13	139							
Total Volume	40	202	31	273	17	20	74	111	13	110	12	135	41	12	5	58	577							
% App. Total	14.7	74	11.4	935	15.3	18	66.7	712	9.6	81.5	8.9	938	70.7	20.7	8.6	763	955							
PHF	.714	.935	.775	.935	.708	.625	.740	.712	.650	.859	.600	.938	.788	.750	.625	.763	.955							

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: FS
Counters: D4-5673
Weather: Clear

File Name : OheAua AM
Site Code : 00000007
Start Date : 3/4/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Southbound			Auahi Street Westbound			Ohe Street Northbound			Auahi Street Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
06:00 AM	0	0	2	0	0	0	0	0	0	3	0	0	3
06:15 AM	0	0	2	0	0	0	0	0	0	4	0	1	5
06:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	4	0	2	6
Total	0	0	6	0	0	0	0	0	0	11	0	3	14
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
07:15 AM	0	0	1	0	0	0	0	0	0	6	0	1	7
07:30 AM	0	0	2	0	0	1	1	1	1	9	0	2	11
07:45 AM	0	0	6	0	0	0	0	0	0	14	0	0	14
Total	0	1	9	1	0	1	2	2	31	0	0	3	34
08:00 AM	0	0	0	0	0	0	0	0	0	6	0	1	7
08:15 AM	0	1	4	0	0	0	0	0	4	0	2	0	6
08:30 AM	0	1	2	0	0	0	0	0	5	0	1	0	6
08:45 AM	0	1	2	0	0	0	0	0	0	0	0	2	2
Total	0	3	8	0	0	0	0	0	15	0	6	0	21
Grand Total	0	4	23	1	0	0	2	2	57	0	9	3	69
Approch %	14.3	0	82.1	3.6	0	0	50	0	82.6	0	13	4.3	99
Total %	4	0	23.2	1	0	0	1	0	57.6	0	9.1	3	69.7

Start Time	Southbound			Auahi Street Westbound			Ohe Street Northbound			Auahi Street Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	9
07:45 AM	0	0	0	0	0	6	0	0	14	0	0	0	14
08:00 AM	0	0	0	0	0	0	0	0	6	0	0	1	7
08:15 AM	0	1	0	0	4	5	0	0	4	0	0	2	6
Total Volume	0	1	0	1	0	4	0	0	5	0	0	0	6
% App. Total	0	7.7	0	0	12	13	0	0	33	0	0	3	36
PHF	.000	.250	.000	.500	.000	.542	.000	.000	.589	.000	.375	.000	.643
													.613

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: FS
Counters: D4-5673
Weather: Clear

File Name : OheAua PM
Site Code : 00000006
Start Date : 3/4/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Ohe Street Southbound			Auahi Street Westbound			Ohe Street Northbound			Auahi Street Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
03:00 PM	0	0	1	0	0	4	1	0	0	0	0	0	3
03:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	2	0	0	0	2	0	3	4
03:45 PM	0	0	1	0	0	2	0	0	0	0	0	1	7
Total	0	0	1	0	0	9	1	0	0	2	14	4	20
04:00 PM	0	0	0	0	0	3	0	0	0	0	0	2	5
04:15 PM	0	0	3	0	0	14	4	0	0	3	0	0	4
04:30 PM	0	0	4	0	0	3	1	0	0	3	0	0	7
04:45 PM	0	0	1	1	0	4	2	0	1	4	1	2	4
Total	0	0	8	2	0	24	8	0	1	12	9	3	16
05:00 PM	1	0	1	5	7	1	0	0	0	4	0	0	4
05:15 PM	0	0	0	0	0	2	0	0	0	1	0	0	2
05:30 PM	0	0	0	1	1	5	1	0	0	1	0	0	1
05:45 PM	1	0	0	0	1	3	0	0	0	4	0	1	5
Total	2	0	1	6	9	14	1	0	0	10	0	1	12
Grand Total	2	0	2	15	19	46	10	0	1	16	33	8	48
Approch %	10.5	0	10.5	78.9	6.1	93.9	62.5	0	6.2	31.2	68.8	16.7	132
Total %	1.5	0	1.5	11.4	14.4	34.8	7.6	0	0.8	3.8	25	6.1	36.4

Start Time	Ohe Street Southbound			Auahi Street Westbound			Ohe Street Northbound			Auahi Street Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:15 PM	0	0	0	0	0	14	4	0	0	4	0	0	3
04:30 PM	0	0	0	0	0	3	1	0	0	1	3	0	3
04:45 PM	0	0	0	0	0	4	2	0	1	3	1	0	2
05:00 PM	1	0	0	1	0	3	0	0	0	4	0	0	4
Total Volume	1	0	1	2	0	24	7	0	1	8	11	0	12
% App. Total	.250	.000	.250	.250	.000	.429	.438	.000	.250	.500	.688	.000	.750
PHF													.571

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:15 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:KW, GC
Counters:D4-3888, D4-3890
Weather:Clear

File Name : CooAla AM
Site Code : 00000001
Start Date : 3/5/2015
Page No : 1

Start Time	Cooke Street Southbound						Ala Moana Boulevard Westbound						Cooke Street Northbound						Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		
	06:00 AM	1	2	8	2	13		2	174	1	3	180		4	3	1	4	12		5	267	7	0	279	
06:15 AM	1	3	7	5	16		0	224	5	2	231		0	2	0	3	5		9	319	8	2	338		590
06:30 AM	5	2	14	6	27		2	275	5	0	282		3	0	1	8	12		10	337	7	3	357		678
06:45 AM	3	5	11	6	25		0	324	5	1	330		6	5	1	6	18		22	390	11	5	428		801
Total	10	12	40	19	81		4	997	16	6	1023		13	10	3	21	47		46	1313	33	10	1402		2553
07:00 AM	4	3	11	0	18		3	363	5	4	375		4	3	0	8	15		25	402	8	3	438		846
07:15 AM	4	2	25	0	31		4	410	10	2	426		4	3	1	6	14		26	445	12	4	487		958
07:30 AM	2	6	16	5	29		1	394	5	3	403		5	3	0	9	17		21	423	6	3	453		902
07:45 AM	7	6	19	3	35		5	444	6	2	457		7	4	0	12	23		15	377	11	6	409		924
Total	17	17	71	8	113		13	1611	26	11	1661		20	13	1	35	69		87	1647	37	16	1787		3630
08:00 AM	6	6	20	7	39		3	406	6	6	421		10	6	2	11	29		32	413	11	1	457		946
08:15 AM	6	8	23	5	42		3	409	6	6	424		3	6	0	4	13		15	340	11	4	370		849
08:30 AM	3	9	16	7	35		7	335	8	3	353		9	3	1	7	20		22	304	10	7	343		751
08:45 AM	4	10	15	5	34		4	281	15	2	302		6	5	7	3	21		14	306	12	2	334		691
Total	19	33	74	24	150		17	1431	35	17	1500		28	20	10	25	83		83	1363	44	14	1504		3237
Grand Total	46	62	185	51	344		34	4039	77	34	4184		61	43	14	81	199		216	4323	114	40	4693		9420
Apprch %	13.4	18	53.8	14.8			0.8	96.5	1.8	0.8			30.7	21.6	7	40.7	2.1		4.6	92.1	2.4	0.9			49.8
Total %	0.5	0.7	2	0.5	3.7		0.4	42.9	0.8	0.4			0.6	0.5	0.1	0.9	2.1		2.3	45.9	1.2	0.4			49.8

Start Time	Cooke Street Southbound						Ala Moana Boulevard Westbound						Cooke Street Northbound						Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		
	07:15 AM	4	2	25	2	31		4	410	10	10	424		4	3	1	1	8		26	445	12	1	483	
07:30 AM	2	6	16	19	32		1	394	5	2	400		5	3	0	0	8		21	423	6	2	450		882
07:45 AM	7	6	19	6	32		5	444	6	6	455		7	4	0	0	11		15	377	11	4	403		901
08:00 AM	6	6	20	3	32		3	406	6	6	415		10	6	2	2	18		32	413	11	11	456		921
Total Volume	19	20	80	24	119		13	1654	27	27	1694		26	16	3	3	45		94	1658	40	22	1792		3650
% App. Total	16	16.8	67.2	16.8	.800		0.8	97.6	1.6	1.6	.931		57.8	35.6	6.7	3.75	.625		5.2	92.5	2.2	2.2			.965
PHF	.679	.833	.800	.800	.930		.650	.931	.675	.675	.931		.650	.667	.375	.375	.625		.734	.931	.833	.833			.928

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:CY, DY
Counters:TU-0651, TU-0652
Weather:Clear

File Name : CooAla PM
Site Code : 00000002
Start Date : 3/5/2015
Page No : 1

Start Time	Koula Street Southbound						Ala Moana Boulevard Westbound						Koula Street Northbound						Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		
	03:00 PM	13	3	23	2	41		1	341	6	1	349		15	7	6	12	40		7	437	7	1	452	
03:15 PM	5	4	18	5	32		3	362	18	2	385		14	10	9	14	47		13	439	6	2	460		924
03:30 PM	8	6	32	11	57		2	395	13	5	415		22	11	5	12	50		13	532	10	5	560		1082
03:45 PM	9	8	39	8	64		5	425	14	3	447		12	7	4	11	34		12	547	4	5	568		1113
Total	35	21	112	26	194		11	1523	51	11	1596		63	35	24	49	171		45	1955	27	13	2040		4001
04:00 PM	9	10	25	11	55		2	391	15	0	408		14	15	1	11	41		19	499	10	2	530		1034
04:15 PM	9	4	43	11	67		0	416	10	10	436		11	12	3	5	31		18	476	6	3	503		1037
04:30 PM	11	11	33	17	72		2	353	11	3	369		9	15	3	14	41		14	521	8	12	555		1037
04:45 PM	11	7	29	6	53		2	378	8	7	395		16	14	2	5	37		5	478	2	8	493		978
Total	40	32	130	45	247		6	1538	44	20	1608		50	56	9	35	150		56	1974	26	25	2081		4086
05:00 PM	8	12	27	8	55		4	342	9	6	361		7	11	5	12	35		6	507	8	10	531		982
05:15 PM	14	10	32	11	67		2	349	13	3	367		3	10	4	14	31		9	517	13	11	550		1015
05:30 PM	11	6	21	7	45		1	395	6	10	412		8	14	3	14	39		10	506	4	19	539		1035
05:45 PM	13	2	26	7	48		2	325	7	4	338		11	9	2	16	38		10	519	0	12	541		965
Total	46	30	106	33	215		9	1411	35	23	1478		29	44	14	56	143		35	2049	25	52	2161		3997
Grand Total	121	83	348	104	656		26	4472	130	54	4682		142	135	47	140	464		136	5978	78	90	6282		12084
Apprch %	18.4	12.7	53	15.9			0.6	95.5	2.8	1.2			30.6	29.1	10.1	30.2	3.8		2.2	95.2	1.2	1.4			52
Total %	1	0.7	2.9	0.9	5.4		0.2	37	1.1	0.4	38.7		1.2	1.1	0.4	1.2	3.8		1.1	49.5	0.6	0.7			52

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Start Time	Koula Street Southbound						Ala Moana Boulevard Westbound						Koula Street Northbound						Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		
	03:30 PM	8	6	32	3	46		2	395	13	13	410		22	11	5	5	38		13	532	10	5	555	
03:45 PM	9	8	39	8	56		5	425	14	14	444		12	7	4	4	23		12	547	4	4	563		1086
04:00 PM	9	10	25	11	44		2	391	15	3	408		14	15	1	11	30		19	499	10	5	528		1010
04:15 PM	9	4	43	11	56		0	416	10	10	426		11	12	3	3	26		18	476	6	6	500		1008
Total Volume	35	28	139	43	202		9	1627	52	52	1688		59	45	13	117	117		62	2054	30	30	2146		4153
% App. Total	17.3	13.9	68.8	21.2	.808		0.5	96.4	3.1	3.1	.950		50.4	38.5	11.1	6.50	.770		2.9	95.7	1.4	1.4			.956
PHF	.972	.700	.808	.808	.902		.450	.957	.867	.867	.950		.670	.750	.650	.650	.770		.816	.939	.750	.750			.953

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:AC, FS
Counters:TU-0649, TU-0650
Weather:Clear

File Name : OheAla AM
Site Code : 00000004
Start Date : 3/5/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Ohe Street Southbound			Ala Moana Boulevard Westbound			Ohe Street Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	Peds	App. Total	Peds	App. Total	Peds
06:00 AM	0	0	1	0	178	0	0	1	2	1	0	1	4	0	260	1	1	262	446
06:15 AM	0	0	4	0	234	1	0	0	3	4	0	0	7	0	310	9	5	324	570
06:30 AM	0	0	4	0	285	0	0	0	0	6	0	0	6	0	320	7	4	331	626
06:45 AM	0	0	3	0	330	0	0	0	0	6	0	0	6	0	368	8	5	381	720
Total	0	0	12	0	1027	1	0	1	5	17	0	0	23	0	1258	25	15	1298	2362
07:00 AM	0	0	3	0	371	0	0	0	1	9	0	0	10	0	380	6	3	389	773
07:15 AM	0	0	5	0	423	0	0	0	0	6	0	0	6	0	413	13	5	431	865
07:30 AM	0	0	3	0	404	0	0	2	2	15	0	0	17	0	404	6	2	412	836
07:45 AM	0	0	1	0	456	0	0	1	1	15	0	0	16	0	356	11	6	373	846
Total	0	0	12	0	1654	0	0	4	4	45	0	0	49	0	1553	36	16	1605	3320
08:00 AM	0	0	4	0	410	1	0	0	1	11	0	0	12	0	385	11	1	397	825
08:15 AM	0	0	1	0	415	0	0	0	0	5	0	0	5	0	305	12	4	321	744
08:30 AM	0	0	3	0	351	0	0	0	0	5	0	0	5	0	274	11	7	292	652
08:45 AM	0	0	4	0	290	0	0	0	0	4	0	0	4	0	285	13	4	302	602
Total	0	0	12	0	1466	1	0	1	25	26	0	0	26	0	1249	47	16	1312	2823
Grand Total	0	0	7	0	4147	2	0	1	10	87	0	0	98	0	4060	108	47	4215	8505
Approch %	0	0	16.3	0	100	0	0	0	10.2	88.8	0	0	1.2	0	96.3	2.6	1.1	49.6	
Total %	0	0	0.1	0	48.8	0	0	0	0.1	1	0	0	1.1	0	47.7	1.3	0.6		

Start Time	Ohe Street Southbound			Ala Moana Boulevard Westbound			Ohe Street Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	Peds	App. Total	Peds	App. Total	
07:15 AM	0	0	0	0	423	0	0	0	0	0	0	0	0	0	413	13	0	426	849
07:30 AM	0	0	0	0	404	0	0	0	0	2	0	0	2	0	404	6	0	410	816
07:45 AM	0	0	0	0	456	0	0	0	0	1	0	0	1	0	356	11	0	367	824
08:00 AM	0	0	1	0	410	1	0	0	0	1	0	0	1	0	385	11	0	396	809
Total Volume	0	0	1	0	1693	1	0	0	0	4	0	0	4	0	1558	41	0	1599	3298
% App. Total	0	0	100	0	99.9	0.1	0	0	100	.500	0	0	.500	0	97.4	2.6	0	.938	.971
PHF	.000	.000	.250	.000	.928	.250	.000	.000	.500	.788	.000	.943	.500	.000	.943	.788	.000	.938	.971

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:AC, FS
Counters:TU-0649, TU-0650
Weather:Clear

File Name : OheAla PM
Site Code : 00000004
Start Date : 3/5/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Ohe Street Southbound			Ala Moana Boulevard Westbound			Ohe Street Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	Peds	App. Total	Peds	App. Total	
03:00 PM	0	0	3	0	350	0	0	0	4	8	0	0	12	0	452	7	0	459	824
03:15 PM	0	0	4	0	388	0	0	0	0	13	0	0	13	0	426	7	2	435	843
03:30 PM	0	0	11	0	397	0	0	0	0	11	0	0	11	0	523	11	2	536	956
03:45 PM	0	0	5	0	441	0	0	0	0	6	0	0	6	0	528	2	3	533	988
Total	0	0	23	0	1576	0	0	0	4	38	0	0	42	0	1929	27	7	1963	3611
04:00 PM	0	0	5	0	392	0	0	0	0	6	0	0	6	0	491	8	1	500	903
04:15 PM	0	0	16	0	430	2	0	0	0	2	0	0	2	0	460	5	3	468	921
04:30 PM	0	0	7	0	357	1	0	0	0	13	0	0	13	0	522	6	11	539	919
04:45 PM	0	0	2	0	391	1	0	0	0	6	0	0	6	0	467	3	9	479	881
Total	0	0	30	0	1574	4	0	0	0	27	0	0	27	0	1940	22	24	1986	3624
05:00 PM	0	0	6	0	366	0	0	0	0	12	0	0	12	0	510	7	10	527	913
05:15 PM	1	1	9	0	373	0	0	1	4	14	0	0	19	0	531	8	7	546	951
05:30 PM	0	0	5	0	367	1	0	0	2	15	0	0	17	0	510	2	15	527	918
05:45 PM	0	0	14	0	361	0	0	0	0	7	0	0	7	0	537	0	11	548	930
Total	1	1	34	0	1467	1	0	1	6	48	0	0	55	0	2088	17	43	2148	3712
Grand Total	1	1	19	0	4613	5	0	1	10	113	0	0	124	0	5957	66	74	6097	10947
Approch %	0.9	0.9	17.6	0	99.9	0.1	0	0	8.1	91.1	0	0	1.1	0	97.7	1.1	1.2	55.7	
Total %	0	0	0.2	0	42.1	0	0	0	0.1	1	0	0	1.1	0	54.4	0.6	0.7		

Start Time	Ohe Street Southbound			Ala Moana Boulevard Westbound			Ohe Street Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	Peds	App. Total	Peds	App. Total	
03:30 PM	0	0	1	0	397	0	0	0	0	0	0	0	0	0	523	11	0	534	932
03:45 PM	0	0	3	0	441	0	0	0	0	0	0	0	0	0	528	2	0	530	974
04:00 PM	0	0	0	0	392	0	0	0	0	0	0	0	0	0	491	8	0	499	891
04:15 PM	0	0	3	0	430	2	0	0	0	2	0	0	0	0	460	5	0	465	900
Total Volume	0	0	7	0	1660	2	0	0	0	0	0	0	0	0	2002	26	0	2028	3697
% App. Total	0	0	100	0	99.9	0.1	0	0	0	0	0	0	0	0	98.7	1.3	0	.949	.949
PHF	.000	.000	.583	.000	.941	.250	.000	.000	.000	.000	.000	.000	.000	.000	.948	.591	.000	.949	.949

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, CY
Counters: TU-0652, TU-0651
Weather: Clear

File Name : KouAla AM
Site Code : 00000002
Start Date : 3/5/2015
Page No : 1

Start Time	Koula Street Southbound						Ala Moana Boulevard Westbound						Koula Street Northbound						Ala Moana Boulevard Eastbound														
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds				
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	App. Total
06:00 AM	2	1	0	2	5	3	188	2	2	195	1	0	0	3	4	1	254	4	0	259	463												
06:15 AM	1	0	2	6	9	2	235	1	4	242	2	0	1	2	5	3	310	5	0	318	574												
06:30 AM	1	1	0	4	6	1	282	2	2	287	1	0	0	2	3	2	320	1	0	323	619												
06:45 AM	1	0	4	10	15	3	319	2	7	331	0	0	0	4	4	4	368	3	0	375	725												
Total	5	2	6	22	35	9	1024	7	15	1055	4	0	1	11	16	10	1252	13	0	1275	2381												
07:00 AM	0	2	1	7	10	5	381	2	2	390	0	0	0	3	3	1	380	2	0	383	786												
07:15 AM	2	0	1	7	10	4	409	1	3	417	0	0	0	3	3	1	413	3	0	417	847												
07:30 AM	2	2	3	6	13	2	389	1	11	403	0	0	0	6	6	2	404	1	0	407	829												
07:45 AM	3	1	3	1	8	11	462	3	3	479	3	0	1	3	7	3	356	1	0	360	854												
Total	7	5	8	21	41	22	1641	7	19	1689	3	0	1	15	19	7	1553	7	0	1567	3316												
08:00 AM	1	0	2	4	7	6	422	3	3	434	1	0	1	7	9	2	385	0	0	387	837												
08:15 AM	3	1	4	7	15	4	421	4	7	436	1	0	0	2	3	5	305	4	0	314	768												
08:30 AM	2	0	4	5	11	1	351	5	3	360	1	0	1	3	5	3	274	2	0	279	655												
08:45 AM	1	0	6	9	16	3	280	6	3	292	0	0	0	3	3	3	285	3	0	291	602												
Total	7	1	16	25	49	14	1474	18	16	1522	3	0	2	15	20	13	1249	9	0	1271	2862												
Grand Total	19	8	30	68	125	45	4139	32	50	4266	10	0	4	41	55	30	4054	29	0	4113	8559												
Apprch % Total %	15.2	6.4	24	54.4	1.5	0.2	0.1	0.4	0.8	1.5	1.1	0.5	0.8	1.2	0.6	18.2	0.7	7.3	74.5	0.6	49.8	0.1	0	0	0	0.5	0.6	0.4	47.4	0.3	0	48.1	

Start Time	Koula Street Southbound						Ala Moana Boulevard Westbound						Koula Street Northbound						Ala Moana Boulevard Eastbound														
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds				
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	App. Total
07:15 AM	2	0	1	3	3	4	409	1	1	414	0	0	0	0	0	1	413	3	0	417	834												
07:30 AM	2	2	3	7	7	2	389	1	3	392	0	0	0	0	0	2	404	1	0	407	806												
07:45 AM	3	1	0	3	7	11	462	3	3	476	3	0	1	4	4	3	356	1	0	360	847												
08:00 AM	1	0	2	3	3	6	422	3	3	431	1	0	1	2	2	2	385	0	0	387	823												
Total Volume	8	3	9	20	20	23	1682	8	8	1713	4	0	2	6	6	8	1558	5	0	1571	3310												
% App. Total	.667	.375	.750	.714	.900	.523	.910	.667	.667	.900	.333	.000	.500	.375	.375	.667	.943	.417	.942	.977													

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, CY
Counters: TU-0651, TU-0652
Weather: Clear

File Name : KouAla PM
Site Code : 00000002
Start Date : 3/5/2015
Page No : 1

Start Time	Koula Street Southbound						Ala Moana Boulevard Westbound						Koula Street Northbound						Ala Moana Boulevard Eastbound														
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds				
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	App. Total
03:00 PM	6	0	1	3	10	2	358	2	0	362	0	0	1	6	7	4	451	8	0	463	842												
03:15 PM	6	2	6	2	16	1	372	1	3	377	2	0	1	3	6	6	421	0	0	427	826												
03:30 PM	3	0	2	8	13	3	390	7	2	402	1	1	0	5	7	1	528	1	0	530	952												
03:45 PM	5	0	2	6	13	3	430	6	5	444	1	0	0	5	6	2	525	1	0	528	991												
Total	20	2	11	19	52	9	1550	16	10	1585	4	1	2	19	26	13	1925	10	0	1948	3611												
04:00 PM	6	0	4	6	16	1	372	11	6	390	4	5	1	6	16	6	486	4	0	496	918												
04:15 PM	6	1	3	15	25	3	479	6	2	490	0	4	1	1	6	7	461	0	0	468	989												
04:30 PM	4	0	4	7	15	0	366	11	4	381	4	1	0	7	12	0	512	1	0	513	921												
04:45 PM	9	0	5	5	19	3	334	4	3	344	0	0	0	0	0	3	470	1	0	474	837												
Total	25	1	16	33	75	7	1551	32	15	1605	8	10	2	14	34	16	1929	6	0	1951	3665												
05:00 PM	8	4	3	7	22	0	371	5	3	379	1	3	1	8	13	4	516	1	0	521	935												
05:15 PM	6	0	1	8	15	3	370	6	8	387	0	0	0	7	7	6	534	2	0	542	951												
05:30 PM	2	1	3	5	11	1	361	5	5	372	5	0	0	8	13	13	501	3	0	517	913												
05:45 PM	4	0	7	12	23	17	364	8	11	400	1	0	0	2	3	4	534	2	0	540	966												
Total	20	5	14	32	71	21	1466	24	27	1538	7	3	1	25	36	27	2085	8	0	2120	3765												
Grand Total	65	8	41	84	198																												

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: PA, JC
Counters: D4-5672, D4-5677
Weather: Clear

File Name : AhuiAla AM
Site Code : 00000000
Start Date : 3/5/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Ala Moana Boulevard Westbound				Ahu Street Northbound				Ala Moana Boulevard Eastbound								
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	0	180	0	0	180	0	0	0	6	6	0	241	10	0	251	437
06:15 AM	0	0	231	0	0	231	0	0	1	6	7	0	302	9	0	311	549
06:30 AM	0	0	290	0	0	290	0	0	0	9	9	0	317	9	0	326	625
06:45 AM	0	0	328	0	0	328	0	0	0	13	13	0	361	12	0	373	714
Total	0	0	1029	0	0	1029	0	0	1	34	35	0	1221	40	0	1261	2325
07:00 AM	0	0	389	0	0	389	0	0	1	11	12	0	373	7	0	380	781
07:15 AM	0	0	418	0	0	418	0	0	4	6	10	1	407	7	0	415	843
07:30 AM	0	0	397	0	0	397	0	0	1	9	10	0	400	8	0	408	815
07:45 AM	0	0	487	0	0	487	0	0	1	6	7	0	353	7	0	360	854
Total	0	0	1691	0	0	1691	0	0	7	32	39	1	1533	29	0	1563	3293
08:00 AM	0	0	418	0	0	418	0	0	0	6	6	0	384	8	0	392	816
08:15 AM	0	0	411	0	0	411	0	0	1	2	3	0	297	9	0	306	720
08:30 AM	0	1	351	0	0	352	0	0	1	9	10	0	268	7	0	275	637
08:45 AM	0	1	291	0	0	292	0	0	0	4	4	0	279	8	0	287	583
Total	0	2	1471	0	0	1473	0	0	2	21	23	0	1228	32	0	1260	2756
Grand Total	0	2	4191	0	0	4193	0	0	10	87	97	1	3982	101	0	4084	8374
Approch %	0	0	100	0	0	100	0	0	10.3	89.7	0	0	97.5	2.5	0	0	0
Total %	0	0	50	0	0	50.1	0	0	0.1	1	1.2	0	47.6	1.2	0	48.8	0

Start Time	Ala Moana Boulevard Westbound				Ahu Street Northbound				Ala Moana Boulevard Eastbound								
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:15 AM	0	0	418	0	0	418	0	0	0	4	4	1	407	7	0	415	837
07:30 AM	0	0	397	0	0	397	0	0	1	1	1	0	400	8	0	408	806
07:45 AM	0	0	487	0	0	487	0	0	1	1	1	0	353	7	0	360	848
08:00 AM	0	0	418	0	0	418	0	0	0	0	0	0	384	8	0	392	810
Total Volume	0	0	1720	0	0	1720	0	0	0	6	6	1	1544	30	0	1575	3301
% App. Total	.000	.000	.883	.000	.000	.883	.000	.000	.375	.375	.375	.250	.948	.938	.949	.973	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: PA, JC
Counters: D4-5672, D4-5677
Weather: Clear

File Name : AhuiAla PM
Site Code : 00000004
Start Date : 3/5/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Ala Moana Boulevard Westbound				Ahu Street Northbound				Ala Moana Boulevard Eastbound								
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	0	0	364	0	0	364	0	0	1	6	7	0	451	4	0	455	826
03:15 PM	0	1	373	0	0	374	0	0	4	7	11	0	419	5	0	424	809
03:30 PM	0	0	411	0	0	411	0	0	2	13	15	0	534	10	0	544	970
03:45 PM	0	0	438	0	0	438	0	0	6	8	14	0	531	4	0	535	987
Total	0	1	1586	0	0	1587	0	0	13	34	47	0	1935	23	0	1958	3592
04:00 PM	0	0	378	0	0	378	0	0	0	5	5	0	467	3	0	490	873
04:15 PM	0	1	489	0	0	490	0	0	4	5	9	0	470	3	0	473	972
04:30 PM	0	0	374	0	0	374	0	0	2	14	16	0	520	3	0	523	913
04:45 PM	0	0	341	0	0	341	0	0	4	5	9	0	487	2	0	489	839
Total	0	1	1582	0	0	1583	0	0	10	29	39	0	1964	11	0	1975	3597
05:00 PM	0	0	378	0	0	378	0	0	1	8	9	0	533	0	0	533	920
05:15 PM	0	0	381	0	0	381	0	0	3	19	22	0	538	2	0	540	943
05:30 PM	0	0	370	0	0	370	0	0	2	10	12	0	507	2	0	509	889
05:45 PM	0	0	382	0	0	382	0	0	1	2	3	0	530	2	0	532	917
Total	0	0	1511	0	0	1511	0	0	7	39	46	0	2106	6	0	2112	3669
Grand Total	0	2	4679	0	0	4681	0	0	30	102	132	0	6005	40	0	6045	10858
Approch %	0	0	100	0	0	100	0	0	22.7	77.3	0	0	99.3	0.7	0	0	0
Total %	0	0	43.1	0	0	43.1	0	0	0.3	0.9	1.2	0	55.3	0.4	0	55.7	0

Start Time	Ala Moana Boulevard Westbound				Ahu Street Northbound				Ala Moana Boulevard Eastbound								
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:30 PM	0	0	411	0	0	411	0	0	0	2	2	0	534	10	0	544	957
03:45 PM	0	0	438	0	0	438	0	0	0	6	6	0	531	4	0	535	979
04:00 PM	0	0	378	0	0	378	0	0	0	0	0	0	487	3	0	490	868
04:15 PM	0	1	489	0	0	490	0	0	0	4	4	0	470	3	0	473	967
Total Volume	0	1	1716	0	0	1717	0	0	0	12	12	0	2022	20	0	2042	3771
% App. Total	.000	.000	.877	.000	.000	.876	.000	.000	.500	.500	.500	.000	.947	.500	.938	.963	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, DY
Counters:D4-5675, D4-5676
Weather:Clear

File Name : AlaWar AM
Site Code : 00000001
Start Date : 4/13/2016
Page No : 1

Start Time	Ward Avenue Southbound					Ala Moana Boulevard Westbound					Ward Avenue Northbound					Ala Moana Boulevard Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	38	9	42	3	92	5	157	7	3	172	3	2	4	3	12	32	266	0	0	298	574
06:15 AM	38	25	39	5	107	10	221	10	2	243	1	3	6	4	14	33	271	1	6	311	675
06:30 AM	24	17	37	9	87	17	255	22	5	299	1	3	2	8	14	43	313	2	2	360	760
06:45 AM	26	25	30	4	85	11	322	9	4	346	0	4	6	1	11	60	330	0	8	398	840
Total	126	76	148	21	371	43	955	48	14	1060	5	12	18	16	51	168	1180	3	16	1367	2849
07:00 AM	25	25	42	7	99	23	352	34	5	414	0	6	4	2	12	37	352	0	8	397	922
07:15 AM	36	30	37	3	106	26	382	41	10	459	0	9	7	6	22	53	346	1	4	404	991
07:30 AM	37	29	50	3	119	21	389	35	4	449	0	11	8	2	21	40	345	1	3	389	978
07:45 AM	29	24	71	2	126	30	336	45	7	418	1	4	8	5	18	63	327	0	6	396	958
Total	127	108	200	15	450	100	1459	155	26	1740	1	30	27	15	73	193	1370	2	21	1586	3849
08:00 AM	33	33	49	3	118	41	364	37	10	452	1	3	11	1	16	53	349	1	4	407	993
08:15 AM	36	32	63	2	133	35	397	55	2	489	0	4	13	2	19	53	338	1	3	395	1036
08:30 AM	38	36	54	6	134	17	260	41	12	330	0	8	8	1	17	59	271	0	6	336	817
08:45 AM	35	22	46	3	106	25	263	41	2	331	1	7	12	2	22	56	306	0	2	364	823
Total	142	123	212	14	491	118	1284	174	26	1602	2	22	44	6	74	221	1264	2	15	1502	3669
Grand Total	395	307	560	50	1312	261	3698	377	66	4402	8	64	89	37	198	582	3814	7	52	4455	10367
Approch %	30.1	23.4	42.7	3.8		5.9	84	8.6	1.5		4	32.3	44.9	18.7		13.1	85.6	0.2	1.2		
Total %	3.8	3	5.4	0.5	12.7	2.5	35.7	3.6	0.6	42.5	0.1	0.6	0.9	0.4	1.9	5.6	36.8	0.1	0.5	43	

Start Time	Ward Avenue Southbound					Ala Moana Boulevard Westbound					Ward Avenue Northbound					Ala Moana Boulevard Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:30 AM	37	29	50		116	21	389	35		445	0	11	8		19	40	345	1		386	966
07:45 AM	29	24	71		124	30	336	45		411	1	4	8		13	63	327	0		390	938
08:00 AM	33	33	49		115	41	364	37		442	1	3	11		15	53	349	1		403	975
08:15 AM	36	32	63		131	35	397	55		487	0	4	13		17	53	338	1		392	1027
Total Volume	135	118	233		486	127	1486	172		1785	2	22	40		64	209	1359	3		1571	3906
% App. Total	27.8	24.3	47.9			7.1	83.2	9.6			3.1	34.4	62.5			13.3	86.5	0.2			
PHF	.912	.894	.820		.927	.774	.936	.782		.916	.500	.500	.769		.842	.829	.973	.750		.975	.951

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, DY
Counters:D4-5675, D4-5676
Weather:Clear

File Name : AlaWar AM - U-Turns
Site Code : 00000001
Start Date : 4/13/2016
Page No : 1

Start Time	Southbound					Left = U-Turns Westbound					Northbound					Eastbound					Int. Total
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	
06:00 AM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
06:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:30 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
06:45 AM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2
Total	0	6	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	6
07:00 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
Total	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	4
08:00 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	4
Grand Total	0	14	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	14
Approch %	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 AM

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
PHF																					

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: GC, DY
Counters: D4-5675, D4-5676
Weather: Clear

File Name : AlaWar PM
Site Code : 00000001
Start Date : 4/13/2016
Page No : 1

Start Time	Ward Avenue Southbound					Ala Moana Boulevard Westbound					Ala Moana Boulevard Eastbound					Int. Total					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	Groups Printed- Unshifted					Ward Avenue Northbound					Ala Moana Boulevard Eastbound										
03:00 PM	37	11	88	6	142	10	312	34	14	370	2	20	10	6	38	41	408	3	2	454	1004
03:15 PM	39	11	75	1	126	21	355	54	5	435	1	18	9	5	33	72	457	1	3	533	1127
03:30 PM	53	15	98	2	168	8	361	45	8	422	4	24	14	5	47	48	405	1	6	460	1097
03:45 PM	37	14	80	1	132	7	393	57	9	466	1	21	21	7	50	63	470	2	3	538	1186
Total	166	51	341	10	568	46	1421	190	36	1693	8	83	54	23	168	224	1740	7	14	1985	4414
04:00 PM	51	8	76	2	137	8	313	41	9	371	1	25	24	4	54	63	448	0	11	522	1084
04:15 PM	68	12	80	2	162	10	375	47	9	441	1	33	34	3	71	56	458	2	13	529	1203
04:30 PM	43	11	72	1	127	12	341	39	11	403	1	41	33	11	86	66	475	1	4	546	1162
04:45 PM	51	11	76	4	142	13	291	53	10	367	3	21	34	9	67	68	413	3	2	486	1062
Total	213	42	304	9	568	43	1320	180	39	1582	6	120	125	27	278	253	1794	6	30	2083	4511
05:00 PM	47	8	55	6	116	11	298	41	15	365	0	34	38	7	79	52	477	1	4	534	1094
05:15 PM	71	13	58	9	151	13	315	36	9	373	2	25	28	7	62	68	469	0	4	541	1127
05:30 PM	56	12	80	5	153	9	265	53	14	341	1	24	26	4	55	80	414	1	2	497	1046
05:45 PM	36	5	71	0	112	8	310	40	4	362	1	18	25	8	52	75	517	1	2	595	1121
Total	210	38	284	20	532	41	1188	170	42	1441	4	101	117	26	248	275	1877	3	12	2167	4388
Grand Total	589	131	909	39	1688	130	3929	540	117	4716	18	304	296	76	694	752	5411	16	56	6235	13313
Approch %	35.3	7.9	54.5	2.3	12.5	2.8	83.3	11.5	2.5	35.4	0.1	2.3	2.2	0.6	5.2	12.1	86.8	0.3	0.9	46.8	
Total %	4.4	1	6.8	0.3		1	29.5	4.1	0.9							5.6	40.6	0.1	0.4		

Start Time	Ward Avenue Southbound					Ala Moana Boulevard Westbound					Ward Avenue Northbound					App. Total	Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	Groups Printed- Unshifted					Ala Moana Boulevard Eastbound					Ala Moana Boulevard Eastbound										
03:45 PM	37	14	80	1	131	7	393	57	1	457	1	21	21	1	43	63	470	2	0	535	1166
04:00 PM	51	8	76	1	135	8	313	41	1	362	1	25	24	0	50	63	448	0	0	511	1058
04:15 PM	68	12	80	1	160	10	375	47	1	432	1	33	34	0	68	56	458	2	0	516	1176
04:30 PM	43	11	72	1	126	12	341	39	1	392	1	41	33	0	75	66	475	1	0	542	1135
Total Volume	199	45	308	3	552	37	1422	184	4	1643	4	120	112	0	236	248	1851	5	0	2104	4535
% App. Total	36.1	8.2	55.8	0.5	12.5	2.3	86.5	11.2	0.9	35.4	1.7	50.8	47.5	0.2	78.7	11.8	88	0.2	0.2	46.8	
PHF	.732	.804	.963		.863	.771	.905	.807		.899	1.00	.732	.824		.787	.939	.974	.625		.970	.964

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:45 PM

Counted By: GC, DY
Counters: D4-5675, D4-5676
Weather: Clear

File Name : AlaWar PM - U-Turns
Site Code : 00000001
Start Date : 4/13/2016
Page No : 1

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Start Time	Southbound					Ala Moana Boulevard					Left = U-Turns Westbound					Northbound					App. Total	Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	Groups Printed- Unshifted					Ala Moana Boulevard					Northbound					Eastbound										
03:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Approch %	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Southbound					Ala Moana Boulevard					Left = U-Turns Westbound					Northbound					App. Total	Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	Groups Printed- Unshifted					Ala Moana Boulevard					Northbound					Eastbound										
03:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:00 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: D4-5675, D4-5676
Weather: Clear

File Name : WarAla AM
Site Code : 00000005
Start Date : 3/5/2015
Page No : 1

Start Time	Ward Avenue Southbound			Ala Moana Boulevard Westbound			Ward Avenue Northbound			Ala Moana Boulevard Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
06:00 AM	28	21	19	10	164	8	0	5	2	25	215	0
06:15 AM	22	33	38	10	190	16	1	3	5	38	269	2
06:30 AM	33	27	28	17	259	19	3	6	10	32	287	0
06:45 AM	23	22	27	11	303	21	1	5	7	58	302	1
Total	106	103	112	48	916	64	8	19	24	153	1073	3
07:00 AM	24	25	50	23	341	21	2	6	14	56	315	0
07:15 AM	28	33	38	26	375	33	3	8	10	41	367	0
07:30 AM	33	26	46	11	27	37	1	8	8	50	357	1
07:45 AM	23	31	59	32	440	43	10	12	12	48	332	2
Total	108	115	193	108	1503	134	16	34	44	191	1347	4
08:00 AM	29	46	45	33	375	27	5	10	12	48	332	0
08:15 AM	22	42	61	40	355	40	4	9	10	39	259	1
08:30 AM	30	33	44	29	302	30	7	13	13	47	221	0
08:45 AM	19	43	56	10	231	24	13	9	13	66	213	1
Total	100	164	206	139	1263	121	29	41	48	200	1025	2
Grand Total	314	382	511	295	3682	319	53	84	116	544	3445	9
Approch %	25.1	30.5	40.8	6.8	84.7	7.3	1.2	2.8	32.6	13.4	84.7	0.2
Total %	3.2	3.8	5.1	3	37	3.2	0.5	0.1	0.9	5.5	34.6	0.1

Start Time	Ward Avenue Southbound			Ala Moana Boulevard Westbound			Ward Avenue Northbound			Ala Moana Boulevard Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:15 AM	28	33	38	26	375	33	0	8	10	41	367	0
07:30 AM	33	26	46	27	347	37	1	8	8	50	357	2
07:45 AM	23	31	59	32	440	43	0	12	12	48	332	2
08:00 AM	29	46	45	33	375	27	5	10	12	48	332	0
Total	113	136	188	118	1537	140	1795	38	42	183	1364	4
% App. Total	25.9	31.1	43	6.6	85.6	7.8	1.2	46.9	51.9	11.8	87.9	0.3
PHF	.856	.739	.797	.894	.873	.814	.871	.792	.875	.915	.929	.500
Grand Total	314	382	511	295	3682	319	53	84	116	544	3445	9
Approch %	25.1	30.5	40.8	6.8	84.7	7.3	1.2	2.8	32.6	13.4	84.7	0.2
Total %	3.2	3.8	5.1	3	37	3.2	0.5	0.1	0.9	5.5	34.6	0.1

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: D4-5675, D4-5676
Weather: Clear

File Name : WarAla AM - U-Turns
Site Code : 00000005
Start Date : 3/5/2015
Page No : 1

Start Time	Southbound			Ala Moana Boulevard			Left = U-Turns Westbound			Northbound			Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total
06:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
06:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
06:30 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
06:45 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
Total	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0
07:00 AM	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
07:30 AM	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0
07:45 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
Total	0	0	0	12	0	0	0	0	0	12	0	0	0	0	0
08:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
08:15 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
08:30 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
08:45 AM	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0
Total	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0
Grand Total	0	0	0	25	0	0	0	0	0	25	0	0	0	0	0
Approch %	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0
Total %	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0

Start Time	Southbound			Ala Moana Boulevard			Left = U-Turns Westbound			Northbound			Eastbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
06:45 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0
07:00 AM	0	0	0	5	0	0	0	0	0	5	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
07:30 AM	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0
Total	0	0	0	12	0	0	0	0	0	12	0	0	0	0	0
% App. Total	.000	.000	.000	.600	.000	.000	.600	.000	.000	.600	.000	.000	.000	.000	.600
PHF															

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 06:45 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:JJ, RJ
Counters:D4-5675, D4-5676
Weather:Clear

File Name : WarAla PM
Site Code : 00000005
Start Date : 3/5/2015
Page No : 1

Start Time	Ward Avenue Southbound			Ala Moana Boulevard Westbound			Ala Moana Boulevard Eastbound			Ward Avenue Northbound			Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	App. Total	Int. Total
03:00 PM	33	16	68	11	302	38	8	359	1	18	14	4	37	48	398	0	3	449	964
03:15 PM	42	15	73	8	294	32	16	350	2	17	15	7	41	62	362	0	6	430	955
03:30 PM	35	16	79	9	330	40	17	396	1	33	12	12	58	65	463	0	8	536	1127
03:45 PM	55	16	71	13	358	51	16	438	2	19	16	11	48	77	467	1	9	554	1187
Total	165	63	291	41	1284	161	57	1543	6	87	57	34	184	252	1690	1	26	1969	4233
04:00 PM	44	18	78	9	292	34	17	352	0	32	33	12	77	55	400	0	4	459	1037
04:15 PM	58	16	63	9	427	44	15	495	3	35	36	10	84	59	473	0	3	535	1260
04:30 PM	57	12	76	14	264	42	23	341	3	31	27	12	73	67	435	0	24	526	1099
04:45 PM	61	12	69	2	274	42	13	344	1	29	40	11	81	50	448	0	7	505	1074
Total	220	58	286	45	1257	162	68	1532	7	127	136	45	315	231	1756	0	38	2025	4470
05:00 PM	53	22	55	8	310	51	11	378	6	32	36	6	80	53	494	3	7	557	1153
05:15 PM	60	20	58	9	316	39	17	386	2	28	33	13	76	63	465	1	2	531	1140
05:30 PM	60	21	77	10	168	17	16	351	2	29	44	13	88	49	469	4	8	530	1137
05:45 PM	71	14	57	11	153	10	13	373	1	21	31	8	61	61	471	1	5	538	1125
Total	244	77	247	38	606	47	57	1488	11	110	144	40	305	226	1899	9	22	2156	4555
Grand Total	629	198	824	90	1741	133	182	4563	24	324	337	119	804	709	5345	10	86	6150	13258
Approch %	36.1	11.4	47.3	5.2	2.9	82.9	10.2	4	3	40.3	41.9	14.8	11.5	86.9	0.2	1.4	0	0	0
Total %	4.7	1.5	6.2	0.7	13.1	1	1.4	34.4	0.2	2.4	2.5	0.9	6.1	5.3	40.3	0.1	0.6	46.4	

Start Time	Ward Avenue Southbound			Ala Moana Boulevard Westbound			Ala Moana Boulevard Eastbound			Ward Avenue Northbound			Ala Moana Boulevard Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	App. Total	Int. Total
03:30 PM	35	16	79	9	330	40	11	378	6	32	36	6	80	53	494	3	7	557	1153
03:45 PM	55	16	71	13	358	51	17	422	2	19	16	16	37	77	467	1	2	531	1140
04:00 PM	44	18	78	9	292	34	17	352	0	32	33	12	77	55	400	0	4	459	1037
04:15 PM	58	16	63	9	427	44	15	495	3	35	36	10	84	59	473	0	3	535	1260
04:30 PM	57	12	76	14	264	42	23	341	3	31	27	12	73	67	435	0	24	526	1099
04:45 PM	61	12	69	2	274	42	13	344	1	29	40	11	81	50	448	0	7	505	1074
Total	244	77	247	38	606	47	57	1488	11	110	144	40	305	226	1899	9	22	2156	4555
05:00 PM	53	22	55	8	310	51	11	378	6	32	36	6	80	53	494	3	7	557	1153
05:15 PM	60	20	58	9	316	39	17	386	2	28	33	13	76	63	465	1	2	531	1140
05:30 PM	60	21	77	10	168	17	16	351	2	29	44	13	88	49	469	4	8	530	1137
05:45 PM	71	14	57	11	153	10	13	373	1	21	31	8	61	61	471	1	5	538	1125
Total	244	77	247	38	606	47	57	1488	11	110	144	40	305	226	1899	9	22	2156	4555
Grand Total	629	198	824	90	1741	133	182	4563	24	324	337	119	804	709	5345	10	86	6150	13258
Approch %	36.1	11.4	47.3	5.2	2.9	82.9	10.2	4	3	40.3	41.9	14.8	11.5	86.9	0.2	1.4	0	0	0
Total %	4.7	1.5	6.2	0.7	13.1	1	1.4	34.4	0.2	2.4	2.5	0.9	6.1	5.3	40.3	0.1	0.6	46.4	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:JJ, RJ
Counters:D4-5675, D4-5676
Weather:Clear

File Name : WarAla PM - U-Turns
Site Code : 00000005
Start Date : 3/5/2015
Page No : 1

Start Time	Southbound			Ala Moana Boulevard			Left = U-Turns Westbound			Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	App. Total	Int. Total
03:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:15 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
04:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Total	0	0	0	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13
05:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	16	0	0	0	0	0	16	0	0	0	0	0	0	0	0	16
Approch %	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0

Start Time	Southbound			Ala Moana Boulevard			Left = U-Turns Westbound			Northbound			Eastbound						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Peds	App. Total	Int. Total
04:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Total Volume	0	0	0	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13
% App. Total	.000	.000	.000	.542	.000	.000	.000	.542	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.542
PHF																			

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, JC
Counters: TU-0654, TU-0653
Weather: Clear

File Name : Kewalo Basin Entrance AM
Site Code : 00000000
Start Date : 3/10/2015
Page No : 1

Groups Printed- Unshifted																						
Start Time	Southbound			Ala Moana Boulevard Westbound			Kewalo Basin Entrance Northbound			Ala Moana Boulevard Eastbound												
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
06:00 AM	0	0	173	0	0	173	2	0	3	2	7	0	200	10	0	210	0	270	9	0	0	390
06:15 AM	0	0	227	0	0	227	2	0	1	1	4	0	270	9	0	279	0	290	12	0	0	510
06:30 AM	0	0	282	0	0	282	3	0	3	3	9	0	403	10	0	302	0	403	10	3	0	593
06:45 AM	0	0	336	0	0	336	2	0	3	7	12	0	403	10	3	416	0	403	10	3	0	764
Total	0	0	1018	0	0	1018	9	0	10	13	32	0	1163	41	3	1207	0	1163	41	3	0	2257
07:00 AM	0	0	405	0	0	405	10	0	4	6	20	0	390	5	1	396	0	390	5	1	0	821
07:15 AM	0	0	457	0	0	457	5	0	5	10	20	0	378	2	0	380	0	378	2	0	0	857
07:30 AM	0	0	436	0	0	436	5	0	5	7	17	0	391	4	0	395	0	391	4	0	0	848
07:45 AM	0	0	387	0	0	387	5	1	6	12	24	0	375	8	0	383	0	375	8	0	0	794
Total	0	0	1685	0	0	1685	25	1	20	35	81	0	1534	19	1	1554	0	1534	19	1	0	3320
08:00 AM	0	0	447	0	0	447	4	0	4	6	14	0	371	4	0	375	0	371	4	0	0	836
08:15 AM	0	0	411	0	0	411	7	0	4	12	23	0	349	4	0	353	0	349	4	0	0	787
08:30 AM	0	1	389	0	0	390	4	0	7	6	17	0	350	4	1	355	0	350	4	1	0	762
08:45 AM	0	0	304	0	0	304	6	0	4	5	15	0	326	12	1	339	0	326	12	1	0	658
Total	0	1	1551	0	0	1552	21	0	19	29	69	0	1396	24	2	1422	0	1396	24	2	0	3043
Grand Total	0	1	4254	0	0	4255	55	1	49	77	182	0	4093	84	6	4183	0	4093	84	6	0	8620
Approach %	0	0	100	0	0	100	30.2	0.5	26.9	42.3	2.1	0	97.8	2	0.1	97.8	0	97.8	2	0.1	0	8620
Total %	0	0	49.4	0	0	49.4	0.6	0	0.6	0.9	2.1	0	47.5	1	0.1	47.5	0	47.5	1	0.1	0	8620

Groups Printed- Unshifted																						
Start Time	Southbound			Ala Moana Boulevard Westbound			Kewalo Basin Entrance Northbound			Ala Moana Boulevard Eastbound												
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
07:15 AM	0	0	457	0	0	457	5	0	5	5	10	0	378	2	0	380	0	378	2	0	0	847
07:30 AM	0	0	436	0	0	436	5	0	5	5	10	0	391	4	0	395	0	391	4	0	0	841
07:45 AM	0	0	387	0	0	387	5	1	6	12	24	0	375	8	0	383	0	375	8	0	0	782
08:00 AM	0	0	447	0	0	447	4	0	4	6	14	0	371	4	0	375	0	371	4	0	0	830
Total	0	0	1727	0	0	1727	19	1	20	29	40	0	1515	18	1	1533	0	1515	18	1	0	3300
% App. Total	.000	0	100	0	0	100	47.5	2.5	50	833	1.2	0	98.8	1.2	0	98.8	0	98.8	1.2	0	0	3300
PHF	.000	.000	.945	.000	.000	.945	.950	.250	.833	.833	.833	.000	.969	.563	.970	.970	.000	.969	.563	.970	0	.974

Counted By: DY, CY
Counters: TU-0653, TU-0654
Weather: Clear

File Name : Kewalo Basin Entrance PM
Site Code : 00000002
Start Date : 3/10/2015
Page No : 1

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Groups Printed- Unshifted																						
Start Time	Southbound			Ala Moana Boulevard Westbound			Kewalo Basin Driveway Northbound			Ala Moana Boulevard Eastbound												
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
03:00 PM	0	0	368	0	0	368	8	0	8	8	24	0	400	7	0	407	0	400	7	0	0	799
03:15 PM	0	0	316	0	0	316	9	0	15	9	33	0	387	6	2	395	0	387	6	2	0	744
03:30 PM	0	0	427	0	0	427	20	0	13	4	37	0	477	7	1	485	0	477	7	1	0	949
03:45 PM	0	0	398	0	0	398	10	0	11	3	24	0	460	6	1	467	0	460	6	1	0	889
Total	0	0	1509	0	0	1509	47	0	47	24	118	0	1724	26	4	1754	0	1724	26	4	0	3381
04:00 PM	0	0	359	0	0	359	20	0	10	5	35	0	518	12	1	531	0	518	12	1	0	925
04:15 PM	0	0	402	0	0	402	7	0	20	6	33	0	551	5	2	558	0	551	5	2	0	993
04:30 PM	0	0	342	0	0	342	1	0	6	1	8	0	511	7	0	518	0	511	7	0	0	868
04:45 PM	0	0	348	0	0	348	5	0	9	4	18	0	546	5	0	551	0	546	5	0	0	917
Total	0	0	1451	0	0	1451	33	0	45	16	94	0	2126	29	3	2158	0	2126	29	3	0	3703
05:00 PM	0	0	304	0	0	304	5	0	8	18	31	0	536	8	0	544	0	536	8	0	0	879
05:15 PM	0	0	368	0	0	368	5	0	15	15	35	0	515	7	0	522	0	515	7	0	0	925
05:30 PM	0	0	340	0	0	340	5	0	10	22	37	0	555	6	0	561	0	555	6	0	0	938
05:45 PM	0	0	310	0	0	310	7	0	10	17	34	0	514	6	0	520	0	514	6	0	0	864
Total	0	0	1322	0	0	1322	22	0	43	72	137	0	2120	27	0	2147	0	2120	27	0	0	3606
Grand Total	0	0	4282	0	0	4282	102	0	135	112	349	0	5970	82	7	6059	0	5970	82	7	0	10690
Approach %	0	0	100	0	0	100	29.2	0	38.7	32.1	3.3	0	98.5	1.4	0.1	98.5	0	98.5	1.4	0.1	0	10690
Total %	0	0	40.1	0	0	40.1	1	0	1.3	1	3.3	0	55.8	0.8	0.1	56.7	0	55.8	0.8	0.1	0	10690

Groups Printed- Unshifted																						
Start Time	Southbound			Ala Moana Boulevard Westbound			Kewalo Basin Driveway Northbound			Ala Moana Boulevard Eastbound												
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
03:30 PM	0	0	427	0	0	427	20	0	13	13	33	0	477	7	0	484	0	477	7	0	0	944
03:45 PM	0	0	398	0	0	398	10	0	11	11	21	0	460	6	0	466	0	460	6	0	0	885
04:00 PM	0	0	359	0	0	359	20	0	10	20	30	0	518	12	0	530	0	518	12	0	0	919
04:15 PM	0	0	402	0	0	402	7	0	20	5	27	0	551	5	0	556	0	551	5	0	0	985
Total	0	0	1586	0	0	1586	57	0	54	54	111	0	2006	30	0	2036	0	2006	30	0	0	3733
% App. Total	.000	0	100	0	0	100	51.4	0	48.6	48.6	841	0	98.5	1.5	0	98.5	0	98.5	1.5	0	0	3733
PHF	.000	.000	.929	.000	.000	.929	.713	.000	.675	.675	.841	.000	.910	.625	.915	.915	.000	.910	.625	.915	0	.947

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: KC, CC
Counters: TU-0650, TU-0651
Weather: Clear

File Name : AlaKam AM
Site Code : 00000002
Start Date : 4/13/2016
Page No : 1

Groups Printed- Unshifted

Start Time	Kamakee Street Southbound				Ala Moana Boulevard Westbound				Kamakee Street Northbound				Ala Moana Boulevard Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
06:00 AM	4	4	12	32	1	167	4	40	0	0	1	14	15	256	25	0	294	573	
06:15 AM	3	11	15	38	0	215	6	55	3	2	0	32	37	22	267	18	0	307	687
06:30 AM	10	3	16	34	0	293	8	41	4	3	2	16	25	17	298	16	0	331	761
06:45 AM	3	6	29	16	4	310	12	19	8	6	0	5	19	17	331	15	0	363	781
Total	20	24	72	120	5	985	30	155	15	11	3	67	96	69	1152	74	0	1295	2802
07:00 AM	5	1	25	12	2	373	7	13	10	2	1	4	17	16	356	21	0	393	848
07:15 AM	3	6	20	7	3	429	7	14	18	4	3	3	28	17	345	15	0	377	894
07:30 AM	3	7	40	4	1	386	11	11	12	5	2	5	24	15	364	20	0	399	886
07:45 AM	2	10	31	6	9	430	13	12	9	8	1	6	24	18	330	20	0	368	905
Total	13	24	116	29	15	1618	38	50	49	19	7	18	93	66	1395	76	0	1537	3533
08:00 AM	1	5	29	4	2	399	31	15	8	9	1	7	25	17	358	21	0	396	907
08:15 AM	2	8	30	3	2	369	12	10	14	8	4	7	33	19	347	31	0	397	866
08:30 AM	1	6	29	8	2	266	15	9	20	10	5	7	42	19	269	23	0	311	689
08:45 AM	3	5	21	8	3	293	11	7	16	3	4	4	27	17	306	25	0	348	723
Total	7	24	109	23	6	1327	69	41	58	30	14	25	127	72	1280	100	0	1452	3185
Grand Total	40	72	297	172	26	3930	137	246	122	60	24	110	316	207	3827	250	0	4284	9520
Approach %	6.9	12.4	51.1	29.6	0.6	90.6	3.2	5.7	38.6	19	7.6	34.8	3.3	4.8	89.3	5.8	0	45	
Total %	0.4	0.8	3.1	1.8	0.3	41.3	1.4	2.6	1.3	0.6	0.3	1.2	3.3	2.2	40.2	2.6	0	45	

Start Time	Kamakee Street Southbound				Ala Moana Boulevard Westbound				Kamakee Street Northbound				Ala Moana Boulevard Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
07:15 AM	3	6	20	29	3	429	7	7	18	4	3	3	25	17	345	15	0	377	870
07:30 AM	3	7	40	50	1	386	11	11	12	5	2	2	19	15	364	20	0	399	866
07:45 AM	2	10	31	43	9	430	13	13	9	8	1	1	18	18	330	20	0	368	881
08:00 AM	1	5	29	35	2	399	31	31	8	9	1	1	18	17	358	21	0	396	881
Total Volume	9	28	120	157	15	1644	62	62	47	26	7	7	80	67	1397	76	0	1540	3498
% App. Total	5.7	17.8	76.4	76.4	0.9	95.5	3.6	3.6	58.8	32.5	8.8	8.8	8.0	4.4	90.7	4.9	0	1540	
PHF	.750	.700	.750	.785	.417	.956	.500	.500	.653	.722	.583	.800	.800	.931	.959	.905	.965	.965	.993

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Counted By: CC, KC
Counters: TU-0650, TU-0651
Weather: Clear

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

File Name : AlaKam PM
Site Code : 00000002
Start Date : 4/13/2016
Page No : 1

Groups Printed- Unshifted

Start Time	Kamakee Street Southbound				Ala Moana Boulevard Westbound				Ala Moana Park Drive Northbound				Ala Moana Boulevard Eastbound				Int. Total			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total		
03:00 PM	4	6	36	21	4	321	15	29	16	5	7	15	43	19	340	20	0	379	858	
03:15 PM	3	11	32	31	5	372	21	18	10	2	4	13	29	6	440	19	0	465	987	
03:30 PM	12	7	43	42	4	355	18	61	13	5	2	46	66	21	418	37	0	476	1084	
03:45 PM	11	18	40	15	84	2	375	17	12	26	13	3	5	25	408	29	0	462	999	
Total	30	42	151	109	15	1423	71	120	65	25	16	79	185	71	1606	105	0	1782	3928	
04:00 PM	11	23	32	9	4	318	21	25	13	14	6	11	44	15	524	35	0	574	1061	
04:15 PM	8	9	34	11	62	3	376	21	13	12	11	3	7	33	15	487	36	0	538	1046
04:30 PM	11	7	27	7	52	9	337	16	11	21	18	4	12	55	17	399	28	0	444	924
04:45 PM	14	14	26	11	65	5	314	20	16	28	6	4	17	55	14	439	25	0	478	953
Total	44	53	119	38	21	1345	78	65	74	49	17	47	187	61	1849	124	0	2034	3984	
05:00 PM	17	12	35	12	76	5	287	15	12	18	10	11	14	53	17	446	34	0	497	945
05:15 PM	15	16	37	14	82	5	311	38	9	16	9	8	10	43	19	444	40	0	503	991
05:30 PM	12	9	37	8	66	3	284	20	24	33	7	11	23	51	17	406	27	0	450	898
05:45 PM	9	7	33	13	62	4	298	20	14	17	8	6	8	39	14	472	28	0	514	951
Total	53	44	142	47	286	17	1180	93	59	58	38	35	55	186	67	1768	129	0	1964	3785
Grand Total	127	139	412	194	53	3948	242	244	197	112	68	181	558	199	5223	358	0	5780	11697	
Approach %	14.6	15.9	47.2	22.2	1.2	88	5.4	5.4	35.3	20.1	12.2	32.4	4.8	3.4	90.4	6.2	0	49.4		
Total %	1.1	1.2	3.5	1.7	0.5	33.8	2.1	2.1	1.7	1	0.6	1.5	4.8	1.7	44.7	3.1	0	49.4		

Start Time	Kamakee Street Southbound				Ala Moana Boulevard Westbound				Ala Moana Park Drive Northbound				Ala Moana Boulevard Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
03:30 PM	12	7	43	62	4	355	18	18	13	5	2	2	20	21	418	37	0	476	935
03:45 PM	11	18	40	69	2	375	17	17	26	13	3	3	42	25	408	29	0	462	967
04:00 PM	11	23	32	66	4	318	21	21	13	14	6	6	33	15	524	35	0	574	1016
04:15 PM	8	9	34	51	3	376	21	15	12	11	3	3	26	15	487	36	0	538	1015
Total Volume	42	57	149	248	13	1424	77	77	64	43	14	14	121	76	1837	137	0	2050	3933
% App. Total	16.9	23	60.1	60.1	0.9	94.1	5.1	5.1	52.9	35.5	11.6	11.6	7.20	3.7	89.6	6.7	0	1964	
PHF	.875	.620	.866	.899	.813	.947	.917	.917	.615	.768	.583	.720	.720	.760	.876	.926	.926	.893	.988

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 03:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-5675, D4-5676
Weather:Clear

File Name : AlaKam AM
Site Code : 00000001
Start Date : 3/10/2015
Page No : 1

Start Time	Kamakee Street Southbound			Ala Moana Boulevard Westbound			Ala Moana Park Drive Northbound			Ala Moana Boulevard Eastbound			Int. Total							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total						
06:00 AM	2	3	9	2	160	4	8	174	4	0	1	4	9	7	175	24	0	206	404	
06:15 AM	4	8	4	1	215	3	23	242	3	1	2	3	9	6	241	25	0	272	559	
06:30 AM	3	8	11	3	267	5	20	295	3	4	1	7	15	42	231	23	0	296	640	
06:45 AM	3	6	12	14	309	5	21	336	9	4	2	2	17	9	371	15	0	395	783	
Total	12	25	36	47	120	17	72	1047	19	9	6	16	50	64	1018	87	0	1169	2386	
07:00 AM	4	6	12	4	377	4	12	395	13	4	0	4	21	16	361	19	0	396	838	
07:15 AM	1	6	17	3	423	12	13	451	15	5	5	9	34	11	363	13	0	387	899	
07:30 AM	7	12	19	3	411	13	12	441	5	8	2	10	25	17	369	15	0	401	908	
07:45 AM	2	8	15	10	382	13	17	414	11	8	5	17	41	14	346	16	0	376	866	
Total	14	32	63	20	1593	42	54	1701	44	25	12	40	121	58	1439	63	0	1560	3511	
08:00 AM	3	8	29	4	420	11	12	446	11	6	1	7	25	11	345	26	0	382	897	
08:15 AM	4	7	15	4	367	13	11	394	19	5	3	6	33	19	321	17	0	357	814	
08:30 AM	10	4	17	0	333	5	16	359	22	4	1	10	37	13	329	14	0	356	783	
08:45 AM	5	16	15	2	281	10	7	302	13	6	5	9	33	14	300	19	0	333	706	
Total	22	35	76	10	1431	39	46	1501	65	21	10	32	128	57	1295	76	0	1428	3200	
Grand Total	48	92	175	77	392	34	3945	98	172	4249	128	55	28	299	179	3752	226	0	4157	9097
Approch %	12.2	23.5	44.6	19.6	0.8	92.8	2.3	4	42.8	18.4	9.4	29.4	3.3	4.3	90.3	5.4	0	0	0	0
Total %	0.5	1	1.9	0.8	0.4	43.4	1.1	1.9	1.4	0.6	0.3	1	3.3	2	41.2	2.5	0	0	0	0

Kamakee Street Southbound
Start Time
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Start Time	Kamakee Street Southbound			Ala Moana Boulevard Westbound			Ala Moana Park Drive Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total					
07:15 AM	1	6	17	3	423	12	12	438	15	5	5	5	25	11	363	13	0	387	874
07:30 AM	7	12	19	38	5	411	13	429	5	8	2	2	15	17	369	15	0	401	883
07:45 AM	2	8	15	25	2	382	13	397	11	8	5	5	24	14	346	16	0	376	822
08:00 AM	3	8	29	40	3	420	11	434	11	6	1	1	18	11	345	26	0	382	874
Total Volume	13	34	80	127	13	1636	49	1698	42	27	13	13	82	53	1423	70	0	1546	3453
% App. Total	10.2	26.9	63	79.4	0.8	96.3	2.9	51.2	32.9	15.9	3.4	92	82	3.4	92	4.5	0	1546	3453
PHF	.484	.708	.690	.794	.650	.967	.942	.969	.700	.844	.650	.779	.820	.779	.964	.673	0	964	.978

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-5675, D4-5676
Weather:Clear

File Name : AlaKam PM
Site Code : 00000001
Start Date : 3/10/2015
Page No : 1

Start Time	Kamakee Street Southbound			Ala Moana Boulevard Westbound			Ala Moana Park Drive Northbound			Ala Moana Boulevard Eastbound			Int. Total							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total						
03:00 PM	7	6	6	4	340	12	19	375	18	6	4	13	41	9	379	18	0	406	848	
03:15 PM	12	23	30	3	269	16	28	316	16	13	7	5	41	16	364	22	0	402	830	
03:30 PM	13	8	30	27	2	365	19	423	29	14	6	13	62	16	453	17	0	486	1049	
03:45 PM	8	19	21	15	6	367	28	429	9	6	7	7	29	22	413	32	0	467	988	
Total	40	56	87	55	238	15	1341	1543	72	39	24	38	173	63	1609	89	0	1761	3715	
04:00 PM	10	21	28	7	307	16	30	354	13	9	7	10	39	23	465	34	0	522	981	
04:15 PM	15	11	15	1	364	22	27	421	17	7	7	10	41	12	506	48	0	566	1070	
04:30 PM	13	11	17	10	316	11	23	351	22	7	3	5	37	22	457	37	0	516	955	
04:45 PM	19	21	36	3	413	24	20	361	12	13	5	5	35	13	494	50	0	557	1032	
Total	57	64	96	21	1300	73	100	1487	64	36	22	30	152	70	1922	169	0	2161	4038	
05:00 PM	11	18	19	3	270	26	26	330	11	10	11	22	54	14	478	49	0	541	976	
05:15 PM	16	18	39	6	317	18	20	361	14	12	9	17	52	16	467	44	0	527	1019	
05:30 PM	13	27	32	29	5	277	29	349	33	19	3	22	77	21	495	47	0	563	1090	
05:45 PM	16	20	22	12	6	260	16	298	25	11	9	21	66	24	448	51	0	523	957	
Total	56	83	112	50	301	89	100	1338	83	52	32	82	249	75	1888	191	0	2154	4042	
Grand Total	153	203	295	126	777	54	3765	4388	219	127	78	150	574	208	5419	449	0	6076	11795	
Approch %	19.7	26.1	38	16.2	1.2	86.2	5.4	7.1	38.2	22.1	13.6	26.1	4.9	3.4	89.2	7.4	0	0	0	0
Total %	1.3	1.7	2.5	1.1	0.5	31.9	2	37	1.9	1.1	0.7	1.3	4.9	1.8	45.9	3.8	0	0	0	0

Kamakee Street Southbound
Start Time
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

Start Time	Kamakee Street Southbound			Ala Moana Boulevard Westbound			Ala Moana Park Drive Northbound			Ala Moana Boulevard Eastbound			Int. Total						
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total					
04:45 PM	19	21	36	4	313	24	24	341	12	13	5	5	30	13	494	50	0	557	1004
05:00 PM	11	18	19	8	270	26	26	304	11	10	11	11	32	14	478	49	0	541	925
05:15 PM	16	18	39	6	317	18	18	341	14	12	9	9	35	16	467	44	0	527	976
05:30 PM	13	27	32	29	5	277	29	349	33	19	3	22	77	21	495	47	0	563	1001
Total Volume	59	84	126	269	23	1177	97	1297	70	54	28	28	152	64	1934	190	0	2188	3906
% App. Total	21.9	31.2	46.8	.885	1.8	90.7	7.5	46.1	46.1	35.5	18.4	18.4	152	2.9	88.4	8.7	0	2188	3906
PHF	.776	.778	.808	.885	.719	.928	.836	.951	.530	.711	.636	.636	.891	.762	.977	.950	0	972	.973

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: R.J, JJ
Counters: D4-5671, D4-5674
Weather: Clear

File Name : QueAla AM
Site Code : 00000003
Start Date : 3/10/2015
Page No : 1

Start Time	Queen Street Southbound					Ala Moana Boulevard Westbound					Ala Moana Boulevard Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	3	0	1	3	7	0	168	9	0	177	3	176	0	3	182	366
06:15 AM	3	0	1	3	7	0	224	12	0	236	1	263	0	7	271	514
06:30 AM	3	0	3	6	12	0	272	12	0	284	0	237	0	4	241	537
06:45 AM	6	0	3	3	12	0	315	16	0	331	1	355	0	7	363	706
Total	15	0	8	15	38	0	979	49	0	1028	5	1031	0	21	1057	2123
07:00 AM	10	0	3	2	15	0	374	21	0	395	3	359	0	7	369	779
07:15 AM	7	0	3	6	16	0	442	35	0	477	3	372	0	9	384	877
07:30 AM	8	0	3	9	20	0	432	29	0	461	4	378	0	14	396	877
07:45 AM	10	0	7	2	19	0	395	34	0	429	5	347	0	14	366	814
Total	35	0	16	19	70	0	1643	119	0	1762	15	1456	0	44	1515	3347
08:00 AM	18	0	6	8	32	0	425	35	0	460	3	349	0	10	362	854
08:15 AM	10	0	6	18	34	0	375	30	0	405	2	334	0	14	350	789
08:30 AM	12	0	9	6	27	0	331	32	0	363	5	329	0	9	343	733
08:45 AM	19	0	4	7	30	0	312	32	0	344	6	318	0	2	326	700
Total	59	0	25	39	123	0	1443	129	0	1572	16	1330	0	35	1381	3076
Grand Total	109	0	49	73	231	0	4065	297	0	4362	36	3817	0	100	3953	8546
Approach %	47.2	0	21.2	31.6	2.7	0	93.2	6.8	0	51	0.9	96.6	0	2.5	46.3	
Total %	1.3	0	0.6	0.9	0.0	0	47.6	3.5	0	0	0.4	44.7	0	1.2	0	

Start Time	Queen Street Southbound					Ala Moana Boulevard Westbound					Ala Moana Boulevard Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:15 AM	7	0	0	3	10	0	442	35	0	477	3	372	0	0	375	862
07:30 AM	8	0	0	3	11	0	432	29	0	461	4	378	0	0	382	854
07:45 AM	10	0	0	7	17	0	395	34	0	429	5	347	0	0	352	798
08:00 AM	18	0	0	6	24	0	425	35	0	460	3	349	0	0	352	836
Total Volume	43	0	0	19	62	0	1694	133	0	1827	15	1446	0	0	1461	3350
% App. Total	69.4	0	0	30.6	0.0	0	92.7	7.3	0	95.8	1	99	0	0	0	
PHF	.597	.000	.000	.679	.646	.000	.958	.950	.000	.958	.750	.956	.000	.000	.956	.972

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: R.J, JJ
Counters: D4-5671, D4-5674
Weather: Clear

File Name : QueAla PM
Site Code : 00000003
Start Date : 3/10/2015
Page No : 1

Start Time	Queen Street Southbound					Ala Moana Boulevard Westbound					Ala Moana Boulevard Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	47	0	20	17	84	0	308	39	0	347	7	378	0	8	393	824
03:15 PM	31	0	9	14	54	0	294	38	0	332	4	384	0	23	411	797
03:30 PM	37	0	11	20	68	0	377	47	0	424	13	462	0	10	485	977
03:45 PM	46	0	19	4	69	0	366	40	0	406	11	418	0	9	438	913
Total	161	0	59	55	275	0	1345	164	0	1509	35	1642	0	50	1727	3511
04:00 PM	32	0	6	14	52	0	379	46	0	425	8	497	0	18	523	1000
04:15 PM	40	0	8	9	57	0	339	48	0	387	6	495	0	14	515	959
04:30 PM	41	0	6	13	60	0	313	47	0	360	4	466	0	13	483	903
04:45 PM	29	0	13	12	54	0	360	49	0	409	8	524	0	17	549	1012
Total	142	0	33	48	223	0	1391	190	0	1581	26	1982	0	62	2070	3874
05:00 PM	45	0	8	6	59	0	275	40	0	315	9	465	0	17	491	865
05:15 PM	67	0	12	13	92	0	334	56	0	390	8	497	0	21	526	1008
05:30 PM	43	0	16	21	80	0	316	71	0	387	3	522	0	12	537	1004
05:45 PM	42	0	4	33	79	0	261	39	0	300	10	459	0	52	521	900
Total	197	0	40	73	310	0	1186	206	0	1392	30	1943	0	102	2075	3777
Grand Total	500	0	132	176	808	0	3922	560	0	4482	91	5567	0	214	5872	11162
Approach %	61.9	0	16.3	21.8	7.2	0	87.5	12.5	0	40.2	1.5	94.8	0	3.6	52.6	
Total %	4.5	0	1.2	1.6	0.0	0	35.1	5	0	0	0.8	49.9	0	1.9	0	

Start Time	Queen Street Southbound					Ala Moana Boulevard Westbound					Ala Moana Boulevard Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:45 PM	29	0	0	13	42	0	360	49	0	409	8	524	0	0	532	983
05:00 PM	45	0	8	8	53	0	275	40	0	315	9	465	0	0	474	842
05:15 PM	67	0	12	16	79	0	334	56	0	390	8	497	0	0	505	974
05:30 PM	43	0	4	33	59	0	316	71	0	387	3	522	0	12	537	1004
Total Volume	184	0	24	49	233	0	1285	216	0	1501	28	2008	0	0	2036	3770
% App. Total	79	0	0	21	.737	0	85.6	14.4	0	91.7	1.4	98.6	0	0	.957	.959
PHF	.687	.000	.000	.766	.000	.000	.892	.761	.000	.917	.778	.958	.000	.000	.957	.959

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: AC, DM, FS
Counters: D4-3888, D4-3889, D4-3890
Weather: Clear

File Name : PiiAla AM
Site Code : 00000006
Start Date : 3/10/2015
Page No : 1

Groups Printed- Unshifted																	
Piiikoi Street Southbound						Ala Moana Boulevard Westbound						Ala Moana Boulevard Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
06:00 AM	12	0	8	2	22	0	174	57	9	240	45	132	0	0	177	439	
06:15 AM	14	0	21	2	37	0	207	65	24	296	54	222	0	0	276	609	
06:30 AM	29	0	12	3	44	0	274	69	34	377	53	182	0	0	235	656	
06:45 AM	24	0	25	2	51	0	304	72	15	391	80	273	0	0	353	795	
Total	79	0	66	9	154	0	959	263	82	1304	232	800	0	0	1041	2499	
07:00 AM	20	0	31	2	53	0	361	65	22	448	98	279	0	0	377	878	
07:15 AM	27	0	21	1	49	0	451	92	6	549	83	289	0	0	372	970	
07:30 AM	46	0	37	2	85	0	431	72	16	519	90	300	0	0	390	994	
07:45 AM	33	0	37	2	72	0	389	78	6	473	110	255	0	0	365	910	
Total	126	0	126	7	259	0	1632	307	50	1989	381	1123	0	0	1504	3752	
08:00 AM	26	0	32	4	62	0	423	83	11	517	80	264	0	0	344	923	
08:15 AM	24	0	34	0	58	0	368	62	8	438	84	254	0	0	338	834	
08:30 AM	27	0	29	6	62	0	329	56	14	399	108	253	0	0	361	822	
08:45 AM	28	0	29	0	57	0	315	59	10	384	87	269	0	0	356	797	
Total	105	0	124	10	239	0	1435	260	43	1738	359	1040	0	0	1399	3376	
Grand Total	310	0	316	26	652	0	4026	830	175	5031	972	2972	0	0	3944	9627	
Approch %	47.5	0	48.5	4	6.8	0	80	16.5	3.5	52.3	24.6	75.4	0	0	41		
Total %	3.2	0	3.3	0.3	6.8	0	41.8	8.6	1.8	52.3	10.1	30.9	0	0	41		

Piiikoi Street Southbound												Ala Moana Boulevard Westbound						Ala Moana Boulevard Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total							
07:15 AM	27	0	0	21	48	0	451	92	0	543	83	289	0	0	372	963							
07:30 AM	46	0	0	37	83	0	431	72	0	503	90	300	0	0	390	976							
07:45 AM	33	0	0	37	70	0	389	78	0	467	110	255	0	0	365	902							
08:00 AM	26	0	0	32	58	0	423	83	0	506	80	264	0	0	344	908							
Total Volume	132	0	0	127	259	0	1694	325	0	2019	363	1108	0	0	1471	3749							
% App. Total	51	0	0	49	780	0	83.9	16.1	0	930	24.7	75.3	0	0	943								
PHF	.717	.000	.000	.858	.780	.000	.939	.883	.000	.930	.825	.923	.000	.000	.943	.960							

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JC, AC, DM
Counters: D4-3889, D4-3890, D4-3888
Weather: Clear

File Name : PiiAla PM
Site Code : 00000006
Start Date : 3/10/2015
Page No : 1

Groups Printed- Unshifted																	
Piiikoi Street Southbound						Ala Moana Boulevard Westbound						Ala Moana Boulevard Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
03:00 PM	55	0	59	32	146	0	278	59	13	350	88	332	0	0	420	916	
03:15 PM	55	0	60	26	141	0	283	75	7	365	80	346	0	0	426	932	
03:30 PM	57	0	58	30	145	0	361	74	18	453	67	416	0	0	483	1081	
03:45 PM	53	0	50	29	132	0	355	80	2	437	82	403	0	0	485	1054	
Total	220	0	227	117	564	0	1277	288	40	1605	317	1497	0	0	1814	3983	
04:00 PM	43	0	50	16	109	0	369	85	9	463	72	445	0	0	517	1089	
04:15 PM	58	0	55	17	130	0	330	99	2	431	96	447	0	0	543	1104	
04:30 PM	47	0	33	26	106	0	325	38	5	368	80	414	0	0	494	968	
04:45 PM	49	0	43	17	109	0	360	71	12	443	63	509	0	0	572	1124	
Total	197	0	181	76	454	0	1384	293	28	1705	311	1815	0	0	2126	4285	
05:00 PM	65	0	40	23	128	0	272	67	10	349	90	423	0	0	513	990	
05:15 PM	81	0	67	39	187	0	325	64	51	440	83	477	0	0	560	1187	
05:30 PM	50	0	44	37	131	0	350	102	29	481	82	481	0	0	569	1181	
05:45 PM	65	0	52	40	157	0	251	88	38	377	84	436	0	0	520	1054	
Total	261	0	203	139	603	0	1198	321	128	1647	339	1823	0	0	2162	4412	
Grand Total	678	0	611	332	1621	0	3859	902	196	4957	967	5135	0	0	6102	12680	
Approch %	41.8	0	37.7	20.5	12.8	0	77.8	18.2	4	39.1	15.8	84.2	0	0	48.1		
Total %	5.3	0	4.8	2.6	12.8	0	30.4	7.1	1.5	39.1	7.6	40.5	0	0	48.1		

Piiikoi Street Southbound												Ala Moana Boulevard Westbound						Ala Moana Boulevard Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total							
04:45 PM	49	0	0	43	92	0	360	71	0	431	63	509	0	0	572	1095							
05:00 PM	65	0	0	40	105	0	272	67	0	339	90	423	0	0	513	957							
05:15 PM	81	0	0	67	148	0	325	64	64	389	83	477	0	0	560	1097							
05:30 PM	50	0	0	44	94	0	350	102	102	452	82	487	0	0	569	1115							
Total Volume	245	0	0	194	439	0	1307	304	0	1611	318	1896	0	0	2214	4264							
% App. Total	55.8	0	0	44.2	742	0	81.1	18.9	0	891	14.4	85.6	0	0	968								
PHF	.756	.000	.000	.724	.742	.000	.908	.745	.000	.891	.883	.931	.000	.000	.968	.956							

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, JC
Counters: D4-5677, D4-3889
Weather: Clear

File Name : KamQue AM
Site Code : 00000005
Start Date : 3/11/2015
Page No : 1

Start Time	Kamakee Street Southbound						Queen Street Westbound						Kamakee Street Northbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
06:00 AM	4	20	7	1	32	1	15	15	2	5	37	5	2	8	1	0	11	3	17	1	7	28	7	3	17	1	7	28	108	
06:15 AM	1	18	9	6	34	3	6	22	3	3	34	3	1	7	4	2	14	2	8	1	7	18	1	7	18	100	139	157	504	
06:30 AM	6	37	17	6	66	6	8	25	3	0	36	8	1	4	3	0	8	4	13	3	9	29	3	9	31	106	159	273	273	
06:45 AM	5	17	17	7	46	7	17	38	3	3	61	3	3	9	6	1	19	6	16	1	8	31	8	31	157	269	282	926	154	
Total	16	92	50	20	178	11	46	100	11	11	168	7	28	14	3	52	15	54	6	31	106	39	11	83	11	39	154	230	490	
07:00 AM	5	26	15	12	58	3	13	37	3	2	55	2	7	9	1	19	3	17	3	4	27	4	3	17	3	4	27	55	284	
07:15 AM	6	43	13	5	67	31	63	7	6	107	7	2	7	7	1	17	4	19	5	6	34	225	6	3	19	60	247	247	260	
07:30 AM	2	38	33	6	79	37	50	4	4	95	5	18	8	1	32	9	22	9	22	2	21	54	2	21	39	154	230	490	2503	
07:45 AM	5	40	32	8	85	42	76	8	3	129	3	15	10	1	29	5	25	5	25	1	8	39	5	25	1	8	39	154	230	
Total	18	147	93	31	289	123	226	22	15	386	12	47	34	4	97	21	83	11	39	154	230	490	2503	13.3	55.3	5.7	25.7	19.6		
08:00 AM	6	48	19	5	78	43	60	9	3	115	3	27	6	0	36	8	34	1	12	55	284	60	3	19	60	247	260	269	1073	
08:15 AM	5	45	15	4	69	38	59	4	4	105	1	19	12	7	39	6	32	3	19	60	247	6	3	19	60	247	260	269	1073	
08:30 AM	6	35	15	3	59	32	58	9	5	104	2	23	2	1	28	4	33	4	15	56	247	4	33	4	15	56	247	260	269	1073
08:45 AM	12	36	22	10	80	28	56	4	9	97	3	17	8	5	33	11	35	3	10	59	269	11	35	3	10	59	269	1073	993	
Total	29	164	71	22	286	141	233	26	21	421	9	86	28	13	136	29	134	11	56	230	490	2503	13.3	55.3	5.7	25.7	19.6			
Grand Total	63	403	214	73	753	310	559	59	47	975	28	161	76	20	285	65	271	28	126	490	2503	13.3	55.3	5.7	25.7	19.6				
Approch %	8.4	53.5	28.4	9.7	31.8	57.3	6.1	4.8	9.8	56.5	26.7	7	0.8	11.4	2.6	10.8	1.1	5	19.6											
Total %	2.5	16.1	8.5	2.9	30.1	12.4	22.3	2.4	1.9	39	1.1	6.4	3	0.8	11.4	2.6	10.8	1.1	5	19.6										

Start Time	Kamakee Street Southbound						Queen Street Westbound						Kamakee Street Northbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
07:30 AM	2	38	33	73	37	50	4	91	5	18	8	31	9	22	2	33	228													
07:45 AM	5	40	32	77	42	76	8	126	3	15	10	28	5	25	1	31	262													
08:00 AM	6	48	19	73	43	60	9	112	3	27	6	36	8	34	1	43	264													
08:15 AM	5	45	15	65	38	59	4	101	1	19	12	32	6	32	3	41	239													
Total Volume	18	171	99	288	160	245	25	430	12	79	36	127	28	113	7	148	993													
% App. Total	6.2	59.4	34.4	37.2	57	5.8	694	.853	.600	.731	.750	.882	.778	.831	.583	.860	.940													
PHF	.750	.891	.750	.935	.930	.806	.694																							

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Counted By: DY, JC
Counters: D4-3889, D4-5677
Weather: Clear

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

File Name : KamQue PM
Site Code : 00000005
Start Date : 3/11/2015
Page No : 1

Start Time	Kamakee Street Southbound						Queen Street Westbound						Kamakee Street Northbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
03:00 PM	12	46	18	9	85	44	62	17	13	136	4	23	17	7	51	17	44	9	29	99	371									
03:15 PM	5	33	16	7	61	51	66	14	14	145	4	19	15	9	47	19	52	7	24	102	355									
03:30 PM	16	27	17	10	70	48	100	14	13	175	5	38	13	5	61	22	70	4	24	120	426									
03:45 PM	8	28	15	10	61	47	76	9	10	142	8	37	10	6	61	25	57	6	25	113	377									
Total	41	134	66	36	277	190	304	54	50	598	21	117	55	27	220	83	223	26	102	434	1529									
04:00 PM	9	31	17	7	64	48	64	15	14	141	4	21	16	15	56	21	57	6	25	109	370									
04:15 PM	8	23	12	8	51	62	77	12	14	165	7	26	21	9	63	25	84	10	28	147	426									
04:30 PM	9	27	15	20	71	51	81	9	11	152	9	32	14	9	64	26	92	13	36	167	454									
04:45 PM	10	32	14	15	71	66	70	8	18	162	2	30	17	3	52	27	93	17	13	150	435									
Total	36	113	58	50	257	227	292	44	57	620	22	109	68	36	235	99	326	46	102	573	1685									
05:00 PM	17	30	11	17	75	59	79	11	20	169	5	33	11	5	54	16	83	7	39	145	443									
05:15 PM	17	35	9	19	80	57	69	22	17	165	4	27	17	16	64	28	100	10	20	158	467									
05:30 PM	16	42	17	9	84	40	54	22	9	125	6	27	13	12	58	34	83	9	44	170	437									
05:45 PM	16	42	18	7	83	58	59	19	17	153	5	41	14	13	73	22	68	12	35	137	446									
Total	66	149	55	52	322	214	261	74	63	612	20	128	55	46	249	100	334	38	138	610	1793									
Grand Total	143	396	179	138	856	631	857	172	170	1830	63	354	178	109	704	282	883	110	342	1617	5007									
Approch %	16.7	46.3	20.9	16.1	34.5	46.8	9.4	9.3	8.9	50.3	25.3	15.5	2.2	14.1	5.6	17.6	6.8	21.2	6.8	32.3										
Total %	2.9	7.9	3.6	2.8	17.1	17.1	3.4	3.4	1.3	7.1	3.6	2.2	14.1	5.6	17.6	6.8	21.2	6.8	32.3											

Start Time	Kamakee Street Southbound						Queen Street Westbound						Kamakee Street Northbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
04:30 PM	9	27	15	51	51	81	9	141	9	32	14	55	26	92	13	131	378													
04:45 PM	10	32	14	56	66	70	8	144	2	30	17	49	27	93	17	137	386													
05:00 PM	17	30	11	58	59	79	11	148	5	33	11	16	16	83	7	106	362													
05:15 PM	17	35	9	61	57	69	22	148	4	27	17	48	28	100	10	138	395													
Total Volume	53	124	49	226	233																									

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: AC, DM
Counters: TU-0650, TU-0652
Weather: Clear

File Name : QueQue AM
Site Code : 00000004
Start Date : 3/11/2015
Page No : 1

Start Time	Queen Street Westbound				Queen's Lane Northbound				Queen Street Eastbound													
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
06:00 AM	0	7	29	0	0	36	3	0	0	2	5	0	14	0	0	14	0	14	0	0	14	55
06:15 AM	0	6	26	0	0	32	5	0	5	0	10	0	7	0	0	7	0	7	0	0	7	49
06:30 AM	0	3	31	0	0	34	5	0	5	2	12	0	13	1	0	14	0	13	1	0	14	60
06:45 AM	0	10	53	0	0	63	5	0	7	0	12	0	16	1	0	17	0	16	1	0	17	92
Total	0	26	139	0	0	165	18	0	17	4	39	0	50	2	0	52	0	50	2	0	52	256
07:00 AM	0	17	49	0	0	66	4	0	10	0	14	0	23	0	0	23	0	23	0	0	23	103
07:15 AM	0	13	91	0	0	104	11	0	14	4	29	0	29	0	0	29	0	29	0	0	29	162
07:30 AM	0	23	85	0	0	108	5	0	12	2	19	0	26	0	0	26	0	26	0	0	26	153
07:45 AM	0	20	119	0	0	139	8	0	13	2	23	0	42	2	2	46	0	42	2	2	46	208
Total	0	73	344	0	0	417	28	0	49	8	85	0	120	2	2	124	0	120	2	2	124	626
08:00 AM	0	29	103	0	0	132	6	0	17	1	24	0	41	1	0	42	0	41	1	0	42	198
08:15 AM	0	22	98	0	0	120	7	0	12	5	24	0	47	0	0	47	0	47	0	0	47	191
08:30 AM	0	22	97	0	0	119	2	0	25	6	33	0	41	0	0	41	0	41	0	0	41	193
08:45 AM	0	11	89	0	0	100	2	0	3	7	12	0	31	0	0	31	0	31	0	0	31	143
Total	0	84	387	0	0	471	17	0	57	19	93	0	160	1	0	161	0	160	1	0	161	725
Grand Total	0	183	870	0	0	1053	63	0	123	31	217	0	330	5	2	337	0	330	5	2	337	1607
Approch %	0	17.4	82.6	0	0	65.5	29	0	56.7	14.3	13.5	0	97.9	1.5	0.6	21	0	20.5	0.3	0.1	21	
Total %	0	11.4	54.1	0	0	45.3	3.9	0	7.7	1.9	21.3	0	33.2	0.2	0	33.4	0	33.2	0.2	0	33.4	

Start Time	Queen Street Westbound				Queen's Lane Northbound				Queen Street Eastbound													
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
07:45 AM	0	20	119	0	0	139	8	0	13	0	21	0	42	2	0	44	0	42	2	0	44	204
08:00 AM	0	29	103	0	0	132	6	0	17	1	23	0	41	1	0	42	0	41	1	0	42	197
08:15 AM	0	22	98	0	0	120	7	0	12	5	24	0	47	0	0	47	0	47	0	0	47	186
08:30 AM	0	22	97	0	0	119	2	0	25	6	33	0	41	0	0	41	0	41	0	0	41	187
Total Volume	0	93	417	0	0	510	23	0	67	19	90	0	171	3	0	174	0	171	3	0	174	774
% App. Total	.000	18.2	81.8	0	0	91.7	25.6	0	74.4	0	83.3	0	98.3	1.7	0	92.6	0	98.3	0.3	0	92.6	
PHF	.000	.802	.876	.000	.000	.917	.719	.000	.670	.000	.833	.000	.910	.375	.000	.926	.000	.910	.375	.000	.926	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: AC, DM
Counters: D4-3889, D4-3890
Weather: Clear

File Name : QueQue PM
Site Code : 00000004
Start Date : 3/11/2015
Page No : 1

Start Time	Queen Street Westbound				Queen's Lane Northbound				Queen Street Eastbound													
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
03:00 PM	0	18	118	0	0	136	5	0	53	1	59	0	82	1	0	83	0	82	1	0	83	278
03:15 PM	0	14	114	0	0	128	8	0	45	6	59	0	85	0	0	85	0	85	0	0	85	272
03:30 PM	0	20	140	0	0	160	20	0	41	5	66	0	95	1	0	96	0	95	1	0	96	322
03:45 PM	0	17	134	0	0	151	7	0	51	8	66	0	86	0	0	86	0	86	0	0	86	303
Total	0	69	506	0	0	575	40	0	190	20	250	0	348	2	0	350	0	348	2	0	350	1175
04:00 PM	0	14	118	0	0	132	14	0	46	6	66	0	74	1	0	75	0	74	1	0	75	273
04:15 PM	0	16	130	0	0	146	18	0	57	17	92	0	107	0	0	107	0	107	0	0	107	345
04:30 PM	0	10	136	0	0	146	13	0	45	4	62	0	110	3	0	113	0	110	3	0	113	321
04:45 PM	0	18	123	0	0	141	8	0	45	8	61	0	128	0	0	128	0	128	0	0	128	330
Total	0	58	507	0	0	565	53	0	193	35	281	0	419	4	0	423	0	419	4	0	423	1269
05:00 PM	0	20	129	0	0	149	13	0	60	2	75	0	116	0	0	116	0	116	0	0	116	340
05:15 PM	0	23	137	0	0	160	11	0	65	5	81	0	144	0	0	144	0	144	0	0	144	385
05:30 PM	0	13	96	0	0	109	13	0	35	7	55	0	107	0	0	107	0	107	0	0	107	271
05:45 PM	0	17	108	0	0	125	14	0	32	3	49	0	99	0	0	99	0	99	0	0	99	273
Total	0	73	470	0	0	543	51	0	192	17	260	0	466	0	0	466	0	466	0	0	466	1269
Grand Total	0	200	1483	0	0	1683	144	0	575	72	791	0	1233	6	0	1239	0	1233	6	0	1239	3713
Approch %	0	11.9	88.1	0	0	45.3	18.2	0	72.7	9.1	21.3	0	99.5	0.5	0	33.4	0	99.5	0.5	0	33.4	
Total %	0	5.4	39.9	0	0	45.3	3.9	0	15.5	1.9	21.3	0	33.2	0.2	0	33.4	0	33.2	0.2	0	33.4	

Start Time	Queen Street Westbound				Queen's Lane Northbound				Queen Street Eastbound													
	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	Int. Total	
04:30 PM	0	10	136	0	0	146	13	0	45	0	58	0	110	3	0	113	0	110	3	0	113	317
04:45 PM	0	18	123	0	0	141	8	0	45	0	53	0	128	0	0	128	0	128	0	0	128	322
05:00 PM	0	20	129	0	0	149	13	0	60	2	75	0	116	0	0	116	0	116	0	0	116	338
05:15 PM	0	23	137	0	0	160	11	0	65	5	81	0	144	0	0	144	0	144	0	0	144	380
Total Volume	0	71	525	0	0	596	45	0	215	3	260	0	498	3	0	501	0	498	3	0	501	1357
% App. Total	.000	11.9	88.1	0	0	93.1	17.3	0	82.7	0.6	85.5	0	99.4	0.6	0	99.4	0	99.4	0.6	0	99.4	
PHF	.000	.772	.958	.000	.000	.931	.865	.000	.827	.000	.855	.000	.865	.250	.000	.870	.000	.865	.250	.000	.870	.893

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:PA, FS
Counters:D4-3888, D4-3890
Weather:Clear

File Name : QueWai AM
Site Code : 00000001
Start Date : 3/11/2015
Page No : 1

Start Time	Waimanu Street Southbound						Queen Street Westbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
06:00 AM	3	0	6	1	10	0	30	9	0	39	0	0	2	14	0	12	28	77						
06:15 AM	8	0	1	2	11	0	30	7	0	37	0	1	12	0	6	19	67							
06:30 AM	19	0	5	2	26	0	29	9	0	38	0	1	14	0	10	25	89							
06:45 AM	18	0	4	0	22	0	59	18	0	77	0	1	24	0	5	30	129							
Total	48	0	16	5	69	0	148	43	0	191	0	5	64	0	33	102	362							
07:00 AM	19	0	8	11	38	0	58	15	0	73	0	2	36	0	11	49	160							
07:15 AM	17	0	3	2	22	0	102	20	0	122	0	2	41	0	7	50	194							
07:30 AM	16	0	5	3	24	0	102	13	0	115	0	2	38	0	11	51	190							
07:45 AM	16	0	4	1	21	0	133	22	0	155	0	4	44	0	3	51	227							
Total	68	0	20	17	105	0	395	70	0	465	0	10	159	0	32	201	771							
08:00 AM	13	0	4	1	18	0	128	19	0	147	0	4	50	0	7	61	226							
08:15 AM	18	0	7	1	26	0	113	18	0	131	0	2	47	0	7	56	213							
08:30 AM	14	0	5	2	21	0	114	24	0	138	0	4	50	0	6	60	219							
08:45 AM	11	0	4	0	15	0	96	18	0	114	0	5	55	0	8	68	197							
Total	56	0	20	4	80	0	451	79	0	530	0	15	202	0	28	245	855							
Grand Total	172	0	56	26	254	0	994	192	0	1186	0	30	425	0	93	548	1988							
Apprch % Total %	67.7	0	22	10.2	12.8	0	83.8	16.2	0	59.7	0	5.5	77.6	0	17	27.6								
	8.7	0	2.8	1.3		0	50	9.7	0		0	1.5	21.4	0	4.7									

Start Time	Waimanu Street Southbound						Queen Street Westbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
07:45 AM	16	0	4	4	20	0	133	22	0	155	0	4	44	0	48	223								
08:00 AM	13	0	4	7	17	0	128	19	0	147	0	4	50	0	54	218								
08:15 AM	18	0	7	4	25	0	113	18	0	131	0	2	47	0	49	205								
08:30 AM	14	0	5	5	19	0	114	24	0	138	0	4	50	0	54	211								
Total Volume	61	0	20	81		0	488	83	0	571	0	14	191	0	205	857								
% App. Total PHF	75.3	0	24.7	.714	.810	.000	85.5	14.5	.865	.921	.000	6.8	93.2	0	205	.961								
	.847	.000	.000	.000	.000	.000	.917	.865	.917	.921	.000	.875	.955	.000	.949	.961								

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:PA,, FS
Counters:D4-3890, D4-3888
Weather:Clear

File Name : QueWai PM
Site Code : 00000001
Start Date : 3/11/2015
Page No : 1

Start Time	Waimanu Street Southbound						Queen Street Westbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
03:00 PM	15	0	5	4	24	0	127	24	0	151	0	9	126	0	11	146	321							
03:15 PM	6	0	6	6	18	0	122	27	0	149	0	14	120	0	8	142	309							
03:30 PM	12	0	9	8	29	0	164	35	0	199	0	8	115	0	5	128	356							
03:45 PM	10	0	6	3	19	0	135	19	0	154	0	8	119	0	8	135	308							
Total	43	0	26	21	90	0	548	105	0	653	0	39	480	0	32	551	1294							
04:00 PM	9	0	1	0	10	0	132	29	0	161	0	11	110	0	1	122	293							
04:15 PM	19	0	5	0	24	0	142	27	0	169	0	8	147	0	9	164	357							
04:30 PM	18	0	13	6	37	0	144	27	0	171	0	16	130	0	6	152	360							
04:45 PM	16	0	3	3	22	0	135	30	0	165	0	19	133	0	10	162	349							
Total	62	0	22	9	93	0	553	113	0	666	0	54	520	0	26	600	1359							
05:00 PM	16	0	9	3	28	0	150	36	0	186	0	14	143	0	12	169	383							
05:15 PM	19	0	8	7	34	0	144	40	0	184	0	14	169	0	6	189	407							
05:30 PM	11	0	5	2	18	0	121	26	0	147	0	10	128	0	9	147	312							
05:45 PM	10	0	6	4	20	0	127	37	0	164	0	9	113	0	13	135	319							
Total	56	0	28	16	100	0	542	139	0	681	0	47	553	0	40	640	1421							
Grand Total	161	0	76	46	283	0	1643	357	0	2000	0	140	1553	0	98	1791	4074							
Apprch % Total %	56.9	0	26.9	16.3	6.9	0	82.2	17.9	0	49.1	0	7.8	86.7	0	5.5	27.6								
	4	0	1.9	1.1		0	40.3	8.8	0		3.4	38.1	0	2.4										

Start Time	Waimanu Street Southbound						Queen Street Westbound						Queen Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
04:30 PM	18	0	0	13	31	0	144	27	0	171	0	16	130	0	0	146	348							
04:45 PM	16	0	0	3	19	0	135	30	0	165	0	19	133	0	0	152	336							
05:00 PM	16	0	0	9	25	0	150	36	0	186	0	14	143	0	0	157	368							
05:15 PM	19	0	0	8	27	0	144	40	0	184	0	14	169	0	0	147	319							
Total Volume	69	0	33	102		0	573	133	0	706	0	63	575	0	0	638	1446							
% App. Total PHF	67.6	0	32.4	.635	.823	.000	81.2</																	

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: TU-0649, TU-0651
Weather: Clear

File Name : PenWai AM
Site Code : 00000002
Start Date : 3/11/2015
Page No : 1

Start Time	Groups Printed- Unshifted																
	Pensacola Street Southbound			Waimanu Street Westbound			Honua Condominium Northbound			Waimanu Street Eastbound							
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
06:00 AM	44	4	29	1	78	0	7	0	0	7	3	0	8	5	16	21	122
06:15 AM	49	4	31	0	84	0	3	0	0	3	2	0	11	3	16	1	120
06:30 AM	47	4	34	3	88	0	2	0	0	2	4	0	11	1	16	4	146
06:45 AM	38	8	61	1	108	0	8	0	0	8	7	0	14	10	31	48	195
Total	178	20	155	5	358	0	20	0	0	20	16	0	44	19	79	11	583
07:00 AM	40	3	54	7	104	0	10	0	0	10	11	0	25	7	43	5	218
07:15 AM	45	10	90	2	147	0	12	0	0	12	18	0	20	5	43	1	262
07:30 AM	58	9	99	5	171	0	5	0	0	5	9	0	24	14	47	6	280
07:45 AM	60	9	122	4	195	0	22	0	0	22	10	0	22	8	40	13	325
Total	203	31	365	18	617	0	49	0	0	49	48	0	91	34	173	25	1085
08:00 AM	72	24	124	6	226	1	19	0	0	20	5	0	18	13	36	5	356
08:15 AM	64	18	115	1	198	0	9	0	0	9	5	0	10	21	36	9	330
08:30 AM	78	6	111	3	198	2	15	0	0	17	9	0	22	13	44	8	347
08:45 AM	65	8	99	3	175	2	12	0	0	14	6	0	14	9	29	2	293
Total	279	56	449	13	797	5	55	0	0	60	25	0	64	56	145	24	1326
Grand Total	660	107	969	36	1772	5	124	0	0	129	89	0	199	109	397	55	2994
Approch %	37.2	6	54.7	2	59.2	3.9	96.1	0	0	4.3	22.4	0	50.1	27.5	13.3	7.9	8.6
Total %	22	3.6	32.4	1.2	59.2	0.2	4.1	0	0	4.3	3	0	6.6	3.6	13.3	1.8	2

Start Time	Pensacola Street Southbound						Waimanu Street Westbound						Honua Condominium Northbound						Waimanu Street Eastbound							
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	07:45 AM	60	9	122	4	191	0	22	0	0	22	10	0	22	0	32	0	51	4	4	55	0	51	4	4	55
08:00 AM	72	24	124	6	226	1	19	0	0	20	5	0	18	13	36	0	56	13	13	69	0	56	13	13	69	332
08:15 AM	64	18	115	1	198	0	9	0	0	9	5	0	10	21	36	0	68	10	9	78	0	68	10	9	78	299
08:30 AM	78	6	111	3	198	2	15	0	0	17	9	0	22	13	44	0	74	6	6	80	0	74	6	6	80	323
08:45 AM	65	8	99	3	175	2	12	0	0	14	6	0	14	9	29	0	67	6	2	75	0	67	6	2	75	293
Total Volume	274	57	472	13	803	3	65	0	0	68	29	0	72	33	101	0	249	33	282	282	0	249	33	282	1254	
% App. Total	34.1	7.1	58.8	1.9	91.3	4.4	95.6	0	0	71.3	28.7	0	71.3	0	101	0	88.3	11.7	11.7	88.1	0	88.3	11.7	11.7	88.1	944
PHF	.878	.594	.952	.914	.913	.375	.739	.000	.000	.773	.725	.000	.818	.000	.789	.000	.841	.635	.635	.881	.000	.841	.635	.635	.881	.944

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: TU-0649, TU-0651
Weather: Clear

File Name : PenWai PM
Site Code : 00000002
Start Date : 3/11/2015
Page No : 1

Start Time	Groups Printed- Unshifted																
	Pensacola Street Southbound			Waimanu Street Westbound			Honua Condominium Northbound			Waimanu Street Eastbound							
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
03:00 PM	101	13	103	4	221	0	40	0	0	40	5	0	11	33	49	14	457
03:15 PM	108	10	101	10	229	2	41	0	0	43	5	0	10	23	38	5	439
03:30 PM	75	7	113	0	195	2	76	0	0	78	10	0	9	24	43	9	462
03:45 PM	86	25	104	9	224	3	40	0	0	43	7	0	10	27	44	9	459
Total	370	55	421	23	869	7	197	0	0	204	27	0	40	107	174	38	1817
04:00 PM	98	13	113	3	227	0	41	0	0	41	2	0	10	37	49	6	436
04:15 PM	79	12	128	3	222	1	40	0	0	41	4	0	9	27	40	9	472
04:30 PM	98	15	121	7	241	5	36	0	0	41	10	0	16	24	50	8	476
04:45 PM	93	12	115	6	226	0	42	0	0	42	5	0	18	31	54	13	491
Total	368	52	477	19	916	6	159	0	0	165	21	0	53	119	193	39	1875
05:00 PM	97	15	128	5	245	1	51	0	0	52	7	0	13	41	61	12	520
05:15 PM	86	12	137	12	247	3	39	0	0	42	5	0	12	16	33	11	512
05:30 PM	88	10	108	7	213	0	34	0	0	34	5	0	8	27	40	14	439
05:45 PM	92	13	102	5	212	2	46	0	0	48	4	0	9	41	54	8	454
Total	363	50	475	29	917	6	170	0	0	176	21	0	42	125	188	45	1925
Grand Total	1101	157	1373	71	2702	19	526	0	0	545	69	0	135	351	555	122	5617
Approch %	40.7	5.8	50.8	2.6	48.1	3.5	96.5	0	0	9.7	12.4	0	24.3	63.2	9.9	6.6	6.7
Total %	19.6	2.8	24.4	1.3	48.1	0.3	9.4	0	0	9.7	1.2	0	2.4	6.2	9.9	2.1	2.2

Start Time	Pensacola Street Southbound						Waimanu Street Westbound						Honua Condominium Northbound						Waimanu Street Eastbound							
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	04:30 PM	98	15	121	12	234	5	36	0	0	41	10	0	16	16	26	8	133								
04:45 PM	93	12	115	12	220	0	42	0	0	42	5	0	18	18	23	8	156									
05:00 PM	97	15	128	7	240	1	51	0	0	52	7	0	13	20	20	10	179									
05:15 PM	86	12	137	12	235	3	39	0	0	42	5	0	12	17	17	10	179									
Total Volume	374	54	501	50	929	9	168	0	0	177	27	0	59	59	86	39	618									
% App. Total	40.3	5.8	53.9	2.6	48.1	5.1	94.9	0	0	9.7	31.4	0	68.6	6.3	9.9	6.3	6.8									
PHF	.954	.900	.914	.914	.968	.450	.824	.000	.000	.851	.675	.000	.819	.000	.827	.750	.863									

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:T-1841, D4-5673
Weather:Clear

File Name : PiiWai AM
Site Code : 00000001
Start Date : 3/11/2015
Page No : 1

Start Time	Groups Printed- Unshifted																		
	Piiwai Street Southbound				Ala Moana Ramp Westbound				Piiwai Street Northbound				Waimanu Street Eastbound						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
06:00 AM	0	9	6	0	3	4	13	20	0	94	16	2	112	35	35	5	80	227	
06:15 AM	0	18	2	0	1	1	6	8	0	87	26	4	117	32	30	16	3	81	226
06:30 AM	0	11	2	0	0	5	8	13	0	111	32	5	148	41	30	27	3	101	275
06:45 AM	0	21	6	0	2	4	10	16	0	154	8	8	170	57	25	24	10	116	329
Total	0	59	16	0	6	14	37	57	0	446	82	19	547	165	120	72	21	378	1057
07:00 AM	0	23	8	0	2	4	12	18	0	153	14	7	174	73	11	34	9	127	350
07:15 AM	0	26	9	0	3	4	14	21	0	175	15	7	197	95	14	32	9	150	403
07:30 AM	0	36	4	0	1	3	13	17	0	175	19	16	210	78	26	34	9	147	414
07:45 AM	0	29	15	0	8	8	6	22	0	179	17	5	201	80	36	35	7	158	425
Total	0	114	36	0	14	19	45	78	0	682	65	35	782	326	87	135	34	582	1592
08:00 AM	0	36	17	0	3	15	8	26	0	165	18	14	197	65	32	30	13	140	416
08:15 AM	0	38	5	0	6	10	21	37	0	162	22	10	194	67	36	45	10	158	432
08:30 AM	0	33	13	0	4	6	7	17	0	141	15	18	174	81	29	46	7	163	400
08:45 AM	0	35	12	0	2	8	13	23	0	164	20	18	202	83	32	34	4	153	425
Total	0	142	47	0	15	39	49	103	0	632	75	60	767	296	129	155	34	614	1673
Grand Total	0	315	99	0	35	72	131	238	0	1760	222	114	2096	787	336	362	89	1574	4322
Apprch % Total %	0	76.1	23.9	0	14.7	30.3	55	5.5	0	84	10.6	5.4	48.5	18.2	7.8	8.4	2.1	36.4	

Start Time	Groups Printed- Unshifted																		
	Piiwai Street Southbound				Ala Moana Ramp Westbound				Piiwai Street Northbound				Waimanu Street Eastbound						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:30 AM	0	36	4	40	0	1	3	4	0	175	19	19	194	78	26	34	138	376	
07:45 AM	0	29	15	44	0	8	8	16	0	179	17	17	196	80	36	35	151	407	
08:00 AM	0	36	17	53	0	3	15	18	0	165	18	18	183	65	32	30	127	381	
08:15 AM	0	38	5	43	0	6	10	16	0	162	22	22	184	67	36	45	148	391	
Total Volume	0	139	41	180	0	18	36	54	0	681	76	76	757	290	130	144	564	1555	
% App. Total PHF	.000	.914	.603	.849	.000	.563	.600	.750	.000	.951	.864	.966	.966	.906	.903	.800	.934	.955	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:T-1841, D4-5673
Weather:Clear

File Name : PiiWai PM
Site Code : 00000001
Start Date : 3/11/2015
Page No : 1

Start Time	Groups Printed- Unshifted																		
	Piiwai Street Southbound				Ala Moana Ramp Westbound				Piiwai Street Northbound				Waimanu Street Eastbound						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
03:00 PM	0	54	18	0	27	88	23	138	0	155	7	32	194	95	56	79	11	241	645
03:15 PM	0	62	15	0	26	53	37	116	0	172	16	38	226	92	58	69	10	229	648
03:30 PM	0	56	22	0	61	111	23	195	0	193	24	34	251	95	53	70	11	229	753
03:45 PM	0	70	9	0	28	51	29	108	0	182	18	32	232	91	59	53	14	217	636
Total	0	242	64	0	142	303	112	557	0	702	65	136	903	373	226	271	46	916	2682
04:00 PM	0	67	19	0	30	52	34	116	0	148	21	41	210	104	68	62	11	245	657
04:15 PM	0	68	14	0	22	45	28	95	0	165	19	43	227	100	63	58	10	231	635
04:30 PM	0	47	16	0	24	59	23	106	0	180	18	27	225	100	75	64	17	256	650
04:45 PM	0	75	19	0	21	48	34	103	0	193	22	32	247	104	72	62	32	270	714
Total	0	257	68	0	97	204	119	420	0	686	80	143	909	408	278	246	70	1002	2656
05:00 PM	0	61	16	0	38	77	56	171	0	191	15	52	258	104	81	70	18	273	779
05:15 PM	0	72	18	0	21	67	39	127	0	202	19	29	250	100	74	72	22	268	735
05:30 PM	0	57	5	0	29	80	21	130	0	170	21	36	227	101	66	60	15	242	661
05:45 PM	0	85	13	0	34	56	42	132	0	174	22	50	246	89	61	47	27	224	700
Total	0	275	52	0	122	280	158	560	0	737	77	167	981	394	282	249	82	1007	2875
Grand Total	0	774	184	0	361	787	389	1537	0	2125	222	446	2793	1175	786	766	198	2925	8213
Apprch % Total %	0	80.8	19.2	0	23.5	51.2	25.3	18.7	0	76.1	7.9	16	34	40.2	26.9	26.2	6.8	35.6	

Start Time	Groups Printed- Unshifted																		
	Piiwai Street Southbound				Ala Moana Ramp Westbound				Piiwai Street Northbound				Waimanu Street Eastbound						
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:45 PM	0	75	19	94	0	21	48	69	0	193	22	215	104	72	62	238	616		
05:00 PM	0	61	16	77	0	38	77	115	0	191	15	206	104	81	70	255	653		
05:15 PM	0	72	18	90	0	21	67	88	0	202	19	221	100	74	72	246	645		
05:30 PM	0	57	5	62	0	29	80	109	0	170	21	191	101	66	60	227	589		
Total Volume	0	265	58	323	0	109	272	381	0	756	77	833	409	293	264	966	2503		
% App. Total PHF	.000	.883	.763	.859	.000	.717	.850	.828	.000	.936	.875	.942	.942	.983	.904	.917	.947	.958	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

WILSON UKAMOTO CORPORATION
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: PA, JC
Counters: D4-3889, D4-5677
Weather: Clear

File Name : KamKaw AM
Site Code : 00000004
Start Date : 3/12/2015
Page No : 1

Start Time	Kamakee Street Southbound						Kawaiahao (Church Parking Lot / Commercial Parking Lot) Westbound						Kamakee Street Northbound						Kawaiahao Street Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		App. Total		Int. Total	
06:00 AM	3	21	7	2	33	0	0	0	0	0	0	2	6	1	0	0	9	2	1	2	8	13	2	3	3	6	14	30	109	55				
06:15 AM	0	25	4	1	30	1	0	0	0	1	2	4	4	0	0	6	2	2	3	3	6	14	4	0	12	14	30	109	51					
06:30 AM	0	48	7	1	56	0	0	1	0	1	6	16	0	0	0	22	4	4	0	12	14	30	4	0	14	30	109	91						
06:45 AM	0	45	10	2	57	0	0	0	0	0	1	12	3	0	0	16	7	0	4	7	18	4	0	4	7	18	91							
Total	3	139	28	6	176	1	0	1	0	2	11	38	4	0	0	53	15	4	21	35	75	4	0	21	35	75	306							
07:00 AM	1	46	11	0	58	0	0	1	0	1	8	17	0	0	0	25	11	0	14	15	40	0	0	14	15	40	124							
07:15 AM	0	58	19	2	79	0	0	0	0	0	5	19	0	0	0	24	6	0	7	14	27	0	0	7	14	27	130							
07:30 AM	0	56	18	1	75	0	0	2	0	2	5	20	3	0	0	28	11	0	12	10	33	0	0	12	10	33	138							
07:45 AM	0	52	11	4	67	1	0	1	0	2	7	24	0	0	0	31	6	1	10	10	27	0	0	10	10	27	127							
Total	1	212	59	7	279	1	0	4	0	5	25	80	3	0	0	108	34	1	43	49	127	0	0	43	49	127	519							
08:00 AM	1	62	17	0	80	0	1	1	0	2	13	28	0	0	0	41	7	0	10	8	25	0	0	10	8	25	148							
08:15 AM	1	59	10	0	70	1	0	1	0	2	9	20	1	0	0	30	6	0	9	16	31	0	0	9	16	31	133							
08:30 AM	2	52	13	2	69	2	0	1	0	3	1	33	2	0	0	36	11	0	10	20	41	0	0	10	20	41	149							
08:45 AM	3	53	23	2	81	0	1	1	0	2	7	36	1	0	0	44	8	1	7	12	28	0	0	7	12	28	155							
Total	7	226	63	4	300	3	2	4	0	9	30	117	4	0	0	151	32	1	36	56	125	0	0	36	56	125	585							
Grand Total	11	577	150	17	755	5	2	9	0	16	66	235	11	0	0	312	81	6	100	140	327	0	0	100	140	327	1410							
Apprch %	1.5	76.4	19.9	2.3	31.2	12.5	56.2	0	0	21.2	75.3	3.5	0	0	22.1	24.8	1.8	30.6	42.8	23.2	0	0	30.6	42.8	23.2	0	0	0	0	0				
Total %	0.8	40.9	10.6	1.2	53.5	0.4	0.1	0.6	0	1.1	4.7	16.7	0.8	0	0	8.8	5.7	0.4	7.1	9.9	6.3	0	0	7.1	9.9	6.3	0	0	0	0				

Start Time	Kamakee Street Southbound						Kawaiahao (Church Parking Lot / Commercial Parking Lot) Westbound						Kamakee Street Northbound						Kawaiahao Street Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		App. Total		Int. Total	
08:00 AM	1	62	17	0	80	0	1	1	0	2	13	28	0	0	0	41	7	0	10	8	25	0	0	10	8	25	148							
08:15 AM	1	59	10	0	70	1	0	1	0	2	9	20	1	0	0	30	6	0	9	16	31	0	0	9	16	31	133							
08:30 AM	2	52	13	2	67	2	0	1	0	3	1	33	2	0	0	36	11	0	10	20	41	0	0	10	20	41	149							
08:45 AM	3	53	23	2	79	0	1	1	0	2	7	36	1	0	0	44	8	1	7	12	28	0	0	7	12	28	155							
Total Volume	7	226	63	4	296	3	2	4	0	9	30	117	4	0	0	151	32	1	36	56	125	0	0	36	56	125	585							
% App. Total	2.4	76.4	21.3	1.3	33.3	22.2	44.4	0	0	19.9	77.5	2.6	0	0	46.4	1.4	52.2	0	0	0	0	0	0	1.4	52.2	0	0	0	0	0				
PHF	.583	.911	.685	.925	.375	.500	1.00	.750	.577	.813	.500	.900	.821	.931																				

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

WILSON UKAMOTO CORPORATION
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: PA, JC
Counters: D4-3889, D4-5677
Weather: Clear

File Name : KamKaw PM
Site Code : 00000000
Start Date : 3/12/2015
Page No : 1

Start Time	Kamakee Street Southbound						Kamakee Street (Church Parking Lot / Commercial Parking Lot) Westbound						Kamakee Street Northbound						Kawaiahao Street Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		App. Total		Int. Total	
03:00 PM	1	38	4	1	44	1	0	1	0	2	10	52	2	0	0	64	13	0	12	23	48	0	0	12	23	48	158							
03:15 PM	2	53	9	2	66	1	0	3	0	4	3	43	1	0	0	47	6	1	12	26	45	0	0	12	26	45	162							
03:30 PM	3	35	12	3	53	0	1	2	0	3	7	55	2	0	0	64	12	0	9	24	45	0	0	9	24	45	165							
03:45 PM	1	28	9	1	39	3	0	0	0	3	9	72	3	0	0	84	12	0	12	23	47	0	0	12	23	47	173							
Total	7	154	34	7	202	5	1	6	0	12	29	222	8	0	0	259	43	1	45	96	185	0	0	45	96	185	658							
04:00 PM	1	27	13	2	43	3	0	1	0	4	15	63	5	0	0	83	8	1	12	19	40	0	0	12	19	40	170							
04:15 PM	1	29	12	5	47	0	0	1	1	2	10	52	3	0	0	65	15	1	15	17	48	0	0	15	17	48	162							
04:30 PM	0	42	20	0	62	1	0	2	0	3	10	62	2	0	0	74	17	1	22	24	64	0	0	22	24	64	203							
04:45 PM	3	42	11	0	56	0	0	3	0	3	5	61	3	0	0	69	19	1	13	35	68	0	0	13	35	68	196							
Total	5	140	56	7	208	4	0	7	1	12	40	238	13	0	0	291	59	4	62	95	220	0	0	62	95	220	731							
05:00 PM	0	35	11	3	49	2	0	2	0	4	12	79	9	0	0	100	15	0	13	22	50	0	0	13	22	50	203							
05:15 PM	3	35	15	2	55	0	0	2	0	2	4	65	3	0	0	72	16	0	20	18	54	0	0	20	18	54	183							
05:30 PM	4	61	2	1	68	1	0	0	0	1	12	58	1	0	0	71	17	0	9	30	56	0	0	9	30	56	196							
05:45 PM	1	50	3	4	58	0	0	0	0	0	14	55	5	0	0	74	11	0	8	18	37	0	0	8	18	37	169							
Total	8	181	31	10	230	3	0	4	0	7	42	257	18	0	0	317	59	0	50	88	197	0	0	50	88	197	751							
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	4	0	0					
Grand Total	20	475	121	24	640	12	1	17	1	31	111	717	39	0	0	867	161	5	157	283	606	0	0	157	283	606	2144							
Apprch %	3.1	74.2	18.9	3.8	38.7	3.2	54.8	3.2	0	12.8	82.7	4.5	0	0	40.4	26.6	0.8	25.9	46.7	28.3	0	0	25.9	46.7	28.3	0	0	0	0	0				
Total %	0.9	22.2	5.6	1.1	29.9	0.6	0	0.8	0	1.4	5.2	33.4	1.8	0	0	40.4	7.5	0.2	7.3	13.2	8.3	0	0	7.3	13.2	8.3	0	0	0	0				

Start Time	Kamakee Street Southbound						Kamakee Street (Church Parking Lot / Commercial Parking Lot) Westbound						Kamakee Street Northbound						Kawaiahao Street Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		App. Total		Int. Total	
04:30 PM	0	42	20	11	62	1	0	2	0	3	10	62	2	0	0	74	17	1	22	40	40	0	0	22	40	40	179							
04:45 PM	3	42	11	56	56	0	0	3	0	3	5	61	3	0	0	69	19	1	13	33	33	0	0	13	33	33	161							
05:00 PM	0	35	11	46	46	2	0	2	0	4	12	79	9	0	0	100	15	0	13	22	50	0	0	13	22	50	178							
05:15 PM	3	35	15	53	53	0	0	2	0	2	4	65	3	0	0	72	16	0	20	18	54	0	0	20	18	54	163							
Total Volume	6	154	57	217	217	3	0	9	0	12	31	267	17	0	0	315	67	2	68	137	137	0	0	68	137	137	681							
% App. Total	2.8	71	26.3	.875	.875	.25	0	.75	0	.750	.646	.845	.472	0	0	.7																		

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:FC, AC
Counters:D4-5675, D4-5676
Weather:Clear

File Name : KamWai AM
Site Code : 00000003
Start Date : 3/12/2015
Page No : 1

Start Time	Kamakee Street Southbound						Waimanu Street Westbound						Kamakee Street Northbound						Waimanu Street Eastbound						
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Peds		
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Thru	Right	Peds	App. Total	Int. Total	
06:00 AM	1	24	2	2	5	29	29	2	1	5	10	8	5	1	14	3	3	1	3	4	2	5	14	8	61
06:15 AM	2	20	5	6	5	33	33	5	4	6	1	6	1	2	10	3	4	2	3	4	2	5	14	77	
06:30 AM	3	38	8	6	5	55	55	4	5	10	24	7	5	3	25	7	2	7	7	13	6	13	29	133	
06:45 AM	2	44	6	7	5	59	59	11	9	6	31	3	7	3	27	5	7	6	5	7	6	24	24	141	
Total	8	126	21	21	25	176	176	22	20	18	85	11	38	9	76	16	16	18	16	18	25	75	158	412	
07:00 AM	7	47	9	8	6	71	71	9	10	9	34	1	24	5	39	5	9	5	9	5	21	40	40	184	
07:15 AM	4	61	11	10	10	86	86	8	8	16	42	3	18	5	31	5	7	7	7	11	18	30	30	189	
07:30 AM	3	56	5	7	7	71	71	7	8	15	40	3	25	6	39	7	8	11	16	16	42	42	42	192	
07:45 AM	2	56	13	15	10	86	86	4	6	18	38	5	19	8	36	14	11	7	14	14	46	46	46	206	
Total	16	220	38	40	36	314	314	28	32	58	154	12	86	24	145	31	35	30	62	31	62	158	771		
08:00 AM	3	62	20	7	8	92	92	10	13	12	43	2	29	5	40	8	12	12	13	13	45	45	220		
08:15 AM	1	52	10	8	9	71	71	10	8	8	35	0	24	5	40	11	7	11	18	18	47	47	193		
08:30 AM	1	55	13	6	7	75	75	13	10	13	46	3	32	5	51	7	9	13	18	18	47	47	219		
08:45 AM	4	60	13	6	10	83	83	6	8	15	39	4	36	11	63	11	7	10	12	12	40	40	225		
Total	9	229	56	27	37	321	321	39	39	48	163	9	121	26	194	37	35	46	61	179	179	179	857		
Grand Total	33	575	115	88	81	811	811	89	91	124	402	32	245	68	415	84	86	94	148	412	412	412	2040		
Approch %	4.1	70.9	14.2	10.9	4.3	39.8	39.8	22.1	22.6	30.8	24.4	7.7	59	16.4	16.9	20.4	20.9	22.8	35.9	4.2	4.6	7.3	20.2		
Total %	1.6	28.2	5.6	4.3	4.3	39.8	39.8	4.4	4.5	6.1	4.8	1.6	12	3.3	3.4	4.1	4.2	4.6	7.3						

Start Time	Kamakee Street Southbound						Waimanu Street Westbound						Kamakee Street Northbound						Waimanu Street Eastbound							
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Thru		Right		Thru		Right		Int. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Thru	Right	Thru	Right	App. Total	Int. Total	
08:00 AM	3	62	20	7	8	85	85	10	13	12	35	2	29	5	36	8	12	12	12	32	32	32	188			
08:15 AM	1	52	10	8	9	63	63	10	8	8	26	0	24	5	29	11	7	11	18	29	29	29	147			
08:30 AM	1	55	13	6	7	69	69	13	10	13	36	3	32	5	40	7	9	13	29	29	29	174				
08:45 AM	4	60	13	6	10	77	77	6	8	15	29	4	36	11	51	11	7	10	28	28	28	185				
Total Volume	9	229	56	27	37	294	294	39	39	48	126	9	121	26	156	37	35	46	61	118	118	118	694			
% App. Total	3.1	77.9	19	19	19	86.5	86.5	31	31	38.1	87.5	5.8	77.6	16.7	76.5	31.4	29.7	39	88.5	92.2	92.2	92.2	923			
PHF	.563	.923	.700	.700	.800	.800	.800	.750	.750	.800	.875	.563	.840	.591	.765	.841	.729	.885	.922	.922	.922	.922	.923			

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:AC, FC
Counters:D4-5676, D4-5675
Weather:Clear

File Name : KamWai PM
Site Code : 00000003
Start Date : 3/12/2015
Page No : 1

Start Time	Kamakee Street Southbound						Waimanu Street Westbound						Kamakee Street Northbound						Waimanu Street Eastbound							
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Thru		Right		Thru		Right		Int. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Thru	Right	Thru	Right	App. Total	Int. Total	
03:00 PM	5	36	12	2	2	55	55	4	14	17	45	2	57	10	74	7	6	6	27	46	46	46	220			
03:15 PM	4	47	4	10	6	65	65	9	11	15	54	5	38	5	54	11	7	9	33	60	60	233				
03:30 PM	5	30	7	11	5	53	53	6	17	12	53	3	62	5	78	14	14	9	18	55	55	239				
03:45 PM	6	24	16	4	4	50	50	7	16	7	35	6	66	6	86	15	8	10	18	51	51	222				
Total	20	137	39	27	27	223	223	26	58	51	187	16	223	26	292	47	35	34	96	212	212	212	914			
04:00 PM	8	26	5	8	8	47	47	6	17	26	60	5	51	13	72	13	12	7	23	55	55	234				
04:15 PM	5	26	12	12	11	55	55	10	21	11	54	5	57	10	81	16	7	6	18	47	47	237				
04:30 PM	5	35	9	11	6	60	60	13	11	14	7	6	62	7	85	23	13	13	26	75	75	265				
04:45 PM	8	37	7	4	4	56	56	9	12	19	53	7	66	14	100	16	12	13	38	79	79	288				
Total	26	124	33	35	35	218	218	38	61	70	212	23	236	44	338	68	44	39	105	256	256	1024				
05:00 PM	7	29	11	12	12	59	59	10	15	22	8	6	80	5	97	20	16	9	30	75	75	286				
05:15 PM	6	34	5	7	7	52	52	9	14	17	51	5	71	9	96	17	10	8	30	65	65	264				
05:30 PM	8	56	21	5	5	90	90	7	14	11	6	3	59	9	77	10	8	6	25	49	49	254				
05:45 PM	12	48	20	8	8	88	88	3	17	6	7	6	59	9	80	11	12	5	15	43	43	244				
Total	33	167	57	32	32	289	289	29	60	56	177	20	269	32	350	58	46	28	100	232	232	1048				
Grand Total	79	428	129	94	94	730	730	93	179	177	576	59	728	102	980	173	125	101	301	700	700	2986				
Approch %	10.8	58.6	17.7	12.9	3.1	24.4	24.4	16.1	31.1	30.7	22	6	74.3	10.4	9.3	24.7	17.9	14.4	4.3	10.1	23.4	23.4				
Total %	2.6	14.3	4.3	3.1	3.1	24.4	24.4	3.1	6	5.9	4.3	2	24.4	3.4	3	5.8	4.2	3.4	10.1	23.4	23.4					

Start Time	Kamakee Street Southbound						Waimanu Street Westbound						Kamakee Street Northbound						Waimanu Street Eastbound							
	Thru		Right		Peds		Thru		Right		Peds		Thru		Right		Thru		Right		Thru		Right		Int. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Thru	Right	Thru	Right	Thru	Right	App. Total	Int. Total	
04:30 PM	5	35	9	11	11	60	60	13	11	14	7	6	62	7	10	85	23	13	13	26	75	75	265			
04:45 PM	8	37	7	4	4	56	56	9	12	19	13	7	66	14	13	100	16	12	13	38	79	79	288			
05:00 PM	7	29	11	12	12																					

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-5671, D4-5674
Weather:Clear

File Name : KonPii AM
Site Code : 00000001
Start Date : 3/12/2015
Page No : 1

Start Time	Piiiko Street Southbound						Kona Street Westbound						Piiiko Street Northbound						Kona Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
06:00 AM	0	7	1	1	9	5	7	4	13	5	29	5	3	113	21	0	137	0	5	0	0	0	5	0	0	0	0	0	5	180
06:15 AM	0	9	0	0	9	7	10	3	7	9	29	7	4	107	25	0	136	0	5	0	0	0	5	0	0	0	0	0	5	179
06:30 AM	0	8	2	3	13	7	10	6	14	7	37	7	2	126	26	0	154	0	2	0	0	0	2	0	0	0	0	2	206	
06:45 AM	0	16	2	3	21	5	5	10	10	5	30	4	4	141	44	0	189	0	4	1	1	1	6	1	1	1	6	246		
Total	0	40	5	7	52	26	32	23	44	26	125	13	13	487	116	0	616	0	16	1	1	1	18	1	1	1	18	811		
07:00 AM	0	10	3	7	20	12	14	3	18	12	47	1	1	210	29	0	240	0	3	2	2	8	13	3	2	2	13	320		
07:15 AM	0	17	6	3	26	18	18	11	18	5	52	2	2	260	27	0	289	0	6	2	14	14	22	22	14	22	22	389		
07:30 AM	0	17	1	8	26	11	14	9	23	11	57	1	1	233	37	0	271	0	8	0	6	6	14	14	6	14	14	368		
07:45 AM	0	15	3	13	31	14	25	14	31	14	84	3	3	204	43	0	250	0	13	0	5	5	18	18	5	18	18	383		
Total	0	59	13	31	103	42	71	37	90	42	240	7	7	907	136	0	1050	0	30	4	33	33	67	67	33	67	67	1460		
08:00 AM	0	12	5	4	21	9	24	16	33	9	82	2	2	197	34	0	233	0	12	0	10	10	22	22	10	22	22	358		
08:15 AM	0	19	3	4	26	12	24	11	28	12	75	4	4	216	41	0	261	0	19	1	4	4	24	24	4	24	24	386		
08:30 AM	0	16	5	12	33	14	31	13	36	14	94	9	9	210	34	0	253	0	16	0	8	8	24	24	8	24	24	404		
08:45 AM	0	16	6	11	33	16	27	14	24	16	81	6	6	203	39	0	248	0	18	2	11	11	31	31	11	31	31	393		
Total	0	63	19	31	113	51	106	54	121	51	332	21	21	826	148	0	995	0	65	3	33	33	101	101	33	101	101	1541		
Grand Total	0	162	37	69	268	119	209	114	255	119	697	41	41	2220	400	0	2661	0	111	8	67	67	186	186	67	186	186	3812		
Approch %	0	60.4	13.8	25.7	7	17.1	30	16.4	36.6	17.1	18.3	1.5	83.4	15	0	69.8	0	59.7	4.3	36	36	4.9	4.9	1.8	1.8	1.8	4.9			
Total %	0	4.2	1	1.8	7	3.1	5.5	3	6.7	3.1	18.3	1.1	58.2	10.5	0	69.8	0	2.9	0.2	1.8	1.8	4.9	4.9	1.8	4.9	4.9	11.8			

Start Time	Piiiko Street Southbound			Kona Street Westbound			Piiiko Street Northbound			Kona Street Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds			
08:00 AM	0	12	5	17	24	16	33	2	197	34	0	12	0	12	335
08:15 AM	0	19	3	22	24	11	28	4	216	41	0	19	1	20	366
08:30 AM	0	16	5	21	31	13	36	9	210	34	0	16	0	16	370
08:45 AM	0	16	6	22	27	14	24	6	203	39	0	18	2	20	355
Total Volume	0	63	19	82	106	54	121	21	826	148	0	65	3	68	1426
%App. Total	0	76.8	23.2	82	37.7	19.2	43.1	2.1	83	14.9	0	95.6	4.4	68	1426
PHF	.000	.829	.792	.932	.855	.844	.840	.583	.956	.902	.000	.855	.375	.850	.964

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KKW
Counters:D4-5671, D4-5674
Weather:Clear

File Name : KonPii PM
Site Code : 00000001
Start Date : 3/12/2015
Page No : 1

Start Time	Piiiko Street Southbound						Kona Street Westbound						Piiiko Street Northbound						Kona Street Eastbound											
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right	
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds
03:00 PM	0	35	3	12	50	21	42	27	61	21	151	3	246	16	0	265	0	5	5	21	31	497	0	0	0	0	0	31	497	
03:15 PM	0	32	6	28	66	28	35	18	67	28	148	6	268	32	0	306	0	17	1	23	41	561	0	0	0	0	0	41	561	
03:30 PM	0	31	9	16	56	35	54	29	62	35	180	2	274	33	0	309	0	24	3	18	45	590	0	0	0	0	0	45	590	
03:45 PM	0	39	2	17	58	20	39	9	48	20	116	5	335	36	0	376	0	11	4	9	24	574	0	0	0	0	0	24	574	
Total	0	137	20	73	230	104	170	83	238	104	595	16	1123	117	0	1256	0	57	13	71	141	2222	0	0	0	0	0	141	2222	
04:00 PM	0	18	7	9	34	24	56	25	69	24	174	4	257	23	0	284	0	20	2	8	30	522	0	0	0	0	0	30	522	
04:15 PM	0	40	3	23	66	45	45	25	50	21	141	9	295	30	0	334	0	16	4	15	35	576	0	0	0	0	0	35	576	
04:30 PM	0	23	7	11	41	29	40	27	55	29	151	9	271	19	0	299	0	22	3	8	33	524	0	0	0	0	0	33	524	
04:45 PM	0	29	3	15	47	38	43	21	73	38	175	2	266	36	0	324	0	26	3	20	49	595	0	0	0	0	0	49	595	
Total	0	110	20	58	188	112	184	98	247	112	641	24	1109	108	0	1241	0	84	12	51	147	2217	0	0	0	0	0	147	2217	
05:00 PM	0	45	8	24	77	54	46	33	54	29	162	7	260	25	0	292	0	29	3	23	55	586	0	0	0	0	0	55	586	
05:15 PM	0	29	4	16	49	43	39	21	43	22	125	2	317	28	0	347	0	27	1	20	48	569	0	0	0	0	0	48	569	
05:30 PM	0	39	2	12	53	58	36	25	58	19	138	5	307	24	0	336	0	18	4	31	53	580	0	0	0	0	0	53	580	
05:45 PM	0	42	5	17	64	45	42	17	45	36	140	2	309	25	0	336	0	18	2	12	32	572	0	0	0	0	0	32	572	
Total	0	155	19	69	243	106	163	96	200	106	565	16	1193	102	0	1311	0	92	10	86	188	2307	0	0	0	0	0	188	2307	
Grand Total	0	402	59	200	661	322	517	277	685	322	1801	56	3425	327	0	3808	0	233	35	208	476	6746	0	0	0	0	0	476	6746	
Approch %	0	60.8	8.9	30.3	9.8	17.9	28.7	15.4	38	17.9	26.7	1.5	89.9	8.6	0	56.4	0	48.9	7.4	43.7	7.1	7.1	7.1	3.1	3.1	3.1	7.1			
Total %	0	6	0.9	3	9.8	4.8	7.7	4.1	10.2	4.8	26.7	0.8	50.8	4.8	0	56.4	0	3.5	0.5	3.1	7.1	7.1	7.1	3.1	7.1	7.1	18.8			

Start Time	Piiiko Street Southbound			Kona Street Westbound			Piiiko Street Northbound			Kona Street Eastbound					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds			
04:45 PM	0	29	3	32	43	21	73	2	286	36	0	26	3	29	522
05:00 PM	0	45	8	53	46	33	54	7	260	25	0	29	3	32	510
05:15 PM	0	29	4	33	39	21	43	2	317	28	0	27	1	28	511
05:30 PM	0	39	2	41	36	25	58	5	307	24	0	18	4	22	518
Total Volume	0	142	17	159	164	100	228	16	1170	113	0	100	11	111	2061
%App. Total	0	89.3	10.7	89.3	33.3	20.3	46.3	1.2	90.1	8.7	0	90.1	9.9	111	2061
PHF	.000	.789	.531	.750	.891	.758	.781	.571	.923	.785	.000	.862	.688	.867	.987

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, TO
Counters: D4-5676, D4-5675
Weather: Clear

File Name : KapCoo AM
Site Code : 00000003
Start Date : 4/7/2015
Page No : 1

Start Time	Cooke Street Southbound						Kapiolani Boulevard Westbound						Cooke Street Northbound						Kapiolani Boulevard Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
06:00 AM	0	1	1	4	6	7	25	76	13	3	10	3	0	14	3	10	27	10	6	10	6	10	6	0	60	10	6	76	10	6	230
06:15 AM	1	3	2	7	13	13	51	70	24	13	158	3	3	23	1	14	41	14	6	73	10	6	89	0	73	10	6	301	10	6	301
06:30 AM	0	6	3	14	23	18	75	111	51	18	255	5	5	31	6	12	54	12	15	88	14	15	117	0	88	14	15	449	15	15	449
06:45 AM	0	11	7	7	25	29	105	140	41	11	297	7	7	38	5	8	58	8	9	93	20	9	122	0	93	20	9	502	9	9	502
Total	1	21	13	32	67	49	256	397	129	49	831	15	15	106	15	44	180	44	36	314	54	36	404	0	314	54	36	1482	36	36	1482
07:00 AM	0	5	0	4	9	9	111	175	32	9	327	13	13	22	1	19	55	19	14	112	17	14	143	0	112	17	14	534	14	14	534
07:15 AM	1	8	2	3	14	14	116	222	42	13	393	13	13	42	9	11	75	11	18	116	23	18	157	0	116	23	18	639	18	18	639
07:30 AM	2	9	1	13	25	23	122	236	53	12	423	13	13	45	10	14	82	14	18	148	24	18	190	0	148	24	18	720	18	18	720
07:45 AM	3	19	5	9	36	36	122	230	57	12	421	8	8	49	12	13	82	13	19	144	28	19	191	0	144	28	19	730	19	19	730
Total	6	41	8	29	84	46	471	863	184	46	1564	47	47	158	32	57	294	57	69	520	92	69	681	0	520	92	69	2623	69	69	2623
08:00 AM	2	10	8	2	22	17	105	219	51	17	392	9	9	32	9	13	63	13	6	188	25	6	219	0	188	25	6	696	6	6	696
08:15 AM	4	12	1	5	22	22	123	168	50	9	350	21	21	48	6	7	82	7	28	128	27	28	183	0	128	27	28	637	28	28	637
08:30 AM	4	21	3	2	30	30	100	120	28	11	259	8	8	35	13	12	68	12	7	129	36	7	172	0	129	36	7	529	7	7	529
08:45 AM	3	5	3	10	21	21	66	106	19	11	202	10	10	35	23	9	77	9	8	103	22	8	133	0	103	22	8	433	8	8	433
Total	13	48	15	19	95	48	394	613	148	48	1203	48	48	150	51	41	290	41	49	548	110	49	707	0	548	110	49	2295	49	49	2295
Grand Total	20	110	36	80	246	143	1121	1873	461	143	3598	110	110	414	98	142	764	142	154	1382	256	154	1792	0	1382	256	154	6400	154	154	6400
Apprch %	8.1	44.7	14.6	32.5	3.8	4	31.2	52.1	12.8	4	56.2	14.4	14.4	54.2	12.8	18.6	11.9	2.2	4.6	77.1	14.3	8.6	28	0	77.1	14.3	8.6		8.6	8.6	
Total %	0.3	1.7	0.6	1.2	3.8	2.2	17.5	29.3	7.2	2.2	56.2	1.7	1.7	6.5	1.5	2.2	11.9	2.2	2.4	21.6	4	2.4	28	0	21.6	4	2.4		2.4	2.4	

Start Time	Cooke Street Southbound						Kapiolani Boulevard Westbound						Cooke Street Northbound						Kapiolani Boulevard Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
07:15 AM	1	8	2	11	20	20	116	222	42	13	380	13	13	42	9	9	64	9	23	116	23	23	139	0	116	23	23	594	23	23	594
07:30 AM	2	9	1	12	27	27	122	236	53	8	411	13	13	45	10	10	68	10	24	148	24	24	172	0	148	24	24	663	24	24	663
07:45 AM	3	19	5	8	37	37	122	230	57	8	409	8	8	49	12	9	69	12	25	144	28	25	172	0	144	28	25	677	25	25	677
08:00 AM	2	10	8	20	39	39	105	219	51	20	375	9	9	32	9	9	50	9	21	188	25	21	213	0	188	25	21	658	21	21	658
Total Volume	8	46	16	70	132	132	465	907	203	43	1575	43	43	168	40	40	251	40	100	596	100	100	696	0	596	100	100	2592	100	100	2592
% App. Total	11.4	65.7	22.9	22.9	6.48	6.48	29.5	57.6	12.9	17.1	66.9	15.9	17.1	66.9	15.9	15.9	9.99	15.9	14.4	85.6	14.4	14.4	96	0	85.6	14.4	14.4		14.4	14.4	
PHF	.667	.605	.500	.500	.648	.648	.953	.961	.890	.827	.958	.827	.827	.857	.833	.833	.909	.833	.893	.793	.893	.893	.817	.000	.793	.893	.893	.957	.893	.893	.957

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, EV
Counters: D4-5676, D4-5675
Weather: Clear

File Name : KapCoo PM
Site Code : 00000003
Start Date : 4/7/2015
Page No : 1

Start Time	Cooke Street Southbound						Kapiolani Boulevard Westbound						Cooke Street Northbound						Kapiolani Boulevard Eastbound												
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	
03:00 PM	5	11	3	5	24	24	41	132	27	16	216	22	22	56	20	10	108	10	4	174	22	4	203	3	174	22	4	551	4	4	551
03:15 PM	0	5	5	4	14	14	74	171	30	12	287	8	8	56	17	16	97	16	9	210	16	9	236	1	210	16	9	634	9	9	634
03:30 PM	0	9	8	19	36	36	66	277	27	14	384	13	13	54	25	19	111	19	17	228	18	17	265	2	228	18	17	796	17	17	796
03:45 PM	1	6	14	7	28	28	74	196	26	15	311	13	13	64	45	12	134	12	17	252	19	17	290	2	252	19	17	763	17	17	763
Total	6	31	30	35	102	57	255	776	110	57	1198	56	56	230	107	57	450	57	47	864	75	47	994	8	864	75	47	2744	47	47	2744
04:00 PM	2	7	7	6	22	22	76	210	36	26	348	19	19	62	38	16	135	16	23	277	14	23	316	2	277	14	23	821	23	23	821
04:15 PM	4	14	4	9	31	31	74	190	28	15	307	22	22	71	27	35	155	35	10	264	26	10	301	1	264	26	10	794	10	10	794
04:30 PM	4	13	8	8	33	33	72	210	38	24	344	20	20	81	54	24	179	24	8	324	8	27	360	1	324	8	27	916	27	27	916
04:45 PM	9	16	8	12	45	45	79	219	26	11	335	17	17	63	60	19	159	19	18	292	25	18	337	2	292	25	18	876	18	18	876
Total	19	50	27	35	131	76	301	829	128	76	1334	78	78	277	179	94	628	94	73	1157	73	78	1314	6	1157	73	78	3407	78	78	3407
05:00 PM	3	14	6	7	30	30	68	216	28	32	344	27	27	81	50	31	189	31	18	338	17	18	373	0	338	17	18	936	18	18	936
05:15 PM	3	11	11	9	34	34	75	167	32	11	285	23	23	71	42	36	172	36	6	301	25	6	333	1	301	25	6	824	6	6	824
05:30 PM	3	7	5	4	19	19	32	184	21	23	260	14	14	72	22	25	133	25	9	315	17	9	342	1	315	17	9	754	9	9	754
05:45 PM	3	2	5	6	1																										

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:TU-0654, TU-0652
Weather:Clear

File Name : KapWar AM
Site Code : 00000002
Start Date : 4/7/2015
Page No : 1

Start Time	Ward Avenue Southbound						Kapiolani Boulevard Westbound						Ward Avenue Northbound						Kapiolani Boulevard Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right					
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds				
06:00 AM	15	103	11	5	134	5	23	88	6	5	122	17	32	8	14	71	0	46	14	10	70	397	70	80	545	7	80	545	7	80	545			
06:15 AM	26	141	25	15	207	21	100	16	15	152	24	53	13	16	106	0	56	17	7	80	691	0	74	8	13	95	691	0	84	18	7	109	758	
06:30 AM	32	148	18	16	214	16	45	198	19	15	277	25	63	5	12	105	0	74	8	13	95	758	0	84	18	7	109	758	0	260	57	37	354	2391
06:45 AM	28	140	27	18	213	18	66	224	13	13	316	27	67	13	13	120	0	84	18	7	109	758	0	84	18	7	109	758	0	260	57	37	354	2391
Total	101	532	81	54	768	54	155	610	54	48	867	93	215	39	55	402	0	260	57	37	354	2391	0	260	57	37	354	2391	0	260	57	37	354	2391
07:00 AM	18	137	14	17	186	17	61	277	16	15	369	26	88	23	25	162	0	92	17	7	116	833	0	92	17	7	116	833	0	92	17	7	116	833
07:15 AM	30	146	25	12	213	12	69	322	16	23	430	37	112	6	18	173	0	100	21	17	138	954	0	100	21	17	138	954	0	100	21	17	138	954
07:30 AM	25	150	21	19	215	19	80	364	12	18	474	33	92	14	19	158	0	128	26	14	168	1015	0	128	26	14	168	1015	0	128	26	14	168	1015
07:45 AM	30	192	35	24	281	24	73	351	24	38	486	27	101	14	20	162	0	138	21	18	177	1106	0	138	21	18	177	1106	0	138	21	18	177	1106
Total	103	625	95	72	895	72	283	1314	68	94	1759	123	393	57	82	655	0	458	85	56	599	3908	0	458	85	56	599	3908	0	458	85	56	599	3908
08:00 AM	36	166	29	16	247	16	90	318	29	31	468	27	89	12	14	142	0	146	29	9	184	1041	0	146	29	9	184	1041	0	146	29	9	184	1041
08:15 AM	40	170	27	11	248	11	63	270	20	14	367	36	92	18	16	162	0	133	34	10	177	954	0	133	34	10	177	954	0	133	34	10	177	954
08:30 AM	45	165	17	11	238	11	65	194	15	15	289	35	85	23	19	162	0	122	27	7	156	845	0	122	27	7	156	845	0	122	27	7	156	845
08:45 AM	45	184	13	11	253	11	70	153	22	8	253	25	84	21	9	139	0	99	22	2	123	768	0	99	22	2	123	768	0	99	22	2	123	768
Total	166	685	86	49	986	49	288	935	86	68	1377	123	350	74	58	605	0	500	112	28	640	3608	0	500	112	28	640	3608	0	500	112	28	640	3608
Grand Total	370	1842	262	175	2649	175	726	2859	208	210	4003	339	958	170	195	1662	0	1218	254	121	1593	9907	0	1218	254	121	1593	9907	0	1218	254	121	1593	9907
Approach %	14	69.5	9.9	6.6	26.7	6.6	18.1	71.4	5.2	5.2	40.4	3.4	9.7	1.7	2	16.8	0	76.5	15.9	7.6	16.1	9907	0	76.5	15.9	7.6	16.1	9907	0	76.5	15.9	7.6	16.1	9907
Total %	3.7	16.6	2.6	1.8	26.7	1.8	7.3	28.9	2.1	2.1	40.4	3.4	9.7	1.7	2	16.8	0	12.3	2.6	1.2	16.1	9907	0	12.3	2.6	1.2	16.1	9907	0	12.3	2.6	1.2	16.1	9907

Start Time	Ward Avenue Southbound						Kapiolani Boulevard Westbound						Ward Avenue Northbound						Kapiolani Boulevard Eastbound																			
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right									
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds								
07:30 AM	25	150	21	196	21	80	364	12	12	456	33	92	14	139	0	128	26	154	945	1006	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903				
07:45 AM	30	192	35	231	35	73	351	24	24	448	27	101	14	142	0	138	21	159	1006	1006	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903				
08:00 AM	36	166	29	231	29	90	318	29	29	437	27	89	12	128	0	146	29	175	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903
08:15 AM	40	170	27	237	27	63	270	20	20	353	36	92	18	146	0	133	34	175	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903	3825	154	159	175	971	903
Total Volume	131	678	112	921	112	306	1303	85	85	1694	123	374	58	555	0	545	110	655	3825	3825	3825	3825	3825	3825	655	655	655	655	655	655	655	655	655	655	655	655		
% App. Total	14.2	73.6	12.2	8.96	12.2	18.1	76.9	5	5	9.29	22.2	67.4	10.5	16.8	0	83.2	16.8	9.36	3825	3825	3825	3825	3825	3825	9.36	9.36	9.36	9.36	9.36	9.36	9.36	9.36	9.36	9.36	9.36	9.36		
PHF	.819	.883	.800	.896	.800	.850	.895	.733	.733	.929	.854	.926	.806	.806	.000	.933	.809	.936	9.36	9.36	9.36	9.36	9.36	9.36	.936	.936	.936	.936	.936	.936	.936	.936	.936	.936	.936	.936		

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:TU-0652, TU-0654
Weather:Clear

File Name : KapWar PM
Site Code : 00000002
Start Date : 4/7/2015
Page No : 1

Start Time	Ward Avenue Southbound						Kapiolani Boulevard Westbound						Ward Avenue Northbound						Kapiolani Boulevard Eastbound															
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right					
	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds	App. Total	Peds				
03:00 PM	54	155	14	7	230	7	51	153	30	13	247	36	146	30	8	220	0	166	37	5	208	905	0	200	33	7	240	1030	0	210	47	4	261	1165
03:15 PM	39	154	15	20	228	20	31	225	34	19	309	38	166	38	11	253	0	200	33	7	240	1030	0	200	33	7	240	1030	0	210	47	4	261	1165
03:30 PM	66	149	31	21	267	21	0	305	36	30	371	35	160	42	29	266	0	210	47	4	261	1165	0	210	47	4	261	1165	0	210	47	4	261	1165
03:45 PM	56	189	21	14	280	14	0	237	29	11	277	39	182	51	18	290	0	247	47	8	302	1149	0	247	47	8	302	1149	0	247	47	8	302	1149
Total	215	647	81	62	1005	62	82	920	129	73	1204	148	654	161	66	1029	0	823	164	24	1011	4249	0	823	164	24	1011	4249	0	823	164	24	1011	4249
04:00 PM	60	128	15	14	217	14	0	267	35	14	316	45	143	57	20	265	0	280	41	5	326	1124	0	280	41	5	326	1124	0	280	41	5	326	1124
04:15 PM	60	155	24	26	265	26	0	234	32	20	286	37	153	62	23	275	0	253	44	15	312	1138	0	253	44	15	312	1138	0	253	44	15	312	1138
04:30 PM	53	160	22	18	253	18	0	254	25	28	307	47	131	65	32	275	0	338	46	14	398	1233	0	338	46	14	398	1233	0	338	46			

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: AC, PA
Counters: D4-3890, D4-5674
Weather: Clear

File Name : KapKam AM
Site Code : 00000001
Start Date : 4/7/2015
Page No : 1

Start Time	Kapiolani Boulevard Westbound						Kamakee Street Northbound						Kapiolani Boulevard Eastbound									
	Southbound		Westbound		App. Total		Thru		Right		Peds		App. Total		Thru		Right		Peds		App. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
06:00 AM	0	20	111	0	3	134	5	0	6	7	18	0	57	14	6	77	0	0	0	0	0	0
06:15 AM	0	30	137	0	4	171	5	0	12	8	25	0	80	13	4	97	0	0	0	0	0	0
06:30 AM	0	38	236	0	2	276	8	0	7	6	21	0	94	14	16	124	0	0	0	0	0	0
06:45 AM	0	29	301	0	0	330	10	0	17	5	32	0	118	5	10	133	0	0	0	0	0	0
Total	0	117	785	0	9	911	28	0	42	26	96	0	349	46	36	431	0	0	0	0	0	0
07:00 AM	0	54	328	0	3	385	16	2	15	9	42	0	127	7	21	155	0	0	0	0	0	0
07:15 AM	0	46	390	0	3	439	22	0	17	11	50	0	120	16	38	174	0	0	0	0	0	0
07:30 AM	0	51	422	0	2	475	8	0	22	6	36	0	156	6	52	214	0	0	0	0	0	0
07:45 AM	0	50	449	0	6	505	22	0	17	13	52	0	168	16	67	251	0	0	0	0	0	0
Total	0	201	1589	0	14	1804	68	2	71	39	180	0	571	45	178	794	0	0	0	0	0	0
08:00 AM	0	57	419	0	5	481	18	0	16	13	47	0	173	15	61	249	0	0	0	0	0	0
08:15 AM	0	52	333	0	10	395	19	0	29	11	59	0	176	16	50	242	0	0	0	0	0	0
08:30 AM	0	45	256	0	4	305	18	0	25	13	56	0	174	11	14	199	0	0	0	0	0	0
08:45 AM	0	52	223	0	7	282	20	0	28	12	60	0	138	21	9	168	0	0	0	0	0	0
Total	0	206	1231	0	26	1463	75	0	98	49	222	0	661	63	134	858	0	0	0	0	0	0
Grand Total	0	524	3605	0	49	4178	171	2	211	114	498	0	1581	154	348	2083	0	0	0	0	0	0
Approch %	0	12.5	86.3	0	1.2	61.8	34.3	0.4	42.4	22.9	7.4	0	75.9	7.4	16.7	30.8	0	0	0	0	0	0
Total %	0	7.8	53.3	0	0.7	32.3	2.5	0	3.1	1.7	1.5	0	23.4	2.3	5.1	3.8	0	0	0	0	0	0

Start Time	Kapiolani Boulevard Westbound						Kamakee Street Northbound						Kapiolani Boulevard Eastbound									
	Southbound		Westbound		App. Total		Thru		Right		Peds		App. Total		Thru		Right		Peds		App. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
07:30 AM	0	51	422	0	0	473	8	0	0	22	30	0	156	6	162	665	0	0	0	0	0	0
07:45 AM	0	50	449	0	0	499	22	0	17	17	39	0	168	16	184	722	0	0	0	0	0	0
08:00 AM	0	57	419	0	0	476	18	0	16	16	34	0	173	15	188	698	0	0	0	0	0	0
08:15 AM	0	52	333	0	0	385	19	0	29	12	48	0	176	16	192	625	0	0	0	0	0	0
Total Volume	0	210	1623	0	0	1833	67	0	84	84	151	0	673	53	726	2710	0	0	0	0	0	0
% App. Total	0	11.5	88.5	0	0	918	44.4	0	55.6	72.4	.786	0	92.7	7.3	.945	.938	0	0	0	0	0	0
PHF	.000	.921	.904	.000	.000	.918	.761	.000	.724	.828	.956	.000	.956	.828	.945	.938	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: AC, PA
Counters: D4-3890, D4-5674
Weather: Clear

File Name : KapKam PM
Site Code : 00000001
Start Date : 4/7/2015
Page No : 1

Start Time	Kapiolani Boulevard Westbound						Kamakee Street Northbound						Kapiolani Boulevard Eastbound									
	Southbound		Westbound		App. Total		Thru		Right		Peds		App. Total		Thru		Right		Peds		App. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
03:00 PM	0	44	221	0	8	273	15	0	41	23	79	0	213	31	51	295	0	0	0	0	0	0
03:15 PM	0	17	266	0	5	288	23	0	63	18	104	0	257	32	27	316	0	0	0	0	0	0
03:30 PM	0	0	300	0	3	303	38	0	67	18	123	0	233	35	22	290	0	0	0	0	0	0
03:45 PM	0	0	233	0	6	239	34	0	62	23	119	0	312	42	41	395	0	0	0	0	0	0
Total	0	61	1020	0	22	1103	110	0	233	82	425	0	1015	140	141	1296	0	0	0	0	0	0
04:00 PM	0	0	270	0	4	274	29	0	65	23	117	0	383	31	15	429	0	0	0	0	0	0
04:15 PM	0	0	231	0	4	235	34	0	70	18	122	0	347	29	36	412	0	0	0	0	0	0
04:30 PM	0	0	236	0	7	243	39	0	67	33	139	0	438	36	30	504	0	0	0	0	0	0
04:45 PM	0	0	265	0	11	276	37	0	79	31	147	0	426	44	38	508	0	0	0	0	0	0
Total	0	0	1002	0	26	1028	139	0	281	105	525	0	1594	140	119	1853	0	0	0	0	0	0
05:00 PM	0	0	251	0	8	259	34	0	94	25	153	0	468	41	31	540	0	0	0	0	0	0
05:15 PM	0	0	232	0	2	234	39	0	67	21	127	0	407	52	35	494	0	0	0	0	0	0
05:30 PM	0	37	195	0	2	234	29	0	23	22	122	0	350	44	42	436	0	0	0	0	0	0
05:45 PM	0	42	196	0	3	241	38	0	55	21	114	0	339	26	42	407	0	0	0	0	0	0
Total	0	79	874	0	15	968	140	0	286	90	516	0	1564	163	150	1877	0	0	0	0	0	0
Grand Total	0	140	2896	0	63	3099	389	0	800	277	1466	0	4173	443	410	5026	0	0	0	0	0	0
Approch %	0	4.5	93.4	0	2	32.3	26.5	0	54.6	18.9	15.3	0	43.5	4.6	4.3	52.4	0	0	0	0	0	0
Total %	0	1.5	30.2	0	0.7	32.3	4.1	0	8.3	2.9	15.3	0	43.5	4.6	4.3	52.4	0	0	0	0	0	0

Start Time	Kapiolani Boulevard Westbound						Kamakee Street Northbound						Kapiolani Boulevard Eastbound									
	Southbound		Westbound		App. Total		Thru		Right		Peds		App. Total		Thru		Right		Peds		App. Total	
	Left	Thru	Right	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:30 PM	0	0	236	0	0	236	39	0	67	67	106	0	438	36	474	816	0	0	0	0	0	0
04:45 PM	0	0	265	0	0	265	37	0	79	79	116	0	426	44	470	851	0	0	0	0	0	0
05:00 PM	0	0	251	0	0	251	34	0	94	94	128	0	468	41	509	888	0	0	0	0	0	0
05:15 PM	0	0	232	0	0	232	39	0	67	67	106	0	407	52	459	797	0	0	0	0	0	0
Total Volume	0	0	984	0	0	984	149	0	307	307	456	0	1739	173	1912	3352	0	0	0	0	0	0
% App. Total	.000	.000	.928	.000	.000	.928	.955	.000	.816	.816	.891	.000	.929	.832	.939	.944	.000	.000	.000	.000	.000	.000
PHF	.000	.000	.928	.000	.000	.928	.955	.000	.816	.816	.891	.000	.929	.832	.939	.944	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:RJ, JJ
Counters:TU-0649, TU-0651
Weather:Clear

File Name : KapPen AM
Site Code : 00000004
Start Date : 4/7/2015
Page No : 1

Start Time	Groups Printed- Unshifted										App. Total	Int. Total										
	Pensacola Street Southbound					Kapiolani Boulevard Westbound							Pensacola Street Northbound					Kapiolani Boulevard Eastbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
06:00 AM	22	71	24	5	122	7	102	0	0	109	0	0	0	5	5	0	53	8	3	64	300	
06:15 AM	33	82	14	3	132	2	158	0	0	160	0	0	13	13	13	0	76	11	7	94	399	
06:30 AM	28	101	8	8	145	8	272	0	0	280	0	0	8	8	8	0	84	18	9	111	544	
06:45 AM	34	88	5	12	139	11	336	0	0	347	0	0	4	4	4	0	100	29	5	134	624	
Total	117	342	51	28	538	28	868	0	0	896	0	0	30	30	30	0	313	66	24	403	1867	
07:00 AM	34	90	13	11	148	12	372	0	0	384	0	0	10	10	10	0	119	23	7	149	691	
07:15 AM	43	122	7	16	188	20	419	0	0	439	0	0	7	7	7	0	113	24	10	147	781	
07:30 AM	72	155	18	10	255	22	461	0	0	483	0	0	10	10	10	0	154	23	3	180	928	
07:45 AM	54	165	56	9	284	22	470	0	0	492	0	0	13	13	13	0	155	35	3	193	982	
Total	203	532	94	46	875	76	1722	0	0	1798	0	0	40	40	40	0	541	105	23	669	3382	
08:00 AM	65	181	67	11	324	21	414	0	0	435	0	0	6	6	6	0	167	31	15	213	978	
08:15 AM	58	169	23	15	265	25	362	0	0	387	0	0	12	12	12	0	168	34	12	214	878	
08:30 AM	67	176	39	10	292	19	241	0	0	260	0	0	12	12	12	0	155	43	5	203	767	
08:45 AM	73	205	6	11	295	22	230	0	0	252	0	0	24	24	24	0	132	21	16	169	740	
Total	263	731	135	47	1176	87	1247	0	0	1334	0	0	54	54	54	0	622	129	48	799	3363	
Grand Total	583	1605	280	121	2589	191	3637	0	0	4028	0	0	124	124	124	0	1476	300	95	1871	8612	
Approch %	22.5	62	10.8	4.7	30.1	4.7	95.3	0	0	46.8	0	0	1.4	1.4	1.4	0	17.1	3.5	1.1	21.7		
Total %	6.8	18.6	3.3	1.4		2.2	44.6	0	0		0	0				0	17.1	3.5	1.1			

Start Time	Groups Printed- Unshifted										App. Total	Int. Total										
	Pensacola Street Southbound					Kapiolani Boulevard Westbound							Pensacola Street Northbound					Kapiolani Boulevard Eastbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
07:30 AM	72	155	18	11	245	22	461	0	0	483	0	0	0	0	0	0	154	23	177	905		
07:45 AM	54	165	56	9	275	22	470	0	0	492	0	0	18	18	18	0	155	35	190	957		
08:00 AM	65	181	67	11	313	21	414	0	0	435	0	0	10	10	10	0	167	31	198	946		
08:15 AM	58	169	23	15	250	25	362	0	0	387	0	0	12	12	12	0	168	34	202	839		
Total Volume	249	670	164	46	1083	90	1707	0	0	1797	0	0	40	40	40	0	644	123	767	3647		
% App. Total	23	61.9	15.1			5	95	0	0		0	0				0	84	16				
PHF	.865	.925	.612		.865	.908	.908	.000	.913	.000	.000	.000	.000	.000	.000	.000	.958	.879	.949	.953		

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:RJ, JJ
Counters:TU-0649, TU-0651
Weather:Clear

File Name : KapPen PM
Site Code : 00000004
Start Date : 4/7/2015
Page No : 1

Start Time	Groups Printed- Unshifted										App. Total	Int. Total										
	Pensacola Street Southbound					Kapiolani Boulevard Westbound							Pensacola Street Northbound					Kapiolani Boulevard Eastbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
03:00 PM	63	128	59	16	266	10	206	0	0	216	0	0	0	22	22	0	237	33	9	279	783	
03:15 PM	65	177	85	7	334	6	196	0	0	202	0	0	18	18	18	0	260	30	8	298	852	
03:30 PM	76	176	117	16	385	0	184	0	0	184	0	0	31	31	31	0	309	36	8	353	953	
03:45 PM	83	184	39	13	319	0	190	0	0	190	0	0	21	21	21	0	313	35	9	357	887	
Total	287	665	300	52	1304	16	776	0	0	792	0	0	92	92	92	0	1119	134	34	1287	3475	
04:00 PM	84	193	78	14	369	0	193	0	0	193	0	0	27	27	27	0	384	38	6	428	1017	
04:15 PM	70	183	26	21	300	0	207	0	0	207	0	0	27	27	27	0	369	52	16	437	971	
04:30 PM	85	187	42	19	333	0	196	0	0	196	0	0	37	37	37	0	459	26	26	511	1077	
04:45 PM	82	192	40	18	332	0	225	0	0	225	0	0	26	26	26	0	459	47	9	515	1098	
Total	321	755	186	72	1334	0	821	0	0	821	0	0	117	117	117	0	1671	163	57	1891	4163	
05:00 PM	89	192	48	16	345	0	203	0	0	203	0	0	29	29	29	0	503	50	15	568	1145	
05:15 PM	82	196	18	9	305	0	216	0	0	216	0	0	29	29	29	0	444	46	10	500	1050	
05:30 PM	64	184	43	18	309	14	187	0	0	201	0	0	26	26	26	0	390	38	21	449	985	
05:45 PM	63	190	34	17	304	22	204	0	0	226	0	0	23	23	23	0	384	43	14	441	994	
Total	298	762	143	60	1263	36	810	0	0	846	0	0	107	107	107	0	1721	177	60	1958	4174	
Grand Total	906	2182	629	184	3901	52	2407	0	0	2459	0	0	316	316	316	0	4511	474	151	5136	11812	
Approch %	23.2	55.9	16.1	4.7	33	2.1	97.9	0	0	20.8	0	0	2.7	2.7	2.7	0	38.2	4	1.3	43.5		
Total %	7.7	18.5	5.3	1.6		0.4	20.4	0	0		0	0				0	38.2	4	1.3			

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Start Time	Groups Printed- Unshifted										App. Total	Int. Total										
	Pensacola Street Southbound					Kapiolani Boulevard Westbound							Pensacola Street Northbound					Kapiolani Boulevard Eastbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:30 PM	85	187	42	16	314	0	196	0	0	196	0	0	0	0	0	0	459	26	485	995		
04:45 PM	82	192	40	14	314	0	225	0	0	225	0	0	0	0	0	0	459	47	506	1045		
05:00 PM	89	192	48	18	329	0	203	0	0	203	0	0	0	0	0	0	444	50	503	1085		
05:15 PM	82	196	18	9	296	0	216	0	0	216	0	0	0	0	0	0	444	46	490	1002		
Total Volume	338	767	148	60	1253	0	840	0	0	840	0	0	0	0	0	0	1865	169	2034	4127		
% App. Total	27	61.2	11.8		.952	0	100	0	0	.933	0	0	.000	.000	.000	0	91.7	8.3	.920	.951		
PHF	.949	.978	.771		.952	.000	.933	.000	.933	.000	.000	.000	.000	.000	.000	.000	.927	.845	.920	.951		

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: FS, DM
Counters: TU-0653, TU-0650
Weather: Clear

File Name : KapPii AM
Site Code : 00000005
Start Date : 4/7/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Southbound				Kapiolani Boulevard Westbound				Piikoi Street Northbound				Kapiolani Boulevard Eastbound								
	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	0	5	102	10	5	3	105	7	8	123	0	75	3	7	85	0	75	3	7	85	330
06:15 AM	0	1	159	23	4	3	98	7	9	117	0	100	6	6	112	0	100	6	6	112	416
06:30 AM	0	4	273	30	5	3	130	11	8	152	0	109	3	9	121	0	109	3	9	121	585
06:45 AM	0	11	338	52	4	6	141	5	13	165	0	126	6	9	141	0	126	6	9	141	711
Total	0	21	872	115	18	15	474	30	38	557	0	410	18	31	459	0	410	18	31	459	2042
07:00 AM	0	8	378	54	9	9	187	22	9	227	0	144	5	15	164	0	144	5	15	164	840
07:15 AM	0	2	423	56	6	9	189	17	13	228	0	149	8	15	172	0	149	8	15	172	887
07:30 AM	0	11	468	68	3	15	229	8	12	264	0	214	10	18	242	0	214	10	18	242	1056
07:45 AM	0	10	478	88	5	11	180	21	17	229	0	197	11	10	218	0	197	11	10	218	1028
Total	0	31	1747	266	23	44	785	68	51	948	0	704	34	58	796	0	704	34	58	796	3811
08:00 AM	0	11	423	71	2	8	207	16	10	241	0	216	13	14	243	0	216	13	14	243	991
08:15 AM	0	8	371	67	8	11	178	25	19	230	0	215	8	11	234	0	215	8	11	234	918
08:30 AM	0	15	248	48	3	16	205	25	18	264	0	210	10	19	239	0	210	10	19	239	817
08:45 AM	0	9	239	46	2	11	165	23	17	216	0	197	9	13	219	0	197	9	13	219	731
Total	0	43	1281	232	15	46	755	86	64	951	0	838	40	57	935	0	838	40	57	935	3457
Grand Total	0	95	3900	613	56	105	2014	184	153	2456	0	1952	92	146	2190	0	1952	92	146	2190	9310
Approch %		2	83.6	13.1	1.2	4.3	82	7.5	6.2	26.4	0	89.1	4.2	6.7	23.5	0	89.1	4.2	6.7	23.5	
Total %		1	41.9	6.6	0.6	1.1	21.6	2	1.6	26.4	0	21	1	1.6	23.5	0	21	1	1.6	23.5	

Start Time	Southbound				Kapiolani Boulevard Westbound				Piikoi Street Northbound				Kapiolani Boulevard Eastbound					
	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:30 AM	0	11	468	68	547	15	229	8	252	0	214	10	224	0	214	10	224	1023
07:45 AM	0	10	478	88	576	11	180	21	212	0	197	11	208	0	197	11	208	996
08:00 AM	0	11	423	71	505	8	207	16	231	0	216	13	229	0	216	13	229	965
08:15 AM	0	8	371	67	446	11	178	22	211	0	215	8	223	0	215	8	223	880
Total Volume	0	40	1740	294	2074	45	794	67	906	0	842	42	884	0	842	42	884	3864
% App. Total	1.9	83.9	14.2	8.35	.900	.750	.867	7.4	.899	.000	.975	.808	.965	.000	.975	.808	.965	.944
PHF	.000	.909	.910	.835														

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: FS, DM
Counters: TU-0653, TU-0650
Weather: Clear

File Name : KapPii PM
Site Code : 00000005
Start Date : 4/7/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Piikoi Street Southbound				Kapiolani Boulevard Westbound				Piikoi Street Northbound				Kapiolani Boulevard Eastbound					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total	
03:00 PM	0	0	0	13	10	197	70	286	19	223	38	28	308	0	280	16	312	919
03:15 PM	0	0	0	28	8	181	70	264	19	232	36	34	321	0	311	13	339	952
03:30 PM	0	0	0	25	0	162	58	231	22	287	55	26	390	0	355	28	401	1047
03:45 PM	0	0	0	19	0	151	61	221	40	248	44	33	365	0	376	24	419	1024
Total	0	0	0	85	18	691	259	1002	100	990	173	121	1384	0	1322	81	1471	3942
04:00 PM	0	0	0	18	0	169	79	252	25	242	45	19	331	0	411	52	483	1084
04:15 PM	0	0	0	21	0	180	52	235	23	256	37	18	334	0	424	18	455	1045
04:30 PM	0	0	0	27	0	165	75	245	34	263	36	30	340	0	509	33	566	1201
04:45 PM	0	0	0	15	0	141	84	229	16	241	41	42	340	0	506	36	564	1216
Total	0	0	0	81	0	725	290	1029	98	1002	159	109	1368	0	1850	139	2088	4546
05:00 PM	0	0	0	36	0	174	61	238	28	288	44	19	379	0	558	37	614	1267
05:15 PM	0	0	0	24	0	193	51	249	29	283	46	39	397	0	486	36	538	1208
05:30 PM	0	0	0	21	17	154	55	227	47	293	34	49	423	0	423	26	471	1142
05:45 PM	0	0	0	17	26	200	49	281	26	245	34	34	339	0	435	27	501	1138
Total	0	0	0	98	43	721	216	995	130	1109	158	141	1538	0	1902	126	2124	4755
Grand Total	0	0	0	264	61	2137	765	3026	328	3101	490	371	4290	0	5074	346	5663	13243
Approch %	0	0	0	100	2	70.6	25.3	2.1	7.6	72.3	11.4	8.6	32.4	0	89.6	6.1	4.3	42.8
Total %	0	0	0	2	0.5	16.1	5.8	0.5	2.8	23.4	3.7	2.8	32.4	0	38.3	2.6	1.8	42.8

Start Time	Southbound				Kapiolani Boulevard Westbound				Piikoi Street Northbound				Kapiolani Boulevard Eastbound				
	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
04:30 PM	0	0	0	165	75	240	34	263	36	333	0	509	33	542	1115		
04:45 PM	0	0	0	211	84	295	16	241	41	298	0	506	36	542	1135		
05:00 PM	0	0	0	174	61	235	28	288	44	360	0	558	37	595	1190		
05:15 PM	0	0	0	193	51	244	29	283	46	358	0	486	36	522	1124		
Total Volume	0	0	0	743	271	1014	107	1075	167	1349	0	2059	142	2201	4564		
% App. Total	.000	0	0	73.3	26.7	.807	.787	.933	.908	.937	.000	.922	.959	.925	.959		
PHF	.000	.000	.000	.880	.807	.859	.787	.933	.908	.937	.000	.922	.959	.925	.959		

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: D4-5672, D4-5677
Weather: Clear

File Name : WarKaw AM
Site Code : 00000003
Start Date : 4/8/2015
Page No : 1

Start Time	Ward Avenue Southbound					Kawaiahao Street Westbound					Ward Avenue Northbound					Kawaiahao Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	06:00 AM	9	140	7	2	158	0	2	3	11	16	0	39	1	0	40	1	2	2	1	6
06:15 AM	13	142	7	0	162	2	0	6	11	19	0	52	3	2	57	0	0	3	10	13	251
06:30 AM	7	159	2	0	168	2	1	10	8	21	1	63	4	1	69	1	2	0	5	8	266
06:45 AM	17	197	11	0	225	1	2	10	12	25	2	75	7	0	84	2	2	1	7	12	346
Total	46	638	27	2	713	5	5	29	42	81	3	229	15	3	250	4	6	6	23	39	1083
07:00 AM	7	187	8	0	202	4	2	7	10	23	2	97	5	1	105	5	0	2	4	11	341
07:15 AM	20	222	9	0	251	2	2	7	22	33	5	130	4	2	141	1	0	4	12	17	442
07:30 AM	15	222	15	0	252	0	3	25	19	47	2	99	2	1	104	3	0	4	11	18	421
07:45 AM	7	208	20	0	235	0	1	14	12	27	5	99	5	0	109	7	0	5	8	20	391
Total	49	839	52	0	940	6	8	53	63	130	14	425	16	4	459	16	0	15	35	66	1595
08:00 AM	19	240	26	0	285	2	2	12	13	29	8	95	5	5	113	1	0	4	14	19	446
08:15 AM	13	184	16	0	213	1	1	13	14	29	3	95	5	2	105	8	18	3	7	36	383
08:30 AM	16	231	18	0	265	2	0	7	9	18	8	120	7	3	138	8	0	7	8	23	444
08:45 AM	11	233	15	0	259	6	1	8	10	25	4	90	4	1	99	5	0	3	8	16	399
Total	59	888	75	0	1022	11	4	40	46	101	23	400	21	11	455	22	18	17	37	94	1672
Grand Total	154	2365	154	2	2675	22	17	122	151	312	40	1054	52	18	1164	42	24	38	95	199	4350
Apprch %	5.8	88.4	5.8	0.1	61.5	7.1	5.4	39.1	48.4	7.2	3.4	90.5	4.5	1.5	26.8	21.1	12.1	19.1	47.7	4.6	
Total %	3.5	54.4	3.5	0		0.5	0.4	2.8	3.5		0.9	24.2	1.2	0.4		1	0.6	0.9	2.2		

Start Time	Ward Avenue Southbound					Kawaiahao Street Westbound					Ward Avenue Northbound					Kawaiahao Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	07:15 AM	20	222	9		251	2	2	7		11	5	130	4		139	1	0	4		5
07:30 AM	15	222	15		252	0	3	25		28	2	99	2		103	3	0	4		7	390
07:45 AM	7	208	20		235	0	1	14		15	5	99	5		109	7	0	5		12	371
08:00 AM	19	240	26		285	2	2	12		16	8	95	5		108	1	0	4		5	414
Total Volume	61	892	70		1023	4	8	58		70	20	423	16		459	12	0	17		29	1581
% App. Total	6	87.2	6.8		89.7	5.7	11.4	82.9		62.5	4.4	92.2	3.5		82.6	41.4	0	58.6		29	1581
PHF	.763	.929	.673		.897	.500	.667	.580		.625	.625	.813	.800		.826	.429	.000	.850		.604	.955

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: JJ, RJ
Counters: D4-5672, D4-5677
Weather: Clear

File Name : WarKaw PM
Site Code : 00000003
Start Date : 4/8/2015
Page No : 1

Start Time	Ward Avenue Southbound					Kawaiahao Street Westbound					Ward Avenue Northbound					Kawaiahao Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	03:00 PM	14	203	9	0	226	4	8	15	19	46	8	187	2	3	200	1	5	5	7	18
03:15 PM	9	220	10	0	239	4	1	6	27	38	5	193	4	5	207	13	2	12	15	42	526
03:30 PM	11	178	7	0	196	5	4	17	21	47	3	210	3	3	219	7	7	16	11	41	503
03:45 PM	16	235	2	0	253	3	3	10	27	43	3	185	5	1	194	5	2	10	20	37	527
Total	50	836	28	0	914	16	16	48	94	174	19	775	14	12	820	26	16	43	53	138	2046
04:00 PM	14	188	9	0	211	1	2	11	26	40	4	227	5	2	238	12	4	14	6	36	525
04:15 PM	9	176	12	0	197	0	1	17	23	41	9	222	6	1	238	14	3	8	10	35	511
04:30 PM	12	222	6	2	242	0	2	18	26	46	2	231	8	3	244	7	7	7	22	43	575
04:45 PM	15	182	9	0	206	4	2	15	26	47	5	223	8	0	236	7	3	12	7	29	518
Total	50	768	36	2	856	5	7	61	101	174	20	903	27	6	956	40	17	41	45	143	2129
05:00 PM	10	205	8	0	223	4	2	23	18	47	2	224	6	1	233	8	4	13	13	38	541
05:15 PM	15	227	9	0	251	0	2	18	26	46	2	193	1	1	197	9	6	12	17	44	538
05:30 PM	8	217	9	0	234	1	0	11	24	36	2	183	2	4	191	3	7	9	23	42	503
05:45 PM	16	184	8	0	208	0	3	9	29	41	3	198	7	4	212	7	29	3	10	49	510
Total	49	833	34	0	916	5	7	61	97	170	9	798	16	10	833	27	46	37	63	173	2092
Grand Total	149	2437	98	2	2686	26	30	170	292	518	48	2476	57	28	2609	93	79	121	161	454	6267
Apprch %	5.5	90.7	3.6	0.1	42.9	5	5.8	32.8	56.4	8.3	1.8	94.9	2.2	1.1	20.5	17.4	26.7	35.5			
Total %	2.4	38.9	1.6	0		0.4	0.5	2.7	4.7		0.8	39.5	0.9	0.4		1.5	1.3	1.9	2.6		

Start Time	Ward Avenue Southbound					Kawaiahao Street Westbound					Ward Avenue Northbound					Kawaiahao Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	04:30 PM	12	222	6		240	0	2	18		20	2	231	8		241	7	7	7		21
04:45 PM	15	182	9		206	4	2	15		21	5	223	8		236	7	3	12		22	485
05:00 PM	10	205	8		223	4	2	23		29	2	224	6		196	8	4	13		25	509
05:15 PM	15	227	9		251	0	2	18		20	2	193	1		205	9	6	12		27	494
Total Volume	52	836	32		920	8	8	74		90	11	871	23		905	31	20	44		95	2010
% App. Total	5.7	90.9	3.5		89.9	8.9	8.9	82.2		77.6	1.2	96.2	2.5		93.9	32.6	21.1	46.3		95	2010
PHF	.867	.921	.889		.916	.500	1.00	.804		.776	.550	.943	.719		.939	.861	.714	.846		.880	.963

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:BE, FS
Counters:TU-0653, TU-1958
Weather:Clear

File Name : WarQue AM
Site Code : 00000003
Start Date : 4/13/2016
Page No : 1

Groups Printed- Unshifted

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound				Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left		Thru	Right	Peds	App. Total
06:00 AM	3	142	23	1	169	2	6	2	3	13	8	33	7	2	50	1	10	12	3	26	258
06:15 AM	9	140	22	0	171	7	21	1	1	30	1	28	6	0	35	4	10	10	7	31	267
06:30 AM	6	123	33	4	166	5	31	1	4	41	7	67	8	2	84	5	14	7	7	33	324
06:45 AM	7	145	41	2	195	4	36	2	5	47	7	63	5	0	75	7	17	11	6	41	358
Total	25	550	119	7	701	18	94	6	13	131	23	191	26	4	244	17	51	40	23	131	1207
07:00 AM	5	121	23	3	152	15	61	7	12	95	9	70	7	2	88	14	14	6	3	37	372
07:15 AM	4	156	52	9	221	14	72	5	8	99	7	100	4	2	113	9	14	13	7	43	476
07:30 AM	11	151	46	1	209	7	69	6	5	87	8	85	7	0	100	11	23	15	3	52	448
07:45 AM	13	166	55	0	234	20	90	8	15	133	20	75	6	5	106	6	33	17	13	69	542
Total	33	594	176	13	816	56	292	26	40	414	44	330	24	9	407	40	84	51	26	201	1838
08:00 AM	11	151	47	9	218	16	76	4	11	107	14	83	9	4	110	11	26	18	13	68	503
08:15 AM	8	181	52	3	244	15	73	7	8	103	9	93	6	5	113	21	44	24	5	94	554
08:30 AM	15	170	39	9	233	21	65	11	9	106	10	74	6	0	90	12	30	19	7	68	497
08:45 AM	11	193	41	13	258	13	41	3	8	65	18	95	13	2	128	12	27	17	8	64	515
Total	45	695	179	34	953	65	255	25	36	381	51	345	34	11	441	56	127	78	33	294	2069
Grand Total	103	1839	474	54	2470	139	641	57	89	926	118	866	84	24	1092	113	262	169	82	626	5114
Approch %	4.2	74.5	19.2	2.2	48.3	15	69.2	6.2	9.6	18.1	10.8	79.3	7.7	2.2	21.4	18.1	41.9	27	13.1	12.2	
Total %	2	36	9.3	1.1	48.3	2.7	12.5	1.1	1.7	18.1	2.3	16.9	1.6	0.5	21.4	2.2	5.1	3.3	1.6	12.2	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound				Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left		Thru	Right	Peds	App. Total
07:45 AM	13	166	55	0	234	20	90	8	8	118	20	75	6	6	101	6	33	17	10	56	509
08:00 AM	11	151	47	9	209	16	76	4	4	96	14	83	9	4	106	11	26	18	13	68	466
08:15 AM	8	181	52	3	241	15	73	7	8	103	9	93	6	5	113	21	44	24	5	94	554
08:30 AM	15	170	39	9	233	21	65	11	9	106	10	74	6	0	90	12	30	19	7	68	497
08:45 AM	11	193	41	13	258	13	41	3	8	65	18	95	13	2	128	12	27	17	8	64	515
Total Volume	47	668	193	39	908	72	304	30	30	406	53	325	27	7	405	50	133	78	26	261	1980
% App. Total	5.2	73.6	21.3	4.4	38.1	17.7	74.9	7.4	7.4	44.3	13.1	80.2	6.7	2.2	44.3	19.2	51	29.9	8	26.1	1980
PHF	.783	.923	.877	.877	.942	.857	.844	.682	.682	.860	.663	.874	.750	.750	.938	.595	.756	.813	.813	.733	.929

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:BE, FS
Counters:TU-1958, TU-0653
Weather:Clear

File Name : WarQue PM
Site Code : 00000003
Start Date : 4/13/2016
Page No : 1

Groups Printed- Unshifted

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound				Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left		Thru	Right	Peds	App. Total
03:00 PM	11	149	19	9	188	20	55	10	3	88	10	145	22	0	177	22	51	21	9	103	556
03:15 PM	14	136	19	6	175	9	45	18	13	85	18	167	15	6	206	30	50	27	7	114	580
03:30 PM	14	160	33	5	212	22	55	17	17	111	27	168	11	3	209	20	31	20	12	83	615
03:45 PM	15	158	15	4	192	16	74	25	11	126	26	156	6	3	191	22	64	25	8	119	628
Total	54	603	86	24	767	67	229	70	44	410	81	636	54	12	783	94	196	93	36	419	2379
04:00 PM	8	150	18	4	180	24	54	11	12	101	24	195	14	2	235	23	34	22	3	82	598
04:15 PM	9	157	17	4	187	17	64	9	18	108	21	164	12	4	201	20	71	30	7	128	624
04:30 PM	14	160	20	10	204	23	60	8	25	116	15	185	15	4	219	33	84	17	15	149	688
04:45 PM	13	141	16	1	171	23	56	9	17	105	13	165	20	6	204	27	96	32	12	167	647
Total	44	608	71	19	742	87	234	37	72	430	73	709	61	16	859	103	285	101	37	526	2557
05:00 PM	19	164	19	8	210	14	61	16	12	103	14	172	19	5	210	24	84	35	12	155	678
05:15 PM	11	149	17	5	182	11	67	14	11	103	14	158	23	3	198	28	95	28	10	161	644
05:30 PM	11	152	27	3	193	9	58	17	17	101	15	173	17	2	207	29	96	29	5	159	660
05:45 PM	16	179	13	1	209	15	66	6	9	96	24	143	14	9	190	20	91	23	9	143	638
Total	57	644	76	17	794	49	252	53	49	403	67	646	73	19	805	101	366	115	36	618	2620
Grand Total	155	1855	233	60	2303	203	715	160	165	1243	221	1991	188	47	2447	298	847	309	109	1563	7556
Approch %	6.7	80.5	10.1	2.6	30.5	16.3	57.5	12.9	13.3	16.5	9	81.4	7.7	1.9	32.4	19.1	54.2	19.8	7	20.7	
Total %	2.1	24.6	3.1	0.8	30.5	2.7	9.5	2.1	2.2	16.5	2.9	26.3	2.5	0.6	32.4	3.9	11.2	4.1	1.4	20.7	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound				Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left		Thru	Right	Peds	App. Total
04:30 PM	14	160	20	10	204	23	60	8	25	116	15	185	15	4	219	33	84	17	15	149	688
04:45 PM	13	141	16	1	171	23	56	9	17	105	13	165	20	6	204	27	96	32	12	167	647
05:00 PM	19	164	19	8	210	14	61	16	12	103	14	172	19	5	210	24	84	35	12	155	678
05:15 PM	11	149	17	5	182	11	67	14	11	103	14	158	23	3	198	28	95	28	10	161	644
05:30 PM	11	152	27	3	193	9	58	17	17	101	15	173	17	2	207	29	96	29	5	159	660
05:45 PM	16	179	13	1	209	15	66	6	9	96	24	143	14	9	190	20	91	23	9	143	638
Total	57	644	76	17	794	49	252	53	49	403	67	646	73	19	805	101	366	115	36	618	2620
Grand Total	155	1855	233	60	2303	203	715	160	165	1243	221	1991	188	47	2447	298	847	309	109	1563	7556
Approch %	6.7	80.5	10.1	2.6	30.5	16.3	57.5	12.9	13.3	16.5	9	81.4	7.7	1.9	32.4	19.1	54.2	19.8	7	20.7	
Total %	2.1	24.6	3.1	0.8	30.5	2.7	9.5	2.1	2.2	16.5	2.9	26.3	2.5	0.6	32.4	3.9	11.2	4.1	1.4	20.7	

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, JC
Counters: TU-0652, TU-0654
Weather: Clear

File Name : WarQue AM
Site Code : 00000002
Start Date : 4/8/2015
Page No : 1

Groups Printed- Unshifted																					
Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound								
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	06:00 AM	8	119	19	2	148	5	14	5	9	33	6	27	0	3	36	5	17	6	2	30
06:15 AM	11	121	18	2	152	3	22	4	6	35	7	49	3	2	61	2	10	11	9	32	280
06:30 AM	10	124	27	2	163	9	25	4	3	41	13	66	4	0	83	6	20	6	5	37	324
06:45 AM	11	149	34	3	197	10	46	4	14	74	7	77	5	3	92	7	15	11	3	36	399
Total	40	513	98	9	660	27	107	17	32	183	33	219	12	8	272	20	62	34	19	135	1250
07:00 AM	9	138	43	2	192	10	50	8	16	84	6	78	3	4	91	15	23	13	3	54	421
07:15 AM	4	154	40	3	201	9	76	13	15	113	9	121	7	3	144	11	28	14	12	65	523
07:30 AM	9	153	60	5	227	7	70	4	16	97	15	93	7	3	118	7	26	16	4	53	495
07:45 AM	3	160	50	6	219	13	82	5	11	111	24	94	10	1	129	9	33	19	8	69	528
Total	25	605	193	16	839	39	278	30	58	405	54	386	27	15	482	42	110	62	27	241	1967
08:00 AM	9	188	52	7	256	19	66	6	10	101	12	92	6	4	114	8	41	22	10	81	552
08:15 AM	6	150	37	2	195	12	72	6	10	100	15	94	13	2	124	10	45	18	7	80	499
08:30 AM	14	181	50	3	248	14	72	9	12	107	19	109	6	2	136	20	33	19	6	78	569
08:45 AM	13	181	46	2	242	15	52	8	9	84	16	77	6	1	100	9	26	17	7	59	485
Total	42	700	185	14	941	60	262	29	41	392	62	372	31	9	474	47	145	76	30	298	2105
Grand Total	107	1818	476	39	2440	126	647	76	131	980	149	977	70	32	1228	109	317	172	76	674	5322
Approch %	4.4	74.5	19.5	1.6		12.9	66	7.8	13.4		12.1	79.6	5.7	2.6		16.2	47	25.5	11.3		
Total %	2	34.2	8.9	0.7	45.8	2.4	12.2	1.4	2.5	18.4	2.8	18.4	1.3	0.6	23.1	2	6	3.2	1.4	12.7	

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound								
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	07:45 AM	3	160	50		213	13	82	5		100	24	94	10		128	9	33	19		61
08:00 AM	9	188	52		249	19	66	6		91	12	92	6		110	8	41	22		71	521
08:15 AM	6	150	37		193	12	72	6		90	15	94	13		122	10	45	18		73	478
08:30 AM	14	181	50		245	14	72	9		95	19	109	7		134	20	33	19		72	546
Total Volume	32	679	189		900	58	292	26		376	70	389	35		494	47	152	78		277	2047
% App. Total	3.6	75.4	21			15.4	77.7	6.9			14.2	78.7	7.1			17	54.9	28.2			
PHF	.571	.903	.909		.904	.763	.890	.722		.940	.729	.892	.673		.922	.588	.844	.886		.949	.937

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, EV
Counters: TU-0652, TU-0654
Weather: Clear

File Name : WarQue PM
Site Code : 00000002
Start Date : 4/8/2015
Page No : 1

Groups Printed- Unshifted																					
Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound								
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	03:00 PM	14	179	25	6	224	14	64	19	19	116	14	161	9	0	184	18	40	23	7	88
03:15 PM	23	181	32	3	239	10	64	20	28	122	14	160	9	11	194	16	37	29	7	89	644
03:30 PM	22	177	17	4	220	10	71	24	21	126	17	175	12	7	211	21	44	23	10	98	655
03:45 PM	20	176	29	7	232	24	89	22	35	170	21	150	20	7	198	23	58	26	18	125	725
Total	79	713	103	20	915	58	288	85	103	534	66	646	50	25	787	78	179	101	42	400	2636
04:00 PM	19	157	27	5	208	14	63	19	27	123	24	185	15	4	228	29	60	13	11	113	672
04:15 PM	18	146	24	1	189	15	57	10	17	99	30	198	23	6	257	28	57	31	6	122	667
04:30 PM	16	192	20	2	230	24	55	21	19	119	15	195	21	8	239	25	49	33	22	129	717
04:45 PM	18	160	23	3	204	14	77	16	24	131	16	196	22	5	239	22	96	35	14	167	741
Total	71	655	94	11	831	67	252	66	87	472	85	774	81	23	963	104	262	112	53	531	2797
05:00 PM	28	182	15	3	228	16	74	16	12	118	19	188	21	2	230	28	87	35	8	158	734
05:15 PM	26	185	19	4	234	16	67	17	28	128	16	156	17	6	195	22	63	37	15	157	714
05:30 PM	19	184	22	5	230	14	58	22	23	117	20	136	10	9	175	26	88	27	22	163	685
05:45 PM	23	145	24	3	195	15	60	11	25	111	19	173	23	2	217	16	65	22	7	110	633
Total	96	696	80	15	887	61	259	66	88	474	74	653	71	19	817	92	323	121	52	588	2766
Grand Total	246	2064	277	46	2633	186	799	217	278	1480	225	2073	202	67	2567	274	764	334	147	1519	8199
Approch %	9.3	78.4	10.5	1.7		12.6	54	14.7	18.8		8.8	80.8	7.9	2.6		18	50.3	22	9.7		
Total %	3	25.2	3.4	0.6	32.1	2.3	9.7	2.6	3.4	18.1	2.7	25.3	2.5	0.8	31.3	3.3	9.3	4.1	1.8	18.5	

Start Time	Ward Avenue Southbound				Queen Street Westbound				Ward Avenue Northbound				Queen Street Eastbound								
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total						
	04:30 PM	16	192	20		228	24	55	21		100	15	195	21		231	25	49	33		107
04:45 PM	18	160	23		201	14	77	16	16	107	16	196	22		234	22	96	35		153	695
05:00 PM	28	182	15		225	16	74	16	17	106	19	188	21		228	28	87	35		150	709
05:15 PM	26	185	19		230	16	67	17	17	100	16	156	17		189	22	83	37		142	661
Total Volume	88	719	77		884	70	273	70		413	66	735	81		882	97	315	140		552	2731
% App. Total	10	81.3	8.7			16.9	66.1	16.9		.965	7.5	83.3	9.2		.942	8.66	82.0	9.46		.902	.963
PHF	.786	.936	.837		.961	.729	.886	.833		.965	.868	.938	.920		.942	.866	.820	.946		.902	.963

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-3888, D4-3889
Weather:Clear

File Name : Warla AM
Site Code : 00000004
Start Date : 4/8/2015
Page No : 1

Start Time	Ward Avenue Southbound					Sports Authority Parking Lot - North Driveway Westbound					Ward Avenue Northbound					Ilaniwai Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	06:00 AM	10	120	2	0	132	0	0	3	0	3	2	30	1	0	33	0	1	1	5	7
06:15 AM	4	126	3	4	137	2	0	8	0	10	3	52	1	2	58	0	0	1	2	3	208
06:30 AM	9	133	2	1	145	2	0	6	0	8	2	75	1	1	79	0	0	3	7	10	242
06:45 AM	6	165	2	2	175	1	0	1	10	12	2	86	1	3	92	0	0	1	3	4	283
Total	29	544	9	7	589	5	0	18	10	33	9	243	4	6	262	0	1	6	17	24	908
07:00 AM	11	141	5	3	160	0	0	1	7	8	4	101	2	3	110	1	0	2	4	7	285
07:15 AM	7	169	11	4	191	0	0	2	5	7	3	134	0	3	140	2	1	2	13	18	356
07:30 AM	8	161	7	2	178	0	0	4	5	9	0	108	0	0	108	2	1	2	0	5	300
07:45 AM	14	171	7	5	197	0	0	7	10	17	2	119	0	4	125	1	1	5	9	16	355
Total	40	642	30	14	726	0	0	14	27	41	9	462	2	10	483	6	3	11	26	46	1296
08:00 AM	10	208	9	1	228	0	0	3	12	15	5	104	2	1	112	2	0	0	3	5	360
08:15 AM	16	154	14	0	184	2	0	5	3	10	1	113	2	1	117	3	1	1	11	16	327
08:30 AM	15	186	12	3	216	0	0	14	7	21	4	116	3	5	128	2	0	0	8	10	375
08:45 AM	17	191	8	2	218	1	0	16	7	24	7	110	3	3	123	0	0	4	7	11	376
Total	58	739	43	6	846	3	0	38	29	70	17	443	10	10	480	7	1	5	29	42	1438
Grand Total	127	1925	82	27	2161	8	0	70	66	144	35	1148	16	26	1225	13	5	22	72	112	3642
Approch %	5.9	89.1	3.8	1.2		5.6	0	48.6	45.8		2.9	99.7	1.3	2.1		11.6	4.5	19.6	64.3		
Total %	3.5	52.9	2.3	0.7	59.3	0.2	0	1.9	1.8	4	1	31.5	0.4	0.7	33.6	0.4	0.1	0.6	2	3.1	

Start Time	Ward Avenue Southbound					Sports Authority Parking Lot - North Driveway Westbound					Ward Avenue Northbound					Ilaniwai Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	08:00 AM	10	208	9	1	227	0	0	3	3	3	5	104	2	1	111	2	0	0	0	2
08:15 AM	16	154	14	0	184	2	0	5	3	7	1	113	2	1	116	3	1	1	1	5	312
08:30 AM	15	186	12	3	213	0	0	14	7	14	4	116	3	5	123	2	0	0	8	2	352
08:45 AM	17	191	8	2	216	1	0	16	7	17	7	110	3	3	120	0	0	4	7	4	357
Total Volume	58	739	43	6	840	3	0	38	29	41	17	443	10	10	470	7	1	5	29	13	1364
% App. Total	6.9	88	5.1		840	7.3	0	92.7	2.1	41	3.6	94.3	2.1	2.1	470	53.8	7.7	38.5		13	1364
PHF	.853	.888	.768		.925	.375	.000	.594		.603	.607	.955	.633		.955	.583	.250	.313		.650	.955

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-3888, D4-3889
Weather:Clear

File Name : Warla PM
Site Code : 00000004
Start Date : 4/8/2015
Page No : 1

Start Time	Ward Avenue Southbound					Sports Authority Parking Lot - North Driveway Westbound					Ward Avenue Northbound					Ilaniwai Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	03:00 PM	15	193	4	3	215	2	0	12	8	22	3	167	0	3	173	1	0	3	3	7
03:15 PM	27	184	3	1	215	1	0	5	12	18	2	173	0	1	176	4	0	2	9	15	424
03:30 PM	15	186	4	6	211	0	0	2	12	14	0	199	1	6	206	1	1	0	13	15	446
03:45 PM	19	205	7	5	236	0	0	4	13	17	4	184	0	5	193	3	0	8	14	25	471
Total	76	768	18	15	877	3	0	23	45	71	9	723	1	15	748	9	1	13	39	62	1758
04:00 PM	19	163	5	4	191	0	0	3	19	22	3	217	0	7	227	3	0	3	9	15	455
04:15 PM	19	169	5	2	195	0	0	3	5	8	0	248	0	0	248	1	0	3	8	12	463
04:30 PM	17	227	4	7	255	0	0	4	13	17	1	222	0	6	229	3	0	8	17	28	529
04:45 PM	19	188	3	1	211	0	0	16	9	25	3	224	0	1	228	2	0	8	12	22	486
Total	74	747	17	14	852	0	0	26	46	72	7	911	0	14	932	9	0	22	46	77	1933
05:00 PM	23	204	7	3	237	0	0	6	7	13	1	218	2	4	225	4	0	5	12	21	496
05:15 PM	23	216	2	7	248	1	0	10	15	26	1	175	0	8	184	1	0	7	16	24	482
05:30 PM	24	192	2	6	224	1	1	1	8	11	2	159	0	6	167	2	0	4	14	20	422
05:45 PM	13	169	2	3	187	0	0	3	10	13	1	207	0	1	209	0	0	0	7	7	416
Total	83	781	13	19	896	2	1	20	40	63	5	759	2	19	785	7	0	16	49	72	1816
Grand Total	233	2296	48	48	2625	5	1	69	131	206	21	2393	3	48	2465	25	1	51	134	211	5507
Approch %	8.9	87.5	1.8	1.8		2.4	0.5	33.5	63.6		0.9	97.1	0.1	1.9		11.8	0.5	24.2	63.5		
Total %	4.2	41.7	0.9	0.9	47.7	0.1	0	1.3	2.4	3.7	0.4	43.5	0.1	0.9	44.8	0.5	0	0.9	2.4	3.8	

Start Time	Ward Avenue Southbound					Sports Authority Parking Lot - North Driveway Westbound					Ward Avenue Northbound					Ilaniwai Street Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	04:15 PM	19	169	5	5	193	0	0	3	3	3	0	248	0	4	248	1	0	3	3	4
04:30 PM	17	227	4	4	248	0	0	4	4	4	1	222	0	8	223	3	0	8	11	11	486
04:45 PM	19	188	3	210	16	0	0	16	6	16	3	224	0	6	227	2	0	8	10	10	463
05:00 PM	23	204	7	234	6	0	0	6	6	6	1	218	2	221	221	4	0	5	9	9	470
Total Volume	78	788	19	885	29	0	0	29	29	29	5	912	2	2	919	10	0	24	34	34	1867
% App. Total	8.8	89	2.1		885	0	0	100	0.2	0.2	0.5	99.2	0	0.2	926	29.4	0	70.6		34	1867
PHF	.848	.868	.679		.892	.000	.000	.453		.453	.417	.919	.250		.926	.625	.000	.750		.773	.960

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:15 PM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: PA, FS
Counters: TU-0650, TU-0653
Weather: Clear

File Name : WarHal AM
Site Code : 00000005
Start Date : 4/8/2015
Page No : 1

Groups Printed- Unshifted																	
Start Time	Ward Avenue Southbound					Westbound				Ward Avenue Northbound				Halekiauila Street Eastbound			
	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	App. Total	App. Total	App. Total	App. Total													
06:00 AM	1	95	23	0	119	0	3	33	1	3	40	3	0	2	4	9	168
06:15 AM	4	93	34	0	131	0	4	52	0	3	59	8	0	0	2	10	200
06:30 AM	4	95	38	0	137	0	6	58	2	9	75	12	2	5	6	25	237
06:45 AM	1	118	48	0	167	0	8	63	0	6	77	18	1	4	5	28	272
Total	10	401	143	0	554	0	21	206	3	21	251	41	3	11	17	72	877
07:00 AM	4	100	38	0	142	0	7	81	1	7	96	26	3	3	5	37	275
07:15 AM	4	119	59	2	184	0	6	102	0	6	114	30	1	6	3	40	338
07:30 AM	1	105	62	0	168	0	10	108	0	10	128	24	3	5	5	37	333
07:45 AM	4	123	55	0	182	0	8	86	3	13	110	35	3	4	12	54	346
Total	13	447	214	2	676	0	31	377	4	36	448	115	10	18	25	168	1292
08:00 AM	6	142	62	0	210	0	7	90	0	4	101	20	5	5	4	34	345
08:15 AM	6	113	38	0	157	0	7	90	0	13	110	26	2	9	15	52	319
08:30 AM	1	147	39	0	187	0	4	100	0	14	118	24	4	8	8	44	349
08:45 AM	9	151	39	0	199	0	8	88	0	5	101	30	2	8	15	55	355
Total	22	553	178	0	753	0	26	368	0	36	430	100	13	30	42	185	1368
Grand Total	45	1401	535	2	1983	0	78	951	7	93	1129	256	26	59	84	425	3537
Approch %	2.3	70.7	27	0.1			6.9	84.2	0.6	8.2		60.2	6.1	13.9	19.8		
Total %	1.3	39.6	15.1	0.1	56.1	0	2.2	26.9	0.2	2.6	31.9	7.2	0.7	1.7	2.4		

Start Time	Ward Avenue Southbound					Westbound				Ward Avenue Northbound				Halekiauila Street Eastbound			
	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	App. Total	App. Total	App. Total	App. Total													
07:15 AM	4	119	59	0	182	0	6	102	0	0	108	30	1	6	37	327	
07:30 AM	1	105	62	0	168	0	10	108	0	0	118	24	3	5	32	318	
07:45 AM	4	123	55	0	182	0	8	86	3	3	97	35	3	4	42	321	
08:00 AM	6	142	62	0	210	0	7	90	0	0	97	20	5	5	30	337	
Total Volume	15	489	238	0	742	0	31	386	3	3	420	109	12	20	141	1303	
% App. Total	2	65.9	32.1				7.4	91.9	0.7	0.7		77.3	8.5	14.2			
PHF	.625	.861	.960		.863	.000	.775	.894	.250	.833	.890	.779	.600	.833	.839	.967	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: FS, PA
Counters: TU-0650, TU-0653
Weather: Clear

File Name : WarHal PM
Site Code : 00000005
Start Date : 4/8/2015
Page No : 1

Groups Printed- Unshifted																	
Start Time	Ward Avenue Southbound					Westbound				Ward Avenue Northbound				Halekiauila Street Eastbound			
	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	App. Total	App. Total	App. Total	App. Total													
03:00 PM	7	152	43	0	202	0	9	139	0	14	162	29	0	13	12	54	418
03:15 PM	5	149	35	0	189	0	6	137	3	16	162	38	5	13	7	63	414
03:30 PM	9	150	25	0	184	0	10	150	5	32	197	45	3	19	15	82	463
03:45 PM	12	170	27	0	209	0	7	150	3	20	180	38	9	8	13	68	457
Total	33	621	130	0	784	0	32	576	11	82	701	150	17	53	47	267	1752
04:00 PM	4	122	40	0	166	0	7	162	3	25	197	58	5	15	7	85	448
04:15 PM	2	136	34	0	172	0	6	185	3	24	218	63	4	18	9	94	484
04:30 PM	8	183	45	0	236	0	4	156	0	23	183	66	5	20	29	120	539
04:45 PM	11	151	34	0	196	0	10	167	3	13	193	58	4	22	2	86	475
Total	25	592	153	0	770	0	27	670	9	85	791	245	18	75	47	385	1946
05:00 PM	10	164	36	0	210	0	10	162	0	27	199	56	8	30	16	110	519
05:15 PM	4	175	31	0	210	0	8	115	1	25	149	60	6	17	16	99	458
05:30 PM	7	156	38	0	201	0	9	121	2	21	153	38	4	21	16	79	433
05:45 PM	6	138	28	0	172	0	13	152	1	18	184	50	4	18	5	77	433
Total	27	633	133	0	793	0	40	550	4	91	685	204	22	86	53	365	1843
Grand Total	85	1846	416	0	2347	0	99	1796	24	258	2177	599	57	214	147	1017	5541
Approch %	3.6	78.7	17.7	0			4.5	82.5	1.1	11.9		58.9	5.6	21	14.5		
Total %	1.5	33.3	7.5	0	42.4	0	1.8	32.4	0.4	4.7	39.3	10.8	1	3.9	2.7		

Start Time	Ward Avenue Southbound					Westbound				Ward Avenue Northbound				Halekiauila Street Eastbound			
	Left	Thru	Right	Peds	App. Total	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	App. Total	App. Total	App. Total	App. Total													
04:15 PM	2	136	34	0	172	0	6	185	3	25	199	63	4	18	85	451	
04:30 PM	8	183	45	0	236	0	4	156	0	23	183	66	5	20	91	487	
04:45 PM	11	151	34	0	196	0	10	167	3	18	184	58	4	22	84	476	
05:00 PM	10	164	36	0	210	0	9	121	2	21	153	38	4	21	16	79	433
Total Volume	31	634	149	0	814	0	30	670	6	6	706	243	21	90	354	1874	
% App. Total	3.8	77.9	18.3		.862	.000	4.2	94.9	0.8	0.8	.910	68.6	5.9	25.4		.962	
PHF	.705	.866	.828		.862	.000	.750	.905	.500	.500	.910	.920	.656	.750	.941	.962	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:15 PM

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By:RJ, JJ
 Counters:TU-0651, TU-0649
 Weather:Clear

File Name : CooKaw AM
 Site Code : 00000001
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound					Kawaiahao Street Westbound					Cooke Street Northbound					Kawaiahao Street Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	06:00 AM	1	29	13	4	47	0	4	4	8	16	4	13	4	0	21	7	0	2	4	
06:15 AM	2	29	17	5	53	2	2	5	13	22	3	19	2	0	24	1	0	1	7	9	108
06:30 AM	0	58	29	8	95	1	4	6	13	24	3	33	3	0	39	2	2	5	7	16	174
06:45 AM	3	88	44	7	142	3	10	9	19	41	8	34	2	1	45	3	2	3	10	18	246
Total	6	204	103	24	337	6	20	24	53	103	18	99	11	1	129	13	4	11	28	56	625
07:00 AM	5	75	45	11	136	1	6	15	4	26	9	52	5	1	67	6	0	5	8	19	248
07:15 AM	5	91	57	18	171	4	4	9	19	36	10	36	6	0	52	4	2	4	8	18	277
07:30 AM	5	86	43	16	150	4	14	14	18	50	12	56	15	0	83	7	1	6	8	22	305
07:45 AM	9	91	61	11	172	11	6	11	20	48	13	58	12	0	83	6	0	8	10	24	327
Total	24	343	206	56	629	20	30	49	61	160	44	202	38	1	285	23	3	23	34	83	1157
08:00 AM	9	90	46	13	158	4	4	20	19	47	12	48	7	0	67	7	2	6	14	29	301
08:15 AM	12	78	55	19	164	10	11	13	22	56	8	44	9	0	61	7	4	6	7	24	305
08:30 AM	11	72	26	27	136	8	6	17	18	49	8	41	13	0	62	4	5	7	3	19	266
08:45 AM	12	72	24	21	129	2	8	19	18	47	15	42	6	0	63	4	2	6	6	18	257
Total	44	312	151	80	587	24	29	69	77	199	43	175	35	0	253	22	13	25	30	90	1129
Grand Total	74	859	460	160	1553	50	79	142	191	462	105	476	84	2	667	58	20	59	92	229	2911
Approch %	4.8	55.3	29.6	10.3	53.3	1.7	2.7	4.9	6.6	15.9	3.6	16.4	2.9	0.1	22.9	2	0.7	2	3.2	7.9	

Groups Printed- Unshifted

Start Time	Cooke Street Southbound					Kawaiahao Street Westbound					Cooke Street Northbound					Kawaiahao Street Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	07:30 AM	5	86	43		134	4	14	14		32	12	56	15		83	7	1	6		
07:45 AM	9	91	61		161	11	6	11		28	13	58	12		83	6	0	8		14	286
08:00 AM	9	90	46		145	4	4	20		28	12	48	7		67	7	2	6		15	255
08:15 AM	12	78	55		145	10	11	13		34	8	44	9		61	7	4	6		17	257
Total Volume	35	345	205	35	585	29	35	58	43	294	45	206	43	0	294	27	7	26	60	1061	
% App. Total	6	59	35		23.8	28.7	47.5		15.3	70.1	14.6			14.6	45	11.7	43.3			43.3	
PHF	.729	.948	.840		.908	.659	.625	.725		.897	.865	.888	.717		.886	.964	.438	.813		.882	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By:RJ, JJ
 Counters:TU-0649, TU-0651
 Weather:Clear

File Name : CooKaw PM
 Site Code : 00000001
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound					Kawaiahao Street Westbound					Cooke Street Northbound					Kawaiahao Street Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	03:00 PM	8	38	15	5	66	5	8	24	8	45	10	60	8	0	78	8	7	7	6	
03:15 PM	5	64	14	6	89	3	8	11	18	40	8	56	16	0	80	7	4	8	8	27	236
03:30 PM	7	83	19	4	113	2	13	15	12	42	15	66	16	0	97	12	6	6	9	33	285
03:45 PM	7	78	25	6	116	5	4	21	8	38	7	99	12	0	118	6	1	8	5	20	292
Total	27	263	73	21	384	15	33	71	46	165	40	281	52	0	373	33	18	29	28	108	1030
04:00 PM	5	80	19	9	113	4	5	18	21	48	9	79	9	0	97	12	5	13	10	40	298
04:15 PM	9	64	16	17	106	2	5	24	20	51	6	88	13	0	107	7	3	6	13	29	293
04:30 PM	8	83	12	9	112	7	15	22	9	53	4	95	10	0	109	10	4	9	10	33	307
04:45 PM	9	80	15	14	118	8	5	15	18	46	8	84	8	0	100	9	6	8	12	35	299
Total	31	307	62	49	449	21	30	79	68	198	27	346	40	0	413	38	18	36	45	137	1197
05:00 PM	4	67	21	10	102	12	7	26	14	59	15	106	7	0	128	12	2	13	16	43	332
05:15 PM	8	66	14	9	97	5	7	25	15	52	6	87	17	0	110	12	3	8	7	30	289
05:30 PM	8	35	12	9	64	7	4	29	16	56	3	99	5	0	107	7	2	5	11	25	252
05:45 PM	7	41	15	5	68	6	5	17	6	34	7	61	8	0	76	12	1	4	8	25	203
Total	27	209	62	33	331	30	23	97	51	201	31	353	37	0	421	43	8	30	42	123	1076
Grand Total	85	779	197	103	1164	66	86	247	165	564	98	980	129	0	1207	114	44	95	115	368	3303
Approch %	7.3	66.9	16.9	8.8	35.2	11.7	15.2	43.8	29.3	17.1	8.1	81.2	10.7	0	36.5	3.5	1.3	2.9	3.5	11.1	

Groups Printed- Unshifted

Start Time	Cooke Street Southbound					Kawaiahao Street Westbound					Cooke Street Northbound					Kawaiahao Street Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	04:30 PM	8	83	12		103	7	15	22		44	4	95	10		109	10	4	9		
04:45 PM	9	80	15		104	8	5	15		28	8	84	8		100	9	6	8		23	255
05:00 PM	4	67	21		92	12	7	26		45	15	106	7		128	12	2	13		27	292
05:15 PM	8	66	14		88	5	7	25		37	6	87	17		110	12	3	8		23	258
Total Volume	29	296	62		387	32	34	88		154	33	372	42		447	43	15	38		96	1084
% App. Total	7.5	76.5	16		30.8	20.8	22.1	57.1		44.8	7.4	83.2	9.4		33.6	44.8	15.6	39.6		88.9	
PHF	.806	.892	.738		.930	.667	.567	.846		.856	.550	.877	.618		.873	.896	.625	.731		.889	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, JC
Counters: D4-5675, D4-5676
Weather: Clear

File Name : CooQue AM
Site Code : 00000002
Start Date : 4/9/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound				Queen Street Westbound				Cooke Street Northbound				Queen Street Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
06:00 AM	3	18	9	3	5	25	5	8	43	3	11	2	6	22	10	7	49	147	
06:15 AM	2	22	9	1	4	36	2	8	50	2	18	5	1	26	4	20	42	152	
06:30 AM	3	35	27	4	10	50	6	15	81	8	19	2	1	30	5	37	52	232	
06:45 AM	2	41	51	6	7	54	10	20	91	11	31	5	4	51	6	29	57	299	
Total	10	116	96	14	26	165	23	51	265	24	79	14	12	129	20	113	200	830	
07:00 AM	4	44	36	2	14	89	7	6	116	9	39	9	4	61	7	34	6	322	
07:15 AM	4	53	41	4	10	91	10	25	136	6	37	4	8	55	6	46	11	360	
07:30 AM	3	49	44	3	10	119	18	19	166	5	55	10	7	77	12	48	18	430	
07:45 AM	3	52	54	7	13	122	12	15	162	3	66	8	5	82	6	50	10	431	
Total	14	198	175	16	47	421	47	65	580	23	197	31	24	275	31	178	51	1543	
08:00 AM	3	64	36	14	20	115	11	11	157	8	48	9	11	76	8	43	17	427	
08:15 AM	3	47	41	2	12	94	7	11	124	9	43	11	7	70	13	47	16	370	
08:30 AM	7	51	29	2	18	84	7	13	122	8	41	7	6	62	13	51	18	359	
08:45 AM	5	50	26	7	22	76	15	8	121	9	43	10	4	66	6	57	21	366	
Total	18	212	132	25	72	369	40	43	524	34	175	37	28	274	40	198	72	1522	
Grand Total	42	526	403	55	145	955	110	159	1369	81	451	82	64	678	91	489	164	3895	
Apprch %	4.1	51.3	39.3	5.4	10.6	69.8	8	11.6	11.9	66.5	12.1	9.4	17.4	11.1	59.5	20	9.5	21.1	3895
Total %	1.1	13.5	10.3	1.4	3.7	24.5	2.8	4.1	35.1	2.1	11.6	2.1	1.6	17.4	2.3	12.6	4.2	2	21.1

Start Time	Cooke Street Southbound				Queen Street Westbound				Cooke Street Northbound				Queen Street Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
07:30 AM	3	49	44	96	10	119	18	147	5	55	10	10	70	12	48	18	78	391	
07:45 AM	3	52	54	109	13	122	12	147	3	66	8	8	77	6	50	10	66	399	
08:00 AM	3	64	36	103	20	115	11	146	8	48	9	9	65	8	43	17	68	382	
08:15 AM	3	47	41	91	12	94	7	113	9	43	11	11	63	13	47	16	76	343	
Total Volume	12	212	175	399	55	450	48	553	25	212	38	38	275	39	188	61	288	1515	
% App. Total	3	53.1	43.9	.915	9.9	81.4	8.7	9.1	77.1	13.8	13.8	13.8	13.5	65.3	21.2	13.5	65.3	21.2	1515
PHF	1.00	.828	.810	.915	.688	.922	.667	.940	.694	.803	.864	.864	.750	.940	.847	.940	.847	.923	.949

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By: DY, EV
Counters: D4-5675, D4-5676
Weather: Clear

File Name : CooQue PM
Site Code : 00000002
Start Date : 4/9/2015
Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound				Queen Street Westbound				Cooke Street Northbound				Queen Street Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
03:00 PM	2	32	16	2	11	91	14	11	127	7	60	13	5	85	8	49	16	344	
03:15 PM	9	46	20	5	18	76	14	9	117	7	50	17	5	79	16	58	22	377	
03:30 PM	4	71	17	2	6	112	17	12	147	7	63	10	10	90	17	66	11	430	
03:45 PM	9	60	22	7	22	100	21	10	153	7	84	7	8	106	15	61	21	460	
Total	24	209	75	16	57	379	66	42	544	28	257	47	28	360	56	234	70	1611	
04:00 PM	5	73	19	8	7	70	9	17	103	12	71	19	4	106	15	59	17	415	
04:15 PM	4	50	18	1	18	79	20	20	137	6	68	9	8	91	20	78	22	428	
04:30 PM	6	64	29	2	8	73	7	12	100	8	78	9	5	100	24	101	18	455	
04:45 PM	11	63	22	3	99	11	67	12	102	3	66	14	11	94	25	107	15	451	
Total	26	250	88	14	44	289	48	61	442	29	283	51	28	391	84	345	72	1749	
05:00 PM	9	56	27	3	11	82	14	12	119	10	94	14	14	132	23	98	19	494	
05:15 PM	7	55	18	0	11	80	17	16	124	9	75	12	5	101	19	94	20	441	
05:30 PM	3	30	14	5	13	68	8	16	105	9	72	11	7	99	27	87	15	390	
05:45 PM	1	25	25	7	58	11	74	7	106	13	63	10	8	94	6	84	15	372	
Total	20	166	84	15	46	304	46	58	454	41	304	47	34	426	75	363	69	1697	
Grand Total	70	625	247	45	147	972	160	161	1440	98	844	145	90	1177	215	942	211	85	1453
Apprch %	7.1	63.3	25	4.6	10.2	67.5	11.1	11.2	8.3	71.7	12.3	7.6	17.4	14.8	64.8	14.5	5.8	5.8	1453
Total %	1.4	12.4	4.9	0.9	2.9	19.2	3.2	3.2	28.5	1.9	16.7	2.9	1.8	23.3	4.3	18.6	4.2	1.7	28.7

Start Time	Cooke Street Southbound				Queen Street Westbound				Cooke Street Northbound				Queen Street Eastbound				Int. Total		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		App. Total	
04:30 PM	6	64	29	99	8	73	7	88	8	78	9	9	95	24	101	18	143	425	
04:45 PM	11	63	22	96	11	67	12	90	3	66	14	14	83	25	107	15	147	416	
05:00 PM	9	56	27	92	11	82	14	107	10	94	14	14	118	23	98	19	140	457	
05:15 PM	7	55	18	80	11	80	17	108	9	75	12	12	96	19	94	20	133	417	
Total Volume	33	238	96	367	41	302	50	393	30	313	49	49	392	91	400	72	563	1715	
% App. Total	9	64.9	26.2	.927	10.4	76.8	12.7	7.7	79.8	12.5	12.5	12.5	16.2	71	12.8	900	.957	.938	1715
PHF	.750	.930	.828	.927	.932	.921	.735	.910	.831	.832	.875	.875	.910	.935	.900	.957	.957	.938	.938

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Counted By:GC, KW
Counters:D4-3890, D4-5674
Weather:Clear

File Name : CooHal AM
Site Code : 00000004
Start Date : 4/9/2015
Page No : 1

Start Time	Cooke Street Southbound						Halekiauila Street Westbound						Cooke Street Northbound						Halekiauila Street Eastbound						Int. Total												
	Left		Thru		Right		Peds		App. Total		Left		Thru		Right		Peds		App. Total		Left		Thru			Right		Peds		App. Total							
06:00 AM	7	17	9	3	36	6	5	3	20	0	11	2	3	16	1	10	1	6	18	90	6	6	5	5	3	20	0	11	2	3	16	1	10	1	6	18	90
06:15 AM	6	27	3	3	39	3	2	5	15	2	15	0	5	22	5	5	8	5	23	99	2	15	0	5	22	5	5	8	5	23	99						
06:30 AM	3	32	13	4	52	8	8	5	4	25	4	19	2	4	29	7	18	5	36	142	4	19	2	4	29	7	18	5	36	142							
06:45 AM	5	55	5	1	66	4	15	4	9	32	3	31	4	5	43	8	12	2	25	166	3	31	4	5	43	8	12	2	25	166							
Total	21	131	30	11	193	21	31	19	21	92	9	76	8	17	110	21	45	16	102	497	9	76	8	17	110	21	45	16	20	102	497						
07:00 AM	11	38	19	4	72	3	21	7	6	37	4	39	2	6	51	10	15	2	33	193	4	39	2	6	51	10	15	2	6	33	193						
07:15 AM	9	44	18	10	81	8	24	9	4	45	4	26	7	4	41	11	12	6	35	202	4	26	7	4	41	11	12	6	6	35	202						
07:30 AM	14	51	12	8	85	13	21	9	5	48	3	51	9	2	65	13	23	10	53	251	3	51	9	2	65	13	23	10	7	53	251						
07:45 AM	6	50	19	8	83	11	23	13	8	55	5	49	13	5	72	14	17	8	43	253	5	49	13	5	72	14	17	8	4	43	253						
Total	40	183	68	30	321	35	89	38	23	185	16	165	31	17	229	48	67	26	164	899	16	165	31	17	229	48	67	26	23	164	899						
08:00 AM	6	81	17	7	111	13	19	7	2	41	4	45	13	2	64	13	18	8	43	259	4	45	13	2	64	13	18	8	4	43	259						
08:15 AM	8	53	12	1	74	14	9	4	0	27	3	49	8	2	62	10	11	5	32	195	3	49	8	2	62	10	11	5	6	32	195						
08:30 AM	10	65	12	3	90	10	10	8	11	39	2	45	10	2	59	4	14	2	24	212	2	45	10	2	59	4	14	2	4	24	212						
08:45 AM	6	77	10	10	103	7	15	3	4	29	2	48	5	3	58	10	13	10	37	227	2	48	5	3	58	10	13	10	4	37	227						
Total	30	276	51	21	378	44	53	22	17	136	11	187	36	9	243	37	56	25	136	893	11	187	36	9	243	37	56	25	18	136	893						
Grand Total	91	590	149	62	892	100	173	79	61	413	36	428	75	43	582	106	168	67	402	2289	36	428	75	43	582	106	168	67	61	402	2289						
Approch %	10.2	66.1	16.7	7	39	24.2	41.9	19.1	14.8	18	6.2	73.5	12.9	7.4	25.4	26.4	41.8	16.7	15.2	17.6	6.2	73.5	12.9	7.4	25.4	26.4	41.8	16.7	7.3	2.9	2.7	17.6					
Total %	4	25.8	6.5	2.7	13.9	4.4	7.6	3.5	2.7	18	1.6	18.7	3.3	1.9	25.4	4.6	7.3	2.9	2.7	17.6	1.6	18.7	3.3	1.9	25.4	4.6	7.3	2.9	2.7	17.6							

Start Time	Cooke Street Southbound						Halekiauila Street Westbound						Cooke Street Northbound						Halekiauila Street Eastbound						Int. Total							
	Left		Thru		Right		Peds		App. Total		Left		Thru		Right		Peds		App. Total		Left		Thru			Right		Peds		App. Total		
07:30 AM	14	51	12	77	13	21	9	43	3	51	9	9	63	13	23	10	46	229	3	51	9	9	63	13	23	10	46	229				
07:45 AM	6	50	19	75	11	23	13	47	5	49	13	13	67	14	17	8	39	228	5	49	13	13	67	14	17	8	8	39	228			
08:00 AM	6	81	17	104	13	19	7	39	4	45	13	4	62	13	18	5	39	244	4	45	13	4	62	13	18	5	5	39	244			
08:15 AM	8	53	12	73	14	9	4	27	3	49	8	3	60	10	11	5	26	186	3	49	8	3	60	10	11	5	5	26	186			
Total Volume	34	235	60	329	51	72	33	156	15	194	43	252	50	69	31	150	887	15	194	43	252	50	69	31	150	31	150	887				
% App. Total	10.3	71.4	18.2	93.5	32.7	46.2	21.2	93.5	6	77	17.1	93.5	33.3	46	20.7	893	750	775	815	909	6	77	17.1	93.5	33.3	46	20.7	893	750	775	815	909
PHF	.607	.725	.789	.791	.911	.783	.635	.830	.750	.951	.827	.940	.893	.750	.775	.815	.909	.915	.909	.909	.750	.951	.827	.940	.893	.750	.775	.815	.915	.909	.909	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

Counted By:GC, KW
Counters:D4-5674, D4-3890
Weather:Clear

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

File Name : CooHal PM
Site Code : 00000004
Start Date : 4/9/2015
Page No : 1

Start Time	Cooke Street Southbound						Halekiauila Street Westbound						Cooke Street Northbound						Halekiauila Street Eastbound						Int. Total						
	Left		Thru		Right		Peds		App. Total		Left		Thru		Right		Peds		App. Total		Left		Thru			Right		Peds		App. Total	
03:00 PM	5	50	7	3	65	5	12	4	7	28	4	69	3	6	82	5	20	8	34	209	4	69	3	6	82	5	20	8	1	34	209
03:15 PM	11	67	6	3	87	11	15	11	5	42	3	50	9	4	66	11	36	3	56	251	3	50	9	4	66	11	36	3	6	56	251
03:30 PM	8	71	6	4	89	8	15	4	5	32	7	61	13	2	83	11	20	10	47	251	7	61	13	2	83	11	20	10	6	47	251
03:45 PM	7	87	7	1	102	3	9	15	11	38	0	67	12	4	83	13	26	10	57	280	0	67	12	4	83	13	26	10	8	57	280
Total	31	275	26	11	343	27	51	34	28	140	14	247	37	16	314	40	102	31	194	991	14	247	37	16	314	40	102	31	21	194	991
04:00 PM	14	75	8	1	98	10	15	22	9	56	3	67	8	5	83	12	23	6	43	280	3	67	8	5	83	12	23	6	2	43	280
04:15 PM	7	69	13	1	90	7	18	7	5	37	4	56	12	6	78	17	27	8	56	261	4	56	12	6	78	17	27	8	4	56	261
04:30 PM	7	73	9	9	98	8	17	15	11	51	3	59	6	8	76	22	35	14	82	307	3	59	6	8	76	22	35	14	11	82	307
04:45 PM	8	69	11	9	97	10	12	15	12	49	7	52	10	7	76	24	31	15	78	300	7	52	10	7	76	24	31	15	8	78	300
Total	36	286	41	20	383	35	62	59	37	193	17	234	36	26	313	75	116	43	259	1148	17	234	36	26	313	75	116	43	25	259	1148
05:00 PM	8	66	9	3	86	13	21	17	8	59	5	83	11	3	102	18	26	19	73	320	5	83	11	3	102	18	26	19	10	73	320
05:15 PM	9	71	11	6	97	10	22	20	4	56	3	58	6	2	69	16	30	10	67	289	3	58	6	2	69	16	30	10	11	67	289
05:30 PM	4	41	15	5	65	6	17	14	10	47	5	68	16	7	96	10	28	9	54	262	5	68	16	7	96	10	28	9	7	54	262
05:45 PM	3	37	7	1	48	9	20	16	9	54	7	58	18	13	96	10	22	10	49	247	7	58	18	13	96	10	22	10	7	49	247
Total	24	215	42	15	296	38	80	67	31	216	20	267	51	25	363	54	106	48	243	1118	20	267	51	25	363	54	106	48	35	243	1118
Grand Total	91	776	109	46	1022	100	193	16																							

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By:FS, PA
 Counters:TU-0654, TU-0652
 Weather:Clear

File Name : CooPoh AM
 Site Code : 00000003
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound			Pohukaina Street Westbound			Cooke Street Northbound			Pohukaina Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
06:00 AM	4	13	7	1	1	2	0	11	7	0	7	0	18	9	56
06:15 AM	4	24	10	3	3	3	1	11	4	1	2	1	23	6	79
06:30 AM	3	20	23	4	13	12	4	33	5	0	16	1	20	24	124
06:45 AM	13	29	18	6	20	4	2	32	9	1	6	10	40	24	160
Total	24	86	58	15	37	21	8	81	25	2	35	5	101	63	419
07:00 AM	2	28	14	6	15	4	2	27	15	4	10	4	50	3	147
07:15 AM	14	26	18	3	31	5	2	48	1	3	6	10	5	5	180
07:30 AM	5	52	18	7	42	14	3	66	4	4	8	9	4	1	216
07:45 AM	6	44	17	11	30	12	2	55	8	1	12	18	66	1	224
Total	27	150	67	34	118	35	9	196	43	12	47	17	214	108	767
08:00 AM	10	72	19	9	17	11	3	40	13	4	9	7	64	2	231
08:15 AM	8	37	27	6	24	9	2	41	0	4	12	14	59	4	210
08:30 AM	8	48	21	8	26	8	5	47	15	1	13	19	57	1	218
08:45 AM	8	68	17	13	17	9	6	45	4	7	13	12	56	1	228
Total	34	225	84	36	84	37	16	173	58	16	52	20	237	8	887
Grand Total	85	461	209	18	239	93	33	450	126	30	134	42	552	34	2073
Approch %	11	59.6	27	4.1	53.1	20.7	7.3	7.1	64.7	22.8	45	14.1	29.5	11.4	
Total %	4.1	22.2	10.1	0.9	11.5	4.5	1.6	21.7	17.2	6.1	6.5	2	4.2	1.6	14.4

Start Time	Cooke Street Southbound			Pohukaina Street Westbound			Cooke Street Northbound			Pohukaina Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
07:45 AM	6	44	17	11	30	12	8	46	11	11	12	18	65	34	219
08:00 AM	10	72	19	9	17	11	5	42	13	4	9	7	60	23	221
08:15 AM	8	37	27	6	24	9	0	39	16	4	12	14	55	31	197
08:30 AM	8	48	21	8	26	8	5	36	15	1	13	19	56	4	211
Total Volume	32	201	84	34	97	40	18	163	55	23.3	46	58	236	20	848
%App. PHF	10.1	63.4	26.5	19.9	56.7	23.4	7.6	69.1	23.3	8.59	37.1	46.8	90.8	16.1	959
	.800	.698	.778	.773	.808	.833	.563	.886	.859		.885	.763	.908	.714	

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By:PA, FS
 Counters:TU-0654, TU-0652
 Weather:Clear

File Name : CooPoh PM
 Site Code : 00000003
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Cooke Street Southbound			Pohukaina Street Westbound			Cooke Street Northbound			Pohukaina Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
03:00 PM	16	37	7	9	19	10	4	52	6	2	14	21	64	43	209
03:15 PM	7	58	15	9	18	12	5	37	17	2	5	27	61	50	240
03:30 PM	15	65	7	13	27	22	0	39	11	0	18	23	50	53	257
03:45 PM	20	66	15	6	33	12	5	45	12	3	21	29	65	61	293
Total	58	226	44	37	97	56	14	173	46	7	66	100	240	207	999
04:00 PM	16	54	14	19	24	11	0	41	5	6	26	19	52	8	251
04:15 PM	15	58	11	13	26	9	4	46	3	6	15	15	55	2	233
04:30 PM	20	59	15	4	22	12	8	39	12	8	17	49	62	3	283
04:45 PM	19	64	13	10	15	8	3	40	3	9	19	31	53	2	250
Total	70	235	53	46	87	40	17	190	23	29	77	114	222	15	1017
05:00 PM	20	65	12	13	22	22	7	64	14	10	25	22	80	6	313
05:15 PM	14	54	19	12	21	15	8	56	16	11	12	26	75	4	269
05:30 PM	15	27	13	18	17	15	6	56	2	10	31	21	72	8	309
05:45 PM	10	30	15	12	27	24	7	70	4	11	16	18	63	8	239
Total	59	176	59	55	87	76	28	246	56	42	84	87	290	82	1130
Grand Total	187	637	156	138	271	172	67	648	125	78	227	301	752	114	3146
Approch %	18.2	62.1	15.2	4.4	41.8	26.5	10.3	4.9	68.1	16.6	31.5	41.8	23.9	15.8	
Total %	5.9	20.2	5	1.2	8.6	5.5	2.1	16.3	4	2.5	7.2	9.6	23.9	3.6	22.9

Start Time	Cooke Street Southbound			Pohukaina Street Westbound			Cooke Street Northbound			Pohukaina Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
04:30 PM	20	59	15	4	22	12	3	39	12	3	17	49	54	7	259
04:45 PM	19	64	13	10	15	8	1	40	3	3	19	31	44	9	232
05:00 PM	20	65	12	13	22	22	5	51	14	16	25	22	70	6	277
05:15 PM	14	54	19	12	21	15	15	40	16	10	12	26	64	44	243
Total Volume	73	242	59	39	80	57	17	170	45	232	73	128	282	229	1011
%App. PHF	19.5	64.7	15.8	22.2	45.5	32.4	7.3	73.3	19.4	7.03	31.9	55.9	829	12.2	912
	.913	.931	.776	.750	.909	.648	.531	.833	.703		.730	.653	.778	.784	

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By: AC, DM
 Counters: TU-0653, TU-0650
 Weather: Clear

File Name : HaIKam AM
 Site Code : 00000005
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Kauhale Kakaako Drive Thru Southbound			Halekauwila Street Westbound			Kamani Street Northbound			Halekauwila Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
06:00 AM	0	0	0	1	29	0	3	33	4	0	0	0	4	6	46
06:15 AM	0	0	0	4	27	1	2	34	3	0	2	3	8	9	51
06:30 AM	0	0	0	6	35	0	7	48	5	0	4	2	11	13	73
06:45 AM	0	0	0	6	39	0	6	51	3	0	2	2	7	26	85
Total	0	0	0	17	130	1	18	166	15	0	8	7	30	54	255
07:00 AM	0	0	0	9	49	1	6	65	3	0	7	3	13	8	87
07:15 AM	0	0	0	8	55	1	1	65	5	0	5	5	15	9	92
07:30 AM	0	0	0	17	55	3	2	77	2	0	0	1	3	35	116
07:45 AM	0	0	0	11	63	1	1	76	2	0	10	1	13	21	110
Total	0	0	0	45	222	6	10	283	12	0	22	10	44	75	405
08:00 AM	0	0	0	12	41	1	2	56	3	0	9	1	13	1	97
08:15 AM	0	0	0	10	34	1	3	48	13	0	10	4	27	1	91
08:30 AM	0	0	0	15	28	0	2	45	7	0	11	3	21	6	98
08:45 AM	0	0	0	16	24	1	0	41	2	0	6	1	9	9	59
Total	0	0	0	53	127	3	7	190	25	0	36	9	70	81	345
Grand Total	0	0	0	115	479	10	35	639	52	0	66	26	144	210	1005
Apprch % Total %	0	0	0	18	75	1.6	5.5	63.6	36.1	0	45.8	18.1	14.3	4.8	20.9

Start Time	Kauhale Kakaako Drive Thru Southbound			Halekauwila Street Westbound			Kamani Street Northbound			Halekauwila Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
07:15 AM	0	0	0	8	55	1	1	64	5	0	5	0	10	11	85
07:30 AM	0	0	0	17	55	3	0	75	2	0	0	0	2	4	111
07:45 AM	0	0	0	11	63	1	1	75	2	0	10	5	12	21	108
08:00 AM	0	0	0	12	41	1	1	54	3	0	9	1	12	5	90
Total Volume	0	0	0	48	214	6	6	268	12	0	24	6	36	14	394
% App. Total	.000	.000	.000	.706	.849	.500	.500	.893	.600	.000	.600	.667	.750	.700	.887

Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

Wilson Okamoto Corporation
 1907 S. Beretania Street, Suite 400
 Honolulu, HI 96826

Counted By: AC, DM
 Counters: TU-0653, TU-0650
 Weather: Clear

File Name : HaIKam PM
 Site Code : 00000005
 Start Date : 4/9/2015
 Page No : 1

Groups Printed- Unshifted

Start Time	Kauhale Kakaako Drive Thru Southbound			Halekauwila Street Westbound			Kamani Street Northbound			Halekauwila Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
03:00 PM	0	0	0	8	14	2	2	26	2	0	16	0	18	17	61
03:15 PM	0	0	0	9	23	2	1	35	10	1	19	1	31	32	98
03:30 PM	0	0	0	7	14	0	1	22	3	0	12	5	20	2	69
03:45 PM	0	0	0	9	17	2	0	28	4	0	20	1	25	31	84
Total	0	0	0	33	68	6	4	111	19	1	67	7	94	107	312
04:00 PM	0	0	0	8	29	3	7	47	3	0	11	2	16	0	82
04:15 PM	0	0	0	8	15	0	3	26	2	0	19	2	23	5	127
04:30 PM	0	0	0	9	22	1	1	33	5	0	18	5	28	2	121
04:45 PM	0	0	0	5	18	0	0	23	4	0	15	2	21	2	79
Total	0	0	0	30	84	4	11	129	14	0	63	11	88	7	409
05:00 PM	0	0	0	8	42	2	1	53	2	0	17	1	20	4	107
05:15 PM	0	0	0	5	32	1	0	38	7	1	14	1	23	3	109
05:30 PM	0	0	0	7	31	2	1	41	5	0	15	4	24	4	112
05:45 PM	0	0	0	1	18	1	0	20	8	0	8	9	25	1	70
Total	0	0	0	21	123	6	2	152	22	1	54	15	92	14	398
Grand Total	0	0	0	84	275	16	17	392	55	2	184	33	274	30	1119
Apprch % Total %	0	0	0	21.4	70.2	4.1	4.3	63.6	20.1	0.7	67.2	12	24.5	4.6	38.8

Start Time	Kauhale Kakaako Drive Thru Southbound			Halekauwila Street Westbound			Kamani Street Northbound			Halekauwila Street Eastbound			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		App. Total	
04:15 PM	0	0	0	8	15	0	0	23	2	0	0	19	21	5	120
04:30 PM	0	0	0	9	22	1	1	32	5	0	18	18	23	2	112
04:45 PM	0	0	0	5	18	0	0	23	4	0	0	15	19	1	75
05:00 PM	0	0	0	8	42	2	0	52	2	0	17	4	19	4	102
Total Volume	0	0	0	16	30	97	3	130	13	0	69	6	82	11	409
% App. Total	.000	.000	.000	.231	.746	2.3	.375	.625	15.9	0	84.1	6.6	.891	.658	.852

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:15 PM

APPENDIX B
LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically a 15-min analysis period. The criteria are given in the following table.

Table 1: Level-of-Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec/veh)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group.

Level of Service A describes operations with low control delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

Level of Service B describes operations with control delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

Level of Service C describes operations with control delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

Level of Service D describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level of service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E describes operation with control delay greater than 55 and up to 80 sec per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

Level of Service F describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) criteria are given in Table 1. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. If the degree of saturation is greater than about 0.9, average control delay is significantly affected by the length of the analysis period.

Table 1: Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

APPENDIX C
CAPACITY ANALYSIS CALCULATIONS
BASELINE PEAK PERIOD TRAFFIC ANALYSIS

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WET	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗		↔	↗	↖	↖		↖	↖	
Traffic Volume (vph)	50	193	83	75	355	61	83	449	60	53	717	200
Future Volume (vph)	50	193	83	75	355	61	83	449	60	53	717	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.98		1.00	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1841	1545		1844	1538	1770	3439		1770	3377	
Flt Permitted		0.65	1.00		0.88	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1201	1545		1636	1538	1770	3439		1770	3377	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	205	88	80	378	65	88	478	64	56	763	213
RTOR Reduction (vph)	0	0	56	0	0	42	0	11	0	0	28	0
Lane Group Flow (vph)	0	258	32	0	458	23	88	531	0	56	948	0
Confl. Peds. (#/hr)	21		15	15		21			58			34
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		26.3	26.3		26.3	26.3	5.1	31.0		3.6	29.5	
Effective Green, g (s)		26.3	26.3		26.3	26.3	5.1	31.0		3.6	29.5	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.07	0.41		0.05	0.39	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		416	535		566	532	118	1404		83	1312	
v/s Ratio Prot							c0.05	0.15		0.03	c0.28	
v/s Ratio Perm		0.21	0.02		c0.28	0.01						
v/c Ratio		0.62	0.06		0.81	0.04	0.75	0.38		0.67	0.72	
Uniform Delay, d1		20.6	16.6		22.5	16.4	34.8	15.7		35.6	19.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9	0.0		8.4	0.0	22.3	0.2		19.5	2.0	
Delay (s)		23.5	16.6		30.9	16.5	57.1	15.9		55.1	21.7	
Level of Service		C	B		C	B	E	B		E	C	
Approach Delay (s)		21.7			29.1			21.6			23.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.0				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			75.9				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			88.2%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗		↔	↗	↖	↕	↖	↖	↕	
Traffic Volume (vph)	101	416	147	90	409	86	72	775	149	126	803	81
Future Volume (vph)	101	416	147	90	409	86	72	775	149	126	803	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frb, ped/bikes		1.00	0.96		1.00	0.98	1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1843	1528		1843	1548	1770	3372		1770	3457	
Flt Permitted		0.57	1.00		0.58	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1059	1528		1072	1548	1770	3372		1770	3457	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	105	433	153	94	426	90	75	807	155	131	836	84
RTOR Reduction (vph)	0	0	47	0	0	47	0	18	0	0	9	0
Lane Group Flow (vph)	0	538	106	0	520	43	75	944	0	131	911	0
Confl. Peds. (#/hr)	11		25	25		11			88			59
Turn Type	Perm	NA	Ferm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		39.0	39.0		39.0	39.0	4.0	29.3		5.0	30.3	
Effective Green, g (s)		39.0	39.0		39.0	39.0	4.0	29.3		5.0	30.3	
Actuated g/C Ratio		0.44	0.44		0.44	0.44	0.05	0.33		0.06	0.34	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		467	674		473	683	80	1118		100	1186	
v/s Ratio Prot							0.04	c0.28		c0.07	0.26	
v/s Ratio Perm		c0.51	0.07		0.48	0.03						
v/c Ratio		1.15	0.16		1.10	0.06	0.94	0.84		1.31	0.77	
Uniform Delay, d1		24.6	14.8		24.6	14.2	42.0	27.4		41.6	25.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		90.5	0.1		71.2	0.0	78.8	6.0		194.2	3.1	
Delay (s)		115.1	14.9		95.8	14.2	120.8	33.4		235.8	28.9	
Level of Service		F	B		F	B	F	C		F	C	
Approach Delay (s)		92.9			83.8			39.7			54.7	
Approach LOS		F			F			D			D	
Intersection Summary												
HCM 2000 Control Delay			63.1									E
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			88.3					15.0				
Intersection Capacity Utilization			104.7%									G
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↕			↕		↖	↕	
Traffic Volume (vph)	40	192	12	180	286	28	16	116	58	38	194	106
Future Volume (vph)	40	192	12	180	286	28	16	116	58	38	194	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Frt		0.99		1.00	0.99			0.95			0.95	
Flt Protected		0.99		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		3484		1770	3492			3362			3353	
Flt Permitted		0.84		0.95	1.00			0.91			0.90	
Satd. Flow (perm)		2965		1770	3492			3078			3040	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	204	13	191	304	30	17	123	62	40	206	113
RTOR Reduction (vph)	0	5	0	0	10	0	0	42	0	0	69	0
Lane Group Flow (vph)	0	255	0	191	324	0	0	160	0	0	290	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8				4	
Actuated Green, G (s)		12.6		9.1	26.7			17.1			17.1	
Effective Green, g (s)		12.6		9.1	26.7			17.1			17.1	
Actuated g/C Ratio		0.23		0.17	0.50			0.32			0.32	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		694		299	1733			978			966	
v/s Ratio Prot				c0.11	0.09							
v/s Ratio Perm		c0.09						0.05			c0.10	
v/c Ratio		0.37		0.64	0.19			0.16			0.30	
Uniform Delay, d1		17.3		20.8	7.5			13.2			13.8	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.3		4.4	0.1			0.1			0.2	
Delay (s)		17.6		25.3	7.6			13.3			14.0	
Level of Service		B		C	A			B			B	
Approach Delay (s)		17.6			14.0			13.3			14.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		14.6										B
HCM 2000 Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		53.8						15.0				
Intersection Capacity Utilization		48.9%										A
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	104	478	48	288	477	52	43	170	73	65	133	51
Future Volume (vph)	104	478	48	288	477	52	43	170	73	65	133	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Frt		0.99		1.00	0.99			0.96			0.97	
Flt Protected		0.99		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		3470		1770	3487			3378			3387	
Flt Permitted		0.76		0.95	1.00			0.86			0.76	
Satd. Flow (perm)		2647		1770	3487			2923			2598	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	108	498	50	300	497	54	45	177	76	68	139	53
RTOR Reduction (vph)	0	6	0	0	9	0	0	27	0	0	18	0
Lane Group Flow (vph)	0	650	0	300	542	0	0	271	0	0	242	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8			4		
Actuated Green, G (s)		28.1		19.7	52.8			15.6			15.6	
Effective Green, g (s)		28.1		19.7	52.8			15.6			15.6	
Actuated g/C Ratio		0.36		0.25	0.67			0.20			0.20	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		948		444	2348			581			516	
v/s Ratio Prot				c0.17	0.16							
v/s Ratio Perm		c0.25						0.09			c0.09	
v/c Ratio		0.69		0.68	0.23			0.47			0.47	
Uniform Delay, d1		21.4		26.5	4.9			27.7			27.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.1		4.0	0.1			0.6			0.7	
Delay (s)		23.5		30.5	5.0			28.3			28.4	
Level of Service		C		C	A			C			C	
Approach Delay (s)		23.5			14.0			28.3			28.4	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		20.9										
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		78.4						15.0				
Intersection Capacity Utilization		65.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

8/5/2016

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (veh/h)	283	21	97	475	24	72
Future Volume (Veh/h)	283	21	97	475	24	72
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	298	22	102	500	25	76
Pedestrians					19	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type	TWTL			None		
Median storage veh	2					
Upstream signal (ft)	564			680		
pX, platoon unblocked						
vC, conflicting volume			339		782	179
vC1, stage 1 conf vol					328	
vC2, stage 2 conf vol					454	
vCu, unblocked vol			339		782	179
tC, single (s)			4.1		*5.8	*5.9
tC, 2 stage (s)					4.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		96	91
cM capacity (veh/h)			1198		564	863
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	199	121	102	250	250	101
Volume Left	0	0	102	0	0	25
Volume Right	0	22	0	0	0	76
cSH	1700	1700	1198	1700	1700	763
Volume to Capacity	0.12	0.07	0.09	0.15	0.15	0.13
Queue Length 95th (ft)	0	0	7	0	0	11
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	10.4
Lane LOS			A			B
Approach Delay (s)	0.0		1.4			10.4
Approach LOS						B
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			32.0%		ICU Level of Service	A
Analysis Period (min)			15			
* User Entered Value						

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

8/5/2016

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↘
Traffic Volume (veh/h)	578	10	75	759	47	193
Future Volume (Veh/h)	578	10	75	759	47	193
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	649	11	84	853	53	217
Pedestrians						19
Lane Width (ft)						12.0
Walking Speed (ft/s)						4.0
Percent Blockage						2
Right turn flare (veh)						
Median type	TWLTL		None			
Median storage veh	2					
Upstream signal (ft)	564		687			
pX, platoon unblocked			0.92	0.92		0.92
vC, conflicting volume			679	1268		349
vC1, stage 1 conf vol			674			
vC2, stage 2 conf vol			594			
vCu, unblocked vol			469	1111		109
tC, single (s)			4.1	*5.8		*5.9
tC, 2 stage (s)			4.8			
tF (s)			2.2	3.5		3.3
p0 queue free %			91	88		75
cM capacity (veh/h)			983	456		860
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	433	227	84	426	426	270
Volume Left	0	0	84	0	0	53
Volume Right	0	11	0	0	0	217
cSH	1700	1700	983	1700	1700	733
Volume to Capacity	0.25	0.13	0.09	0.25	0.25	0.37
Queue Length 95th (ft)	0	0	7	0	0	42
Control Delay (s)	0.0	0.0	9.0	0.0	0.0	12.7
Lane LOS	A			B		
Approach Delay (s)	0.0		0.8		12.7	
Approach LOS					B	
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			45.0%		ICU Level of Service A	
Analysis Period (min)			15			
* User Entered Value						

HCM Signalized Intersection Capacity Analysis
24: Ward Ave & Halekauwila St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔			↔			↑↑		↘		↗		
Traffic Volume (vph)	105	13	9	0	0	0	42	431	3	16	549	249	
Future Volume (vph)	105	13	9	0	0	0	42	431	3	16	549	249	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0			5.0		5.0		5.0		5.0		5.0	
Lane Util. Factor	1.00			1.00		0.95		1.00		0.95		1.00	
Frbp, ped/bikes	1.00			1.00		1.00		1.00		1.00		0.93	
Flpb, ped/bikes	1.00			0.98		1.00		1.00		1.00		1.00	
Frt	0.99			1.00		1.00		1.00		1.00		0.85	
Flt Protected	0.96			0.95		1.00		0.95		1.00		1.00	
Satd. Flow (prot)	1765			1726		3536		1770		3539		1469	
Flt Permitted	0.96			0.44		1.00		0.49		1.00		1.00	
Satd. Flow (perm)	1765			799		3536		919		3539		1469	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	108	13	9	0	0	0	43	444	3	16	566	257	
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	126	
Lane Group Flow (vph)	0	127	0	0	0	0	43	447	0	16	566	131	
Confl. Peds. (#/hr)	2		44				42						
Turn Type	Perm	NA		Perm		NA		Perm	NA		Perm	NA	
Protected Phases	4			2		6		6					
Permitted Phases	4			2		6		6					
Actuated Green, G (s)	15.0			26.0		26.0		26.0		26.0		26.0	
Effective Green, g (s)	15.0			26.0		26.0		26.0		26.0		26.0	
Actuated g/C Ratio	0.29			0.51		0.51		0.51		0.51		0.51	
Clearance Time (s)	5.0			5.0		5.0		5.0		5.0		5.0	
Vehicle Extension (s)	3.0			3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	519			407		1802		468		1804		748	
v/s Ratio Prot				0.13		c0.16							
v/s Ratio Perm	0.07			0.05		0.02		0.09					
v/c Ratio	0.25			0.11		0.25		0.03		0.31		0.18	
Uniform Delay, d1	13.7			6.5		7.0		6.2		7.3		6.7	
Progression Factor	1.00			1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.2			0.1		0.1		0.0		0.1		0.1	
Delay (s)	13.9			6.6		7.1		6.3		7.4		6.8	
Level of Service	B			A		A		A		A		A	
Approach Delay (s)	13.9			0.0		7.0		7.2					
Approach LOS	B			A		A		A					
Intersection Summary													
HCM 2000 Control Delay	7.7			HCM 2000 Level of Service		A							
HCM 2000 Volume to Capacity ratio	0.29			Sum of lost time (s)		10.0							
Actuated Cycle Length (s)	51.0			ICU Level of Service		A							
Intersection Capacity Utilization	50.5%			Analysis Period (min)		15							
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
24: Ward Ave & Halekauwila St/Driveway

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↕	↕		↕	↕	
Traffic Volume (vph)	243	22	85	0	0	0	19	746	6	32	694	156
Future Volume (vph)	243	22	85	0	0	0	19	746	6	32	694	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00					1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.98					1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00					0.98	1.00		1.00	1.00	
Frt		0.97					1.00	1.00		1.00	0.97	
Flt Protected		0.97					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1712					1732	3535		1770	3375	
Flt Permitted		0.97					0.23	1.00		0.28	1.00	
Satd. Flow (perm)		1712					423	3535		528	3375	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	253	23	89	0	0	0	20	777	6	33	723	162
RTOR Reduction (vph)	0	13	0	0	0	0	0	1	0	0	24	0
Lane Group Flow (vph)	0	352	0	0	0	0	20	782	0	33	862	0
Confl. Peds. (#/hr)			91				63					63
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4						2			6		
Actuated Green, G (s)		22.4					22.8	22.8		22.8	22.8	
Effective Green, g (s)		22.4					22.8	22.8		22.8	22.8	
Actuated g/C Ratio		0.41					0.41	0.41		0.41	0.41	
Clearance Time (s)		5.0					5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		694					174	1460		218	1394	
v/s Ratio Prot								0.22			c0.26	
v/s Ratio Perm		0.21					0.05			0.06		
v/c Ratio		0.51					0.11	0.54		0.15	0.62	
Uniform Delay, d1		12.3					10.0	12.2		10.1	12.8	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6					0.3	0.4		0.3	0.8	
Delay (s)		12.9					10.3	12.6		10.5	13.6	
Level of Service		B					B	B		B	B	
Approach Delay (s)		12.9			0.0			12.5			13.5	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.0										B
HCM 2000 Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		55.2							10.0			
Intersection Capacity Utilization		56.6%										B
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
34: Ward Ave & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WET	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕	↕	↕		↕	↕	
Traffic Volume (vph)	25	71	35	89	100	140	59	313	76	94	441	68
Future Volume (vph)	25	71	35	89	100	140	59	313	76	94	441	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00		0.98	1.00	
Frt		1.00	0.85	1.00	0.91		1.00	0.97		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3483	1583	1770	1672		1747	3406		1739	3446	
Flt Permitted		0.86	1.00	0.69	1.00		0.45	1.00		0.51	1.00	
Satd. Flow (perm)		3022	1583	1279	1672		818	3406		924	3446	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	77	38	97	109	152	64	340	83	102	479	74
RTOR Reduction (vph)	0	0	25	0	65	0	0	24	0	0	14	0
Lane Group Flow (vph)	0	104	13	97	196	0	64	399	0	102	539	0
Confl. Peds. (#/hr)	37					37	34		63	63		34
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		15.5	15.5	15.5	15.5		20.7	20.7		20.7	20.7	
Effective Green, g (s)		15.5	15.5	15.5	15.5		20.7	20.7		20.7	20.7	
Actuated g/C Ratio		0.34	0.34	0.34	0.34		0.45	0.45		0.45	0.45	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1013	531	429	560		366	1526		414	1543	
v/s Ratio Prot					c0.12			0.12			c0.16	
v/s Ratio Perm		0.03	0.01	0.08			0.08			0.11		
v/c Ratio		0.10	0.02	0.23	0.35		0.17	0.26		0.25	0.35	
Uniform Delay, d1		10.6	10.3	11.0	11.6		7.6	8.0		7.9	8.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.0	0.3	0.4		0.2	0.1		0.3	0.1	
Delay (s)		10.6	10.3	11.3	11.9		7.9	8.1		8.2	8.5	
Level of Service		B	B	B	B		A	A		A	A	
Approach Delay (s)		10.5			11.8			8.0			8.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		9.2										A
HCM 2000 Volume to Capacity ratio		0.35										
Actuated Cycle Length (s)		46.2							10.0			
Intersection Capacity Utilization		61.9%										B
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
34: Ward Ave & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↖	↗	↗↔	↔↔	↗	↗	↔↔	↗
Traffic Volume (vph)	30	168	65	135	93	273	47	430	188	309	426	69
Future Volume (vph)	30	168	65	135	93	273	47	430	188	309	426	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.96	1.00	0.95		1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	0.98	1.00		0.97	1.00		0.97	1.00	
Frt		1.00	0.85	1.00	0.89		1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3499	1518	1730	1578		1720	3294		1721	3428	
Flt Permitted		0.85	1.00	0.62	1.00		0.45	1.00		0.38	1.00	
Satd. Flow (perm)		2997	1518	1136	1578		820	3294		692	3428	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	31	173	67	139	96	281	48	443	194	319	439	71
RTOR Reduction (vph)	0	0	46	0	120	0	0	56	0	0	14	0
Lane Group Flow (vph)	0	204	21	139	257	0	48	581	0	319	496	0
Confl. Peds. (#/hr)	67		39	39		67	43		87	87		43
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		24.2	24.2	24.2	24.2		41.6	41.6		41.6	41.6	
Effective Green, g (s)		24.2	24.2	24.2	24.2		41.6	41.6		41.6	41.6	
Actuated g/C Ratio		0.32	0.32	0.32	0.32		0.55	0.55		0.55	0.55	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		956	484	362	503		450	1807		379	1881	
v/s Ratio Prot					c0.16			0.18			0.14	
v/s Ratio Perm		0.07	0.01	0.12			0.06			c0.46		
v/c Ratio		0.21	0.04	0.38	0.51		0.11	0.32		0.84	0.26	
Uniform Delay, d1		18.8	17.8	20.0	21.0		8.2	9.4		14.3	9.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0	0.7	0.9		0.1	0.1		15.4	0.1	
Delay (s)		19.0	17.9	20.7	21.9		8.3	9.5		29.8	9.1	
Level of Service		B	B	C	C		A	A		C	A	
Approach Delay (s)		18.7			21.6		9.4				17.1	
Approach LOS		B		C			A				B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔↔	↗	↖	↔↔	↗	↖	↔↔	↗	↖	↔↔	↗
Traffic Volume (vph)	54	93	27	24	102	54	40	108	28	25	200	149
Future Volume (vph)	54	93	27	24	102	54	40	108	28	25	200	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00	1.00
Frt	1.00	0.97		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3392		1770	3356		1737	3409		1742	1863	1526
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.66	1.00	1.00
Satd. Flow (perm)	1770	3392		1770	3356		1140	3409		1209	1863	1526
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	58	100	29	26	110	58	43	116	30	27	215	160
RTOR Reduction (vph)	0	21	0	0	43	0	0	18	0	0	0	93
Lane Group Flow (vph)	58	108	0	26	125	0	43	128	0	27	215	67
Confl. Peds. (#/hr)			34	34			43		33	33		43
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	2.1	13.4		1.6	12.9		21.4	21.4		21.4	21.4	21.4
Effective Green, g (s)	2.1	13.4		1.6	12.9		21.4	21.4		21.4	21.4	21.4
Actuated g/C Ratio	0.04	0.26		0.03	0.25		0.42	0.42		0.42	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	72	884		55	842		474	1419		503	775	635
v/s Ratio Prot	c0.03	0.03		0.01	c0.04			0.04			c0.12	
v/s Ratio Perm							0.04			0.02		0.04
v/c Ratio	0.81	0.12		0.47	0.15		0.09	0.09		0.05	0.28	0.10
Uniform Delay, d1	24.4	14.5		24.5	15.0		9.1	9.1		9.0	9.9	9.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	46.1	0.1		6.3	0.1		0.1	0.0		0.0	0.2	0.1
Delay (s)	70.6	14.6		30.8	15.1		9.2	9.1		9.0	10.1	9.2
Level of Service	E	B		C	B		A	A		A	B	A
Approach Delay (s)		31.9			17.2			9.1			9.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	99	310	130	9	161	76	77	143	45	98	246	161
Future Volume (vph)	99	310	130	9	161	76	77	143	45	98	246	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frb, ped/bikes	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.94	1.00		0.90	1.00	1.00
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3199		1770	3212		1656	3304		1601	1863	1409
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00		0.63	1.00	1.00
Satd. Flow (perm)	1770	3199		1770	3212		854	3304		1057	1863	1409
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	104	326	137	9	169	80	81	151	47	103	259	169
RTOR Reduction (vph)	0	51	0	0	47	0	0	33	0	0	0	121
Lane Group Flow (vph)	104	412	0	9	202	0	81	165	0	103	259	48
Confl. Peds. (#/hr)			167			209	105		137	137		105
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Actuated Green, G (s)	7.3	36.7		0.7	30.1		20.9	20.9		20.9	20.9	20.9
Effective Green, g (s)	7.3	36.7		0.7	30.1		20.9	20.9		20.9	20.9	20.9
Actuated g/C Ratio	0.10	0.50		0.01	0.41		0.29	0.29		0.29	0.29	0.29
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	176	1601		16	1318		243	942		301	531	401
v/s Ratio Prot	c0.06	c0.13		0.01	0.06			0.05			c0.14	
v/s Ratio Perm							0.09			0.10		0.03
v/c Ratio	0.59	0.26		0.56	0.15		0.33	0.18		0.34	0.49	0.12
Uniform Delay, d1	31.6	10.5		36.1	13.6		20.7	19.7		20.8	21.8	19.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.2	0.1		38.3	0.1		0.8	0.1		0.7	0.7	0.1
Delay (s)	36.8	10.6		74.4	13.6		21.5	19.8		21.4	22.5	19.5
Level of Service	D	B		E	B		C	B		C	C	B
Approach Delay (s)		15.4			15.8			20.3			21.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
36: Queens Lane/Queens Ln & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WET	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗				↖	↕	↗		↕	↗
Traffic Volume (vph)	45	7	52	0	0	0	93	75	6	21	41	51
Future Volume (vph)	45	7	52	0	0	0	93	75	6	21	41	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0				5.0
Lane Util. Factor		1.00	1.00				1.00	1.00				1.00
Frb, ped/bikes		1.00	0.96				1.00	1.00				0.97
Flpb, ped/bikes		0.99	1.00				1.00	1.00				1.00
Frt		1.00	0.85				1.00	0.99				0.94
Flt Protected		0.96	1.00				0.95	1.00				0.99
Satd. Flow (prot)		1760	1521				1770	1836				1678
Flt Permitted		0.96	1.00				0.95	1.00				0.95
Satd. Flow (perm)		1760	1521				1770	1836				1603
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	8	60	0	0	0	107	86	7	24	47	59
RTOR Reduction (vph)	0	0	50	0	0	0	0	3	0	0	30	0
Lane Group Flow (vph)	0	60	10	0	0	0	107	90	0	0	100	0
Confl. Peds. (#/hr)	12		34	34		12			16	16		62
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		8.4	8.4				6.9	30.5				18.6
Effective Green, g (s)		8.4	8.4				6.9	30.5				18.6
Actuated g/C Ratio		0.17	0.17				0.14	0.62				0.38
Clearance Time (s)		5.0	5.0				5.0	5.0				5.0
Vehicle Extension (s)		3.0	3.0				3.0	3.0				3.0
Lane Grp Cap (vph)		302	261				249	1145				609
v/s Ratio Prot							c0.06	0.05				
v/s Ratio Perm		0.03	0.01									c0.06
v/c Ratio		0.20	0.04				0.43	0.08				0.16
Uniform Delay, d1		17.4	16.9				19.2	3.6				10.0
Progression Factor		1.00	1.00				1.00	1.00				1.00
Incremental Delay, d2		0.3	0.1				1.2	0.0				0.1
Delay (s)		17.7	16.9				20.4	3.7				10.1
Level of Service		B	B				C	A				B
Approach Delay (s)		17.3			0.0			12.6				10.1
Approach LOS		B			A			B				B

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	48.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 36: Queens Lane/Queens Ln & Auahi St

8/5/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗				↖	↗			↔	
Traffic Volume (vph)	91	9	176	0	0	0	183	100	10	18	77	51
Future Volume (vph)	91	9	176	0	0	0	183	100	10	18	77	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0			5.0	
Lane Util. Factor		1.00	1.00				1.00	1.00			1.00	
Frb, ped/bikes		1.00	0.92				1.00	0.99			0.96	
Flpb, ped/bikes		0.92	1.00				1.00	1.00			0.99	
Frt		1.00	0.85				1.00	0.99			0.95	
Flt Protected		0.96	1.00				0.95	1.00			0.99	
Satd. Flow (prot)		1632	1454				1770	1822			1686	
Flt Permitted		0.96	1.00				0.95	1.00			0.96	
Satd. Flow (perm)		1632	1454				1770	1822			1628	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	100	10	193	0	0	0	201	110	11	20	85	56
RTOR Reduction (vph)	0	0	147	0	0	0	0	5	0	0	20	0
Lane Group Flow (vph)	0	110	46	0	0	0	201	116	0	0	141	0
Confl. Peds. (#/hr)	60		77	77		60			48	48		104
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	
Protected Phases		4					5	2				6
Permitted Phases	4		4							6		
Actuated Green, G (s)		13.2	13.2				9.6	32.2				17.6
Effective Green, g (s)		13.2	13.2				9.6	32.2				17.6
Actuated g/C Ratio		0.24	0.24				0.17	0.58				0.32
Clearance Time (s)		5.0	5.0				5.0	5.0				5.0
Vehicle Extension (s)		3.0	3.0				3.0	3.0				3.0
Lane Grp Cap (vph)		388	346				306	1058				517
v/s Ratio Prot							c0.11	0.06				
v/s Ratio Perm		0.07	0.03								c0.09	
v/c Ratio		0.28	0.13				0.66	0.11				0.27
Uniform Delay, d1		17.2	16.6				21.4	5.2				14.1
Progression Factor		1.00	1.00				1.00	1.00				1.00
Incremental Delay, d2		0.4	0.2				5.0	0.0				0.3
Delay (s)		17.6	16.8				26.4	5.2				14.4
Level of Service		B	B				C	A				B
Approach Delay (s)		17.1			0.0			18.4				14.4
Approach LOS		B			A			B				B
Intersection Summary												
HCM 2000 Control Delay			17.1				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			55.4				Sum of lost time (s)					15.0
Intersection Capacity Utilization			56.2%				ICU Level of Service					B
Analysis Period (min)			15									
c Critical Lane Group												

APPENDIX D
 TRIP GENERATIONS CALCULATIONS

Trip Generation
Block N East - Phase 2A

Land Use No./Type	Number of Units	Units	Land Use Number	Weekday		AM PEAK			PM PEAK											
				Land Use Number	Trip Rate per Unit	In	Out	In	Out	In	Out									
Existing																				
Shopping Center	22,11275	ksf	820	42.70	944	62	0.60	13	38	0.36	8	82	48	1.78	39	52	1.93	43		
High-Turnover (Sit-Down) Restaurant (formerly #832)	1,93975	ksf	932	127.15	247	55	5.95	12	45	4.86	9	19	60	5.91	11	40	3.94	8		
Existing Subtotal					1191	42		25			17	101			50			51		
Internal Capture					-487	-14		-9			-5	-50			-22			-28		
Existing Total					704	28		16			12	51			28			23		
Proposed (Residential)																				
Residential Condominium/Townhouse	750	units	230	5.81	4358	330	0.07	56	83	0.37	274	390	67	0.35	261	33	0.17	129		
Residential All Mode Trip Reduction P1-2					-857	-74		-12			-62	-69			-49			-20		
P1-5					-1006	-88		-14			-74	-78			-56			-22		
Residential Total (with reduction for Existing)					1336	121		10			111	137			96			41		
P1-2					1249	113		9			104	130			91			39		
P1-5																				
Proposed (Retail/Restaurant)																				
Shopping Center	15	ksf	820	42.70	641	14	0.60	9	38	0.36	5	56	48	1.78	27	52	1.93	29		
High-Turnover (Sit-Down) Restaurant (formerly #832)	5	ksf	932	127.15	636	54	10.81	30	45	4.86	24	49	60	5.91	30	40	3.94	19		
Retail Sub Total (no reductions)					1277	68		39			29	105			57			48		
Trip Reduction P1-2					-2306	-132		-36			-96	-236			-139			-97		
P1-5					-2601	-151		-40			-111	-264			-158			-106		
Retail Trip Reduction P1-2					-1449	-58		-24			-34	-167			-90			-77		
P1-5					-1595	-63		-26			-37	-186			-102			-84		
Retail Total (to Block M District Parking)					-172	10		15			-5	-62			-33			-29		
P1-2					-318	5		13			-8	-81			-45			-36		
P1-5																				

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Ward Master Plan	Organization:	W-Trans
Project Location:	Hawaii	Performed By:	Sam Lam
Scenario Description:		Date:	10/15/2015
Analysis Year:		Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	163	ksf	293	97	60
Restaurant	932	78	ksf	368	464	380
Cinema/Entertainment				0		
Residential	230	2,860	du	1,386	214	1,044
Hotel				0		
All Other Land Uses ²				0		
				2,047	775	1,484

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail	1.05	5%	20%	1.05	5%	20%
Restaurant	1.05	5%	20%	1.05	5%	20%
Cinema/Entertainment						
Residential	1.05	5%	20%	1.05	5%	20%
Hotel						
All Other Land Uses ²						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		8	0	5	0
Restaurant	0	8		0	11	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	11	97	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	2,372	814	1,558
Internal Capture Percentage	12%	17%	9%
External Vehicle-Trips ⁵	1,494	482	1,012
External Transit-Trips ⁶	104	33	71
External Non-Motorized Trips ⁶	419	135	284

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	19%	21%
Restaurant	22%	5%
Cinema/Entertainment	N/A	N/A
Residential	7%	10%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³Enter trips assuming no transit or non-motorized trips (as assumed in *ITE Trip Generation Manual*).
⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
⁶Person-Trips
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Ward Master Plan	Organization:	W-Trans
Project Location:	Hawaii	Performed By:	Sam Lam
Scenario Description:		Date:	10/15/2015
Analysis Year:		Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	163	ksf	606	291	315
Restaurant	932	78	ksf	769	461	308
Cinema/Entertainment				0		
Residential	230	2,860	du	1,487	996	491
Hotel				0		
All Other Land Uses ²				0		
				2,862	1,748	1,114

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail	1.05	5%	20%	1.05	5%	20%
Restaurant	1.05	5%	20%	1.05	5%	20%
Cinema/Entertainment						
Residential	1.05	5%	20%	1.05	5%	20%
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					500	
Restaurant					500	
Cinema/Entertainment						
Residential		500	500			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		96	0	86	0
Restaurant	0	132		0	58	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	28	62	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	3,006	1,836	1,170
Internal Capture Percentage	31%	25%	39%
External Vehicle-Trips ⁵	1,489	983	506
External Transit-Trips ⁶	103	68	35
External Non-Motorized Trips ⁶	416	274	142

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	52%	55%
Restaurant	33%	59%
Cinema/Entertainment	N/A	N/A
Residential	14%	17%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

APPENDIX E
CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2020 PEAK PERIOD TRAFFIC
ANALYSIS WITHOUT PROJECT

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	50	193	83	76	355	61	83	450	60	53	718	201
Future Volume (vph)	50	193	83	76	355	61	83	450	60	53	718	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.98		1.00	0.97		1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		1.00		1.00	0.97	
Flt Protected		0.99	1.00		0.99	1.00		0.95		1.00	1.00	
Satd. Flow (prot)		1841	1545		1844	1538		1770		3439	1770	3376
Flt Permitted		0.65	1.00		0.88	1.00		0.95		1.00	1.00	
Satd. Flow (perm)		1201	1545		1631	1538		1770		3439	1770	3376
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	205	88	81	378	65	88	479	64	56	764	214
RTOR Reduction (vph)	0	0	55	0	0	42	0	11	0	0	28	0
Lane Group Flow (vph)	0	258	33	0	459	23	88	532	0	56	950	0
Confl. Peds. (#/hr)	21		15	15		21			58			34
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		26.4	26.4		26.4	26.4	5.1	31.0		3.6	29.5	
Effective Green, g (s)		26.4	26.4		26.4	26.4	5.1	31.0		3.6	29.5	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.07	0.41		0.05	0.39	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		417	536		566	534	118	1402		83	1310	
v/s Ratio Prot							c0.05	0.15		0.03	c0.28	
v/s Ratio Perm		0.21	0.02		c0.28	0.01						
v/c Ratio		0.62	0.06		0.81	0.04	0.75	0.38		0.67	0.73	
Uniform Delay, d1		20.6	16.5		22.5	16.4	34.8	15.8		35.6	19.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.7	0.0		8.6	0.0	22.3	0.2		19.5	2.0	
Delay (s)		23.3	16.6		31.2	16.5	57.1	15.9		55.1	21.8	
Level of Service		C	B		C	B	E	B		E	C	
Approach Delay (s)		21.6			29.3			21.7			23.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay		24.0										
HCM 2000 Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		76.0										
Intersection Capacity Utilization		88.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Traffic Volume (vph)	103	421	150	91	414	87	73	786	150	127	814	82
Future Volume (vph)	103	421	150	91	414	87	73	786	150	127	814	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.96		1.00	0.98		1.00		1.00	0.98	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85		1.00		1.00	0.98	
Flt Protected		0.99	1.00		0.99	1.00		0.95		1.00	1.00	
Satd. Flow (prot)		1843	1528		1843	1548		1770		3373	1770	3457
Flt Permitted		0.56	1.00		0.56	1.00		0.95		1.00	1.00	
Satd. Flow (perm)		1037	1528		1049	1548		1770		3373	1770	3457
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	107	439	156	95	431	91	76	819	156	132	848	85
RTOR Reduction (vph)	0	0	47	0	0	47	0	18	0	0	9	0
Lane Group Flow (vph)	0	546	109	0	526	44	76	957	0	132	924	0
Confl. Peds. (#/hr)	11		25	25		11			88			59
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		39.0	39.0		39.0	39.0	4.0	29.3		5.0	30.3	
Effective Green, g (s)		39.0	39.0		39.0	39.0	4.0	29.3		5.0	30.3	
Actuated g/C Ratio		0.44	0.44		0.44	0.44	0.05	0.33		0.06	0.34	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		458	674		463	683	80	1119		100	1186	
v/s Ratio Prot							0.04	c0.28		c0.07	0.27	
v/s Ratio Perm		c0.53	0.07		0.50	0.03						
v/c Ratio		1.19	0.16		1.14	0.06	0.95	0.86		1.32	0.78	
Uniform Delay, d1		24.6	14.8		24.6	14.2	42.1	27.5		41.6	26.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		106.3	0.1		84.7	0.0	82.7	6.6		198.0	3.3	
Delay (s)		130.9	14.9		109.3	14.2	124.7	34.1		239.7	29.3	
Level of Service		F	B		F	B	F	C		F	C	
Approach Delay (s)		105.2			95.3			40.6			55.4	
Approach LOS		F			F			D			E	
Intersection Summary												
HCM 2000 Control Delay		68.2										
HCM 2000 Volume to Capacity ratio		1.07										
Actuated Cycle Length (s)		88.3										
Intersection Capacity Utilization		105.8%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	41	194	12	183	290	29	16	117	58	38	196	107
Future Volume (vph)	41	194	12	183	290	29	16	117	58	38	196	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Fr't		0.99		1.00	0.99			0.95			0.95	
Flt Protected		0.99		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		3484		1770	3491			3363			3354	
Flt Permitted		0.84		0.95	1.00			0.91			0.90	
Satd. Flow (perm)		2955		1770	3491			3078			3042	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	206	13	195	309	31	17	124	62	40	209	114
RTOR Reduction (vph)	0	5	0	0	10	0	0	42	0	0	69	0
Lane Group Flow (vph)	0	258	0	195	330	0	0	161	0	0	294	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8			4		
Actuated Green, G (s)		12.7		9.2	26.9			17.1			17.1	
Effective Green, g (s)		12.7		9.2	26.9			17.1			17.1	
Actuated g/C Ratio		0.24		0.17	0.50			0.32			0.32	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		694		301	1739			974			963	
v/s Ratio Prot				c0.11	0.09							
v/s Ratio Perm		c0.09						0.05			c0.10	
v/c Ratio		0.37		0.65	0.19			0.16			0.31	
Uniform Delay, d1		17.3		20.9	7.5			13.3			14.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.3		4.7	0.1			0.1			0.2	
Delay (s)		17.6		25.6	7.6			13.4			14.1	
Level of Service		B		C	A			B			B	
Approach Delay (s)		17.6			14.1			13.4			14.1	
Approach LOS		B		B				B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	106	484	49	291	481	53	43	172	74	66	135	52
Future Volume (vph)	106	484	49	291	481	53	43	172	74	66	135	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Fr't		0.99		1.00	0.99			0.96			0.97	
Flt Protected		0.99		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		3470		1770	3487			3378			3386	
Flt Permitted		0.75		0.95	1.00			0.86			0.75	
Satd. Flow (perm)		2635		1770	3487			2921			2580	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	504	51	303	501	55	45	179	77	69	141	54
RTOR Reduction (vph)	0	6	0	0	9	0	0	28	0	0	18	0
Lane Group Flow (vph)	0	659	0	303	547	0	0	273	0	0	246	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8			4		
Actuated Green, G (s)		28.9		20.2	54.1			15.7			15.7	
Effective Green, g (s)		28.9		20.2	54.1			15.7			15.7	
Actuated g/C Ratio		0.36		0.25	0.68			0.20			0.20	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		954		448	2363			574			507	
v/s Ratio Prot				c0.17	0.16							
v/s Ratio Perm		c0.25						0.09			c0.10	
v/c Ratio		0.69		0.68	0.23			0.48			0.48	
Uniform Delay, d1		21.7		26.9	4.9			28.4			28.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.2		4.0	0.1			0.6			0.7	
Delay (s)		23.8		30.9	5.0			29.0			29.2	
Level of Service		C		C	A			C			C	
Approach Delay (s)		23.8			14.1			29.0			29.2	
Approach LOS		C		B				C			C	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

7/19/2016

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↙	
Traffic Volume (veh/h)	285	21	99	482	24	73
Future Volume (Veh/h)	285	21	99	482	24	73
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	300	22	104	507	25	77
Pedestrians	19					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	TWLTL		None			
Median storage (veh)	2					
Upstream signal (ft)	564		680			
pX, platoon unblocked						
vC, conflicting volume			341	792	180	
vC1, stage 1 conf vol				330		
vC2, stage 2 conf vol				462		
vCu, unblocked vol			341	792	180	
tC, single (s)			4.1	*5.8	*5.9	
tC, 2 stage (s)				4.8		
tF (s)			2.2	3.5	3.3	
p0 queue free %			91	96	91	
cM capacity (veh/h)			1196	559	862	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	200	122	104	254	254	102
Volume Left	0	0	104	0	0	25
Volume Right	0	22	0	0	0	77
cSH	1700	1700	1196	1700	1700	761
Volume to Capacity	0.12	0.07	0.09	0.15	0.15	0.13
Queue Length 95th (ft)	0	0	7	0	0	12
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	10.5
Lane LOS			A	B		
Approach Delay (s)	0.0		1.4	10.5		
Approach LOS				B		
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			32.2%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

7/19/2016

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↙	
Traffic Volume (veh/h)	585	10	76	767	48	196
Future Volume (Veh/h)	585	10	76	767	48	196
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	657	11	85	862	54	220
Pedestrians	19					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type	TWLTL		None			
Median storage (veh)	2					
Upstream signal (ft)	564		687			
pX, platoon unblocked						
vC, conflicting volume			0.91	0.91	0.91	
vC1, stage 1 conf vol			687	1282	353	
vC2, stage 2 conf vol				682		
vCu, unblocked vol			470	1121	104	
tC, single (s)			4.1	*5.8	*5.9	
tC, 2 stage (s)				4.8		
tF (s)			2.2	3.5	3.3	
p0 queue free %			91	88	74	
cM capacity (veh/h)			979	453	862	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	438	230	85	431	431	274
Volume Left	0	0	85	0	0	54
Volume Right	0	11	0	0	0	220
cSH	1700	1700	979	1700	1700	732
Volume to Capacity	0.26	0.14	0.09	0.25	0.25	0.37
Queue Length 95th (ft)	0	0	7	0	0	44
Control Delay (s)	0.0	0.0	9.0	0.0	0.0	12.8
Lane LOS			A	B		
Approach Delay (s)	0.0		0.8	12.8		
Approach LOS				B		
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.5%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

HCM Signalized Intersection Capacity Analysis
24: Ward Ave & Halekauwila St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔					↖	↗		↖	↗	
Traffic Volume (vph)	107	13	9	0	0	0	43	437	3	16	557	253
Future Volume (vph)	107	13	9	0	0	0	43	437	3	16	557	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00					1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00					1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00					0.98	1.00		1.00	1.00	
Frt		0.99					1.00	1.00		1.00	0.95	
Flt Protected		0.96					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1765					1740	3536		1770	3293	
Flt Permitted		0.96					0.30	1.00		0.49	1.00	
Satd. Flow (perm)		1765					553	3536		913	3293	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	110	13	9	0	0	0	44	451	3	16	574	261
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	51	0
Lane Group Flow (vph)	0	130	0	0	0	0	44	454	0	16	784	0
Confl. Peds. (#/hr)	2		44				42					42
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4						2			6		
Actuated Green, G (s)		15.1					29.4	29.4		29.4	29.4	
Effective Green, g (s)		15.1					29.4	29.4		29.4	29.4	
Actuated g/C Ratio		0.28					0.54	0.54		0.54	0.54	
Clearance Time (s)		5.0					5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		489					298	1907		492	1776	
v/s Ratio Prot								0.13			c0.24	
v/s Ratio Perm		0.07					0.08			0.02		
v/c Ratio		0.27					0.15	0.24		0.03	0.44	
Uniform Delay, d1		15.4					6.3	6.6		5.9	7.6	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3					0.2	0.1		0.0	0.2	
Delay (s)		15.7					6.5	6.7		5.9	7.8	
Level of Service		B					A	A		A	A	
Approach Delay (s)		15.7			0.0			6.7			7.7	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.1					HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		54.5					Sum of lost time (s)			10.0		
Intersection Capacity Utilization		58.8%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
24: Ward Ave & Halekauwila St/Driveway

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔					↖	↗		↖	↗	
Traffic Volume (vph)	247	22	87	0	0	0	20	756	6	33	704	158
Future Volume (vph)	247	22	87	0	0	0	20	756	6	33	704	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00					1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.98					1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00					0.98	1.00		1.00	1.00	
Frt		0.97					1.00	1.00		1.00	0.97	
Flt Protected		0.97					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1711					1732	3535		1770	3375	
Flt Permitted		0.97					0.23	1.00		0.28	1.00	
Satd. Flow (perm)		1711					412	3535		516	3375	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	257	23	91	0	0	0	21	788	6	34	733	165
RTOR Reduction (vph)	0	13	0	0	0	0	0	1	0	0	24	0
Lane Group Flow (vph)	0	358	0	0	0	0	21	793	0	34	874	0
Confl. Peds. (#/hr)			91				63					63
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4						2			6		
Actuated Green, G (s)		22.6					23.0	23.0		23.0	23.0	
Effective Green, g (s)		22.6					23.0	23.0		23.0	23.0	
Actuated g/C Ratio		0.41					0.41	0.41		0.41	0.41	
Clearance Time (s)		5.0					5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		695					170	1462		213	1396	
v/s Ratio Prot								0.22			c0.26	
v/s Ratio Perm		0.21					0.05			0.07		
v/c Ratio		0.52					0.12	0.54		0.16	0.63	
Uniform Delay, d1		12.4					10.1	12.3		10.2	12.9	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6					0.3	0.4		0.4	0.9	
Delay (s)		13.0					10.4	12.7		10.6	13.8	
Level of Service		B					B	B		B	B	
Approach Delay (s)		13.0			0.0			12.7			13.7	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.2					HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		55.6					Sum of lost time (s)			10.0		
Intersection Capacity Utilization		57.4%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
34: Ward Ave & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔		↖	↔↔		↖	↔↔	
Traffic Volume (vph)	25	72	35	90	101	141	59	317	77	95	448	69
Future Volume (vph)	25	72	35	90	101	141	59	317	77	95	448	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00		0.98	1.00	
Frt		1.00	0.85	1.00	0.91		1.00	0.97		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3484	1583	1770	1672		1747	3407		1739	3446	
Flt Permitted		0.86	1.00	0.69	1.00		0.44	1.00		0.50	1.00	
Satd. Flow (perm)		3024	1583	1277	1672		811	3407		919	3446	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	78	38	98	110	153	64	345	84	103	487	75
RTOR Reduction (vph)	0	0	25	0	65	0	0	24	0	0	14	0
Lane Group Flow (vph)	0	105	13	98	198	0	64	405	0	103	548	0
Confl. Peds. (#/hr)	37					37	34		63	63		34
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		15.5	15.5	15.5	15.5		20.7	20.7		20.7	20.7	
Effective Green, g (s)		15.5	15.5	15.5	15.5		20.7	20.7		20.7	20.7	
Actuated g/C Ratio		0.34	0.34	0.34	0.34		0.45	0.45		0.45	0.45	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1014	531	428	560		363	1526		411	1543	
v/s Ratio Prot					c0.12			0.12			c0.16	
v/s Ratio Perm		0.03	0.01	0.08			0.08			0.11		
v/c Ratio		0.10	0.02	0.23	0.35		0.18	0.27		0.25	0.36	
Uniform Delay, d1		10.6	10.3	11.0	11.6		7.6	8.0		7.9	8.4	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.0	0.3	0.4		0.2	0.1		0.3	0.1	
Delay (s)		10.6	10.3	11.3	12.0		7.9	8.1		8.2	8.5	
Level of Service		B	B	B	B		A	A		A	A	
Approach Delay (s)		10.5			11.8			8.1			8.5	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		9.2		HCM 2000 Level of Service				A				
HCM 2000 Volume to Capacity ratio		0.35										
Actuated Cycle Length (s)		46.2		Sum of lost time (s)				10.0				
Intersection Capacity Utilization		62.0%		ICU Level of Service				B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
34: Ward Ave & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗	↖	↔		↖	↔↔		↖	↔↔	
Traffic Volume (vph)	31	171	66	137	94	277	48	436	191	313	433	70
Future Volume (vph)	31	171	66	137	94	277	48	436	191	313	433	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.96	1.00	0.95		1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	0.98	1.00		0.97	1.00		0.97	1.00	
Frt		1.00	0.85	1.00	0.89		1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3498	1518	1730	1577		1720	3293		1721	3428	
Flt Permitted		0.83	1.00	0.62	1.00		0.45	1.00		0.38	1.00	
Satd. Flow (perm)		2940	1518	1131	1577		812	3293		685	3428	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	32	176	68	141	97	286	49	449	197	323	446	72
RTOR Reduction (vph)	0	0	47	0	121	0	0	55	0	0	14	0
Lane Group Flow (vph)	0	208	21	141	262	0	49	591	0	323	504	0
Confl. Peds. (#/hr)	67		39	39		67	43		87	87		43
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		24.3	24.3	24.3	24.3		42.7	42.7		42.7	42.7	
Effective Green, g (s)		24.3	24.3	24.3	24.3		42.7	42.7		42.7	42.7	
Actuated g/C Ratio		0.32	0.32	0.32	0.32		0.55	0.55		0.55	0.55	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		927	479	356	497		450	1826		379	1900	
v/s Ratio Prot					c0.17			0.18			0.15	
v/s Ratio Perm		0.07	0.01	0.12			0.06			c0.47		
v/c Ratio		0.22	0.04	0.40	0.53		0.11	0.32		0.85	0.27	
Uniform Delay, d1		19.4	18.3	20.6	21.6		8.1	9.3		14.5	9.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0	0.7	1.0		0.1	0.1		16.6	0.1	
Delay (s)		19.5	18.3	21.3	22.6		8.2	9.4		31.1	9.0	
Level of Service		B	B	C	C		A	A		C	A	
Approach Delay (s)		19.2			22.3			9.3			17.5	
Approach LOS		B			C			A			B	
Intersection Summary												
HCM 2000 Control Delay		16.4		HCM 2000 Level of Service				B				
HCM 2000 Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		77.0		Sum of lost time (s)				10.0				
Intersection Capacity Utilization		102.4%		ICU Level of Service				G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	54	94	28	25	103	54	40	109	28	25	202	152
Future Volume (vph)	54	94	28	25	103	54	40	109	28	25	202	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00	1.00
Frt	1.00	0.97		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3389		1770	3357		1737	3410		1742	1863	1526
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.66	1.00	1.00
Satd. Flow (perm)	1770	3389		1770	3357		1138	3410		1208	1863	1526
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	58	101	30	27	111	58	43	117	30	27	217	163
RTOR Reduction (vph)	0	22	0	0	43	0	0	18	0	0	0	95
Lane Group Flow (vph)	58	109	0	27	126	0	43	129	0	27	217	68
Confl. Peds. (#/hr)			34	34		43	33		33			43
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases						8				4		4
Actuated Green, G (s)	2.1	13.5		1.6	13.0		21.4	21.4		21.4	21.4	21.4
Effective Green, g (s)	2.1	13.5		1.6	13.0		21.4	21.4		21.4	21.4	21.4
Actuated g/C Ratio	0.04	0.26		0.03	0.25		0.42	0.42		0.42	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	72	888		54	847		472	1416		501	774	634
v/s Ratio Prot	c0.03	0.03		0.02	c0.04			0.04			c0.12	
v/s Ratio Perm						0.04				0.02		0.04
v/c Ratio	0.81	0.12		0.50	0.15		0.09	0.09		0.05	0.28	0.11
Uniform Delay, d1	24.5	14.5		24.6	15.0		9.1	9.1		9.0	10.0	9.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	46.1	0.1		7.1	0.1		0.1	0.0		0.0	0.2	0.1
Delay (s)	70.6	14.5		31.7	15.0		9.2	9.2		9.0	10.2	9.3
Level of Service	E	B		C	B		A	A		A	B	A
Approach Delay (s)		31.8			17.3			9.2			9.7	
Approach LOS		C			B			A			A	

Intersection Summary	
HCM 2000 Control Delay	15.4
HCM 2000 Volume to Capacity ratio	0.26
Actuated Cycle Length (s)	51.5
Intersection Capacity Utilization	56.2%
Analysis Period (min)	15
c Critical Lane Group	
HCM 2000 Level of Service	B
Sum of lost time (s)	15.0
ICU Level of Service	B

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	100	315	132	9	163	77	78	144	46	99	249	163
Future Volume (vph)	100	315	132	9	163	77	78	144	46	99	249	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.94	1.00		0.90	1.00	1.00
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3199		1770	3213		1657	3301		1601	1863	1408
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00		0.63	1.00	1.00
Satd. Flow (perm)	1770	3199		1770	3213		845	3301		1055	1863	1408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	332	139	9	172	81	82	152	48	104	262	172
RTOR Reduction (vph)	0	51	0	0	48	0	0	34	0	0	0	123
Lane Group Flow (vph)	105	420	0	9	205	0	82	166	0	104	262	49
Confl. Peds. (#/hr)			167			209	105		137	137		105
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases						8				4		4
Actuated Green, G (s)	7.3	36.8		0.7	30.2		20.9	20.9		20.9	20.9	20.9
Effective Green, g (s)	7.3	36.8		0.7	30.2		20.9	20.9		20.9	20.9	20.9
Actuated g/C Ratio	0.10	0.50		0.01	0.41		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	176	1603		16	1321		240	939		300	530	400
v/s Ratio Prot	c0.06	c0.13		0.01	0.06			0.05			c0.14	
v/s Ratio Perm						0.10				0.10		0.03
v/c Ratio	0.60	0.26		0.56	0.16		0.34	0.18		0.35	0.49	0.12
Uniform Delay, d1	31.6	10.5		36.2	13.6		20.8	19.8		20.8	21.9	19.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.3	0.1		38.3	0.1		0.9	0.1		0.7	0.7	0.1
Delay (s)	37.0	10.6		74.5	13.6		21.7	19.9		21.5	22.6	19.6
Level of Service	D	B		E	B		C	B		C	C	B
Approach Delay (s)		15.4			15.7			20.4			21.4	
Approach LOS		B			B			C			C	

Intersection Summary	
HCM 2000 Control Delay	18.3
HCM 2000 Volume to Capacity ratio	0.40
Actuated Cycle Length (s)	73.4
Intersection Capacity Utilization	75.9%
Analysis Period (min)	15
c Critical Lane Group	
HCM 2000 Level of Service	B
Sum of lost time (s)	15.0
ICU Level of Service	D

HCM Signalized Intersection Capacity Analysis
36: Queens Lane/Queens Ln & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗				↖	↔			↕	
Traffic Volume (vph)	46	7	53	0	0	0	94	76	6	21	42	52
Future Volume (vph)	46	7	53	0	0	0	94	76	6	21	42	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0			5.0	
Lane Util. Factor		1.00	1.00				1.00	1.00			1.00	
Frbp, ped/bikes		1.00	0.96				1.00	1.00			0.97	
Flpb, ped/bikes		0.99	1.00				1.00	1.00			1.00	
Frt		1.00	0.85				1.00	0.99			0.94	
Flt Protected		0.96	1.00				0.95	1.00			0.99	
Satd. Flow (prot)		1760	1521				1770	1836			1678	
Flt Permitted		0.96	1.00				0.95	1.00			0.95	
Satd. Flow (perm)		1760	1521				1770	1836			1603	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	53	8	61	0	0	0	108	87	7	24	48	60
RTOR Reduction (vph)	0	0	50	0	0	0	0	3	0	0	30	0
Lane Group Flow (vph)	0	61	11	0	0	0	108	91	0	0	102	0
Confl. Peds. (#/hr)	12		34	34		12			16	16		62
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		8.5	8.5				6.9	30.4			18.5	
Effective Green, g (s)		8.5	8.5				6.9	30.4			18.5	
Actuated g/C Ratio		0.17	0.17				0.14	0.62			0.38	
Clearance Time (s)		5.0	5.0				5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)		305	264				249	1141			606	
v/s Ratio Prot							c0.06	0.05				
v/s Ratio Perm		0.03	0.01								c0.06	
v/c Ratio		0.20	0.04				0.43	0.08			0.17	
Uniform Delay, d1		17.3	16.8				19.2	3.7			10.1	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.3	0.1				1.2	0.0			0.1	
Delay (s)		17.6	16.9				20.4	3.7			10.2	
Level of Service		B	B				C	A			B	
Approach Delay (s)		17.2			0.0			12.6			10.2	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.2										
HCM 2000 Volume to Capacity ratio		0.23										
Actuated Cycle Length (s)		48.9						15.0				
Intersection Capacity Utilization		36.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
36: Queens Lane/Queens Ln & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗				↖	↔			↕	
Traffic Volume (vph)	92	10	178	0	0	0	186	102	11	18	78	52
Future Volume (vph)	92	10	178	0	0	0	186	102	11	18	78	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0			5.0	
Lane Util. Factor		1.00	1.00				1.00	1.00			1.00	
Frbp, ped/bikes		1.00	0.92				1.00	0.99			0.96	
Flpb, ped/bikes		0.92	1.00				1.00	1.00			0.99	
Frt		1.00	0.85				1.00	0.99			0.95	
Flt Protected		0.96	1.00				0.95	1.00			0.99	
Satd. Flow (prot)		1632	1453				1770	1819			1685	
Flt Permitted		0.96	1.00				0.95	1.00			0.96	
Satd. Flow (perm)		1632	1453				1770	1819			1623	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	101	11	196	0	0	0	204	112	12	20	86	57
RTOR Reduction (vph)	0	0	150	0	0	0	0	5	0	0	22	0
Lane Group Flow (vph)	0	112	46	0	0	0	204	119	0	0	141	0
Confl. Peds. (#/hr)	60		77	77		60			48	48		104
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		13.1	13.1				12.2	32.9			15.7	
Effective Green, g (s)		13.1	13.1				12.2	32.9			15.7	
Actuated g/C Ratio		0.23	0.23				0.22	0.59			0.28	
Clearance Time (s)		5.0	5.0				5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)		381	339				385	1068			455	
v/s Ratio Prot							c0.12	0.07				
v/s Ratio Perm		0.07	0.03								c0.09	
v/c Ratio		0.29	0.14				0.53	0.11			0.31	
Uniform Delay, d1		17.6	17.0				19.4	5.1			15.9	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.4	0.2				1.3	0.0			0.4	
Delay (s)		18.1	17.2				20.7	5.1			16.3	
Level of Service		B	B				C	A			B	
Approach Delay (s)		17.5			0.0			14.8			16.3	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.1										
HCM 2000 Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		56.0						15.0				
Intersection Capacity Utilization		56.2%										
Analysis Period (min)		15										
c Critical Lane Group												

APPENDIX F
CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2020 PEAK PERIOD TRAFFIC
ANALYSIS WITH PROJECT

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	50	202	83	90	407	95	83	450	64	62	718	201
Future Volume (vph)	50	202	83	90	407	95	83	450	64	62	718	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Fipb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1759	1769		1756	1800		1770	3433		1770	3376	
Flt Permitted	0.19	1.00		0.47	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	357	1769		866	1800		1770	3433		1770	3376	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	215	88	96	433	101	88	479	68	66	764	214
RTOR Reduction (vph)	0	17	0	0	10	0	0	13	0	0	29	0
Lane Group Flow (vph)	53	286	0	96	524	0	88	534	0	66	949	0
Confl. Peds. (#/hr)	21		15	15		21			58			34
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	27.4	27.4		27.4	27.4		5.8	28.9		6.0	29.1	
Effective Green, g (s)	27.4	27.4		27.4	27.4		5.8	28.9		6.0	29.1	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.08	0.37		0.08	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	126	627		306	638		132	1283		137	1270	
v/s Ratio Prot		0.16			c0.29		c0.05	0.16		0.04	c0.28	
v/s Ratio Perm	0.15			0.11								
v/c Ratio	0.42	0.46		0.31	0.82		0.67	0.42		0.48	0.75	
Uniform Delay, d1	18.9	19.2		18.1	22.7		34.8	17.9		34.2	20.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.5		0.6	8.4		12.0	0.2		2.7	2.4	
Delay (s)	21.2	19.7		18.7	31.1		46.8	18.2		36.8	23.4	
Level of Service	C	B		B	C		D	B		D	C	
Approach Delay (s)		20.0			29.2			22.1			24.2	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			77.3				Sum of lost time (s)			15.0		
Intersection Capacity Utilization			79.1%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
15: Ward Ave & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	103	465	150	97	434	100	73	786	159	175	814	82
Future Volume (vph)	103	465	150	97	434	100	73	786	159	175	814	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1764	1779		1760	1803		1770	3363		1770	3457	
Flt Permitted	0.22	1.00		0.13	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	402	1779		249	1803		1770	3363		1770	3457	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	107	484	156	101	452	104	76	819	166	182	848	85
RTOR Reduction (vph)	0	13	0	0	9	0	0	19	0	0	8	0
Lane Group Flow (vph)	107	627	0	101	547	0	76	966	0	182	925	0
Confl. Peds. (#/hr)	11		25	25		11		88				59
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	36.0	36.0		36.0	36.0		4.7	30.5		8.0	33.8	
Effective Green, g (s)	36.0	36.0		36.0	36.0		4.7	30.5		8.0	33.8	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.05	0.34		0.09	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	161	715		100	725		92	1146		158	1305	
v/s Ratio Prot		0.35			0.30		0.04	c0.29		c0.10	c0.27	
v/s Ratio Perm	0.27			c0.41								
v/c Ratio	0.66	0.88		1.01	0.75		0.83	0.84		1.15	0.71	
Uniform Delay, d1	21.8	24.7		26.8	23.0		42.0	27.3		40.8	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.9	11.8		92.7	4.5		42.8	5.8		118.3	1.8	
Delay (s)	31.7	36.5		119.5	27.4		84.8	33.1		159.0	25.5	
Level of Service	C	D		F	C		F	C		F	C	
Approach Delay (s)		35.8			41.6			36.8			47.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗			↕		↖	↗	
Traffic Volume (vph)	64	231	11	185	296	29	16	117	57	38	199	108
Future Volume (vph)	64	231	11	185	296	29	16	117	57	38	199	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Frbp, ped/bikes		0.99		1.00	0.99			0.95			0.95	
Flpb, ped/bikes		0.99		0.95	1.00			1.00			0.99	
Frt		0.99		1.00	0.99			0.95			0.95	
Flt Protected		0.99		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		3483		1770	3492			3365			3355	
Flt Permitted		0.80		0.95	1.00			0.91			0.90	
Satd. Flow (perm)		2828		1770	3492			3077			3043	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	68	246	12	197	315	31	17	124	61	40	212	115
RTOR Reduction (vph)	0	4	0	0	10	0	0	42	0	0	69	0
Lane Group Flow (vph)	0	322	0	197	336	0	0	160	0	0	298	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8			4		
Actuated Green, G (s)		14.1		9.3	28.4			17.2			17.2	
Effective Green, g (s)		14.1		9.3	28.4			17.2			17.2	
Actuated g/C Ratio		0.25		0.17	0.51			0.31			0.31	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		717		296	1783			951			941	
v/s Ratio Prot				c0.11	0.10							
v/s Ratio Perm		c0.11						0.05			c0.10	
v/c Ratio		0.45		0.67	0.19			0.17			0.32	
Uniform Delay, d1		17.5		21.7	7.4			14.0			14.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.5		5.6	0.1			0.1			0.2	
Delay (s)		17.9		27.2	7.4			14.1			14.9	
Level of Service		B		C	A			B			B	
Approach Delay (s)		17.9			14.6			14.1			14.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: Kamakee St & Queen St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	112	497	44	282	514	53	43	169	71	66	133	52
Future Volume (vph)	112	497	44	282	514	53	43	169	71	66	133	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		0.95		1.00	0.95			0.95			0.95	
Frt		0.99		1.00	0.99			0.96			0.97	
Flt Protected		0.99		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		3474		1770	3490			3380			3385	
Flt Permitted		0.74		0.95	1.00			0.86			0.75	
Satd. Flow (perm)		2579		1770	3490			2918			2587	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	117	518	46	294	535	55	45	176	74	69	139	54
RTOR Reduction (vph)	0	5	0	0	8	0	0	27	0	0	19	0
Lane Group Flow (vph)	0	676	0	294	582	0	0	268	0	0	243	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2						8			4		
Actuated Green, G (s)		30.1		19.8	54.9			15.6			15.6	
Effective Green, g (s)		30.1		19.8	54.9			15.6			15.6	
Actuated g/C Ratio		0.37		0.25	0.68			0.19			0.19	
Clearance Time (s)		5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		964		435	2380			565			501	
v/s Ratio Prot				c0.17	0.17							
v/s Ratio Perm		c0.26						0.09			c0.09	
v/c Ratio		0.70		0.68	0.24			0.48			0.49	
Uniform Delay, d1		21.4		27.4	4.9			28.8			28.9	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.3		4.1	0.1			0.6			0.7	
Delay (s)		23.7		31.6	4.9			29.4			29.6	
Level of Service		C		C	A			C			C	
Approach Delay (s)		23.7			13.8			29.4			29.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

7/19/2016

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	↔
Traffic Volume (veh/h)	321	21	99	489	24	73
Future Volume (Veh/h)	321	21	99	489	24	73
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	338	22	104	515	25	77
Pedestrians					19	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage (veh)	2					
Upstream signal (ft)	564			680		
pX, platoon unblocked						
vC, conflicting volume			379		834	199
vC1, stage 1 conf vol					368	
vC2, stage 2 conf vol					466	
vCu, unblocked vol			379		834	199
tC, single (s)			4.1		*5.8	*5.9
tC, 2 stage (s)					4.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		95	91
cM capacity (veh/h)			1157		547	843

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	225	135	104	258	258	102
Volume Left	0	0	104	0	0	25
Volume Right	0	22	0	0	0	77
cSH	1700	1700	1157	1700	1700	744
Volume to Capacity	0.13	0.08	0.09	0.15	0.15	0.14
Queue Length 95th (ft)	0	0	7	0	0	12
Control Delay (s)	0.0	0.0	8.4	0.0	0.0	10.6
Lane LOS			A			B
Approach Delay (s)	0.0		1.4			10.6
Approach LOS						B

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		32.7%	ICU Level of Service A
Analysis Period (min)		15	

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis
17: Queens Ln & Queen St

7/19/2016

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	595	10	76	792	48	196
Future Volume (Veh/h)	595	10	76	792	48	196
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	669	11	85	890	54	220
Pedestrians					19	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type	TWLT			None		
Median storage (veh)	2					
Upstream signal (ft)	564			687		
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			699		1308	359
vC1, stage 1 conf vol					694	
vC2, stage 2 conf vol					615	
vCu, unblocked vol			473		1142	100
tC, single (s)			4.1		*5.8	*5.9
tC, 2 stage (s)					4.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		88	75
cM capacity (veh/h)			973		446	864
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	446	234	85	445	445	274
Volume Left	0	0	85	0	0	54
Volume Right	0	11	0	0	0	220
cSH	1700	1700	973	1700	1700	729
Volume to Capacity	0.26	0.14	0.09	0.26	0.26	0.38
Queue Length 95th (ft)	0	0	7	0	0	44
Control Delay (s)	0.0	0.0	9.1	0.0	0.0	12.9
Lane LOS			A			B
Approach Delay (s)	0.0		0.8			12.9
Approach LOS						B
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			45.8%		ICU Level of Service	A
Analysis Period (min)			15			
* User Entered Value						

HCM Signalized Intersection Capacity Analysis
24: Ward Ave & Halekauwila St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔					↘	↑↑		↘	↑↑	↗
Traffic Volume (vph)	108	13	9	0	0	0	42	439	3	16	571	253
Future Volume (vph)	108	13	9	0	0	0	42	439	3	16	571	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0	5.0		5.0	5.0	5.0
Lane Util. Factor		1.00					1.00	0.95		1.00	0.95	1.00
Frb, ped/bikes		1.00					1.00	1.00		1.00	1.00	0.93
Flpb, ped/bikes		1.00					0.98	1.00		1.00	1.00	1.00
Frt		0.99					1.00	1.00		1.00	1.00	0.85
Flt Protected		0.96					0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1766					1728	3536		1770	3539	1468
Flt Permitted		0.96					0.43	1.00		0.49	1.00	1.00
Satd. Flow (perm)		1766					776	3536		911	3539	1468
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	111	13	9	0	0	0	43	453	3	16	589	261
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	127
Lane Group Flow (vph)	0	131	0	0	0	0	43	456	0	16	589	134
Confl. Peds. (#/hr)	2		44				42					42
Turn Type	Perm	NA					Perm	NA		Perm	NA	Perm
Protected Phases		4						2			6	
Permitted Phases	4						2			6		6
Actuated Green, G (s)		15.0					26.2	26.2		26.2	26.2	26.2
Effective Green, g (s)		15.0					26.2	26.2		26.2	26.2	26.2
Actuated g/C Ratio		0.29					0.51	0.51		0.51	0.51	0.51
Clearance Time (s)		5.0					5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		517					397	1809		466	1810	751
v/s Ratio Prot								0.13			c0.17	
v/s Ratio Perm		0.07					0.06			0.02		0.09
v/c Ratio		0.25					0.11	0.25		0.03	0.33	0.18
Uniform Delay, d1		13.8					6.5	7.0		6.2	7.3	6.7
Progression Factor		1.00					1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.3					0.1	0.1		0.0	0.1	0.1
Delay (s)		14.1					6.6	7.1		6.2	7.4	6.8
Level of Service		B					A	A		A	A	A
Approach Delay (s)		14.1			0.0			7.0			7.2	
Approach LOS		B			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.8										
HCM 2000 Volume to Capacity ratio		0.30										
Actuated Cycle Length (s)		51.2						Sum of lost time (s)		10.0		
Intersection Capacity Utilization		50.7%						ICU Level of Service		A		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 24: Ward Ave & Halekauwila St/Driveway

7/19/2016

	↖	→	↘	↙	←	↖	↙	↑	↘	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕					↖	↕		↖	↕	
Traffic Volume (vph)	244	22	87	0	0	0	18	767	6	33	710	158
Future Volume (vph)	244	22	87	0	0	0	18	767	6	33	710	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0					5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00					1.00	0.95		1.00	0.95	
Frbp, ped/bikes		0.98					1.00	1.00		1.00	0.98	
Fipb, ped/bikes		1.00					0.98	1.00		1.00	1.00	
Frt		0.97					1.00	1.00		1.00	0.97	
Flt Protected		0.97					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1711					1733	3535		1770	3376	
Flt Permitted		0.97					0.22	1.00		0.27	1.00	
Satd. Flow (perm)		1711					408	3535		507	3376	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	254	23	91	0	0	0	19	799	6	34	740	165
RTOR Reduction (vph)	0	13	0	0	0	0	0	1	0	0	24	0
Lane Group Flow (vph)	0	355	0	0	0	0	19	804	0	34	881	0
Confl. Peds. (#/hr)			91				63					63
Turn Type	Perm	NA					Perm	NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4						2			6		
Actuated Green, G (s)		22.5					23.1	23.1		23.1	23.1	
Effective Green, g (s)		22.5					23.1	23.1		23.1	23.1	
Actuated g/C Ratio		0.40					0.42	0.42		0.42	0.42	
Clearance Time (s)		5.0					5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		692					169	1468		210	1402	
v/s Ratio Prot								0.23			c0.26	
v/s Ratio Perm		0.21					0.05			0.07		
v/c Ratio		0.51					0.11	0.55		0.16	0.63	
Uniform Delay, d1		12.4					10.0	12.3		10.2	12.9	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6					0.3	0.4		0.4	0.9	
Delay (s)		13.1					10.3	12.7		10.5	13.7	
Level of Service		B					B	B		B	B	
Approach Delay (s)		13.1			0.0			12.7			13.6	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.2				HCM 2000 Level of Service					B
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			55.6				Sum of lost time (s)					10.0
Intersection Capacity Utilization			57.4%				ICU Level of Service					B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 34: Ward Ave & Auahi St

7/19/2016

	↖	→	↘	↙	←	↖	↙	↑	↘	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↖	↙	↖		↖	↕		↖	↕	
Traffic Volume (vph)	25	72	35	90	100	141	59	319	77	95	462	69
Future Volume (vph)	25	72	35	90	100	141	59	319	77	95	462	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	1.00	1.00	0.98		1.00	0.99		1.00	0.99	
Fipb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00		0.98	1.00	
Frt		1.00	0.85	1.00	0.91		1.00	0.97		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3484	1583	1770	1671		1747	3407		1739	3449	
Flt Permitted		0.86	1.00	0.69	1.00		0.43	1.00		0.50	1.00	
Satd. Flow (perm)		3024	1583	1277	1671		793	3407		917	3449	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	78	38	98	109	153	64	347	84	103	502	75
RTOR Reduction (vph)	0	0	25	0	66	0	0	24	0	0	13	0
Lane Group Flow (vph)	0	105	13	98	196	0	64	407	0	103	564	0
Confl. Peds. (#/hr)		37					34		63		63	34
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		15.5	15.5	15.5	15.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)		15.5	15.5	15.5	15.5		20.8	20.8		20.8	20.8	
Actuated g/C Ratio		0.33	0.33	0.33	0.33		0.45	0.45		0.45	0.45	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1012	529	427	559		356	1530		411	1549	
v/s Ratio Prot					c0.12			0.12			c0.16	
v/s Ratio Perm		0.03	0.01	0.08			0.08			0.11		
v/c Ratio		0.10	0.02	0.23	0.35		0.18	0.27		0.25	0.36	
Uniform Delay, d1		10.6	10.3	11.1	11.6		7.6	8.0		7.9	8.4	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0	0.0	0.3	0.4		0.2	0.1		0.3	0.1	
Delay (s)		10.7	10.3	11.4	12.0		7.9	8.1		8.2	8.5	
Level of Service		B	B	B	B		A	A		A	A	
Approach Delay (s)		10.6			11.8			8.0			8.5	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.3				HCM 2000 Level of Service					A
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			46.3				Sum of lost time (s)					10.0
Intersection Capacity Utilization			62.0%				ICU Level of Service					B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
34: Ward Ave & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗	↖	↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	31	171	66	137	92	275	48	448	191	313	439	70
Future Volume (vph)	31	171	66	137	92	275	48	448	191	313	439	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.96	1.00	0.95		1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00	1.00	0.98	1.00		0.97	1.00		0.97	1.00	
Frt		1.00	0.85	1.00	0.89		1.00	0.96		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3498	1517	1730	1575		1720	3297		1721	3429	
Flt Permitted		0.83	1.00	0.62	1.00		0.44	1.00		0.37	1.00	
Satd. Flow (perm)		2937	1517	1131	1575		805	3297		674	3429	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	32	176	68	141	95	284	49	462	197	323	453	72
RTOR Reduction (vph)	0	0	47	0	123	0	0	52	0	0	14	0
Lane Group Flow (vph)	0	208	21	141	256	0	49	607	0	323	511	0
Confl. Peds. (#/hr)	67		39	39		67	43		87	87		43
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		24.2	24.2	24.2	24.2		43.3	43.3		43.3	43.3	
Effective Green, g (s)		24.2	24.2	24.2	24.2		43.3	43.3		43.3	43.3	
Actuated g/C Ratio		0.31	0.31	0.31	0.31		0.56	0.56		0.56	0.56	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		917	473	353	491		449	1842		376	1915	
v/s Ratio Prot					c0.16			0.18			0.15	
v/s Ratio Perm		0.07	0.01	0.12			0.06			c0.48		
v/c Ratio		0.23	0.04	0.40	0.52		0.11	0.33		0.86	0.27	
Uniform Delay, d1		19.7	18.6	20.9	21.9		8.0	9.2		14.5	8.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0	0.7	1.0		0.1	0.1		17.4	0.1	
Delay (s)		19.9	18.6	21.7	22.9		8.1	9.4		31.9	8.9	
Level of Service		B	B	C	C		A	A		C	A	
Approach Delay (s)		19.6			22.6			9.3			17.7	
Approach LOS		B			C			A			B	
Intersection Summary												
HCM 2000 Control Delay		16.5					HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		77.5					Sum of lost time (s)			10.0		
Intersection Capacity Utilization		102.2%					ICU Level of Service			G		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↖	↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	54	94	28	25	103	54	40	118	28	25	239	152
Future Volume (vph)	54	94	28	25	103	54	40	118	28	25	239	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Lane Util. Factor		1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.96
Flpb, ped/bikes		1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00
Frt		1.00	0.97		1.00	0.95		1.00	0.97		1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1770	3389		1770	3357		1739	3418		1742	1863
Flt Permitted		0.95	1.00		0.95	1.00		0.60	1.00		0.65	1.00
Satd. Flow (perm)		1770	3389		1770	3357		1099	3418		1197	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	58	101	30	27	111	58	43	127	30	27	257	163
RTOR Reduction (vph)	0	22	0	0	44	0	0	17	0	0	0	94
Lane Group Flow (vph)	58	109	0	27	125	0	43	140	0	27	257	69
Confl. Peds. (#/hr)			34	34			43		33	33		43
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			8	4
Permitted Phases							8			4		4
Actuated Green, G (s)	2.1	13.4		1.6	12.9		22.0	22.0		22.0	22.0	22.0
Effective Green, g (s)	2.1	13.4		1.6	12.9		22.0	22.0		22.0	22.0	22.0
Actuated g/C Ratio	0.04	0.26		0.03	0.25		0.42	0.42		0.42	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	71	873		54	832		464	1446		506	788	645
v/s Ratio Prot	c0.03	0.03		0.02	c0.04			0.04			c0.14	
v/s Ratio Perm							0.04			0.02		0.05
v/c Ratio	0.82	0.12		0.50	0.15		0.09	0.10		0.05	0.33	0.11
Uniform Delay, d1	24.8	14.8		24.8	15.3		9.0	9.0		8.9	10.0	9.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	49.3	0.1		7.1	0.1		0.1	0.0		0.0	0.2	0.1
Delay (s)	74.0	14.9		31.9	15.4		9.1	9.1		8.9	10.3	9.1
Level of Service	E	B		C	B		A	A		A	B	A
Approach Delay (s)		33.0			17.6			9.1			9.8	
Approach LOS		C			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		15.4					HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio		0.29										
Actuated Cycle Length (s)		52.0					Sum of lost time (s)			15.0		
Intersection Capacity Utilization		56.7%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
35: Kamakee St & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	100	315	132	9	163	77	78	172	46	99	257	161
Future Volume (vph)	100	315	132	9	163	77	78	172	46	99	257	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.95		1.00	0.95		1.00	0.97		1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.94	1.00		0.91	1.00	1.00
Frt	1.00	0.96		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3199		1770	3213		1659	3331		1607	1863	1408
Flt Permitted	0.95	1.00		0.95	1.00		0.47	1.00		0.61	1.00	1.00
Satd. Flow (perm)	1770	3199		1770	3213		823	3331		1030	1863	1408
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	332	139	9	172	81	82	181	48	104	271	169
RTOR Reduction (vph)	0	51	0	0	48	0	0	26	0	0	0	121
Lane Group Flow (vph)	105	420	0	9	205	0	82	203	0	104	271	48
Confl. Peds. (#/hr)			167			209	105		137			105
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases							8			4		4
Actuated Green, G (s)	7.3	36.8		0.7	30.2		21.1	21.1		21.1	21.1	21.1
Effective Green, g (s)	7.3	36.8		0.7	30.2		21.1	21.1		21.1	21.1	21.1
Actuated g/C Ratio	0.10	0.50		0.01	0.41		0.29	0.29		0.29	0.29	0.29
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	175	1599		16	1318		235	954		295	534	403
v/s Ratio Prot	c0.06	c0.13		0.01	0.06			0.06			c0.15	
v/s Ratio Perm							0.10			0.10		0.03
v/c Ratio	0.60	0.26		0.56	0.16		0.35	0.21		0.35	0.51	0.12
Uniform Delay, d1	31.8	10.6		36.3	13.7		20.8	19.9		20.8	21.9	19.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.5	0.1		38.3	0.1		0.9	0.1		0.7	0.8	0.1
Delay (s)	37.2	10.7		74.6	13.7		21.7	20.1		21.6	22.7	19.5
Level of Service	D	B		E	B		C	C		C	C	B
Approach Delay (s)		15.5			15.8			20.5			21.5	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
36: Queens Lane/Queens Ln & Auahi St

7/19/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗				↖	↕			↕	↗
Traffic Volume (vph)	46	7	53	0	0	0	94	76	6	21	42	52
Future Volume (vph)	46	7	53	0	0	0	94	76	6	21	42	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0			5.0	5.0
Lane Util. Factor		1.00	1.00				1.00	1.00			1.00	1.00
Frbp, ped/bikes		1.00	0.96				1.00	1.00			1.00	0.97
Flpb, ped/bikes		0.99	1.00				1.00	1.00			1.00	1.00
Frt		1.00	0.85				1.00	0.99			1.00	0.94
Flt Protected		0.96	1.00				0.95	1.00			0.99	0.99
Satd. Flow (prot)		1760	1521				1770	1836			1678	1678
Flt Permitted		0.96	1.00				0.95	1.00			0.95	0.95
Satd. Flow (perm)		1760	1521				1770	1836			1603	1603
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	53	8	61	0	0	0	108	87	7	24	48	60
RTOR Reduction (vph)	0	0	50	0	0	0	0	3	0	0	30	0
Lane Group Flow (vph)	0	61	11	0	0	0	108	91	0	0	102	0
Confl. Peds. (#/hr)	12		34	34		12			16	16		62
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	Perm
Protected Phases		4					5	2			6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		8.5	8.5				6.9	30.4			18.5	18.5
Effective Green, g (s)		8.5	8.5				6.9	30.4			18.5	18.5
Actuated g/C Ratio		0.17	0.17				0.14	0.62			0.38	0.38
Clearance Time (s)		5.0	5.0				5.0	5.0			5.0	5.0
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		305	264				249	1141			606	606
v/s Ratio Prot							c0.06	0.05				
v/s Ratio Perm		0.03	0.01								c0.06	c0.06
v/c Ratio		0.20	0.04				0.43	0.08			0.17	0.17
Uniform Delay, d1		17.3	16.8				19.2	3.7			10.1	10.1
Progression Factor		1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2		0.3	0.1				1.2	0.0			0.1	0.1
Delay (s)		17.6	16.9				20.4	3.7			10.2	10.2
Level of Service		B	B				C	A			B	B
Approach Delay (s)		17.2			0.0		12.6				10.2	10.2
Approach LOS		B			A		B				B	B

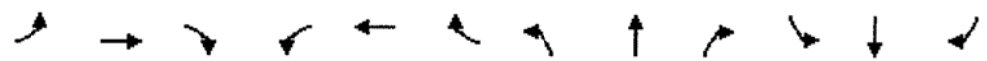
Intersection Summary

HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	48.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 36: Queens Lane/Queens Ln & Auahi St

7/19/2016



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↗				↖	↗			↔	
Traffic Volume (vph)	92	10	178	0	0	0	186	102	11	18	78	52
Future Volume (vph)	92	10	178	0	0	0	186	102	11	18	78	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0				5.0	5.0			5.0	
Lane Util. Factor		1.00	1.00				1.00	1.00			1.00	
Frbp, ped/bikes		1.00	0.92				1.00	0.99			0.96	
Fipb, ped/bikes		0.92	1.00				1.00	1.00			0.99	
Frt		1.00	0.85				1.00	0.99			0.95	
Flt Protected		0.96	1.00				0.95	1.00			0.99	
Satd. Flow (prot)		1632	1453				1770	1819			1685	
Flt Permitted		0.96	1.00				0.95	1.00			0.96	
Satd. Flow (perm)		1632	1453				1770	1819			1623	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	101	11	196	0	0	0	204	112	12	20	86	57
RTOR Reduction (vph)	0	0	150	0	0	0	0	5	0	0	22	0
Lane Group Flow (vph)	0	112	46	0	0	0	204	119	0	0	141	0
Confl. Peds. (#/hr)	60		77	77		60			48	48		104
Turn Type	Perm	NA	Perm				Prot	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4		4							6		
Actuated Green, G (s)		13.1	13.1				12.2	32.9			15.7	
Effective Green, g (s)		13.1	13.1				12.2	32.9			15.7	
Actuated g/C Ratio		0.23	0.23				0.22	0.59			0.28	
Clearance Time (s)		5.0	5.0				5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)		381	339				385	1068			455	
v/s Ratio Prot							c0.12	0.07				
v/s Ratio Perm		0.07	0.03								c0.09	
v/c Ratio		0.29	0.14				0.53	0.11			0.31	
Uniform Delay, d1		17.6	17.0				19.4	5.1			15.9	
Progression Factor		1.00	1.00				1.00	1.00			1.00	
Incremental Delay, d2		0.4	0.2				1.3	0.0			0.4	
Delay (s)		18.1	17.2				20.7	5.1			16.3	
Level of Service		B	B				C	A			B	
Approach Delay (s)		17.5		0.0			14.8				16.3	
Approach LOS		B		A			B				B	
Intersection Summary												
HCM 2000 Control Delay		16.1										B
HCM 2000 Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		56.0						15.0				
Intersection Capacity Utilization		56.2%										B
Analysis Period (min)		15										
c Critical Lane Group												

City and County of Honolulu
Department of Planning and Permitting - Traffic Review Branch
email concurring with the results and conclusions of the
Traffic Impact Report

From: Hirayama, Mel J. [<mailto:mhirayama@honolulu.gov>]
Sent: Friday, September 02, 2016 10:23 AM
To: 'dneupane@dbedt.hawaii.gov'; Pete Pascua
Cc: Sugiura, Jean
Subject: Victoria Ward - Block N TIAR

The Traffic Review Branch concurs with the results and conclusions contained in the study.

However, as part of the completion of the study, the preparer should include:

1. A schematic diagram of the roadway improvements proposed at Queen Street and Ward Avenue.
2. The LOS of the intersection of the private drive and Halekauwila Extension and at Queen Street, since Block "N" will proportionally influence the LOS at these locations.
3. A description or narrative of when the Halekauwila Extension will be completed to Ward Avenue and the reason why it cannot be completed sooner. I would imagine it may be due to lease agreements with Ross's, but not Sports Authority.

Mel H. – Traffic Review Branch

From: Cathy Leong [<mailto:cleong@wilsonokamoto.com>]

Sent: Wednesday, September 07, 2016 1:29 PM

To: 'Hirayama, Mel J.'

Cc: Andrade, Kamakaokalani M; Sugiura, Jean; Watanabe, Lance K.; Pete Pascua

Subject: RE: Ward Block N TIAR

Mel,

The following is the additional information that you requested for the Ward Block N-East TIAR:

1. See attached schematic layout for the Queen/Ward intersection.
2. At the intersection of Queen Street and the new Private Drive between Block M and Block N-East, the critical movement on Queen Street is the westbound approach which operates at LOS "A" during both peak periods with the Block N-East project. The northbound approach from the Private Drive is expected to operate at LOS "B" and LOS "C" during the AM and PM peak periods, respectively, with Block N-East.
3. The Halekauwila Street Extension is expected to be completed in 2 major phases with the development of the sites adjacent to the new roadway. The segment of the roadway between Block N-East and Kamakee Street is expected to be completed in conjunction with Blocks M and N-East. The remainder of the roadway between Ward Avenue and Block N-East is expected to be constructed at grade with Blocks H and N-West bridging over the new roadway. As such, the phasing of the roadway construction of that segment was anticipated in advance of these 2 phases. In addition, Howard Hughes has indicated that the "timing of Private Drive 2 connection to Ward Ave. supports the expected Ward Gateway Center operations and timing of the future rail station."

Please feel free to contact me if you need further clarification or information.

Cathy A. Leong, P.E.

Senior Project Manager



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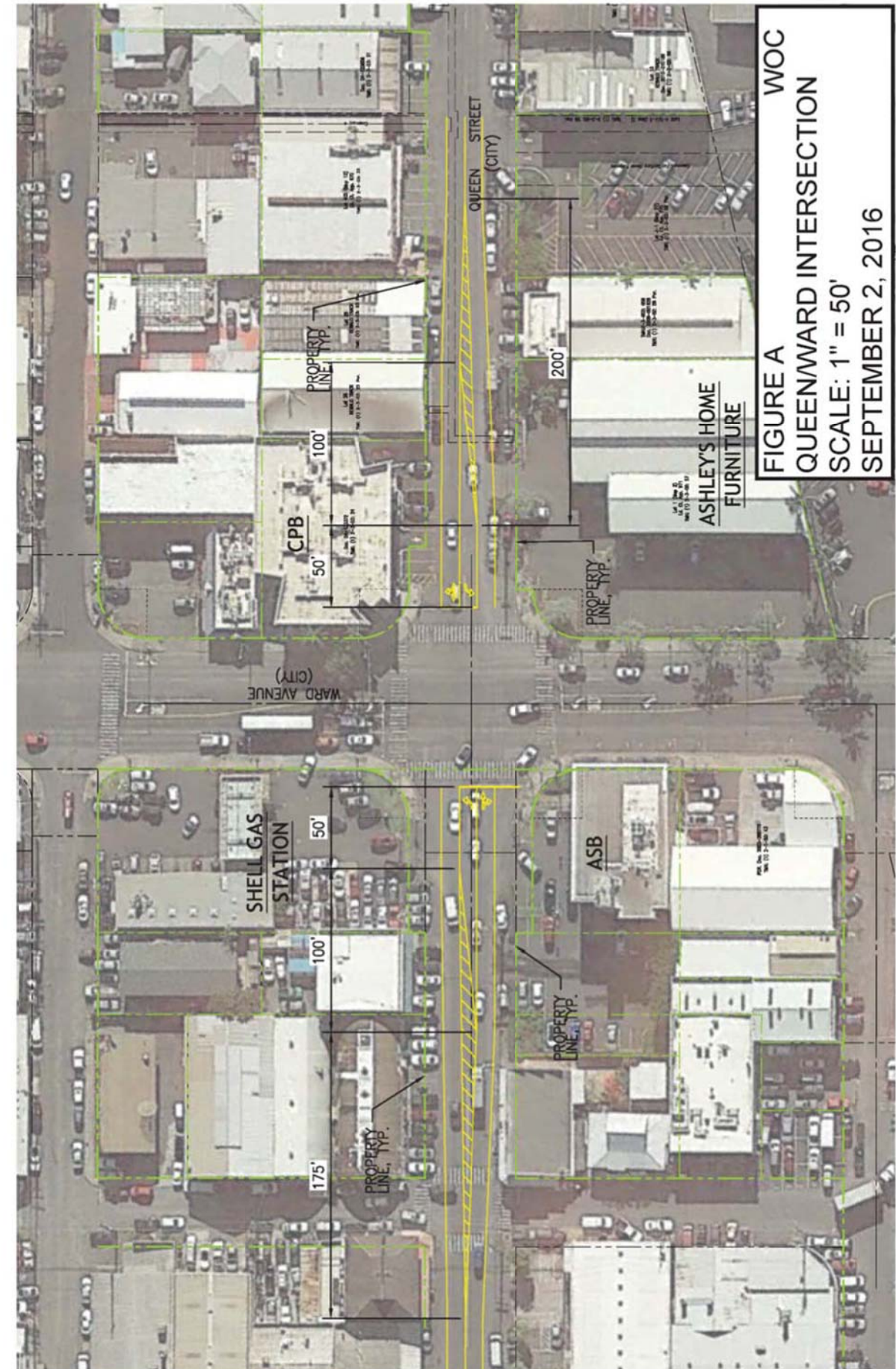


FIGURE A WOC
QUEEN/WARD INTERSECTION
SCALE: 1" = 50'
SEPTEMBER 2, 2016