PIIKOI RAMP CLOSURE OBSERVATION AND ANALYSIS REPORT

PRE- AND DURING – CLOSURE CONDITIONS

HONOLULU, OAHU, HAWAII

May 18, 2018

Prepared for:
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Department of Transportation
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EXECUTIVE SUMMARY

PIIKOI RAMP CLOSURE OBSERVATION AND ANALYSIS REPORT PRE – AND DURING – CLOSURE CONDITIONS Honolulu, Oahu, Hawaii

The State of Hawaii Department of Transportation (HDOT) conducted a temporary 24-hr closure of the Piikoi Street Eastbound On-ramp to the Queen Liliuokalani Freeway (H-1) between April 17 and April 28, 2017 to perform maintenance. This 2-week period was used as an opportunity to study the traffic impacts of the ramp closure to H-1 as well as alternate routes and surface streets in the vicinity of the ramp.

Data was collected before the closure of the Piikoi Street On-Ramp from April 4, 2017 to April 6, 2017 and during the second week of the closure from April 25, 2017 to April 27, 2017. During both instances, the AM and PM peak hours of traffic were from 7:00 AM to 8:00 AM and 4:15 PM to 5:15 PM.

This study found that during the Piikoi Street On-Ramp closure period, H-1 Eastbound Freeway experienced improvements to average travel time, travel speed and capacity during the AM and PM peak hours of traffic along the critical section of H-1 Eastbound Freeway (from Fort Shafter Overpass to Punahou Street). A table summarizing traffic improvements during the AM and PM peak hours in the vicinity of the Piikoi Street On-Ramp can be seen below.

Average Improvements	AM Peak Hour 7:00 AM - 8:00 AM	PM Peak Hour 4:15 PM - 5:15 PM
Travel Time Reduction	1 Minute	6 Minutes
Capacity Increase	9.7%	4.6%

Side street operations along King Street did see slightly increased congestion during the PM peak hour of traffic with slightly increased travel times of approximately 1 minute from South Street to University Avenue. Operations along Kapiolani Boulevard experienced no change in traffic operations, travel time and volumes between the before and during closure conditions.

As a result of this study, it is recommended that the Piikoi Street On-Ramp be closed during the PM peak hours of traffic from 3:00 – 6:30 PM due to its significant benefits to increased travel speed, capacity and travel time reductions while maintaining minimal impacts to side street operations. If the PM closure is successful and reflects improvements consistent with this report, consideration should be given to implementing either an AM commuter period closure or a permanent full closure of the Piikoi Street On-Ramp. Full closure of the Piikoi Street On-Ramp would maintain freeway driver expectations, consistent operations and reduced driver confusion along side streets.

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PRE – AND DURING CLOSURE CONDITIONS

Honolulu, Oahu, Hawaii

1. INTRODUCTION

The State of Hawaii Department of Transportation (HDOT) conducted a temporary 24-hr closure of the Piikoi Street Eastbound On-ramp to the Queen Liliuokalani Freeway (H-1) between April 17 and April 28, 2017 to perform maintenance. This 2-week period was used as an opportunity to study the traffic impacts of the ramp closure to H-1 as well as alternate routes and surface streets in the vicinity of the ramp. Hereinafter the temporary ramp closure will be referred to as the "Project". See Figure 1.1 for a map of the Project Area.

1.1. Project Description

Eastbound commuters during morning and afternoon peak hours of traffic have long felt that much of the congestion and queuing experienced by motorists on the H-1 Freeway is a result of a bottleneck caused by the Piikoi On-ramp. The heavy on- and off-ramp volumes, frequent and short lane merges, and weaving between the Vineyard On-ramp and the Punahou Off-ramp have been believed to be a cause of eastbound congestion that regularly extends from the Punahou off-ramp, approximately five miles to beyond the Middle Street overpass.

The purpose of the following study is to measure and assess the impacts to freeway and side street operations resulting from the temporary ramp closure. This report will outline the scope of the study area, methods used to evaluate traffic conditions and results and recommendations.

This report studied the following roadways and intersections:

- H-1 Freeway – All eastbound on & off-ramps, from the Kinau Street Off-Ramp to the Kapiolani Boulevard On-Ramp
- King Street from Alapai Street to H-1 eastbound on-ramp
- Kapiolani Boulevard from South Street to H-1 eastbound on-ramp
- Piikoi Avenue from Kapiolani Boulevard to H-1 eastbound on-ramp
- Ward Avenue from Kapiolani Boulevard to Prospect Street

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PIIKOI ON-RAMP CLOSURE

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LOCATION MAP

FIGURE

1.1

1.2. Methodology

This study will address the following:

1. Travel Time Runs (TTRs) along H-1 Freeway, King Street, Kapiolani Boulevard, Ward Avenue, and Piikoi Street before and during the Piikoi Eastbound On-Ramp Closure (Piikoi Closure).
2. Summary of traffic count data along the study routes and intersections.
3. Identification and analysis of operations at existing bottlenecks along the H-1 Freeway and alternate routes.
4. Capacity and demand estimates for H-1 Freeway.
5. Determination of whether any new bottlenecks formed during the Closure as a result of increased upstream throughput.

1.3. Measures of Effectiveness

The Measures of Effectiveness (MOE) used in this report will be:

1. **Travel Time Runs** – ATA performed travel time runs on a single day for each of the following routes at 15-minute intervals along H-1 and at 30-minute intervals along side streets between the hours of 5:30 AM – 9:30 AM and 3:00 PM – 7:00 PM on a typical weekday during closure and non-closure conditions:
   - H-1 Freeway Eastbound from the Moanalua Road On-Ramp to 6th Avenue Off-Ramp (2nd lane from the right).
   - North King Street Eastbound, Alapai Street/South Street to H-1 Eastbound on-ramp (center lane).
   - Kapiolani Boulevard Eastbound, Alapai Street/South Street to H-1 Eastbound on-ramp (center lane).
   - Ward Avenue Northbound, Kapiolani Boulevard to H-1 Eastbound On-Ramp (right lane).
   - Piikoi Street Northbound, Kapiolani Boulevard to H-1 Eastbound On-Ramp (right lane).

   The impacts of the closure to both the H-1 Freeway and alternate routes will be compared and assessed.
2. **Capacity Increases** – During peak hours, the H-1 Freeway regularly operates at beyond its carrying capacity; therefore, any measureable increase in traffic volumes through its critical bottlenecks indicates an increase in capacity and an improvement to the freeway. Standard intersection analysis and microsimulation were not performed in this report, given that the other MOEs are more applicable in measuring the impacts of the closure.
3. **Weaving Distance –** The weaving distance between the Piikoi Eastbound On-Ramp and the Punahou Off-ramp will be assessed on an analytical based upon the volume and speed.

2. EXISTING CONDITIONS

2.1. Existing Roadway System

H-1 Freeway is generally an east-west, two-way divided freeway which begins to the west in the vicinity of the Palailai Interchange then extends through Kapolei, Ewa, Waipahu, Airport Industrial Area and Central Honolulu before terminating to the east and continuing on as Kalanianaole Highway. The H-1 Freeway is approximately 27.1 miles long.

In the vicinity of the Project the H-1 Freeway has 4 through lanes in each direction west of Punahou Street overpass and 3 lanes in each direction east of Punahou Street overpass with a posted speed limit of 45 miles per hour (mph).

H-201 Freeway is generally an east-west two-way divided freeway which begins at its split from the H-1 Freeway at the Halawa Interchange then extends through Halawa, Moanalua and Fort Shafter areas before terminating at its merge with H-1 Freeway at the Middle Street Tunnel.

South King Street is generally an east-west one-way undivided roadway which begins at its intersection with Nuuanu Avenue where it transitions from North King Street to South King Street. South King Street then continues for approximately 3.5 miles and terminates at its eastern intersection with Kapiolani Boulevard.

In the vicinity of the Project South King Street typically has 6 lanes in the eastbound direction with a posted speed limit of 25 miles per hour (mph). Between Alapai Street and University Avenue, there is typically street parking allowed on both sides of South King Street, however parking is restricted during the PM peak hours of traffic. It should also be noted that South King Street does share ROW with the King Street Cycle Track, which extends from Alapai Street to Isenberg Street and is located in the left-most lane of South King Street.

Kapiolani Boulevard is generally an east-west two-way undivided roadway which begins at its intersection with South Street and continues for approximately 3.1 miles where it then terminates at its intersection with Kapahulu Avenue and continues on as Waialae Avenue. Kapiolani Boulevard typically has a posted speed limit of 35 mph.

In the vicinity of the Project, Kapiolani Boulevard operates with 3 lanes in each direction with un-metered parking permitted intermittently between Alapai Street and University Avenue. Parking is however restricted during peak hours of traffic. Additionally during both AM and PM peak periods, Kapiolani Boulevard does contraflow traffic in alternating directions as follows:

- AM westbound contraflow from Mahiai Street to west of Cooke Street.
- PM eastbound contraflow from Kamakee Street to McCully Street.

Ward Avenue is generally a north-south two-way undivided roadway which begins at its intersection with Ala Moana Boulevard and terminates 1 mile to the north at its intersection with Prospect Street. Ward Avenue has a posted speed of 25 mph.

In the vicinity of the Project, Ward Avenue operates with 2 lanes in each direction with PM restricted metered street parking south of King Street. During morning peak hours of traffic 4-lane Ward Avenue is contra-flowed and operates with three southbound lanes and a single northbound lane from Lusitana Street to the midblock between King Street and Kapiolani

Boulevard. It should be noted that during AM contraflow hours while traffic control devices are deployed, westbound right-turns from Beretania Street onto Ward Avenue are prohibited.

Piikoi Street is generally a north-south one-way roadway which begins at its intersection with Ala Moana Boulevard and terminates 1.4 miles to the north at its intersection with Pensacola Street. Piikoi Street has a posted speed limit of 25 mph.

In the vicinity of the Project, Piikoi street generally operates with 5 lanes in one direction with un-metered, un-restricted parking to the south of King Street as well as several metered un-restricted stalls between King Street and Beretania Street.

2.2. Data Collection

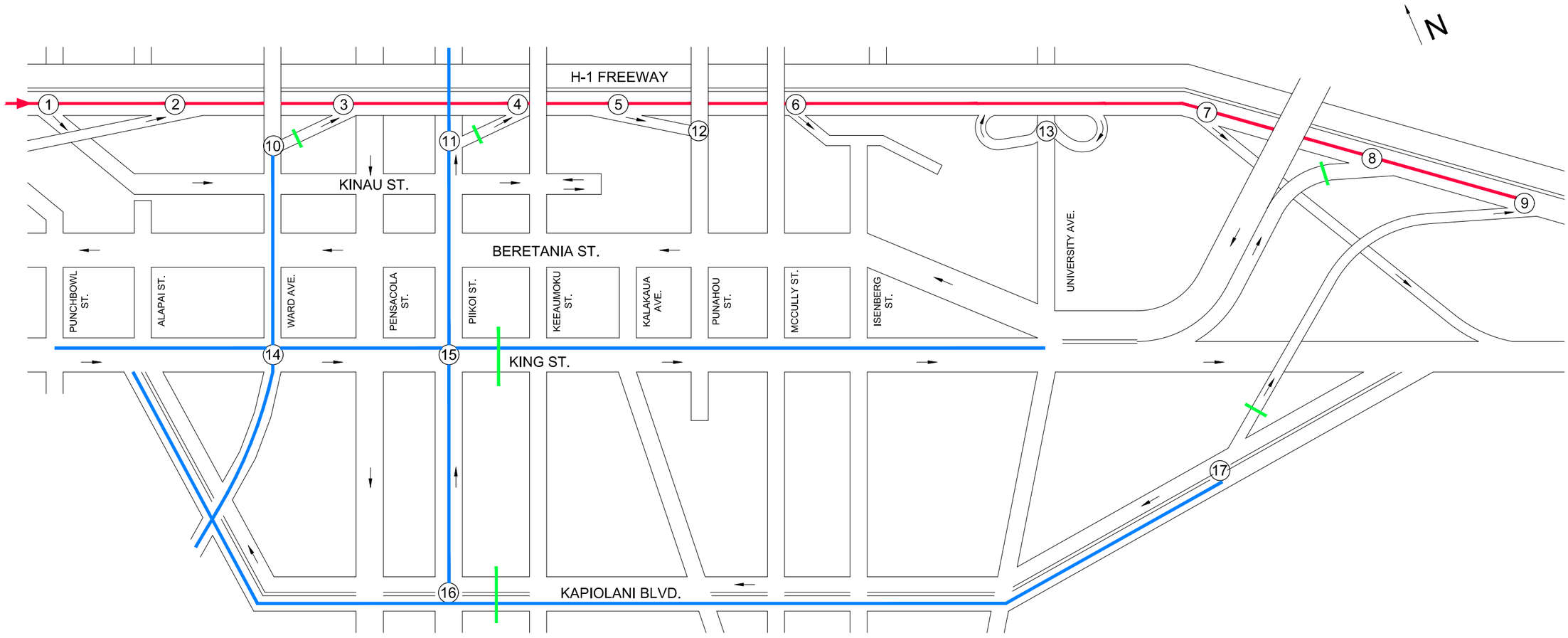
ATA collected traffic volume and travel time data at various locations for pre-closure and during-closure conditions as shown below in Figure 2.1. Pre-closure data collection was conducted the week of April 2 – April 8 and during-closure data was collected during the second week of the closure from April 23 – April 28. Turning movement and travel time data was collected during the AM and PM peak hours of traffic while 24-hour pneumatic tube count data was collected over the course of the entire observation week.

It should be noted that 1 week prior to closure of the Piikoi on-ramp, variable message signs were positioned along major corridors in the vicinity of the Piikoi on-ramp to notify motorists of the closure dates. Detour route suggestions or signage were not provided, allowing motorists to select their reroute paths at their own discretion.

The Piikoi on-ramp was closed for a period of two weeks from April 17 to April 28. Data collection occurred during the second week of the closure to allow the traffic to normalize and drivers to adjust during the first week.

Throughout the period of data collection, no major accidents or traffic incidents occurred that would have had a significant impact on data collected. Several minor collisions near and around the study area did occur, in addition to stalled cars, however these traffic incidents did not affect traffic flow and operations along H-1 Eastbound Freeway and side streets. All studied roadways operated under what could be considered “normal” driving conditions during all data collection periods.

In addition, while data collected generally represents typical driving conditions during weekday peak periods of traffic, it should be noted that the sample size used for the purpose of this report was limited to count data and travel time runs collected over a period of 3 days during each of the before and during closure conditions.



(X) INTERSECTION TURNING MOVEMENT COUNT LOCATIONS

COUNT TIMES:
5:30 AM - 9:30 AM
3:00 PM - 7:00 PM

H-1 EASTBOUND FREEWAY DATA COLLECTED APRIL 4, 2017 & APRIL 18, 2017
SIDE STREET AND RAMP DATA COLLECTED APRIL 3, 2017 & APRIL 17, 2017

TTR CORRIDORS

H-1 TRAVEL TIME RUNS CONDUCTED AT 15-MINUTE INTERVALS DURING AM AND PM PEAK HOURS OF TRAFFIC.

SIDE STREET TRAVEL TIME RUNS CONDUCTED AT VARIOUS INTERVALS DURING AM AND PM PEAK HOURS OF TRAFFIC.

24-HOUR PNEUMATIC TUBE LOCATIONS

24-HOUR ROAD TUBE STATION LOCATION.

PIIKOI RAMP STUDY

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
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DATA COLLECTION LOCATIONS

FIGURE 2.1

3. PRE-CLOSURE CONDITIONS

3.1. Field Observations

Field observations were conducted across multiple days for pre-closure and during-closure conditions.

Weekday Pre-closure observations were primarily conducted on April 4 and April 5, 2017 during the AM and PM peak hours of traffic.

3.1.1. H-1 Freeway

Generally during the AM and PM peak hours of traffic the H-1 Eastbound Freeway is heavily congested with typical weekday queues extending from the Punahou off-ramp back past the Middle Street merge and occasionally to the Fort Shafter overpass. Throughout the entire congested length during the AM and PM peak hours, users experience "bumper-to-bumper" congestion. One of the primary causes for this congestion is the combination of three consecutive on-ramps (Vineyard Boulevard, Ward Avenue and Piikoi Street), followed by a high volume off-ramp (Punahou off-ramp). East of the Punahou off-ramp the H-1 Eastbound Freeway typically travels at free flow speeds after the Punahou Street overpass. Additional light congestion may occur in the vicinity of the University of Hawaii loop off-ramp however, queuing was not observed to affect surrounding ramps or side street operations during AM and PM peak hours of traffic.

Typically AM and PM peak hour queues lasted from 6:30 AM to 8:00 AM and 4:00 PM to 6:00 PM, respectively.

Field observations during the AM peak hours of traffic revealed that queuing from the Punahou Street/Wilder Avenue/Punahou School Entrance intersection extended down Punahou Street to the freeway off-ramp between 7:30 AM and 8:00 AM. During the PM peak hours of traffic the queue spillback along Punahou Street was not observed to be a problem. In addition, while there is significant queuing in the vicinity of the Punahou Street Off-Ramp queue spillback from the intersection was not observed to queue onto the H-1 Eastbound Freeway and impede traffic. It should be noted that while no standing queues were observed at the Punahou Street Off-Ramp, vehicle decelerations in the shared through/exit lane in preparation for exiting H-1 Eastbound Freeway were observed to occur and did result in reduced travel speeds in the right lane of H-1 Freeway travel in the vicinity of the Punahou Street Off-Ramp. Vehicles taking the Punahou Street Off-Ramp were often observed to favor utilizing the shared through/exit lane regardless of their movements at the signalized intersection with Punahou Street. Observed vehicles would utilize the shared Freeway/Exit lane to avoid potential conflict and congestion with the Piikoi Street On-Ramp and then often executed a late lane change, conducting a 2-lane weave while already on the off-ramp, so that they may make a right-turn onto Punahou Street towards Beretania Boulevard. As a result, existing lane utilization between the Piikoi Street On-Ramp and the Punahou Street Off-Ramp may not necessarily be indicative of the vehicles destination or expected turning movement at the signalized intersection with Punahou Street.

3.1.2. South King Street

During the AM peak hours of traffic, South King Street was observed to generally operate relatively smoothly throughout the study area. Light congestion was observed along King Street

in the vicinity of Ward Avenue, however all queued vehicles were observed to clear every cycle despite minor congestion. East of the Ward Avenue intersection, traffic was generally light along South King Street until it terminates at its intersection with Kapiolani Boulevard with only slight congestion occurring at select signalized intersections.

During the PM peak hours of traffic South King Street is fairly congested west of Ward Avenue. In particular the left-most lane, which allows left-turn movements to go up Ward Avenue, was observed to operate as a defacto left-turn lane and typically had a much higher utilization and queuing in comparison to the other travel lanes. All other travel lanes experienced moderate congestion and queuing however, typically queued vehicles were able to clear within a single cycle with the exception of the left-most lane. Congestion at the Ward Avenue intersction could partially be contributed to large frequencies of conflicting movements between left-turns onto Ward Avenue, pedestrian crossings and the King Street cycle track.

At South King Street's intersection with Piikoi Street, Keeaumoku Street and Punahou Street, the left-most eastbound lane was observed to operate as a defacto left-turn lane similar to the Ward Avenue intersection. Queuing was observed to be a result of heavy conflicting volumes and driver hesitation while executing turning movements across the King Street cycle track.

At the fork where South King Street branches off to become the H-1 Eastbound Freeway on-ramp, ramp queues were observed to extend back to the Kahuna Lane signalized intersection. Queue spill back was primarily isolated to the left-most travel lane which leads to the H-1 Eastbound On-Ramp. Generally left-lane queue spillback was not observed to affect operations at the University Avenue/King Street intersection. See Figure 3.1 to the right.

Figure 3.1: King Street and Kahuna Lane

With the exception of the specific movements as mentioned above, traffic generally progressed well throughout the South King Street corridor in the center three lanes from Ward Avenue to University Avenue during the PM peak hours. Signal coordination and progression allowed large platoons of vehicles to clear multiple consecutive intersections at below the posted speed limit of 35 mph.

On-street parking restrictions are inconsistent along the South King Street corridor with some areas having unrestricted on street parking while others have PM tow away zones, often which vary between adjacent blocks. As a result, traffic was observed to have small bottlenecks along

South King Street from McCully Street to University Avenue as vehicles were weaving between the two left-most lanes to go around intermittent parked cars.

3.1.3. Kapiolani Boulevard

During AM peak hours, eastbound traffic was observed to be relatively light along Kapiolani Boulevard with only light queuing at signalized intersections. Traffic was observed to progress smoothly despite decreases in available lanes due to the AM contraflow operations as previously discussed. Slightly heavier congestion was observed to occur at the 6-legged intersection of Kapiolani Boulevard/ Kamoku Street/Date Street due to signal timing operations and heavy turning movements to access Iolani School. See Figure 3.2 for an aerial image of the 6-leg intersection.

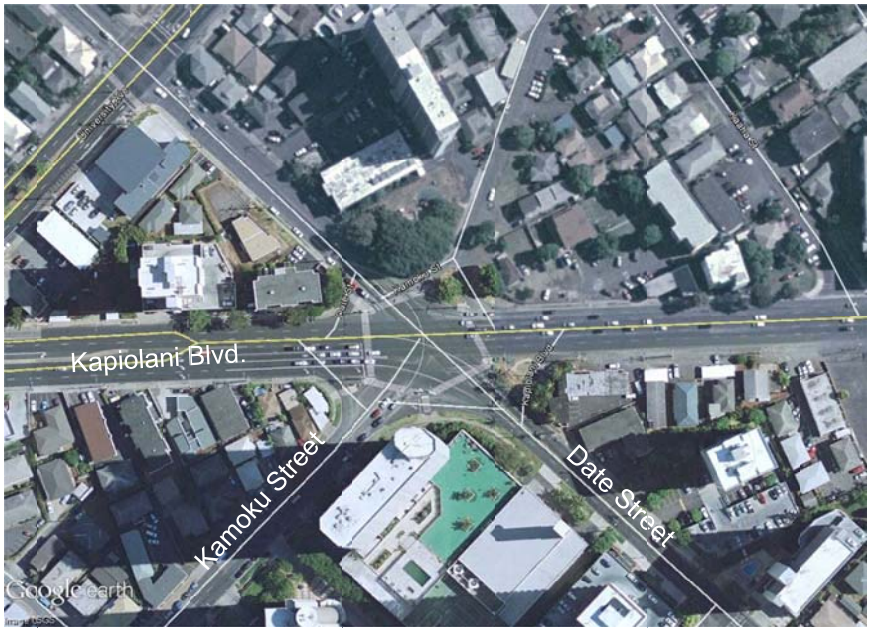


Figure 3.2: 6-Leg Intersection

During the PM peak hours of traffic 6-lane Kapiolani Boulevard operates with an additional contra-flow lane in the eastbound direction providing 4 eastbound lanes and 2 westbound lanes from Kamakee Street to McCully Street. In the vicinity of the ramp closure, Kapiolani Boulevard generally operates well in both directions of traffic. East of its intersection with Kalakaua Avenue, eastbound traffic typically becomes heavily congested until the H-1 Eastbound on-ramp. Lane utilization between McCully Street and the H-1 Eastbound on-ramp was observed to be heavily skewed to the left-most and center eastbound lanes as these lanes provide access to the on-ramp, in addition to the right-most lane becoming a right-turn only lane onto Kamoku Street or Date Street at the 6-legged intersection.

3.1.4. Ward Avenue

As stated before, during AM peak hours of traffic 4-lane Ward Avenue is contra-flowed and operates with three southbound lanes and a single northbound lane from Lusitana Street to the midblock between King Street and Kapiolani Boulevard. There is no contra-flow operation during the PM peak hours of traffic.

During AM peak hours, northbound Ward Avenue queuing typically begins at its intersection with Kinau Street and extends to, occasionally spilling back past, the King Street intersection. After the Kinau Street intersection, there were no other major bottlenecks in the northbound direction. It should also be noted that H-1 Eastbound Freeway on-ramp queuing was not observed to spill back up the on-ramp and affect Ward Avenue operations. Southbound Ward

Avenue traffic generally progressed well from Kinau Street to Kapiolani Boulevard. The additional lane gained from AM contra-flow operations was observed to be used as a defacto left-turn lane for the H-1 Eastbound on-ramp and Kinau Street left-turn movements. After its intersection with King Street, Ward Avenue was observed to operate sufficiently with most cars clearing the Kapiolani Boulevard intersection within a single cycle.

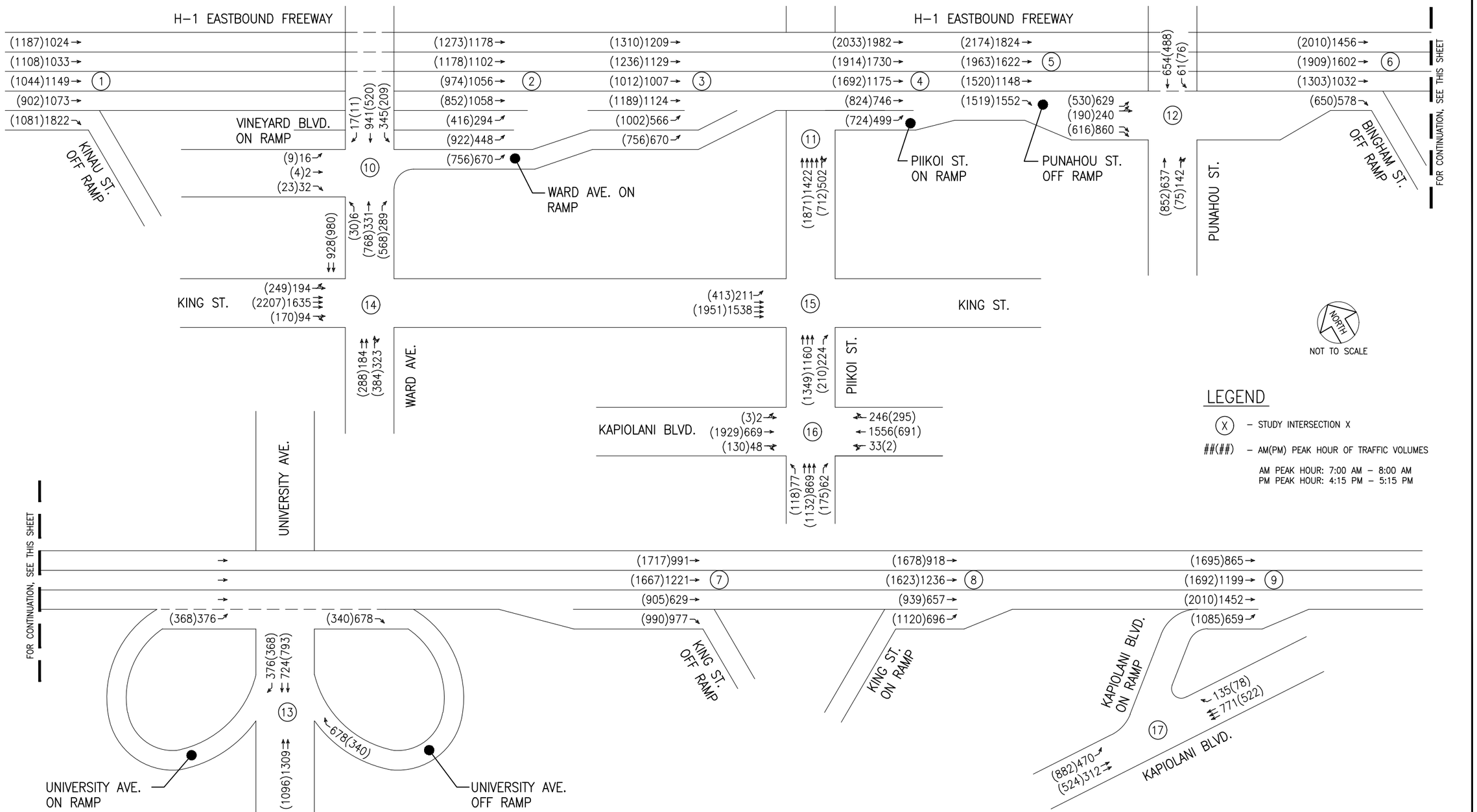
During PM peak hours, northbound Ward Avenue was observed to have heavy queuing with queue lengths spilling back past its intersection with South King Street. Northbound vehicles often took several cycles to clear the South King Street intersection followed by additional cycles to clear the Beretania Street intersection. Heavy Ward Avenue queuing is a result of large numbers of turning vehicles from King Street and Beretania Street on Ward Avenue using all available storage space in order to access H-1 Eastbound Freeway. North of Beretania Street, Ward Avenue operated relatively smoothly with light queuing at signalized intersections. H-1 Eastbound Freeway On-ramp queues were observed to spill back onto Ward Avenue for brief periods during peak traffic conditions, however, queueing was not observed to affect surrounding signalized intersections at Kinau Street and Lusitana Street. Southbound Ward Avenue was observed to operate with light congestion with vehicles occasionally taking more than a single cycle to clear the Ward Avenue/South King Street intersection.

3.2. Volumes and Capacity

During the hours of observation and data collection, the H-1 Eastbound Freeway in the vicinity of the Piikoi Street On-Ramp serviced 21,341 and 22,864 vehicles between the hours of 5:30 AM - 9:30 AM and 3:00 PM - 7:00 PM, respectively. During the peak hours of freeway traffic from 7:00 AM - 8:00 AM and 4:15 PM - 5:15 PM H-1 Eastbound Freeway had a respective peak volume of 5,633 and 6,463 vehicles per hour. A summary table of eastbound traffic data at critical locations can be seen in Table 3.1 below. Additionally, peak hour traffic volumes can be seen in Figure 3.3.

Table 3.1: Eastbound Pre-Closure Volume Summary Table

Location	Morning Commute (5:30 AM-9:30 AM)	AM Peak Hour (7:00-8:00 AM)	Afternoon Commute (3:00 PM-7:00 PM)	PM Peak Hour (4:15-5:15 PM)
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	18841 vehicles	4279 vph	17132 vehicles	4241 vph
H-1 Eastbound Freeway (Near Piikoi On-Ramp)	21341 vehicles	5633 vph	22864 vehicles	6463 vph
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	10844 vehicles	3516 vph	19588 vehicles	5397 vph
Eastbound King St. (Ward Ave. Intersection)	5236 vehicles	1958 vph	8979 vehicles	2626 vph
Eastbound King St. (Piikoi St. Intersection)	4990 vehicles	1762 vph	8777 vehicles	2364 vph
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	2562 vehicles	731 vph	6558 vehicles	2062 vph
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	2083 vehicles	782 vph	4929 vehicles	1406 vph



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AM AND PM PEAK HOUR VOLUMES BEFORE CLOSURE

FIGURE 3.3

3.3. Queuing

3.3.1. AM Queuing Conditions

During the AM peak hours of traffic, peak congestion was found to occur between the hours of 6:45 AM to 7:45 AM. During this peak period, H-1 Eastbound queuing was observed to begin in the vicinity of the Punahou Street Off-Ramp and occasionally spill back past the Ft. Shafter Overpass. Prior to peak periods, queue lengths were observed to begin building from approximately 6:15 AM, emanating from the Punahou Street Off-Ramp as a result of heavy weaving between the Piikoi Street On-Ramp and the Punahou Street Off-Ramp. Following peak periods, H-1 Eastbound queuing was observed to generally dissipate from Ft. Shafter to Kaimuki at approximately 9:15 AM. Between the hours of 7:00 to 8:15 AM H-1 Eastbound vehicles generally experienced severe congestion with regular "stop-&-go" and "bumper-to-bumper" conditions from the Middle Street Merge to the Punahou Street Off-Ramp.

As stated above, the Punahou Street Off-Ramp intersection queues were not observed to spill back down the off-ramp and affect the H-1 Eastbound traffic flow. Reduced vehicle speeds are more a result of motorists entering the freeway via the Piikoi Street On-Ramp in conjunction with vehicle decelerations as they approach the Punahou Street Off-Ramp in the shared through/exit lane. Converging volumes combined with subsequent lane changes for vehicles wishing to continue on the H-1 Eastbound Freeway, in addition to exiting vehicle decelerations were observed to be the primary causes of congestion and reduced travel speeds.

See Figure 3.4 below for a visual representation of observed peak hour queuing along H-1 Eastbound Freeway.

3.3.2. PM Queuing Conditions

During the PM peak hour, H-1 Eastbound Freeway traffic operates at conditions similar to AM peak hour. Queuing typically emanates from the Punahou Street Off-Ramp however, unlike AM conditions, eastbound queuing was not observed to extend back past the Ft. Shafter Overpass. Also similar to AM conditions, eastbound vehicles typically experienced severe congestion in the form of "stop-&-go" and "bumper-to-bumper" conditions from the Middle Street Merge to the Punahou Off-Ramp between the hours of 4:00 to 6:00 PM.

Similar to AM conditions stated above, the Punahou Street Off-Ramp intersection queueing was not observed to spill back into the H-1 Eastbound Freeway travel lane. Congestion in the vicinity of the Punahou Street Off-Ramp was observed to be attributed to heavy merging volumes followed by a subsequent weaving lane change by drivers wishing to continue on H-1 Eastbound Freeway in addition to existing vehicle decelerations.

See Figure 3.4 below for a visual representation of observed peak hour queuing along H-1 Eastbound Freeway.

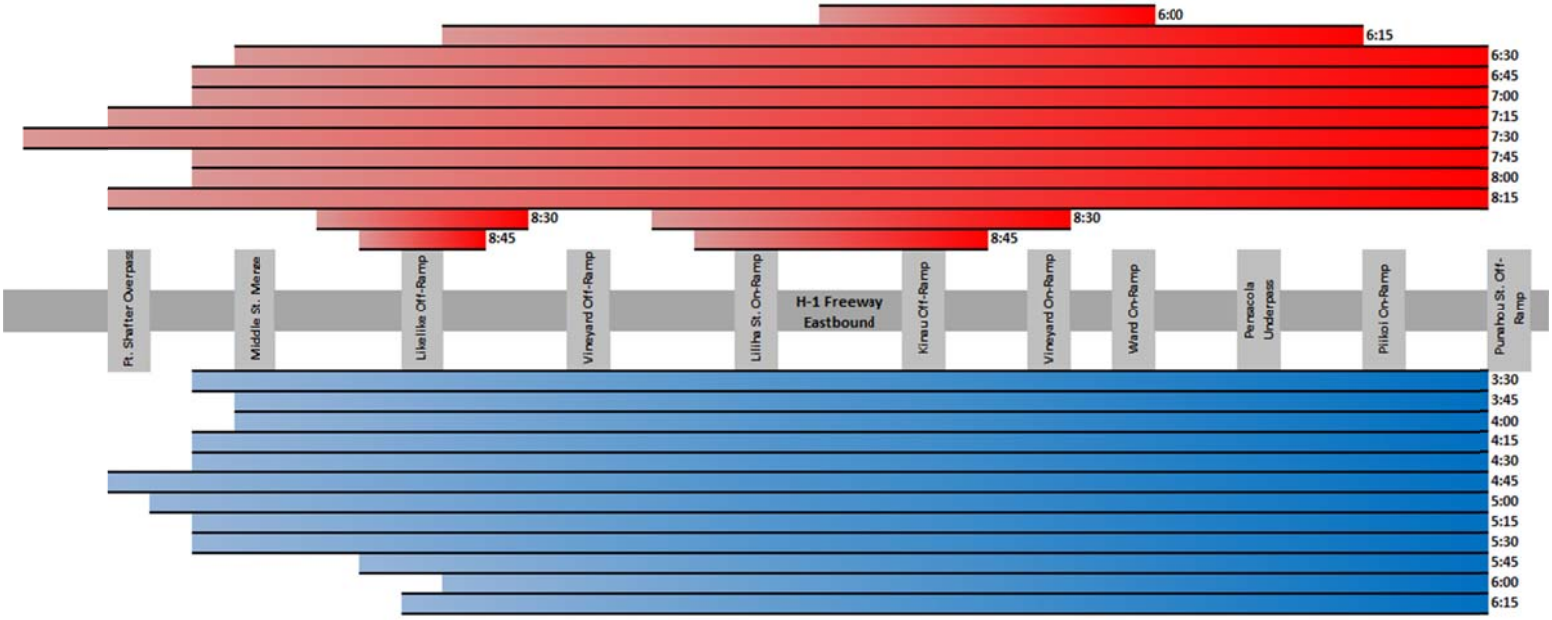

Figure 3.4: Pre-Closure AM & PM Peak Hour Queue Spillback

3.4. Travel Time and Speed

Pre-closure travel time run data was collected on April 4 & 6, 2017 to establish baseline driving conditions. Data included in each individual travel time run operates primarily off of GPS location data. Output results include information regarding travel time between landmark locations, travel speeds, number of stops, emissions calculations, etc.

Travel time run data was collected at 15-minute intervals beginning at 5:30 AM with the last run commencing at 9:15 AM. Similarly during PM conditions travel time runs began at 3:00 PM with the last run commencing at 6:45 PM. Operators conducting the travel time run all utilized the same travel lane throughout the length of the study (third lane from the left), conducted zero lane changes and traveled with the flow of traffic.

3.4.1. Travel Time

3.4.1.1. H-1 Eastbound Freeway

Travel times along H-1 Eastbound Freeway between the Moanalua On-Ramp and the 6th Avenue Off-Ramp ranged from the shortest being 10 minutes at 5:45 AM, to a maximum of 24 minutes, 14 seconds at 7:15 AM. Similarly during the PM peak hours of traffic travel times ranged from the shortest being 11 minutes, 32 seconds at 6:45 PM to a maximum of 41 minutes, 40 seconds at 5:15 PM. Travel times from Moanalua to 6th Avenue averaged across the entire AM and PM peak periods are 14 minutes, 13 seconds and 26 minutes, 39 seconds, respectively. See Figure 3.5 below for a graph of eastbound travel time vs time of day.

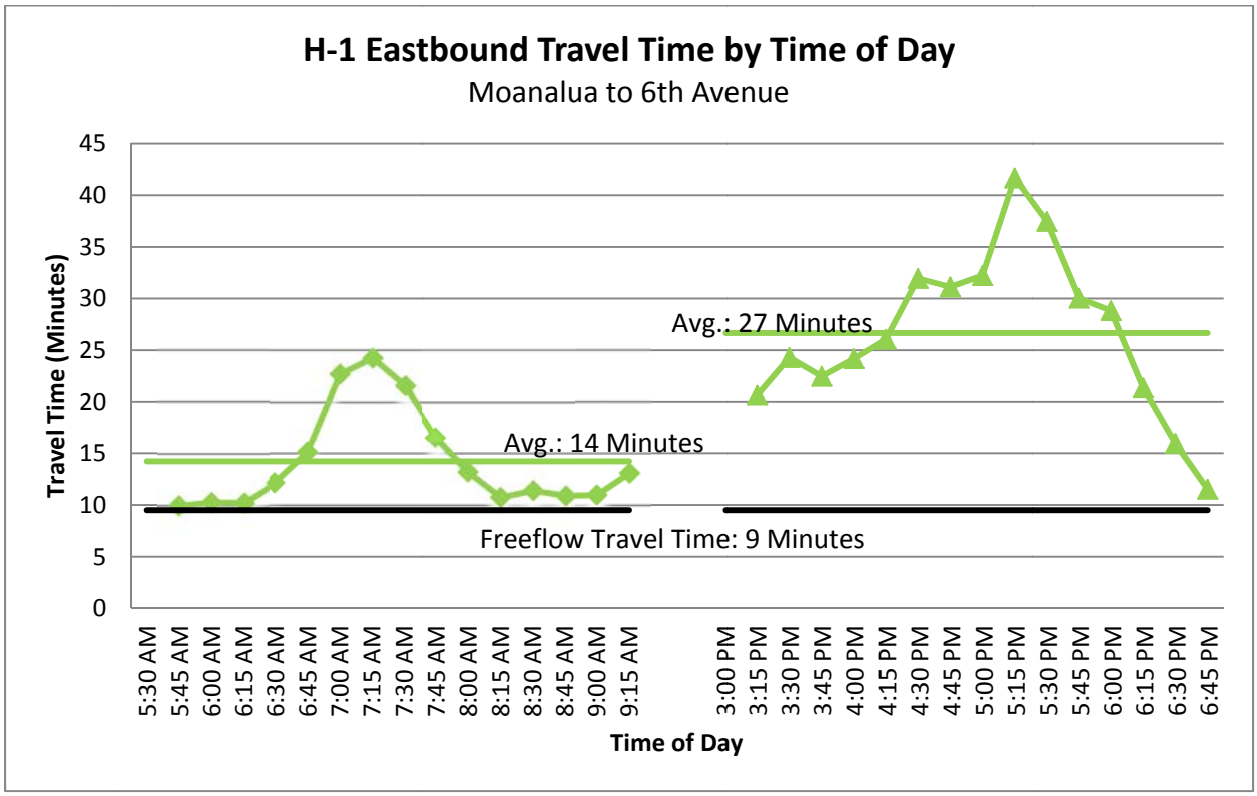

Figure 3.5: AM & PM H-1 Eastbound Travel Time Graph

3.4.1.2. Side Street Travel Times

Due to the number of side street and the large extents of the roadways, no set times for conducting a travel time run were specified. Travel time run operators would conduct their respective corridors at the fastest pace they were able. Table 3.2 below summarizes the average travel times across all runs for their respective corridors. Typically travel times during the PM commute hours of traffic were found to be higher than AM commute hours.

Table 3.2: Eastbound Pre-Closure Travel Times

Route	Average Travel Time	
	AM Commuter	PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	9 Minutes	12 Minutes
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	11 Minutes	13 Minutes
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	4 Minutes	8 Minutes
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	3 Minutes	5 Minutes

3.4.2. Travel Speed

3.4.2.1. H-1 Eastbound Freeway

H-1 Eastbound Freeway average travel speeds between Moanalua On-Ramp and the 6th Avenue Off-Ramp during the AM peak hours of traffic ranged from 48 miles per hour (mph) at 5:45 AM to its lowest of 19.8 mph at 7:15 AM. Similarly during the PM peak hours of traffic travel speeds ranged from 41.8 mph at 6:45 PM to as low as 11.6 mph at 5:15 PM. Between the hours of 5:30 AM to 9:30 AM and 3:00 PM to 7:00 PM the average travel speed was 35.9 mph and 20 mph during the AM and PM peak hours of traffic, respectively. See Figure 3.6 below for a graph of eastbound travel speed vs time of day.

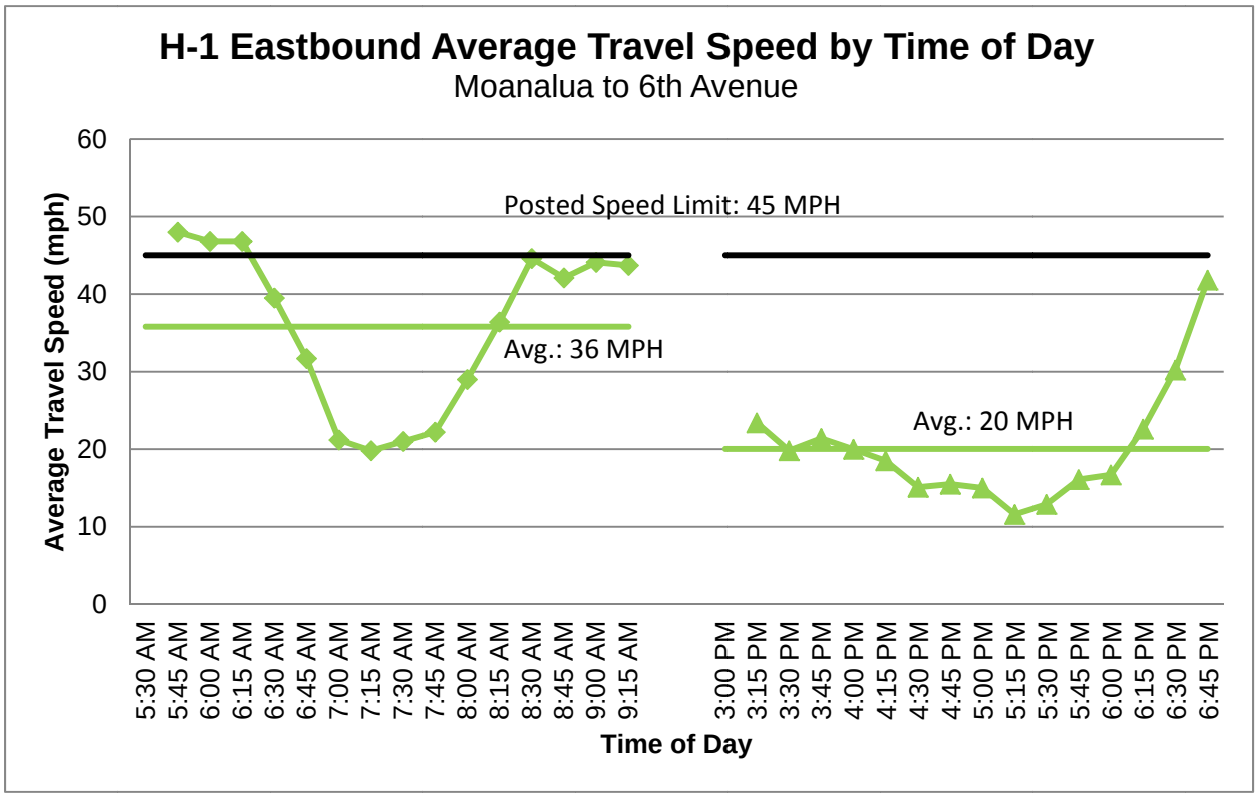

Figure 3.6: AM & PM H-1 Eastbound Travel Speed Graph

3.4.2.2. Side Street Travel Speeds

As stated above, due to the number of side street and the large extents of the roadways, no set times for conducting a travel time run were specified. Travel time run operators would conduct their respective corridors at the fastest pace they were able. Table 3.3 below summarizes the average travel speeds across all runs for their respective corridors. Similar to travel times, average travel speeds across all runs were observed to generally be slower during the PM commute period.

Table 3.3: Eastbound Pre-Closure Travel Speeds

Route	Average Travel Speed	
	AM Commuter	PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	21 MPH	14 MPH
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	15 MPH	13 MPH
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	8 MPH	4 MPH
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	15 MPH	7 MPH

4. DURING-CLOSURE CONDITIONS

4.1. Field observations

Field observations were conducted across multiple days for pre-closure and during-closure conditions.

During-closure field observations were conducted on weekdays during the AM and PM commuter periods of the closure from April 17 to April 28, 2017.

4.1.1. H-1 Eastbound Freeway

During the AM and PM peak hours traffic patterns and conditions were assumed to have normalized during the second week of the closure. Regular shifts in traffic patterns along H-1 Eastbound Freeway were observed over multiple days and varying times of field observations. During field observations, queues were observed to now originate from the Ward Avenue and Vineyard Boulevard On-Ramps, east of these two on-ramps, traffic was observed to regularly progress 10 mph faster than pre-closure conditions. In particular, the two left-most travel lanes from the Liliha Street On-Ramp to the Punahou Street Off-Ramp were observed to have the greatest increases to average travel speed throughout the segment.

During both AM and PM peak hours, queue lengths extending from the Ward Avenue and Vineyard Boulevard on-ramps were observed to be divided into two shorter congested areas compared to pre-closure conditions. Back of queues beginning from the Ward on-ramp typically only extended to the Vineyard Boulevard off-ramp with a second congested segment beginning near the Gulick Avenue overpass and extending past the Middle Street merge, but rarely reached the Fort Shafter overpass during normal driving conditions.

Similar to pre-closure conditions, typical AM and PM peak hour queues lasted from 6:30 AM to 8:00 AM and 4:00 PM to 5:30 PM, respectively.

Despite increased throughput along H-1 Eastbound Freeway in the Makiki corridor, the Punahou Street Off-Ramp was not observed to ever spill back onto H-1 Eastbound Freeway and obstruct freeway traffic. Additionally, as expected, vehicle weaving between the closed Piikoi on-ramp and the Punahou Street Off-Ramp was reduced to only aggressive vehicles making late lane changes. Furthermore the vehicle weaving, as stated in Section 3.1.1, on the Punahou Street-Off Ramp was observed to greatly decrease. Vehicle lane utilization approaching the Punahou Street Off-Ramp was found to be much more reflective of turning movements at the Punahou Street signalized intersection.

4.1.2. South King Street

During the AM peak hours of traffic, South King Street was observed to operate similar to pre-closure conditions. Little congestion was observed along King Street with the only areas of minor congestion in the vicinity of the Ward Avenue and Punahou Street intersections, primarily in the left-most lane which allows left-turns off of South King Street. Other than these isolated areas, traffic along South King Street progressed generally well with adequate capacity during the AM peak period.

During the PM peak hours of traffic congestion along South King Street was similar to pre-closure conditions with heavy left-lane congestion and utilization primarily at the Ward Avenue,

Piikoi Street, Keeaumoku Street and Punahou Street intersections. Center travel lanes along South King Street was noticeably more congested with higher volumes of traffic east of its intersection with Piikoi Street. At South King Street's intersection with University Avenue, eastbound vehicle queues in the through lanes were observed to be several vehicles longer and not clear within a single cycle on several occasions as opposed to pre-closure conditions where eastbound queues were observed to clear within a single cycle. Additionally, queuing from the fork to go towards the H-1 Eastbound Freeway on-ramp was also observed to several vehicles longer and progressed at slower speeds than pre-closure conditions. Typically queue spill back from the on-ramp reached the vicinity of the Kahuna Lane intersection, however, on occasion the on-ramp queue did spill back to the University Avenue intersection affecting through movements.

Aside from specific locations as mentioned above, traffic progressed generally well throughout the studied length of South King Street. Despite slightly increased congestion due to higher volumes, traffic generally maintained an average speed of 20 mph during the AM and 13 mph during the PM.

4.1.3. Kapiolani Boulevard

During the AM and PM peak hours of traffic, Kapiolani Boulevard operated similarly to pre-closure conditions. No significant increases to pre-closure queuing, travel time or delay was observed as a result of the closure.

During AM peak hours of traffic, eastbound vehicles continued to operate relatively well as stated above. During PM peak hours eastbound congestion continued to be heavy similar to pre-closure conditions. Eastbound congestion was primarily attributed to limited lane capacity at the 6-legged intersection where only two through lanes along Kapiolani Boulevard are provided. As a result eastbound queues were observed to regularly spill back past the McCully Street intersection.

4.1.4. Ward Avenue

During the AM peak hours of traffic, Ward Avenue continued to operate similarly to pre-closure conditions. Northbound vehicles were observed to have slightly longer queue lengths, however rarely spilled back past the King Street intersection. As stated above, during AM contra-flow hours, westbound right-turns from Beretania Street onto Ward Avenue are prohibited for all vehicles while the contra-flow lane is deployed. Despite adequate signage, an increased frequency of illegal right-turns at the Beretania Street/Ward Avenue intersection was observed compared to pre-closure conditions.

During PM peak hours of traffic northbound Ward Avenue was heavily congested with queues extending from the Kinau Street intersection to the Blaisdell Exhibition Hall. Northbound Ward Avenue queues were not observed to reach or affect northbound operations at the Kapiolani Boulevard intersection. Due to limited receiving space north of its intersection with King Street, northbound Ward Avenue traffic would typically only process 3-4 vehicles per lane per cycle on average. As a result, vehicles typically required at least 2-3 cycles in order to clear the King Street intersection. Due to long queues and slow progression, many vehicles were observed to take an alternate route via King Street to Victoria Street to Beretania Street and a westbound right-turn onto Ward Avenue to avoid long queues.

4.2. Volume

During the hours of observation and data collection, the H-1 Eastbound Freeway in the vicinity of the Piikoi Street On-Ramp serviced 21,550 and 23,183 vehicles between the hours of 5:30 AM - 9:30 AM and 3:00 PM - 7:00 PM, respectively. During the peak hours of freeway traffic from 7:00 AM - 8:00 AM and 4:15 PM - 5:15 PM H-1 Eastbound Freeway had a respective peak volume of 6,257 and 6,806 vehicles per hour. A summary table of eastbound traffic data at critical locations can be seen in Table 4.1 below. Additionally, peak hour traffic volumes can be seen in Figure 4.1 below.

Table 4.1: Eastbound During Closure Volume Summary Table

Location	Morning Commute (5:30 AM-9:30 AM)	AM Peak Hour (7:00-8:00 AM)	Afternoon Commute (3:00 PM-7:00 PM)	PM Peak Hour (4:15-5:15 PM)
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	19667 vehicles	4749 vph	17227 vehicles	4527 vph
H-1 Eastbound Freeway (Near Piikoi On-Ramp)	21550 vehicles	6257 vph	23183 vehicles	6806 vph
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	10809 vehicles	3516 vph	19177 vehicles	5153 vph
Eastbound King St. (Ward Ave. Intersection)	5502 vehicles	1925 vph	9506 vehicles	2817 vph
Eastbound King St. (Piikoi St. Intersection)	5147 vehicles	2071 vph	8971 vehicles	2531 vph
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	3062 vehicles	995 vph	6554 vehicles	2120 vph
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	2245 vehicles	817 vph	5269 vehicles	1439 vph

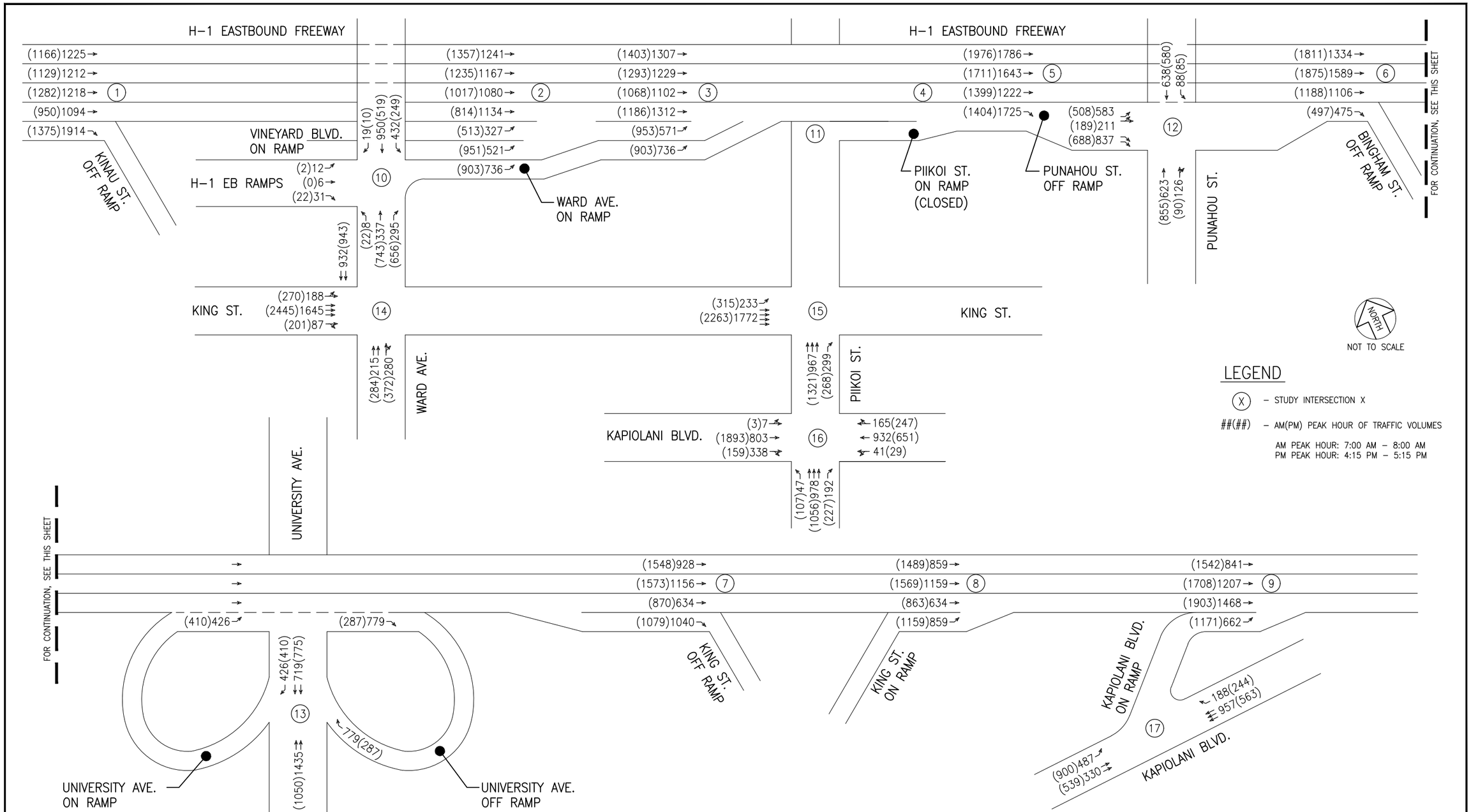

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FIGURE 4.1

AM AND PM PEAK HOUR VOLUMES DURING CLOSURE

4.3. Queuing

4.3.1. AM Queuing Conditions

During the AM peak hours of traffic, peak congestion was found to occur between the hours of 6:45 AM to 7:45 AM. During this peak period, H-1 Eastbound congestion was observed to consistently follow a new queuing pattern. H-1 Eastbound Freeway queues were observed to have been broken up into two distinct areas of congestion. Unlike pre-closure conditions, the first area of congestion was observed to typically emanate in the vicinity of the Ward Avenue On-Ramp merge area with eastbound queues then extending back past the Liliha Street On-Ramp, but not reaching the Vineyard Boulevard Off-Ramp. Between the Vineyard Boulevard Off-Ramp and the Likelike Highway Off-Ramp, slightly reduced congestion and higher speeds were observed throughout AM peak hours of traffic during the closure period. A second section of eastbound congestion was observed to emanate from the Likelike Highway Off-Ramp with queues typically extending back past the Middle Street merge and only occasionally reaching the Ft. Shafter Overpass. Prior to peak periods, queue lengths were observed to begin building at similar times as pre-closure conditions at approximately 6:15 AM. Following peak periods, H-1 Eastbound queuing was observed to generally dissipate from Ft. Shafter to Kaimuki at approximately 9:15 AM.

It should be noted that due to the reduced congestion and weaving as a result of the Piikoi On-Ramp closure, vehicles were observed to maintain higher speeds between the Ward Avenue On-Ramp and the Punahou Street Off-Ramp. Increases in travel speeds in this section of H-1 Eastbound Freeway during the ramp closure were observed to typically be between 5-10 mph faster with a maximum observed 17 mph faster during the AM peak period.

Similar to pre-closure conditions, the Punahou Street Off-Ramp was not found to spill back onto the H-1Eastbound Freeway and affect freeway travel.

See Figure 4.2 below for a visual representation of observed peak hour queuing along H-1 Eastbound Freeway.

4.3.2. PM Queuing Conditions

During the PM peak hour, H-1 Eastbound Freeway traffic operates at conditions similar to AM peak hour with eastbound congestion being observed to consistently follow a new queuing pattern. H-1 Eastbound Freeway queuing typically emanated from the Ward Avenue On-Ramp with eastbound queues extending back past the Liliha Street On-Ramp, and only rarely reaching the Vineyard Boulevard Off-Ramp under peak conditions. Between the Vineyard Boulevard Off-Ramp and the Likelike Off-Ramp, vehicles typically had slightly higher travel speeds with reduced congestion. A second eastbound congestion bottleneck was observed to emanate from the Likelike Highway Off-Ramp with queues typically extending back past the Middle Street merge but were not observed to reach the Ft. Shafter Overpass.

Similar to AM conditions stated above, due to the closure of the Piikoi On-Ramp, vehicles were observed to maintain higher speeds between the Ward Avenue On-Ramp and the Punahou Street Off-Ramp. During PM conditions eastbound vehicle travel speeds along H-1 Freeway increased by as much as 22 mph in the vicinity of the Punahou Street Off-Ramp.

Similar to pre-closure conditions, the Punahou Street Off-Ramp was not found to spill back onto the H-1 Eastbound Freeway and affect freeway travel.

See Figure 4.2 below for a visual representation of observed peak hour queuing along H-1 Eastbound Freeway.

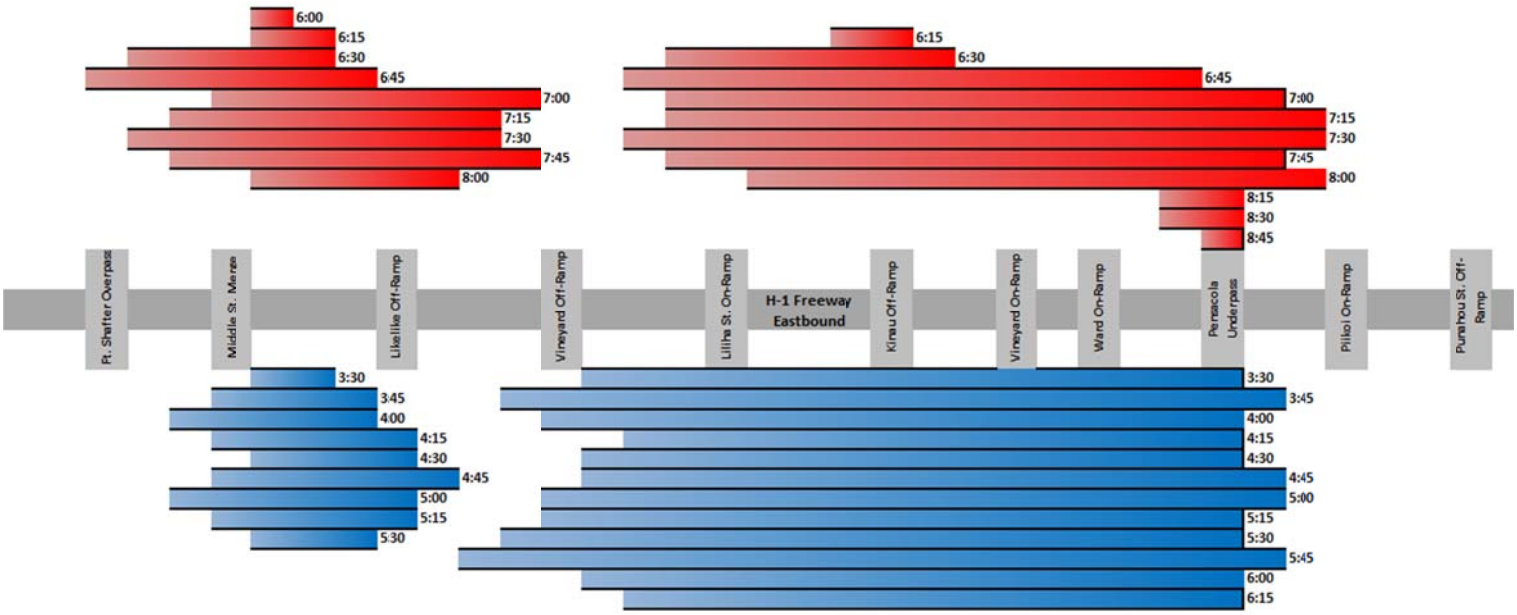


Figure 4.2: During Closure AM & PM Peak Hour Queue Spillback

4.4. Travel Time and Travel Speed

During the Piikoi On-Ramp closure travel time run data was collected on April 25, 2017 to measure driving conditions during the period of the ramp closure. Data included in each individual travel time run operates primarily off of GPS location data. Output results include information regarding travel time between landmark locations, travel speeds, number of stops, emissions calculations, etc.

Travel time run data was collected at 15-minute intervals beginning at 5:30 AM with the last run commencing at 9:15 AM. Similarly during PM conditions travel time runs began at 3:00 PM with the last run commencing at 6:45 PM. Operators conducting the travel time run all utilized the same travel lane throughout the length of the study (third lane from the left), conducted zero lane changes and traveled with the flow of traffic. It should be noted that due to equipment malfunctions, several travel time runs as indicated by an ' * ' did not properly record the data set and were omitted from the results.

4.4.1. Travel Time

4.4.1.1. H-1 Eastbound Freeway

Travel times along H-1 Eastbound Freeway between the Moanalua On-Ramp and the 6th Avenue Off-Ramp ranged from the shortest being 10 minutes at 5:45 AM, to a maximum of 24 minutes at 7:15 AM. Similarly during the PM peak hours of traffic travel times ranged from the

shortest being 10 minutes at 6:45 PM to a maximum of 25 minutes at 4:45 PM. Travel times from Moanalua to 6th Avenue averaged across the entire AM and PM peak periods are 14 minutes and 19 minutes respectively. See Figure 4.3 below for a graph of eastbound travel time vs time of day.

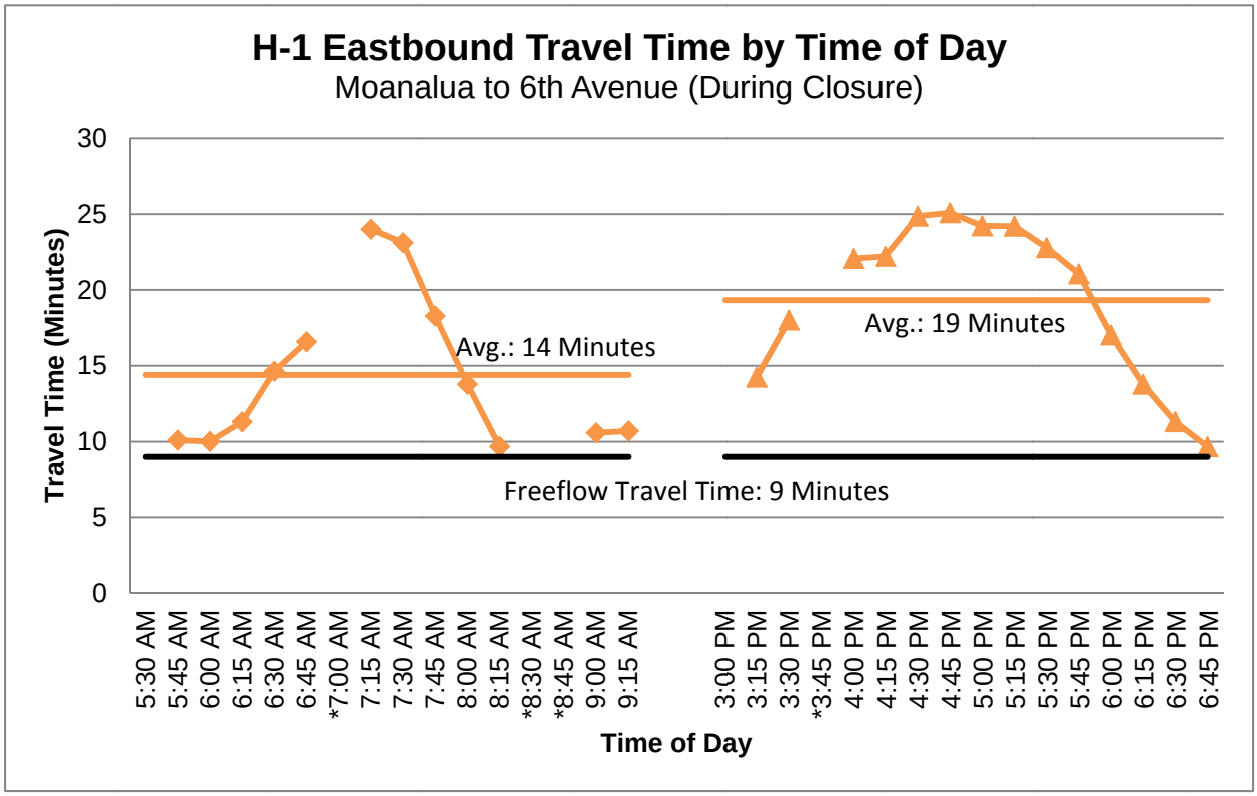


Figure 4.3: Travel Time by ToD

4.4.1.2. Side Street Travel Times

Due to the number of side street and the large extents of the roadways, no set times for conducting a travel time run were specified. Travel time run operators would conduct their respective corridors at the fastest pace they were able. Table 4.2 summarizes the average travel times across all runs for their respective corridors can be seen below. Typically travel times during the PM commute hours of traffic were found to be higher than AM commute hours.

Table 4.2: Eastbound During Closure Travel Times

Route	Average Travel Time	
	AM Commuter	PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	9 Minutes	13 Minutes
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	11 Minutes	15 Minutes
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	4 Minutes	7 Minutes
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	3 Minutes	3 Minutes

4.4.2. Travel Speed

4.4.2.1. H-1 Eastbound Freeway

H-1 Eastbound Freeway average travel speeds between Moanalua On-Ramp and the 6th Avenue Off-Ramp during the AM peak hours of traffic ranged from 48 miles per hour (mph) at 6:00 AM to its lowest of 20 mph at 7:15 AM. Similarly during the PM peak hours of traffic travel speeds ranged from 50 mph at 6:45 PM to as low as 19 mph at 4:45 PM. Between the hours of 5:30 AM to 9:30 AM and 3:00 PM to 7:00 PM the average travel speed was 38 mph and 27 mph during the AM and PM peak hours of traffic, respectively. See Figure 4.4 below for a graph of eastbound travel speed vs time of day.

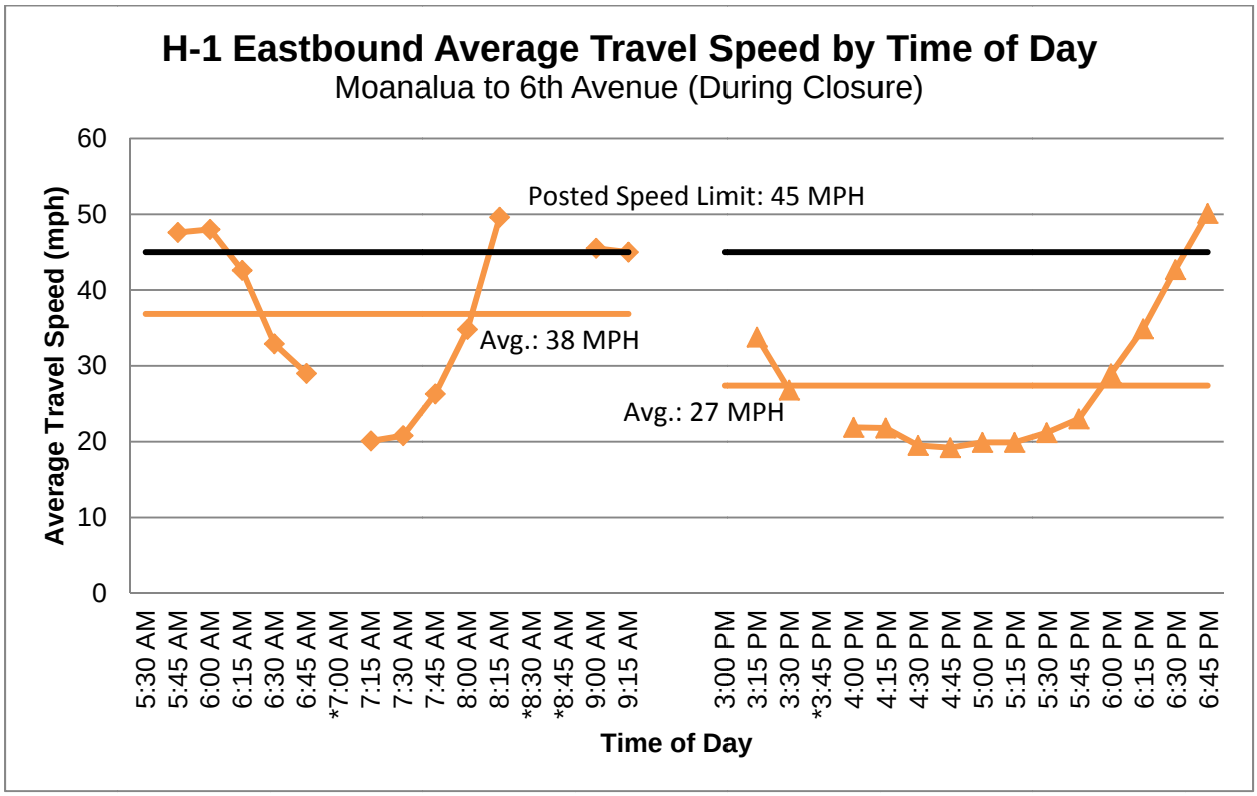


Figure 4.4: Travel Speed by Time of Day

4.4.2.2. Side Street Travel Times

As stated above, due to the number of side street and the large extents of the roadways, no set times for conducting a travel time run were specified. Travel time run operators would conduct their respective corridors at the fastest pace they were able. Table 4.3 summarizes the average travel speeds across all runs for their respective corridors can be seen below. Similar to travel times, average travel speeds across all runs were observed to generally be slower during the PM commute period.

Table 4.3: Eastbound During Closure Travel Speeds

Route	Average Travel Speed	
	AM Commuter	PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	20 MPH	13 MPH
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	15 MPH	12 MPH
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	8 MPH	5 MPH
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	13 MPH	12 MPH

5. CLOSURE COMPARISON

5.1. Volume and Capacity

5.1.1. Peak hour volumes

As stated above, the AM and PM peak hours of traffic along all studied roadways were assumed to occur between the hours of 7:00 AM to 8:00 AM and 4:15 PM to 5:15 PM before the Piikoi Street On-Ramp closure.

5.1.1.1. H-1 Eastbound Freeway

For the purposes of this section, while volumes downstream of the Piikoi Street On-Ramp during the ramp closure are important, volume comparisons are not necessarily reflective of the increases to overall freeway capacity east of the on-ramp. This is due to the Piikoi Street On-Ramp adding 499(724) vehicles during the AM(PM) peak hours of traffic. As a result, while freeway volumes downstream of the Piikoi Street On-Ramp may indicate a drop in overall volumes, it is important to remember that those volumes during the ramp closure do not include the volume typically added by the Piikoi Street On-Ramp.

During the AM peak hour of traffic, traffic volumes collected indicate that between the Piikoi Street On-Ramp and the Ward Avenue On-Ramp the operating capacity of the H-1 Eastbound Freeway experienced an increase of 552 vehicles during the peak hour of traffic. This equates to an approximate 9.7% increase in capacity. Similarly, upstream between Ward Avenue On-Ramp and the Vineyard Boulevard On-Ramp, the H-1 Eastbound Freeway volumes experienced an increase in operational capacity of 261 vehicles during the peak hour of traffic which equates to a sustained 5.6% increase over pre-closure conditions.

During the PM peak hour of traffic, volumes collected between the Piikoi Street On-Ramp and the Ward Avenue On-Ramp indicate an increase in operating capacity of 301 vehicles during the peak hour of traffic, which equates to a 4.6% increase in capacity. Upstream, between the Ward Avenue On-Ramp and the Vineyard Boulevard On-Ramp the H-1 Eastbound Freeway volumes experienced an increase in operational capacity of 243 vehicles which equates to an increase of approximately 5.2%.

Table 5.1 and 5.2 below summarizes peak hour volumes for the H-1 Eastbound Freeway during AM and PM peak hours of traffic. See Figure 5.1 below for a side by side comparison of H-1 Eastbound Freeway volumes at the studied ramps.

5.1.1.2. Eastbound South King Street at Piikoi Street

Eastbound Volumes at the South King Street/Piikoi Street intersection were critical to measure the increases to eastbound volumes as a result of rerouting traffic. The South King Street/Piikoi Street intersection is located at a significant junction for vehicles deciding to continue on King Street and reroute eastbound.

During the AM peak hour of traffic, eastbound volumes along South King Street were found to increase by 309 vehicles during a single peak hour of traffic, this equates to an increase of approximately 17.5%. It should be noted that during AM peak period conditions, eastbound

volumes along South King Street are approximately 1762 vehicles during the AM peak hour, which falls below the operational capacity of South King Street. Therefore, while 17.5% increases to roadway traffic along South King Street may appear significant, the percentage increase is not necessarily an accurate depiction of operations. Field observations as stated above indicate that before the Piikoi Street On-Ramp closure, South King Street is currently under-utilized east of its intersection with Piikoi Street.

During the PM peak hour of traffic while the closure was in effect, eastbound volumes along South King Street were found to increase by 370 vehicles during the peak hour of traffic equating to an increase of approximately 17.1%. Similar to AM condition, while 17.1% increases to roadway traffic along South King Street may appear significant, the percentage increase is not necessarily an accurate depiction of operations along South King Street. Field observations during the PM peak hour pre-closure showed that while certain portions of South King Street can be congested at critical intersections, optimized signal timings for vehicle progression through the corridor results in South King Street traffic progressing generally well with large platoons able to clear multiple consecutive intersections east of its Piikoi Street intersection.

Table 5.1 and 5.2 below summarizes peak hour volumes for eastbound South King Street. See Figure 5.2 and 5.3 for side street volumes at the studied intersections.

5.1.1.3. Eastbound Kapiolani Boulevard at Piikoi Street

Similar to South King Street as mentioned above, eastbound volumes at the Kapiolani Boulevard/Piikoi Street intersection was another critical point to measure rerouting traffic as a result of the Piikoi Street On-Ramp closure.

During the AM peak hour eastbound volumes at the Kapiolani Boulevard/Piikoi Street intersection were found to increase by 264 vehicles during the morning peak hour of traffic, this equates to an increase of 36.1%. Similar to AM conditions along South King Street, while 36.1% increases to traffic volumes may appear to be high, the percentage must be taken with context. Kapiolani Boulevard before the closure of the Piikoi Street On-Ramp was found to have additional capacity with vehicles generally progressing well through the length of Kapiolani Boulevard east of its intersection with Piikoi Street. Despite AM contraflow restriction to available laneage traffic was observed to flow smoothly as a result of optimized signal coordination. In addition, due to the intersection location, it's likely that large portions of the rerouting traffic can be attributed to area residents making eastbound commutes during the morning peak hour.

During the PM peak hour of traffic, eastbound volumes at the Kapiolani Boulevard/Piikoi Street intersection were found to increase by 16 vehicles during the afternoon peak hour of traffic, this equates to an increase of 0.8% Low increases to eastbound volume are likely a result of South King Street being the primary reroute path used by affected vehicles. This is due to existing congestion east of the Kapiolani Boulevard/Atkinson Drive intersection before the closure of the Piikoi Street On-Ramp. Experienced daily drivers originating from the area in the afternoon likely avoid eastbound Kapiolani Boulevard during the PM peak hour of traffic due to prior knowledge of existing congestion.

Table 5.1 and 5.2 below summarizes peak hour eastbound volumes. See Figure 5.2 and 5.3 for side street volumes at the studied intersections.

Table 5.1: Eastbound AM Peak Hour Volume Comparison

	Pre-Closure	During Closure	
Location	**AM Peak Hour (7:00-8:00 AM)**	**AM Peak Hour (7:00-8:00 AM)**	**Volume Difference**
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	4279 vph	4749 vph	470 vph 11.0%
H-1 Eastbound Freeway (Near Ward On-Ramp)	5633 vph	6257 vph	552 vph 9.7%
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	3516 vph	3516 vph	vph 0.0%
Eastbound King St. (Ward Ave. Intersection)	1958 vph	1925 vph	-33 vph -1.7%
Eastbound King St. (Piikoi St. Intersection)	1762 vph	2071 vph	309 vph 17.5%
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	731 vph	995 vph	264 vph 36.1%
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	782 vph	817 vph	35 vph 4.5%

Table 5.2: Eastbound PM Peak Hour Volume Comparison

	Pre-Closure	During Closure	
Location	**PM Peak Hour (4:15-5:15 PM)**	**PM Peak Hour (4:15-5:15 PM)**	**Volume Difference**
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	4241 vph	4527 vph	286 vph 6.7%
H-1 Eastbound Freeway (Near Ward On-Ramp)	6463 vph	6806 vph	301 vph 4.6%
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	5397 vph	5153 vph	-244 vph -4.5%
Eastbound King St. (Ward Ave. Intersection)	2626 vph	2817 vph	226 vph 8.7%
Eastbound King St. (Piikoi St. Intersection)	2364 vph	2531 vph	370 vph 17.1%
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	2062 vph	2120 vph	16 vph 0.8%
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	1406 vph	1439 vph	33 vph 2.3%

H-1 Before Closure

Freeway Ramp Percentage	31%	17%		37%	28%		11%	9%		21%	25%		12%	14%						23%	34%		26%	25%		20%	19%
Freeway Lane Total	4277	4394		4747	4469		6463	5633		7176	6146		5,222	4090		0	0		0	0		4,289	2841		4,240	2811		5,397	3516
Approximate Speed (mph)	7.4	21.1		8.2	9.7		16.1	16.6		24.7	24.7		47.4	48.5		48.8	45.9		43.8	35.4		49.1	48.1		46.4	53.3		40.8	45.2
Travel Time from Fort Shafter:	23:04	15:42		24:14	16:57		26:14	18:47		26:51	19:39		27:36	20:25		28:09	20:59		28:18	21:11		28:39	21:32		28:50	21:41		29:01	21:52
Intersection			1			2			3			4			5			6						7			8			9
	1187	1024		1273	1178		1310	1209		2033	1982		2174	1824		2010	1456					1717	991		1678	918		1695	865	
	1108	1033		1178	1102		1236	1129		1914	1730		1963	1622		1909	1602					1667	1221		1623	1236		1692	1199	
	1044	1149		974	1056		1012	1007		1692	1175		1520	1148		1303	1032					905	629		939	657		2010	1452	
	902	1073		852	1058		1189	1124		824	746		1519	1552		650	578		368	376		340	678		990	977		1120	696		1085	659	
	1,081	1,822		Vineyard 416	294		1002	566		724	499																					
				Vineyard 922	448		756	670																								
				756	670																											
	Kinau		Ward						Piikoi						Punahou			Bingham	University			University		King	King			Kapiolani			

H-1 DURING Closure

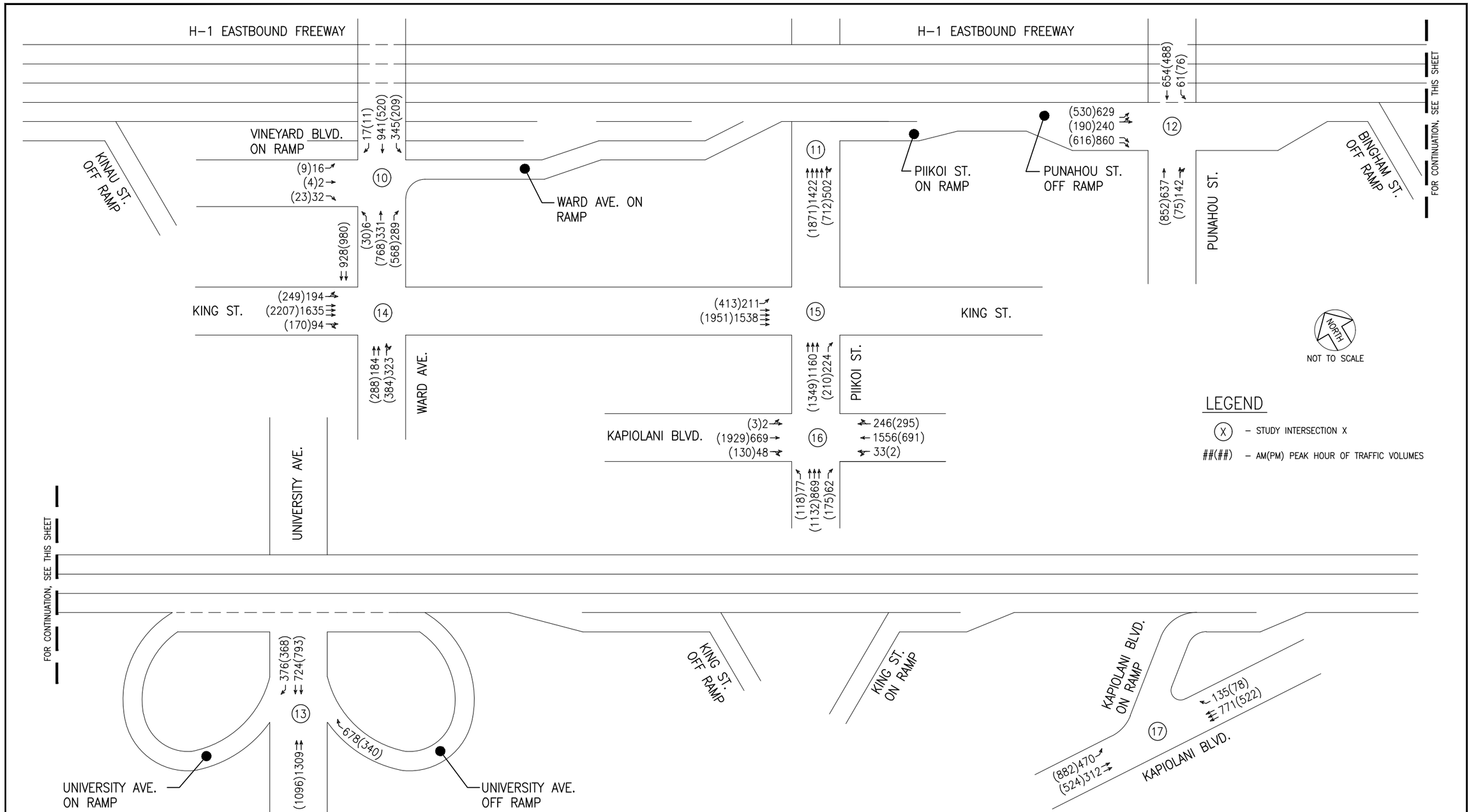
Freeway Ramp Percentage	33%	18%		37%	26%		0%	0%		22%	27%		10%	12%						27%	39%		30%	32%		23%	19%
Freeway Lane Total	4423	4622		4950	4950		0	0		6490	6376		4,874	4029		0	0		0	0		3,991	2682		3,921	2652		5,153	3516
Approximate Speed (mph)	9.2	16		10.1	13.4		23.1	22.6		39.3	41.5		47.7	48.5		48.8	50.7		45.1	42.5		48.1	50		45.5	53.1		40.8	50.6
Travel Time from Fort Shafter:	18:25	15:53		19:24	16:39		20:46	18:02		21:06	18:22		21:53	19:07		22:26	19:39		22:35	19:48		22:55	20:08		23:06	20:17		23:17	20:26
Intersection			1			2			3			4			5			6						7			8			9
	1166	1225		1357	1241		1403	1307					1976	1786		1811	1334					1548	928		1489	859		1542	841	
	1129	1212		1235	1167		1293	1229					1711	1643		1875	1589					1573	1156		1569	1159		1708	1207	
	1282	1218		1017	1080		1068	1102					1399	1222		1188	1106					870	598		863	634		1903	1468	
	950	1094		814	1134		1186	1312					1404	1725		497	475		410	426		287	779		1079	1040		1159	859		1171	662	
	1,375	1,914		Vineyard 513	327		953	571																								
				Vineyard 951	521		903	736																								
				903	736																											
	Kinau		Ward						Piikoi						Punahou			Bingham	University			University		King	King			Kapiolani			

XXXX AM Peak Hour Volume per Lane

XXXX PM Peak Hour Volume per Lane

XXX XXX AM & PM Peak Hour Percentage, Lane Total, Speed and Travel Time Results

Piikoi Ramp Study	Austin, Tsutsumi, and Associates, Inc.	FIGURE
	H-1 Eastbound Freeway Volume Before and During Piikoi Street On-Ramp Closure	5.1

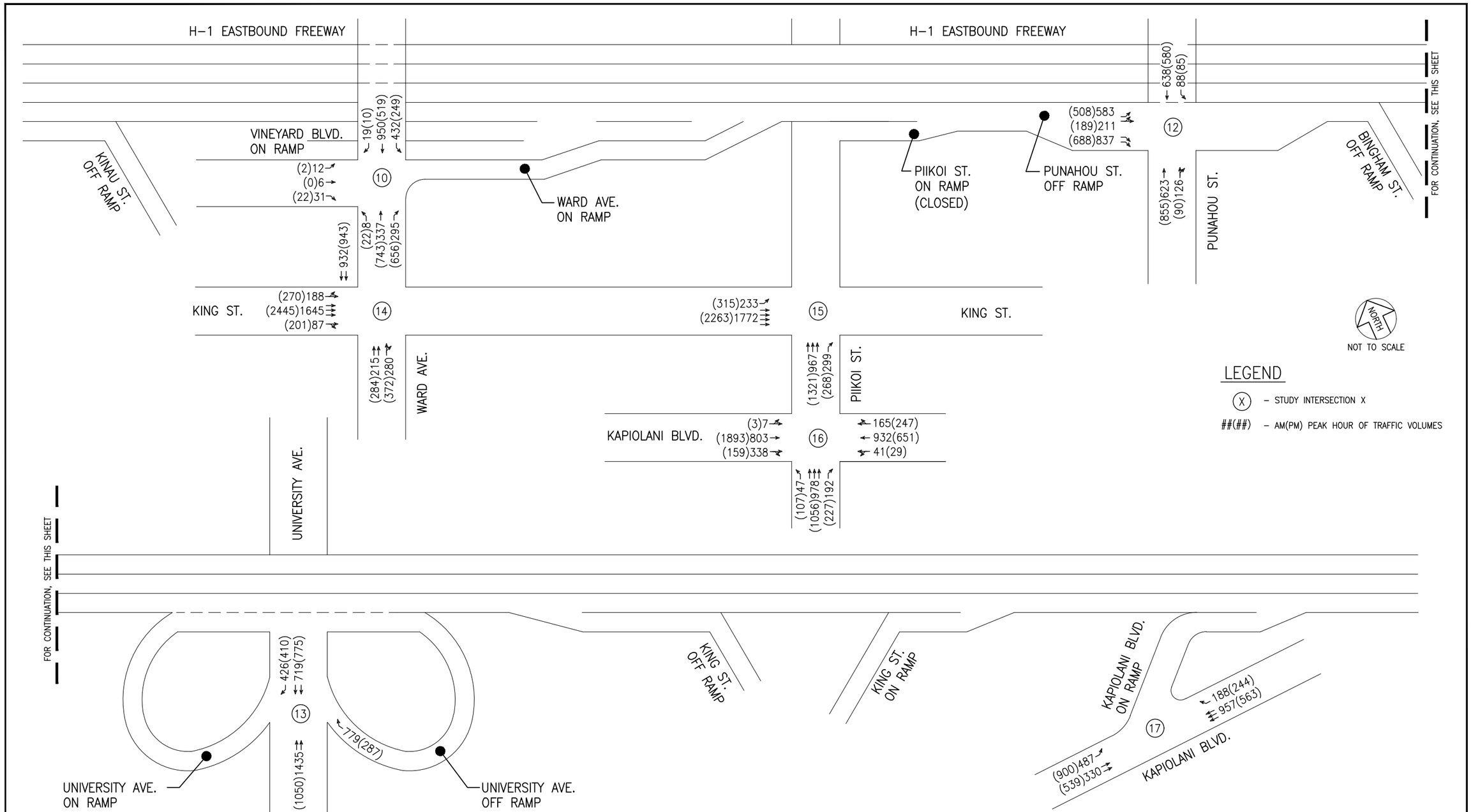


PIIKOI RAMP STUDY

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

PRE-CLOSURE SIDE STREET VOLUME

FIGURE
5.2



PIIKOI RAMP STUDY

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

DURING CLOSURE SIDE STREET VOLUMES

FIGURE
5.3

5.1.2. AM and PM commuter period volumes

As stated above, traffic volume data was collected for four consecutive hours during the morning and afternoon commute hours of traffic. Morning traffic data was collected from 5:30 AM to 9:30 AM and afternoon data was collected from 3:00 PM to 7:00 PM at all studied intersections.

Volumes were assessed across the entire commuter periods, however little change was recorded to the volumes along the studied roadways. This is likely a result of the entire study area still processing the same quantity of vehicles throughout the AM and PM periods of traffic. At the locations where volume changes did exist, when considered in relation to the 4-hour period of observation, actual calculated differences in volumes reduce down to little average hourly changes. The only exception to this is the H-1 Eastbound Freeway during the morning commute hours. Collected data indicates that throughout the morning commute hours the H-1 Eastbound Freeway was able to service an additional 826 vehicles for a 4.4% increase in traffic.

Table 5.3 and 5.4 below summarize volume changes during the AM and PM commute periods at critical locations. Figures 5.4 and 5.5 show a detailed breakdown of H-1 Eastbound Freeway volume at each location, across individual hours of the morning and afternoon commute period.

Table 5.3: Eastbound AM Commuter Period Volume Comparison

Location	Pre-Closure Morning Commute (5:30 AM-9:30 AM)	During Closure Morning Commute (5:30 AM-9:30 AM)	Volume Difference
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	18841 vehicles	19667 vehicles	826 vehicles 4.4%
H-1 Eastbound Freeway (Near Ward On-Ramp)	21341 vehicles	21550 vehicles	209 vehicles 1.0%
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	10844 vehicles	10809 vehicles	-35 vehicles -0.3%
Eastbound King St. (Ward Ave. Intersection)	5236 vehicles	5502 vehicles	266 vehicles 5.1%
Eastbound King St. (Piikoi St. Intersection)	4990 vehicles	5147 vehicles	157 vehicles 3.1%
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	2562 vehicles	3062 vehicles	500 vehicles 19.5%
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	2083 vehicles	2245 vehicles	162 vehicles 7.8%

Table 5.4: Eastbound PM Commuter Period Volume Comparison

Location	Pre-Closure Afternoon Commute (3:00 PM-7:00 PM)	During Closure Afternoon Commute (3:00 PM-7:00 PM)	Volume Difference
H-1 Eastbound Freeway (Near Kinau Off-Ramp)	17132 vehicles	17227 vehicles	95 vehicles 0.6%
H-1 Eastbound Freeway (Near Ward On-Ramp)	22864 vehicles	23183 vehicles	319 vehicles 1.4%
H-1 Eastbound Freeway (Near Kapiolani On-Ramp)	19588 vehicles	19177 vehicles	-411 vehicles -2.1%
Eastbound King St. (Ward Ave. Intersection)	8979 vehicles	9506 vehicles	527 vehicles 5.9%
Eastbound King St. (Piikoi St. Intersection)	8777 vehicles	8971 vehicles	194 vehicles 2.2%
Eastbound Kapiolani Blvd. (Piikoi St. Intersection)	6558 vehicles	6554 vehicles	-4 vehicles -0.1%
Eastbound Kapiolani Blvd. (H-1 East On-Ramp Intersection)	4929 vehicles	5269 vehicles	340 vehicles 6.9%

Figure 5.4: AM Hourly Volume By Time and Location

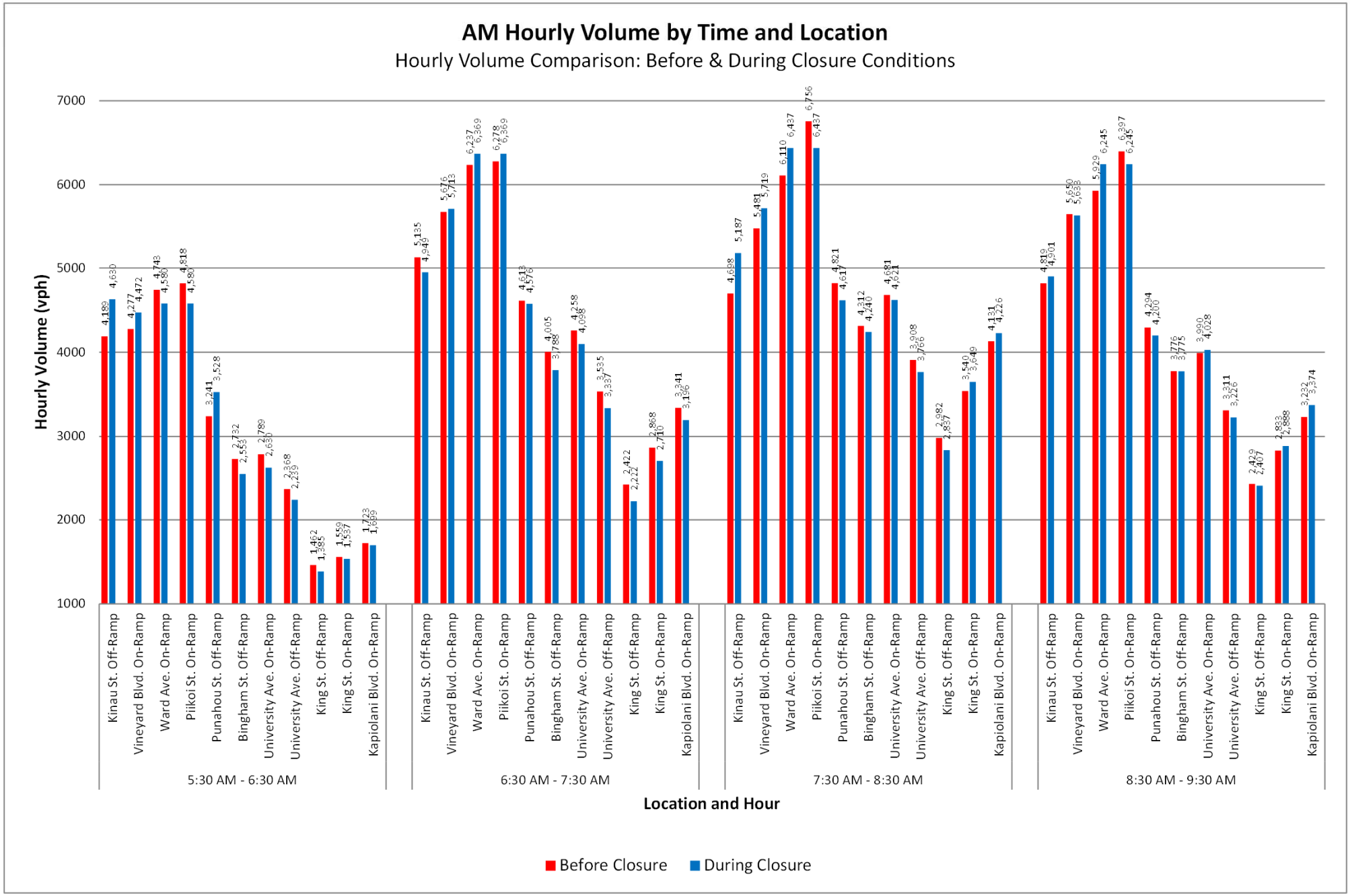
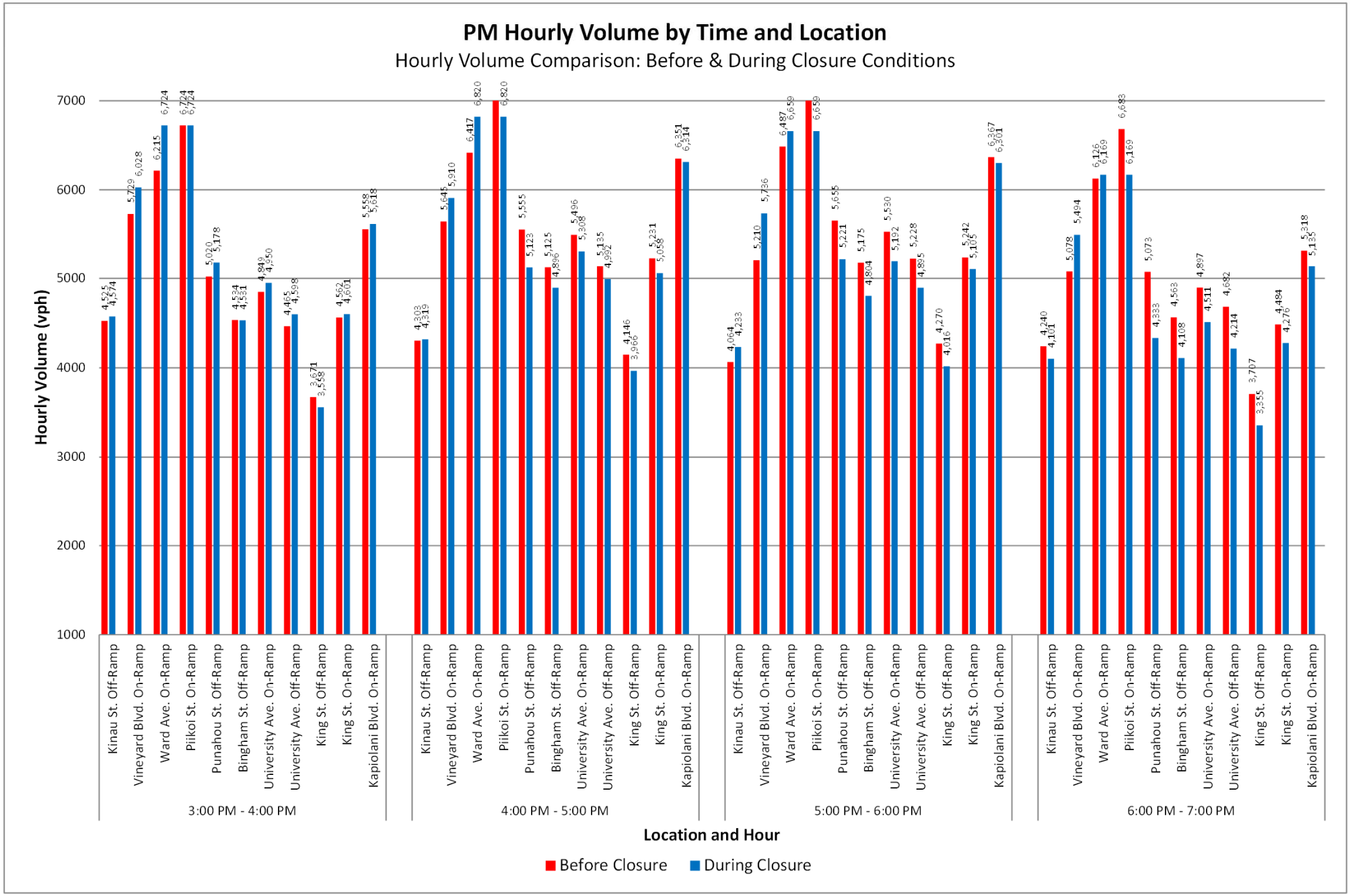


Figure 5.5: PM Hourly Volume By Time and Location



5.1.3. ADT volumes

As stated above, pneumatic roadway tubes were laid out to collect 24-hour count data at critical H-1 Eastbound Freeway On-Ramps. Pneumatic roadway tubes collect Average Daily Traffic (ADT) and summarize through movement volumes along roadways. While ADT provides important information regarding total daily volumes at specific locations, volume data collected outside of the peak periods can be easily influenced by the surrounding side street operations. As a result, during the periods of off-peak data collection volume data can become heavily skewed in particular if near special events, schools, shopping centers or other large trip generators that can affect traffic patterns outside of peak periods.

5.1.3.1. Piikoi Street On-Ramp

On average, the ADT at the Piikoi Street On-Ramp during weekdays is approximately 8,000 vehicles per day (vpd). On Saturdays the ADT for the On-Ramp can drop to 7,000 vpd and on Sundays as low as 5,250 vpd. The Piikoi Street On-Ramp ADT before the ramp closure can be seen in Figure 5.6 below.

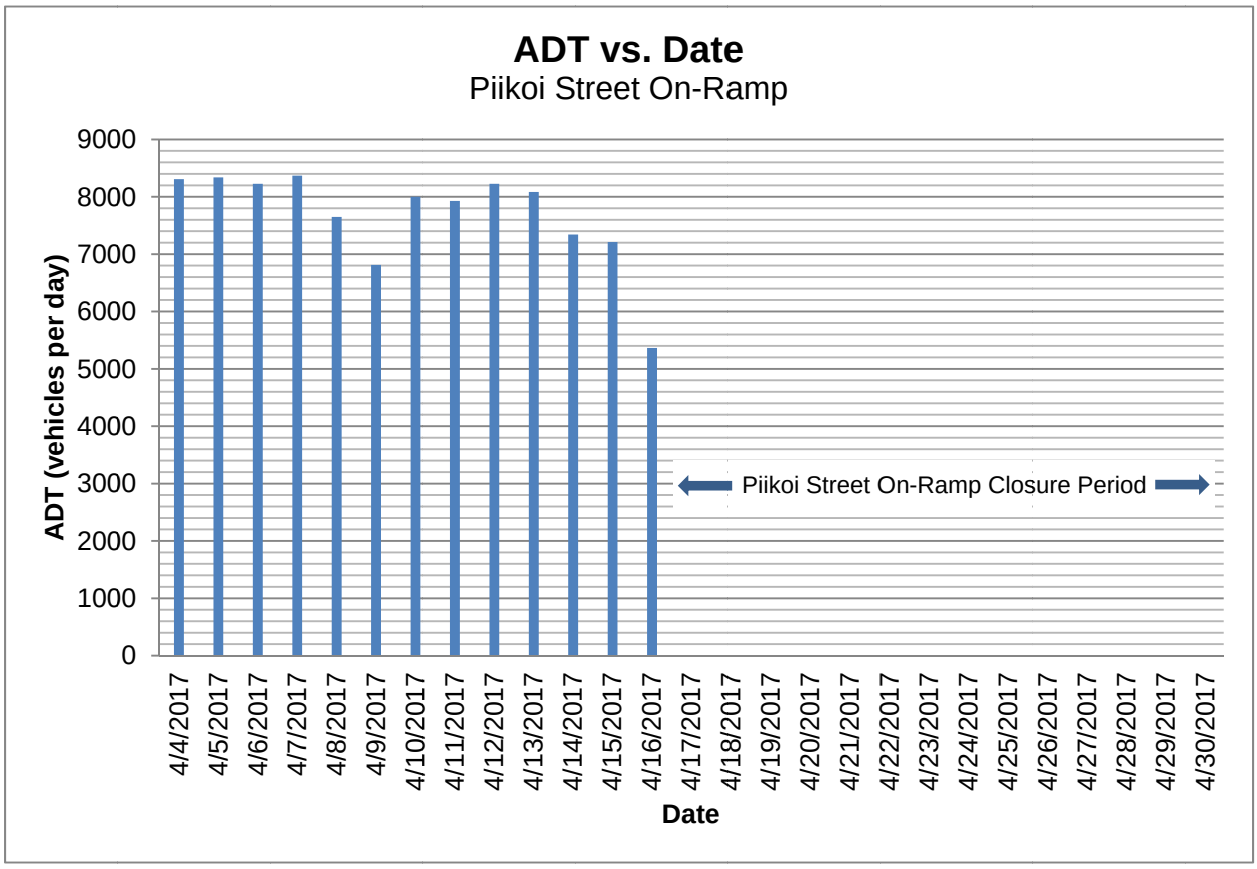


Figure 5.6: Piikoi Street On-Ramp ADT

5.1.3.2. Ward Avenue On-Ramp

Before the closure of the Piikoi Street On-Ramp the Ward Avenue On-Ramp typically serviced 8,400 vpd during the weekdays. Following the closure of the Piikoi Street On-Ramp the weekday ADT typically experienced an increase of approximately 2,000 vpd when comparing volumes between correlating weekdays. Overall the typical weekday ADT, on average, was found to increase to approximately 10,400 vpd. Saturday ADT volumes experienced increases similar to weekday conditions at approximately 2,000 vpd. Increases to Ward Avenue On-Ramp ADT can likely be attributed to the closure of the Piikoi Street On-Ramp. A graph depicting ADT for the Ward Avenue On-Ramp before and during the closure of the Piikoi Street On-Ramp can be seen below in Figure 5.7.

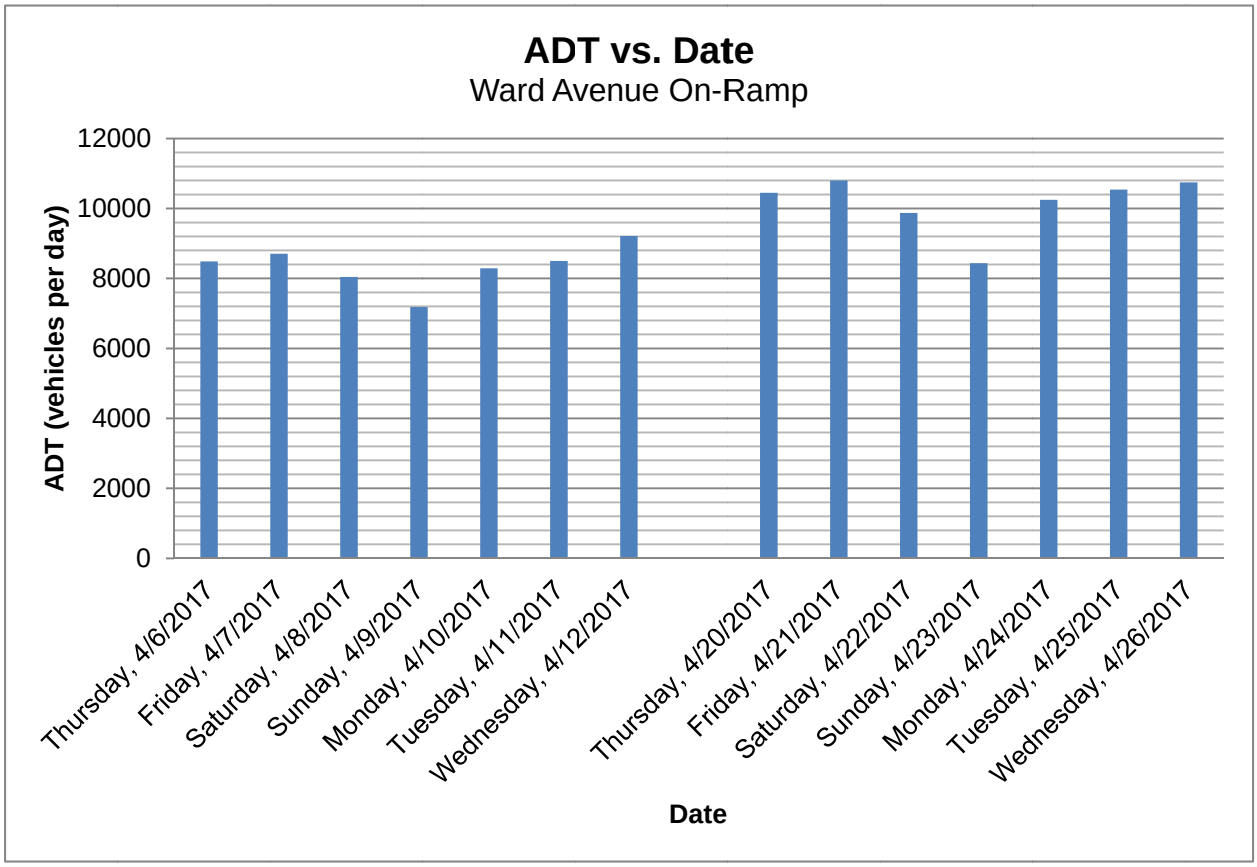


Figure 5.7: Ward Avenue On-Ramp ADT

5.1.3.3. King Street On-Ramp

Similar to the Ward Avenue On-Ramp above, the King Street On-Ramp typically saw an average increase of approximately 2,000 vpd when comparing similar weekdays before and during the Piikoi Street On-Ramp closure. Overall the King Street On-Ramp increased from

approximately 10,800 vpd before the Piikoi Street On-Ramp closure to 12,800 vpd after the ramp closure. As a result, the ADT data at the King Street On-Ramp indicates that while the Ward Avenue On-Ramp may be the closest on-ramp in proximity to the Piikoi Street On-Ramp, during the closure, the King Street On-Ramp and the Ward Avenue On-Ramp actually experience the same increases to their ADT. Therefore, despite the additional travel distance required to reach the King Street On-Ramp drivers considered it a comparable alternative to the Ward Avenue On-Ramp during the period of the ramp closure. A graph depicting ADT for the King Street On-Ramp before and during the closure of the Piikoi Street On-Ramp can be seen below in Figure 5.8.

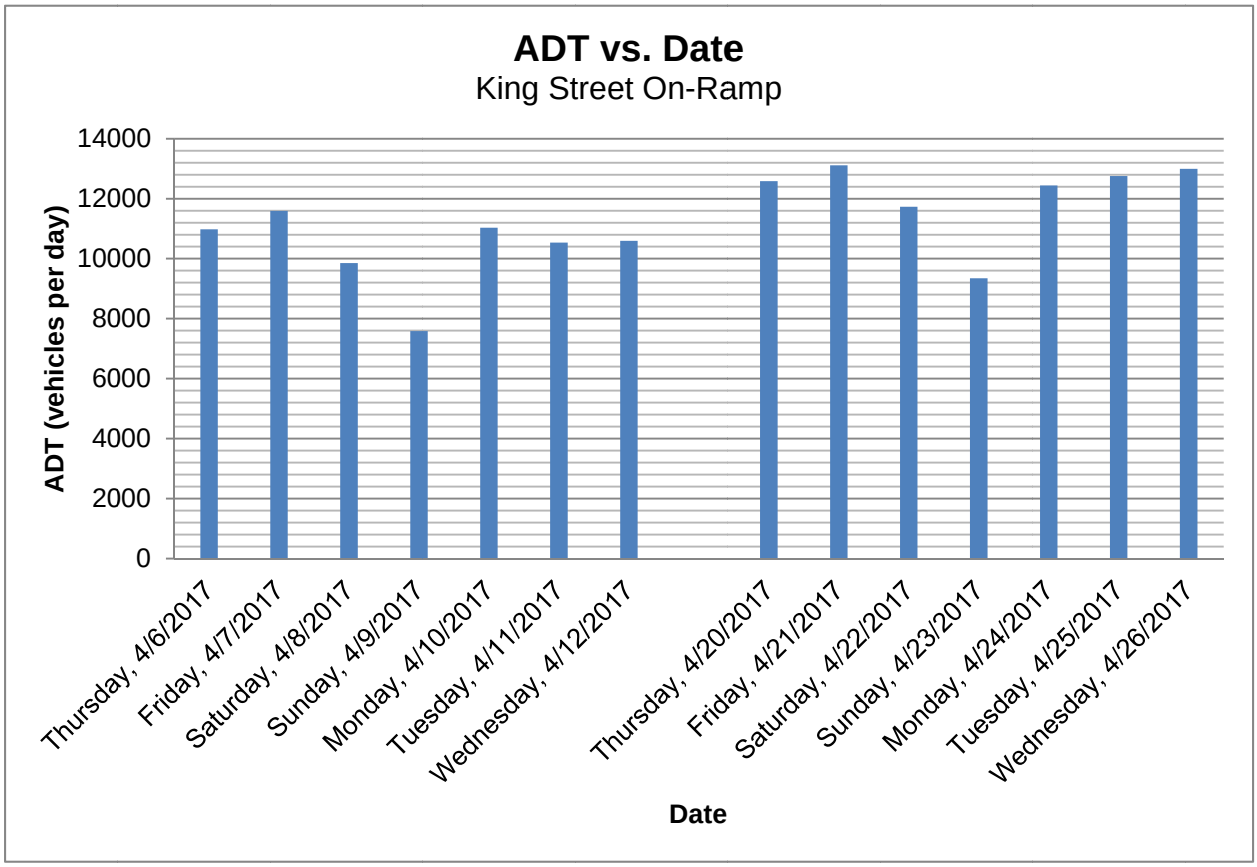


Figure 5.8: King Street On-Ramp ADT

5.1.3.4. Kapiolani Boulevard On-Ramp

During the data collection process at the Kapiolani Boulevard On-Ramp, pneumatic tube data indicated a severe drop in ADT between the dates of Monday, April 10 and Sunday, April 23. ADT for the Kapiolani Boulevard On-Ramp never exceeded 8,000 vpd during the entire period, while outside of these dates during the month of April, ADT typically exceeded 10,000 vpd during weekday data collections. As stated at the beginning of the section while ADT can be a useful metric in measuring traffic flow, volume data resulting from the pneumatic tubes can be

heavily influenced by the surrounding side streets and outside factors. The reasons for this particular drop in ADT at the Kapiolani Boulevard On-Ramp are not known at the time of this report. A graph depicting ADT for the Kapiolani Boulevard On-Ramp before and during the closure of the Piikoi Street On-Ramp can be seen below in Figure 5.9.

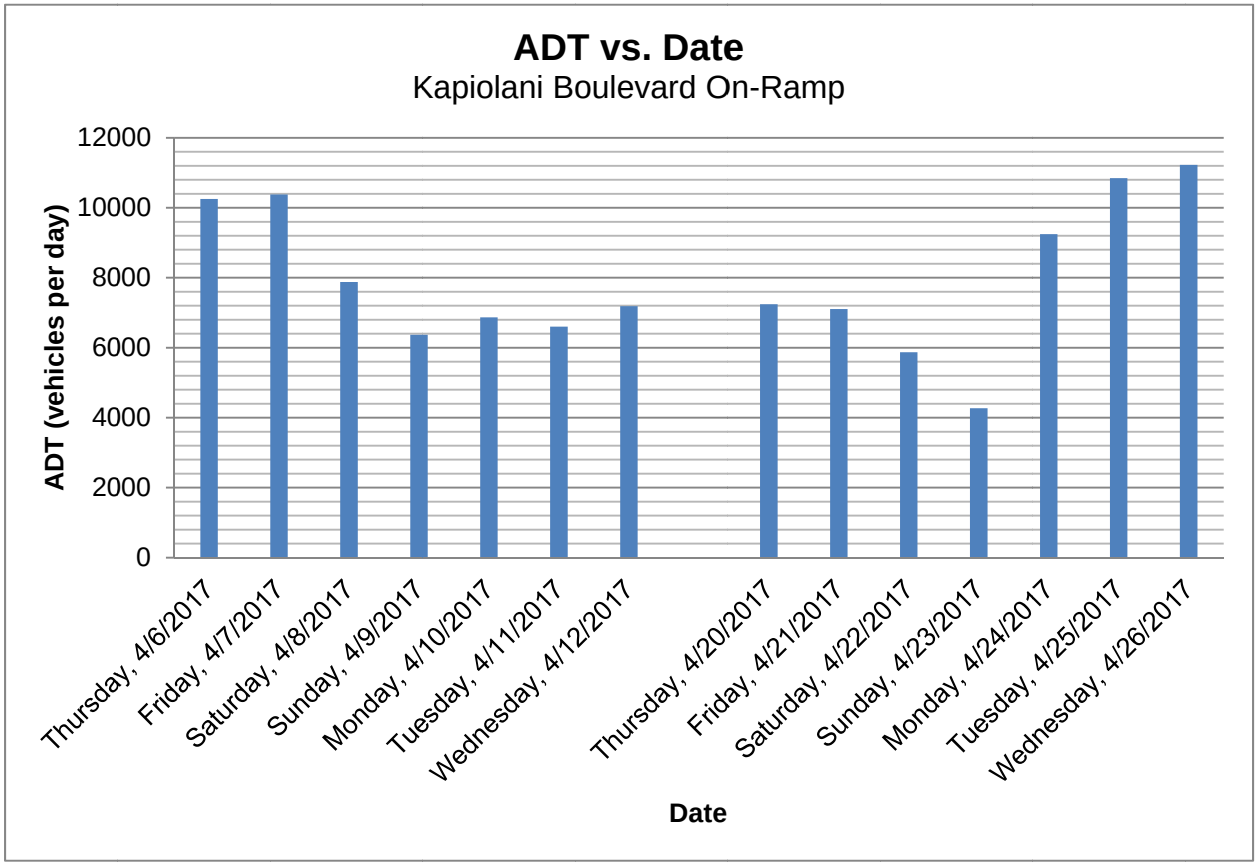


Figure 5.9: Kapiolani Boulevard On-Ramp ADT

5.2. Travel Times

5.2.1. H-1 Eastbound Travel Time by Time of Day Comparison

Comparison of travel time conditions at various times during the AM and PM commutes throughout the period of the Piikoi On-Ramp closure indicate similar travel times from Moanalua On-Ramp to the 6th Avenue Off-Ramp during the AM commuter period and significantly reduced travel times during the PM commuter period.

Average travel times during the morning commuter period remained relatively the same with an average measured commute time of 14 minutes, 13 seconds during both pre-closure and during closure conditions. It should be noted that while the Piikoi On-Ramp closure was being conducted, peak periods during the AM commuter period shifted approximately 15 minutes earlier. This is likely a result of the H-1 Eastbound Freeway being able to service an increased number of vehicles. Because of this, travel times may increase at an earlier time in the morning, however as indicated in Figure 5.10, travel times from Moanalua to Kaimuki reduce to approximately 10 minutes and maintain similar levels from 8:00AM.

It should be noted that this study did not assess midday peak hours of traffic as part of its scope. However, it was observed that as traffic approached the midday peak hours, vehicle travel times under pre-closure conditions started to increase due to freeway congestion in the vicinity of the Piikoi Street On-Ramp. In comparison, during the closure of the Piikoi Street On-Ramp, travel times from the Moanalua On-Ramp to the 6th Avenue Off-Ramp were observed to remain steady at approximately 10 minutes.

During PM commuter periods, significant reductions to travel time from the Moanalua On-Ramp to the 6th Avenue Off-Ramp were apparent throughout all days of observation. As indicated in Figure 5.10 not only did the PM commuter peak hour shift to earlier in the day, but the actual fluctuations in the PM travel time were greatly reduced creating a less volatile peak hour of traffic. On average, H-1 Eastbound Freeway travel times before the closure of the Piikoi On-Ramp were approximately 27 minutes, while during the closure of the Piikoi On-Ramp eastbound travel times were reduced to 19 minutes. The largest reduction in travel times can be seen at 5:15 PM where eastbound travel times during the closure saw a reduction of approximately 17 minutes.

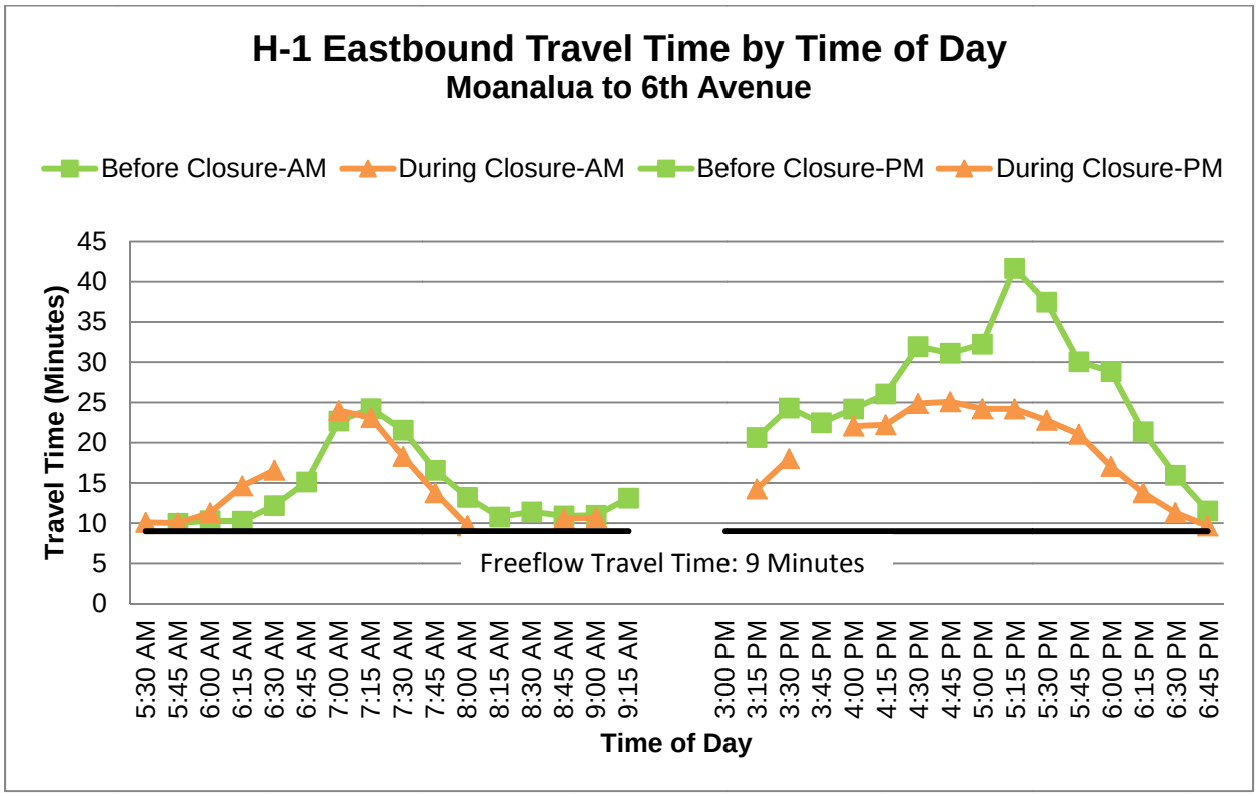


Figure 5.10: Travel Time by ToD Comparison Graph

5.2.2. H-1 Eastbound Freeway Travel Time by Segment Comparison

When viewed by individual travel time run, compared between before and during closure conditions, the congested section throughout the H-1 Eastbound Freeway was primarily confined to the length spanning from the Punahou Street Off-Ramp to the Fort Shafter/King Street On-Ramp. Before the ramp closure, travel times through this congested section would typically take drivers approximately 18 minutes and 28 minutes during the 7:45 AM and 4:45 PM travel time runs, respectively. Following the closure of the Piikoi On-Ramp, travel times along this same section at the same time were greatly reduced to approximately 15 minutes and 22 minutes during the 7:45 AM and 4:45 PM travel time runs, respectively.

This equates to a travel time reduction of 17% and 24% during the 7:45 AM and 4:45 PM travel time runs, respectively.

See Table 5.5 below for a summary of travel times per segment.

Table 5.5: Travel Time by Segment

Before and During Closure Comparison

Node	Length (ft)	Mile #	Location	AM Travel Time (sec.) Before Closure (7:45 AM)	AM Travel Time (sec.) During Closure (7:45 AM)	PM Travel Time (sec.) Before Closure (4:45 PM)	PM Travel Time (sec.) During Closure (4:45 PM)
1	0	0	Moanalua Road On-Ramp				
2	2138	0.4	Airport/Tripler Hospital Exit	29	25	32	28
3	2644	0.9	Fort Shafter/King Street Exit	39	38	41	33
4	3654	1.6	Fort Shafter/King Street On	**102**	**66**	**109**	**51**
5	1337	1.9	Middle Street Merge	**181**	**117**	**166**	**162**
6	3165	2.5	Likelike Highway Exit	**133**	**127**	**163**	**126**
7	1406	2.7	Kalihi Street On-Ramp	**73**	**41**	**93**	**89**
8	2297	3.2	Vineyard Boulvard Exit	**122**	**98**	**176**	**216**
9	3764	3.9	Liliha Street On-Ramp	**188**	**147**	**270**	**228**
10	1708	4.2	Pali Highway Exit	**37**	**32**	**148**	**70**
11	825	4.3	Puchbowl Street Exit	**15**	**16**	**48**	**27**
12	1115	4.6	Pali Highway On-Ramp	**22**	**23**	**47**	**33**
13	1348	4.8	Kinau Street Exit	**26**	**26**	**115**	**35**
14	1231	5.0	Vineyard Boulevard On-Ramp	**26**	**58**	**167**	**95**
15	821	5.2	Ward Avenue On-Ramp	**35**	**41**	**72**	**55**
16	2704	5.7	Piikoi On-ramp	**83**	**74**	**85**	**90**
17	1251	5.9	Punahou Street Exit	**26**	**19**	**34**	**18**
18	3198	6.6	Bingham Street Exit	46	42	47	46
19	2340	7.0	University Avenue ON-Ramp	33	30	31	31
20	580	7.1	University Avenue Exit	11	9	8	9
21	1453	7.4	King Street Exit	22	19	18	20
22	760	7.5	King Street On-Ramp	9	9	10	9
23	657	7.7	Kapiolani Boulevard ON-Ramp	9	9	9	9
24	2207	8.1	6th Avenue Exit	27	31	28	25
			Travel Time (Ft. Shafter - Punahou)	**1069**	**885**	**1693**	**1295**
			Total Travel Time (Moanalua - 6th Ave.)	**1294**	**1097**	**1917**	**1505**

*Travel Time data collected using same travel lane in both before and during closure conditions travelling with flow of traffic without no lane changes throughout entire studied length

5.2.3. Side Street Travel Time Comparison

During AM commute between the hours of 5:30 AM and 9:30 AM, travel times along side streets stayed relatively the same when comparing before and during closure conditions along the roadways where travel time runs were conducted. No significant changes to travel times indicates that over the entire AM commute period the closure of the Piikoi Street On-Ramp had a negligible effect to side street operations in terms of travel time. A summary of the travel times for the studied corridors can be seen below in Table 5.6.

Table 5.6: AM Commuter Period Side Street Travel Time Comparison

	Average Travel Time	
Route	**Pre-Closure AM Commuter**	**During Closure AM Commuter**
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	9 Minutes	9 Minutes
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	11 Minutes	11 Minutes
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	4 Minutes	4 Minutes
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	3 Minutes	3 Minutes

During the PM commute between the hours of 3:00 PM to 7:00 PM, travel times along side streets saw slight increases along particular roadways. As expected, the King Street and Kapiolani Boulevard routes saw slight increases to travel times however travel time increases were not as high as anticipated with average increases of only approximately 1 minute for the length of the corridor. It should be noted that field observations did indicate that Ward Avenue appeared to be more congested with slightly increased travel times during the period of the Piikoi Street On-Ramp closure. However, travel time runs conducted regularly along Ward Avenue while utilizing the right travel lane for the duration indicates that Ward Avenue saw a decrease in overall average travel time between the hours of 3:00 PM to 7:00 PM. Results for the Ward Avenue northbound travel time may not necessarily be indicative of the field conditions and may be a result of skewed data and the ability of the operator to conduct faster, more frequent travel time runs outside of the peak hour of traffic which can affect the average travel time data when averaged across all runs. Therefore, while average travel times may indicate similar operations to pre-closure conditions peak hour operations, may differ from the stated averages. A summary of the travel times for the studied corridors can be seen below in Table 5.7.

Table 5.7: PM Commuter Period Side Street Travel Time Comparison

Route	Average Travel Time	
	Pre-Closure PM Commuter	During Closure PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	12 Minutes	13 Minutes
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	13 Minutes	15 Minutes
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	8 Minutes	7 Minutes
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	5 Minutes	3 Minutes

5.3. Travel Speed

5.3.1. H-1 Eastbound Freeway Travel Speed by Time of Day Comparison

Average travel speed conditions throughout the length of the studied corridor from the Moanalua On-Ramp to the 6th Avenue Off-Ramp indicate marginally higher average travel speeds for the length of the corridor during the AM commuter period and noticeable increases to travel speeds during the PM commuter period.

During the AM commuter period travel speeds remained relatively similar between pre-closure and during closure conditions with the exception of travel speeds after 8:15 AM where vehicles during the Piikoi On-Ramp closure were able to maintain higher average travel speeds through the full length of the corridor. Typically throughout the length of the corridor average travel speeds were 37 mph and 38 mph for before and during closure conditions, respectively.

The most significant difference in travel speeds came at the end of the observational period for the purpose of this study. During the 9:15 AM travel time run, average travel speeds from the Moanalua On-Ramp to the 6th Avenue Off-Ramp were approximately 9 mph faster while the Piikoi On-Ramp was closed. While this study did not assess midday peak periods of traffic, reduced travel speed while before the ramp closure can be attributed to midday congestion build-up approaching the typical peak period.

During the PM commuter period, travel speeds while the Piikoi On-Ramp closure was in effect were consistently higher when compared to pre-closure conditions as shown in Figure 5.11. Average travel speeds through the length of the corridor for pre-closure and during closure conditions were 20 mph and 27 mph, respectively. On average, travel speeds were approximately 5 mph faster than pre-closure conditions throughout the length of the corridor from the Moanalua On-Ramp to the 6th Avenue Off-Ramp. The largest increase in travel speeds was observed to occur during the 6:30 PM travel time run where eastbound traffic saw an increase in travel speed of approximately 13 mph.

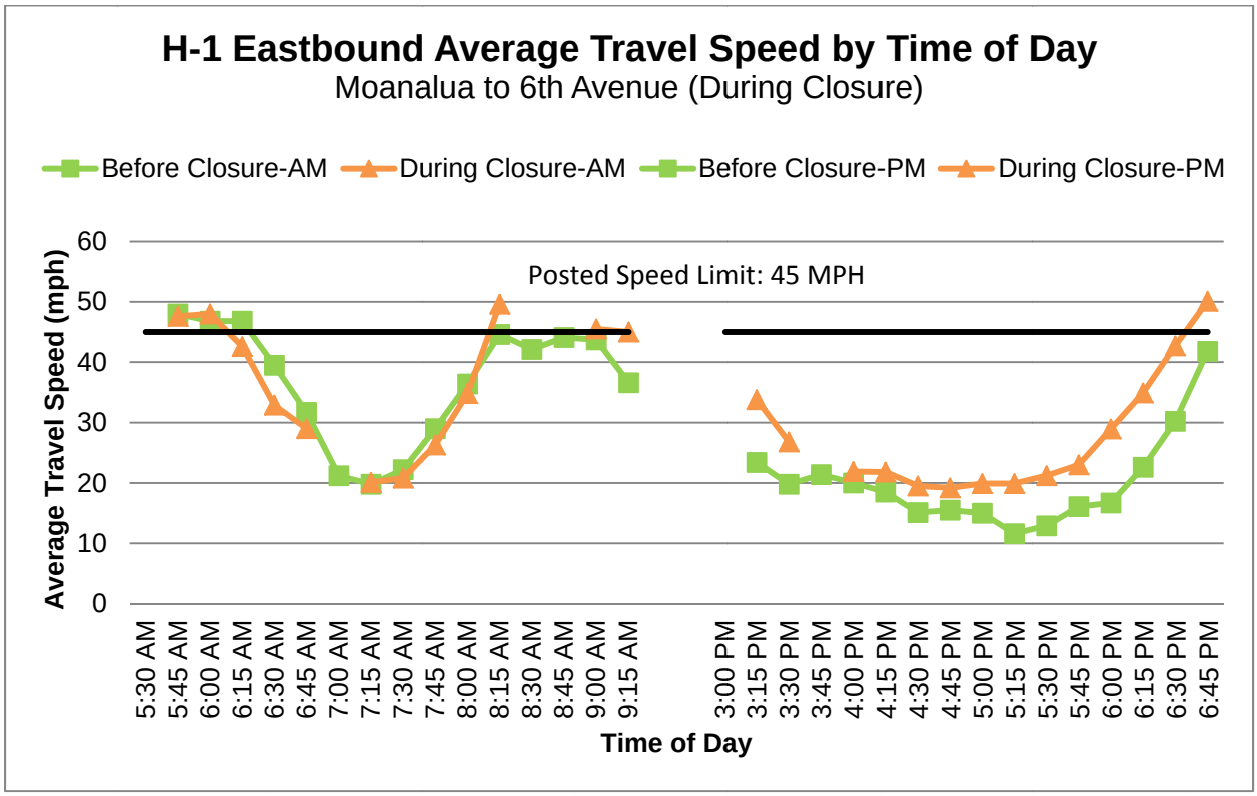


Figure 5.11: Travel Speed by ToD Comparison Graph

5.3.2. H-1 Eastbound Freeway Travel Speeds by Segment Comparison

When viewed by individual travel time run, individual travel speeds per segment can be seen as shown in Table 5.8. The primary congested section for H-1 Eastbound Freeway typically spans from the Punahou Street Off-Ramp to the Fort Shafter/King Street On-Ramp. Through this critical section average travel speeds were slightly higher during the closure with the 7:45 AM and 4:45 PM travel time runs maintaining a 2 mph and 4 mph respective increase in travel speeds through the most congested section of study area. On average, throughout the entire length of the corridor from the Moanalua On-Ramp to the 6th Avenue Off-Ramp, travel speeds showed an increase of 3 mph and 5 mph during the 7:45 AM and 4:45 PM travel time runs, respectively.

The most notable disparity in travel speeds comes in the vicinity of the Piikoi On-Ramp. Approaching the Piikoi On-Ramp, during the ramp closure, H-1 Eastbound Freeway experienced increased speeds of 4 mph and 5 mph during the 7:45 AM and 4:45 PM travel time runs. More significantly, approaching the Punahou Street Off-Ramp while the ramp closure was in effect, H-1 Eastbound Freeway experienced increased speeds of 9 mph and 22 mph during the 7:45 AM and 4:45 PM travel time runs

Table 5.8: Travel Speed by Segment

Before and During Closure Comparison

Node	Length (ft)	Mile #	Name	AM Travel Speed Before Closure (7:45 AM)	AM Travel Speed During Closure (7:45 AM)	PM Travel Speed Before Closure (4:45 PM)	PM Travel Speed During Closure (4:45 PM)
1	0	0	Moanalua Road On-Ramp				
2	2138	0.4	Airport/Tripler Hospital Exit	44.7	50.7	56.2	52.3
3	2644	0.9	Fort Shafter/King Street Exit	46.2	47.6	53	54.8
4	3654	1.6	Fort Shafter/King Street On	24.3	38.9	51.6	49.2
5	1337	1.9	Middle Street Merge	5	7.4	7.9	5.3
6	3165	2.5	Likelike Highway Exit	16.5	17	15.1	17.4
7	1406	2.7	Kalihi Street On-Ramp	12.9	24.3	6.2	11.2
8	2297	3.2	Vineyard Boulvard Exit	12.8	16	7.2	7.2
9	3764	3.9	Liliha Street On-Ramp	13.8	17.3	6.9	11.1
10	1708	4.2	Pali Highway Exit	31.4	35.2	16.3	16.2
11	825	4.3	Puchbowl Street Exit	37.5	39.8	18.2	22.9
12	1115	4.6	Pali Highway On-Ramp	35.4	32.6	19	22.8
13	1348	4.8	Kinau Street Exit	35.1	34	17.9	24.7
14	1231	5.0	Vineyard Boulevard On-Ramp	32	14.9	6.3	9
15	821	5.2	Ward Avenue On-Ramp	16.1	14.4	6.5	10.7
16	2704	5.7	Piikoi On-ramp	20.8	24.5	15.5	20.9
17	1251	5.9	Punahou Street Exit	35	44.3	21.2	43.5
18	3198	6.6	Bingham Street Exit	48	51.8	46.6	49.6
19	2340	7.0	University Avenue ON-Ramp	48.1	53.6	48.8	50.7
20	580	7.1	University Avenue Exit	33.3	43.6	40.7	45.3
21	1453	7.4	King Street Exit	46	51.5	47.1	48.9
22	760	7.5	King Street On-Ramp	54.6	56.3	44.2	52.2
23	657	7.7	Kapiolani Boulevard ON-Ramp	53.1	52.1	34.3	50.9
24	2207	8.1	6th Avenue Exit	54.3	47.3	25.6	53
	Average Speed (Ft. Shafter - Punahou)			**23.5**	**25.8**	**15.4**	**19.4**
	Average Speed (Moanalua - 6th Avenue)			**32.9**	**35.4**	**26.6**	**31.7**

*Travel Time data collected using same travel lane in both before and during closure conditions travelling with flow of traffic without no lane changes throughout entire studied length

5.3.3. Side Street Travel Speeds Comparison

During AM commute between the hours of 5:30 AM to 9:30 AM, travel speeds along side streets stayed relatively the same when comparing before and during closure conditions along the roadways where travel time runs were conducted. No significant changes to travel speeds indicates that over the entire AM commute period the closure of the Piikoi Street On-Ramp had a negligible effect to side street operations in terms of travel speeds. A summary of the travel times for the studied corridors can be seen below in Table 5.9.

Table 5.9: AM Side Street Travel Speed Comparison

Route	Average Travel Speed	
	Pre-Closure AM Commuter	During Closure AM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	21 MPH	20 MPH
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	15 MPH	15 MPH
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	8 MPH	8 MPH
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	15 MPH	13 MPH

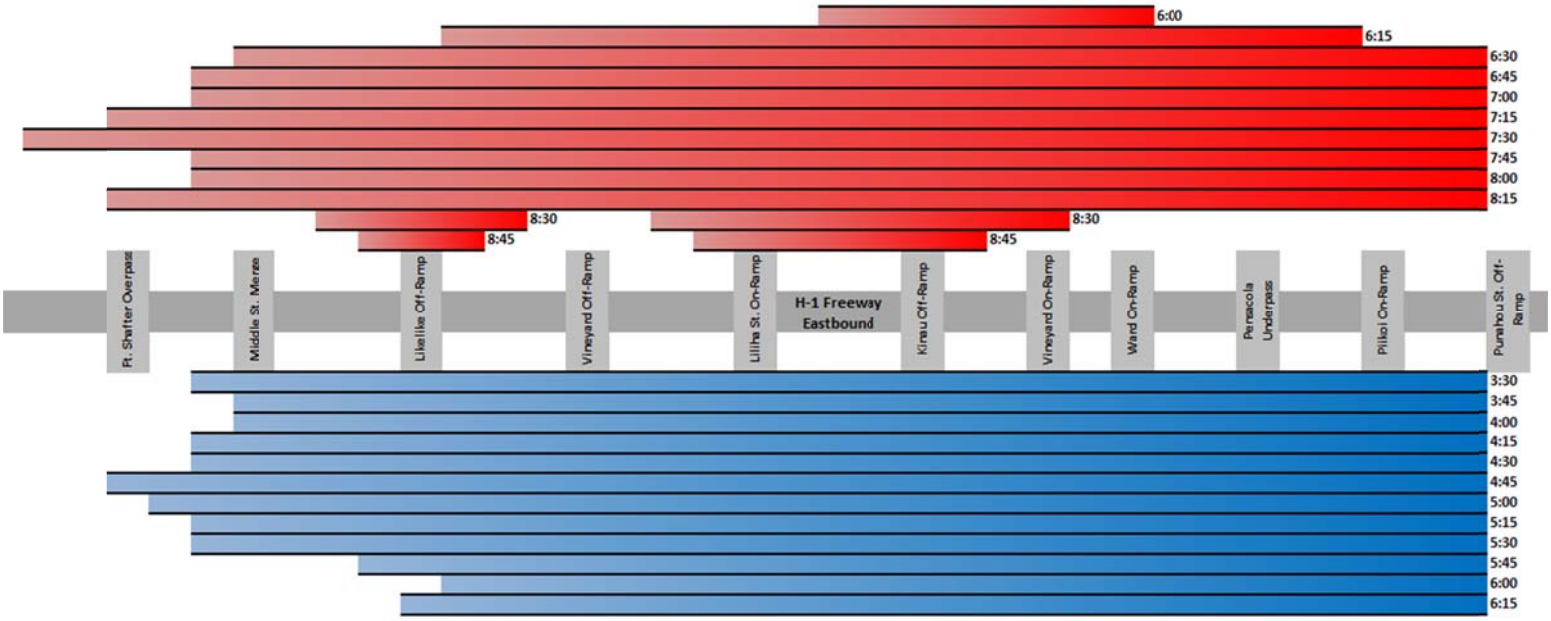
Similar to AM conditions, during PM commute hours from 3:00 PM to 7:00 PM, travel speeds along side streets stayed relatively the same when comparing before and during closure conditions along the roadways where travel time runs were conducted. Over the entire PM commute period the closure of the Piikoi Street On-Ramp had a negligible effect to side street operations in terms of travel speeds. A summary of the travel times for the studied corridors can be seen below in Table 5.10

Table 5.10: PM Side Street Travel Speed Comparison

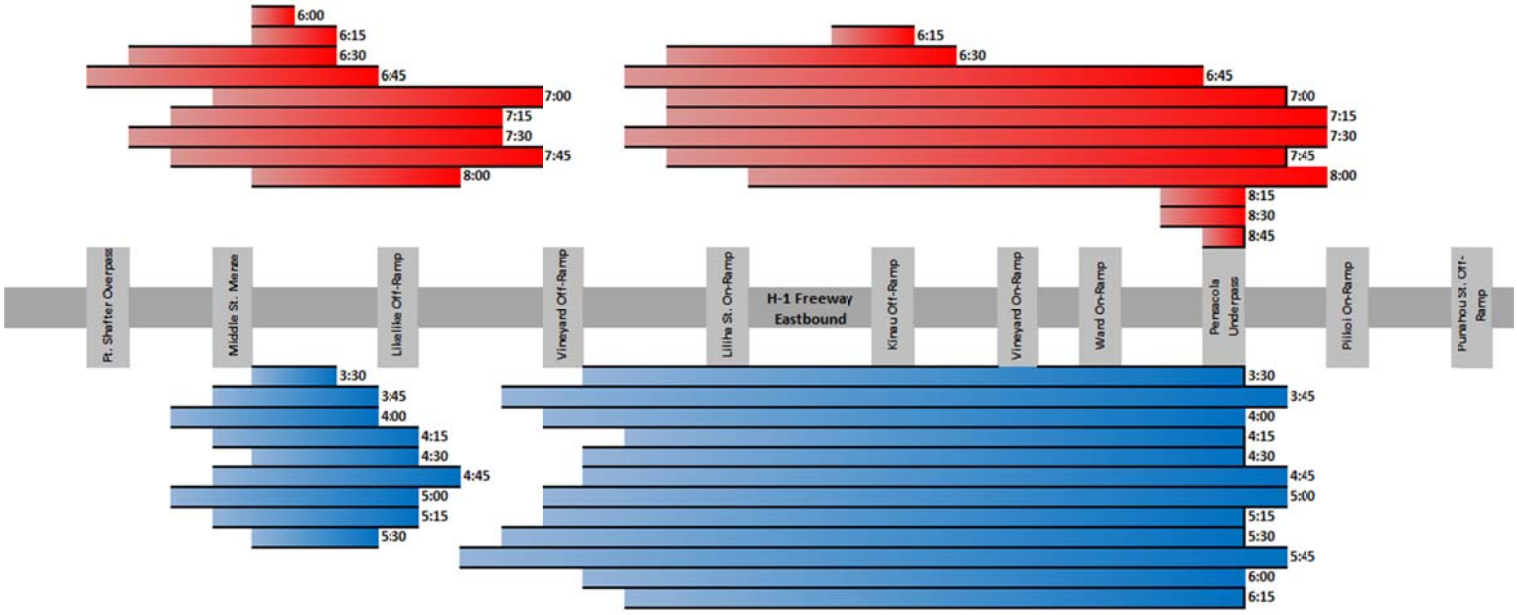
Route	Average Travel Speed	
	Pre-Closure PM Commuter	During Closure PM Commuter
King Street Eastbound (Punchbowl St. to H-1 East On-Ramp)	14 MPH	13 MPH
Kapiolani Boulevard Eastbound (South St. to H-1 East On-Ramp)	13 MPH	12 MPH
Ward Avenue Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	4 MPH	5 MPH
Piikoi Street Northbound (Kapiolani Blvd. to H-1 East On-Ramp)	7 MPH	12 MPH

5.4. Queuing

Observed queuing along H-1 Eastbound Freeway during the AM and PM peak hours of traffic indicate significantly improved conditions. Pre-closure, during the AM and PM peak hours of traffic, queues along H-1 Eastbound Freeway typically emanated from the Punahou Street Off-Ramp and maintained bumper-to-bumper conditions, regularly extending back pass the Middle Street merge. During the closure of the Piikoi Street On-Ramp, H-1 Eastbound Freeway queuing was observed across multiple days to follow a new traffic pattern with head of the eastern queuing emanating from the vicinity of the Pensacola Street Underpass as a result of slow traffic due to the combination Ward Avenue On-Ramp merge and Vineyard Boulevard On-Ramp merge areas. However, back of queues during the AM and PM peak hours of traffic for the eastern queue rarely extending back to reach the Vineyard Boulevard Off-Ramp during the PM peak hour. Between the eastern and western queuing regions there is a clear section where there is light congestion and increased travel speeds from the Kalihi Street On-Ramp to the Vineyard Boulevard Off-Ramp. This section is followed by the western queuing section which typically spans from the Likelike Highway interchange to the Middle Street Merge. Back of queues for the western queue were observed to rarely reach the Ft. Shafter Overpass, with eastbound queues typically only reaching the Ft. Shafter/King Street On-Ramp. Figure 5.12 depicts queuing conditions before and during the Piikoi Street On-Ramp closure.



Pre-Closure Queuing Conditions



During Closure Queuing Conditions

Figure 5.12: AM & PM Peak Hour Queue Spillback Comparison

6. CONCLUSION

The State of Hawaii Department of Transportation (HDOT) conducted a temporary 24-hr closure of the Piikoi Eastbound On-ramp to the Queen Liliuokalani Freeway (H-1) between April 17 and April 28, 2017. This 2-week period was used to perform maintenance and as an opportunity to study the traffic impacts of the ramp closure to H-1 as well as alternate routes and surface streets in the vicinity of the ramp.

Eastbound commuters during morning and afternoon peak hours of traffic have felt that much of the congestion and queuing experienced by motorists on the H-1 Freeway is a result of a bottleneck caused by the Piikoi On-ramp. The heavy on- and off-ramp volumes, frequent lane merges, and weaving between the Vineyard On-ramp and the Punahou Off-ramp have been believed to be a cause of eastbound congestion that regularly extends from the Punahou off-ramp, approximately five miles to beyond the Middle Street overpass.

The purpose of this study was to measure and assess the impacts to H-1 Eastbound Freeway and side street operations resulting from the temporary ramp closure.

6.1. Volume and Capacity

6.1.1. H-1 Eastbound Freeway

Generally throughout the AM and PM commute hours from 5:30 AM to 9:30 AM and 3:00 PM to 7:00 PM, respectively, eastbound traffic volumes along H-1 Eastbound Freeway and side streets remained relatively the same over the 4-hour periods despite the closure of the Piikoi Street On-Ramp. However, during the peak hours of traffic from 7:00 AM to 8:00 AM and 4:15 PM to 5:15 PM, volumes along H-1 Eastbound Freeway in the vicinity of the Pensacola Street Underpass during the closure of the Piikoi Street On-Ramp were found to increase by 552 vph (9.7%) and 301 vph (4.6%), respectively. This is likely attributed to the increased capacity of the H-1 Eastbound Freeway as a result of the Piikoi Street On-Ramp closure. Due to the elimination of the 2-lane weave necessary for vehicles using the Piikoi Street, wishing to continue on H-1 Eastbound Freeway traffic congestion and speeds were both observed to greatly improve through the Makiki corridor approaching the Punahou Street Off-Ramp.

6.1.2. Side Streets

Side street volumes at studied intersection remained relatively similar during peak hour conditions when comparing between before and during the closure of the Piikoi Street On-Ramp with the exception of South King Street. South King Street, due to its additional capacity and good progression as result of optimized signal timings was found to be the primary reroute path taken by eastbound motorists. South King Street near its intersection with Piikoi Street was found to have an increase in AM and PM peak hour volumes of 309 (17.5%) and 370 (17.1%), respectively. Due to slight increases to eastbound South King Street traffic additional congestion and travel was observed to occur at critical locations throughout out the studied length of the corridor.

6.2. Travel Time and Speed

6.2.1. H-1 Eastbound Freeway

Generally, during the heaviest observed 15-minute period of the AM commute at 7:45 AM, traffic conditions along H-1 Eastbound Freeway during the Piikoi Street On-Ramp closure was found to have slightly improved travel times and speeds of 3 minutes and 2 mph throughout the critical section of the study corridor from the Fort Shafter Overpass to the Punahou Street Off-Ramp. During the AM peak hour from 7:00 AM to 8:00 AM eastbound traffic from Fort Shafter Overpass to the Punahou Street Off-Ramp experienced an average travel time reduction of 1 minute. Additionally, travel speeds along H-1 Eastbound Freeway at the Punahou Street Off-Ramp experienced an average increase of 17 mph during the closure of the Piikoi Street On-Ramp. However, it should be noted that as the AM commute period ended, travel times and speeds showed increasing improvements during the Piikoi Street On-Ramp closure. This study did not assess the midday peak hours of traffic.

While the Piikoi Street On-Ramp closure was in effect, the heaviest observed 15-minute period of the PM commute occurred at 4:45 PM. During this peak 15-minute period H-1 Eastbound Freeway was found to have improved travel times and speeds of 7 minutes and 4 mph between the Fort Shafter Overpass and the Punahou Street Off-Ramp. Similarly, during the PM peak hour from 4:15 PM to 5:15 PM eastbound traffic from the Fort Shafter Overpass to the Punahou Street Off-Ramp experienced an average travel time reduction of 6 minutes during the closure period. Additionally, eastbound freeway travel speeds at the Punahou Street Off-Ramp increased by an average of 15 mph during the PM peak hour.

Refer to Tables 5.5 and 5.8 for peak 15-minute comparisons of traffic before and during the Piikoi Street On-Ramp closure. Refer to Figure 5.1 for a comparison of traffic conditions for the AM and PM peak hours of traffic, before and during the closure of the Piikoi Street On-Ramp.

6.2.2. Side Streets

During the AM commute period of traffic, travel time and speeds along studied side street corridors were found to be relatively similar between before and during closure conditions. No major changes to side street commute times or speeds indicate negligible effects to side street operations during the AM commute hours from 5:30 AM to 9:30 AM as a result of the Piikoi Street On-Ramp closure.

During the PM commute period of traffic, travel times and speeds along South King Street and Kapiolani Boulevard showed slight increases to average travel times throughout the entire PM commute period. However, while slight increases to travel time were present, the magnitude of the increases were found to be less than expected and average travel time increases of approximately 1 minute along these corridors is not considered a significant increase to the length of the studied corridors and considerable amount of variables that are considered during each travel time run.

6.3. Queuing

H-1 Eastbound Freeway queueing conditions between before and during the closure saw significant improvement while the Piikoi Street On-Ramp closure was in effect. Freeway queues that were previously a single solid queue extending from the Punahou Street Off-Ramp to the

Ft. Shafter Overpass at times were split into two separate queuing groups during the ramp closure. The eastern queue was found to now emanate in the vicinity of the Pensacola Street Underpass and extend back past the Liliha Street On-Ramp, occasionally reaching the Vineyard Boulevard Off-Ramp during peak PM conditions. The new western queue was found to emanate from the Likelike Highway Interchange and extend to the Middle Street Merge, rarely reaching the Ft. Shafter Overpass during peak PM conditions. Between the new eastern and western queuing groups traffic was found to progress at higher average speeds with reduced observed congestion.

7. RECOMMENDATIONS

Due to the measured benefits to H-1 Eastbound Freeway during the closure period, it is recommended that the Piikoi Street On-Ramp be closed during the PM peak hours of traffic from 3:00 to 6:30 PM. As a result of the closure, H-1 Eastbound travelers will experience improved travel times and speeds between Fort Shafter overpass and the Punahou Street Off-Ramp. In addition, impacts to side streets in the vicinity of the Piikoi Street On-Ramp were observed to be minimal with the exception of King Street at its intersection with University Avenue where an existing bottleneck of traffic creates additional congestion.

If the PM closure of the Piikoi Street On-Ramp is successful in providing improved operations along H-1 Eastbound Freeway consistent with this report, consideration should be given to the implementation of either an AM peak period closure schedule or a permanent full closure of the Piikoi Street On-Ramp. Closure of the Piikoi Street On-Ramp during the AM peak periods of traffic would yield similar results to the PM closure with less improvements to travel times and speeds from the Fort Shafter overpass to the Punahou Street Off-Ramp. In addition, a full closure of the Piikoi Street On-Ramp would maintain freeway driver expectations, consistent operations and reduced driver indecision along side streets while determining their routes.

8. REFERENCES

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A P P E N D I C E S

APPENDIX A

TRAFFIC COUNT DATA

APPENDIX A

TRAFFIC COUNT DATA

- Pre-Closure Data

Study Name Kinau St Off Ramp - H1 EB
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Kinau Off-Ramp	Kinau Off-Ramp	Far Right Lane	Middle Right Lane	Middle Left Lane	Far Left Lane	TOTAL H-1 EB THRU
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound
5:30 AM	309	114	121	225	203	335	884
5:45 AM	330	153	135	264	173	351	923
6:00 AM	346	180	150	305	227	361	1043
6:15 AM	340	175	168	337	376	458	1339
6:30 AM	332	182	186	372	401	458	1417
6:45 AM	306	175	259	359	448	463	1529
7:00 AM	262	220	270	329	305	317	1221
7:15 AM	260	198	274	274	207	213	968
7:30 AM	240	190	240	235	228	203	906
7:45 AM	259	193	289	311	293	291	1184
8:00 AM	258	201	269	326	341	319	1255
8:15 AM	278	183	217	354	382	400	1353
8:30 AM	300	197	213	333	421	444	1411
8:45 AM	186	183	207	319	353	385	1264
9:00 AM	92	82	176	274	332	357	1139
9:15 AM	77	81	157	248	314	286	1005
3:00 PM	74	108	193	298	340	316	1147
3:15 PM	95	122	229	293	318	327	1167
3:30 PM	70	103	189	282	353	332	1156
3:45 PM	67	101	206	269	287	293	1055
4:00 PM	57	161	195	292	282	276	1045
4:15 PM	76	148	219	306	286	316	1127
4:30 PM	96	134	227	275	279	294	1075
4:45 PM	133	193	236	227	279	314	1056
5:00 PM	128	173	220	236	264	263	983
5:15 PM	144	152	257	247	256	291	1051
5:30 PM	188	172	225	227	249	278	979
5:45 PM	165	170	251	238	275	287	1051
6:00 PM	191	182	249	273	277	305	1104
6:15 PM	195	183	245	269	285	300	1099
6:30 PM	230	181	214	279	282	293	1068
6:45 PM	211	145	142	273	272	282	969

Study Name 17-006.02 H-1_Vineyard Blvd EB On-Ramp
Start Date 04/05/2017
Start Time 5:30 AM
Site Code

Channel	Vineyard On Right	Vineyard On Left	On-Ramp	H1 Far Right	H1 Center Right	H1 Center Left	H1 Left	TOTAL H-1 EB THRU	
Direction	Eastbound TH	Eastbound	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	11	22	33	145	248	233	243	869	
5:45 AM	17	38	55	158	270	277	257	962	
6:00 AM	19	27	46	149	255	293	262	959	
6:15 AM	25	63	88	183	323	386	373	1265	
6:30 AM	41	71	112	175	348	403	429	1355	
6:45 AM	60	79	139	219	341	429	444	1433	
7:00 AM	120	51	171	268	311	372	397	1348	
7:15 AM	132	68	200	238	214	225	241	918	
7:30 AM	128	71	199	256	239	236	256	987	
7:45 AM	114	68	182	290	296	293	315	1194	
8:00 AM	74	87	161	274	307	348	366	1295	4394
8:15 AM	68	89	157	236	311	384	375	1306	
8:30 AM	71	102	173	216	309	308	404	1237	
8:45 AM	48	98	146	216	312	312	406	1246	
9:00 AM	66	115	181	221	298	321	390	1230	
9:15 AM	77	127	204	240	274	343	376	1233	
3:00 PM	146	84	230	258	275	324	357	1214	
3:15 PM	180	75	255	276	298	318	344	1236	
3:30 PM	197	95	292	257	259	295	311	1122	
3:45 PM	194	106	300	245	237	284	314	1080	
4:00 PM	194	110	304	226	272	302	317	1117	
4:15 PM	220	95	315	257	269	324	337	1187	
4:30 PM	218	103	321	209	247	286	311	1053	
4:45 PM	238	114	352	182	220	284	310	996	
5:00 PM	246	104	350	204	238	284	315	1041	
5:15 PM	214	133	347	186	236	286	319	1027	4117
5:30 PM	237	129	366	193	231	290	302	1016	
5:45 PM	195	102	297	118	184	219	245	766	
6:00 PM	182	97	279	119	155	204	225	703	
6:15 PM	192	89	281	226	253	289	308	1076	
6:30 PM	136	78	214	261	300	337	340	1238	
6:45 PM	115	85	200	223	271	294	299	1087	

Study Name H-1_Ward Ave EB On-Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Ward H-1 On-Ramp	Far Right Lane	Mid-Right Lane	Middle Lane	Mid-Left Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	30	10	171	224	251	202	858	
5:45 AM	44	14	205	264	274	285	1042	
6:00 AM	45	26	208	291	323	321	1169	
6:15 AM	58	32	249	345	415	456	1497	
6:30 AM	96	38	267	376	397	446	1524	
6:45 AM	104	59	340	351	429	470	1649	
7:00 AM	145	126	318	288	309	332	1373	
7:15 AM	179	169	249	229	243	277	1167	
7:30 AM	196	129	248	205	252	265	1099	
7:45 AM	150	142	309	285	325	335	1396	
8:00 AM	102	121	347	319	348	367	1502	5164
8:15 AM	124	62	324	340	380	435	1541	
8:30 AM	129	82	332	347	377	431	1569	
8:45 AM	98	72	344	308	345	397	1466	
9:00 AM	87	54	293	308	312	329	1296	
9:15 AM	91	66	302	277	267	281	1193	
3:00 PM	111	161	303	269	338	363	1434	
3:15 PM	110	183	295	293	329	353	1453	
3:30 PM	102	212	305	280	317	353	1467	
3:45 PM	118	204	309	266	309	332	1420	
4:00 PM	120	242	306	238	302	306	1394	
4:15 PM	170	235	317	279	327	318	1476	
4:30 PM	191	244	303	255	311	328	1441	
4:45 PM	195	272	282	235	301	340	1430	
5:00 PM	200	251	287	243	297	324	1402	
5:15 PM	181	238	308	272	299	336	1453	5726
5:30 PM	165	275	310	252	292	322	1451	
5:45 PM	160	263	326	253	301	332	1475	
6:00 PM	141	259	369	283	316	343	1570	
6:15 PM	144	188	303	262	320	344	1417	
6:30 PM	127	133	293	275	327	333	1361	
6:45 PM	146	86	267	282	277	308	1220	

Study Name Piikoi St - H1 EB On Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Piikoi H-1 On-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	227	259	254	170	683	
5:45 AM	271	288	294	246	828	
6:00 AM	267	326	329	304	959	
6:15 AM	295	400	447	441	1288	
6:30 AM	309	430	443	477	1350	
6:45 AM	321	416	500	526	1442	
7:00 AM	268	228	422	495	1145	
7:15 AM	259	241	436	507	1184	
7:30 AM	340	327	415	507	1249	
7:45 AM	378	379	457	473	1309	
8:00 AM	420	412	432	462	1306	5048
8:15 AM	394	398	460	502	1360	
8:30 AM	400	406	453	492	1351	
8:45 AM	405	397	403	493	1293	
9:00 AM	432	371	378	405	1154	
9:15 AM	431	304	309	318	931	
3:00 PM	384	391	430	509	1330	
3:15 PM	361	376	437	502	1315	
3:30 PM	386	381	434	507	1322	
3:45 PM	356	364	420	486	1270	
4:00 PM	403	416	467	477	1360	
4:15 PM	386	426	483	498	1407	
4:30 PM	382	422	491	512	1425	
4:45 PM	379	418	461	518	1397	
5:00 PM	401	426	479	505	1410	
5:15 PM	363	394	473	515	1382	5614
5:30 PM	378	385	451	510	1346	
5:45 PM	377	396	455	504	1355	
6:00 PM	379	425	450	508	1383	
6:15 PM	378	399	446	496	1341	
6:30 PM	364	353	421	477	1251	
6:45 PM	352	386	406	443	1235	

Study Name Punahou St Off Ramp - H1 EB
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Far Left Lane	Middle Lane	Far Right Lane	TOTAL H-1 EB THRU	
Direction	Eastbound RT - Lane 1	Eastbound RT - Lane 2	Eastbound TH/LT Lane	Eastbound LT Lane	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	155	36	80	33	314	206	238	151	595	
5:45 AM	174	63	99	50	377	213	280	214	707	
6:00 AM	168	59	111	45	392	259	309	275	843	
6:15 AM	180	69	164	80	476	334	374	388	1096	
6:30 AM	176	62	175	100	496	337	402	421	1160	
6:45 AM	175	66	170	115	499	332	438	474	1244	
7:00 AM	179	70	111	86	336	282	394	418	1094	
7:15 AM	106	51	85	87	313	258	391	466	1115	
7:30 AM	149	75	120	96	441	267	402	477	1146	
7:45 AM	133	80	145	85	462	341	435	463	1239	
8:00 AM	165	101	173	92	514	343	406	445	1194	4694
8:15 AM	198	87	133	70	472	351	438	453	1242	
8:30 AM	222	96	135	67	501	390	423	442	1255	
8:45 AM	218	99	131	88	522	307	416	454	1177	
9:00 AM	259	125	144	66	572	285	364	387	1036	
9:15 AM	265	71	114	60	547	236	309	281	826	
3:00 PM	174	60	138	97	438	345	427	493	1265	
3:15 PM	158	69	115	92	446	338	442	493	1273	
3:30 PM	162	74	126	90	459	305	436	504	1245	
3:45 PM	166	61	114	89	450	320	426	491	1237	
4:00 PM	170	68	135	96	455	352	474	512	1338	
4:15 PM	127	56	113	66	359	381	484	545	1410	
4:30 PM	145	59	93	78	373	383	504	547	1434	
4:45 PM	158	48	104	91	421	350	468	555	1373	
5:00 PM	147	56	119	78	366	406	507	527	1440	
5:15 PM	98	52	106	53	313	411	489	539	1439	5686
5:30 PM	116	57	99	57	338	413	471	525	1409	
5:45 PM	114	48	116	60	338	403	462	502	1367	
6:00 PM	130	54	104	81	363	395	473	505	1373	
6:15 PM	128	72	122	71	415	378	448	501	1327	
6:30 PM	158	54	145	76	447	316	401	456	1173	
6:45 PM	155	51	112	66	437	326	419	455	1200	

Study Name Bingham St - H1 Off Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Bingham St	Bingham H-1 Off-Ramp	Bingham H-1 Off-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound TH	Eastbound	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	4	69	70	201	215	116	602	
5:45 AM	7	81	87	196	251	162	696	
6:00 AM	5	129	134	216	281	200	831	
6:15 AM	10	176	187	275	328	291	1081	
6:30 AM	9	178	187	279	387	326	1179	
6:45 AM	10	178	189	295	409	351	1244	
7:00 AM	10	140	151	282	373	301	1107	
7:15 AM	20	119	139	236	402	364	1141	
7:30 AM	33	104	136	236	395	398	1165	
7:45 AM	21	131	152	278	432	393	1255	
8:00 AM	22	105	136	302	395	380	1213	4774
8:15 AM	20	138	156	342	392	369	1259	
8:30 AM	15	149	169	345	418	324	1256	
8:45 AM	17	114	131	305	392	371	1199	
9:00 AM	16	133	152	243	354	291	1040	
9:15 AM	20	103	122	218	288	227	855	
3:00 PM	29	130	159	291	415	423	1288	
3:15 PM	26	134	159	286	422	431	1298	
3:30 PM	45	115	158	276	422	456	1312	
3:45 PM	37	126	162	259	425	428	1274	
4:00 PM	31	116	149	329	461	446	1385	
4:15 PM	29	112	147	331	462	501	1441	
4:30 PM	51	143	190	313	491	503	1497	
4:45 PM	40	128	163	324	460	504	1451	
5:00 PM	35	105	150	335	496	502	1483	
5:15 PM	38	133	166	320	492	503	1481	5912
5:30 PM	36	124	157	326	484	486	1453	
5:45 PM	17	122	150	297	482	452	1381	
6:00 PM	30	138	172	321	441	484	1418	
6:15 PM	26	135	165	300	423	465	1353	
6:30 PM	20	118	146	248	393	408	1195	
6:45 PM	23	119	137	259	409	412	1217	

Study Name King St - H1 EB Off Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	King H-1 Off-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	185	50	143	76	269	
5:45 AM	217	69	147	105	321	
6:00 AM	233	72	188	113	373	
6:15 AM	279	107	222	170	499	
6:30 AM	296	137	237	201	575	
6:45 AM	334	105	264	215	584	
7:00 AM	272	121	258	188	567	
7:15 AM	249	159	303	234	696	
7:30 AM	237	170	325	284	779	
7:45 AM	219	179	335	285	799	
8:00 AM	255	169	300	261	730	3004
8:15 AM	252	130	285	259	674	
8:30 AM	260	117	281	238	636	
8:45 AM	274	118	299	280	697	
9:00 AM	215	125	263	222	610	
9:15 AM	181	109	216	161	486	
3:00 PM	249	181	351	342	874	
3:15 PM	243	180	370	360	910	
3:30 PM	230	192	378	379	949	
3:45 PM	205	190	366	382	938	
4:00 PM	246	197	384	382	963	
4:15 PM	244	227	422	408	1057	
4:30 PM	245	223	399	455	1077	
4:45 PM	244	214	410	425	1049	
5:00 PM	257	241	436	429	1106	
5:15 PM	252	245	415	439	1099	4331
5:30 PM	247	233	397	416	1046	
5:45 PM	260	229	370	420	1019	
6:00 PM	261	214	379	415	1008	
6:15 PM	246	187	381	391	959	
6:30 PM	234	186	349	336	871	
6:45 PM	244	165	359	345	869	

Study Name H-1_King St EB On-Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code Piikoi On-Ramp Closure (Before)

Channel	King St On-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	24	55	139	69	263	
5:45 AM	25	81	140	90	311	
6:00 AM	26	88	186	110	384	
6:15 AM	43	117	220	146	483	
6:30 AM	50	160	230	182	572	
6:45 AM	86	115	269	201	585	
7:00 AM	138	133	258	166	557	
7:15 AM	175	171	312	222	705	
7:30 AM	197	170	323	250	743	
7:45 AM	186	183	343	280	806	
8:00 AM	124	177	307	241	725	2979
8:15 AM	99	150	288	222	660	
8:30 AM	100	137	280	224	641	
8:45 AM	109	130	292	251	673	
9:00 AM	90	140	281	209	630	
9:15 AM	109	110	224	147	481	
3:00 PM	221	192	339	324	855	
3:15 PM	218	188	352	355	895	
3:30 PM	255	186	393	371	950	
3:45 PM	246	182	368	372	922	
4:00 PM	288	209	376	388	973	
4:15 PM	264	240	403	401	1044	
4:30 PM	296	232	398	433	1063	
4:45 PM	255	230	394	424	1048	
5:00 PM	305	237	428	420	1085	
5:15 PM	283	248	400	433	1081	4277
5:30 PM	222	243	391	399	1033	
5:45 PM	224	237	357	415	1009	
6:00 PM	214	227	390	386	1003	
6:15 PM	209	192	392	379	963	
6:30 PM	174	195	340	336	871	
6:45 PM	181	172	366	331	869	

Study Name Kapiolani Blvd - H1 EB On Ramp
Start Date 04/06/2017
Start Time 5:30 AM
Site Code

Channel	Kapiolani On-Ramp right	Kapiolani On-Ramp left	Ramp	H1 Right Lane	Middle Lane	H1 Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	24	9	33	114	119	59	292	
5:45 AM	17	12	29	135	120	84	339	
6:00 AM	29	15	44	156	160	86	402	
6:15 AM	32	23	55	207	192	130	529	
6:30 AM	38	18	56	260	217	157	634	
6:45 AM	61	46	107	249	243	173	665	
7:00 AM	78	63	141	309	240	158	707	
7:15 AM	90	80	170	365	289	207	861	
7:30 AM	114	88	202	385	338	242	965	
7:45 AM	73	73	146	393	332	258	983	
8:00 AM	52	44	96	322	303	226	851	3660
8:15 AM	65	49	114	283	280	211	774	
8:30 AM	54	45	99	264	279	202	745	
8:45 AM	67	45	112	290	267	232	789	
9:00 AM	45	39	84	261	251	194	706	
9:15 AM	53	42	95	230	236	136	602	
3:00 PM	115	95	210	407	354	327	1088	
3:15 PM	136	119	255	417	360	344	1121	
3:30 PM	127	119	246	442	382	386	1210	
3:45 PM	123	115	238	427	381	382	1190	
4:00 PM	148	129	277	456	403	393	1252	
4:15 PM	144	128	272	491	409	404	1304	
4:30 PM	150	121	271	502	431	442	1375	
4:45 PM	163	134	297	485	405	413	1303	
5:00 PM	124	121	245	532	447	436	1415	
5:15 PM	163	147	310	503	434	425	1362	5455
5:30 PM	139	120	259	471	419	392	1282	
5:45 PM	145	115	260	460	371	403	1234	
6:00 PM	131	124	255	423	391	400	1214	
6:15 PM	128	109	237	409	381	376	1166	
6:30 PM	98	95	193	379	341	318	1038	
6:45 PM	100	81	181	352	363	319	1034	

Austin Tsutsumi & Associates

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File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				H-1 EB ON-RAMP WESTBOUND				WARD AVE NORTHBOUND				KINALAU PL EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	2	91	14	0	0	0	0	7	14	23	2	0	1	0	1	3	158
05:45	0	104	29	0	0	2	0	9	21	33	1	0	4	2	0	5	210
Total	2	195	43	0	0	2	0	16	35	56	3	0	5	2	1	8	368
06:00	0	108	19	0	0	0	0	9	23	31	6	0	6	1	1	11	215
06:15	1	136	20	0	0	0	0	11	43	52	4	0	10	2	0	8	287
06:30	1	140	50	0	0	0	0	9	37	57	3	0	7	1	1	10	316
06:45	6	171	56	0	0	0	0	7	46	66	3	0	7	1	2	9	374
Total	8	555	145	0	0	0	0	36	149	206	16	0	30	5	4	38	1192
07:00	3	174	60	0	0	0	0	14	56	85	2	0	2	1	6	17	420
07:15	3	236	107	0	0	0	0	8	88	80	1	0	14	0	3	12	552
07:30	7	278	103	0	0	0	0	11	75	83	2	0	6	1	4	10	580
07:45	4	253	75	0	0	0	0	20	70	83	1	0	10	0	3	4	523
Total	17	941	345	0	0	0	0	53	289	331	6	0	32	2	16	43	2075
08:00	3	238	66	0	0	0	0	13	56	77	6	0	4	0	2	7	472
08:15	4	232	60	0	0	0	0	6	59	78	4	0	8	4	3	6	464
08:30	1	184	56	0	0	0	0	16	48	64	4	0	5	2	0	7	387
08:45	2	199	52	0	0	0	0	13	71	59	4	0	4	1	2	7	414
Total	10	853	234	0	0	0	0	48	234	278	18	0	21	7	7	27	1737
09:00	6	197	55	0	1	0	0	4	61	65	4	0	3	2	3	7	408
09:15	5	182	42	0	0	0	0	7	55	53	4	0	2	2	3	6	361
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	379	97	0	1	0	0	11	116	118	8	0	5	4	6	13	769
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

Austin Tsutsumi & Associates

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Phone: 533-3646 Fax: 526-1267

File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				H-1 EB ON-RAMP WESTBOUND				WARD AVE NORTHBOUND				KINALAU PL EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	2	89	36	0	0	0	0	3	93	119	9	0	4	1	2	6	364
15:15	3	104	33	1	0	0	0	6	131	181	6	0	5	0	2	14	486
15:30	0	110	37	0	0	0	0	9	103	172	6	0	7	1	1	11	457
15:45	2	140	39	0	0	0	0	5	153	195	6	0	3	0	3	8	554
Total	7	443	145	1	0	0	0	23	480	667	27	0	19	2	8	39	1861
16:00	4	128	52	0	0	0	0	5	145	175	5	0	4	0	0	14	532
16:15	3	139	43	0	0	0	0	9	135	187	8	0	7	2	3	5	541
16:30	3	128	62	0	0	0	0	12	148	188	5	0	2	1	3	12	564
16:45	3	123	47	0	0	0	0	7	137	210	6	0	6	1	1	11	552
Total	13	518	204	0	0	0	0	33	565	760	24	0	19	4	7	42	2189
17:00	2	130	57	0	0	0	0	12	148	183	11	0	8	0	2	6	559
17:15	4	102	33	0	0	0	0	6	116	218	10	0	5	0	3	14	511
17:30	2	144	42	0	0	0	0	19	119	214	8	0	3	0	3	7	561
17:45	0	103	30	0	0	0	0	11	113	186	4	0	3	0	1	12	463
Total	8	479	162	0	0	0	0	48	496	801	33	0	19	0	9	39	2094
18:00	5	112	39	0	0	0	0	13	112	185	4	0	8	0	3	3	484
18:15	2	111	32	0	0	0	0	9	111	181	4	0	4	0	3	9	466
18:30	4	124	23	0	0	0	0	14	118	156	7	0	6	0	0	4	456
18:45	2	93	35	0	0	0	0	12	95	153	6	0	6	0	3	2	407
Total	13	440	129	0	0	0	0	48	436	675	21	0	24	0	9	18	1813
Grand Total	89	4803	1504	1	1	2	0	316	2800	3892	156	0	174	26	67	267	14098
Apprch %	1.4	75.1	23.5	0	0.3	0.6	0	99.1	40.9	56.8	2.3	0	32.6	4.9	12.5	50	
Total %	0.6	34.1	10.7	0	0	0	0	2.2	19.9	27.6	1.1	0	1.2	0.2	0.5	1.9	
Motorcycles	0	95	8	0	0	0	0	0	14	63	1	0	2	0	0	0	183
% Motorcycles	0	2	0.5	0	0	0	0	0	0.5	1.6	0.6	0	1.1	0	0	0	1.3
Cars	76	4151	1307	0	1	0	0	0	2457	3276	126	0	146	19	55	0	11614
% Cars	85.4	86.4	86.9	0	100	0	0	0	87.8	84.2	80.8	0	83.9	73.1	82.1	0	82.4
Light Goods Vehicles	9	486	184	0	0	2	0	0	319	466	26	0	22	7	10	0	1531
% Light Goods Vehicles	10.1	10.1	12.2	0	0	100	0	0	11.4	12	16.7	0	12.6	26.9	14.9	0	10.9
Buses	2	21	4	0	0	0	0	0	0	58	1	0	1	0	1	0	88
% Buses	2.2	0.4	0.3	0	0	0	0	0	0	1.5	0.6	0	0.6	0	1.5	0	0.6
Single-Unit Trucks	1	25	1	0	0	0	0	0	9	22	2	0	1	0	1	0	62
% Single-Unit Trucks	1.1	0.5	0.1	0	0	0	0	0	0.3	0.6	1.3	0	0.6	0	1.5	0	0.4
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	1	25	0	0	0	0	0	0	0	7	0	0	2	0	0	0	35
% Bicycles on Road	1.1	0.5	0	0	0	0	0	0	0	0.2	0	0	1.1	0	0	0	0.2
Bicycles on Crosswalk	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	6	20
% Bicycles on Crosswalk	0	0	0	0	0	0	0	4.4	0	0	0	0	0	0	0	2.2	0.1
Pedestrians	0	0	0	1	0	0	0	302	0	0	0	0	0	0	0	261	564
% Pedestrians	0	0	0	100	0	0	0	95.6	0	0	0	0	0	0	0	97.8	4

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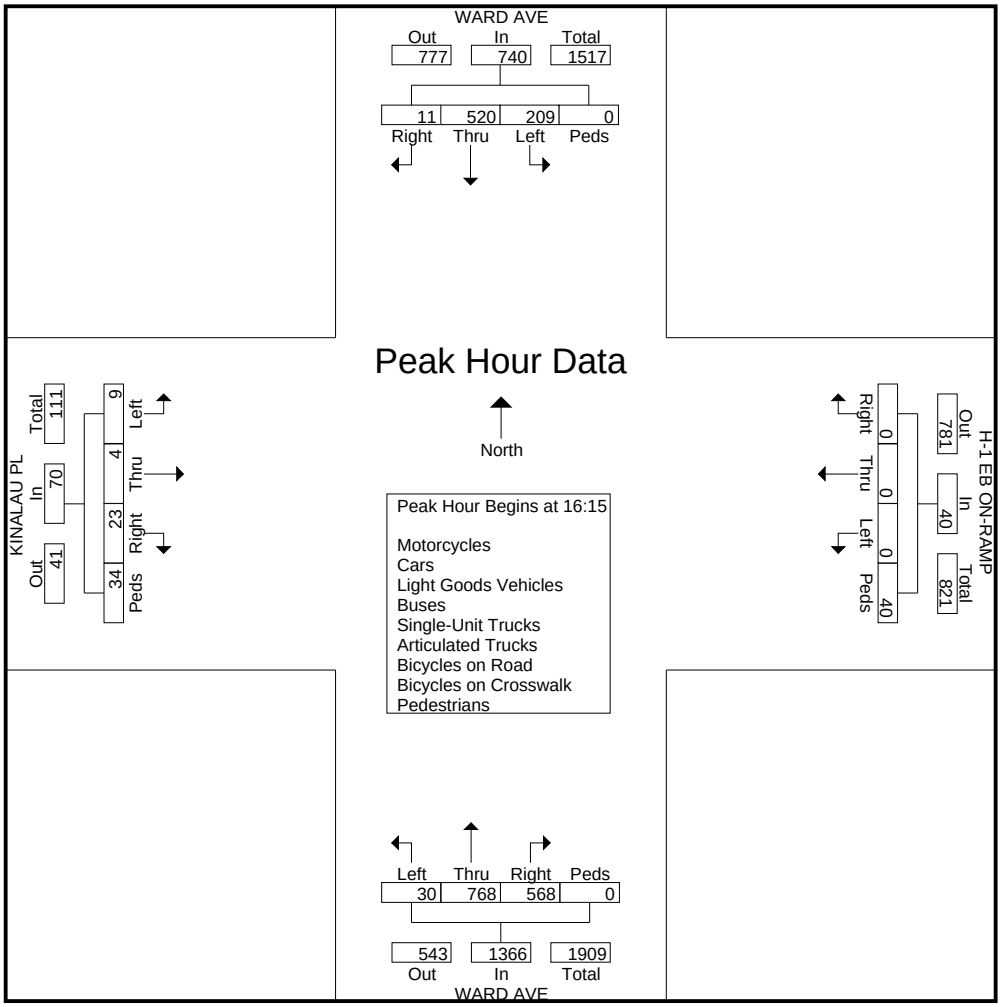
File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code :
Start Date : 4/4/2017
Page No : 3

	WARD AVE SOUTHBOUND					H-1 EB ON-RAMP WESTBOUND					WARD AVE NORTHBOUND					KINALAU PL EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	**3**	**139**	43	0	185	0	0	0	9	9	135	187	8	0	330	7	**2**	**3**	5	17	541
16:30	3	128	**62**	0	**193**	0	0	0	**12**	**12**	**148**	188	5	0	341	2	1	3	**12**	18	**564**
16:45	3	123	47	0	173	0	0	0	7	7	137	**210**	6	0	**353**	6	1	1	11	**19**	552
17:00	2	130	57	0	189	0	0	0	12	12	148	183	**11**	0	342	**8**	0	2	6	16	559
Total Volume	11	520	209	0	740	0	0	0	40	40	568	768	30	0	1366	23	4	9	34	70	2216
% App. Total	1.5	70.3	28.2	0		0	0	0	100		41.6	56.2	2.2	0		32.9	5.7	12.9	48.6		
PHF	.917	.935	.843	.000	.959	.000	.000	.000	.833	.833	.959	.914	.682	.000	.967	.719	.500	.750	.708	.921	.982



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File Name : Piikoi St - H-1 EB On-Ramp_Papaku Pl
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND			H-1 EB ON-RAMP WESTBOUND			PIIKOI ST NORTHBOUND				PAPAKU PL EASBOUND			
Start Time	Right	Left	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Thru	Left	Peds	Int. Total
05:30	0	0	0	0	0	4	22	188	0	0	0	1	6	221
05:45	0	0	0	0	0	11	26	167	0	0	0	1	1	206
Total	0	0	0	0	0	15	48	355	0	0	0	2	7	427
06:00	0	0	0	0	0	13	32	247	0	2	0	3	3	300
06:15	1	0	0	0	0	15	40	267	0	0	0	0	2	325
06:30	0	0	0	0	0	23	55	286	0	0	0	0	9	373
06:45	0	0	0	0	0	24	78	331	0	0	0	0	9	442
Total	1	0	0	0	0	75	205	1131	0	2	0	3	23	1440
07:00	0	1	0	0	0	38	96	362	0	0	0	0	7	504
07:15	0	0	0	0	0	33	150	351	0	0	0	0	8	542
07:30	0	0	0	0	0	35	143	357	0	0	0	0	21	556
07:45	0	0	0	0	0	38	113	352	0	0	0	6	23	532
Total	0	1	0	0	0	144	502	1422	0	0	0	6	59	2134
08:00	0	0	0	1	0	22	104	340	0	0	0	10	9	486
08:15	0	0	0	0	0	24	80	344	0	0	0	10	6	464
08:30	0	0	0	0	0	15	86	360	0	0	0	10	0	471
08:45	0	0	0	0	0	20	104	304	0	0	0	5	4	437
Total	0	0	0	1	0	81	374	1348	0	0	0	35	19	1858
09:00	0	0	0	0	0	26	76	361	0	0	0	1	2	466
09:15	0	0	0	0	0	19	74	327	0	0	0	2	0	422
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	45	150	688	0	0	0	3	2	888
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Piikoi St - H-1 EB On-Ramp_Papaku Pl
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND			H-1 EB ON-RAMP WESTBOUND			PIIKOI ST NORTHBOUND				PAPAKU PL EASBOUND			
Start Time	Right	Left	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Thru	Left	Peds	Int. Total
14:45	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
15:00	0	0	0	0	0	27	145	433	1	0	0	2	10	618
15:15	0	0	0	0	0	9	152	405	0	0	0	0	2	568
15:30	0	0	0	0	0	21	168	435	0	0	0	0	2	626
15:45	0	0	0	0	0	30	173	408	0	0	0	0	1	612
Total	0	0	0	0	0	87	638	1681	1	0	0	2	15	2424
16:00	0	0	0	0	0	23	166	464	1	0	0	0	6	660
16:15	0	0	0	0	0	23	161	445	0	0	0	0	5	634
16:30	0	0	0	0	0	34	202	454	0	0	0	0	0	690
16:45	0	0	0	0	0	24	181	470	1	0	0	1	2	679
Total	0	0	0	0	0	104	710	1833	2	0	0	1	13	2663
17:00	0	0	0	0	0	43	168	502	0	0	0	0	2	715
17:15	0	0	0	0	0	31	170	463	1	0	0	0	8	673
17:30	0	0	0	0	0	36	188	467	0	0	0	0	8	699
17:45	0	0	0	0	0	36	165	438	0	0	0	0	4	643
Total	0	0	0	0	0	146	691	1870	1	0	0	0	22	2730
18:00	0	0	0	0	0	35	142	451	0	0	0	1	5	634
18:15	0	0	0	0	0	34	152	432	0	0	0	1	1	620
18:30	0	0	0	0	0	47	153	459	0	0	0	0	2	661
18:45	0	0	0	0	0	38	134	409	0	0	0	0	1	582
Total	0	0	0	0	0	154	581	1751	0	0	0	2	9	2497
Grand Total	1	1	0	1	0	851	3899	12079	4	2	0	54	169	17061
Apprch %	50	50	0	0.1	0	99.9	24.4	75.6	0	0	0	24.2	75.8	
Total %	0	0	0	0	0	5	22.9	70.8	0	0	0	0.3	1	
Motorcycles	0	0	0	0	0	0	15	108	0	0	0	0	0	123
% Motorcycles	0	0	0	0	0	0	0.4	0.9	0	0	0	0	0	0.7
Cars	0	1	0	1	0	0	3446	10419	2	0	0	32	0	13901
% Cars	0	100	0	100	0	0	88.4	86.3	50	0	0	59.3	0	81.5
Light Goods Vehicles	0	0	0	0	0	0	406	1298	0	0	0	18	0	1722
% Light Goods Vehicles	0	0	0	0	0	0	10.4	10.7	0	0	0	33.3	0	10.1
Buses	0	0	0	0	0	0	12	95	0	0	0	0	0	107
% Buses	0	0	0	0	0	0	0.3	0.8	0	0	0	0	0	0.6
Single-Unit Trucks	0	0	0	0	0	0	20	107	2	0	0	4	0	133
% Single-Unit Trucks	0	0	0	0	0	0	0.5	0.9	50	0	0	7.4	0	0.8
Articulated Trucks	0	0	0	0	0	0	0	23	0	0	0	0	0	23
% Articulated Trucks	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0.1
Bicycles on Road	1	0	0	0	0	0	0	29	0	0	0	0	0	30
% Bicycles on Road	100	0	0	0	0	0	0	0.2	0	0	0	0	0	0.2
Bicycles on Crosswalk	0	0	0	0	0	73	0	0	0	0	0	0	9	82
% Bicycles on Crosswalk	0	0	0	0	0	8.6	0	0	0	0	0	0	5.3	0.5
Pedestrians	0	0	0	0	0	778	0	0	0	2	0	0	160	940
% Pedestrians	0	0	0	0	0	91.4	0	0	0	100	0	0	94.7	5.5

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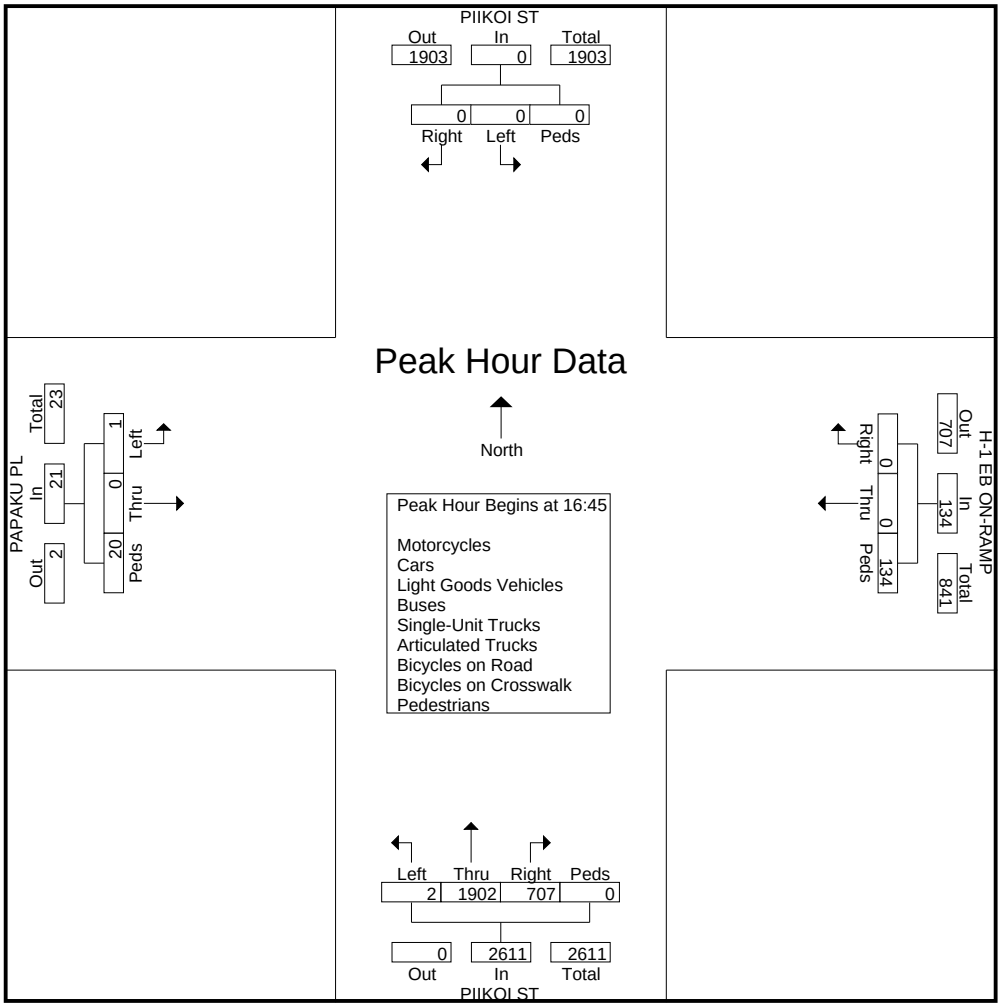
File Name : Piikoi St - H-1 EB On-Ramp_Papaku Pl
Site Code :
Start Date : 4/4/2017
Page No : 3

	PIIKOI ST SOUTHBOUND				H-1 EB ON-RAMP WESTBOUND				PIIKOI ST NORTHBOUND					PAPAKU PL EASBOUND				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 16:45																		
16:45	0	0	0	0	0	0	24	24	181	470	**1**	0	652	0	**1**	2	3	679
17:00	0	0	0	0	0	0	**43**	**43**	168	**502**	0	0	**670**	0	0	2	2	**715**
17:15	0	0	0	0	0	0	31	31	170	463	1	0	634	0	0	**8**	**8**	673
17:30	0	0	0	0	0	0	36	36	**188**	467	0	0	655	0	0	8	8	699
Total Volume	0	0	0	0	0	0	134	134	707	1902	2	0	2611	0	1	20	21	2766
% App. Total	0	0	0		0	0	100		27.1	72.8	0.1	0		0	4.8	95.2		
PHF	.000	.000	.000	.000	.000	.000	.779	.779	.940	.947	.500	.000	.974	.000	.250	.625	.656	.967



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File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUNAHOU ST SOUTHBOUND			BINGHAM ST WESTBOUND			PUNAHOU ST NORTHBOUND			H-1 OFF RAMP EASBOUND				
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Int. Total
05:30	29	6	0	1	0	2	5	34	0	220	60	49	1	407
05:45	43	4	0	0	0	2	5	39	0	228	85	74	2	482
Total	72	10	0	1	0	4	10	73	0	448	145	123	3	889
06:00	44	13	0	0	0	6	5	46	0	252	78	96	4	544
06:15	55	16	0	0	0	14	20	56	0	249	105	107	3	625
06:30	63	33	0	0	0	10	58	76	1	229	99	133	3	705
06:45	89	27	0	0	0	11	30	115	5	231	77	208	22	815
Total	251	89	0	0	0	41	113	293	6	961	359	544	32	2689
07:00	133	17	0	0	0	12	17	121	4	198	37	169	38	746
07:15	151	13	0	0	0	14	28	155	6	215	40	166	22	810
07:30	159	15	0	0	0	0	37	190	6	183	76	157	14	837
07:45	211	16	0	0	0	0	60	171	3	264	87	137	6	955
Total	654	61	0	0	0	26	142	637	19	860	240	629	80	3348
08:00	127	28	0	0	0	0	44	156	1	268	90	108	3	825
08:15	111	19	0	0	0	0	42	149	0	294	101	119	1	836
08:30	116	24	0	0	0	12	29	126	1	304	98	85	7	802
08:45	100	28	0	0	0	17	39	102	3	292	95	137	5	818
Total	454	99	0	0	0	29	154	533	5	1158	384	449	16	3281
09:00	78	16	2	0	0	8	26	108	4	364	73	116	2	797
09:15	83	15	0	0	0	10	19	126	2	402	83	116	5	861
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	161	31	2	0	0	18	45	234	6	766	156	232	7	1658
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUNAHOU ST SOUTHBOUND			BINGHAM ST WESTBOUND			PUNAHOU ST NORTHBOUND			H-1 OFF RAMP EASBOUND				
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Int. Total
14:45	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
15:00	137	20	0	0	0	11	23	190	1	311	62	137	7	899
15:15	109	17	0	0	0	6	31	202	5	225	57	142	9	803
15:30	129	15	0	0	0	15	17	185	3	178	52	127	5	726
15:45	139	8	0	0	0	13	28	189	0	174	39	124	5	719
Total	514	60	0	0	0	45	99	766	9	888	210	530	26	3147
16:00	128	16	0	0	0	21	13	189	1	165	53	133	8	727
16:15	119	15	0	0	0	11	22	220	1	157	54	137	10	746
16:30	133	14	0	0	0	11	22	216	2	114	49	126	2	689
16:45	126	25	0	0	0	14	15	217	0	165	44	140	3	749
Total	506	70	0	0	0	57	72	842	4	601	200	536	23	2911
17:00	110	22	0	0	0	18	16	199	4	180	43	127	8	727
17:15	116	17	0	0	0	12	25	209	3	171	52	111	7	723
17:30	125	12	0	0	0	19	17	225	2	168	52	116	6	742
17:45	109	10	0	0	0	21	20	168	5	171	49	126	5	684
Total	460	61	0	0	0	70	78	801	14	690	196	480	26	2876
18:00	91	11	0	0	0	10	10	151	2	134	58	99	4	570
18:15	83	15	0	0	0	10	17	140	1	123	43	88	5	525
18:30	116	18	0	1	0	5	32	154	1	123	65	126	5	646
18:45	114	19	0	0	0	12	17	130	1	127	62	101	5	588
Total	404	63	0	1	0	37	76	575	5	507	228	414	19	2329
Grand Total	3476	544	2	2	0	327	789	4754	68	6879	2118	3937	232	23128
Apprch %	86.4	13.5	0	0.6	0	99.4	14.1	84.7	1.2	52.2	16.1	29.9	1.8	
Total %	15	2.4	0	0	0	1.4	3.4	20.6	0.3	29.7	9.2	17	1	
Motorcycles	47	5	0	0	0	0	4	32	0	20	7	2	0	117
% Motorcycles	1.4	0.9	0	0	0	0	0.5	0.7	0	0.3	0.3	0.1	0	0.5
Cars	3161	515	0	2	0	0	744	4314	0	5874	1910	3620	0	20140
% Cars	90.9	94.7	0	100	0	0	94.3	90.7	0	85.4	90.2	91.9	0	87.1
Light Goods Vehicles	192	18	0	0	0	0	33	317	0	832	132	256	0	1780
% Light Goods Vehicles	5.5	3.3	0	0	0	0	4.2	6.7	0	12.1	6.2	6.5	0	7.7
Buses	24	2	0	0	0	0	2	31	0	56	30	16	0	161
% Buses	0.7	0.4	0	0	0	0	0.3	0.7	0	0.8	1.4	0.4	0	0.7
Single-Unit Trucks	18	1	0	0	0	0	6	38	0	93	36	39	0	231
% Single-Unit Trucks	0.5	0.2	0	0	0	0	0.8	0.8	0	1.4	1.7	1	0	1
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	2	3	0	6
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0
Bicycles on Road	34	3	0	0	0	0	0	22	0	3	1	1	0	64
% Bicycles on Road	1	0.6	0	0	0	0	0	0.5	0	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	6	0	0	1	0	0	0	13	20
% Bicycles on Crosswalk	0	0	0	0	0	1.8	0	0	1.5	0	0	0	5.6	0.1
Pedestrians	0	0	2	0	0	321	0	0	67	0	0	0	219	609
% Pedestrians	0	0	100	0	0	98.2	0	0	98.5	0	0	0	94.4	2.6

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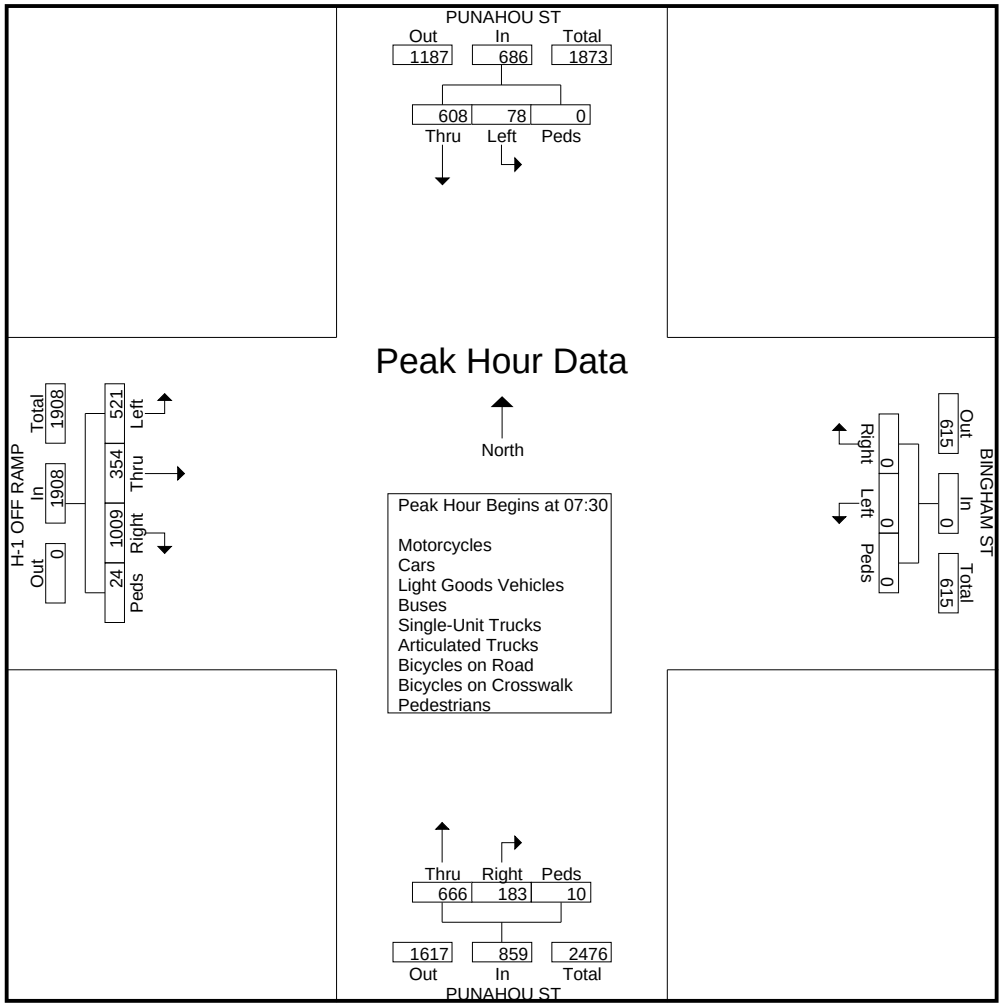
File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code :
Start Date : 4/4/2017
Page No : 3

	PUNAHOU ST SOUTHBOUND				BINGHAM ST WESTBOUND				PUNAHOU ST NORTHBOUND				H-1 OFF RAMP EASBOUND					
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30																		
07:30	159	15	0	174	0	0	0	0	37	**190**	**6**	233	183	76	**157**	**14**	430	837
07:45	**211**	16	0	**227**	0	0	0	0	**60**	171	3	**234**	264	87	137	6	494	**955**
08:00	127	**28**	0	155	0	0	0	0	44	156	1	201	268	90	108	3	469	825
08:15	111	19	0	130	0	0	0	0	42	149	0	191	**294**	**101**	119	1	**515**	836
Total Volume	608	78	0	686	0	0	0	0	183	666	10	859	1009	354	521	24	1908	3453
% App. Total	88.6	11.4	0		0	0	0		21.3	77.5	1.2		52.9	18.6	27.3	1.3		
PHF	.720	.696	.000	.756	.000	.000	.000	.000	.763	.876	.417	.918	.858	.876	.830	.429	.926	.904



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File Name : University Ave - H-1 EB Off-Ramp_On-Ramp
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	UNIVERSITY AVE SOUTHBOUND			H-1 EB OFF-RAMP WESTBOUND				UNIVERSITY AVE NORTHBOUND			H-1 ON ON-RAMP EASBOUND			
Start Time	Right	Thru	Peds	Right	Thru	Left	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
05:30	15	24	0	74	0	0	0	88	0	0	0	0	0	201
05:45	7	39	0	94	0	0	0	92	0	0	0	0	0	232
Total	22	63	0	168	0	0	0	180	0	0	0	0	0	433
06:00	16	36	0	107	0	0	0	113	0	0	0	0	0	272
06:15	19	55	0	146	0	0	0	134	0	0	0	0	0	354
06:30	42	63	0	174	0	0	2	190	0	0	0	0	0	471
06:45	56	114	0	176	0	0	0	271	0	0	0	0	0	617
Total	133	268	0	603	0	0	2	708	0	0	0	0	0	1714
07:00	62	167	0	217	0	0	0	348	0	0	0	0	0	794
07:15	93	201	0	156	0	0	2	296	0	0	0	0	0	748
07:30	104	174	0	131	0	0	2	301	0	0	0	0	0	712
07:45	117	182	0	174	0	0	4	364	0	0	1	0	0	842
Total	376	724	0	678	0	0	8	1309	0	0	1	0	0	3096
08:00	72	144	0	242	0	0	3	281	0	0	0	0	0	742
08:15	76	117	0	226	0	0	2	246	0	0	0	0	0	667
08:30	54	111	0	214	0	0	8	263	0	0	0	0	2	652
08:45	46	105	0	236	0	0	3	284	0	0	0	0	1	675
Total	248	477	0	918	0	0	16	1074	0	0	0	0	3	2736
09:00	62	102	0	124	0	0	2	176	0	0	0	0	0	466
09:15	52	85	0	105	0	0	3	154	0	0	0	0	0	399
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	114	187	0	229	0	0	5	330	0	0	0	0	0	865
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : University Ave - H-1 EB Off-Ramp_On-Ramp
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	UNIVERSITY AVE SOUTHBOUND			H-1 EB OFF-RAMP WESTBOUND				UNIVERSITY AVE NORTHBOUND			H-1 ON ON-RAMP EASBOUND			
Start Time	Right	Thru	Peds	Right	Thru	Left	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
14:45	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
15:00	99	172	0	111	0	0	12	254	0	0	0	0	0	648
15:15	85	168	0	95	0	0	3	299	0	0	0	0	0	650
15:30	82	205	0	102	0	0	7	308	0	1	0	0	0	705
15:45	49	225	0	76	0	0	8	292	0	0	0	0	0	650
Total	315	770	0	384	0	0	30	1153	0	1	0	0	0	2653
16:00	102	243	0	95	0	0	9	282	0	0	0	0	0	731
16:15	86	225	0	88	0	0	10	264	0	0	0	0	0	673
16:30	96	210	0	88	0	0	10	268	0	0	0	0	0	672
16:45	87	190	0	90	0	0	9	274	0	0	0	0	0	650
Total	371	868	0	361	0	0	38	1088	0	0	0	0	0	2726
17:00	99	168	0	74	0	0	14	290	0	0	0	0	0	645
17:15	85	176	0	89	0	0	11	233	0	0	0	0	0	594
17:30	77	151	0	65	0	0	13	247	0	0	0	0	0	553
17:45	94	156	0	74	0	0	15	214	0	0	0	0	0	553
Total	355	651	0	302	0	0	53	984	0	0	0	0	0	2345
18:00	65	163	0	59	1	0	14	235	0	0	0	0	4	541
18:15	72	167	0	51	0	0	12	233	0	0	0	0	1	536
18:30	91	141	0	61	1	0	10	222	0	0	0	0	0	526
18:45	106	113	0	44	0	0	29	218	0	0	0	0	1	511
Total	334	584	0	215	2	0	65	908	0	0	0	0	6	2114
Grand Total	2268	4592	0	3858	2	0	217	7734	0	1	1	0	9	18682
Apprch %	33.1	66.9	0	94.6	0	0	5.3	100	0	0	10	0	90	
Total %	12.1	24.6	0	20.7	0	0	1.2	41.4	0	0	0	0	0	
Motorcycles	1	34	0	12	0	0	0	115	0	0	0	0	0	162
% Motorcycles	0	0.7	0	0.3	0	0	0	1.5	0	0	0	0	0	0.9
Cars	2252	4280	0	3619	2	0	0	6618	0	0	1	0	0	16772
% Cars	99.3	93.2	0	93.8	100	0	0	85.6	0	0	100	0	0	89.8
Light Goods Vehicles	10	105	0	192	0	0	0	782	0	0	0	0	0	1089
% Light Goods Vehicles	0.4	2.3	0	5	0	0	0	10.1	0	0	0	0	0	5.8
Buses	4	106	0	17	0	0	0	120	0	0	0	0	0	247
% Buses	0.2	2.3	0	0.4	0	0	0	1.6	0	0	0	0	0	1.3
Single-Unit Trucks	1	22	0	15	0	0	0	46	0	0	0	0	0	84
% Single-Unit Trucks	0	0.5	0	0.4	0	0	0	0.6	0	0	0	0	0	0.4
Articulated Trucks	0	1	0	2	0	0	0	3	0	0	0	0	0	6
% Articulated Trucks	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	44	0	1	0	0	0	50	0	0	0	0	0	95
% Bicycles on Road	0	1	0	0	0	0	0	0.6	0	0	0	0	0	0.5
Bicycles on Crosswalk	0	0	0	0	0	0	16	0	0	0	0	0	0	16
% Bicycles on Crosswalk	0	0	0	0	0	0	7.4	0	0	0	0	0	0	0.1
Pedestrians	0	0	0	0	0	0	201	0	0	1	0	0	9	211
% Pedestrians	0	0	0	0	0	0	92.6	0	0	100	0	0	100	1.1

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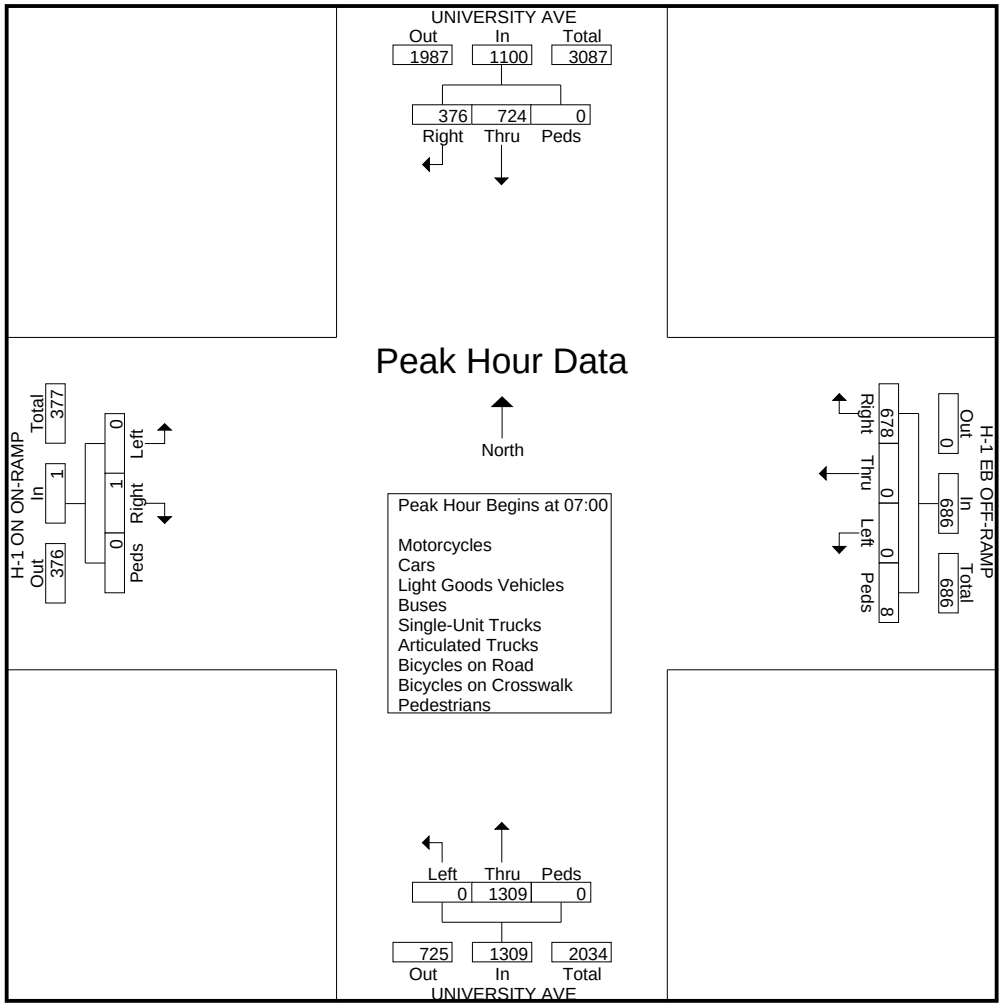
File Name : University Ave - H-1 EB Off-Ramp_On-Ramp
Site Code :
Start Date : 4/4/2017
Page No : 3

	UNIVERSITY AVE SOUTHBOUND				H-1 EB OFF-RAMP WESTBOUND					UNIVERSITY AVE NORTHBOUND				H-1 ON ON-RAMP EASBOUND				
Start Time	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00																		
07:00	62	167	0	229	**217**	0	0	0	**217**	348	0	0	348	0	0	0	0	794
07:15	93	**201**	0	294	156	0	0	2	158	296	0	0	296	0	0	0	0	748
07:30	104	174	0	278	131	0	0	2	133	301	0	0	301	0	0	0	0	712
07:45	**117**	182	0	**299**	174	0	0	**4**	178	**364**	0	0	**364**	**1**	0	0	**1**	**842**
Total Volume	376	724	0	1100	678	0	0	8	686	1309	0	0	1309	1	0	0	1	3096
% App. Total	34.2	65.8	0		98.8	0	0	1.2		100	0	0		100	0	0		
PHF	.803	.900	.000	.920	.781	.000	.000	.500	.790	.899	.000	.000	.899	.250	.000	.000	.250	.919



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File Name : Ward Ave - King St
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				KING ST WESTBOUND				WARD AVE NORTHBOUND				KING ST EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	0	161	0	14	0	3	0	1	14	8	0	7	8	68	9	8	301
05:45	0	185	1	12	0	6	0	9	31	19	0	10	5	81	15	8	382
Total	0	346	1	26	0	9	0	10	45	27	0	17	13	149	24	16	683
06:00	0	180	0	26	0	6	0	24	26	11	0	14	10	111	22	13	443
06:15	0	202	0	46	0	7	0	36	33	31	0	33	12	137	25	22	584
06:30	0	197	2	52	0	0	0	38	29	22	0	34	14	206	29	49	672
06:45	0	199	0	59	0	0	0	37	48	35	0	30	23	292	18	36	777
Total	0	778	2	183	0	13	0	135	136	99	0	111	59	746	94	120	2476
07:00	0	193	1	42	0	0	0	32	69	52	0	34	25	403	47	28	926
07:15	0	213	0	45	0	0	0	40	90	50	0	45	18	421	50	47	1019
07:30	0	249	0	36	0	0	0	31	89	48	0	39	17	412	38	38	997
07:45	0	273	0	26	0	0	0	36	75	34	0	43	34	399	59	54	1033
Total	0	928	1	149	0	0	0	139	323	184	0	161	94	1635	194	167	3975
08:00	0	279	0	17	0	0	0	17	62	48	0	17	20	335	37	24	856
08:15	0	263	0	15	0	0	0	16	60	59	0	13	26	288	47	24	811
08:30	0	266	0	14	0	0	0	12	76	60	1	15	28	307	37	22	838
08:45	0	214	0	18	0	0	0	14	88	45	0	9	26	282	47	23	766
Total	0	1022	0	64	0	0	0	59	286	212	1	54	100	1212	168	93	3271
09:00	0	168	1	12	0	0	0	6	48	58	0	10	36	307	54	16	716
09:15	0	220	0	12	0	0	0	11	54	66	0	10	35	267	49	19	743
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	388	1	24	0	0	0	17	102	124	0	20	71	574	103	35	1459
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

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File Name : Ward Ave - King St
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				KING ST WESTBOUND				WARD AVE NORTHBOUND				KING ST EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	0	194	0	27	0	0	0	29	86	67	0	31	36	477	60	34	1041
15:15	0	195	0	11	0	0	0	12	97	107	0	22	43	468	53	31	1039
15:30	0	204	1	25	0	0	0	31	88	85	0	33	38	426	79	32	1042
15:45	0	226	1	29	0	0	0	13	98	87	0	20	35	480	69	22	1080
Total	0	819	2	92	0	0	0	85	369	346	0	106	152	1851	261	119	4202
16:00	0	203	0	32	0	1	0	35	85	81	0	51	44	504	81	43	1160
16:15	0	241	0	21	0	0	0	24	93	80	0	27	46	514	60	28	1134
16:30	0	238	0	50	0	0	0	58	99	70	0	70	51	605	60	59	1360
16:45	0	254	1	22	0	0	0	28	90	50	0	28	36	573	56	27	1165
Total	0	936	1	125	0	1	0	145	367	281	0	176	177	2196	257	157	4819
17:00	0	247	0	20	0	0	0	24	102	88	0	35	37	515	73	32	1173
17:15	0	233	0	12	0	0	0	15	105	66	0	29	32	515	60	27	1094
17:30	0	231	0	6	0	0	0	23	84	84	0	28	38	531	64	18	1107
17:45	0	214	0	10	0	0	0	17	90	77	1	15	30	477	67	15	1013
Total	0	925	0	48	0	0	0	79	381	315	1	107	137	2038	264	92	4387
18:00	0	214	0	11	0	0	0	5	77	79	0	23	26	377	64	10	886
18:15	0	202	0	13	0	0	0	11	81	121	0	11	20	354	61	15	889
18:30	0	209	0	8	0	0	0	15	66	100	0	15	21	303	48	9	794
18:45	0	194	0	5	0	0	0	15	57	120	0	13	19	294	59	11	787
Total	0	819	0	37	0	0	0	46	281	420	0	62	86	1328	232	45	3356
Grand Total	0	6961	8	748	0	23	0	715	2290	2008	2	814	889	11729	1597	844	28628
Apprch %	0	90.2	0.1	9.7	0	3.1	0	96.9	44.8	39.3	0	15.9	5.9	77.9	10.6	5.6	
Total %	0	24.3	0	2.6	0	0.1	0	2.5	8	7	0	2.8	3.1	41	5.6	2.9	
Motorcycles	0	77	0	0	0	0	0	0	21	25	0	0	12	143	4	0	282
% Motorcycles	0	1.1	0	0	0	0	0	0	0.9	1.2	0	0	1.3	1.2	0.3	0	1
Cars	0	6138	6	0	0	1	0	0	1973	1760	2	0	779	10612	1461	0	22732
% Cars	0	88.2	75	0	0	4.3	0	0	86.2	87.6	100	0	87.6	90.5	91.5	0	79.4
Light Goods Vehicles	0	678	1	0	0	0	0	0	249	201	0	0	74	707	127	0	2037
% Light Goods Vehicles	0	9.7	12.5	0	0	0	0	0	10.9	10	0	0	8.3	6	8	0	7.1
Buses	0	26	0	0	0	0	0	0	21	2	0	0	2	163	0	0	214
% Buses	0	0.4	0	0	0	0	0	0	0.9	0.1	0	0	0.2	1.4	0	0	0.7
Single-Unit Trucks	0	33	1	0	0	0	0	0	19	18	0	0	22	79	3	0	175
% Single-Unit Trucks	0	0.5	12.5	0	0	0	0	0	0.8	0.9	0	0	2.5	0.7	0.2	0	0.6
Articulated Trucks	0	1	0	0	0	0	0	0	1	1	0	0	0	14	0	0	17
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1
Bicycles on Road	0	8	0	0	0	22	0	0	6	1	0	0	0	11	2	0	50
% Bicycles on Road	0	0.1	0	0	0	95.7	0	0	0.3	0	0	0	0	0.1	0.1	0	0.2
Bicycles on Crosswalk	0	0	0	68	0	0	0	51	0	0	0	24	0	0	0	9	152
% Bicycles on Crosswalk	0	0	0	9.1	0	0	0	7.1	0	0	0	2.9	0	0	0	1.1	0.5
Pedestrians	0	0	0	680	0	0	0	664	0	0	0	790	0	0	0	835	2969
% Pedestrians	0	0	0	90.9	0	0	0	92.9	0	0	0	97.1	0	0	0	98.9	10.4

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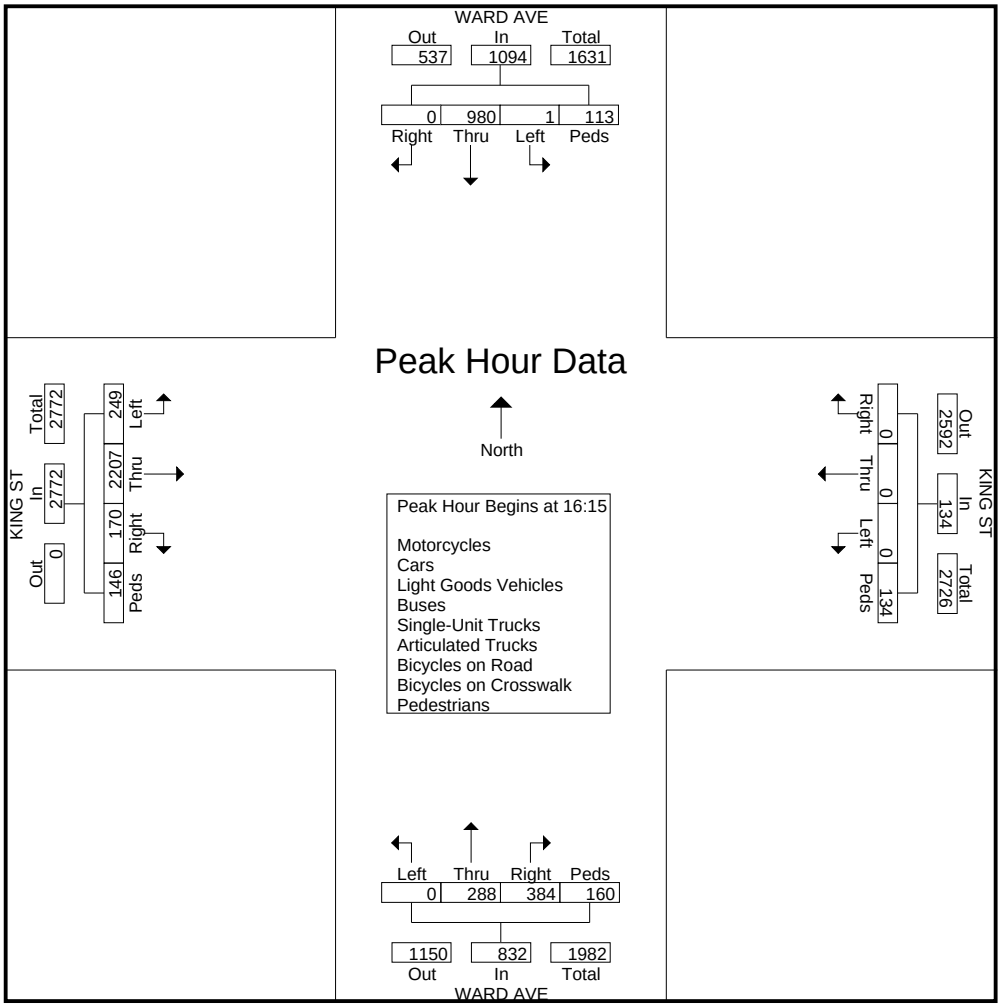
File Name : Ward Ave - King St
Site Code :
Start Date : 4/4/2017
Page No : 3

	WARD AVE SOUTHBOUND					KING ST WESTBOUND					WARD AVE NORTHBOUND					KING ST EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	241	0	21	262	0	0	0	24	24	93	80	0	27	200	46	514	60	28	648	1134
16:30	0	238	0	**50**	**288**	0	0	0	**58**	**58**	99	70	0	**70**	**239**	**51**	**605**	60	**59**	**775**	**1360**
16:45	0	**254**	**1**	22	277	0	0	0	28	28	90	50	0	28	168	36	573	56	27	692	1165
17:00	0	247	0	20	267	0	0	0	24	24	**102**	**88**	0	35	225	37	515	**73**	32	657	1173
Total Volume	0	980	1	113	1094	0	0	0	134	134	384	288	0	160	832	170	2207	249	146	2772	4832
% App. Total	0	89.6	0.1	10.3		0	0	0	100		46.2	34.6	0	19.2		6.1	79.6	9	5.3		
PHF	.000	.965	.250	.565	.950	.000	.000	.000	.578	.578	.941	.818	.000	.571	.870	.833	.912	.853	.619	.894	.888



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File Name : Piikoi St - King St
Site Code :
Start Date : 4/4/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND		KING ST WESTBOUND		PIIKOI ST NORTHBOUND			KING ST EASBOUND			
Start Time	Left	Peds	Right	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
05:30	0	5	0	4	6	113	0	94	17	3	242
05:45	0	6	0	4	10	104	6	95	24	2	251
Total	0	11	0	8	16	217	6	189	41	5	493
06:00	0	4	0	3	12	156	3	113	18	2	311
06:15	0	10	0	9	10	176	2	171	20	10	408
06:30	0	11	0	8	20	199	4	184	36	1	463
06:45	0	9	0	17	42	258	6	307	44	0	683
Total	0	34	0	37	84	789	15	775	118	13	1865
07:00	0	10	0	12	47	261	5	378	40	1	754
07:15	0	13	0	11	57	332	4	454	53	6	930
07:30	0	12	0	26	68	304	0	368	60	3	841
07:45	0	5	0	16	52	263	5	338	58	6	743
Total	0	40	0	65	224	1160	14	1538	211	16	3268
08:00	0	18	0	13	42	246	2	309	61	2	693
08:15	0	21	0	19	33	251	2	276	54	4	660
08:30	0	13	0	6	31	240	0	329	55	4	678
08:45	0	8	0	9	42	254	0	325	51	4	693
Total	0	60	0	47	148	991	4	1239	221	14	2724
09:00	0	11	0	8	33	255	0	279	59	4	649
09:15	0	10	0	15	42	259	0	262	58	9	655
09:30	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	21	0	23	75	514	0	541	117	13	1304
10:00	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

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File Name : Piikoi St - King St
Site Code :
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND		KING ST WESTBOUND		PIIKOI ST NORTHBOUND			KING ST EASBOUND			
Start Time	Left	Peds	Right	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
15:00	0	12	0	8	69	366	0	422	96	9	982
15:15	0	12	0	12	65	368	0	465	102	8	1032
15:30	0	17	0	10	59	354	0	484	106	10	1040
15:45	0	3	0	11	44	353	0	492	99	5	1007
Total	0	44	0	41	237	1441	0	1863	403	32	4061
16:00	0	13	0	2	54	350	9	481	106	6	1021
16:15	0	3	0	6	51	371	5	489	88	2	1015
16:30	0	15	0	10	44	364	4	478	111	5	1031
16:45	0	12	0	13	57	319	5	474	101	9	990
Total	0	43	0	31	206	1404	23	1922	406	22	4057
17:00	0	15	0	9	58	295	0	510	113	7	1007
17:15	0	19	0	13	84	343	1	517	129	3	1109
17:30	0	1	0	8	60	322	0	507	113	1	1012
17:45	0	5	0	11	54	341	0	451	105	0	967
Total	0	40	0	41	256	1301	1	1985	460	11	4095
18:00	0	15	0	8	44	339	3	396	88	2	895
18:15	0	11	0	4	48	392	4	354	86	2	901
18:30	0	11	0	4	51	345	5	355	74	2	847
18:45	0	6	0	5	42	334	2	327	58	7	781
Total	0	43	0	21	185	1410	14	1432	306	13	3424
Grand Total	0	336	0	314	1431	9227	77	11484	2283	139	25291
Apprch %	0	100	0	100	13.3	86	0.7	82.6	16.4	1	
Total %	0	1.3	0	1.2	5.7	36.5	0.3	45.4	9	0.5	
Motorcycles	0	0	0	0	1	74	0	80	34	0	189
% Motorcycles	0	0	0	0	0.1	0.8	0	0.7	1.5	0	0.7
Cars	0	0	0	0	1353	8289	0	10745	2018	0	22405
% Cars	0	0	0	0	94.5	89.8	0	93.6	88.4	0	88.6
Light Goods Vehicles	0	0	0	0	50	711	0	354	198	0	1313
% Light Goods Vehicles	0	0	0	0	3.5	7.7	0	3.1	8.7	0	5.2
Buses	0	0	0	0	3	66	0	167	8	0	244
% Buses	0	0	0	0	0.2	0.7	0	1.5	0.4	0	1
Single-Unit Trucks	0	0	0	0	24	64	0	87	11	0	186
% Single-Unit Trucks	0	0	0	0	1.7	0.7	0	0.8	0.5	0	0.7
Articulated Trucks	0	0	0	0	0	17	0	23	4	0	44
% Articulated Trucks	0	0	0	0	0	0.2	0	0.2	0.2	0	0.2
Bicycles on Road	0	0	0	0	0	6	0	28	10	0	44
% Bicycles on Road	0	0	0	0	0	0.1	0	0.2	0.4	0	0.2
Bicycles on Crosswalk	0	7	0	10	0	0	3	0	0	6	26
% Bicycles on Crosswalk	0	2.1	0	3.2	0	0	3.9	0	0	4.3	0.1
Pedestrians	0	329	0	304	0	0	74	0	0	133	840
% Pedestrians	0	97.9	0	96.8	0	0	96.1	0	0	95.7	3.3

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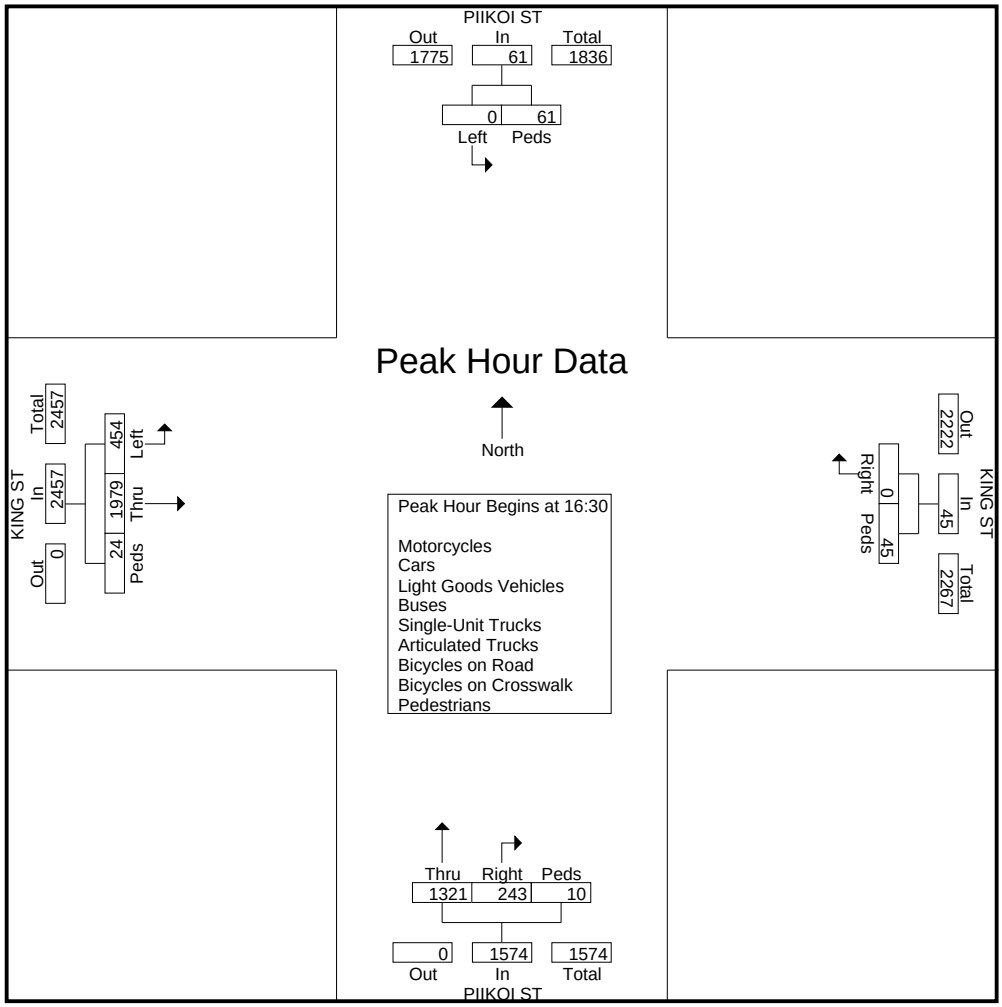
File Name : Piikoi St - King St
Site Code :
Start Date : 4/4/2017
Page No : 3

	PIIKOI ST SOUTHBOUND			KING ST WESTBOUND			PIIKOI ST NORTHBOUND				KING ST EASBOUND				
Start Time	Left	Peds	App. Total	Right	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 16:30															
16:30	0	15	15	0	10	10	44	**364**	4	412	478	111	5	594	1031
16:45	0	12	12	0	**13**	**13**	57	319	**5**	381	474	101	**9**	584	990
17:00	0	15	15	0	9	9	58	295	0	353	510	113	7	630	1007
17:15	0	**19**	**19**	0	13	13	**84**	343	1	**428**	**517**	**129**	3	**649**	**1109**
Total Volume	0	61	61	0	45	45	243	1321	10	1574	1979	454	24	2457	4137
% App. Total	0	100		0	100		15.4	83.9	0.6		80.5	18.5	1		
PHF	.000	.803	.803	.000	.865	.865	.723	.907	.500	.919	.957	.880	.667	.946	.933



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File Name : Piikoi St - Kapiolani Blvd
Site Code : 17-006.02 Piikoi On Ramp Closure
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND				KAPIOLANI BLVD WESTBOUND				PIIKOI ST NORTHBOUND				KAPIOLANI BLVD EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	0	0	0	7	11	55	3	7	5	79	4	3	5	38	2	4	223
05:45	1	0	0	5	10	87	2	4	3	59	5	2	3	55	0	6	242
Total	1	0	0	12	21	142	5	11	8	138	9	5	8	93	2	10	465
06:00	0	1	0	11	26	119	5	10	4	122	4	3	2	68	0	7	382
06:15	0	0	0	10	27	171	3	7	9	104	7	6	11	81	0	10	446
06:30	0	0	0	11	23	265	9	4	8	151	4	8	7	89	0	15	594
06:45	0	0	0	15	47	290	5	14	9	182	4	8	9	134	0	10	727
Total	0	1	0	47	123	845	22	35	30	559	19	25	29	372	0	42	2149
07:00	0	0	0	19	43	339	8	14	22	224	9	15	11	126	0	17	847
07:15	0	0	0	16	65	393	10	10	17	254	17	8	12	167	0	7	976
07:30	0	0	0	13	62	408	6	10	20	224	17	17	10	177	1	15	980
07:45	0	0	0	14	76	416	9	21	18	167	19	17	15	199	1	11	983
Total	0	0	0	62	246	1556	33	55	77	869	62	57	48	669	2	50	3786
08:00	0	0	0	15	78	385	8	18	12	231	23	20	24	234	0	12	1060
08:15	0	0	0	15	59	304	10	21	20	171	5	20	22	198	0	16	861
08:30	0	0	0	18	42	222	9	18	23	206	15	19	11	199	0	14	796
08:45	0	0	0	21	50	232	10	22	29	207	14	25	10	211	0	24	855
Total	0	0	0	69	229	1143	37	79	84	815	57	84	67	842	0	66	3572
09:00	0	0	1	13	42	207	13	19	16	194	15	11	10	195	1	13	750
09:15	0	0	0	16	31	161	15	10	15	201	17	13	7	220	1	9	716
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	29	73	368	28	29	31	395	32	24	17	415	2	22	1466
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

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File Name : Piikoi St - Kapiolani Blvd
Site Code : 17-006.02 Piikoi On Ramp Closure
Start Date : 4/4/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PIIKOI ST SOUTHBOUND				KAPIOLANI BLVD WESTBOUND				PIIKOI ST NORTHBOUND				KAPIOLANI BLVD EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	0	0	0	37	64	199	8	18	37	232	28	37	21	317	1	33	1032
15:15	0	0	0	20	64	153	9	31	48	299	23	17	23	343	3	34	1067
15:30	0	0	0	16	86	174	0	12	44	288	20	8	28	370	2	22	1070
15:45	0	0	0	23	75	144	1	10	44	262	25	23	18	429	0	34	1088
Total	0	0	0	96	289	670	18	71	173	1081	96	85	90	1459	6	123	4257
16:00	0	0	0	27	78	199	0	15	53	273	27	17	40	454	0	25	1208
16:15	0	0	0	16	78	167	1	22	48	280	20	27	32	399	0	23	1113
16:30	0	0	0	16	62	162	0	24	45	276	35	22	30	504	3	23	1202
16:45	0	0	0	22	74	171	1	32	36	280	27	19	31	501	0	22	1216
Total	0	0	0	81	292	699	2	93	182	1109	109	85	133	1858	3	93	4739
17:00	0	0	0	28	81	191	0	33	46	296	36	27	37	525	0	32	1332
17:15	0	0	0	18	55	177	0	21	44	276	15	0	29	458	2	17	1112
17:30	2	0	0	14	63	189	6	55	30	297	25	0	16	420	1	31	1149
17:45	0	0	0	18	64	169	18	25	50	278	20	0	26	340	0	38	1046
Total	2	0	0	78	263	726	24	134	170	1147	96	27	108	1743	3	118	4639
18:00	0	0	0	24	59	163	16	23	44	275	15	0	20	325	0	18	982
18:15	0	0	0	28	47	164	12	35	52	295	19	33	11	262	0	28	986
18:30	0	0	0	41	49	156	15	12	43	288	34	23	11	250	4	26	952
18:45	0	1	0	8	37	148	14	18	45	252	25	14	18	252	2	23	857
Total	0	1	0	101	192	631	57	88	184	1110	93	70	60	1089	6	95	3777
Grand Total	3	2	1	575	1728	6780	226	595	939	7223	573	462	560	8540	24	619	28850
Apprch %	0.5	0.3	0.2	99	18.5	72.7	2.4	6.4	10.2	78.5	6.2	5	5.7	87.7	0.2	6.4	
Total %	0	0	0	2	6	23.5	0.8	2.1	3.3	25	2	1.6	1.9	29.6	0.1	2.1	
Motorcycles	0	0	0	0	15	129	5	0	3	45	1	0	4	192	1	0	395
% Motorcycles	0	0	0	0	0.9	1.9	2.2	0	0.3	0.6	0.2	0	0.7	2.2	4.2	0	1.4
Cars	2	0	1	0	1517	5907	189	0	836	6399	509	0	494	7422	23	0	23299
% Cars	66.7	0	100	0	87.8	87.1	83.6	0	89	88.6	88.8	0	88.2	86.9	95.8	0	80.8
Light Goods Vehicles	0	0	0	0	145	502	28	0	79	670	40	0	49	688	0	0	2201
% Light Goods Vehicles	0	0	0	0	8.4	7.4	12.4	0	8.4	9.3	7	0	8.8	8.1	0	0	7.6
Buses	0	0	0	0	28	193	0	0	11	24	20	0	4	192	0	0	472
% Buses	0	0	0	0	1.6	2.8	0	0	1.2	0.3	3.5	0	0.7	2.2	0	0	1.6
Single-Unit Trucks	0	0	0	0	14	32	3	0	8	74	3	0	3	39	0	0	176
% Single-Unit Trucks	0	0	0	0	0.8	0.5	1.3	0	0.9	1	0.5	0	0.5	0.5	0	0	0.6
Articulated Trucks	0	0	0	0	7	2	1	0	1	4	0	0	1	0	0	0	16
% Articulated Trucks	0	0	0	0	0.4	0	0.4	0	0.1	0.1	0	0	0.2	0	0	0	0.1
Bicycles on Road	1	2	0	0	1	15	0	0	1	7	0	0	5	7	0	0	39
% Bicycles on Road	33.3	100	0	0	0.1	0.2	0	0	0.1	0.1	0	0	0.9	0.1	0	0	0.1
Bicycles on Crosswalk	0	0	0	40	0	0	0	5	0	0	0	10	0	0	0	25	80
% Bicycles on Crosswalk	0	0	0	7	0	0	0	0.8	0	0	0	2.2	0	0	0	4	0.3
Pedestrians	0	0	0	535	1	0	0	590	0	0	0	452	0	0	0	594	2172
% Pedestrians	0	0	0	93	0.1	0	0	99.2	0	0	0	97.8	0	0	0	96	7.5

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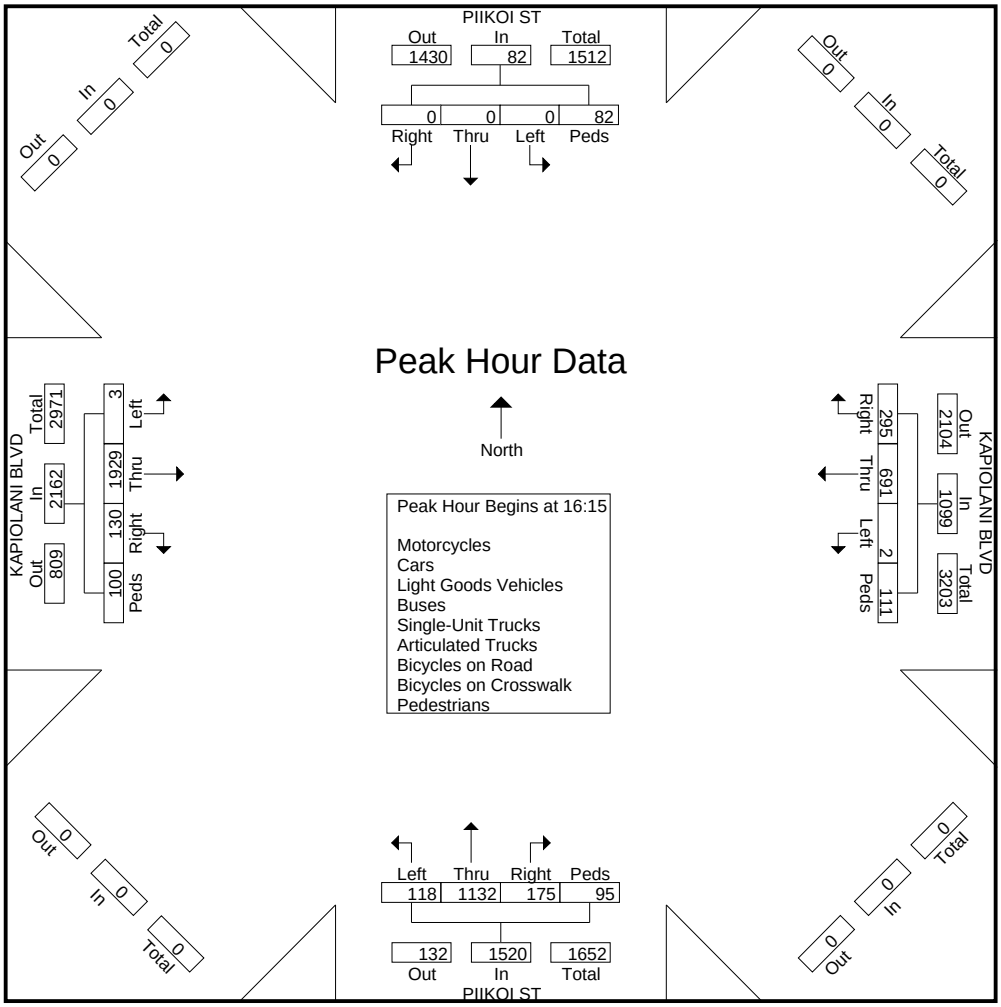
File Name : Piikoi St - Kapiolani Blvd
Site Code : 17-006.02 Piikoi On Ramp Closure
Start Date : 4/4/2017
Page No : 3

	PIIKOI ST SOUTHBOUND					KAPIOLANI BLVD WESTBOUND					PIIKOI ST NORTHBOUND					KAPIOLANI BLVD EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	16	16	78	167	**1**	22	268	**48**	280	20	**27**	375	32	399	0	23	454	1113
16:30	0	0	0	16	16	62	162	0	24	248	45	276	35	22	378	30	504	**3**	23	560	1202
16:45	0	0	0	22	22	74	171	1	32	278	36	280	27	19	362	31	501	0	22	554	1216
17:00	0	0	0	**28**	**28**	**81**	**191**	0	**33**	**305**	46	**296**	**36**	27	**405**	**37**	**525**	0	**32**	**594**	**1332**
Total Volume	0	0	0	82	82	295	691	2	111	1099	175	1132	118	95	1520	130	1929	3	100	2162	4863
% App. Total	0	0	0	100		26.8	62.9	0.2	10.1		11.5	74.5	7.8	6.2		6	89.2	0.1	4.6		
PHF	.000	.000	.000	.732	.732	.910	.904	.500	.841	.901	.911	.956	.819	.880	.938	.878	.919	.250	.781	.910	.913



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File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-046 Irwin Park
Start Date : 4/4/2017
Page No : 1

Groups Printed- Light Vehicles - Light Trucks - Buses - Heavy Trucks - Bicycles - Pedestrians

	KAPIOLANI BLVD Southbound				Westbound				KAPIOLANI BLVD Northbound				H-1 EB ON-RAMP Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	6	104	0	0	0	0	0	0	0	80	77	0	2	0	0	1	270
05:45	8	97	0	0	0	0	0	0	0	87	62	0	2	0	0	3	259
Total	14	201	0	0	0	0	0	0	0	167	139	0	4	0	0	4	529
06:00	5	72	0	0	0	0	0	0	0	56	42	0	2	0	0	1	178
06:15	6	102	0	0	0	0	0	0	0	43	36	0	2	0	0	1	190
06:30	7	103	0	0	0	0	0	0	0	49	37	0	3	0	0	3	202
06:45	12	173	0	0	0	0	0	0	0	60	62	0	3	0	0	3	313
Total	30	450	0	0	0	0	0	0	0	208	177	0	10	0	0	8	883
07:00	12	170	0	0	0	0	0	0	0	71	92	0	6	0	0	2	353
07:15	26	184	0	0	0	0	0	0	0	87	138	0	11	0	0	1	447
07:30	33	239	0	0	0	0	0	0	0	86	139	0	11	0	0	1	509
07:45	64	178	0	0	0	0	0	0	0	68	101	0	8	0	0	3	422
Total	135	771	0	0	0	0	0	0	0	312	470	0	36	0	0	7	1731
08:00	21	199	0	0	0	0	0	0	0	79	77	0	9	0	0	1	386
08:15	16	133	0	2	0	0	0	0	0	52	70	0	4	0	0	5	282
08:30	11	124	0	0	0	0	0	0	0	73	73	0	4	0	0	5	290
08:45	10	114	0	0	0	0	0	0	0	101	85	0	1	0	0	5	316
Total	58	570	0	2	0	0	0	0	0	305	305	0	18	0	0	16	1274
09:00	4	119	0	0	0	0	0	0	0	72	77	0	4	0	0	2	278
09:15	8	97	0	0	0	0	0	0	0	89	84	0	2	0	0	0	280
Grand Total	249	2208	0	2	0	0	0	0	0	1153	1252	0	74	0	0	37	4975
Apprch %	10.1	89.8	0	0.1	0	0	0	0	0	47.9	52.1	0	66.7	0	0	33.3	
Total %	5	44.4	0	0	0	0	0	0	0	23.2	25.2	0	1.5	0	0	0.7	
Light Vehicles	238	2167	0	0	0	0	0	0	0	1108	1235	0	71	0	0	0	4819
% Light Vehicles	95.6	98.1	0	0	0	0	0	0	0	96.1	98.6	0	95.9	0	0	0	96.9
Light Trucks	6	27	0	0	0	0	0	0	0	26	15	0	2	0	0	0	76
% Light Trucks	2.4	1.2	0	0	0	0	0	0	0	2.3	1.2	0	2.7	0	0	0	1.5
Buses	0	11	0	0	0	0	0	0	0	16	1	0	0	0	0	0	28
% Buses	0	0.5	0	0	0	0	0	0	0	1.4	0.1	0	0	0	0	0	0.6
Heavy Trucks	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0.1
Bicycles	5	2	0	0	0	0	0	0	0	2	0	0	1	0	0	0	10
% Bicycles	2	0.1	0	0	0	0	0	0	0	0.2	0	0	1.4	0	0	0	0.2
Pedestrians	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	37	39
% Pedestrians	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0.8

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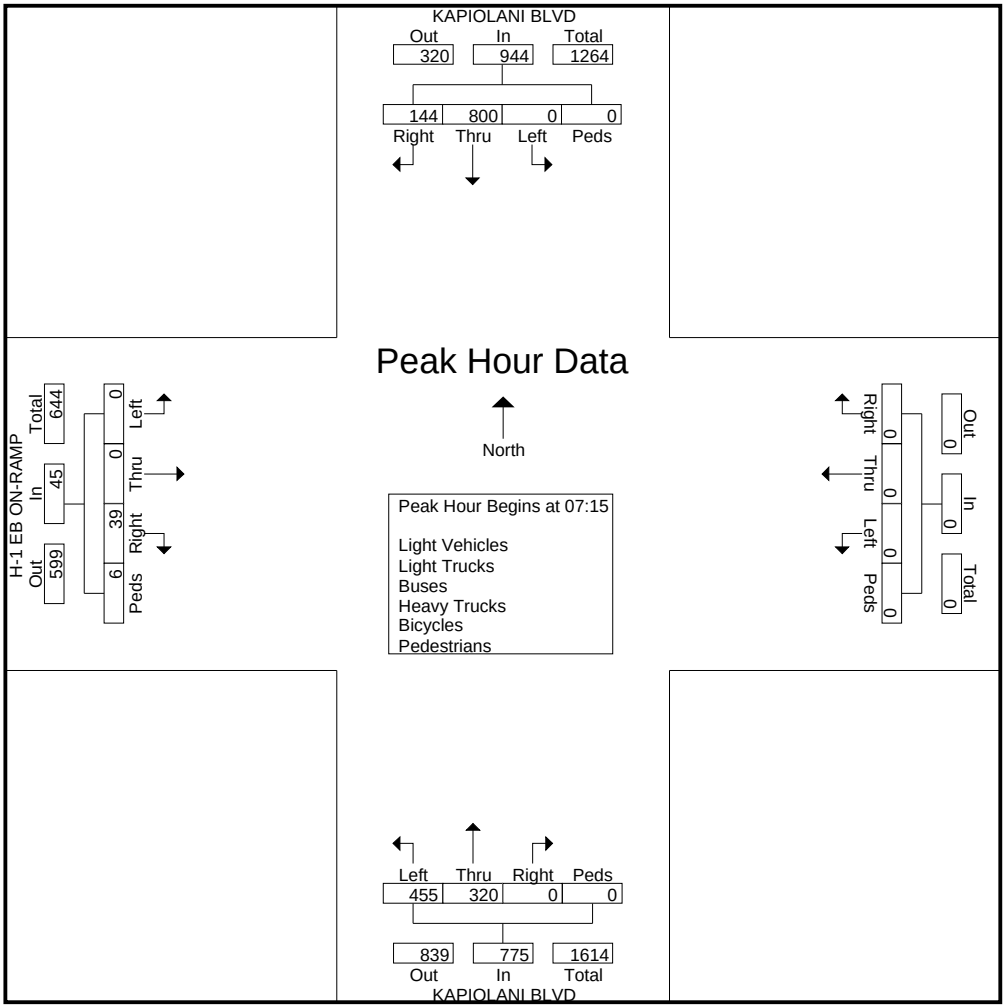
File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-046 Irwin Park
Start Date : 4/4/2017
Page No : 2

	KAPIOLANI BLVD Southbound					Westbound					KAPIOLANI BLVD Northbound					H-1 EB ON-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 09:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	26	184	0	0	210	0	0	0	0	0	0	**87**	138	0	**225**	**11**	0	0	1	**12**	447
07:30	33	**239**	0	0	**272**	0	0	0	0	0	0	86	**139**	0	225	11	0	0	1	12	**509**
07:45	**64**	178	0	0	242	0	0	0	0	0	0	68	101	0	169	8	0	0	**3**	11	422
08:00	21	199	0	0	220	0	0	0	0	0	0	79	77	0	156	9	0	0	1	10	386
Total Volume	144	800	0	0	944	0	0	0	0	0	0	320	455	0	775	39	0	0	6	45	1764
% App. Total	15.3	84.7	0	0		0	0	0	0		0	41.3	58.7	0		86.7	0	0	13.3		
PHF	.563	.837	.000	.000	.868	.000	.000	.000	.000	.000	.000	.920	.818	.000	.861	.886	.000	.000	.500	.938	.866



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File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-046 Irwin Park
Start Date : 4/4/2017
Page No : 1

Groups Printed- Light Vehicles - Light Trucks - Buses - Heavy Trucks - Bicycles - Pedestrians

	KAPIOLANI BLVD Southbound				Westbound				KAPIOLANI BLVD Northbound				H-1 EB ON-RAMP Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
15:15	10	154	0	1	0	0	0	0	0	85	173	0	3	0	0	2	428
15:30	12	155	0	1	0	0	0	0	0	117	202	0	6	0	0	0	493
15:45	18	180	0	0	0	0	0	0	0	110	186	0	7	0	0	1	502
Total	40	489	0	2	0	0	0	0	0	312	561	0	16	0	0	10	1430
16:00	22	117	0	1	0	0	0	0	0	102	230	0	4	0	0	1	477
16:15	21	129	0	2	0	0	0	0	0	142	221	0	6	0	0	2	523
16:30	16	140	0	0	0	0	0	0	0	132	191	0	7	0	0	5	491
16:45	18	124	0	0	0	0	0	0	0	101	239	0	9	0	0	1	492
Total	77	510	0	3	0	0	0	0	0	477	881	0	26	0	0	9	1983
17:00	23	129	0	4	0	0	0	0	0	149	231	0	6	0	0	1	543
17:15	23	131	0	0	0	0	0	0	0	136	184	0	8	0	0	3	485
17:30	21	113	0	0	0	0	0	0	0	124	218	0	8	0	0	3	487
17:45	16	116	0	0	0	0	0	0	0	115	238	0	10	0	0	3	498
Total	83	489	0	4	0	0	0	0	0	524	871	0	32	0	0	10	2013
18:00	16	110	0	0	0	0	0	0	0	131	231	0	4	0	0	3	495
18:15	19	96	0	1	0	0	0	0	0	128	223	0	4	0	0	1	472
18:30	19	119	0	0	0	0	0	0	0	127	203	0	5	0	0	1	474
18:45	13	114	0	2	0	0	0	0	0	95	165	0	7	0	0	0	396
Total	67	439	0	3	0	0	0	0	0	481	822	0	20	0	0	5	1837
Grand Total	267	1927	0	12	0	0	0	0	0	1794	3135	0	94	0	0	34	7263
Apprch %	12.1	87.4	0	0.5	0	0	0	0	0	36.4	63.6	0	73.4	0	0	26.6	
Total %	3.7	26.5	0	0.2	0	0	0	0	0	24.7	43.2	0	1.3	0	0	0.5	
Light Vehicles	260	1906	0	0	0	0	0	0	0	1765	3127	0	93	0	0	0	7151
% Light Vehicles	97.4	98.9	0	0	0	0	0	0	0	98.4	99.7	0	98.9	0	0	0	98.5
Light Trucks	4	4	0	0	0	0	0	0	0	7	8	0	1	0	0	0	24
% Light Trucks	1.5	0.2	0	0	0	0	0	0	0	0.4	0.3	0	1.1	0	0	0	0.3
Buses	2	14	0	0	0	0	0	0	0	16	0	0	0	0	0	0	32
% Buses	0.7	0.7	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0
Bicycles	1	3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	9
% Bicycles	0.4	0.2	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0.1
Pedestrians	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	34	46
% Pedestrians	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0.6

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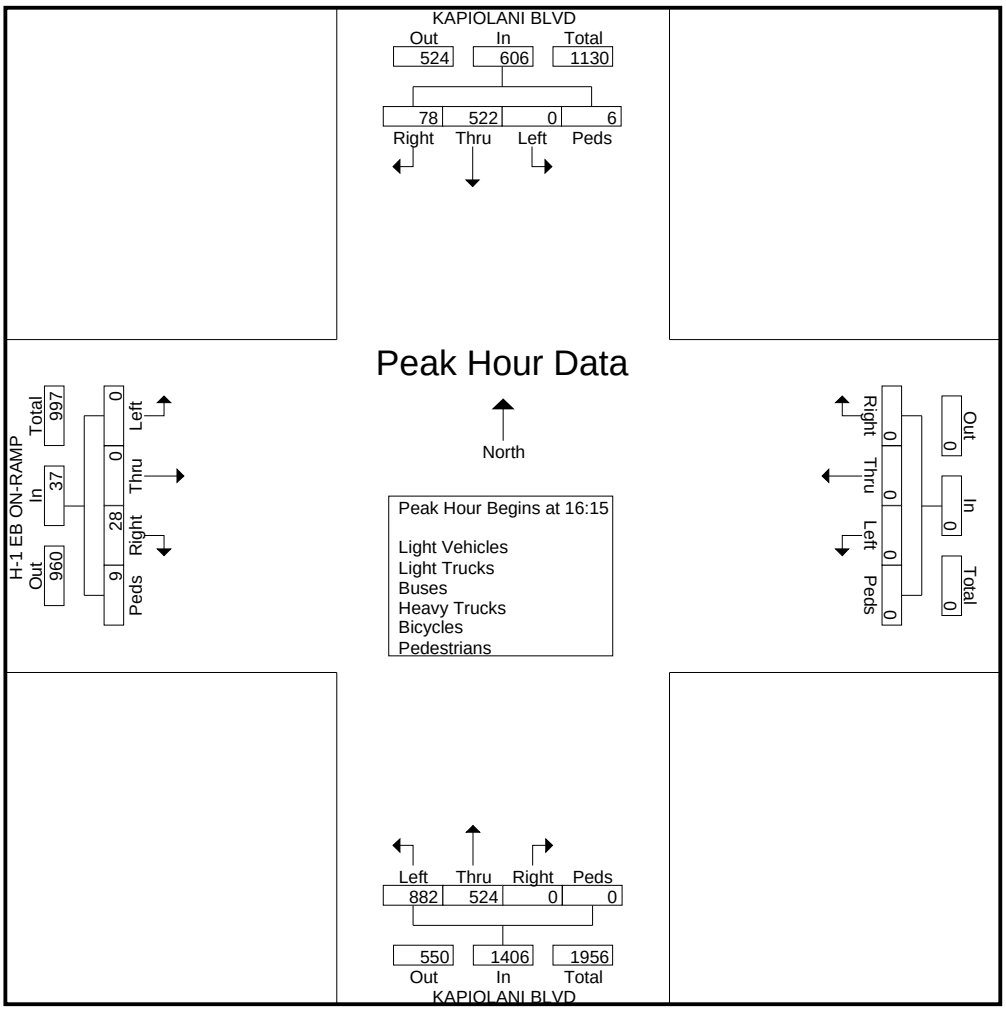
File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-046 Irwin Park
Start Date : 4/4/2017
Page No : 2

	KAPIOLANI BLVD Southbound					Westbound					KAPIOLANI BLVD Northbound					H-1 EB ON-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 15:00 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	21	129	0	2	152	0	0	0	0	0	0	142	221	0	363	6	0	0	2	8	523
16:30	16	**140**	0	0	**156**	0	0	0	0	0	0	132	191	0	323	7	0	0	**5**	**12**	491
16:45	18	124	0	0	142	0	0	0	0	0	0	101	**239**	0	340	**9**	0	0	1	10	492
17:00	**23**	129	0	**4**	156	0	0	0	0	0	0	**149**	231	0	**380**	6	0	0	1	7	**543**
Total Volume	78	522	0	6	606	0	0	0	0	0	0	524	882	0	1406	28	0	0	9	37	2049
% App. Total	12.9	86.1	0	1		0	0	0	0		0	37.3	62.7	0		75.7	0	0	24.3		
PHF	.848	.932	.000	.375	.971	.000	.000	.000	.000	.000	.000	.879	.923	.000	.925	.778	.000	.000	.450	.771	.943



APPENDIX A

TRAFFIC COUNT DATA

- During Closure Data

Study Name H-1_Kinau St EB Off-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	Kinau Off-Ramp	Kinau Off-Ramp	Far Right Lane	Middle Right Lane	Middle Left Lane	Far Left Lane	TOTAL H-1 EB THRU
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound
5:30 AM	345	139	135	244	265	269	913
5:45 AM	302	169	144	293	340	358	1135
6:00 AM	329	171	161	330	366	396	1253
6:15 AM	332	174	161	347	395	426	1329
6:30 AM	293	161	240	381	402	445	1468
6:45 AM	304	159	296	356	338	356	1346
7:00 AM	285	186	299	278	234	242	1053
7:15 AM	275	191	285	278	255	264	1082
7:30 AM	268	218	280	313	335	327	1255
7:45 AM	265	226	230	349	388	392	1359
8:00 AM	241	229	184	341	364	363	1252
8:15 AM	240	232	209	314	399	399	1321
8:30 AM	223	200	179	344	373	383	1279
8:45 AM	220	195	182	306	348	399	1235
9:00 AM	240	185	179	332	337	360	1208
9:15 AM	211	234	189	285	352	353	1179
3:00 PM	227	181	286	300	292	299	1177
3:15 PM	190	152	287	323	319	308	1237
3:30 PM	182	156	260	247	261	288	1056
3:45 PM	206	149	290	259	262	293	1104
4:00 PM	180	147	282	246	276	288	1092
4:15 PM	184	139	223	241	296	282	1042
4:30 PM	181	175	234	265	288	306	1093
4:45 PM	166	194	246	274	280	292	1092
5:00 PM	184	152	247	252	265	286	1050
5:15 PM	179	188	239	250	282	281	1052
5:30 PM	181	171	224	239	260	284	1007
5:45 PM	175	166	241	264	300	319	1124
6:00 PM	212	152	237	273	302	345	1157
6:15 PM	201	165	178	286	298	280	1042
6:30 PM	194	128	154	287	267	261	969
6:45 PM	149	143	164	253	260	256	933

Study Name H-1_Vineyard Blvd EB On-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	Vineyard On Right	Vineyard On Left	On-Ramp	H1 Far Right	H1 Center Right	H1 Center Left	H1 Left	TOTAL H-1 EB THRU	
Direction	Eastbound TH	Eastbound	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	16	17	33	146	221	217	203	787	
5:45 AM	21	31	52	168	261	265	284	978	
6:00 AM	25	49	74	165	293	344	362	1164	
6:15 AM	30	58	88	190	344	362	400	1296	
6:30 AM	38	68	106	193	357	372	436	1358	
6:45 AM	65	81	146	255	362	407	419	1443	
7:00 AM	115	95	210	314	295	304	326	1239	
7:15 AM	149	73	222	264	234	232	259	989	
7:30 AM	140	83	223	262	265	300	311	1138	
7:45 AM	117	76	193	294	286	331	345	1256	
8:00 AM	65	91	156	273	344	375	402	1394	4777
8:15 AM	56	79	135	212	316	341	355	1224	
8:30 AM	53	98	151	234	325	368	412	1339	
8:45 AM	51	99	150	220	325	347	351	1243	
9:00 AM	54	65	119	206	317	337	388	1248	
9:15 AM	72	92	164	227	326	317	349	1219	
9:30 AM	0	0	0	0	0	1	0	1	
3:00 PM	135	110	245	254	312	353	401	1320	
3:15 PM	134	92	226	267	287	321	355	1230	
3:30 PM	184	106	290	269	299	326	353	1247	
3:45 PM	195	124	319	214	254	324	359	1151	
4:00 PM	185	118	303	233	265	323	346	1167	
4:15 PM	232	115	347	228	258	308	334	1128	
4:30 PM	235	130	365	186	231	296	330	1043	
4:45 PM	250	147	397	206	268	329	357	1160	
5:00 PM	234	121	355	194	260	302	336	1092	4423
5:15 PM	246	144	390	180	260	296	325	1061	
5:30 PM	253	126	379	194	268	317	332	1111	
5:45 PM	225	120	345	152	240	290	321	1003	
6:00 PM	185	105	290	242	276	315	359	1192	
6:15 PM	165	95	260	231	267	320	372	1190	
6:30 PM	137	110	247	210	273	291	322	1096	

Study Name H-1_Ward Ave EB On-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6
Channel	Ward H-1 On-Ramp	Far-Right	Right	Middle Lane	Left Lane	Far-Left Lane
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound
5:30 AM	50	16	180	228	204	197
5:45 AM	42	18	187	253	256	258
6:00 AM	62	20	215	297	325	354
6:15 AM	72	33	245	341	342	385
6:30 AM	110	29	237	361	388	425
6:45 AM	126	61	314	357	396	448
7:00 AM	141	128	358	317	347	371
7:15 AM	198	144	320	248	262	283
7:30 AM	218	173	302	258	282	305
7:45 AM	179	126	332	279	338	348
8:00 AM	149	92	352	338	375	403
8:15 AM	150	63	304	337	353	381
8:30 AM	132	51	306	333	366	380
8:45 AM	142	50	318	352	357	383
9:00 AM	140	56	275	326	344	389
9:15 AM	170	63	297	334	333	348
9:30 AM	0	0	0	2	0	1
3:00 PM	159	131	321	327	367	409
3:15 PM	167	145	316	295	336	379
3:30 PM	184	172	335	301	333	369
3:45 PM	210	216	300	250	336	366
4:00 PM	222	174	326	284	335	355
4:15 PM	232	229	307	257	327	349
4:30 PM	224	246	286	268	319	347
4:45 PM	227	246	298	271	329	362
5:00 PM	220	232	295	272	318	345
5:15 PM	224	253	279	260	319	338
5:30 PM	225	246	285	262	317	345
5:45 PM	215	238	260	254	312	345
6:00 PM	179	180	314	270	315	355
6:15 PM	171	184	300	273	329	371
6:30 PM	178	141	286	289	316	355
6:45 PM	152	101	299	292	266	253

Study Name H-1_Punahou St EB Off-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Punahou H-1 Off-Ramp	Far Left Lane	Middle Lane	Far Right Lane	TOTAL H-1 EB THRU	
Direction	Eastbound RT - Lane 1	Eastbound RT - Lane 2	Eastbound TH/LT Lane	Eastbound LT Lane	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	178	45	97	44	364	193	253	204	650	
5:45 AM	169	62	117	55	403	268	309	286	863	
6:00 AM	174	75	141	70	460	299	315	330	944	
6:15 AM	150	55	160	95	460	317	376	378	1071	
6:30 AM	154	69	153	112	488	350	389	443	1182	
6:45 AM	135	59	116	90	400	323	384	438	1145	
7:00 AM	130	58	92	72	352	249	365	428	1042	
7:15 AM	146	61	137	87	431	302	430	475	1207	
7:30 AM	150	103	131	81	465	319	407	436	1162	
7:45 AM	190	91	138	58	477	352	441	447	1240	
8:00 AM	202	96	124	83	505	319	393	430	1142	4751
8:15 AM	176	96	129	58	459	317	382	374	1073	
8:30 AM	217	86	137	77	517	315	388	407	1110	
8:45 AM	191	70	113	68	442	309	391	372	1072	
9:00 AM	224	97	129	68	518	304	367	354	1025	
9:15 AM	198	73	134	56	461	296	356	341	993	
3:00 PM	167	67	120	91	445	327	437	473	1237	
3:15 PM	130	70	107	69	376	346	452	485	1283	
3:30 PM	134	66	109	76	385	347	457	521	1325	
3:45 PM	118	55	114	63	350	374	450	509	1333	
4:00 PM	128	54	93	54	329	368	480	504	1352	
4:15 PM	123	43	96	59	321	318	323	399	1040	
4:30 PM	116	50	124	77	367	367	488	540	1395	
4:45 PM	122	48	116	67	353	364	451	521	1336	
5:00 PM	125	44	118	76	363	350	449	516	1315	
5:15 PM	125	47	103	66	341	369	459	509	1337	5383
5:30 PM	100	27	95	57	279	352	456	509	1317	
5:45 PM	137	50	130	67	384	336	423	493	1252	
6:00 PM	150	42	124	91	407	336	437	468	1241	
6:15 PM	143	67	150	87	447	298	402	459	1159	
6:30 PM	163	60	116	82	421	250	369	355	974	
6:45 PM	146	52	98	61	357	249	350	360	959	

Study Name H-1_Bingham St EB Off-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	Bingham St THRU	Bingham H-1 Off-Ramp	Far Right Lane	Middle Lane	Far Left Lane	Lane 6	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	8	55	206	231	80	0	517	
5:45 AM	9	78	176	234	139	0	549	
6:00 AM	10	144	212	284	204	0	700	
6:15 AM	7	131	248	307	232	0	787	
6:30 AM	14	150	279	336	288	0	903	
6:45 AM	14	191	287	394	306	0	987	
7:00 AM	14	157	281	386	303	0	970	
7:15 AM	24	101	253	376	299	0	928	
7:30 AM	35	103	274	438	376	0	1088	
7:45 AM	27	114	298	389	356	0	1043	
8:00 AM	29	117	342	410	337	0	1089	4148
8:15 AM	19	127	311	395	314	0	1020	
8:30 AM	20	122	274	370	278	0	922	
8:45 AM	24	119	285	385	316	0	986	
9:00 AM	24	121	317	350	265	0	932	
9:15 AM	21	109	295	351	289	0	935	
3:00 PM	38	116	258	412	422	0	1092	
3:15 PM	28	143	267	433	387	0	1087	
3:30 PM	38	129	312	443	396	0	1151	
3:45 PM	33	117	295	462	444	0	1201	
4:00 PM	29	126	287	455	443	0	1185	
4:15 PM	31	111	329	458	455	0	1242	
4:30 PM	31	111	306	464	453	0	1223	
4:45 PM	36	123	290	489	467	0	1246	
5:00 PM	52	152	263	464	436	0	1163	
5:15 PM	31	115	302	447	456	0	1205	4837
5:30 PM	34	98	306	476	446	0	1228	
5:45 PM	29	108	299	466	443	0	1208	
6:00 PM	30	132	280	408	440	0	1128	
6:15 PM	29	143	262	420	410	0	1092	
6:30 PM	20	134	235	398	392	0	1025	
6:45 PM	21	107	203	349	311	0	863	

Study Name H-1_King St EB Off-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	King H-1 Off-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	188	54	131	73	258	
5:45 AM	194	63	158	79	300	
6:00 AM	221	83	202	117	402	
6:15 AM	250	82	211	132	425	
6:30 AM	293	111	218	176	505	
6:45 AM	319	112	232	192	536	
7:00 AM	282	125	250	187	562	
7:15 AM	263	132	291	196	619	
7:30 AM	257	161	319	282	762	
7:45 AM	238	180	296	263	739	
8:00 AM	239	179	290	243	712	2832
8:15 AM	275	137	259	228	624	
8:30 AM	210	138	265	189	592	
8:45 AM	244	143	284	219	646	
9:00 AM	210	146	259	192	597	
9:15 AM	212	122	247	203	572	
3:00 PM	242	189	369	340	898	
3:15 PM	257	176	323	325	824	
3:30 PM	293	201	344	332	877	
3:45 PM	275	195	369	395	959	
4:00 PM	267	198	379	363	940	
4:15 PM	289	217	400	376	993	
4:30 PM	276	222	362	405	989	
4:45 PM	269	217	434	393	1044	
5:00 PM	245	214	377	374	965	
5:15 PM	240	228	368	393	989	3987
5:30 PM	219	220	417	417	1054	
5:45 PM	234	225	385	398	1008	
6:00 PM	241	218	349	363	930	
6:15 PM	254	176	360	344	880	
6:30 PM	225	176	337	312	825	
6:45 PM	190	169	308	243	720	

Study Name H-1_King St EB On-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	King St On-Ramp	Far Right Lane	Middle Lane	Far Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	29	70	117	70	257	
5:45 AM	24	68	158	77	303	
6:00 AM	38	94	203	107	404	
6:15 AM	58	94	205	125	424	
6:30 AM	75	121	217	162	500	
6:45 AM	106	113	238	172	523	
7:00 AM	160	135	245	170	550	
7:15 AM	202	142	284	168	594	
7:30 AM	265	170	326	270	766	
7:45 AM	232	187	304	251	742	
8:00 AM	164	185	292	230	707	2809
8:15 AM	151	144	267	211	622	
8:30 AM	106	147	263	179	589	
8:45 AM	123	156	281	209	646	
9:00 AM	129	157	258	180	595	
9:15 AM	128	118	255	199	572	
3:00 PM	254	206	356	332	894	
3:15 PM	266	194	324	304	822	
3:30 PM	286	215	337	312	864	
3:45 PM	268	199	376	372	947	
4:00 PM	294	198	385	340	923	
4:15 PM	284	227	390	364	981	
4:30 PM	281	219	369	380	968	
4:45 PM	305	218	425	379	1022	
5:00 PM	289	199	385	366	950	
5:15 PM	281	227	386	373	986	3926
5:30 PM	277	215	431	404	1050	
5:45 PM	264	235	388	385	1008	
6:00 PM	264	225	351	353	929	
6:15 PM	235	189	356	332	877	
6:30 PM	223	179	341	305	825	
6:45 PM	199	175	315	234	724	

Study Name H-1_Kapiolani Blvd EB On-Ramp
Start Date 04/26/2017
Start Time 5:30 AM
Site Code 17-006.02 Piikoi On-Ramp Closure Study

Channel	Kapiolani On-Ramp right	Kapiolani On-Ramp left	Ramp	H1 Right Lane	Middle Lane	H1 Left Lane	TOTAL H-1 EB THRU	
Direction	Eastbound	Eastbound	TOTAL	Eastbound	Eastbound	Eastbound	Eastbound	
5:30 AM	18	10	28	117	106	63	286	
5:45 AM	18	15	33	131	121	75	327	
6:00 AM	30	23	53	173	175	93	441	
6:15 AM	25	28	53	194	174	110	478	
6:30 AM	38	37	75	251	190	145	586	
6:45 AM	47	31	78	264	216	153	633	
7:00 AM	62	61	123	315	240	160	715	
7:15 AM	92	79	171	343	296	176	815	
7:30 AM	114	82	196	412	341	266	1019	
7:45 AM	88	84	172	398	330	239	967	
8:00 AM	65	47	112	370	299	215	884	3685
8:15 AM	71	38	109	319	255	193	767	
8:30 AM	65	48	113	275	246	169	690	
8:45 AM	75	51	126	302	273	207	782	
9:00 AM	60	48	108	309	250	165	724	
9:15 AM	75	61	136	261	246	188	695	
3:00 PM	114	106	220	436	379	326	1141	
3:15 PM	135	103	238	420	356	316	1092	
3:30 PM	127	140	267	460	368	327	1155	
3:45 PM	132	144	276	452	398	379	1229	
4:00 PM	153	146	299	452	410	372	1234	
4:15 PM	153	140	293	463	436	385	1284	
4:30 PM	140	150	290	479	402	384	1265	
4:45 PM	148	149	297	491	462	399	1352	
5:00 PM	142	149	291	470	408	374	1252	
5:15 PM	146	132	278	476	406	388	1270	5139
5:30 PM	142	123	265	481	448	411	1340	
5:45 PM	179	148	327	470	422	386	1278	
6:00 PM	147	121	268	463	377	358	1198	
6:15 PM	115	108	223	426	363	331	1120	
6:30 PM	93	86	179	395	342	306	1043	
6:45 PM	95	85	180	373	304	247	924	

Austin Tsutsumi & Associates

501 Sumner Street, Suite 521
Honolulu, HI 96817-5031
Phone: 533-3646 Fax: 526-1267

File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				H-1 ON-RAMP WESTBOUND				WARD AVE NORTHBOUND				KINALAU PL EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	2	67	31	0	0	0	0	6	21	24	1	0	3	2	0	5	162
05:45	1	98	30	0	0	0	0	7	16	23	4	0	3	0	1	6	189
Total	3	165	61	0	0	0	0	13	37	47	5	0	6	2	1	11	351
06:00	0	87	35	0	0	0	0	3	22	33	5	0	3	2	4	3	197
06:15	0	133	36	0	0	0	0	7	42	48	2	0	3	0	0	9	280
06:30	5	131	52	0	0	0	1	10	56	50	1	0	7	1	2	5	321
06:45	4	171	67	0	0	0	0	12	59	57	5	0	4	2	5	7	393
Total	9	522	190	0	0	0	1	32	179	188	13	0	17	5	11	24	1191
07:00	7	177	79	0	0	0	0	14	59	84	2	0	9	0	5	11	447
07:15	4	208	122	0	0	0	0	7	81	87	1	0	14	3	3	7	537
07:30	3	266	132	0	0	0	0	13	83	82	2	0	4	2	2	18	607
07:45	5	299	99	0	0	0	0	13	72	84	3	0	4	1	2	9	591
Total	19	950	432	0	0	0	0	47	295	337	8	0	31	6	12	45	2182
08:00	3	268	81	0	0	0	0	8	61	68	4	0	3	1	2	6	505
08:15	4	229	87	0	0	0	0	8	66	65	8	0	5	1	2	4	479
08:30	0	183	62	0	0	0	0	9	67	68	5	0	9	3	1	9	416
08:45	2	194	71	0	0	0	0	6	66	81	3	0	5	0	1	7	436
Total	9	874	301	0	0	0	0	31	260	282	20	0	22	5	6	26	1836
09:00	1	158	60	0	0	0	0	6	86	76	8	0	3	3	0	1	402
09:15	6	153	66	0	0	0	0	8	94	71	1	0	3	2	4	7	415
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	311	126	0	0	0	0	14	180	147	9	0	6	5	4	8	817
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

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File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				H-1 ON-RAMP WESTBOUND				WARD AVE NORTHBOUND				KINALAU PL EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	3	97	56	0	0	0	0	7	116	144	2	0	3	1	0	12	441
15:15	4	98	54	0	0	0	0	7	108	162	3	0	2	2	3	6	449
15:30	4	123	65	0	0	0	0	6	125	154	4	0	5	0	1	9	496
15:45	1	116	49	0	1	0	0	7	155	191	6	0	5	1	1	8	541
Total	12	434	224	0	1	0	0	27	504	651	15	0	15	4	5	35	1927
16:00	2	110	71	0	0	0	0	8	156	177	5	0	4	0	2	12	547
16:15	2	140	69	0	0	0	0	0	155	162	7	0	6	0	0	6	547
16:30	6	137	59	0	0	0	0	15	167	181	5	0	6	0	0	12	588
16:45	1	120	60	0	0	0	0	10	172	206	4	0	5	0	2	8	588
Total	11	507	259	0	0	0	0	33	650	726	21	0	21	0	4	38	2270
17:00	1	122	61	0	0	0	0	18	162	194	6	0	5	0	0	5	574
17:15	4	130	52	0	0	0	0	15	162	179	7	0	6	1	0	12	568
17:30	3	115	58	0	0	0	0	15	164	173	5	0	4	1	0	10	548
17:45	2	130	60	0	0	0	0	7	153	186	11	0	5	1	2	8	565
Total	10	497	231	0	0	0	0	55	641	732	29	0	20	3	2	35	2255
18:00	2	98	30	0	0	0	0	15	140	188	5	0	3	3	3	2	489
18:15	2	112	46	0	0	0	0	12	132	154	6	0	14	2	3	3	486
18:30	0	93	49	0	0	0	0	10	115	155	5	0	8	0	1	14	450
18:45	4	92	46	0	0	0	0	11	115	147	9	0	0	0	1	10	435
Total	8	395	171	0	0	0	0	48	502	644	25	0	25	5	8	29	1860
Grand Total	88	4655	1995	0	1	0	1	300	3248	3754	145	0	163	35	53	251	14689
Apprch %	1.3	69.1	29.6	0	0.3	0	0.3	99.3	45.4	52.5	2	0	32.5	7	10.6	50	
Total %	0.6	31.7	13.6	0	0	0	0	2	22.1	25.6	1	0	1.1	0.2	0.4	1.7	
Motorcycles	2	76	13	0	0	0	0	0	6	56	1	0	1	0	0	0	155
% Motorcycles	2.3	1.6	0.7	0	0	0	0	0	0.2	1.5	0.7	0	0.6	0	0	0	1.1
Cars	79	4131	1745	0	1	0	1	0	2906	3142	122	0	140	26	48	0	12341
% Cars	89.8	88.7	87.5	0	100	0	100	0	89.5	83.7	84.1	0	85.9	74.3	90.6	0	84
Light Goods Vehicles	5	390	223	0	0	0	0	0	316	475	19	0	19	8	5	0	1460
% Light Goods Vehicles	5.7	8.4	11.2	0	0	0	0	0	9.7	12.7	13.1	0	11.7	22.9	9.4	0	9.9
Buses	0	20	7	0	0	0	0	0	5	59	0	0	1	0	0	0	92
% Buses	0	0.4	0.4	0	0	0	0	0	0.2	1.6	0	0	0.6	0	0	0	0.6
Single-Unit Trucks	2	8	7	0	0	0	0	0	15	14	3	0	1	1	0	0	51
% Single-Unit Trucks	2.3	0.2	0.4	0	0	0	0	0	0.5	0.4	2.1	0	0.6	2.9	0	0	0.3
Articulated Trucks	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
% Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	29	0	0	0	0	0	0	0	7	0	0	1	0	0	0	37
% Bicycles on Road	0	0.6	0	0	0	0	0	0	0	0.2	0	0	0.6	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	4	17
% Bicycles on Crosswalk	0	0	0	0	0	0	0	4.3	0	0	0	0	0	0	0	1.6	0.1
Pedestrians	0	0	0	0	0	0	0	287	0	0	0	0	0	0	0	247	534
% Pedestrians	0	0	0	0	0	0	0	95.7	0	0	0	0	0	0	0	98.4	3.6

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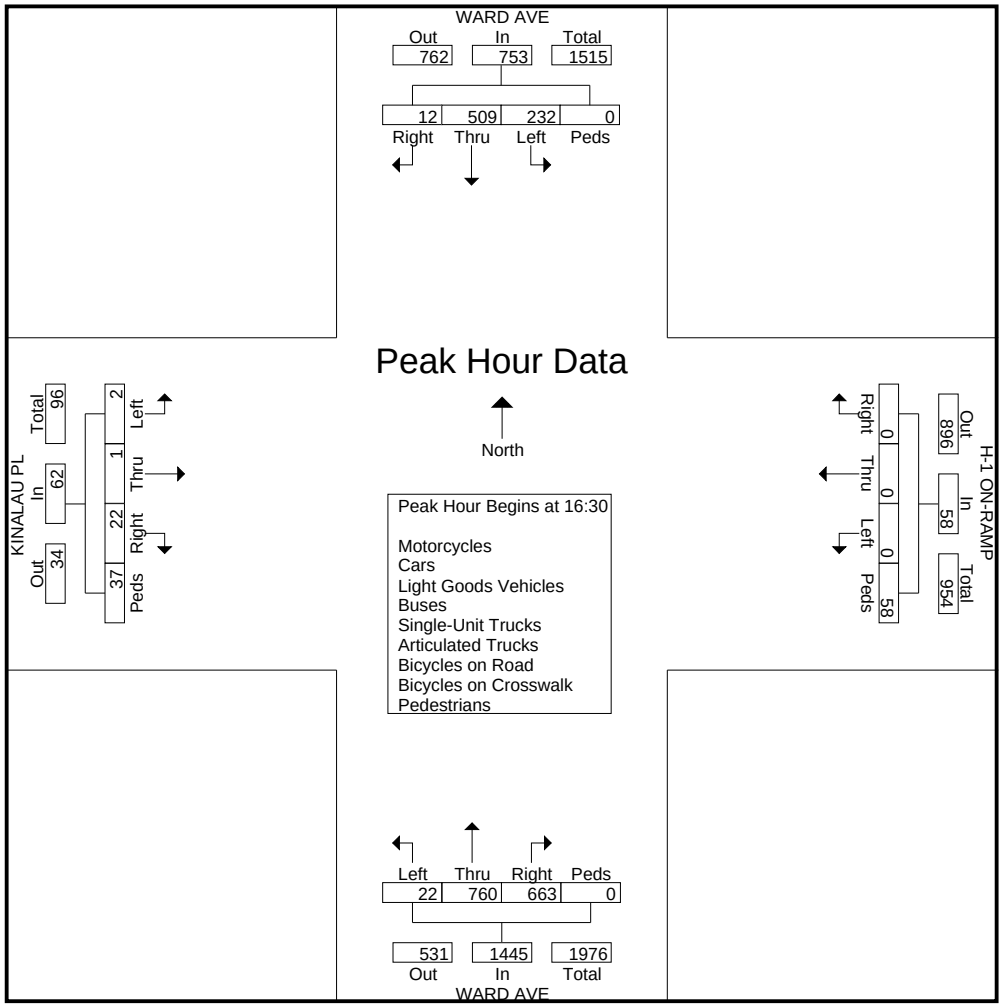
File Name : Ward Ave - H-1 EB On-Ramp_Kinalau Pl
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017
Page No : 3

	WARD AVE SOUTHBOUND					H-1 ON-RAMP WESTBOUND					WARD AVE NORTHBOUND					KINALAU PL EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	**6**	**137**	59	0	**202**	0	0	0	15	15	167	181	5	0	353	**6**	0	0	**12**	18	**588**
16:45	1	120	60	0	181	0	0	0	10	10	**172**	**206**	4	0	**382**	5	0	**2**	8	15	588
17:00	1	122	**61**	0	184	0	0	0	**18**	**18**	162	194	6	0	362	5	0	0	5	10	574
17:15	4	130	52	0	186	0	0	0	15	15	162	179	**7**	0	348	6	**1**	0	12	**19**	568
Total Volume	12	509	232	0	753	0	0	0	58	58	663	760	22	0	1445	22	1	2	37	62	2318
% App. Total	1.6	67.6	30.8	0		0	0	0	100		45.9	52.6	1.5	0		35.5	1.6	3.2	59.7		
PHF	.500	.929	.951	.000	.932	.000	.000	.000	.806	.806	.964	.922	.786	.000	.946	.917	.250	.250	.771	.816	.986



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File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/25/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUNAHOU ST SOUTHBOUND			BINGHAM ST WESTBOUND	PUNAHOU ST NORTHBOUND			H-1 EB OFF-RAMP EASBOUND				
Start Time	Thru	Left	Peds	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Int. Total
05:30	23	9	0	3	4	42	1	191	63	62	0	398
05:45	44	15	0	4	9	41	4	229	83	73	8	510
Total	67	24	0	7	13	83	5	420	146	135	8	908
06:00	56	8	0	15	12	55	1	225	75	105	1	553
06:15	63	19	0	19	18	62	1	278	96	130	2	688
06:30	74	26	0	8	32	84	1	259	88	170	6	748
06:45	85	18	0	14	30	112	6	213	72	204	17	771
Total	278	71	0	56	92	313	9	975	331	609	26	2760
07:00	137	18	0	27	20	128	16	198	37	160	36	777
07:15	168	22	0	27	24	148	6	161	29	168	29	782
07:30	146	24	0	31	26	166	13	219	63	138	50	876
07:45	187	24	0	21	56	181	4	259	82	117	10	941
Total	638	88	0	106	126	623	39	837	211	583	125	3376
08:00	146	30	0	18	52	144	1	267	88	111	9	866
08:15	111	18	0	15	32	147	6	282	85	94	7	797
08:30	104	27	0	21	26	102	0	310	85	123	4	802
08:45	113	19	0	16	27	97	7	348	93	138	12	870
Total	474	94	0	70	137	490	14	1207	351	466	32	3335
09:00	105	22	0	12	23	96	1	262	68	108	4	701
09:15	103	20	0	23	32	112	2	305	68	106	2	773
09:30	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0
Total	208	42	0	35	55	208	3	567	136	214	6	1474
10:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0

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File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/25/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	PUNAHOU ST SOUTHBOUND			BINGHAM ST WESTBOUND	PUNAHOU ST NORTHBOUND			H-1 EB OFF-RAMP EASBOUND				
Start Time	Thru	Left	Peds	Peds	Right	Thru	Peds	Right	Thru	Left	Peds	Int. Total
14:15	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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
15:00	148	25	0	16	34	194	4	248	41	153	22	885
15:15	112	21	0	16	33	170	5	232	47	133	3	772
15:30	137	22	0	17	21	144	11	195	35	147	14	743
15:45	159	16	0	20	23	191	5	194	49	171	4	832
Total	556	84	0	69	111	699	25	869	172	604	43	3232
16:00	139	22	0	19	16	165	2	202	56	149	1	771
16:15	136	19	0	15	23	240	0	179	56	115	14	797
16:30	153	25	0	22	17	188	1	162	37	125	7	737
16:45	149	17	0	20	20	204	4	174	51	146	11	796
Total	577	83	0	76	76	797	7	717	200	535	33	3101
17:00	142	24	0	26	30	223	4	173	45	122	6	795
17:15	127	25	0	15	24	207	2	171	52	133	2	758
17:30	138	13	0	18	21	198	0	200	54	131	9	782
17:45	130	17	0	21	20	167	2	199	51	141	10	758
Total	537	79	0	80	95	795	8	743	202	527	27	3093
18:00	121	9	0	17	16	149	5	210	78	118	5	728
18:15	103	20	0	12	11	161	6	242	72	152	15	794
18:30	101	14	0	11	23	146	3	203	64	130	7	702
18:45	95	19	0	7	13	136	3	166	47	130	8	624
Total	420	62	0	47	63	592	17	821	261	530	35	2848
Grand Total	3755	627	0	546	768	4600	127	7156	2010	4203	335	24127
Apprch %	85.7	14.3	0	100	14	83.7	2.3	52.2	14.7	30.7	2.4	
Total %	15.6	2.6	0	2.3	3.2	19.1	0.5	29.7	8.3	17.4	1.4	
Motorcycles	54	5	0	0	7	49	0	17	4	10	0	146
% Motorcycles	1.4	0.8	0	0	0.9	1.1	0	0.2	0.2	0.2	0	0.6
Cars	3319	562	0	0	676	3954	0	6277	1726	3536	0	20050
% Cars	88.4	89.6	0	0	88	86	0	87.7	85.9	84.1	0	83.1
Light Goods Vehicles	328	53	0	0	72	543	0	727	240	612	0	2575
% Light Goods Vehicles	8.7	8.5	0	0	9.4	11.8	0	10.2	11.9	14.6	0	10.7
Buses	21	1	0	0	1	30	0	59	23	14	0	149
% Buses	0.6	0.2	0	0	0.1	0.7	0	0.8	1.1	0.3	0	0.6
Single-Unit Trucks	21	4	0	0	10	20	0	71	17	29	0	172
% Single-Unit Trucks	0.6	0.6	0	0	1.3	0.4	0	1	0.8	0.7	0	0.7
Articulated Trucks	0	0	0	0	0	0	0	5	0	1	0	6
% Articulated Trucks	0	0	0	0	0	0	0	0.1	0	0	0	0
Bicycles on Road	12	2	0	0	2	4	0	0	0	1	0	21
% Bicycles on Road	0.3	0.3	0	0	0.3	0.1	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	81	0	0	3	0	0	0	5	89
% Bicycles on Crosswalk	0	0	0	14.8	0	0	2.4	0	0	0	1.5	0.4
Pedestrians	0	0	0	465	0	0	124	0	0	0	330	919
% Pedestrians	0	0	0	85.2	0	0	97.6	0	0	0	98.5	3.8

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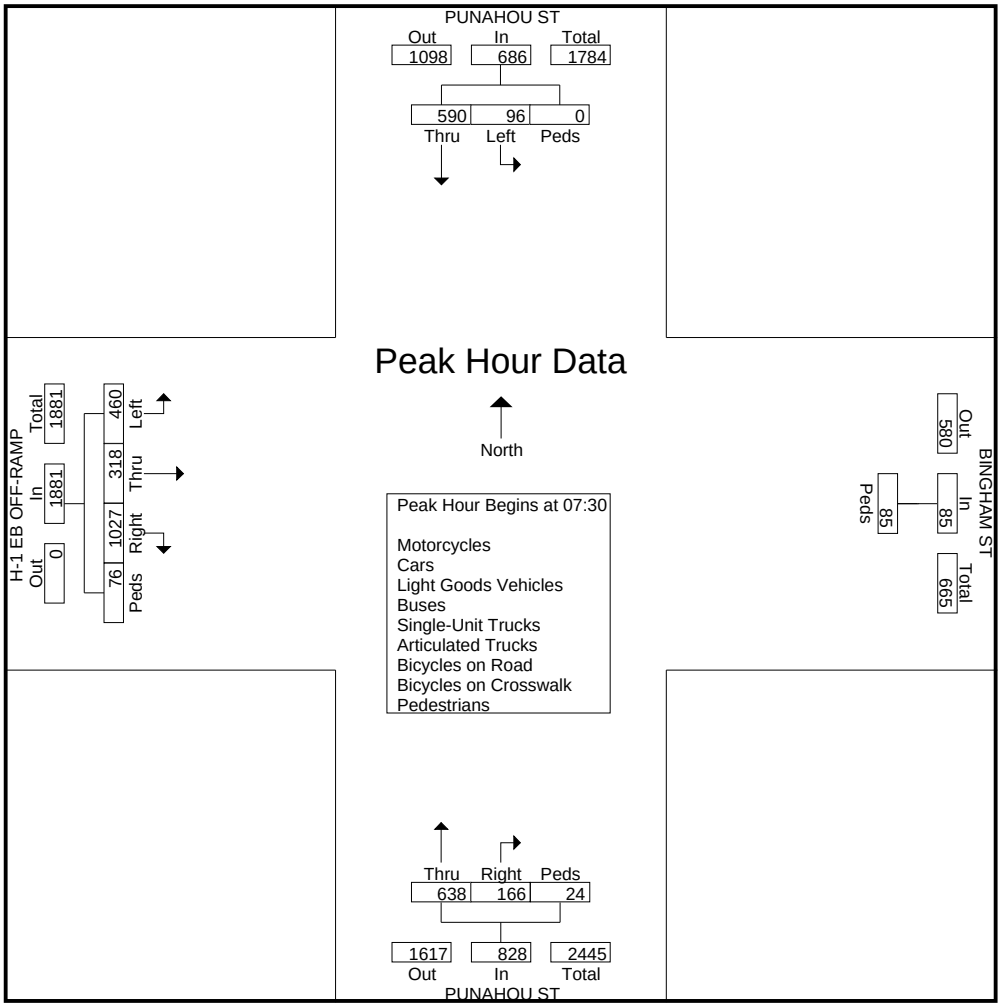
File Name : Punahou St - H-1 EB Off-Ramp_Bingham St
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/25/2017
Page No : 3

	PUNAHOU ST SOUTHBOUND				BINGHAM ST WESTBOUND		PUNAHOU ST NORTHBOUND				H-1 EB OFF-RAMP EASBOUND					
Start Time	Thru	Left	Peds	App. Total	Peds	App. Total	Right	Thru	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:30																
07:30	146	24	0	170	**31**	**31**	26	166	**13**	205	219	63	**138**	**50**	470	876
07:45	**187**	24	0	**211**	21	21	**56**	**181**	4	**241**	259	82	117	10	468	**941**
08:00	146	**30**	0	176	18	18	52	144	1	197	267	**88**	111	9	**475**	866
08:15	111	18	0	129	15	15	32	147	6	185	**282**	85	94	7	468	797
Total Volume	590	96	0	686	85	85	166	638	24	828	1027	318	460	76	1881	3480
% App. Total	86	14	0		100		20	77.1	2.9		54.6	16.9	24.5	4		
PHF	.789	.800	.000	.813	.685	.685	.741	.881	.462	.859	.910	.903	.833	.380	.990	.925



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File Name : University Ave - H-1 EB Off-Ramp_On-Ramp
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	UNIVERSITY AVE SOUTHBOUND				H-1 EB OFF-RAMP WESTBOUND				UNIVERSITY AVE NORTHBOUND				H-1 EB ON-RAMP EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	16	34	0	0	86	0	0	2	0	104	0	0	0	0	0	0	242
05:45	14	30	0	0	87	0	0	4	0	92	0	0	0	0	0	0	227
Total	30	64	0	0	173	0	0	6	0	196	0	0	0	0	0	0	469
06:00	20	34	0	0	93	0	0	1	0	116	0	0	0	0	0	0	264
06:15	27	65	0	0	135	0	0	3	0	139	0	0	0	0	0	1	370
06:30	49	63	0	0	162	0	0	3	0	161	0	0	0	0	0	3	441
06:45	53	99	0	0	197	0	0	0	0	278	0	0	0	0	0	1	628
Total	149	261	0	0	587	0	0	7	0	694	0	0	0	0	0	5	1703
07:00	103	168	0	0	223	0	0	2	0	357	0	0	0	0	0	3	856
07:15	105	177	0	0	179	0	0	1	0	359	0	0	0	0	0	7	828
07:30	118	212	0	0	175	0	0	3	0	364	0	0	0	0	0	5	877
07:45	100	162	0	0	202	0	0	4	0	355	0	0	0	0	0	10	833
Total	426	719	0	0	779	0	0	10	0	1435	0	0	0	0	0	25	3394
08:00	89	161	0	0	225	0	0	5	0	316	0	0	0	0	0	1	797
08:15	74	117	0	0	253	0	0	10	0	269	0	0	0	0	0	6	729
08:30	75	132	0	0	201	0	0	4	0	226	0	0	0	0	0	8	646
08:45	62	102	0	0	191	0	0	6	0	228	0	0	0	0	0	5	594
Total	300	512	0	0	870	0	0	25	0	1039	0	0	0	0	0	20	2766
09:00	59	97	0	0	211	0	0	12	0	208	0	0	0	0	0	8	595
09:15	57	89	0	0	199	0	0	11	0	256	0	0	0	0	0	5	617
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	116	186	0	0	410	0	0	23	0	464	0	0	0	0	0	13	1212
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

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File Name : University Ave - H-1 EB Off-Ramp_On-Ramp
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	UNIVERSITY AVE SOUTHBOUND				H-1 EB OFF-RAMP WESTBOUND				UNIVERSITY AVE NORTHBOUND				H-1 EB ON-RAMP EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	106	190	0	0	75	0	0	13	0	280	0	0	0	0	0	9	673
15:15	106	205	0	0	108	0	0	8	0	252	0	0	0	0	0	10	689
15:30	100	178	0	0	94	0	0	10	0	286	0	0	0	0	0	7	675
15:45	107	226	0	0	75	0	0	15	0	249	0	0	0	0	0	7	679
Total	419	799	0	0	352	0	0	46	0	1067	0	0	0	0	0	33	2716
16:00	102	187	0	0	106	0	0	9	0	264	0	0	0	0	0	7	675
16:15	107	252	0	0	74	0	0	9	0	279	0	0	0	0	0	1	722
16:30	104	172	0	0	71	0	0	15	0	249	0	0	0	0	0	4	615
16:45	99	202	0	0	65	0	0	10	0	274	0	0	0	0	0	6	656
Total	412	813	0	0	316	0	0	43	0	1066	0	0	0	0	0	18	2668
17:00	100	149	0	0	77	0	0	9	0	248	0	0	0	0	0	4	587
17:15	101	156	0	0	75	0	0	9	0	251	0	0	0	0	0	13	605
17:30	106	176	0	0	74	0	0	4	0	232	0	0	0	0	0	4	596
17:45	81	151	0	0	71	0	0	10	0	231	0	0	0	0	0	11	555
Total	388	632	0	0	297	0	0	32	0	962	0	0	0	0	0	32	2343
18:00	101	142	0	0	70	0	0	7	0	220	0	0	0	0	0	3	543
18:15	102	166	0	2	73	0	0	12	0	181	0	2	0	0	0	6	544
18:30	114	160	0	0	83	0	0	13	0	200	0	0	0	0	0	5	575
18:45	86	120	0	0	71	0	0	11	0	156	0	0	0	0	0	3	447
Total	403	588	0	2	297	0	0	43	0	757	0	2	0	0	0	17	2109
Grand Total	2643	4574	0	2	4081	0	0	235	0	7680	0	2	0	0	0	163	19380
Apprch %	36.6	63.4	0	0	94.6	0	0	5.4	0	100	0	0	0	0	0	100	
Total %	13.6	23.6	0	0	21.1	0	0	1.2	0	39.6	0	0	0	0	0	0.8	
Motorcycles	4	99	0	0	20	0	0	0	0	115	0	0	0	0	0	0	238
% Motorcycles	0.2	2.2	0	0	0.5	0	0	0	0	1.5	0	0	0	0	0	0	1.2
Cars	2543	4143	0	0	3538	0	0	0	0	6650	0	0	0	0	0	0	16874
% Cars	96.2	90.6	0	0	86.7	0	0	0	0	86.6	0	0	0	0	0	0	87.1
Light Goods Vehicles	90	171	0	0	480	0	0	0	0	684	0	0	0	0	0	0	1425
% Light Goods Vehicles	3.4	3.7	0	0	11.8	0	0	0	0	8.9	0	0	0	0	0	0	7.4
Buses	1	104	0	0	21	0	0	0	0	112	0	0	0	0	0	0	238
% Buses	0	2.3	0	0	0.5	0	0	0	0	1.5	0	0	0	0	0	0	1.2
Single-Unit Trucks	4	27	0	0	21	0	0	0	0	62	0	0	0	0	0	0	114
% Single-Unit Trucks	0.2	0.6	0	0	0.5	0	0	0	0	0.8	0	0	0	0	0	0	0.6
Articulated Trucks	0	4	0	0	1	0	0	0	0	3	0	0	0	0	0	0	8
% Articulated Trucks	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	1	26	0	0	0	0	0	0	0	54	0	0	0	0	0	0	81
% Bicycles on Road	0	0.6	0	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0.4
Bicycles on Crosswalk	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	1	20
% Bicycles on Crosswalk	0	0	0	0	0	0	0	8.1	0	0	0	0	0	0	0	0.6	0.1
Pedestrians	0	0	0	2	0	0	0	216	0	0	0	2	0	0	0	162	382
% Pedestrians	0	0	0	100	0	0	0	91.9	0	0	0	100	0	0	0	99.4	2

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Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017
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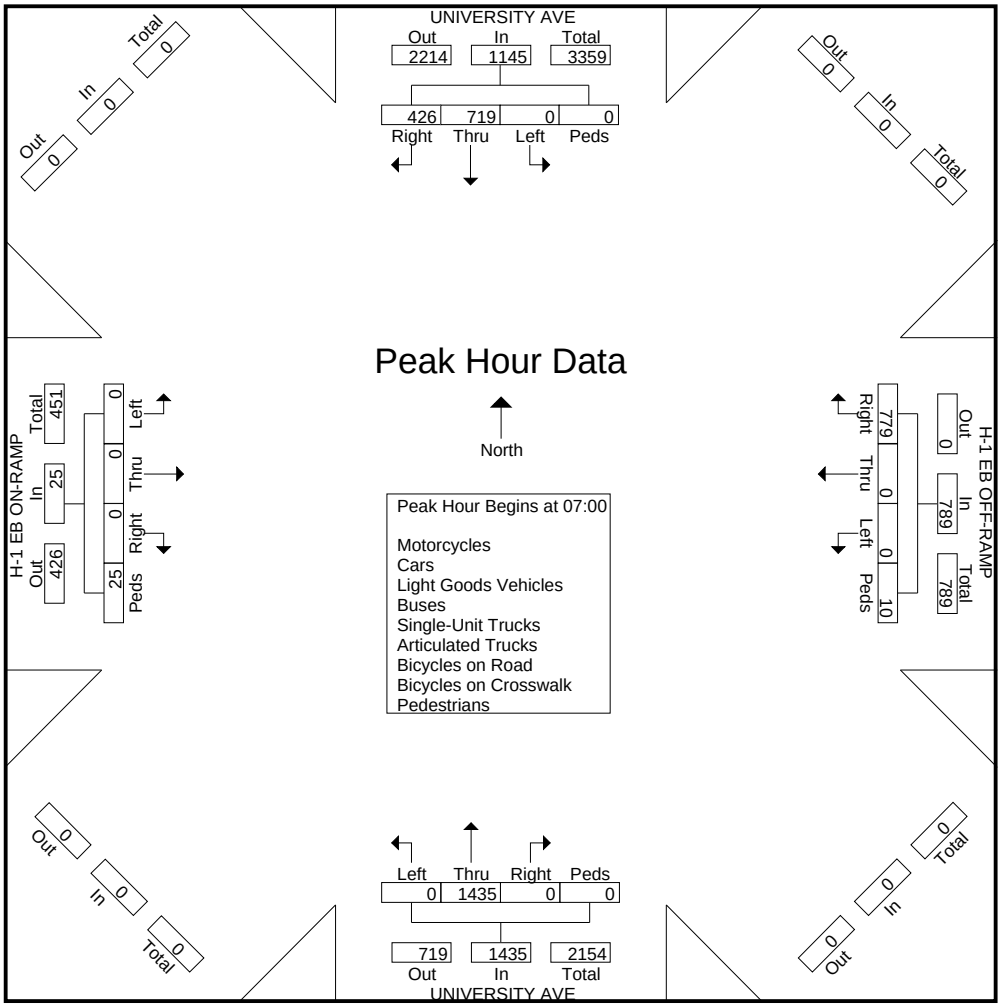
	UNIVERSITY AVE SOUTHBOUND					H-1 EB OFF-RAMP WESTBOUND					UNIVERSITY AVE NORTHBOUND					H-1 EB ON-RAMP EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	103	168	0	0	271	**223**	0	0	2	**225**	0	357	0	0	357	0	0	0	3	3	856
07:15	105	177	0	0	282	179	0	0	1	180	0	359	0	0	359	0	0	0	7	7	828
07:30	**118**	**212**	0	0	**330**	175	0	0	3	178	0	**364**	0	0	**364**	0	0	0	5	5	**877**
07:45	100	162	0	0	262	202	0	0	**4**	206	0	355	0	0	355	0	0	0	**10**	**10**	833
Total Volume	426	719	0	0	1145	779	0	0	10	789	0	1435	0	0	1435	0	0	0	25	25	3394
% App. Total	37.2	62.8	0	0		98.7	0	0	1.3		0	100	0	0		0	0	0	100		
PHF	.903	.848	.000	.000	.867	.873	.000	.000	.625	.877	.000	.986	.000	.000	.986	.000	.000	.000	.625	.625	.968



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File Name : Ward Ave - King St
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/25/2017
Page No : 1

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				KING ST WESTBOUND				WARD AVE NORTHBOUND				KING ST EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
05:30	0	163	0	13	0	6	0	15	19	9	0	16	10	81	18	13	363
05:45	0	202	1	11	0	6	0	12	29	25	0	17	6	92	8	10	419
Total	0	365	1	24	0	12	0	27	48	34	0	33	16	173	26	23	782
06:00	0	192	2	25	0	5	0	25	24	23	0	17	14	136	17	15	495
06:15	0	175	1	29	0	7	0	33	25	28	0	46	14	175	26	30	589
06:30	0	216	0	33	0	8	0	26	27	42	0	42	23	222	29	32	700
06:45	0	188	0	48	1	19	0	45	43	48	0	42	21	312	35	38	840
Total	0	771	3	135	1	39	0	129	119	141	0	147	72	845	107	115	2624
07:00	0	187	0	29	0	13	0	28	68	39	0	35	24	368	51	28	870
07:15	0	242	0	32	0	18	0	37	78	68	0	49	17	440	48	39	1068
07:30	0	244	0	45	1	20	0	44	72	55	0	43	15	409	44	56	1048
07:45	0	259	0	35	0	24	0	28	62	53	0	47	31	428	45	39	1051
Total	0	932	0	141	1	75	0	137	280	215	0	174	87	1645	188	162	4037
08:00	0	303	0	25	0	15	0	20	59	48	0	13	22	375	41	27	948
08:15	0	272	0	23	1	16	0	20	71	55	0	33	27	355	46	32	951
08:30	0	255	0	10	0	13	0	17	65	44	0	17	30	304	50	15	820
08:45	2	242	0	17	0	12	0	11	66	37	0	14	27	317	40	19	804
Total	2	1072	0	75	1	56	0	68	261	184	0	77	106	1351	177	93	3523
09:00	0	212	0	15	0	3	0	10	54	67	0	15	33	292	37	21	759
09:15	0	222	0	10	0	13	0	10	49	67	0	10	24	271	52	17	745
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	434	0	25	0	16	0	20	103	134	0	25	57	563	89	38	1504
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	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
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	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
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	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
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	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
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	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

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Start Date : 4/25/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	WARD AVE SOUTHBOUND				KING ST WESTBOUND				WARD AVE NORTHBOUND				KING ST EASBOUND				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
15:00	0	202	2	25	1	5	0	24	65	105	0	23	27	416	86	24	1005
15:15	0	214	0	26	0	4	0	17	70	141	0	15	30	441	71	14	1043
15:30	0	225	0	39	0	7	0	47	65	151	0	15	45	487	82	28	1191
15:45	0	211	0	24	0	4	0	31	72	100	0	30	46	485	74	21	1098
Total	0	852	2	114	1	20	0	119	272	497	0	83	148	1829	313	87	4337
16:00	0	238	1	44	0	4	0	44	83	87	0	53	46	525	73	42	1240
16:15	0	240	0	28	0	3	0	19	99	80	0	26	49	568	80	24	1216
16:30	0	232	0	63	0	3	0	59	79	68	0	72	63	597	61	74	1371
16:45	0	242	0	22	0	6	0	20	108	65	0	28	45	653	58	21	1268
Total	0	952	1	157	0	16	0	142	369	300	0	179	203	2343	272	161	5095
17:00	0	229	0	31	0	5	0	29	86	71	0	32	44	627	71	26	1251
17:15	0	247	0	25	1	7	0	25	109	54	0	24	52	630	59	22	1255
17:30	0	251	1	20	0	4	0	16	77	79	0	30	37	552	84	31	1182
17:45	0	235	1	13	1	5	0	18	87	67	0	21	41	464	73	23	1049
Total	0	962	2	89	2	21	0	88	359	271	0	107	174	2273	287	102	4737
18:00	0	214	0	7	0	7	0	13	73	100	0	11	24	421	78	23	971
18:15	0	218	0	11	0	5	0	20	68	112	0	31	26	341	62	21	915
18:30	0	221	1	10	0	3	0	22	75	110	0	30	24	288	60	19	863
18:45	0	215	0	11	0	4	0	40	68	98	0	54	11	267	62	10	840
Total	0	868	1	39	0	19	0	95	284	420	0	126	85	1317	262	73	3589
Grand Total	2	7208	10	799	6	274	0	825	2095	2196	0	951	948	12339	1721	854	30228
Apprch %	0	89.9	0.1	10	0.5	24.8	0	74.7	40	41.9	0	18.1	6	77.8	10.8	5.4	
Total %	0	23.8	0	2.6	0	0.9	0	2.7	6.9	7.3	0	3.1	3.1	40.8	5.7	2.8	
Motorcycles	0	84	1	0	0	0	0	0	32	16	0	0	7	244	3	0	387
% Motorcycles	0	1.2	10	0	0	0	0	0	1.5	0.7	0	0	0.7	2	0.2	0	1.3
Cars	0	6308	4	0	0	0	0	0	1790	1877	0	0	837	10323	1502	0	22641
% Cars	0	87.5	40	0	0	0	0	0	85.4	85.5	0	0	88.3	83.7	87.3	0	74.9
Light Goods Vehicles	0	739	0	0	0	0	0	0	219	283	0	0	86	1239	209	0	2775
% Light Goods Vehicles	0	10.3	0	0	0	0	0	0	10.5	12.9	0	0	9.1	10	12.1	0	9.2
Buses	0	34	0	0	0	0	0	0	16	5	0	0	1	162	0	0	218
% Buses	0	0.5	0	0	0	0	0	0	0.8	0.2	0	0	0.1	1.3	0	0	0.7
Single-Unit Trucks	0	33	0	0	0	0	0	0	22	15	0	0	14	100	5	0	189
% Single-Unit Trucks	0	0.5	0	0	0	0	0	0	1.1	0.7	0	0	1.5	0.8	0.3	0	0.6
Articulated Trucks	0	4	0	0	0	0	0	0	1	0	0	0	0	19	0	0	24
% Articulated Trucks	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1
Bicycles on Road	2	6	5	0	6	274	0	0	15	0	0	0	3	252	2	0	565
% Bicycles on Road	100	0.1	50	0	100	100	0	0	0.7	0	0	0	0.3	2	0.1	0	1.9
Bicycles on Crosswalk	0	0	0	3	0	0	0	30	0	0	0	15	0	0	0	10	58
% Bicycles on Crosswalk	0	0	0	0.4	0	0	0	3.6	0	0	0	1.6	0	0	0	1.2	0.2
Pedestrians	0	0	0	796	0	0	0	795	0	0	0	936	0	0	0	844	3371
% Pedestrians	0	0	0	99.6	0	0	0	96.4	0	0	0	98.4	0	0	0	98.8	11.2

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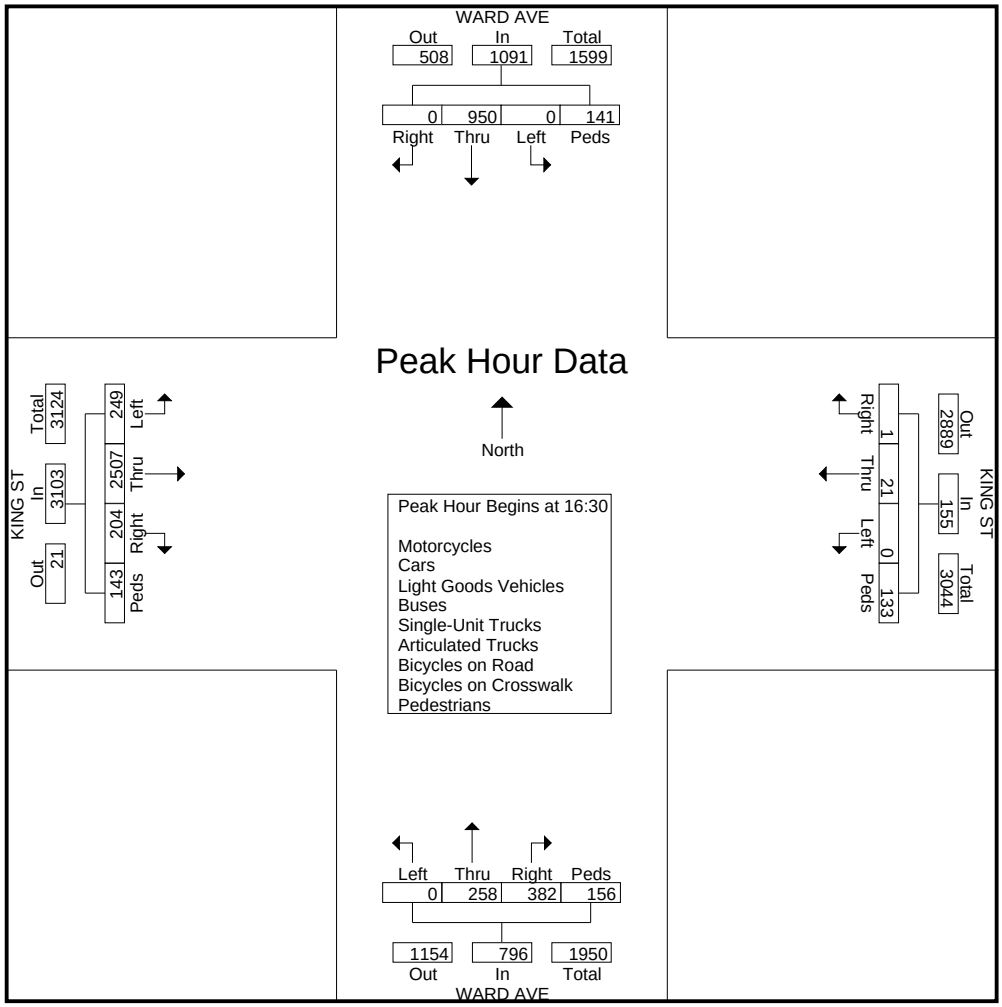
File Name : Ward Ave - King St
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/25/2017
Page No : 3

	WARD AVE SOUTHBOUND					KING ST WESTBOUND					WARD AVE NORTHBOUND					KING ST EASBOUND					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	232	0	**63**	**295**	0	3	0	**59**	**62**	79	68	0	**72**	**219**	**63**	597	61	**74**	**795**	**1371**
16:45	0	242	0	22	264	0	6	0	20	26	108	65	0	28	201	45	**653**	58	21	777	1268
17:00	0	229	0	31	260	0	5	0	29	34	86	**71**	0	32	189	44	627	**71**	26	768	1251
17:15	0	**247**	0	25	272	**1**	**7**	0	25	33	**109**	54	0	24	187	52	630	59	22	763	1255
Total Volume	0	950	0	141	1091	1	21	0	133	155	382	258	0	156	796	204	2507	249	143	3103	5145
% App. Total	0	87.1	0	12.9		0.6	13.5	0	85.8		48	32.4	0	19.6		6.6	80.8	8	4.6		
PHF	.000	.962	.000	.560	.925	.250	.750	.000	.564	.625	.876	.908	.000	.542	.909	.810	.960	.877	.483	.976	.938



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File Name : 4.25_Piikoi St - King St
Site Code : 00000000
Start Date :
Page No : 3

Groups Printed- LIGHT VEHICLES - LIGHT TRUCKS - HEAVY TRUCKS - BUSES - BICYCLES - PEDESTRIANS

	PIIKOI ST Southbound				Westbound				PIIKOI ST Northbound				KING ST Eastbound				
Start Time	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Int. Total
02:00	0	0	0	0	0	0	0	0	7	52	0	0	0	14	3	0	76
02:15	0	0	0	1	0	0	0	2	0	36	0	0	0	10	2	1	52
02:30	0	0	0	0	0	0	0	1	3	31	0	1	0	13	2	0	51
02:45	0	0	0	0	0	0	0	0	1	22	0	1	0	17	4	0	45
Total	0	0	0	1	0	0	0	3	11	141	0	2	0	54	11	1	224
03:00	0	0	0	1	0	0	0	0	5	19	0	1	0	21	2	1	50
03:15	0	0	0	1	0	0	0	0	0	27	0	2	0	20	6	0	56
03:30	0	0	0	1	0	0	0	0	5	31	0	2	0	21	3	3	66
03:45	0	0	0	3	0	0	0	0	8	30	0	3	0	16	5	1	66
Total	0	0	0	6	0	0	0	0	18	107	0	8	0	78	16	5	238
04:00	0	0	0	2	0	0	0	2	4	42	0	1	0	23	9	0	83
04:15	0	0	0	2	0	0	0	2	5	46	0	7	0	33	9	3	107
04:30	0	0	0	0	0	0	0	2	7	50	0	3	0	37	8	3	110
04:45	0	0	0	2	0	0	0	4	1	55	0	2	0	45	5	1	115
Total	0	0	0	6	0	0	0	10	17	193	0	13	0	138	31	7	415
05:00	0	0	0	2	0	0	0	3	5	72	0	2	0	51	18	0	153
05:15	0	0	0	2	0	0	0	3	8	77	0	1	0	74	16	2	183
05:30	0	0	0	5	0	0	0	6	7	116	0	5	0	91	14	6	250
05:45	0	0	0	2	0	0	0	5	13	104	0	7	0	118	21	1	271
Total	0	0	0	11	0	0	0	17	33	369	0	15	0	334	69	9	857
06:00	0	0	0	5	0	0	0	3	18	134	0	6	0	116	22	2	306
06:15	0	0	0	4	0	0	0	1	23	140	0	7	0	140	30	2	347

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File Name : 4.26_Piikoi St - King St
Site Code : 00000000
Start Date : 4/26/2017
Page No : 1

Groups Printed- LIGHT VEHICLES - LIGHT TRUCKS - HEAVY TRUCKS - BUSES - BICYCLES - PEDESTRIANS

	PIIKOI ST Southbound				Westbound				PIIKOI ST Northbound				KING ST Eastbound				
Start Time	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Int. Total
06:30	0	0	0	8	0	0	0	6	26	166	0	8	0	226	32	6	478
06:45	0	0	0	12	0	0	0	9	42	201	0	14	0	265	35	7	585
Total	0	0	0	20	0	0	0	15	68	367	0	22	0	491	67	13	1063
07:00	0	0	0	8	0	0	0	12	59	225	0	12	0	384	44	10	754
07:15	0	0	0	1	0	0	0	7	78	263	0	18	0	479	58	11	915
07:30	0	0	0	3	0	0	0	9	84	239	0	22	0	459	55	15	886
07:45	0	0	0	2	0	0	0	4	78	240	0	18	0	450	76	20	888
Total	0	0	0	14	0	0	0	32	299	967	0	70	0	1772	233	56	3443
08:00	0	0	0	1	0	0	0	9	57	232	0	17	0	401	66	17	800
08:15	0	0	0	9	0	0	0	5	62	228	0	5	0	411	74	13	807
08:30	0	0	0	13	0	0	0	5	58	218	0	6	0	381	67	12	760
08:45	0	0	0	11	0	0	0	3	52	234	0	8	0	362	64	13	747
Total	0	0	0	34	0	0	0	22	229	912	0	36	0	1555	271	55	3114
09:00	0	0	0	5	0	0	0	8	48	222	0	4	0	358	54	16	715
09:15	0	0	0	7	0	0	0	6	34	218	0	5	0	343	51	11	675
09:30	0	0	0	6	0	0	0	14	43	277	0	8	0	327	52	6	733
09:45	0	0	0	6	0	0	0	7	47	249	0	4	0	345	49	9	716
Total	0	0	0	24	0	0	0	35	172	966	0	21	0	1373	206	42	2839
10:00	0	0	0	8	0	0	0	15	44	252	0	5	0	348	60	6	738
10:15	0	0	0	6	0	0	0	8	44	267	0	2	0	360	64	8	759
10:30	0	0	0	9	0	0	0	8	42	277	0	8	0	370	69	8	791
10:45	0	0	0	12	0	0	0	11	50	284	0	11	0	378	75	12	833
Total	0	0	0	35	0	0	0	42	180	1080	0	26	0	1456	268	34	3121
11:00	0	0	0	5	0	0	0	6	53	296	0	12	0	379	83	9	843
11:15	0	0	0	13	0	0	0	5	48	329	0	15	0	378	78	10	876
11:30	0	0	0	7	0	0	0	17	57	284	0	13	0	408	75	10	871
11:45	0	0	0	8	0	0	0	12	69	306	0	9	0	416	71	8	899
Total	0	0	0	33	0	0	0	40	227	1215	0	49	0	1581	307	37	3489
12:00	0	0	0	17	0	0	0	19	60	325	0	12	0	428	72	13	946
12:15	0	0	0	15	0	0	0	22	64	346	0	10	0	445	78	11	991
12:30	0	0	0	13	0	0	0	25	74	339	0	11	0	503	83	16	1064
12:45	0	0	0	16	0	0	0	14	78	333	0	8	0	544	83	12	1088
Total	0	0	0	61	0	0	0	80	276	1343	0	41	0	1920	316	52	4089
13:00	0	0	0	12	0	0	0	19	63	324	0	15	0	498	80	7	1018
13:15	0	0	0	11	0	0	0	17	60	308	0	7	0	503	73	8	987
13:30	0	0	0	10	0	0	0	13	55	294	0	6	0	483	65	4	930
13:45	0	0	0	8	0	0	0	14	53	283	0	4	0	454	66	3	885
Total	0	0	0	41	0	0	0	63	231	1209	0	32	0	1938	284	22	3820
14:00	0	0	0	11	0	0	0	10	47	267	0	9	0	465	69	8	886
14:15	0	0	0	9	0	0	0	11	45	259	0	2	0	459	69	7	861
14:30	0	0	0	11	0	0	0	15	46	280	0	5	0	458	81	9	905
14:45	0	0	0	10	0	0	0	11	51	303	0	6	0	469	74	8	932
Total	0	0	0	41	0	0	0	47	189	1109	0	22	0	1851	293	32	3584
15:00	0	0	0	12	0	0	0	6	62	327	0	6	0	427	78	8	926
15:15	0	0	0	14	0	0	0	7	67	322	0	5	0	386	66	6	873
15:30	0	0	0	8	0	0	0	9	74	310	0	3	0	399	62	5	870
15:45	0	0	0	11	0	0	0	9	70	316	0	7	0	412	68	12	905
Total	0	0	0	45	0	0	0	31	273	1275	0	21	0	1624	274	31	3574

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File Name : 4.26_Piikoi St - King St
Site Code : 00000000
Start Date : 4/26/2017
Page No : 2

Groups Printed- LIGHT VEHICLES - LIGHT TRUCKS - HEAVY TRUCKS - BUSES - BICYCLES - PEDESTRIANS

	PIIKOI ST Southbound				Westbound				PIIKOI ST Northbound				KING ST Eastbound				
Start Time	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Rght	Thru	Left	Peds	Int. Total
16:00	0	0	0	9	0	0	0	11	75	325	0	10	0	451	74	8	963
16:15	0	0	0	7	0	0	0	8	68	329	0	13	0	506	70	5	1006
16:30	0	0	0	9	0	0	0	16	64	340	0	17	0	544	79	6	1075
16:45	0	0	0	12	0	0	0	14	63	319	0	16	0	594	86	14	1118
Total	0	0	0	37	0	0	0	49	270	1313	0	56	0	2095	309	33	4162
17:00	0	0	0	9	0	0	0	14	73	333	0	15	0	619	80	13	1156
17:15	0	0	0	9	0	0	0	10	75	347	0	8	0	578	81	12	1120
17:30	0	0	0	10	0	0	0	9	74	332	0	4	0	538	77	9	1053
17:45	0	0	0	12	0	0	0	8	78	341	0	10	0	523	68	12	1052
Total	0	0	0	40	0	0	0	41	300	1353	0	37	0	2258	306	46	4381
18:00	0	0	0	15	0	0	0	11	73	329	0	8	0	501	63	14	1014
18:15	0	0	0	13	0	0	0	12	68	319	0	6	0	483	53	13	967
18:30	0	0	0	18	0	0	0	12	64	331	0	6	0	461	55	18	965
18:45	0	0	0	14	0	0	0	16	74	315	0	10	0	438	51	15	933
Total	0	0	0	60	0	0	0	51	279	1294	0	30	0	1883	222	60	3879
19:00	0	0	0	15	0	0	0	11	63	317	0	11	0	422	53	20	912
19:15	0	0	0	6	0	0	0	4	57	305	0	5	0	420	36	9	842
19:30	0	0	0	8	0	0	0	4	56	285	0	3	0	431	47	3	837
19:45	0	0	0	5	0	0	0	6	51	269	0	1	0	338	50	10	730
Total	0	0	0	34	0	0	0	25	227	1176	0	20	0	1611	186	42	3321
20:00	0	0	0	4	0	0	0	8	65	288	0	8	0	293	53	5	724
20:15	0	0	0	3	0	0	0	5	52	290	0	7	0	255	51	7	670
20:30	0	0	0	0	0	0	0	6	47	273	0	9	0	234	46	8	623
20:45	0	0	0	5	0	0	0	4	45	267	0	3	0	210	42	4	580
Total	0	0	0	12	0	0	0	23	209	1118	0	27	0	992	192	24	2597
21:00	0	0	0	4	0	0	0	6	38	265	0	3	0	194	40	4	554
21:15	0	0	0	7	0	0	0	5	40	277	0	6	0	180	35	5	555
21:30	0	0	0	0	0	0	0	7	34	232	0	5	0	143	26	3	450
21:45	0	0	0	11	0	0	0	7	32	216	0	3	0	127	26	3	425
Total	0	0	0	22	0	0	0	25	144	990	0	17	0	644	127	15	1984
22:00	0	0	0	8	0	0	0	3	28	237	0	4	0	104	22	4	410
22:15	0	0	0	10	0	0	0	2	31	197	0	5	0	131	26	5	407
22:30	0	0	0	7	0	0	0	2	25	187	0	8	0	112	34	5	380
22:45	0	0	0	4	0	0	0	5	17	156	0	8	0	93	30	6	319
Total	0	0	0	29	0	0	0	12	101	777	0	25	0	440	112	20	1516
23:00	0	0	0	3	0	0	0	4	19	141	0	9	0	85	29	3	293
23:15	0	0	0	1	0	0	0	0	16	107	0	4	0	71	22	6	227
23:30	0	0	0	4	0	0	0	3	16	113	0	2	0	67	13	2	220
23:45	0	0	0	1	0	0	0	2	14	74	0	2	0	58	10	3	164
Total	0	0	0	9	0	0	0	9	65	435	0	17	0	281	74	14	904
00:00	0	0	0	2	0	0	0	1	12	73	0	1	0	39	17	3	148
00:15	0	0	0	2	0	0	0	3	8	69	0	0	0	43	9	1	135
00:30	0	0	0	2	0	0	0	1	10	57	0	2	0	37	14	0	123
00:45	0	0	0	1	0	0	0	2	12	54	0	1	0	28	9	1	108
Total	0	0	0	7	0	0	0	7	42	253	0	4	0	147	49	5	514
01:00	0	0	0	1	0	0	0	1	7	45	0	2	0	36	10	3	105
01:15	0	0	0	2	0	0	0	1	5	40	0	3	0	30	13	2	96
01:30	0	0	0	4	0	0	0	2	7	36	0	2	0	24	9	1	85
01:45	0	0	0	2	0	0	0	0	5	32	0	1	0	19	9	0	68
Total	0	0	0	9	0	0	0	4	24	153	0	8	0	109	41	6	354

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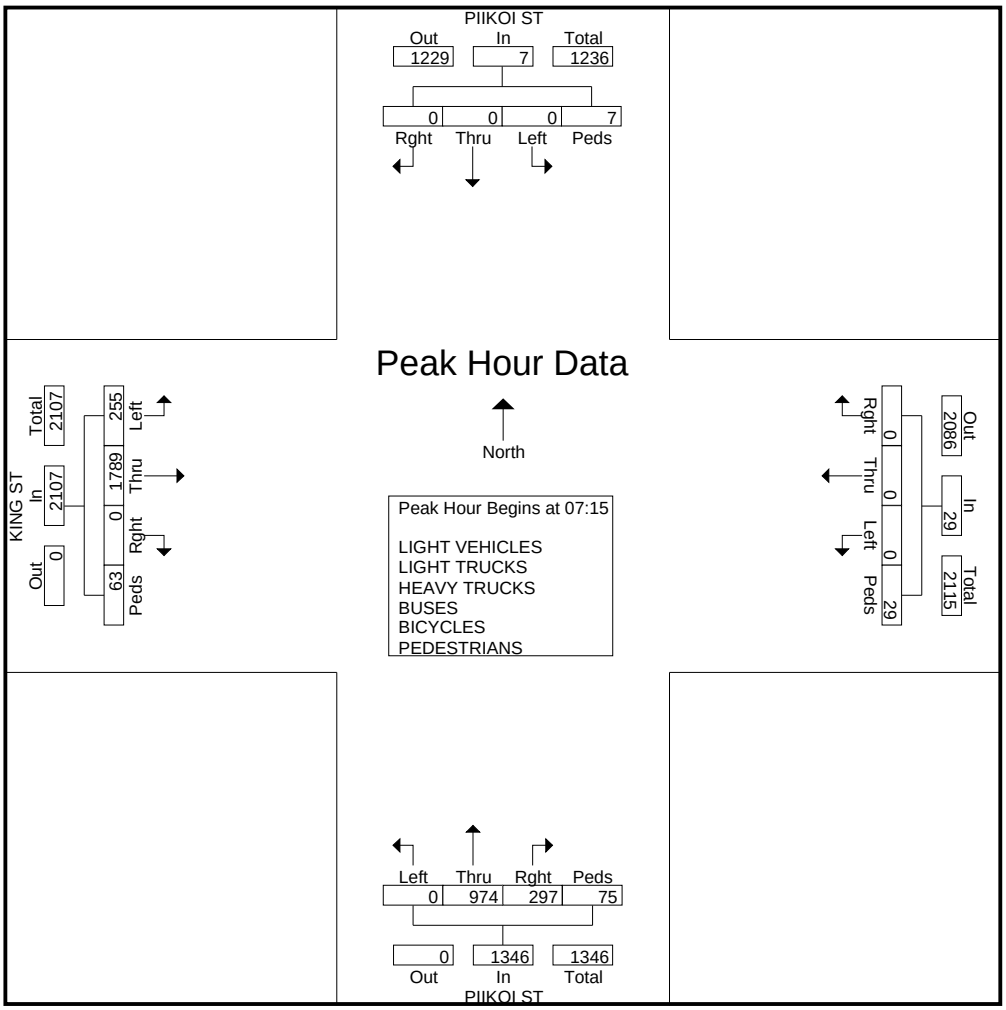
File Name : 4.26_Piikoi St - King St
Site Code : 00000000
Start Date : 4/26/2017
Page No : 4

	PIIKOI ST Southbound					Westbound					PIIKOI ST Northbound					KING ST Eastbound					
Start Time	Rght	Thru	Left	Peds	App. Total	Rght	Thru	Left	Peds	App. Total	Rght	Thru	Left	Peds	App. Total	Rght	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 to 10:15 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	1	1	0	0	0	7	7	78	**263**	0	18	**359**	0	**479**	58	11	**548**	**915**
07:30	0	0	0	**3**	**3**	0	0	0	**9**	**9**	**84**	239	0	**22**	345	0	459	55	15	529	886
07:45	0	0	0	2	2	0	0	0	4	4	78	240	0	18	336	0	450	**76**	**20**	546	888
08:00	0	0	0	1	1	0	0	0	9	9	57	232	0	17	306	0	401	66	17	484	800
Total Volume	0	0	0	7	7	0	0	0	29	29	297	974	0	75	1346	0	1789	255	63	2107	3489
% App. Total	0	0	0	100		0	0	0	100		22.1	72.4	0	5.6		0	84.9	12.1	3		
PHF	.000	.000	.000	.583	.583	.000	.000	.000	.806	.806	.884	.926	.000	.852	.937	.000	.934	.839	.788	.961	.953



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File Name : 04.25.17-04.26.17_Piikoi_St+Kapiolani_Blvd
Site Code : 00000000
Start Date : 4/25/2017

Groups Printed- LIGHT VEHICLES - LIGHT TRUCKS - HEAVY TRUCKS - BUSES - BICYCLES - PEDESTRIANS

	PIIKOI ST Southbound				KAPIOLANI BLVD Westbound				PIIKOI ST Northbound				KAPIOLANI BLVD Eastbound				
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Int. Total
05:30 AM	0	0	0	2	2	45	12	4	2	63	2	1	1	48	2	5	189
05:45 AM	0	0	0	9	5	61	10	1	3	75	3	0	0	49	7	6	229
Total	0	0	0	17	9	154	36	10	7	226	12	1	1	157	16	16	662
06:00 AM	0	0	0	3	3	97	17	1	9	108	9	8	0	48	5	8	316
06:15 AM	0	0	0	3	4	109	20	4	4	154	1	7	0	57	5	6	374
06:30 AM	0	0	0	5	1	145	16	6	6	142	12	1	0	75	6	2	417
06:45 AM	0	0	0	3	1	161	36	7	6	190	16	7	0	90	14	9	540
Total	0	0	0	14	9	512	89	18	25	594	38	23	0	270	30	25	1647
07:00 AM	0	0	0	5	5	173	34	5	12	233	34	15	3	234	96	18	867
07:15 AM	0	0	0	9	15	215	46	10	11	221	37	10	1	196	71	7	849
07:30 AM	0	0	0	15	13	252	48	9	15	256	75	6	1	185	98	13	986
07:45 AM	0	0	0	14	8	292	37	15	9	268	46	13	2	188	73	19	984
Total	0	0	0	43	41	932	165	39	47	978	192	44	7	803	338	57	3686
08:00 AM	0	0	0	6	16	338	84	20	11	261	18	30	0	204	33	15	1036
08:15 AM	0	0	0	18	17	330	77	26	17	197	11	14	0	189	39	14	949
08:30 AM	0	0	0	11	11	317	58	20	13	183	16	18	0	220	41	6	914
08:45 AM	0	0	0	13	15	242	58	14	10	185	33	20	1	182	39	17	829
Total	0	0	0	48	59	1227	277	80	51	826	78	82	1	795	152	52	3728
09:00 AM	0	0	0	55	10	229	43	23	16	198	35	21	1	228	41	12	912
09:15 AM	0	0	0	0	7	213	38	8	18	155	24	17	0	205	17	11	713
09:30 AM	0	0	0	0	13	142	44	14	21	177	18	14	2	227	32	17	721
09:45 AM	0	0	0	0	18	185	43	8	18	200	22	11	0	206	25	8	744
Total	0	0	0	55	48	769	168	53	73	730	99	63	3	866	115	48	3090
10:00 AM	0	0	0	4	7	188	68	16	17	185	28	17	1	222	51	7	811
10:15 AM	0	0	0	10	13	171	37	11	17	196	30	7	2	235	33	6	768
10:30 AM	0	0	0	17	15	170	63	19	21	213	38	11	2	228	40	8	845
10:45 AM	0	0	0	12	20	185	58	13	20	227	34	20	4	236	46	9	884
Total	0	0	0	43	55	714	226	59	75	821	130	55	9	921	170	30	3308

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File Name : 04.26.17-04.27.17_Piikoi_St-Kapiolani_Blvd
Site Code : 00000000
Start Date : 4/26/2017
Page No : 1

Groups Printed- LIGHT VEHICLES - LIGHT TRUCKS - HEAVY TRUCKS - BUSES - BICYCLES - PEDESTRIANS

	PIIKOI ST Southbound				KAPIOLANI BLVD Westbound				PIIKOI ST Northbound				KAPIOLANI BLVD Eastbound				
Start Time	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Left	Thru	Rght	Peds	Int. Total
11:00 AM	0	0	0	19	21	187	41	12	29	234	29	15	1	233	22	11	854
11:15 AM	0	0	0	16	23	184	52	15	33	245	32	12	1	250	23	18	904
11:30 AM	0	0	0	15	19	193	58	19	25	249	35	9	1	263	29	20	935
11:45 AM	0	0	0	18	16	200	56	16	27	264	37	11	2	262	35	22	966
Total	0	0	0	68	79	764	207	62	114	992	133	47	5	1008	109	71	3659
12:00 PM	0	0	0	20	19	181	59	11	24	238	48	13	1	223	36	18	891
12:15 PM	0	0	0	22	23	175	53	12	34	255	45	16	0	238	27	15	915
12:30 PM	0	0	0	14	24	158	46	14	26	266	35	19	1	259	30	13	905
12:45 PM	0	0	0	12	24	172	49	17	24	251	35	16	0	275	32	12	919
Total	0	0	0	68	90	686	207	54	108	1010	163	64	2	995	125	58	3630
01:00 PM	0	0	0	11	23	158	48	21	23	259	56	23	1	238	29	14	904
01:15 PM	0	0	0	8	18	168	52	17	21	272	42	28	0	237	32	12	907
01:30 PM	0	0	0	13	11	173	65	22	23	274	49	26	2	234	27	18	937
01:45 PM	0	0	0	13	11	174	55	18	22	257	43	22	0	227	27	17	886
Total	0	0	0	45	63	673	220	78	89	1062	190	99	3	936	115	61	3634
02:00 PM	0	0	0	15	18	204	53	13	47	259	37	17	3	197	34	12	909
02:15 PM	0	0	0	12	24	169	62	17	44	251	47	14	1	180	21	7	849
02:30 PM	0	0	0	18	28	193	51	14	38	196	34	10	2	163	17	4	768
02:45 PM	0	0	0	26	27	172	46	9	60	110	28	8	1	142	13	18	660
Total	0	0	0	71	97	738	212	53	189	816	146	49	7	682	85	41	3186
03:00 PM	0	0	0	12	14	153	55	16	21	239	51	4	1	257	31	13	867
03:15 PM	0	0	0	8	12	148	62	18	27	271	46	21	2	288	31	15	949
03:30 PM	0	0	0	18	6	149	45	15	19	283	63	25	1	263	24	22	933
03:45 PM	0	0	0	9	8	165	71	5	30	284	46	22	1	345	37	25	1048
Total	0	0	0	47	40	615	233	54	97	1077	206	72	5	1153	123	75	3797
04:00 PM	0	0	0	9	7	173	63	13	22	263	54	24	1	394	41	13	1077
04:15 PM	0	0	0	10	8	167	69	16	26	277	59	18	0	420	39	13	1122
04:30 PM	0	0	0	14	6	168	60	18	30	269	51	14	1	474	42	16	1163
04:45 PM	0	0	0	12	8	162	54	14	31	250	61	13	1	489	38	9	1142
Total	0	0	0	45	29	670	246	61	109	1059	225	69	3	1777	160	51	4504
05:00 PM	0	0	0	17	7	154	64	19	20	260	56	19	1	510	40	16	1183
05:15 PM	0	0	0	16	5	162	59	15	26	252	68	17	2	484	42	14	1162
05:30 PM	0	0	0	20	8	166	52	17	33	255	69	18	2	464	49	19	1172
05:45 PM	0	0	0	25	9	154	57	23	23	263	39	25	1	429	49	24	1121
Total	0	0	0	78	29	636	232	74	102	1030	232	79	6	1887	180	73	4638
06:00 PM	0	0	0	23	13	171	44	20	22	250	37	21	2	334	37	13	987
06:15 PM	0	0	0	28	15	169	49	12	25	244	48	19	1	322	32	16	980
06:30 PM	0	0	0	20	13	189	61	17	22	255	33	13	1	245	36	18	923
06:45 PM	0	0	0	19	9	200	41	24	16	229	41	16	1	219	30	24	869
Total	0	0	0	90	50	729	195	73	85	978	159	69	5	1120	135	71	3759
07:00 PM	0	0	0	13	2	188	47	13	11	200	20	19	0	166	11	17	707
07:15 PM	0	0	0	8	6	222	52	9	7	207	21	10	0	188	22	16	768
07:30 PM	0	0	0	7	10	279	62	8	18	198	13	8	4	169	23	11	810
07:45 PM	0	0	0	15	14	307	84	10	15	216	22	8	0	187	15	17	910
Total	0	0	0	43	32	996	245	40	51	821	76	45	4	710	71	61	3195
08:00 PM	0	0	0	16	12	208	67	14	19	232	26	9	1	162	11	12	789

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File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAPIOLANI BLVD SOUTHBOUND			KAPIOLANI BLVD NORTHBOUND			H-1 ON-RAMP EASBOUND			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
05:30	6	39	0	28	20	0	0	0	0	93
05:45	7	31	0	33	25	2	0	0	0	98
Total	13	70	0	61	45	2	0	0	0	191
06:00	14	65	0	33	42	0	0	0	0	154
06:15	11	86	0	38	39	3	0	0	1	178
06:30	18	129	0	55	57	3	0	0	1	263
06:45	19	172	0	54	67	2	0	0	0	314
Total	62	452	0	180	205	8	0	0	2	909
07:00	30	195	0	86	89	2	0	0	0	402
07:15	42	213	0	79	121	0	0	0	0	455
07:30	80	274	0	73	150	2	0	0	1	580
07:45	36	275	0	92	127	2	0	0	4	536
Total	188	957	0	330	487	6	0	0	5	1973
08:00	35	232	0	61	82	3	0	0	0	413
08:15	33	206	0	65	68	1	1	0	0	374
08:30	28	133	0	76	82	5	0	1	0	325
08:45	39	97	0	77	99	3	0	0	1	316
Total	135	668	0	279	331	12	1	1	1	1428
09:00	27	119	0	64	62	5	0	0	2	279
09:15	28	105	0	94	107	2	0	0	0	336
09:30	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0
Total	55	224	0	158	169	7	0	0	2	615
10:00	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0

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File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017

Groups Printed- Motorcycles - Cars - Light Goods Vehicles - Buses - Unit Trucks - Articulated Trucks - Bicycles on Road - Bicycles on Crosswalk - Pedestrians

	KAPIOLANI BLVD SOUTHBOUND			KAPIOLANI BLVD NORTHBOUND			H-1 ON-RAMP EASBOUND			
Start Time	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	Int. Total
14:45	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
15:00	36	163	0	102	176	7	0	0	1	485
15:15	50	119	0	147	183	3	0	0	1	503
15:30	55	144	0	128	199	0	0	0	2	528
15:45	47	149	0	115	221	14	0	1	0	547
Total	188	575	0	492	779	24	0	1	4	2063
16:00	55	146	0	135	239	12	0	0	1	588
16:15	63	142	0	127	218	6	0	0	0	556
16:30	58	137	0	122	231	6	0	0	1	555
16:45	68	148	0	135	228	6	0	0	0	585
Total	244	573	0	519	916	30	0	0	2	2284
17:00	55	136	0	155	223	4	0	0	2	575
17:15	52	131	0	137	224	6	0	0	3	553
17:30	48	131	0	136	204	5	0	0	1	525
17:45	72	120	0	118	249	2	0	1	2	564
Total	227	518	0	546	900	17	0	1	8	2217
18:00	56	129	0	146	205	0	0	0	0	536
18:15	47	130	0	105	167	5	0	1	1	456
18:30	32	129	0	112	145	3	0	0	4	425
18:45	39	122	0	89	148	2	0	0	3	403
Total	174	510	0	452	665	10	0	1	8	1820
Grand Total	1286	4547	0	3017	4497	116	1	4	32	13500
Apprch %	22	78	0	39.5	58.9	1.5	2.7	10.8	86.5	
Total %	9.5	33.7	0	22.3	33.3	0.9	0	0	0.2	
Motorcycles	0	129	0	101	9	0	0	0	0	239
% Motorcycles	0	2.8	0	3.3	0.2	0	0	0	0	1.8
Cars	1164	3845	0	2489	4204	0	1	0	0	11703
% Cars	90.5	84.6	0	82.5	93.5	0	100	0	0	86.7
Light Goods Vehicles	115	488	0	362	260	0	0	0	0	1225
% Light Goods Vehicles	8.9	10.7	0	12	5.8	0	0	0	0	9.1
Buses	3	31	0	33	14	0	0	0	0	81
% Buses	0.2	0.7	0	1.1	0.3	0	0	0	0	0.6
Single-Unit Trucks	4	23	0	19	10	0	0	0	0	56
% Single-Unit Trucks	0.3	0.5	0	0.6	0.2	0	0	0	0	0.4
Articulated Trucks	0	2	0	2	0	0	0	0	0	4
% Articulated Trucks	0	0	0	0.1	0	0	0	0	0	0
Bicycles on Road	0	29	0	11	0	0	0	4	0	44
% Bicycles on Road	0	0.6	0	0.4	0	0	0	100	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	8	0	0	8	16
% Bicycles on Crosswalk	0	0	0	0	0	6.9	0	0	25	0.1
Pedestrians	0	0	0	0	0	108	0	0	24	132
% Pedestrians	0	0	0	0	0	93.1	0	0	75	1

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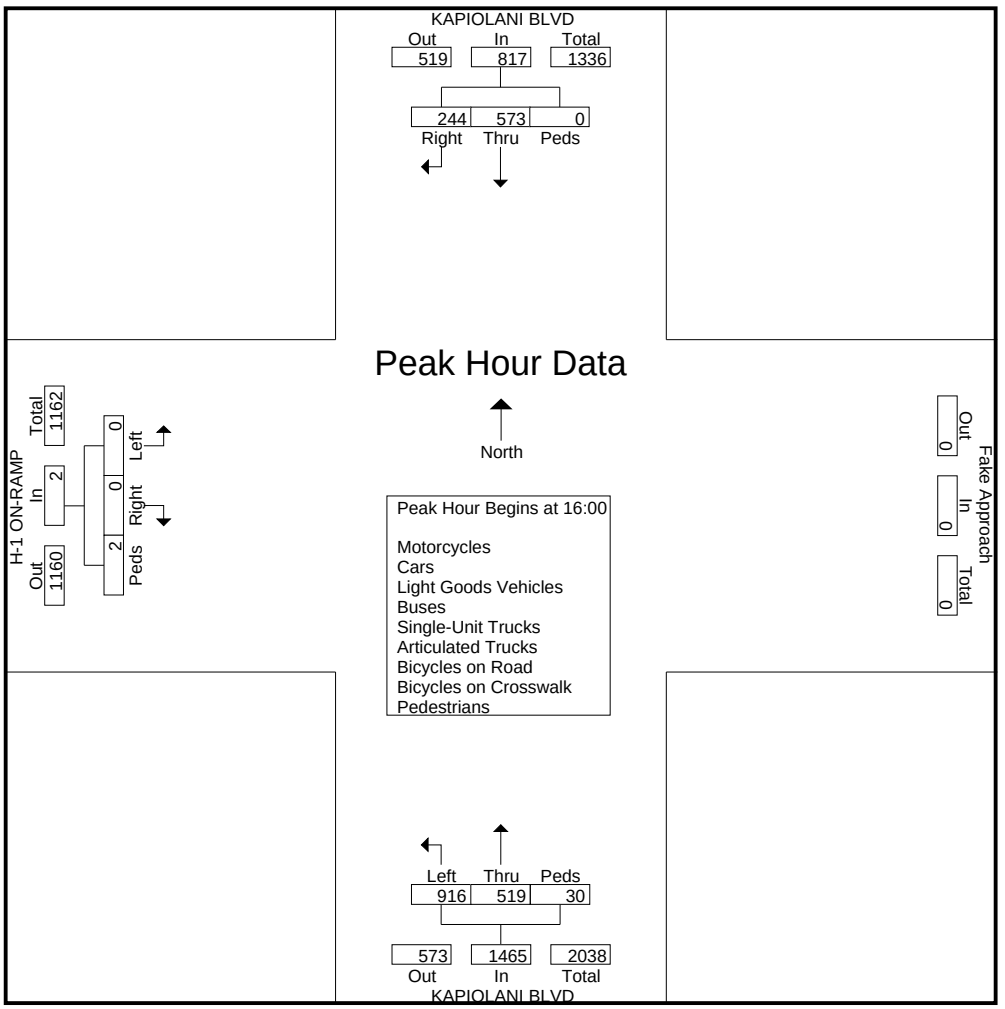
File Name : Kapiolani Blvd - H-1 EB On-Ramp
Site Code : 17-006.02 Piikoi On-Ramp Closure Study
Start Date : 4/26/2017
Page No : 3

	KAPIOLANI BLVD SOUTHBOUND				KAPIOLANI BLVD NORTHBOUND				H-1 ON-RAMP EASBOUND				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 05:30 to 18:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:00													
16:00	55	146	0	201	**135**	**239**	**12**	**386**	0	0	**1**	**1**	**588**
16:15	63	142	0	205	127	218	6	351	0	0	0	0	556
16:30	58	137	0	195	122	231	6	359	0	0	1	1	555
16:45	**68**	**148**	0	**216**	135	228	6	369	0	0	0	0	585
Total Volume	244	573	0	817	519	916	30	1465	0	0	2	2	2284
% App. Total	29.9	70.1	0		35.4	62.5	2		0	0	100		
PHF	.897	.968	.000	.946	.961	.958	.625	.949	.000	.000	.500	.500	.971



APPENDIX A

TRAFFIC COUNT DATA

- 24-Hour Count Data

AUSTIN TSUTSUMI & ASSOCIATES
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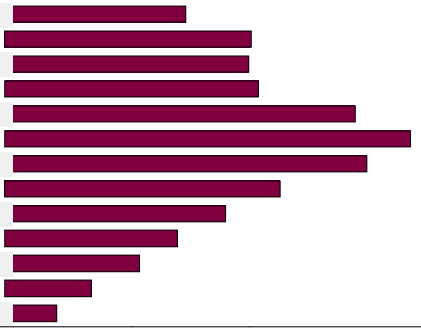
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Mon 03-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	230	244	228	702
12:00 PM		246	228	240	241	955
01:00		226	236	229	254	945
02:00		232	246	242	260	980
03:00		282	353	383	336	1354
04:00		391	377	406	392	1566
05:00		428	360	328	282	1398
06:00		298	286	273	208	1065
07:00		216	216	219	204	855
08:00		143	174	186	166	669
09:00		158	128	132	104	522
10:00		108	97	71	62	338
11:00		54	53	53	44	204
Day Total						11553



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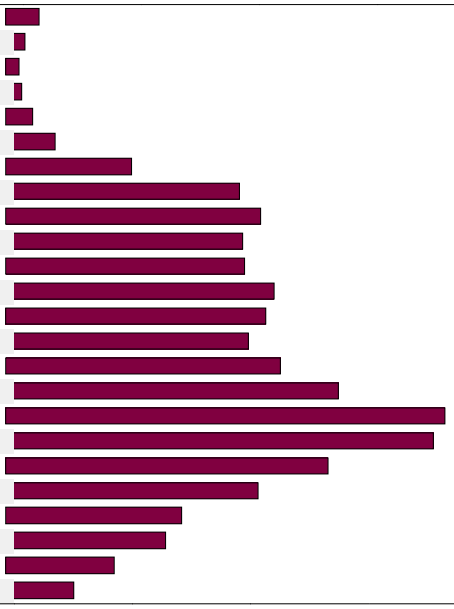
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Tue 04-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		40	34	30	28	132
01:00		24	12	18	25	79
02:00		14	19	16	7	56
03:00		12	15	18	20	65
04:00		16	29	26	36	107
05:00		36	44	52	62	194
06:00		80	106	139	163	488
07:00		200	216	252	237	905
08:00		289	231	239	227	986
09:00		215	220	234	247	916
10:00		224	207	242	252	925
11:00		277	244	250	266	1037
12:00 PM		252	250	269	234	1005
01:00		213	232	262	232	939
02:00		255	254	274	279	1062
03:00		300	304	318	362	1284
04:00		421	364	460	450	1695
05:00		472	408	428	343	1651
06:00		370	306	292	278	1246
07:00		234	271	248	222	975
08:00		190	160	168	164	682
09:00		170	171	142	136	619
10:00		146	98	91	86	421
11:00		88	63	60	54	265
Day Total						17734



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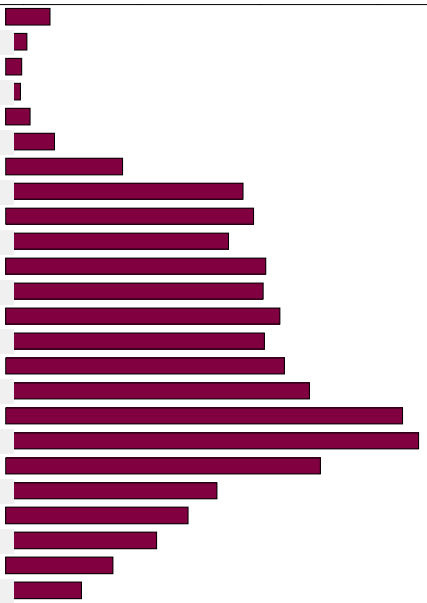
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Wed 05-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		48	41	42	42	173
01:00		28	26	14	17	85
02:00		22	16	12	16	66
03:00		11	11	16	22	60
04:00		16	24	26	32	98
05:00		38	45	64	45	192
06:00		80	95	128	150	453
07:00		208	219	236	257	920
08:00		264	234	224	236	958
09:00		223	194	218	228	863
10:00		267	236	245	258	1006
11:00		248	258	228	262	996
12:00 PM		278	252	248	282	1060
01:00		249	263	228	260	1000
02:00		278	248	272	280	1078
03:00		278	289	296	312	1175
04:00		372	346	406	410	1534
05:00		394	411	446	344	1595
06:00		380	326	270	239	1215
07:00		227	180	228	182	817
08:00		180	189	166	171	706
09:00		158	154	154	118	584
10:00		132	110	93	82	417
11:00		85	83	72	56	296
Day Total						17347



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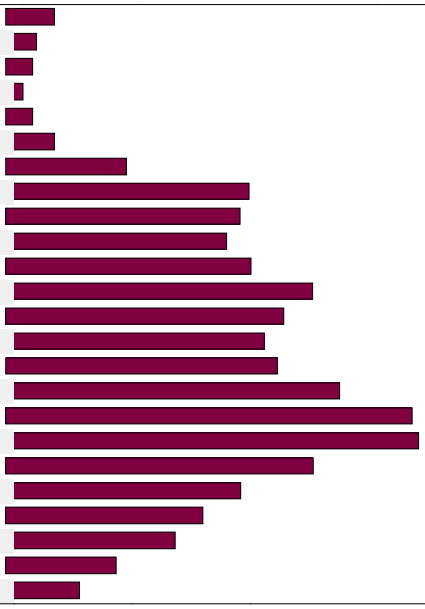
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		54	50	43	44	191
01:00		23	32	30	37	122
02:00		30	36	28	14	108
03:00		15	14	11	31	71
04:00		21	23	28	34	106
05:00		28	40	60	63	191
06:00		86	94	133	156	469
07:00		197	222	263	260	942
08:00		224	244	217	222	907
09:00		188	220	217	229	854
10:00		244	232	234	238	948
11:00		317	299	270	300	1186
12:00 PM		268	274	270	262	1074
01:00		252	240	246	263	1001
02:00		244	275	254	276	1049
03:00		309	286	362	334	1291
04:00		371	366	412	422	1571
05:00		450	429	408	308	1595
06:00		360	314	268	247	1189
07:00		219	230	258	203	910
08:00		204	207	176	177	764
09:00		189	174	143	150	656
10:00		130	108	87	104	429
11:00		77	74	78	60	289
Day Total						17913



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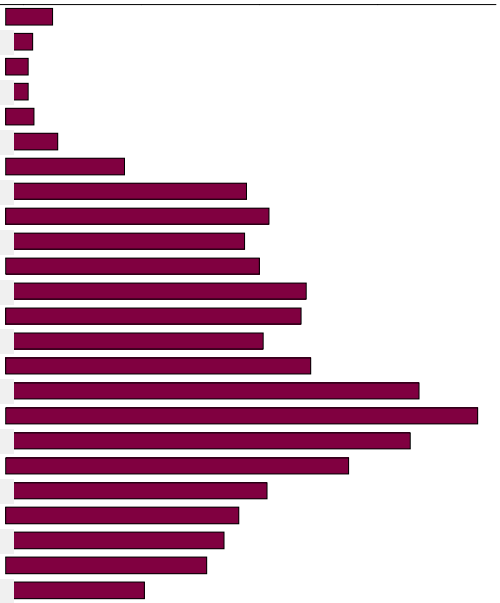
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Fri 07-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		50	48	42	43	183
01:00		28	24	22	34	108
02:00		22	18	26	24	90
03:00		18	15	24	32	89
04:00		11	34	32	36	113
05:00		34	50	54	66	204
06:00		87	82	142	150	461
07:00		188	238	247	259	932
08:00		264	252	250	252	1018
09:00		208	224	228	264	924
10:00		269	233	234	244	980
11:00		294	279	306	282	1161
12:00 PM		281	294	300	268	1143
01:00		265	246	284	200	995
02:00		262	286	316	314	1178
03:00		356	376	430	434	1596
04:00		485	453	454	431	1823
05:00		444	437	350	331	1562
06:00		378	358	286	304	1326
07:00		278	254	246	232	1010
08:00		232	222	228	219	901
09:00		204	212	214	214	844
10:00		225	200	188	166	779
11:00		158	146	116	118	538
Day Total						19958



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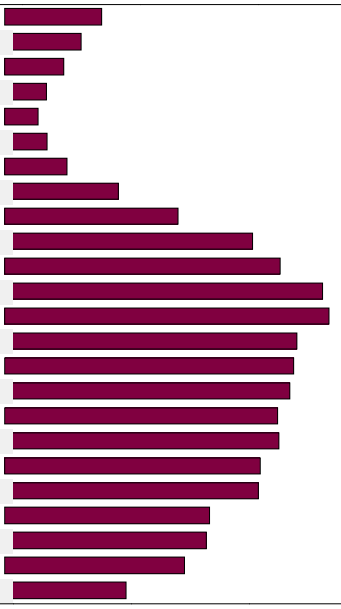
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Sat 08-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		98	110	77	93	378
01:00		74	78	71	75	298
02:00		72	66	54	40	232
03:00		49	25	42	48	164
04:00		42	36	26	29	133
05:00		29	40	48	50	167
06:00		44	48	70	81	243
07:00		82	114	114	132	442
08:00		140	160	168	203	671
09:00		224	228	225	281	958
10:00		218	258	302	288	1066
11:00		306	280	322	320	1228
12:00 PM		302	309	321	322	1254
01:00		291	270	290	278	1129
02:00		258	281	270	308	1117
03:00		278	279	266	279	1102
04:00		261	267	255	272	1055
05:00		270	282	272	236	1060
06:00		234	234	238	282	988
07:00		234	262	240	244	980
08:00		204	200	191	198	793
09:00		196	192	200	193	781
10:00		214	173	148	162	697
11:00		124	116	116	115	471
Day Total						17407



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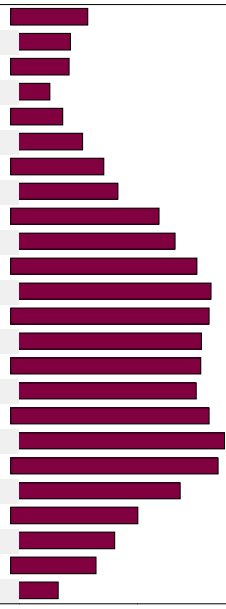
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Sun 09-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		89	76	58	78	301
01:00		56	58	59	60	233
02:00		62	60	45	61	228
03:00		35	48	32	39	154
04:00		58	30	55	60	203
05:00		53	65	88	74	280
06:00		76	88	93	105	362
07:00		98	100	111	108	417
08:00		134	159	132	150	575
09:00		142	147	170	178	637
10:00		185	168	178	190	721
11:00		206	198	189	182	775
12:00 PM		185	192	200	192	769
01:00		208	172	176	182	738
02:00		188	174	176	198	736
03:00		181	172	199	167	719
04:00		174	184	220	190	768
05:00		190	218	212	208	828
06:00		237	202	172	193	804
07:00		188	162	156	150	656
08:00		129	128	129	108	494
09:00		112	94	100	98	404
10:00		100	87	80	65	332
11:00		49	54	35	48	186
Day Total						12320



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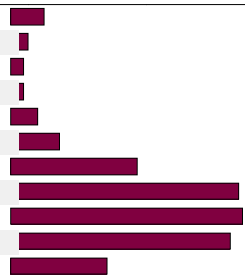
Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Mon 10-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		50	27	32	24	133
01:00		18	16	12	24	70
02:00		15	17	12	9	53
03:00		13	11	12	16	52
04:00		20	25	31	32	108
05:00		36	32	62	61	191
06:00		95	97	152	148	492
07:00		190	200	255	236	881
08:00		235	230	214	218	897
09:00		232	188	208	222	850
10:00		231	144	*	*	375
11:00		*	*	*	*	*
12:00 PM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						4102
Total						118334



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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	10-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Mon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		*	227			*	165				
12:15		*	265			*	190				
12:30		*	274			*	214				
12:45		*	271	0	1037	*	203	0	772	0	1809
01:00		*	252			*	194				
01:15		*	242			*	188				
01:30		*	258			*	208				
01:45		*	248	0	1000	*	186	0	776	0	1776
02:00		*	262			*	219				
02:15		*	252			*	200				
02:30		*	242			*	204				
02:45		*	257	0	1013	*	222	0	845	0	1858
03:00		*	268			*	224				
03:15		*	313			*	252				
03:30		*	313			*	249				
03:45		*	346	0	1240	*	264	0	989	0	2229
04:00		*	350			*	252				
04:15		*	353			*	246				
04:30		*	410			*	272				
04:45		*	428	0	1541	*	284	0	1054	0	2595
05:00		*	438			*	298				
05:15		*	393			*	265				
05:30		*	380			*	270				
05:45		*	277	0	1488	*	208	0	1041	0	2529
06:00		*	313			*	224				
06:15		*	280			*	206				
06:30		*	212			*	160				
06:45		*	192	0	997	*	136	0	726	0	1723
07:00		*	224			*	160				
07:15		*	193			*	128				
07:30		*	174			*	116				
07:45		*	189	0	780	*	134	0	538	0	1318
08:00		*	135			*	89				
08:15		*	174			*	116				
08:30		*	146			*	100				
08:45		*	128	0	583	*	92	0	397	0	980
09:00		*	128			*	90				
09:15		*	136			*	82				
09:30		*	128			*	88				
09:45		*	110	0	502	*	70	0	330	0	832
10:00		*	108			*	64				
10:15		*	108			*	65				
10:30		282	63			202	44				
10:45		257	70	539	349	186	48	388	221	927	570
11:00		284	44			210	32				
11:15		265	53			195	26				
11:30		261	47			204	29				
11:45		250	62	1060	206	194	35	803	122	1863	328
Total		1599	10736			1191	7811			2790	18547
Percent		13.0%	87.0%			13.2%	86.8%			13.1%	86.9%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	11-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		32	258			20	206				
12:15		35	258			23	208				
12:30		27	234			20	178				
12:45		21	260	115	1010	7	200	70	792	185	1802
01:00		15	256			9	202				
01:15		23	290			14	216				
01:30		23	304			9	216				
01:45		19	282	80	1132	8	193	40	827	120	1959
02:00		23	306			11	218				
02:15		16	307			5	224				
02:30		10	323			7	248				
02:45		6	326	55	1262	5	244	28	934	83	2196
03:00		16	352			13	258				
03:15		14	321			9	234				
03:30		16	385			8	241				
03:45		18	348	64	1406	10	244	40	977	104	2383
04:00		19	429			12	284				
04:15		17	413			13	270				
04:30		32	475			25	311				
04:45		33	421	101	1738	20	282	70	1147	171	2885
05:00		32	379			27	272				
05:15		37	378			30	272				
05:30		54	426			45	295				
05:45		67	314	190	1497	57	229	159	1068	349	2565
06:00		79	395			64	286				
06:15		102	326			86	238				
06:30		128	272			96	190				
06:45		174	236	483	1229	131	166	377	880	860	2109
07:00		219	203			177	152				
07:15		208	180			167	116				
07:30		250	216			198	143				
07:45		260	198	937	797	214	130	756	541	1693	1338
08:00		258	186			223	116				
08:15		241	180			216	118				
08:30		212	177			182	128				
08:45		218	160	929	703	171	102	792	464	1721	1167
09:00		222	170			167	114				
09:15		214	170			150	102				
09:30		199	133			149	90				
09:45		234	138	869	611	168	87	634	393	1503	1004
10:00		206	138			158	92				
10:15		212	116			168	72				
10:30		256	92			200	54				
10:45		226	69	900	415	178	40	704	258	1604	673
11:00		238	76			180	44				
11:15		272	65			198	35				
11:30		252	54			204	36				
11:45		266	63	1028	258	198	35	780	150	1808	408
Total		5751	12058			4450	8431			10201	20489
Percent		32.3%	67.7%			34.5%	65.5%			33.2%	66.8%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	12-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		48	242			29	0				
12:15		38	252			20	0				
12:30		43	262			31	0				
12:45		26	278	155	1034	18	0	98	0	253	1034
01:00		27	237			16	0				
01:15		30	272			18	0				
01:30		12	261			6	0				
01:45		22	281	91	1051	15	0	55	0	146	1051
02:00		26	235			11	0				
02:15		23	238			0	0				
02:30		12	262			0	0				
02:45		22	289	83	1024	0	0	11	0	94	1024
03:00		12	308			0	0				
03:15		15	293			0	0				
03:30		18	335			0	0				
03:45		10	302	55	1238	0	0	0	0	55	1238
04:00		23	368			0	0				
04:15		24	366			0	0				
04:30		33	390			0	0				
04:45		34	423	114	1547	0	0	0	0	114	1547
05:00		36	440			0	0				
05:15		40	407			0	0				
05:30		52	420			0	0				
05:45		86	314	214	1581	0	0	0	0	214	1581
06:00		76	330			0	0				
06:15		88	308			1	0				
06:30		132	296			2	0				
06:45		156	228	452	1162	3	0	6	0	458	1162
07:00		202	241			0	0				
07:15		232	212			4	0				
07:30		240	213			2	0				
07:45		284	209	958	875	0	0	6	0	964	875
08:00		256	234			1	0				
08:15		260	252			0	0				
08:30		212	222			0	0				
08:45		244	167	972	875	0	0	1	0	973	875
09:00		201	176			0	0				
09:15		218	171			0	0				
09:30		198	126			0	0				
09:45		241	115	858	588	0	0	0	0	858	588
10:00		230	132			0	0				
10:15		222	89			0	0				
10:30		238	87			0	0				
10:45		260	79	950	387	0	0	0	0	950	387
11:00		238	91			0	0				
11:15		256	84			0	0				
11:30		250	65			0	0				
11:45		239	56	983	296	0	0	0	0	983	296
Total		5885	11658			177	0			6062	11658
Percent		33.5%	66.5%			100.0%	0.0%			34.2%	65.8%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	13-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		51	265			0	0				
12:15		48	261			0	0				
12:30		36	250			0	0				
12:45		27	264	162	1040	0	0	0	0	162	1040
01:00		33	256			0	0				
01:15		37	246			2	0				
01:30		30	248			0	0				
01:45		47	270	147	1020	0	0	2	0	149	1020
02:00		26	294			0	0				
02:15		28	274			0	0				
02:30		27	269			0	0				
02:45		21	296	102	1133	0	0	0	0	102	1133
03:00		14	312			0	0				
03:15		23	305			0	0				
03:30		22	314			0	0				
03:45		18	314	77	1245	0	0	0	0	77	1245
04:00		24	354			0	0				
04:15		24	362			0	0				
04:30		30	409			0	0				
04:45		36	410	114	1535	0	0	0	0	114	1535
05:00		30	456			0	0				
05:15		46	404			0	0				
05:30		73	389			0	0				
05:45		62	376	211	1625	0	0	0	0	211	1625
06:00		82	378			0	0				
06:15		104	264			0	0				
06:30		134	287			0	0				
06:45		174	245	494	1174	0	0	0	0	494	1174
07:00		189	236			0	0				
07:15		228	246			0	0				
07:30		222	241			0	0				
07:45		250	204	889	927	0	0	0	0	889	927
08:00		248	220			0	0				
08:15		242	213			0	0				
08:30		215	172			0	0				
08:45		198	183	903	788	0	0	0	0	903	788
09:00		202	185			0	0				
09:15		205	195			0	0				
09:30		226	167			0	0				
09:45		233	165	866	712	0	0	0	0	866	712
10:00		216	170			0	0				
10:15		216	119			0	0				
10:30		220	105			0	0				
10:45		246	101	898	495	0	0	0	0	898	495
11:00		236	103			0	0				
11:15		240	88			0	0				
11:30		259	70			0	0				
11:45		262	80	997	341	0	0	0	0	997	341
Total		5860	12035			2	0			5862	12035
Percent		32.7%	67.3%			100.0%	0.0%			32.8%	67.2%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	14-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Fri	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		56	280			0	0				
12:15		59	285			0	0				
12:30		36	312			0	0				
12:45		64	351	215	1228	0	0	0	0	215	1228
01:00		52	314			0	0				
01:15		36	352			0	0				
01:30		31	304			0	0				
01:45		47	218	166	1188	0	0	0	0	166	1188
02:00		41	279			0	0				
02:15		30	302			0	0				
02:30		28	297			0	0				
02:45		24	243	123	1121	0	0	0	0	123	1121
03:00		19	325			0	0				
03:15		11	329			0	0				
03:30		27	351			0	0				
03:45		37	334	94	1339	0	0	0	0	94	1339
04:00		28	366			0	0				
04:15		28	329			0	0				
04:30		23	354			0	0				
04:45		26	338	105	1387	0	0	0	0	105	1387
05:00		40	376			0	0				
05:15		35	321			0	0				
05:30		54	316			0	0				
05:45		50	300	179	1313	0	0	0	0	179	1313
06:00		66	318			0	0				
06:15		84	274			0	0				
06:30		98	276			0	0				
06:45		118	278	366	1146	0	0	0	0	366	1146
07:00		122	221			0	0				
07:15		145	219			0	0				
07:30		144	244			0	0				
07:45		172	226	583	910	0	0	0	0	583	910
08:00		136	199			0	0				
08:15		186	216			0	0				
08:30		182	215			0	0				
08:45		214	221	718	851	0	0	0	0	718	851
09:00		223	208			0	0				
09:15		198	234			0	0				
09:30		224	242			0	0				
09:45		214	170	859	854	0	0	0	0	859	854
10:00		243	182			0	0				
10:15		251	154			0	0				
10:30		259	158			0	0				
10:45		298	160	1051	654	0	0	0	0	1051	654
11:00		298	142			0	0				
11:15		314	128			0	0				
11:30		296	126			0	0				
11:45		302	108	1210	504	0	0	0	0	1210	504
Total		5669	12495			0	0			5669	12495
Percent		31.2%	68.8%			0.0%	0.0%			31.2%	68.8%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	15-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Sat	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		98	282			0	0				
12:15		106	282			0	0				
12:30		96	282			0	0				
12:45		84	249	384	1095	0	0	0	0	384	1095
01:00		82	266			0	0				
01:15		74	252			0	0				
01:30		74	241			0	0				
01:45		74	242	304	1001	0	0	0	0	304	1001
02:00		97	256			0	0				
02:15		69	254			0	0				
02:30		51	260			0	0				
02:45		46	256	263	1026	0	0	0	0	263	1026
03:00		46	244			0	0				
03:15		38	252			0	0				
03:30		33	234			0	0				
03:45		44	222	161	952	0	0	0	0	161	952
04:00		36	216			0	0				
04:15		40	250			0	0				
04:30		26	268			0	0				
04:45		28	233	130	967	0	0	0	0	130	967
05:00		34	254			0	0				
05:15		32	236			0	0				
05:30		36	244			0	0				
05:45		34	272	136	1006	0	0	0	0	136	1006
06:00		44	243			0	0				
06:15		54	244			0	0				
06:30		66	206			0	0				
06:45		72	227	236	920	0	0	0	0	236	920
07:00		80	210			0	0				
07:15		108	199			0	0				
07:30		112	186			0	0				
07:45		122	184	422	779	0	0	0	0	422	779
08:00		119	232			0	0				
08:15		135	212			0	2				
08:30		181	194			0	0				
08:45		195	204	630	842	0	0	0	2	630	844
09:00		178	210			0	0				
09:15		199	184			0	0				
09:30		200	206			0	0				
09:45		198	189	775	789	0	0	0	0	775	789
10:00		232	199			0	0				
10:15		248	192			0	0				
10:30		243	163			0	0				
10:45		256	162	979	716	0	0	0	0	979	716
11:00		239	142			0	0				
11:15		286	142			0	0				
11:30		232	131			0	0				
11:45		258	112	1015	527	0	0	0	0	1015	527
Total		5435	10620			0	2			5435	10622
Percent		33.9%	66.1%			0.0%	100.0%			33.8%	66.2%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	16-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Sun	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		109	149			0	0				
12:15		112	186			0	0				
12:30		96	192			0	0				
12:45		100	206	417	733	0	0	0	0	417	733
01:00		64	220			0	0				
01:15		76	223			0	0				
01:30		58	221			0	0				
01:45		56	232	254	896	0	0	0	0	254	896
02:00		110	198			0	0				
02:15		87	186			0	0				
02:30		65	196			0	0				
02:45		57	206	319	786	0	0	0	0	319	786
03:00		50	205			0	0				
03:15		46	222			0	0				
03:30		43	190			0	0				
03:45		41	182	180	799	0	0	0	0	180	799
04:00		57	167			0	0				
04:15		36	154			0	0				
04:30		23	192			0	0				
04:45		20	170	136	683	0	0	0	0	136	683
05:00		22	166			0	0				
05:15		42	170			0	0				
05:30		32	172			0	0				
05:45		40	189	136	697	0	0	0	0	136	697
06:00		34	166			0	0				
06:15		38	178			0	0				
06:30		60	127			0	0				
06:45		72	154	204	625	0	0	0	0	204	625
07:00		62	145			0	0				
07:15		68	130			0	0				
07:30		88	128			0	0				
07:45		82	129	300	532	0	0	0	0	300	532
08:00		88	124			0	0				
08:15		103	110			0	0				
08:30		125	130			0	0				
08:45		116	102	432	466	0	0	0	0	432	466
09:00		124	97			0	0				
09:15		106	98			0	0				
09:30		128	106			0	0				
09:45		182	96	540	397	0	0	0	0	540	397
10:00		165	76			0	0				
10:15		196	94			0	0				
10:30		198	74			0	0				
10:45		190	54	749	298	0	0	0	0	749	298
11:00		166	54			0	0				
11:15		208	57			0	0				
11:30		150	51			0	0				
11:45		179	40	703	202	0	0	0	0	703	202
Total		4370	7114			0	0			4370	7114
Percent		38.1%	61.9%			0.0%	0.0%			38.1%	61.9%

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start	17-Apr-17	EB LANES		Hour Totals		CONTRAFLOW LANE		Hour Totals		Combined Totals	
Time	Mon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		34	*			0	*				
12:15		33	*			0	*				
12:30		24	*			0	*				
12:45		28	*	119	0	0	*	0	0	119	0
01:00		15	*			0	*				
01:15		18	*			0	*				
01:30		14	*			0	*				
01:45		18	*	65	0	0	*	0	0	65	0
02:00		12	*			0	*				
02:15		20	*			0	*				
02:30		11	*			0	*				
02:45		8	*	51	0	0	*	0	0	51	0
03:00		12	*			0	*				
03:15		8	*			0	*				
03:30		9	*			0	*				
03:45		16	*	45	0	0	*	0	0	45	0
04:00		15	*			0	*				
04:15		28	*			0	*				
04:30		28	*			0	*				
04:45		42	*	113	0	0	*	0	0	113	0
05:00		30	*			0	*				
05:15		47	*			0	*				
05:30		53	*			0	*				
05:45		64	*	194	0	0	*	0	0	194	0
06:00		90	*			0	*				
06:15		116	*			0	*				
06:30		126	*			0	*				
06:45		185	*	517	0	0	*	0	0	517	0
07:00		176	*			0	*				
07:15		208	*			0	*				
07:30		224	*			0	*				
07:45		274	*	882	0	0	*	0	0	882	0
08:00		244	*			0	*				
08:15		236	*			0	*				
08:30		212	*			0	*				
08:45		192	*	884	0	0	*	0	0	884	0
09:00		208	*			0	*				
09:15		162	*			0	*				
09:30		*	*	*	*	*	*	*	*	*	*
09:45		*	*	*	*	*	*	*	*	*	*
10:00		*	*	*	*	*	*	*	*	*	*
10:15		*	*	*	*	*	*	*	*	*	*
10:30		*	*	*	*	*	*	*	*	*	*
10:45		*	*	*	*	*	*	*	*	*	*
11:00		*	*	*	*	*	*	*	*	*	*
11:15		*	*	*	*	*	*	*	*	*	*
11:30		*	*	*	*	*	*	*	*	*	*
11:45		*	*	*	*	*	*	*	*	*	*
Total		3240	0			0	0			2870	0
Percent		100.0%	0.0%			0.0%	0.0%			100.0%	0.0%
Grand Total		37809	76716			5820	16244			43259	92960
Percent		33.0%	67.0%			26.4%	73.6%			31.8%	68.2%
ADT		ADT 19,622		AADT 19,622							

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	17-Apr-17 Mon	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		*	*	*	*					*
12:15		*	*	*	*					*
12:30		*	*	*	*					*
12:45		*	*	*	*					*
01:00		*	*	*	*					*
01:15		*	*	*	*					*
01:30		*	*	*	*					*
01:45		*	*	*	*					*
02:00		*	*	*	*					*
02:15		*	*	*	*					*
02:30		*	*	*	*					*
02:45		*	*	*	*					*
03:00		*	*	*	*					*
03:15		*	*	*	*					*
03:30		*	*	*	*					*
03:45		*	*	*	*					*
04:00		*	*	*	*					*
04:15		*	*	*	*					*
04:30		*	*	*	*					*
04:45		*	*	*	*					*
05:00		*	*	*	*					*
05:15		*	*	*	*					*
05:30		*	*	*	*					*
05:45		*	*	*	*					*
06:00		*	*	*	*					*
06:15		*	*	*	*					*
06:30		*	*	*	*					*
06:45		*	*	*	*					*
07:00		*	*	*	*					*
07:15		*	*	*	*					*
07:30		*	*	*	*					*
07:45		*	*	*	*					*
08:00		*	*	*	*					*
08:15		*	*	*	*					*
08:30		*	*	*	*					*
08:45		*	*	*	*					*
09:00		*	*	*	*					*
09:15		*	*	*	*					*
09:30		*	*	*	*					*
09:45		210	148	0	0					358
10:00		198	150	0	0					348
10:15		246	188	0	0					434
10:30		255	186	0	0					441
10:45		**264**	**190**	0	0					**454**
11:00		**282**	**210**	0	0					**492**
11:15		**299**	**206**	0	0					**505**
11:30		**266**	**188**	0	0					**454**
11:45		248	172	0	0					420
Total		2268	1638	0	0					3906
Percent		58.1%	41.9%	0.0%	0.0%					
Peak	-	10:45	10:45	-	-	-	-	-	-	10:45
Vol.	-	1111	794	-	-	-	-	-	-	1905
P.H.F.		0.929	0.945							0.943

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	17-Apr-17 Mon	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		260	184	0	0					444
12:15		262	180	0	0					442
12:30		255	182	0	0					437
12:45		275	200	0	0					475
01:00		244	181	0	0					425
01:15		266	186	0	0					452
01:30		264	196	0	0					460
01:45		248	186	0	0					434
02:00		284	204	0	0					488
02:15		260	196	0	0					456
02:30		312	218	0	0					530
02:45		290	208	0	0					498
03:00		330	238	0	0					568
03:15		352	259	0	0					611
03:30		358	232	0	0					590
03:45		368	241	0	0					609
04:00		409	272	0	0					681
04:15		**395**	**259**	0	0					**654**
04:30		**427**	**254**	0	0					**681**
04:45		**436**	**249**	0	0					**685**
05:00		**450**	**278**	0	0					**728**
05:15		383	248	0	0					631
05:30		372	244	0	0					616
05:45		320	218	0	0					538
06:00		318	228	0	0					546
06:15		304	212	0	0					516
06:30		246	180	0	0					426
06:45		221	154	0	0					375
07:00		216	138	0	0					354
07:15		214	156	0	0					370
07:30		192	132	0	0					324
07:45		184	125	0	0					309
08:00		174	117	0	0					291
08:15		164	116	0	0					280
08:30		136	89	0	0					225
08:45		158	102	0	0					260
09:00		144	92	0	0					236
09:15		130	79	0	0					209
09:30		167	112	0	0					279
09:45		128	77	0	0					205
10:00		117	78	0	0					195
10:15		96	67	0	0					163
10:30		70	38	0	0					108
10:45		75	50	0	0					125
11:00		48	28	0	0					76
11:15		54	33	0	0					87
11:30		54	31	0	0					85
11:45		39	27	0	0					66
Total		11469	7774	0	0					19243
Percent		59.6%	40.4%	0.0%	0.0%					
Peak	-	16:15	16:15	-	-	-	-	-	-	16:15
Vol.	-	1708	1040	-	-	-	-	-	-	2748
P.H.F.		0.949	0.935							0.944

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	18-Apr-17 Tue	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		32	19	0	0					51
12:15		37	26	0	0					63
12:30		24	14	0	0					38
12:45		31	17	0	0					48
01:00		17	12	0	0					29
01:15		14	7	0	0					21
01:30		10	6	0	0					16
01:45		24	16	0	0					40
02:00		20	9	0	0					29
02:15		26	17	0	0					43
02:30		14	6	0	0					20
02:45		14	6	0	0					20
03:00		10	5	0	0					15
03:15		14	8	0	0					22
03:30		20	10	0	0					30
03:45		20	13	0	0					33
04:00		19	13	0	0					32
04:15		21	11	0	0					32
04:30		28	18	0	0					46
04:45		40	29	0	0					69
05:00		28	22	0	0					50
05:15		60	50	0	0					110
05:30		66	56	0	0					122
05:45		76	68	0	0					144
06:00		68	55	0	0					123
06:15		120	102	0	0					222
06:30		154	116	0	0					270
06:45		175	132	0	0					307
07:00		210	148	0	0					358
07:15		222	172	0	0					394
07:30		**251**	**202**	0	0					**453**
07:45		**250**	**202**	0	0					**452**
08:00		**248**	**214**	0	0					**462**
08:15		**255**	**220**	0	0					**475**
08:30		220	178	0	0					398
08:45		228	173	0	0					401
09:00		236	178	0	0					414
09:15		206	148	0	0					354
09:30		196	153	0	0					349
09:45		228	168	0	0					396
10:00		233	175	0	0					408
10:15		211	166	0	0					377
10:30		236	188	0	0					424
10:45		230	180	0	0					410
11:00		260	210	0	0					470
11:15		233	188	0	0					421
11:30		225	186	0	0					411
11:45		230	181	0	0					411
Total		5790	4493	0	0					10283
Percent		56.3%	43.7%	0.0%	0.0%					
Peak	-	07:30	07:30	-	-	-	-	-	-	07:30
Vol.	-	1004	838	-	-	-	-	-	-	1842
P.H.F.		0.984	0.952							0.969

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	18-Apr-17 Tue	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		238	201	0	0					439
12:15		224	188	0	0					412
12:30		228	196	0	0					424
12:45		252	210	0	0					462
01:00		217	165	0	0					382
01:15		209	176	0	0					385
01:30		205	170	0	0					375
01:45		256	213	0	0					469
02:00		239	196	0	0					435
02:15		218	184	0	0					402
02:30		234	196	0	0					430
02:45		270	224	0	0					494
03:00		314	240	0	0					554
03:15		286	226	0	0					512
03:30		328	239	0	0					567
03:45		303	222	0	0					525
04:00		359	264	0	0					623
04:15		330	**240**	0	0					570
04:30		**430**	**288**	0	0					**718**
04:45		**414**	**267**	0	0					**681**
05:00		**414**	**269**	0	0					**683**
05:15		**368**	236	0	0					**604**
05:30		370	252	0	0					622
05:45		350	243	0	0					593
06:00		330	240	0	0					570
06:15		272	204	0	0					476
06:30		268	190	0	0					458
06:45		199	150	0	0					349
07:00		216	150	0	0					366
07:15		209	141	0	0					350
07:30		216	141	0	0					357
07:45		188	132	0	0					320
08:00		194	135	0	0					329
08:15		197	121	0	0					318
08:30		166	102	0	0					268
08:45		154	103	0	0					257
09:00		200	112	0	0					312
09:15		178	112	0	0					290
09:30		158	102	0	0					260
09:45		132	90	0	0					222
10:00		141	85	0	0					226
10:15		128	72	0	0					200
10:30		96	60	0	0					156
10:45		80	50	0	0					130
11:00		88	54	0	0					142
11:15		74	38	0	0					112
11:30		62	31	0	0					93
11:45		60	31	0	0					91
Total		11062	7951	0	0					19013
Percent		58.2%	41.8%	0.0%	0.0%					
Peak	-	16:30	16:15	-	-	-	-	-	-	16:30
Vol.	-	1626	1064	-	-	-	-	-	-	2686
P.H.F.		0.945	0.924							0.935

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	19-Apr-17 Wed	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		48	26	0	0					74
12:15		50	28	0	0					78
12:30		45	25	0	0					70
12:45		40	26	0	0					66
01:00		30	16	0	0					46
01:15		42	26	0	0					68
01:30		19	12	0	0					31
01:45		29	16	0	0					45
02:00		26	13	0	0					39
02:15		21	15	0	0					36
02:30		9	7	0	0					16
02:45		22	16	0	0					38
03:00		12	9	0	0					21
03:15		10	4	0	0					14
03:30		24	9	0	0					33
03:45		13	5	0	0					18
04:00		25	17	0	0					42
04:15		21	17	0	0					38
04:30		42	26	0	0					68
04:45		35	25	0	0					60
05:00		40	28	0	0					68
05:15		41	36	0	0					77
05:30		55	45	0	0					100
05:45		68	56	0	0					124
06:00		91	72	0	0					163
06:15		85	68	0	0					153
06:30		129	99	0	0					228
06:45		166	129	0	0					295
07:00		182	149	0	0					331
07:15		215	168	0	0					383
07:30		222	161	0	0					383
07:45		224	174	0	0					398
08:00		238	200	0	0					438
08:15		236	206	0	0					442
08:30		220	173	0	0					393
08:45		228	173	0	0					401
09:00		224	160	0	0					384
09:15		196	149	0	0					345
09:30		238	172	0	0					410
09:45		226	162	0	0					388
10:00		226	172	0	0					398
10:15		245	170	0	0					415
10:30		230	174	0	0					404
10:45		254	180	0	0					434
11:00		**260**	**192**	0	0					**452**
11:15		**252**	**187**	0	0					**439**
11:30		**244**	**194**	0	0					**438**
11:45		**270**	**216**	0	0					**486**
Total		5868	4403	0	0					10271
Percent		57.1%	42.9%	0.0%	0.0%					
Peak	-	11:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	1026	789	-	-	-	-	-	-	1815
P.H.F.		0.950	0.913							0.934

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	19-Apr-17 Wed	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		257	197	0	0					454
12:15		244	188	0	0					432
12:30		261	206	0	0					467
12:45		216	176	0	0					392
01:00		252	203	0	0					455
01:15		278	216	0	0					494
01:30		218	186	0	0					404
01:45		233	183	0	0					416
02:00		244	190	0	0					434
02:15		264	207	0	0					471
02:30		262	213	0	0					475
02:45		272	216	0	0					488
03:00		298	240	0	0					538
03:15		313	244	0	0					557
03:30		312	228	0	0					540
03:45		296	220	0	0					516
04:00		366	262	0	0					628
04:15		368	264	0	0					632
04:30		**408**	**285**	0	0					**693**
04:45		**399**	**257**	0	0					**656**
05:00		**442**	**284**	0	0					**726**
05:15		**404**	**288**	0	0					**692**
05:30		398	275	0	0					673
05:45		346	218	0	0					564
06:00		308	216	0	0					524
06:15		272	200	0	0					472
06:30		284	192	0	0					476
06:45		216	149	0	0					365
07:00		228	150	0	0					378
07:15		196	134	0	0					330
07:30		186	130	0	0					316
07:45		190	118	0	0					308
08:00		187	133	0	0					320
08:15		169	106	0	0					275
08:30		186	119	0	0					305
08:45		158	100	0	0					258
09:00		180	122	0	0					302
09:15		157	101	0	0					258
09:30		146	84	0	0					230
09:45		134	78	0	0					212
10:00		142	87	0	0					229
10:15		106	68	0	0					174
10:30		82	54	0	0					136
10:45		86	50	0	0					136
11:00		58	35	0	0					93
11:15		74	39	0	0					113
11:30		60	36	0	0					96
11:45		48	28	0	0					76
Total		11204	7975	0	0					19179
Percent		58.4%	41.6%	0.0%	0.0%					
Peak	-	16:30	16:30	-	-	-	-	-	-	16:30
Vol.	-	1653	1114	-	-	-	-	-	-	2767
P.H.F.		0.935	0.967							0.953

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	20-Apr-17 Thu	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		51	27	0	0					78
12:15		34	24	0	0					58
12:30		51	32	0	0					83
12:45		40	28	0	0					68
01:00		40	22	0	0					62
01:15		39	20	0	0					59
01:30		43	25	0	0					68
01:45		45	24	0	0					69
02:00		34	16	0	0					50
02:15		36	21	0	0					57
02:30		26	13	0	0					39
02:45		22	12	0	0					34
03:00		18	10	0	0					28
03:15		6	4	0	0					10
03:30		22	14	0	0					36
03:45		22	17	0	0					39
04:00		29	22	0	0					51
04:15		28	16	0	0					44
04:30		22	14	0	0					36
04:45		46	33	0	0					79
05:00		35	22	0	0					57
05:15		57	48	0	0					105
05:30		68	60	0	0					128
05:45		66	51	0	0					117
06:00		74	58	0	0					132
06:15		102	82	0	0					184
06:30		136	96	0	0					232
06:45		186	134	0	0					320
07:00		178	137	0	0					315
07:15		222	178	0	0					400
07:30		266	**210**	0	0					476
07:45		272	**219**	0	0					491
08:00		240	**208**	0	0					448
08:15		247	**222**	0	0					469
08:30		204	156	0	0					360
08:45		221	163	0	0					384
09:00		203	150	0	0					353
09:15		196	146	0	0					342
09:30		190	144	0	0					334
09:45		200	153	0	0					353
10:00		223	176	0	0					399
10:15		222	170	0	0					392
10:30		250	183	0	0					433
10:45		279	208	0	0					487
11:00		**253**	188	0	0					**441**
11:15		**270**	190	0	0					**460**
11:30		**298**	219	0	0					**517**
11:45		**303**	220	0	0					**523**
Total		6115	4585	0	0					10700
Percent		57.1%	42.9%	0.0%	0.0%					
Peak	-	11:00	07:30	-	-	-	-	-	-	11:00
Vol.	-	1124	859	-	-	-	-	-	-	1941
P.H.F.		0.927	0.967							0.928

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	20-Apr-17 Thu	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		275	200	0	0					475
12:15		260	192	0	0					452
12:30		255	182	0	0					437
12:45		244	195	0	0					439
01:00		251	195	0	0					446
01:15		262	204	0	0					466
01:30		270	204	0	0					474
01:45		220	173	0	0					393
02:00		246	189	0	0					435
02:15		275	202	0	0					477
02:30		320	234	0	0					554
02:45		300	216	0	0					516
03:00		346	244	0	0					590
03:15		346	232	0	0					578
03:30		389	255	0	0					644
03:45		340	229	0	0					569
04:00		388	248	0	0					636
04:15		**447**	**280**	0	0					**727**
04:30		**445**	**266**	0	0					**711**
04:45		**442**	**272**	0	0					**714**
05:00		**494**	**302**	0	0					**796**
05:15		418	265	0	0					683
05:30		370	230	0	0					600
05:45		303	180	0	0					483
06:00		295	173	0	0					468
06:15		273	170	0	0					443
06:30		312	223	0	0					535
06:45		226	160	0	0					386
07:00		212	151	0	0					363
07:15		220	160	0	0					380
07:30		210	130	0	0					340
07:45		217	151	0	0					368
08:00		170	112	0	0					282
08:15		190	125	0	0					315
08:30		176	112	0	0					288
08:45		188	114	0	0					302
09:00		185	120	0	0					305
09:15		176	100	0	0					276
09:30		146	92	0	0					238
09:45		140	88	0	0					228
10:00		125	78	0	0					203
10:15		92	60	0	0					152
10:30		84	51	0	0					135
10:45		66	41	0	0					107
11:00		83	48	0	0					131
11:15		72	40	0	0					112
11:30		44	26	0	0					70
11:45		52	25	0	0					77
Total		11860	7939	0	0					19799
Percent		59.9%	40.1%	0.0%	0.0%					
Peak	-	16:15	16:15	-	-	-	-	-	-	16:15
Vol.	-	1828	1120	-	-	-	-	-	-	2948
P.H.F.		0.925	0.927							0.926

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	21-Apr-17 Fri	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		50	26	0	0					76
12:15		36	18	0	0					54
12:30		34	16	0	0					50
12:45		37	22	0	0					59
01:00		37	22	0	0					59
01:15		34	20	0	0					54
01:30		31	15	0	0					46
01:45		20	10	0	0					30
02:00		26	12	0	0					38
02:15		16	6	0	0					22
02:30		22	12	0	0					34
02:45		12	7	0	0					19
03:00		18	9	0	0					27
03:15		16	12	0	0					28
03:30		17	11	0	0					28
03:45		28	18	0	0					46
04:00		16	8	0	0					24
04:15		18	12	0	0					30
04:30		22	12	0	0					34
04:45		34	24	0	0					58
05:00		32	23	0	0					55
05:15		46	39	0	0					85
05:30		67	60	0	0					127
05:45		68	54	0	0					122
06:00		89	64	0	0					153
06:15		106	82	0	0					188
06:30		142	110	0	0					252
06:45		156	120	0	0					276
07:00		195	150	0	0					345
07:15		227	174	0	0					401
07:30		210	174	0	0					384
07:45		256	208	0	0					464
08:00		229	200	0	0					429
08:15		248	221	0	0					469
08:30		222	176	0	0					398
08:45		214	163	0	0					377
09:00		232	176	0	0					408
09:15		236	182	0	0					418
09:30		236	180	0	0					416
09:45		242	174	0	0					416
10:00		232	178	0	0					410
10:15		221	166	0	0					387
10:30		256	185	0	0					441
10:45		296	210	0	0					506
11:00		**278**	**201**	0	0					**479**
11:15		**276**	**202**	0	0					**478**
11:30		**295**	**218**	0	0					**513**
11:45		**300**	**214**	0	0					**514**
Total		6131	4596	0	0					10727
Percent		57.2%	42.8%	0.0%	0.0%					
Peak	-	11:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	1149	835	-	-	-	-	-	-	1984
P.H.F.		0.958	0.958							0.965

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	21-Apr-17 Fri	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		274	195	0	0					469
12:15		292	226	0	0					518
12:30		277	206	0	0					483
12:45		274	208	0	0					482
01:00		276	200	0	0					476
01:15		282	208	0	0					490
01:30		275	197	0	0					472
01:45		312	215	0	0					527
02:00		311	222	0	0					533
02:15		294	210	0	0					504
02:30		324	214	0	0					538
02:45		300	199	0	0					499
03:00		346	226	0	0					572
03:15		380	242	0	0					622
03:30		388	252	0	0					640
03:45		376	242	0	0					618
04:00		396	252	0	0					648
04:15		411	262	0	0					673
04:30		**474**	**296**	0	0					**770**
04:45		**436**	**262**	0	0					**698**
05:00		**478**	**294**	0	0					**772**
05:15		**421**	**264**	0	0					**685**
05:30		361	228	0	0					589
05:45		298	186	0	0					484
06:00		296	153	0	0					449
06:15		317	198	0	0					515
06:30		311	188	0	0					499
06:45		240	142	0	0					382
07:00		264	134	0	0					398
07:15		220	134	0	0					354
07:30		249	152	0	0					401
07:45		248	159	0	0					407
08:00		230	146	0	0					376
08:15		201	118	0	0					319
08:30		208	132	0	0					340
08:45		202	115	0	0					317
09:00		224	130	0	0					354
09:15		194	122	0	0					316
09:30		202	124	0	0					326
09:45		174	110	0	0					284
10:00		196	119	0	0					315
10:15		164	98	0	0					262
10:30		134	71	0	0					205
10:45		156	82	0	0					238
11:00		143	83	0	0					226
11:15		114	68	0	0					182
11:30		130	68	0	0					198
11:45		102	66	0	0					168
Total		13175	8418	0	0					21593
Percent		61.0%	39.0%	0.0%	0.0%					
Peak	-	16:30	16:30	-	-	-	-	-	-	16:30
Vol.	-	1809	1116	-	-	-	-	-	-	2925
P.H.F.		0.946	0.943							0.947

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	22-Apr-17 Sat	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		110	57	0	0					167
12:15		102	57	0	0					159
12:30		70	42	0	0					112
12:45		68	40	0	0					108
01:00		70	42	0	0					112
01:15		51	32	0	0					83
01:30		58	34	0	0					92
01:45		62	32	0	0					94
02:00		58	31	0	0					89
02:15		72	40	0	0					112
02:30		58	40	0	0					98
02:45		39	24	0	0					63
03:00		44	26	0	0					70
03:15		40	26	0	0					66
03:30		36	18	0	0					54
03:45		44	22	0	0					66
04:00		42	28	0	0					70
04:15		42	28	0	0					70
04:30		31	16	0	0					47
04:45		30	16	0	0					46
05:00		30	22	0	0					52
05:15		48	28	0	0					76
05:30		46	30	0	0					76
05:45		47	29	0	0					76
06:00		60	38	0	0					98
06:15		69	51	0	0					120
06:30		87	65	0	0					152
06:45		104	68	0	0					172
07:00		120	84	0	0					204
07:15		124	90	0	0					214
07:30		132	98	0	0					230
07:45		140	100	0	0					240
08:00		138	102	0	0					240
08:15		162	121	0	0					283
08:30		196	131	0	0					327
08:45		200	148	0	0					348
09:00		191	144	0	0					335
09:15		212	148	0	0					360
09:30		196	133	0	0					329
09:45		250	173	0	0					423
10:00		214	150	0	0					364
10:15		229	170	0	0					399
10:30		258	187	0	0					445
10:45		267	195	0	0					462
11:00		**264**	**208**	0	0					**472**
11:15		**282**	**218**	0	0					**500**
11:30		**259**	**194**	0	0					**453**
11:45		**279**	**210**	0	0					**489**
Total		5731	3986	0	0					9717
Percent		59.0%	41.0%	0.0%	0.0%					
Peak	-	11:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	1084	830	-	-	-	-	-	-	1914
P.H.F.		0.961	0.952							0.957

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	22-Apr-17 Sat	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		272	197	0	0					469
12:15		282	223	0	0					505
12:30		262	202	0	0					464
12:45		266	206	0	0					472
01:00		305	222	0	0					527
01:15		280	213	0	0					493
01:30		284	198	0	0					482
01:45		308	220	0	0					528
02:00		261	192	0	0					453
02:15		312	216	0	0					**528**
02:30		324	**242**	0	0					**566**
02:45		292	**216**	0	0					**508**
03:00		276	**210**	0	0					**486**
03:15		284	**219**	0	0					503
03:30		315	216	0	0					531
03:45		282	197	0	0					479
04:00		**296**	202	0	0					498
04:15		**295**	212	0	0					507
04:30		**285**	189	0	0					474
04:45		**336**	228	0	0					564
05:00		278	198	0	0					476
05:15		298	202	0	0					500
05:30		269	198	0	0					467
05:45		250	185	0	0					435
06:00		260	193	0	0					453
06:15		208	165	0	0					373
06:30		244	157	0	0					401
06:45		243	136	0	0					379
07:00		244	152	0	0					396
07:15		212	141	0	0					353
07:30		257	164	0	0					421
07:45		222	152	0	0					374
08:00		198	129	0	0					327
08:15		188	118	0	0					306
08:30		198	124	0	0					322
08:45		171	102	0	0					273
09:00		200	125	0	0					325
09:15		170	106	0	0					276
09:30		174	117	0	0					291
09:45		163	110	0	0					273
10:00		172	112	0	0					284
10:15		184	119	0	0					303
10:30		153	94	0	0					247
10:45		162	106	0	0					268
11:00		146	92	0	0					238
11:15		133	82	0	0					215
11:30		116	74	0	0					190
11:45		122	73	0	0					195
Total		11452	7946	0	0					19398
Percent		59.0%	41.0%	0.0%	0.0%					
Peak	-	16:00	14:30	-	-	-	-	-	-	14:15
Vol.	-	1212	887	-	-	-	-	-	-	2088
P.H.F.		0.902	0.916							0.922

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	23-Apr-17 Sun	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		82	54	0	0					136
12:15		82	51	0	0					133
12:30		78	45	0	0					123
12:45		91	56	0	0					147
01:00		72	49	0	0					121
01:15		66	40	0	0					106
01:30		56	38	0	0					94
01:45		48	29	0	0					77
02:00		60	39	0	0					99
02:15		64	46	0	0					110
02:30		54	38	0	0					92
02:45		41	24	0	0					65
03:00		48	31	0	0					79
03:15		28	20	0	0					48
03:30		29	22	0	0					51
03:45		32	23	0	0					55
04:00		36	21	0	0					57
04:15		25	18	0	0					43
04:30		26	8	0	0					34
04:45		19	16	0	0					35
05:00		24	14	0	0					38
05:15		38	26	0	0					64
05:30		34	27	0	0					61
05:45		32	28	0	0					60
06:00		36	26	0	0					62
06:15		43	30	0	0					73
06:30		56	36	0	0					92
06:45		60	46	0	0					106
07:00		72	51	0	0					123
07:15		65	53	0	0					118
07:30		84	62	0	0					146
07:45		67	48	0	0					115
08:00		86	60	0	0					146
08:15		99	72	0	0					171
08:30		88	62	0	0					150
08:45		136	101	0	0					237
09:00		120	82	0	0					202
09:15		140	100	0	0					240
09:30		136	95	0	0					231
09:45		168	114	0	0					282
10:00		184	126	0	0					310
10:15		188	136	0	0					324
10:30		187	129	0	0					316
10:45		**232**	**162**	0	0					**394**
11:00		**218**	**149**	0	0					**367**
11:15		**211**	**153**	0	0					**364**
11:30		**221**	**152**	0	0					**373**
11:45		178	124	0	0					302
Total		4240	2932	0	0					7172
Percent		59.1%	40.9%	0.0%	0.0%					
Peak	-	10:45	10:45	-	-	-	-	-	-	10:45
Vol.	-	882	616	-	-	-	-	-	-	1498
P.H.F.		0.950	0.951							0.951

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	23-Apr-17 Sun	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 PM		220	154	0	0					374
12:15		212	**166**	0	0					378
12:30		193	**144**	0	0					337
12:45		197	**146**	0	0					343
01:00		212	**164**	0	0					376
01:15		199	152	0	0					351
01:30		165	134	0	0					299
01:45		168	132	0	0					300
02:00		186	158	0	0					344
02:15		162	142	0	0					304
02:30		182	144	0	0					326
02:45		162	132	0	0					294
03:00		182	146	0	0					328
03:15		173	144	0	0					317
03:30		168	136	0	0					304
03:45		209	149	0	0					358
04:00		226	144	0	0					370
04:15		224	157	0	0					381
04:30		205	134	0	0					339
04:45		**238**	156	0	0					**394**
05:00		**246**	149	0	0					**395**
05:15		**244**	158	0	0					**402**
05:30		**225**	156	0	0					**381**
05:45		218	139	0	0					357
06:00		195	125	0	0					320
06:15		220	144	0	0					364
06:30		180	120	0	0					300
06:45		187	124	0	0					311
07:00		161	108	0	0					269
07:15		190	126	0	0					316
07:30		188	125	0	0					313
07:45		155	88	0	0					243
08:00		154	98	0	0					252
08:15		133	69	0	0					202
08:30		135	72	0	0					207
08:45		145	92	0	0					237
09:00		144	74	0	0					218
09:15		121	72	0	0					193
09:30		82	50	0	0					132
09:45		90	59	0	0					149
10:00		110	66	0	0					176
10:15		70	39	0	0					109
10:30		84	48	0	0					132
10:45		71	44	0	0					115
11:00		46	29	0	0					75
11:15		61	29	0	0					90
11:30		54	29	0	0					83
11:45		42	24	0	0					66
Total		7834	5390	0	0					13224
Percent		59.2%	40.8%	0.0%	0.0%					
Peak	-	16:45	12:15	-	-	-	-	-	-	16:45
Vol.	-	953	620	-	-	-	-	-	-	1572
P.H.F.		0.968	0.934							0.978

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Kapiolani btwn Piikoi - Kona Iki - EB VOLUME
Site Code: AP-6
Station ID: 024674
Date Start: 17-Apr-17
Date End: 24-Apr-17

Start Time	24-Apr-17 Mon	EB LANES	CONTRAF	Direction 3	Direction 4					Total
12:00 AM		41	20	0	0					61
12:15		31	19	0	0					50
12:30		26	11	0	0					37
12:45		30	12	0	0					42
01:00		26	14	0	0					40
01:15		16	8	0	0					24
01:30		21	12	0	0					33
01:45		18	7	0	0					25
02:00		15	12	0	0					27
02:15		14	10	0	0					24
02:30		14	8	0	0					22
02:45		14	8	0	0					22
03:00		17	8	0	0					25
03:15		15	6	0	0					21
03:30		12	6	0	0					18
03:45		16	11	0	0					27
04:00		19	12	0	0					31
04:15		25	17	0	0					42
04:30		34	22	0	0					56
04:45		30	24	0	0					54
05:00		37	25	0	0					62
05:15		51	48	0	0					99
05:30		54	48	0	0					102
05:45		66	56	0	0					122
06:00		76	62	0	0					138
06:15		116	91	0	0					207
06:30		134	98	0	0					232
06:45		169	126	0	0					295
07:00		190	141	0	0					331
07:15		214	167	0	0					381
07:30		**260**	**210**	0	0					**470**
07:45		**256**	**218**	0	0					**474**
08:00		**254**	**190**	0	0					**444**
08:15		**264**	**219**	0	0					**483**
08:30		222	182	0	0					404
08:45		198	141	0	0					339
09:00		196	147	0	0					343
09:15		24	18	0	0					42
09:30		*	*	*	*					*
09:45		*	*	*	*					*
10:00		*	*	*	*					*
10:15		*	*	*	*					*
10:30		*	*	*	*					*
10:45		*	*	*	*					*
11:00		*	*	*	*					*
11:15		*	*	*	*					*
11:30		*	*	*	*					*
11:45		*	*	*	*					*
Total		3215	2434	0	0					5649
Percent		56.9%	43.1%	0.0%	0.0%					
Peak	-	07:30	07:30	-	-	-	-	-	-	07:30
Vol.	-	1034	837	-	-	-	-	-	-	1871
P.H.F.		0.979	0.955							0.968
Grand Total		117414	82460	0	0					199874
Percent		58.7%	41.3%	0.0%	0.0%					

ADT	ADT 28,603	AADT 28,603

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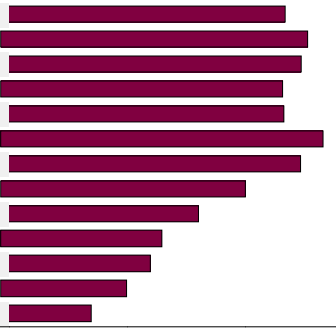
Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Mon 03-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		214	225	236	250	925
12:00 PM		232	246	256	263	997
01:00		270	254	226	226	976
02:00		238	212	248	218	916
03:00		196	237	240	247	920
04:00		278	268	262	240	1048
05:00		252	276	226	220	974
06:00		222	197	187	189	795
07:00		142	186	163	152	643
08:00		157	136	126	106	525
09:00		144	128	115	100	487
10:00		129	108	94	80	411
11:00		91	75	72	58	296
Day Total						9913



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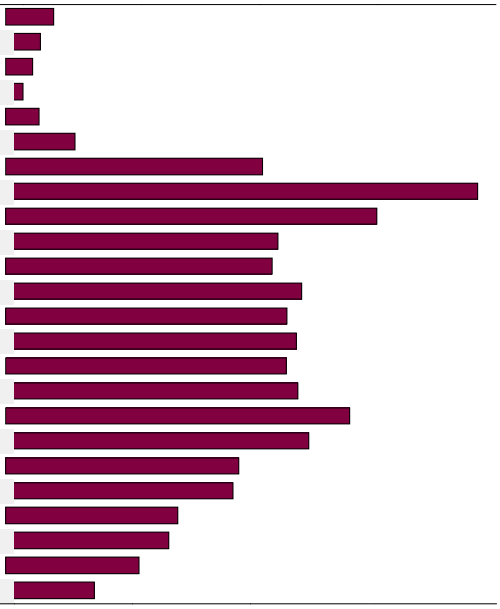
Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Tue 04-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		49	37	40	33	159
01:00		32	30	19	34	115
02:00		33	23	21	13	90
03:00		14	16	14	14	58
04:00		23	28	31	28	110
05:00		32	42	70	84	228
06:00		130	153	255	298	836
07:00		314	404	395	420	1533
08:00		394	320	243	249	1206
09:00		250	202	217	217	886
10:00		211	203	240	212	866
11:00		238	250	237	237	962
12:00 PM		242	205	231	236	914
01:00		224	227	254	240	945
02:00		240	228	218	226	912
03:00		230	216	256	247	949
04:00		296	272	258	293	1119
05:00		261	270	229	226	986
06:00		194	196	188	180	758
07:00		198	199	208	134	739
08:00		140	149	136	135	560
09:00		120	148	144	120	532
10:00		124	113	116	83	436
11:00		91	66	62	70	289
Day Total						16188



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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 03-Apr-17
Date End: 10-Apr-17

Start Time	Wed 05-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		38	49	38	33	158
01:00		36	34	22	14	106
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
12:00 PM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						264
Total						26365

ADT ADT 5,415 AADT 5,415

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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start Time	10-Apr-17 Mon	Direction 1	Direction 2	WB LANES	CONTRAF					Total
12:00 AM		*	*	*	*					*
12:15		*	*	*	*					*
12:30		*	*	*	*					*
12:45		*	*	*	*					*
01:00		*	*	*	*					*
01:15		*	*	*	*					*
01:30		*	*	*	*					*
01:45		*	*	*	*					*
02:00		*	*	*	*					*
02:15		*	*	*	*					*
02:30		*	*	*	*					*
02:45		*	*	*	*					*
03:00		*	*	*	*					*
03:15		*	*	*	*					*
03:30		*	*	*	*					*
03:45		*	*	*	*					*
04:00		*	*	*	*					*
04:15		*	*	*	*					*
04:30		*	*	*	*					*
04:45		*	*	*	*					*
05:00		*	*	*	*					*
05:15		*	*	*	*					*
05:30		*	*	*	*					*
05:45		*	*	*	*					*
06:00		*	*	*	*					*
06:15		*	*	*	*					*
06:30		*	*	*	*					*
06:45		*	*	*	*					*
07:00		*	*	*	*					*
07:15		*	*	*	*					*
07:30		*	*	*	*					*
07:45		*	*	*	*					*
08:00		*	*	*	*					*
08:15		*	*	*	*					*
08:30		*	*	*	*					*
08:45		*	*	*	*					*
09:00		*	*	*	*					*
09:15		*	*	*	*					*
09:30		*	*	*	*					*
09:45		*	*	*	*					*
10:00		*	*	*	*					*
10:15		0	0	170	68					238
10:30		0	0	163	81					244
10:45		0	0	**194**	76					**270**
11:00		0	0	**186**	**75**					**261**
11:15		0	0	**196**	**72**					**268**
11:30		0	0	**187**	**96**					**283**
11:45		0	0	180	**88**					268
Total		0	0	1276	556					1832
Percent		0.0%	0.0%	69.7%	30.3%					
Peak	-	-	-	10:45	11:00	-	-	-	-	10:45
Vol.	-	-	-	763	331	-	-	-	-	1082
P.H.F.				0.973	0.862					0.956

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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start Time	10-Apr-17 Mon	Direction 1	Direction 2	WB LANES	CONTRAF					Total
12:00 PM		0	0	160	56					216
12:15		0	0	178	80					258
12:30		0	0	202	80					282
12:45		0	0	182	74					256
01:00		0	0	206	86					292
01:15		0	0	190	71					261
01:30		0	0	190	66					256
01:45		0	0	173	55					228
02:00		0	0	180	66					246
02:15		0	0	160	60					220
02:30		0	0	182	50					232
02:45		0	0	182	83					265
03:00		0	0	166	74					240
03:15		0	0	206	65					271
03:30		0	0	**258**	126					**384**
03:45		0	0	**272**	102					**374**
04:00		0	0	**238**	91					**329**
04:15		0	0	**233**	84					**317**
04:30		0	0	232	**102**					334
04:45		0	0	224	**96**					320
05:00		0	0	224	**128**					352
05:15		0	0	230	**123**					353
05:30		0	0	171	66					237
05:45		0	0	184	62					246
06:00		0	0	152	76					228
06:15		0	0	156	69					225
06:30		0	0	142	57					199
06:45		0	0	137	46					183
07:00		0	0	140	35					175
07:15		0	0	160	42					202
07:30		0	0	130	44					174
07:45		0	0	126	52					178
08:00		0	0	126	47					173
08:15		0	0	117	41					158
08:30		0	0	101	36					137
08:45		0	0	88	32					120
09:00		0	0	91	34					125
09:15		0	0	106	36					142
09:30		0	0	110	40					150
09:45		0	0	82	27					109
10:00		0	0	80	32					112
10:15		0	0	64	32					96
10:30		0	0	66	30					96
10:45		0	0	50	19					69
11:00		0	0	52	18					70
11:15		0	0	46	14					60
11:30		0	0	38	18					56
11:45		0	0	41	16					57
Total		0	0	7224	2839					10063
Percent		0.0%	0.0%	71.8%	28.2%					
Peak	-	-	-	15:30	16:30	-	-	-	-	15:30
Vol.	-	-	-	1001	449	-	-	-	-	1404
P.H.F.				0.920	0.877					0.914

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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start Time	11-Apr-17 Tue	Direction 1	Direction 2	WB LANES	CONTRAF					Total
12:00 AM		0	0	48	16					64
12:15		0	0	33	10					43
12:30		0	0	27	10					37
12:45		0	0	24	12					36
01:00		0	0	29	14					43
01:15		0	0	16	10					26
01:30		0	0	18	12					30
01:45		0	0	17	8					25
02:00		0	0	16	4					20
02:15		0	0	22	8					30
02:30		0	0	10	6					16
02:45		0	0	14	8					22
03:00		0	0	10	4					14
03:15		0	0	8	11					19
03:30		0	0	11	10					21
03:45		0	0	23	10					33
04:00		0	0	22	10					32
04:15		0	0	20	6					26
04:30		0	0	22	9					31
04:45		0	0	18	13					31
05:00		0	0	22	11					33
05:15		0	0	26	16					42
05:30		0	0	42	24					66
05:45		0	0	54	48					102
06:00		0	0	70	59					129
06:15		0	0	80	75					155
06:30		0	0	159	127					286
06:45		0	0	156	126					282
07:00		0	0	203	154					357
07:15		0	0	212	171					**383**
07:30		0	0	201	**170**					**371**
07:45		0	0	**248**	**172**					**420**
08:00		0	0	**230**	**172**					**402**
08:15		0	0	**204**	**174**					378
08:30		0	0	**210**	94					304
08:45		0	0	190	80					270
09:00		0	0	177	66					243
09:15		0	0	160	58					218
09:30		0	0	170	54					224
09:45		0	0	164	58					222
10:00		0	0	166	76					242
10:15		0	0	160	50					210
10:30		0	0	176	60					236
10:45		0	0	186	90					276
11:00		0	0	176	70					246
11:15		0	0	190	92					282
11:30		0	0	193	104					297
11:45		0	0	190	74					264
Total		0	0	4823	2716					7539
Percent		0.0%	0.0%	64.0%	36.0%					
Peak	-	-	-	07:45	07:30	-	-	-	-	07:15
Vol.	-	-	-	892	688	-	-	-	-	1576
P.H.F.				0.899	0.989					0.938

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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start Time	11-Apr-17 Tue	Direction 1	Direction 2	WB LANES	CONTRAF					Total
12:00 PM		0	0	201	79					280
12:15		0	0	197	107					304
12:30		0	0	184	74					258
12:45		0	0	201	72					273
01:00		0	0	178	66					244
01:15		0	0	200	84					284
01:30		0	0	156	66					222
01:45		0	0	188	47					235
02:00		0	0	186	74					260
02:15		0	0	170	54					224
02:30		0	0	206	69					275
02:45		0	0	188	57					245
03:00		0	0	164	48					212
03:15		0	0	160	47					207
03:30		0	0	224	116					340
03:45		0	0	**224**	70					294
04:00		0	0	**242**	104					346
04:15		0	0	**229**	80					309
04:30		0	0	**230**	**109**					**339**
04:45		0	0	208	**102**					**310**
05:00		0	0	220	**180**					**400**
05:15		0	0	214	**142**					**356**
05:30		0	0	208	73					281
05:45		0	0	173	65					238
06:00		0	0	160	64					224
06:15		0	0	180	74					254
06:30		0	0	142	62					204
06:45		0	0	148	70					218
07:00		0	0	142	67					209
07:15		0	0	138	68					206
07:30		0	0	120	46					166
07:45		0	0	120	48					168
08:00		0	0	124	54					178
08:15		0	0	127	42					169
08:30		0	0	118	42					160
08:45		0	0	106	36					142
09:00		0	0	102	45					147
09:15		0	0	116	52					168
09:30		0	0	101	54					155
09:45		0	0	86	37					123
10:00		0	0	104	48					152
10:15		0	0	91	42					133
10:30		0	0	92	28					120
10:45		0	0	78	29					107
11:00		0	0	72	30					102
11:15		0	0	62	24					86
11:30		0	0	58	18					76
11:45		0	0	58	22					80
Total		0	0	7396	3087					10483
Percent		0.0%	0.0%	70.6%	29.4%					
Peak	-	-	-	15:45	16:30	-	-	-	-	16:30
Vol.	-	-	-	925	533	-	-	-	-	1405
P.H.F.				0.956	0.740					0.878

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Kapiolani btwn Piikoi - Kona Iki - WB VOLUME
Site Code: AP-5
Station ID: 024573
Date Start: 10-Apr-17
Date End: 17-Apr-17

Start Time	12-Apr-17 Wed	Direction 1	Direction 2	WB LANES	CONTRAF					Total
12:00 AM		0	0	**45**	**18**					**63**
12:15		0	0	**35**	**14**					**49**
12:30		0	0	**29**	**15**					**44**
12:45		0	0	**27**	**13**					**40**
01:00		0	0	28	6					34
01:15		0	0	18	11					29
01:30		0	0	0	0					0
01:45		0	0	0	0					0
02:00		0	0	0	0					0
02:15		0	0	0	0					0
02:30		0	0	0	0					0
02:45		0	0	0	0					0
03:00		0	0	0	0					0
03:15		0	0	0	0					0
03:30		0	0	0	0					0
03:45		0	0	0	0					0
04:00		0	0	0	0					0
04:15		0	0	0	0					0
04:30		0	0	0	0					0
04:45		0	0	0	0					0
05:00		0	0	0	0					0
05:15		0	0	0	0					0
05:30		0	0	0	0					0
05:45		0	0	0	0					0
06:00		0	0	0	0					0
06:15		0	0	0	0					0
06:30		0	0	0	0					0
06:45		0	0	0	0					0
07:00		0	0	0	0					0
07:15		0	0	0	0					0
07:30		0	0	0	0					0
07:45		0	0	0	0					0
08:00		0	0	0	0					0
08:15		0	0	0	0					0
08:30		0	0	0	0					0
08:45		0	0	0	0					0
09:00		0	0	0	0					0
09:15		0	0	0	0					0
09:30		0	0	0	0					0
09:45		0	0	0	0					0
10:00		0	0	0	0					0
10:15		0	0	0	0					0
10:30		0	0	0	0					0
10:45		0	0	0	0					0
11:00		0	0	0	0					0
11:15		0	0	0	0					0
11:30		0	0	0	0					0
11:45		0	0	0	0					0
Total		0	0	182	77					259
Percent		0.0%	0.0%	70.3%	29.7%					
Peak	-	-	-	12:00	12:00	-	-	-	-	12:00
Vol.	-	-	-	136	60	-	-	-	-	196
P.H.F.				0.756	0.833					0.778

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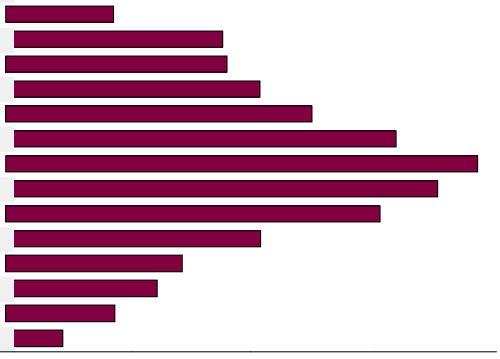
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Mon 03-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	127	122	249
11:00		120	107	121	150	498
12:00 PM		116	137	143	112	508
01:00		162	142	118	160	582
02:00		162	178	186	176	702
03:00		204	232	230	227	893
04:00		266	284	242	288	1080
05:00		242	262	255	230	989
06:00		241	236	216	164	857
07:00		156	146	148	134	584
08:00		118	119	90	78	405
09:00		86	116	68	78	348
10:00		64	75	60	52	251
11:00		38	42	28	24	132
Day Total						8078



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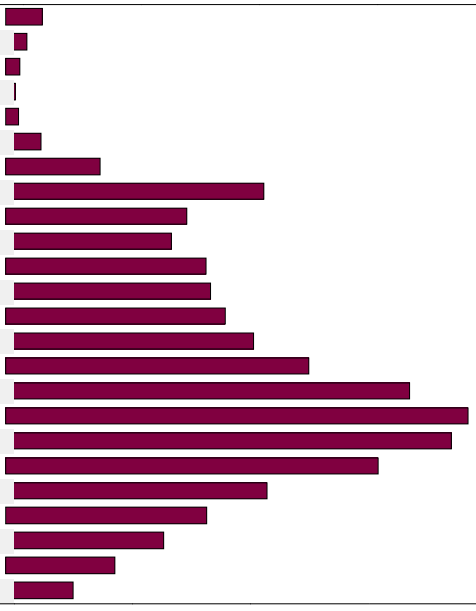
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Tue 04-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		29	23	17	17	86
01:00		10	16	12	13	51
02:00		7	11	6	10	34
03:00		4	6	6	8	24
04:00		7	10	8	7	32
05:00		12	19	26	26	83
06:00		35	44	49	90	218
07:00		124	162	182	124	592
08:00		100	101	100	114	415
09:00		99	107	92	82	380
10:00		108	122	94	136	460
11:00		116	115	128	110	469
12:00 PM		131	131	113	128	503
01:00		144	118	130	176	568
02:00		140	176	192	186	694
03:00		208	214	247	255	924
04:00		254	260	262	281	1057
05:00		236	278	260	246	1020
06:00		256	240	178	178	852
07:00		166	131	168	134	599
08:00		128	128	103	102	461
09:00		102	87	94	80	363
10:00		81	66	51	53	251
11:00		44	48	34	30	156
Day Total						10292



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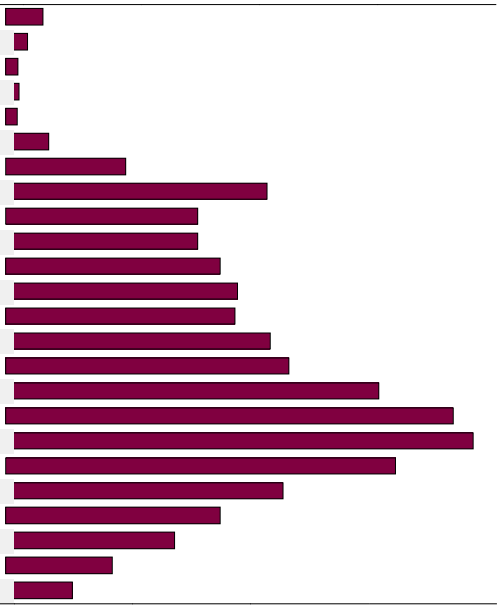
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Wed 05-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		13	28	24	22	87
01:00		15	14	9	14	52
02:00		10	4	8	8	30
03:00		8	12	5	8	33
04:00		5	8	8	8	29
05:00		14	17	32	37	100
06:00		44	58	70	104	276
07:00		132	154	188	124	598
08:00		104	103	110	124	441
09:00		105	101	110	124	440
10:00		136	118	114	124	492
11:00		130	134	120	147	531
12:00 PM		118	139	138	130	525
01:00		148	162	140	156	606
02:00		168	160	148	172	648
03:00		175	198	243	238	854
04:00		260	250	248	266	1024
05:00		256	292	261	260	1069
06:00		248	242	190	212	892
07:00		158	162	176	139	635
08:00		146	138	111	97	492
09:00		118	98	88	83	387
10:00		74	72	50	50	246
11:00		49	44	28	33	154
Day Total						10641



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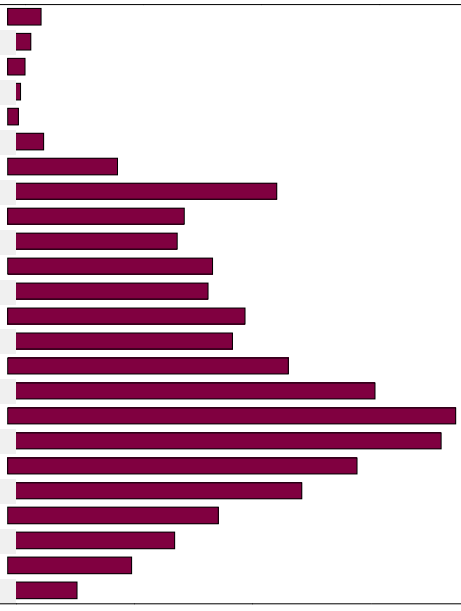
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		33	14	20	11	78
01:00		14	16	16	9	55
02:00		19	8	8	7	42
03:00		8	5	7	12	32
04:00		2	12	7	6	27
05:00		5	22	30	27	84
06:00		44	52	56	101	253
07:00		128	168	182	138	616
08:00		96	105	96	108	405
09:00		80	90	112	107	389
10:00		108	122	116	124	470
11:00		98	124	117	120	459
12:00 PM		136	149	133	126	544
01:00		110	131	150	124	515
02:00		171	161	158	152	642
03:00		188	230	212	210	840
04:00		262	248	244	272	1026
05:00		222	286	244	240	992
06:00		234	216	182	168	800
07:00		170	187	164	152	673
08:00		128	128	124	103	483
09:00		88	119	84	92	383
10:00		82	80	76	47	285
11:00		45	43	42	30	160
Day Total						10253



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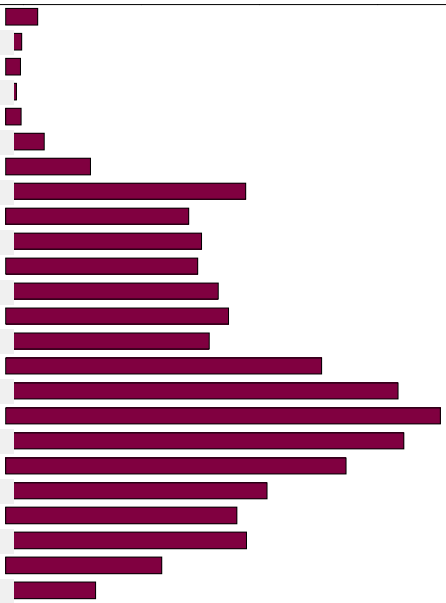
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Fri 07-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	20	12	15	75
01:00		16	11	6	6	39
02:00		9	12	10	4	35
03:00		8	8	7	4	27
04:00		10	8	9	10	37
05:00		20	20	24	26	90
06:00		32	48	35	80	195
07:00		99	146	198	108	551
08:00		102	108	104	106	420
09:00		98	120	100	131	449
10:00		104	116	112	109	441
11:00		104	110	146	127	487
12:00 PM		129	136	128	118	511
01:00		108	121	118	120	467
02:00		154	180	205	185	724
03:00		208	206	234	250	898
04:00		264	239	238	254	995
05:00		238	233	228	212	911
06:00		216	196	189	178	779
07:00		172	154	144	128	598
08:00		142	116	120	152	530
09:00		124	146	150	132	552
10:00		113	106	74	66	359
11:00		58	54	54	42	208
Day Total						10378



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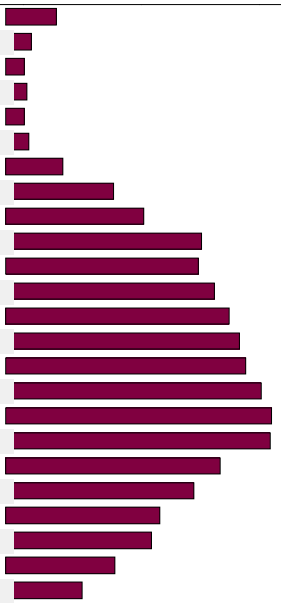
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sat 08-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		32	29	27	30	118
01:00		21	12	12	16	61
02:00		18	6	8	12	44
03:00		10	12	16	12	50
04:00		8	13	13	11	45
05:00		7	14	12	22	55
06:00		26	34	32	40	132
07:00		42	55	74	77	248
08:00		72	70	80	96	318
09:00		96	122	123	108	449
10:00		102	114	120	106	442
11:00		95	117	118	148	478
12:00 PM		138	112	126	136	512
01:00		140	146	110	140	536
02:00		130	154	134	133	551
03:00		138	138	160	149	585
04:00		154	163	154	138	609
05:00		151	166	150	139	606
06:00		122	126	126	117	491
07:00		132	96	92	111	431
08:00		106	80	94	74	354
09:00		82	80	98	74	334
10:00		65	74	61	52	252
11:00		50	45	50	31	176
Day Total						7877



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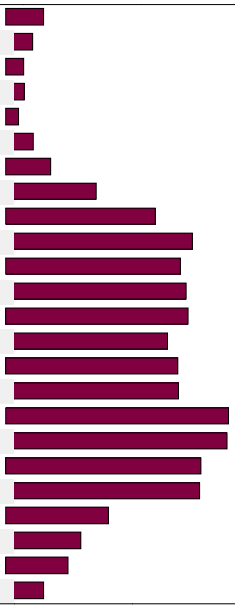
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sun 09-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		26	22	25	16	89
01:00		18	16	15	14	63
02:00		13	13	8	9	43
03:00		9	11	12	12	44
04:00		4	8	9	10	31
05:00		12	9	18	26	65
06:00		19	21	24	41	105
07:00		34	54	56	65	209
08:00		63	98	66	116	343
09:00		106	107	114	102	429
10:00		100	98	104	98	400
11:00		104	120	78	112	414
12:00 PM		86	98	134	100	418
01:00		88	96	92	96	372
02:00		104	90	104	97	395
03:00		97	98	94	107	396
04:00		122	134	145	110	511
05:00		128	121	132	127	508
06:00		113	122	107	106	448
07:00		110	131	105	98	444
08:00		78	68	56	34	236
09:00		49	52	36	36	173
10:00		42	36	36	30	144
11:00		24	24	25	16	89
Day Total						6369



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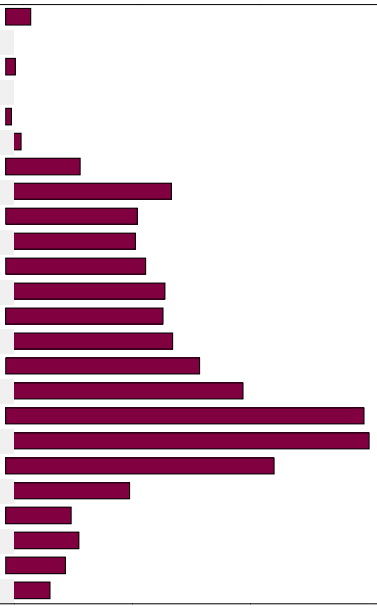
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Mon 10-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		18	16	14	12	60
01:00		4	6	3	7	20
02:00		7	7	6	4	24
03:00		4	6	4	5	19
04:00		2	4	5	4	15
05:00		8	10	8	12	38
06:00		32	32	42	66	172
07:00		72	98	123	88	381
08:00		80	71	66	86	303
09:00		71	74	63	90	298
10:00		82	80	82	78	322
11:00		88	94	104	80	366
12:00 PM		97	94	80	91	362
01:00		85	99	93	106	383
02:00		112	96	116	120	444
03:00		106	133	142	164	545
04:00		196	206	188	230	820
05:00		218	212	206	196	832
06:00		203	186	129	97	615
07:00		98	97	54	36	285
08:00		38	38	39	36	151
09:00		26	37	51	55	169
10:00		36	45	26	32	139
11:00		24	23	35	21	103
Day Total						6866



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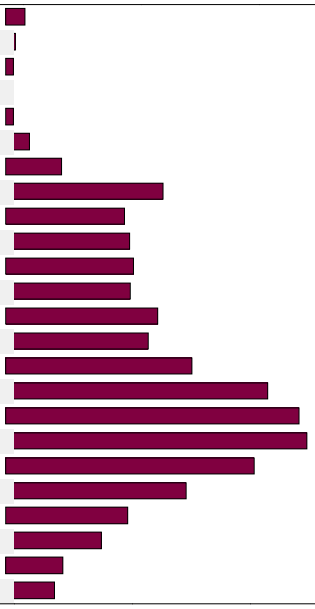
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Tue 11-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		14	8	16	8	46
01:00		10	5	4	5	24
02:00		1	5	5	8	19
03:00		4	4	1	5	14
04:00		4	2	7	7	20
05:00		3	16	21	16	56
06:00		20	24	36	49	129
07:00		76	92	115	79	362
08:00		64	78	68	64	274
09:00		69	74	66	76	285
10:00		76	62	74	82	294
11:00		73	74	70	70	287
12:00 PM		84	101	86	78	349
01:00		71	78	80	99	328
02:00		99	114	110	104	427
03:00		126	152	174	148	600
04:00		156	166	170	180	672
05:00		156	176	204	154	690
06:00		170	152	128	119	569
07:00		120	132	88	74	414
08:00		82	84	58	56	280
09:00		63	65	50	42	220
10:00		35	35	30	32	132
11:00		35	32	27	19	113
Day Total						6604



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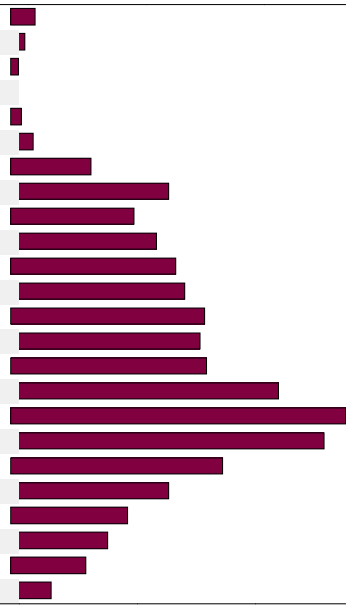
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Wed 12-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		26	14	12	6	58
01:00		7	12	6	9	34
02:00		6	4	3	6	19
03:00		2	5	8	3	18
04:00		5	3	10	9	27
05:00		1	16	14	23	54
06:00		36	38	48	63	185
07:00		74	90	121	78	363
08:00		75	64	74	71	284
09:00		71	68	100	96	335
10:00		82	116	81	100	379
11:00		85	110	100	104	399
12:00 PM		104	114	114	112	444
01:00		92	128	112	102	434
02:00		116	110	116	108	450
03:00		116	148	174	176	614
04:00		189	180	194	204	767
05:00		182	199	174	162	717
06:00		156	132	110	88	486
07:00		99	98	92	74	363
08:00		68	73	65	63	269
09:00		72	60	48	43	223
10:00		45	46	50	32	173
11:00		26	22	28	18	94
Day Total						7189



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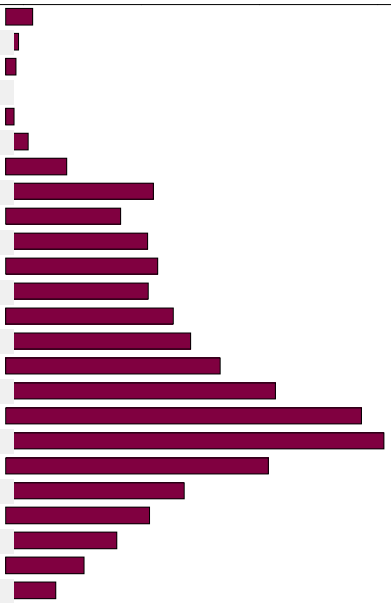
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Thu 13-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		22	12	17	12	63
01:00		10	8	6	8	32
02:00		8	7	5	6	26
03:00		3	6	6	2	17
04:00		3	5	7	6	21
05:00		10	8	17	18	53
06:00		28	29	34	51	142
07:00		79	89	112	59	339
08:00		69	64	69	63	265
09:00		66	81	82	97	326
10:00		99	100	72	78	349
11:00		74	92	45	116	327
12:00 PM		112	84	88	101	385
01:00		88	105	110	122	425
02:00		114	134	118	126	492
03:00		112	150	188	168	618
04:00		199	188	204	224	815
05:00		224	213	222	206	865
06:00		194	172	114	121	601
07:00		114	109	96	91	410
08:00		101	82	69	78	330
09:00		66	73	66	51	256
10:00		54	50	32	45	181
11:00		29	43	24	21	117
Day Total						7455



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Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Fri 14-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		16	20	20	10	66
01:00		8	10	12	5	35
02:00		11	9	4	4	28
03:00		5	4	4	4	17
04:00		2	10	2	12	26
05:00		8	10	10	10	38
06:00		22	31	28	34	115
07:00		32	46	62	36	176
08:00		104	110	105	114	433
09:00		116	82	70	82	350
10:00		109	106	146	122	483
11:00		130	136	136	126	528
12:00 PM		127	119	126	126	498
01:00		154	125	120	135	534
02:00		130	121	122	113	486
03:00		118	154	144	118	534
04:00		158	144	151	144	597
05:00		126	118	126	98	468
06:00		106	96	96	92	390
07:00		80	86	78	80	324
08:00		76	80	87	65	308
09:00		78	68	70	70	286
10:00		60	70	61	48	239
11:00		52	35	15	50	152
Day Total						7111

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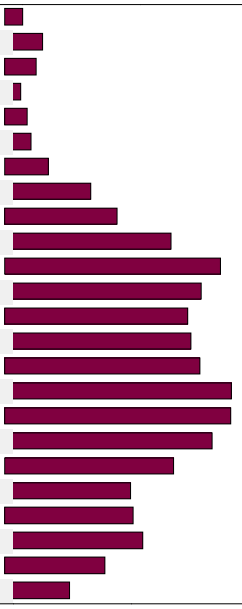
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sat 15-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		26	11	6	0	43
01:00		32	20	14	22	88
02:00		20	20	18	16	74
03:00		16	4	10	9	39
04:00		15	10	14	15	54
05:00		8	12	20	22	62
06:00		21	27	22	32	102
07:00		34	44	58	62	198
08:00		52	63	78	66	259
09:00		72	86	86	138	382
10:00		109	120	132	134	495
11:00		96	120	119	116	451
12:00 PM		93	90	130	107	420
01:00		117	104	97	110	428
02:00		56	126	144	122	448
03:00		123	130	140	126	519
04:00		129	137	132	120	518
05:00		127	130	104	114	475
06:00		107	110	80	90	387
07:00		84	62	74	70	290
08:00		70	74	68	84	296
09:00		78	81	84	74	317
10:00		74	57	56	44	231
11:00		53	38	24	35	150
Day Total						6726



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Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sun 16-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	20	20	20	88
01:00		15	12	2	2	31
02:00		8	24	16	18	66
03:00		10	13	10	12	45
04:00		14	10	12	11	47
05:00		14	19	30	26	89
06:00		23	22	13	22	80
07:00		16	18	60	72	166
08:00		46	59	62	76	243
09:00		62	60	66	80	268
10:00		105	112	125	97	439
11:00		96	120	100	103	419
12:00 PM		120	116	100	99	435
01:00		114	100	110	111	435
02:00		101	116	98	94	409
03:00		95	98	98	70	361
04:00		81	102	72	110	365
05:00		82	74	65	70	291
06:00		78	78	72	56	284
07:00		69	44	39	54	206
08:00		61	47	52	44	204
09:00		30	41	14	32	117
10:00		28	36	30	26	120
11:00		26	24	15	9	74
Day Total						5282

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Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Mon 17-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		14	8	10	6	38
01:00		9	8	8	1	26
02:00		2	4	7	8	21
03:00		5	3	3	3	14
04:00		4	4	4	7	19
05:00		4	6	9	20	39
06:00		30	30	36	67	163
07:00		93	52	172	116	433
08:00		62	68	44	75	249
09:00		70	74	82	118	344
10:00		91	100	100	112	403
11:00		87	81	84	102	354
12:00 PM		100	95	99	78	372
01:00		90	104	112	134	440
02:00		112	103	128	102	445
03:00		104	132	161	172	569
04:00		160	156	165	198	679
05:00		163	181	176	136	656
06:00		150	126	90	72	438
07:00		79	90	72	62	303
08:00		72	68	45	56	241
09:00		56	60	40	34	190
10:00		52	34	38	32	156
11:00		20	22	20	12	74
Day Total						6666

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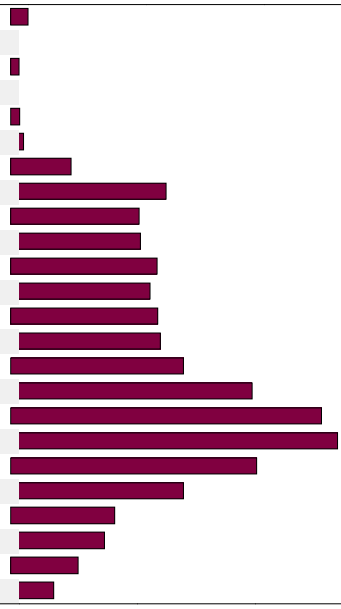
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Tue 18-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		15	8	8	11	42
01:00		2	8	2	6	18
02:00		9	5	3	4	21
03:00		6	3	4	5	18
04:00		4	2	8	8	22
05:00		8	12	10	1	31
06:00		0	28	50	62	140
07:00		78	92	79	108	357
08:00		68	76	86	66	296
09:00		64	82	72	80	298
10:00		73	97	78	88	336
11:00		84	98	62	76	320
12:00 PM		64	86	100	88	338
01:00		64	95	84	100	343
02:00		101	106	92	98	397
03:00		104	142	162	145	553
04:00		170	165	190	187	712
05:00		186	186	194	182	748
06:00		184	146	116	118	564
07:00		108	108	101	80	397
08:00		66	55	68	51	240
09:00		70	60	48	38	216
10:00		58	44	24	30	156
11:00		33	19	26	22	100
Day Total						6663



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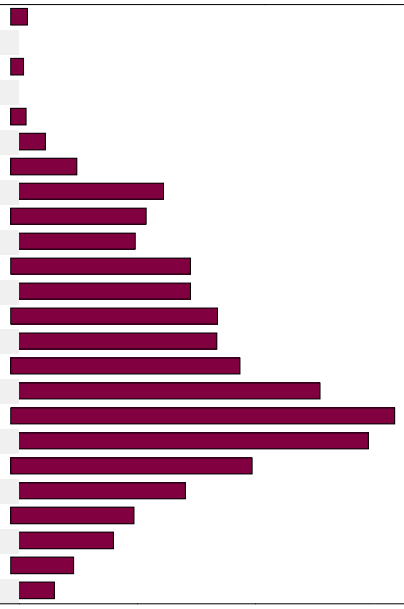
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Wed 19-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		18	14	8	0	40
01:00		0	0	0	8	8
02:00		10	6	5	10	31
03:00		8	4	3	5	20
04:00		8	9	6	15	38
05:00		14	13	28	26	81
06:00		18	22	50	63	153
07:00		66	85	106	94	351
08:00		20	100	100	91	311
09:00		78	62	58	88	286
10:00		94	108	96	114	412
11:00		110	96	102	105	413
12:00 PM		111	131	116	116	474
01:00		121	122	104	126	473
02:00		148	134	110	133	525
03:00		139	184	180	205	708
04:00		220	248	204	206	878
05:00		198	202	216	202	818
06:00		179	144	116	114	553
07:00		101	101	102	96	400
08:00		74	78	64	67	283
09:00		76	64	54	42	236
10:00		45	41	32	27	145
11:00		32	28	18	23	101
Day Total						7738



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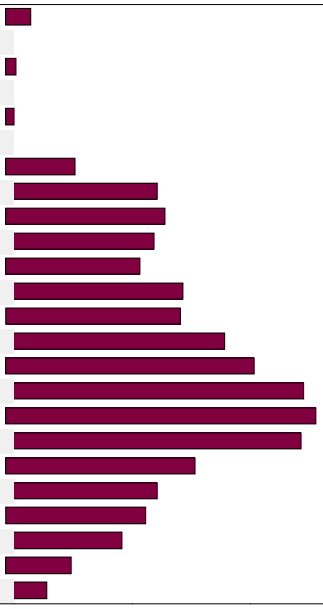
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Thu 20-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		12	20	15	12	59
01:00		8	1	2	8	19
02:00		6	9	8	3	26
03:00		2	3	3	2	10
04:00		4	8	4	5	21
05:00		2	8	6	2	18
06:00		26	26	49	59	160
07:00		72	102	136	38	348
08:00		104	100	76	86	366
09:00		86	79	88	88	341
10:00		74	102	70	62	308
11:00		91	110	108	98	407
12:00 PM		99	108	100	94	401
01:00		124	116	122	140	502
02:00		146	138	138	148	570
03:00		130	192	186	174	682
04:00		178	178	178	176	710
05:00		188	172	158	158	676
06:00		140	114	80	101	435
07:00		108	86	76	78	348
08:00		91	74	78	78	321
09:00		66	81	60	60	267
10:00		44	34	44	29	151
11:00		30	24	22	20	96
Day Total						7242



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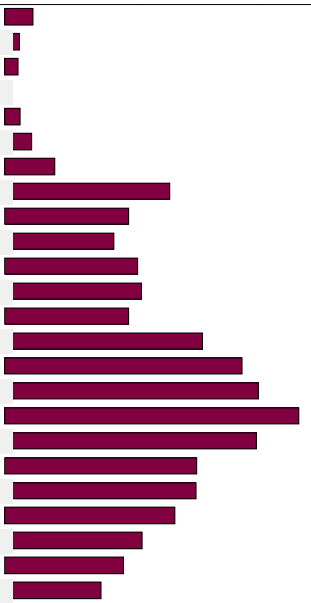
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Fri 21-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		18	15	18	16	67
01:00		12	10	6	8	36
02:00		8	6	9	10	33
03:00		6	3	4	7	20
04:00		8	10	14	6	38
05:00		8	18	15	23	64
06:00		24	16	0	77	117
07:00		92	102	121	64	379
08:00		78	52	43	112	285
09:00		79	62	45	66	252
10:00		22	77	108	98	305
11:00		86	84	66	78	314
12:00 PM		48	84	71	82	285
01:00		72	81	166	135	454
02:00		114	136	150	144	544
03:00		136	133	136	176	581
04:00		198	160	156	159	673
05:00		155	126	152	144	577
06:00		129	122	99	90	440
07:00		83	138	112	106	439
08:00		90	108	93	99	390
09:00		40	94	104	78	316
10:00		60	77	68	68	273
11:00		71	60	53	38	222
Day Total						7104



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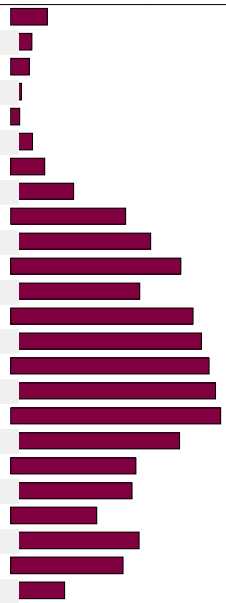
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sat 22-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		30	30	12	14	86
01:00		12	14	10	14	50
02:00		10	14	10	10	44
03:00		9	8	4	6	27
04:00		6	5	4	8	23
05:00		4	10	16	22	52
06:00		18	23	22	16	79
07:00		40	10	26	70	146
08:00		70	38	32	124	264
09:00		72	72	79	98	321
10:00		108	82	102	98	390
11:00		82	108	81	26	297
12:00 PM		48	144	123	104	419
01:00		94	117	124	102	437
02:00		113	119	106	117	455
03:00		105	134	108	122	469
04:00		122	123	110	127	482
05:00		110	105	85	87	387
06:00		91	70	70	57	288
07:00		62	60	79	78	279
08:00		52	34	70	42	198
09:00		90	72	44	90	296
10:00		70	60	74	54	258
11:00		40	50	3	32	125
Day Total						5872



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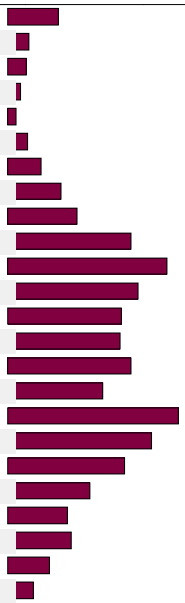
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Sun 23-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		42	38	20	18	118
01:00		20	18	8	4	50
02:00		14	16	12	3	45
03:00		7	12	7	6	32
04:00		6	7	2	6	21
05:00		9	10	19	10	48
06:00		16	20	16	26	78
07:00		31	32	34	26	123
08:00		13	46	31	70	160
09:00		40	56	87	101	284
10:00		88	91	106	80	365
11:00		74	70	63	92	299
12:00 PM		4	72	94	92	262
01:00		82	32	50	94	258
02:00		26	66	108	84	284
03:00		42	24	54	99	219
04:00		97	98	92	105	392
05:00		83	93	73	82	331
06:00		74	67	68	60	269
07:00		55	57	56	22	190
08:00		48	31	50	10	139
09:00		61	30	9	47	147
10:00		7	32	26	32	97
11:00		15	4	20	22	61
Day Total						4272



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Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 03-Apr-17
Date End: 24-Apr-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		20	10	9	12	51
01:00		10	4	2	2	18
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		2	10	14	24	50
06:00		29	29	24	38	120
07:00		19	49	78	36	182
08:00		52	20	74	18	164
09:00		78	60	48	*	186
10:00		*	*	*	*	*
11:00		*	*	*	*	*
12:00 PM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						771
Total						157449

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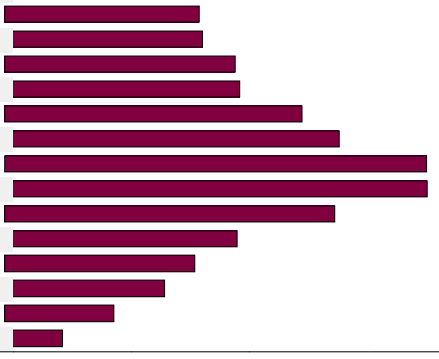
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		117	114	122	131	484
11:00		124	104	130	133	491
12:00 PM		142	151	114	166	573
01:00		136	132	170	146	584
02:00		176	182	198	181	737
03:00		188	196	222	224	830
04:00		240	239	286	280	1045
05:00		264	254	282	248	1048
06:00		239	205	172	202	818
07:00		163	166	120	128	577
08:00		143	118	119	92	472
09:00		120	98	94	86	398
10:00		74	82	66	50	272
11:00		42	39	36	28	145
Day Total						8474



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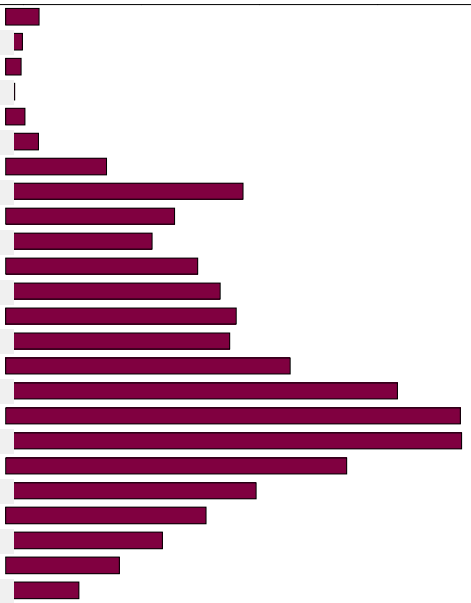
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Tue 25-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	24	17	15	84
01:00		16	11	8	9	44
02:00		15	9	11	5	40
03:00		5	6	6	8	25
04:00		11	8	13	18	50
05:00		17	19	28	19	83
06:00		38	40	65	109	252
07:00		116	162	182	130	590
08:00		90	116	112	102	420
09:00		101	104	81	79	365
10:00		137	118	108	114	477
11:00		123	126	142	142	533
12:00 PM		144	146	156	126	572
01:00		120	128	149	159	556
02:00		188	162	194	161	705
03:00		197	254	260	260	971
04:00		272	277	290	287	1126
05:00		298	280	294	258	1130
06:00		248	230	196	172	846
07:00		177	169	158	118	622
08:00		130	129	129	110	498
09:00		99	110	99	82	390
10:00		82	84	54	63	283
11:00		62	53	28	40	183
Day Total						10845



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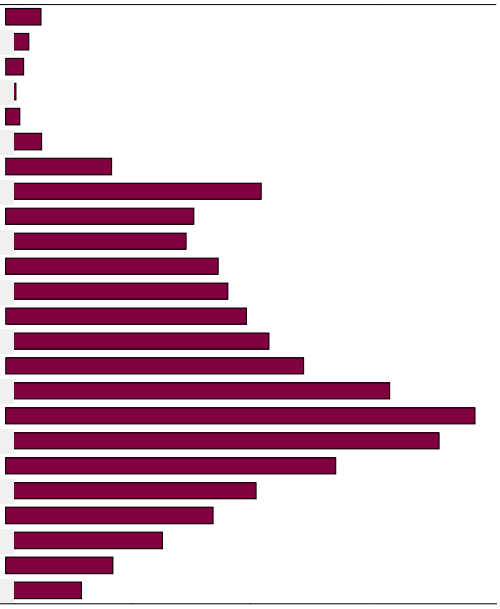
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Wed 26-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		20	34	22	13	89
01:00		16	23	11	9	59
02:00		18	10	10	9	47
03:00		4	4	10	10	28
04:00		10	8	9	10	37
05:00		9	20	27	35	91
06:00		55	51	74	84	264
07:00		117	176	194	148	635
08:00		115	104	112	136	467
09:00		97	127	111	114	449
10:00		122	144	116	146	528
11:00		131	129	146	146	552
12:00 PM		148	154	156	140	598
01:00		147	168	158	180	653
02:00		175	194	168	203	740
03:00		203	234	277	238	952
04:00		290	274	291	308	1163
05:00		256	266	252	301	1075
06:00		257	222	157	182	818
07:00		158	168	142	153	621
08:00		132	136	128	120	516
09:00		108	114	92	75	389
10:00		88	64	72	44	268
11:00		48	57	54	30	189
Day Total						11228



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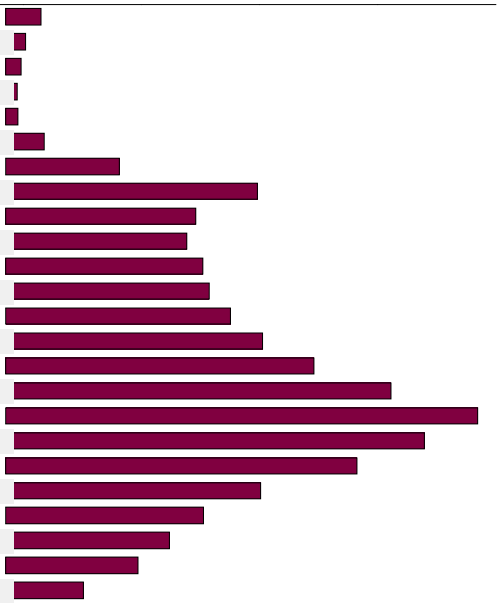
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Thu 27-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		26	34	17	12	89
01:00		17	10	13	11	51
02:00		14	11	9	7	41
03:00		6	7	8	10	31
04:00		11	5	2	15	33
05:00		16	20	27	34	97
06:00		50	56	83	94	283
07:00		137	162	204	122	625
08:00		116	118	112	126	472
09:00		106	126	106	112	450
10:00		91	140	130	128	489
11:00		108	134	127	136	505
12:00 PM		146	136	120	157	559
01:00		154	132	157	194	637
02:00		188	185	216	175	764
03:00		220	255	263	218	956
04:00		285	292	298	295	1170
05:00		279	258	290	211	1038
06:00		243	235	202	191	871
07:00		176	152	146	158	632
08:00		130	138	103	120	491
09:00		104	110	120	74	408
10:00		93	84	88	64	329
11:00		52	51	54	37	194
Day Total						11215



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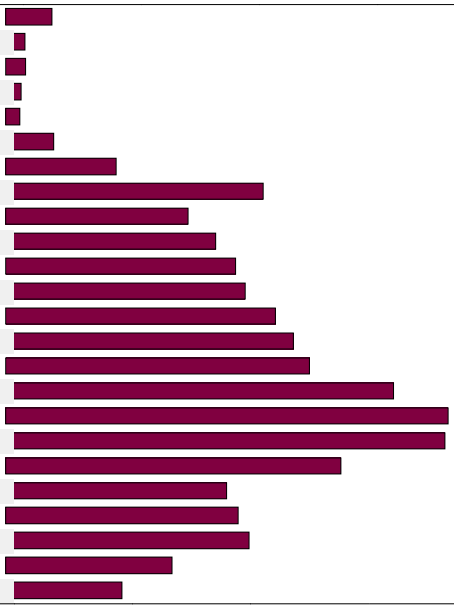
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Fri 28-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	42	25	22	117
01:00		16	12	11	11	50
02:00		16	17	10	9	52
03:00		10	8	8	15	41
04:00		4	8	12	13	37
05:00		18	26	34	44	122
06:00		34	59	80	102	275
07:00		127	166	206	140	639
08:00		104	107	136	106	453
09:00		122	134	126	139	521
10:00		118	170	124	158	570
11:00		163	156	140	136	595
12:00 PM		174	159	182	154	669
01:00		170	150	186	208	714
02:00		180	194	194	186	754
03:00		230	247	246	238	961
04:00		262	264	294	277	1097
05:00		274	280	294	240	1088
06:00		253	200	220	158	831
07:00		166	151	110	122	549
08:00		152	125	160	140	577
09:00		155	145	164	140	604
10:00		98	124	93	98	413
11:00		80	78	76	56	290
Day Total						12019



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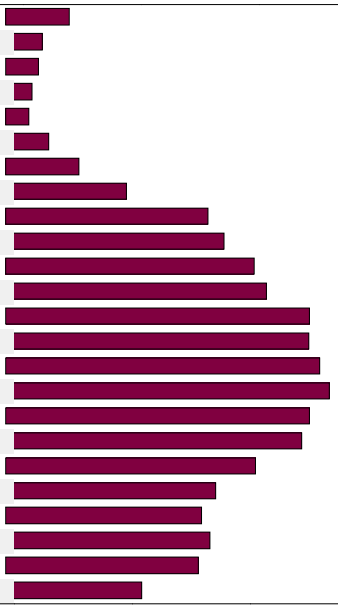
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Sat 29-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		47	29	46	38	160
01:00		35	22	18	18	93
02:00		20	28	23	12	83
03:00		22	18	11	16	67
04:00		14	14	13	18	59
05:00		14	28	29	38	109
06:00		35	39	46	64	184
07:00		57	60	90	94	301
08:00		114	122	134	132	502
09:00		110	138	144	150	542
10:00		134	156	171	156	617
11:00		173	166	152	156	647
12:00 PM		203	190	178	182	753
01:00		182	194	178	198	752
02:00		186	204	196	193	779
03:00		187	213	194	208	802
04:00		206	181	200	167	754
05:00		184	190	202	158	734
06:00		166	155	161	138	620
07:00		152	126	121	122	521
08:00		106	130	115	136	487
09:00		120	150	114	123	507
10:00		111	130	114	123	478
11:00		86	102	68	82	338
Day Total						10889



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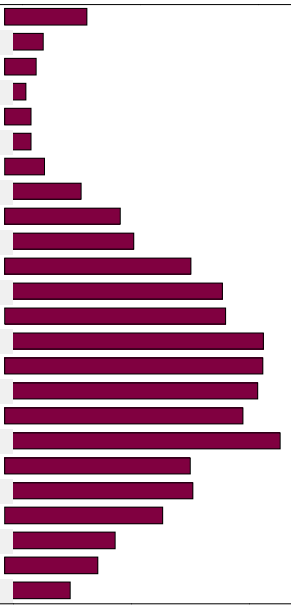
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Sun 30-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		58	62	52	34	206
01:00		28	20	26	24	98
02:00		15	29	16	20	80
03:00		12	16	8	19	55
04:00		20	12	20	15	67
05:00		5	14	25	23	67
06:00		26	20	23	32	101
07:00		40	34	41	76	191
08:00		66	59	79	84	288
09:00		61	74	88	98	321
10:00		110	108	119	126	463
11:00		123	158	124	136	541
12:00 PM		118	122	144	164	548
01:00		138	203	158	144	643
02:00		142	169	177	153	641
03:00		147	165	166	150	628
04:00		135	152	171	134	592
05:00		162	177	192	152	683
06:00		124	116	101	120	461
07:00		134	118	121	95	468
08:00		104	110	104	75	393
09:00		94	79	48	54	275
10:00		72	72	52	36	232
11:00		46	46	40	32	164
Day Total						8206



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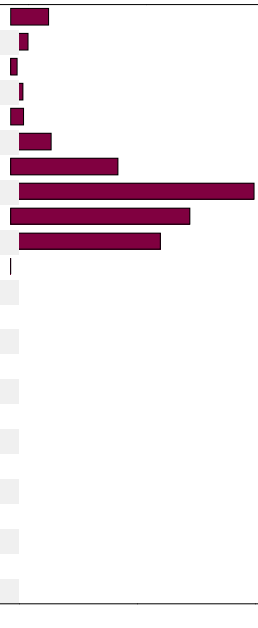
Kapiolani H-1 EB On-Ramp - VOLUME
Site Code: AP-4
Station ID: 024668
Date Start: 24-Apr-17
Date End: 10-May-17

Start Time	Mon 01-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	26	24	18	96
01:00		14	10	12	9	45
02:00		2	2	8	7	19
03:00		16	8	4	4	32
04:00		5	8	10	11	34
05:00		22	22	22	36	102
06:00		45	48	78	97	268
07:00		125	154	210	116	605
08:00		92	108	110	135	445
09:00		112	112	97	52	373
10:00		0	0	2	0	2
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						2021



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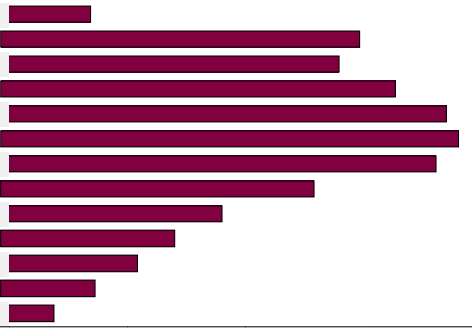
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Mon 03-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	385	385
12:00 PM		401	376	369	380	1526
01:00		359	338	368	374	1439
02:00		382	402	459	436	1679
03:00		432	462	510	490	1894
04:00		491	509	474	469	1943
05:00		464	458	464	462	1848
06:00		406	340	292	293	1331
07:00		250	236	227	231	944
08:00		237	196	170	138	741
09:00		172	154	144	114	584
10:00		128	102	101	74	405
11:00		68	56	53	52	229
Day Total						14948



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Tue 04-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		56	34	32	26	148
01:00		26	18	28	18	90
02:00		20	15	14	18	67
03:00		13	11	16	28	68
04:00		28	24	44	43	139
05:00		48	88	94	101	331
06:00		122	184	203	326	835
07:00		431	472	459	430	1792
08:00		384	346	370	346	1446
09:00		286	284	354	374	1298
10:00		348	386	373	400	1507
11:00		410	414	380	378	1582
12:00 PM		422	433	383	339	1577
01:00		363	380	397	375	1515
02:00		414	416	421	481	1732
03:00		432	450	450	454	1786
04:00		456	452	448	494	1850
05:00		468	492	468	448	1876
06:00		408	384	374	344	1510
07:00		332	341	254	204	1131
08:00		236	194	172	191	793
09:00		170	169	160	160	659
10:00		129	116	102	80	427
11:00		70	59	58	62	249
Day Total						24408

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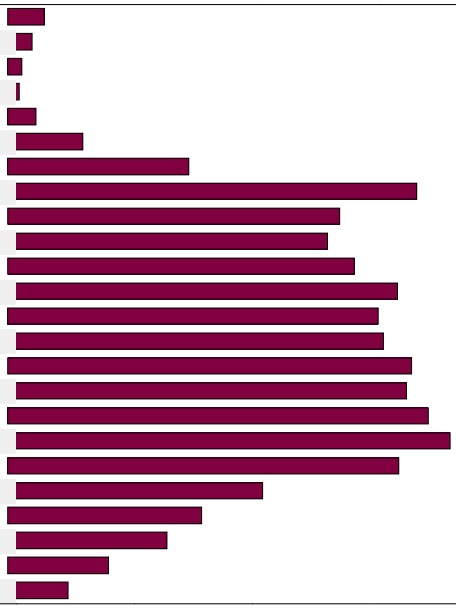
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Wed 05-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		41	43	48	28	160
01:00		28	28	24	26	106
02:00		20	14	16	14	64
03:00		12	19	9	14	54
04:00		26	21	42	34	123
05:00		54	84	90	94	322
06:00		124	154	198	294	770
07:00		386	442	450	458	1736
08:00		399	357	346	310	1412
09:00		321	322	347	370	1360
10:00		346	322	391	416	1475
11:00		419	394	406	438	1657
12:00 PM		370	410	415	378	1573
01:00		392	388	408	408	1596
02:00		418	416	439	442	1715
03:00		417	426	412	440	1695
04:00		416	436	482	452	1786
05:00		460	488	476	454	1878
06:00		468	408	414	372	1662
07:00		322	272	250	240	1084
08:00		222	229	198	176	825
09:00		198	168	172	141	679
10:00		132	121	105	74	432
11:00		69	72	61	57	259
Day Total						24423



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		50	42	34	42	168
01:00		30	29	26	26	111
02:00		24	24	20	22	90
03:00		17	26	17	16	76
04:00		33	34	38	46	151
05:00		64	81	82	108	335
06:00		120	142	210	312	784
07:00		422	461	453	406	1742
08:00		404	370	358	331	1463
09:00		310	279	314	324	1227
10:00		344	372	369	361	1446
11:00		392	376	406	386	1560
12:00 PM		410	436	396	366	1608
01:00		344	324	363	332	1363
02:00		394	426	384	396	1600
03:00		360	406	418	444	1628
04:00		440	468	454	498	1860
05:00		468	438	483	458	1847
06:00		430	398	360	300	1488
07:00		338	274	282	238	1132
08:00		221	222	216	190	849
09:00		170	188	214	175	747
10:00		125	123	110	104	462
11:00		100	68	59	54	281
Day Total						24018

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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Fri 07-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		62	34	42	35	173
01:00		34	25	34	36	129
02:00		26	30	17	16	89
03:00		16	22	20	15	73
04:00		28	32	40	38	138
05:00		54	68	85	106	313
06:00		115	160	222	292	789
07:00		400	464	485	448	1797
08:00		393	381	368	309	1451
09:00		324	300	323	344	1291
10:00		340	339	370	415	1464
11:00		426	432	442	402	1702
12:00 PM		438	455	414	411	1718
01:00		418	392	376	424	1610
02:00		413	427	446	441	1727
03:00		452	492	503	484	1931
04:00		498	482	491	534	2005
05:00		512	510	452	465	1939
06:00		460	444	433	372	1709
07:00		320	274	294	246	1134
08:00		219	230	214	200	863
09:00		214	210	206	242	872
10:00		229	178	144	129	680
11:00		121	100	104	108	433
Day Total						26030

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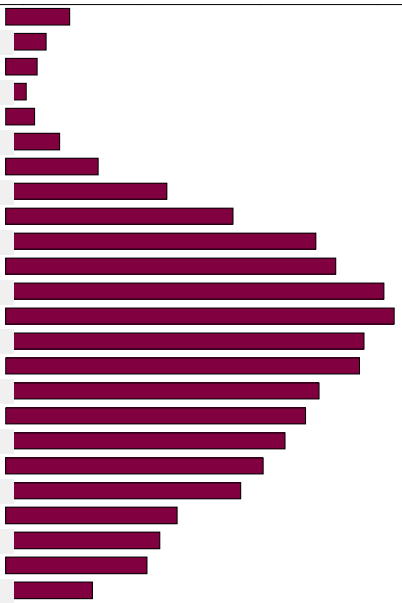
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sat 08-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		77	77	70	52	276
01:00		54	36	45	40	175
02:00		48	34	32	22	136
03:00		22	21	24	24	91
04:00		28	26	34	38	126
05:00		45	52	50	85	232
06:00		74	89	114	120	397
07:00		131	159	194	202	686
08:00		198	218	264	286	966
09:00		300	332	324	362	1318
10:00		324	342	352	386	1404
11:00		378	415	380	434	1607
12:00 PM		385	444	414	408	1651
01:00		388	402	372	360	1522
02:00		400	365	377	361	1503
03:00		328	336	346	322	1332
04:00		342	309	293	330	1274
05:00		328	284	304	271	1187
06:00		308	258	268	262	1096
07:00		252	254	248	246	1000
08:00		196	154	204	176	730
09:00		164	162	174	158	658
10:00		171	156	126	150	603
11:00		107	110	76	77	370
Day Total						20340



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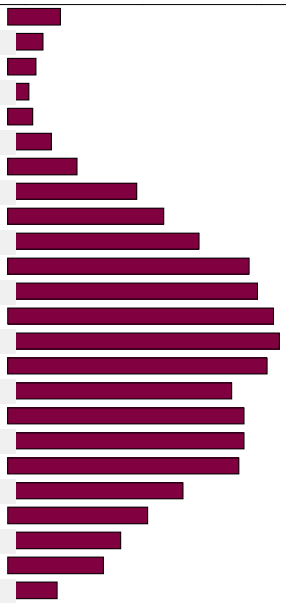
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sun 09-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		54	62	60	50	226
01:00		36	42	40	36	154
02:00		31	32	32	29	124
03:00		21	24	28	21	94
04:00		30	26	26	28	110
05:00		44	52	46	48	190
06:00		54	73	86	86	299
07:00		110	134	146	160	550
08:00		158	152	163	192	665
09:00		170	177	228	240	815
10:00		239	248	256	284	1027
11:00		270	262	259	271	1062
12:00 PM		264	300	288	278	1130
01:00		288	294	282	290	1154
02:00		300	274	282	248	1104
03:00		230	242	246	237	955
04:00		237	235	252	282	1006
05:00		258	250	276	220	1004
06:00		261	290	230	204	985
07:00		200	203	188	156	747
08:00		178	162	134	123	597
09:00		128	139	116	100	483
10:00		117	98	113	81	409
11:00		68	52	51	42	213
Day Total						15103



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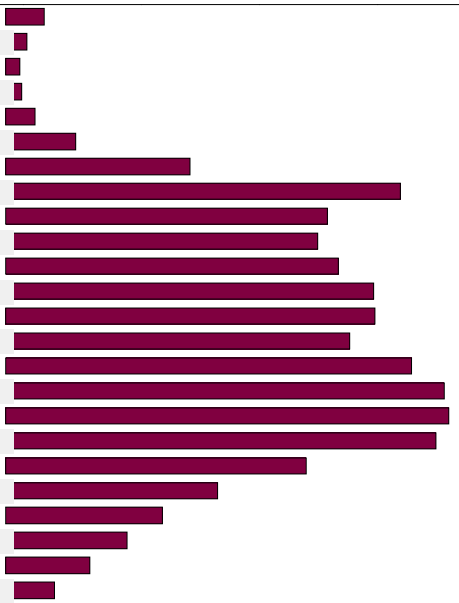
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Mon 10-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		44	42	40	42	168
01:00		22	30	17	24	93
02:00		21	14	9	20	64
03:00		13	16	18	24	71
04:00		20	22	40	47	129
05:00		51	76	91	82	300
06:00		105	176	214	289	784
07:00		391	432	458	398	1679
08:00		366	354	324	324	1368
09:00		318	308	346	354	1326
10:00		332	322	368	392	1414
11:00		376	392	380	416	1564
12:00 PM		378	417	392	383	1570
01:00		380	366	356	360	1462
02:00		392	425	416	490	1723
03:00		445	483	459	476	1863
04:00		460	458	478	486	1882
05:00		474	442	480	432	1828
06:00		364	334	309	270	1277
07:00		254	216	205	228	903
08:00		207	172	140	148	667
09:00		140	156	124	98	518
10:00		122	86	90	62	360
11:00		64	51	52	44	211
Day Total						23224



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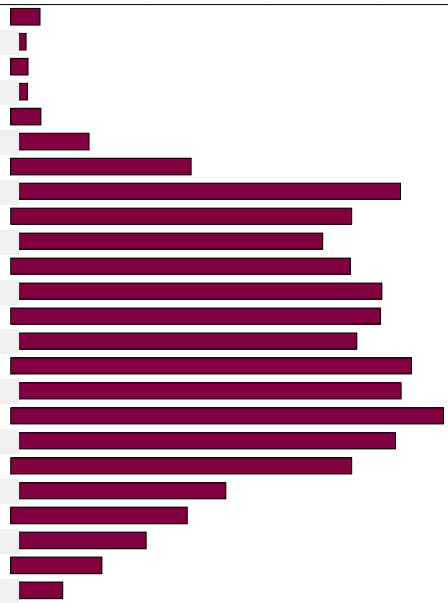
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Tue 11-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		34	36	34	25	129
01:00		18	12	18	22	70
02:00		18	28	16	16	78
03:00		18	20	18	19	75
04:00		18	22	39	52	131
05:00		63	76	96	100	335
06:00		124	166	204	274	768
07:00		352	456	450	397	1655
08:00		377	388	363	322	1450
09:00		348	316	318	345	1327
10:00		358	346	369	371	1444
11:00		407	374	412	384	1577
12:00 PM		406	402	360	404	1572
01:00		364	348	377	382	1471
02:00		404	394	456	448	1702
03:00		417	406	414	422	1659
04:00		414	476	486	462	1838
05:00		462	395	370	408	1635
06:00		463	377	338	272	1450
07:00		260	212	226	218	916
08:00		210	164	218	161	753
09:00		168	163	128	120	579
10:00		118	108	98	66	390
11:00		62	72	50	40	224
Day Total						23228



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Wed 12-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		48	43	32	26	149
01:00		24	26	28	26	104
02:00		16	14	14	11	55
03:00		14	14	21	18	67
04:00		16	26	40	51	133
05:00		44	66	76	115	301
06:00		110	160	197	280	747
07:00		388	390	395	415	1588
08:00		365	350	308	328	1351
09:00		288	290	273	244	1095
10:00		0	13	318	349	680
11:00		332	368	353	388	1441
12:00 PM		382	371	364	356	1473
01:00		348	363	327	369	1407
02:00		378	356	384	395	1513
03:00		388	406	390	462	1646
04:00		406	430	443	482	1761
05:00		468	433	449	442	1792
06:00		367	326	325	312	1330
07:00		258	247	266	252	1023
08:00		290	302	238	182	1012
09:00		176	161	136	122	595
10:00		111	109	92	63	375
11:00		76	73	61	48	258
Day Total						21896

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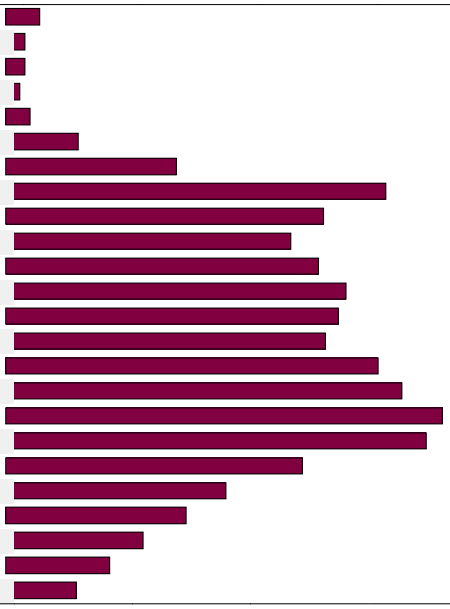
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Thu 13-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		44	35	38	30	147
01:00		31	20	20	16	87
02:00		21	20	27	18	86
03:00		12	18	16	18	64
04:00		16	22	30	40	108
05:00		58	79	86	87	310
06:00		106	156	190	276	728
07:00		364	402	426	424	1616
08:00		364	344	340	302	1350
09:00		310	292	282	328	1212
10:00		339	322	328	340	1329
11:00		350	392	346	358	1446
12:00 PM		374	371	348	320	1413
01:00		328	334	330	368	1360
02:00		356	374	432	420	1582
03:00		406	402	434	440	1682
04:00		446	492	459	458	1855
05:00		452	450	438	446	1786
06:00		342	318	318	282	1260
07:00		260	242	212	222	936
08:00		226	202	166	174	768
09:00		150	166	144	126	586
10:00		120	123	117	84	444
11:00		94	82	66	60	302
Day Total						22457



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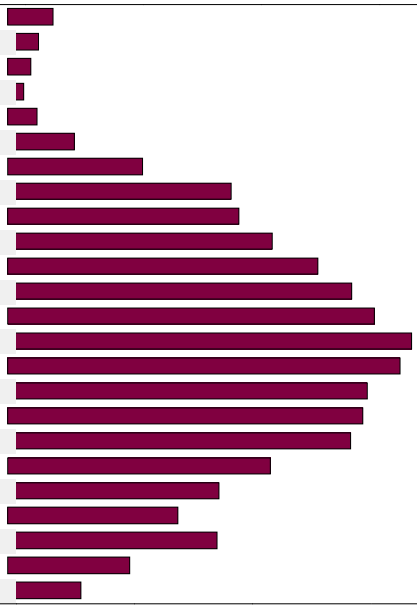
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Fri 14-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		57	62	42	36	197
01:00		37	32	36	30	135
02:00		20	28	33	21	102
03:00		23	14	14	20	71
04:00		24	24	36	46	130
05:00		48	54	80	106	288
06:00		112	112	166	186	576
07:00		223	224	242	263	952
08:00		230	242	248	265	985
09:00		234	270	299	323	1126
10:00		326	348	306	338	1318
11:00		346	352	369	396	1463
12:00 PM		360	364	397	437	1558
01:00		400	442	419	454	1715
02:00		410	426	416	414	1666
03:00		397	386	356	388	1527
04:00		370	380	372	386	1508
05:00		355	380	384	337	1456
06:00		292	266	283	276	1117
07:00		260	207	242	189	898
08:00		198	177	168	183	726
09:00		222	262	220	186	890
10:00		152	138	112	118	520
11:00		85	92	80	58	315
Day Total						21239



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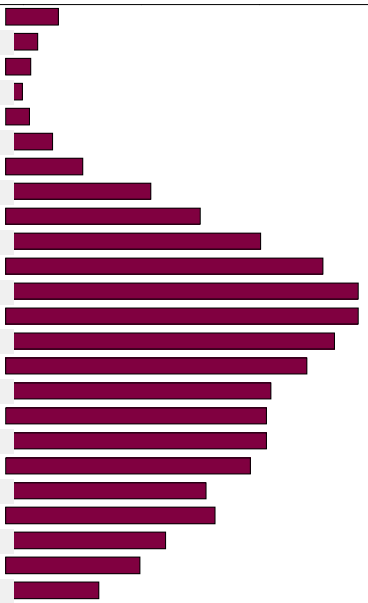
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sat 15-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		66	55	54	53	228
01:00		29	42	35	34	140
02:00		36	32	24	18	110
03:00		19	18	22	16	75
04:00		30	26	24	24	104
05:00		34	50	52	66	202
06:00		60	72	89	109	330
07:00		116	154	152	196	618
08:00		156	172	216	285	829
09:00		252	249	283	300	1084
10:00		295	325	361	368	1349
11:00		393	320	380	406	1499
12:00 PM		367	388	392	352	1499
01:00		385	357	324	332	1398
02:00		306	324	324	326	1280
03:00		304	305	252	266	1127
04:00		301	272	252	283	1108
05:00		295	270	278	266	1109
06:00		270	278	252	240	1040
07:00		199	211	207	236	853
08:00		257	262	194	179	892
09:00		188	183	156	155	682
10:00		192	127	135	120	574
11:00		102	122	108	68	400
Day Total						18530



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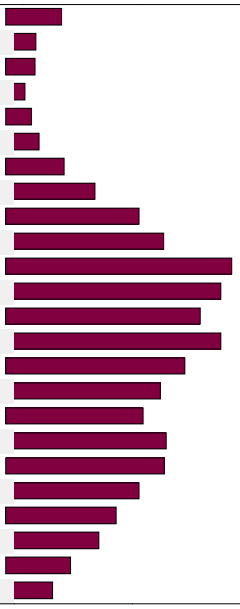
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sun 16-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		69	63	57	52	241
01:00		34	28	39	31	132
02:00		52	21	26	30	129
03:00		27	18	14	26	85
04:00		30	30	18	36	114
05:00		21	32	48	45	146
06:00		52	62	63	74	251
07:00		86	102	95	100	383
08:00		124	134	144	169	571
09:00		160	146	174	194	674
10:00		242	255	244	220	961
11:00		246	244	243	182	915
12:00 PM		198	200	246	184	828
01:00		224	283	232	176	915
02:00		205	183	198	178	764
03:00		166	170	164	160	660
04:00		175	158	138	116	587
05:00		156	156	178	194	684
06:00		170	188	150	169	677
07:00		138	158	140	133	569
08:00		128	133	110	100	471
09:00		102	120	90	87	399
10:00		76	73	64	66	279
11:00		51	50	60	41	202
Day Total						11637



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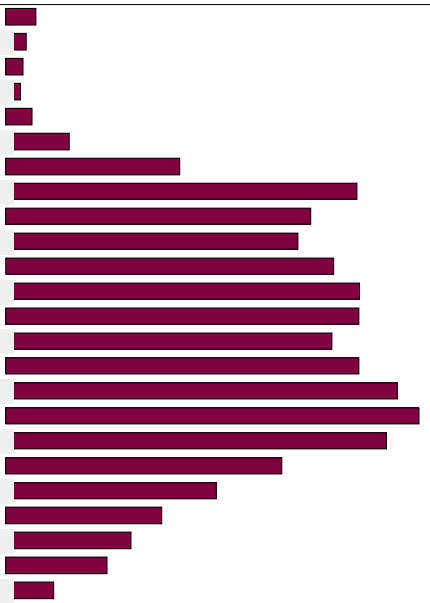
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Mon 17-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		36	26	34	35	131
01:00		22	20	22	26	90
02:00		19	23	14	20	76
03:00		14	18	17	18	67
04:00		22	24	32	38	116
05:00		46	62	82	82	272
06:00		121	148	210	262	741
07:00		358	378	389	367	1492
08:00		347	313	330	306	1296
09:00		308	290	300	343	1241
10:00		344	304	366	380	1394
11:00		366	381	358	398	1503
12:00 PM		370	382	390	358	1500
01:00		335	324	360	366	1385
02:00		364	370	410	358	1502
03:00		391	429	425	420	1665
04:00		407	446	444	460	1757
05:00		436	408	405	370	1619
06:00		326	315	288	244	1173
07:00		242	236	220	198	896
08:00		184	174	162	146	666
09:00		129	139	133	134	535
10:00		132	134	94	74	434
11:00		64	60	44	40	208
Day Total						21759



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Tue 18-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		36	31	32	37	136
01:00		24	16	26	20	86
02:00		12	16	15	17	60
03:00		20	17	16	18	71
04:00		21	33	40	39	133
05:00		52	70	88	112	322
06:00		108	136	214	297	755
07:00		358	426	422	433	1639
08:00		354	382	328	328	1392
09:00		296	306	316	316	1234
10:00		322	356	351	394	1423
11:00		360	374	356	394	1484
12:00 PM		380	364	313	256	1313
01:00		354	342	347	410	1453
02:00		360	392	422	408	1582
03:00		412	432	465	402	1711
04:00		384	422	396	474	1676
05:00		448	409	446	392	1695
06:00		316	278	301	261	1156
07:00		247	248	228	225	948
08:00		188	180	170	163	701
09:00		164	146	124	112	546
10:00		117	99	84	74	374
11:00		78	71	56	54	259
Day Total						22149

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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Wed 19-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		48	29	26	31	134
01:00		28	22	22	17	89
02:00		13	14	17	9	53
03:00		22	18	14	18	72
04:00		18	22	39	42	121
05:00		44	56	62	102	264
06:00		104	142	194	198	638
07:00		336	390	416	356	1498
08:00		309	336	311	346	1302
09:00		244	260	280	289	1073
10:00		349	305	288	341	1283
11:00		346	388	358	352	1444
12:00 PM		364	372	370	352	1458
01:00		346	384	340	340	1410
02:00		342	347	358	348	1395
03:00		370	368	371	414	1523
04:00		401	422	410	443	1676
05:00		434	383	419	404	1640
06:00		376	312	302	252	1242
07:00		262	238	226	206	932
08:00		215	199	188	178	780
09:00		178	168	153	134	633
10:00		98	119	102	80	399
11:00		68	72	66	44	250
Day Total						21309

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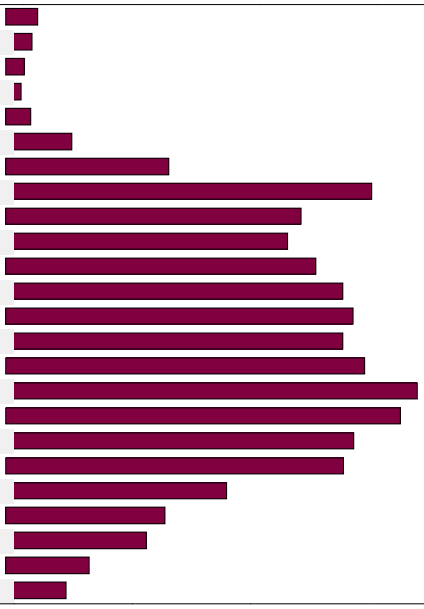
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Thu 20-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		40	30	39	32	141
01:00		36	29	28	23	116
02:00		20	24	21	19	84
03:00		18	12	15	25	70
04:00		20	20	28	43	111
05:00		38	74	76	97	285
06:00		108	131	210	246	695
07:00		340	420	416	378	1554
08:00		350	319	282	304	1255
09:00		280	282	310	328	1200
10:00		308	338	315	356	1317
11:00		368	332	351	382	1433
12:00 PM		366	398	356	356	1476
01:00		338	362	384	348	1432
02:00		356	360	418	392	1526
03:00		416	444	430	458	1748
04:00		430	451	436	362	1679
05:00		342	316	408	414	1480
06:00		384	400	331	321	1436
07:00		258	249	226	206	939
08:00		186	174	173	146	679
09:00		169	164	140	128	601
10:00		90	98	96	74	358
11:00		75	68	54	64	261
Day Total						21876



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Fri 21-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		46	52	36	28	162
01:00		26	25	24	26	101
02:00		20	19	12	22	73
03:00		12	11	15	28	66
04:00		22	18	36	48	124
05:00		45	54	96	86	281
06:00		113	149	202	283	747
07:00		386	412	411	408	1617
08:00		345	352	340	357	1394
09:00		296	318	302	342	1258
10:00		324	311	353	382	1370
11:00		370	350	392	394	1506
12:00 PM		364	355	380	362	1461
01:00		360	371	370	366	1467
02:00		368	380	390	394	1532
03:00		390	428	432	387	1637
04:00		410	446	428	412	1696
05:00		321	168	179	213	881
06:00		304	357	304	301	1266
07:00		268	266	246	268	1048
08:00		206	198	178	178	760
09:00		177	176	180	150	683
10:00		140	138	122	94	494
11:00		88	120	113	76	397
Day Total						22021

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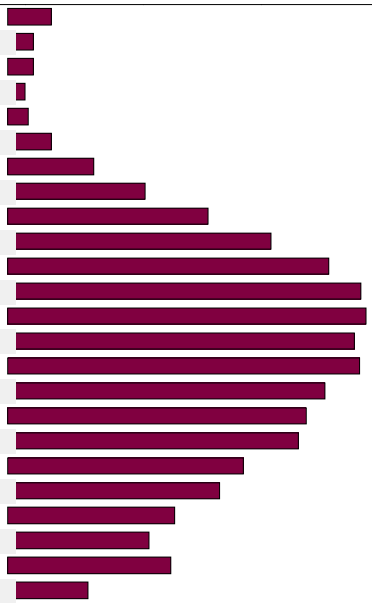
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sat 22-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		48	56	45	41	190
01:00		27	30	26	29	112
02:00		37	28	24	24	113
03:00		22	25	16	14	77
04:00		28	12	26	24	90
05:00		32	48	54	55	189
06:00		69	74	96	129	368
07:00		126	116	165	180	587
08:00		180	217	206	251	854
09:00		239	306	276	299	1120
10:00		322	314	364	364	1364
11:00		376	360	376	389	1501
12:00 PM		364	376	382	400	1522
01:00		368	355	386	366	1475
02:00		386	390	360	359	1495
03:00		360	348	334	306	1348
04:00		309	322	310	328	1269
05:00		334	310	312	280	1236
06:00		292	260	220	230	1002
07:00		247	220	228	208	903
08:00		200	169	174	169	712
09:00		171	160	134	138	603
10:00		217	178	167	132	694
11:00		94	86	88	77	345
Day Total						19169



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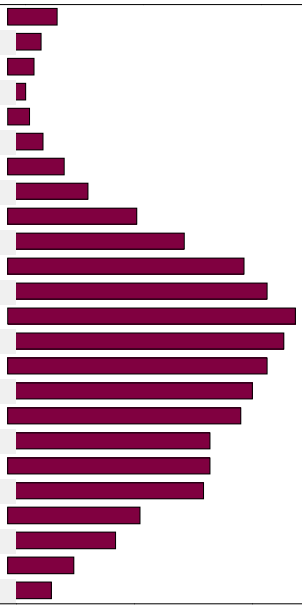
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Sun 23-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		64	56	50	44	214
01:00		42	26	42	34	144
02:00		36	40	24	16	116
03:00		24	15	20	22	81
04:00		27	22	28	20	97
05:00		28	36	38	52	154
06:00		38	51	72	82	243
07:00		74	91	84	94	343
08:00		108	115	163	164	550
09:00		176	160	188	228	752
10:00		246	236	264	258	1004
11:00		262	276	293	272	1103
12:00 PM		318	281	322	302	1223
01:00		290	301	294	288	1173
02:00		288	285	272	258	1103
03:00		254	250	272	265	1041
04:00		247	262	229	254	992
05:00		218	212	210	220	860
06:00		226	217	202	215	860
07:00		168	223	272	170	833
08:00		142	131	147	144	564
09:00		137	109	106	108	460
10:00		87	84	66	48	285
11:00		52	53	50	35	190
Day Total						14385



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King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		31	34	27	22	114
01:00		26	20	12	19	77
02:00		14	15	16	17	62
03:00		17	12	12	26	67
04:00		24	16	38	38	116
05:00		40	47	66	86	239
06:00		89	146	188	244	667
07:00		322	398	396	397	1513
08:00		345	340	288	342	1315
09:00		318	306	335	358	1317
10:00		344	372	358	346	1420
11:00		375	357	402	342	1476
12:00 PM		356	360	378	359	1453
01:00		328	300	353	332	1313
02:00		309	388	411	372	1480
03:00		368	424	404	458	1654
04:00		418	444	462	470	1794
05:00		470	445	435	382	1732
06:00		325	305	299	243	1172
07:00		224	226	208	196	854
08:00		186	166	180	138	670
09:00		150	139	116	94	499
10:00		102	85	64	68	319
11:00		52	56	56	44	208
Day Total						21531

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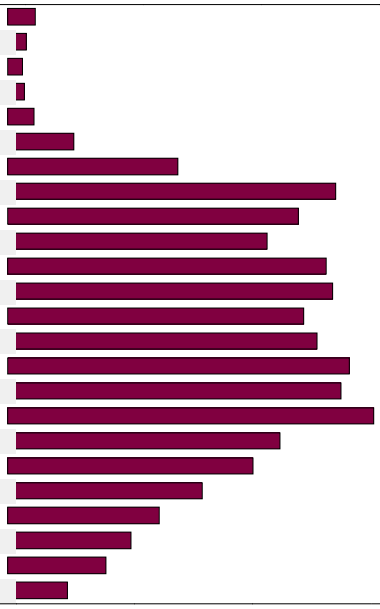
King btwn Piikoi - Birch - VOLUME
Site Code: AP-8
Station ID: 024675
Date Start: 03-Apr-17
Date End: 01-Jun-17

Start Time	Tue 25-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		36	30	34	20	120
01:00		16	26	20	20	82
02:00		10	22	20	14	66
03:00		20	18	15	21	74
04:00		12	24	34	46	116
05:00		38	68	94	84	284
06:00		101	170	202	252	725
07:00		308	377	347	363	1395
08:00		318	307	300	312	1237
09:00		276	250	284	293	1103
10:00		324	326	350	354	1354
11:00		342	362	334	342	1380
12:00 PM		350	305	300	304	1259
01:00		328	308	344	336	1316
02:00		322	360	380	390	1452
03:00		346	376	336	358	1416
04:00		374	384	396	402	1556
05:00		347	210	338	264	1159
06:00		301	258	250	234	1043
07:00		228	198	222	180	828
08:00		176	152	159	159	646
09:00		144	125	129	128	526
10:00		122	124	114	59	419
11:00		77	66	55	60	258
Day Total						19814



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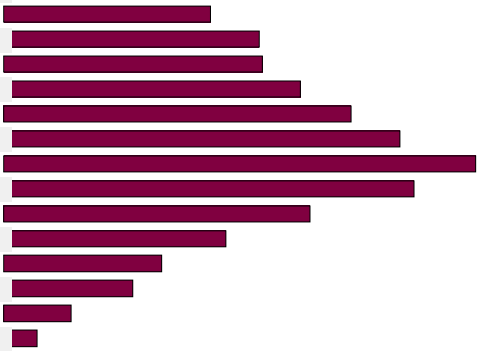
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Mon 03-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		120	130	122	148	520
11:00		154	130	168	190	642
12:00 PM		148	168	174	160	650
01:00		158	186	200	201	745
02:00		192	210	226	244	872
03:00		232	258	253	251	994
04:00		302	292	304	286	1184
05:00		284	282	234	230	1030
06:00		231	203	151	184	769
07:00		176	140	126	117	559
08:00		113	107	99	79	398
09:00		76	83	76	90	325
10:00		54	44	43	30	171
11:00		26	19	21	20	86
Day Total						8945



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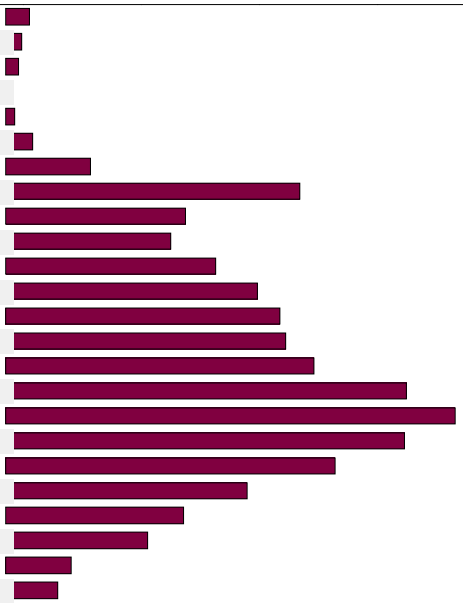
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Tue 04-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		20	18	12	11	61
01:00		12	10	12	9	43
02:00		8	12	8	7	35
03:00		2	5	4	4	15
04:00		2	7	7	8	24
05:00		12	9	24	25	70
06:00		38	60	55	61	214
07:00		140	188	200	210	738
08:00		125	110	108	110	453
09:00		106	84	110	115	415
10:00		119	132	152	124	527
11:00		153	142	160	177	632
12:00 PM		160	180	172	177	689
01:00		157	171	185	190	703
02:00		172	188	194	220	774
03:00		247	276	233	250	1006
04:00		281	283	293	271	1128
05:00		256	281	253	211	1001
06:00		190	220	209	207	826
07:00		169	162	153	122	606
08:00		124	142	102	80	448
09:00		94	94	81	88	357
10:00		54	39	44	29	166
11:00		33	41	29	30	133
Day Total						11064



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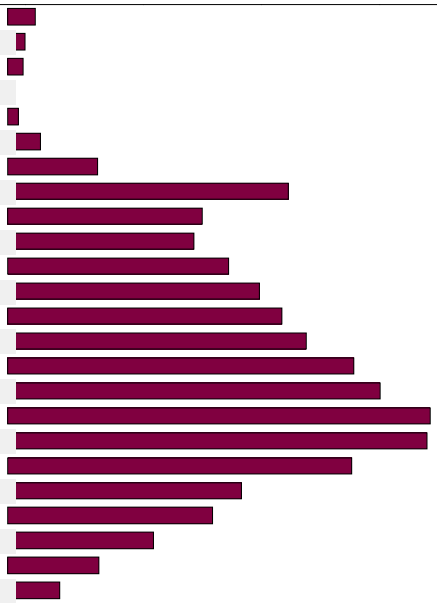
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Wed 05-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		19	20	17	16	72
01:00		15	7	15	8	45
02:00		11	11	11	8	41
03:00		4	1	6	5	16
04:00		5	5	8	11	29
05:00		8	18	30	28	84
06:00		33	52	57	85	227
07:00		122	176	234	172	704
08:00		134	121	111	124	490
09:00		118	114	106	130	468
10:00		122	136	139	158	555
11:00		134	162	169	168	633
12:00 PM		154	168	180	186	688
01:00		186	196	194	173	749
02:00		217	210	204	237	868
03:00		213	245	228	248	934
04:00		270	256	269	264	1059
05:00		272	267	288	224	1051
06:00		232	234	206	192	864
07:00		154	162	140	131	587
08:00		144	144	123	104	515
09:00		114	91	84	78	367
10:00		77	58	55	40	230
11:00		46	33	29	25	133
Day Total						11409



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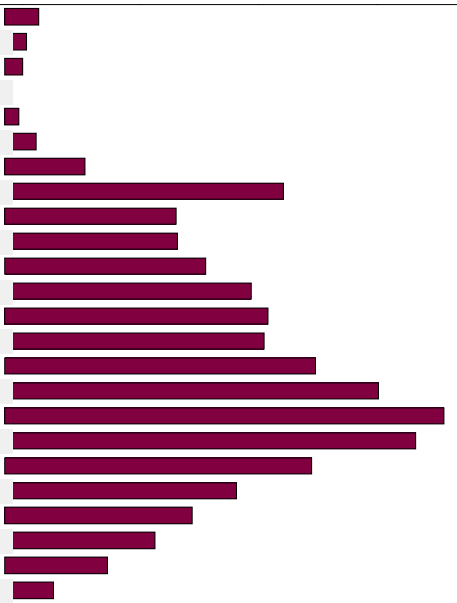
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		21	28	18	20	87
01:00		14	17	12	14	57
02:00		18	12	11	6	47
03:00		7	2	6	6	21
04:00		6	10	6	15	37
05:00		15	17	24	25	81
06:00		26	43	53	82	204
07:00		139	176	198	186	699
08:00		124	99	100	108	431
09:00		91	108	122	114	435
10:00		125	129	124	128	506
11:00		141	162	161	156	620
12:00 PM		156	162	174	170	662
01:00		162	151	173	166	652
02:00		172	198	195	216	781
03:00		219	220	251	248	938
04:00		288	262	298	254	1102
05:00		304	280	224	223	1031
06:00		212	206	176	177	771
07:00		158	153	139	132	582
08:00		148	110	120	94	472
09:00		100	103	86	90	379
10:00		96	68	52	43	259
11:00		30	37	26	32	125
Day Total						10979



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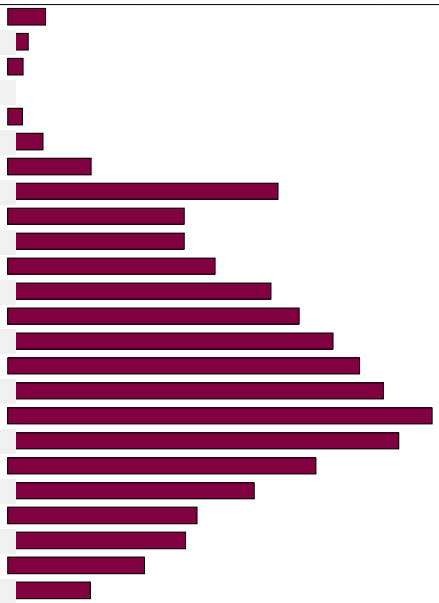
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Fri 07-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		34	24	23	16	97
01:00		20	10	12	12	54
02:00		6	17	12	6	41
03:00		4	7	3	8	22
04:00		11	5	11	12	39
05:00		14	17	39	21	91
06:00		45	34	61	71	211
07:00		125	180	218	156	679
08:00		140	120	98	86	444
09:00		107	104	123	111	445
10:00		129	104	143	145	521
11:00		153	176	154	179	662
12:00 PM		201	181	163	187	732
01:00		184	206	208	219	817
02:00		208	228	198	249	883
03:00		218	239	241	245	943
04:00		274	266	264	260	1064
05:00		266	248	245	222	981
06:00		206	218	181	168	773
07:00		197	158	134	130	619
08:00		133	129	106	108	476
09:00		113	108	110	117	448
10:00		105	74	92	73	344
11:00		68	43	48	50	209
Day Total						11595



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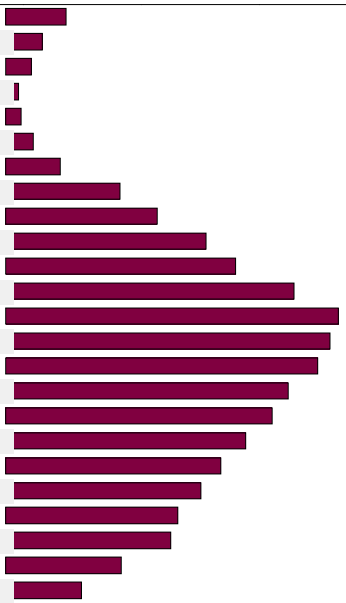
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Sat 08-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		45	47	30	32	154
01:00		30	26	16	21	93
02:00		19	20	20	8	67
03:00		9	10	6	9	34
04:00		7	13	17	4	41
05:00		13	17	19	22	71
06:00		23	36	38	42	139
07:00		47	58	79	104	288
08:00		94	88	101	98	381
09:00		111	114	129	150	504
10:00		151	144	140	143	578
11:00		176	174	190	184	724
12:00 PM		206	216	202	211	835
01:00		212	197	211	194	814
02:00		209	188	190	196	783
03:00		172	170	166	201	709
04:00		173	178	168	151	670
05:00		147	162	160	135	604
06:00		130	127	144	140	541
07:00		118	120	124	129	491
08:00		111	96	116	110	433
09:00		124	110	104	78	416
10:00		65	80	74	72	291
11:00		59	51	40	42	192
Day Total						9853



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King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Sun 09-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		23	48	33	29	133
01:00		23	23	23	18	87
02:00		31	24	14	13	82
03:00		10	11	9	11	41
04:00		9	11	15	14	49
05:00		12	14	21	18	65
06:00		20	34	36	34	124
07:00		44	37	44	44	169
08:00		65	54	79	84	282
09:00		87	93	94	80	354
10:00		120	135	124	129	508
11:00		117	132	116	166	531
12:00 PM		138	146	170	156	610
01:00		170	140	162	164	636
02:00		158	151	150	175	634
03:00		128	117	111	127	483
04:00		142	116	135	127	520
05:00		122	126	103	143	494
06:00		97	156	122	123	498
07:00		108	98	110	106	422
08:00		92	86	79	76	333
09:00		75	57	48	57	237
10:00		49	48	50	28	175
11:00		36	28	29	26	119
Day Total						7586

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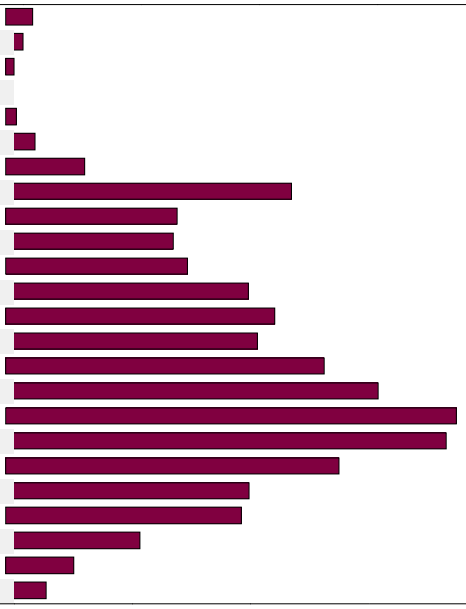
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Mon 10-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		18	10	23	19	70
01:00		15	11	8	12	46
02:00		9	4	6	4	23
03:00		5	5	2	3	15
04:00		12	3	4	11	30
05:00		12	21	24	19	76
06:00		28	38	48	86	200
07:00		137	182	212	186	717
08:00		125	115	97	95	432
09:00		95	100	111	116	422
10:00		104	120	116	117	457
11:00		150	150	150	160	610
12:00 PM		168	173	158	177	676
01:00		138	148	159	188	633
02:00		185	178	195	241	799
03:00		218	248	234	234	934
04:00		284	293	276	277	1130
05:00		275	296	280	254	1105
06:00		230	228	181	197	836
07:00		132	158	163	159	612
08:00		174	158	142	118	592
09:00		104	112	68	55	339
10:00		66	44	33	30	173
11:00		21	35	21	27	104
Day Total						11031



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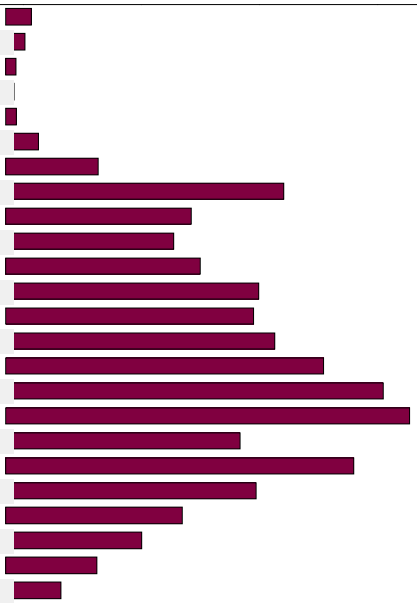
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Tue 11-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		17	18	13	18	66
01:00		18	12	10	10	50
02:00		10	9	2	7	28
03:00		7	2	8	6	23
04:00		5	8	5	11	29
05:00		13	20	29	22	84
06:00		27	56	50	100	233
07:00		125	174	211	188	698
08:00		119	124	117	106	466
09:00		108	94	104	117	423
10:00		92	125	148	125	490
11:00		138	176	150	171	635
12:00 PM		165	158	156	144	623
01:00		160	156	184	176	676
02:00		147	198	216	237	798
03:00		226	258	233	231	948
04:00		270	314	270	160	1014
05:00		72	55	206	256	589
06:00		235	238	196	204	873
07:00		177	136	160	157	630
08:00		124	135	92	94	445
09:00		103	95	72	73	343
10:00		71	58	61	41	231
11:00		38	45	29	28	140
Day Total						10535



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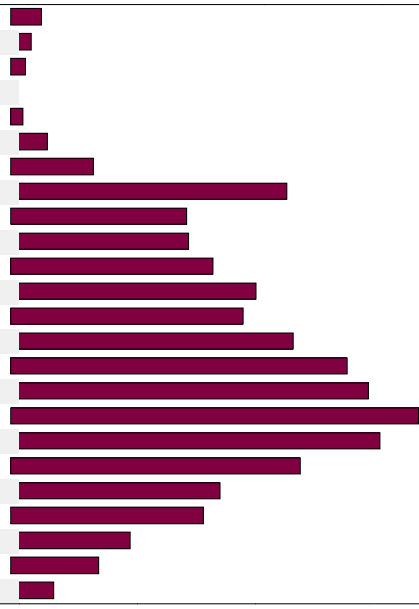
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Wed 12-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		28	21	23	8	80
01:00		11	12	16	15	54
02:00		9	13	14	4	40
03:00		5	8	4	3	20
04:00		7	5	9	12	33
05:00		10	23	26	34	93
06:00		32	38	58	81	209
07:00		134	186	220	154	694
08:00		125	111	95	112	443
09:00		114	118	106	110	448
10:00		110	133	132	134	509
11:00		150	147	162	157	616
12:00 PM		139	148	154	143	584
01:00		178	156	196	180	710
02:00		179	225	212	228	844
03:00		206	234	218	240	898
04:00		267	260	266	230	1023
05:00		236	228	239	223	926
06:00		188	182	177	180	727
07:00		136	138	118	134	526
08:00		112	146	110	117	485
09:00		106	77	58	60	301
10:00		59	69	49	45	222
11:00		20	35	25	29	109
Day Total						10594



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King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 03-Apr-17
Date End: 13-Apr-17

Start Time	Thu 13-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		20	18	18	10	66
01:00		14	10	6	8	38
02:00		12	10	10	12	44
03:00		4	3	6	10	23
04:00		9	3	10	5	27
05:00		7	17	20	31	75
06:00		32	36	52	56	176
07:00		112	160	163	158	593
08:00		124	92	98	86	400
09:00		98	89	92	103	382
10:00		117	114	117	102	450
11:00		106	102	110	134	452
12:00 PM		122	118	91	118	449
01:00		104	119	125	137	485
02:00		118	106	116	120	460
03:00		113	157	128	130	528
04:00		156	148	148	140	592
05:00		151	136	152	120	559
06:00		112	94	98	88	392
07:00		96	89	82	112	379
08:00		76	3	0	*	79
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						6649
Total						110240

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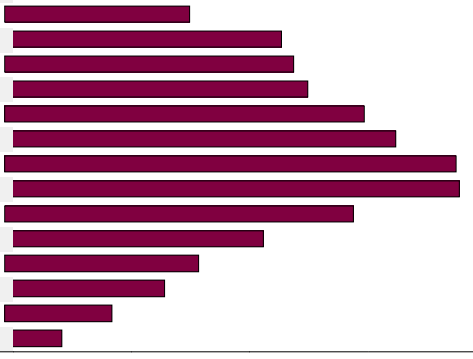
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Mon 17-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	165	137	173	475
11:00		138	184	189	199	710
12:00 PM		178	184	196	183	741
01:00		190	167	191	229	777
02:00		214	230	239	239	922
03:00		226	256	252	269	1003
04:00		270	304	290	293	1157
05:00		298	318	289	261	1166
06:00		264	244	199	187	894
07:00		190	158	147	170	665
08:00		146	130	121	102	499
09:00		112	95	114	91	412
10:00		68	87	66	55	276
11:00		59	32	36	21	148
Day Total						9845



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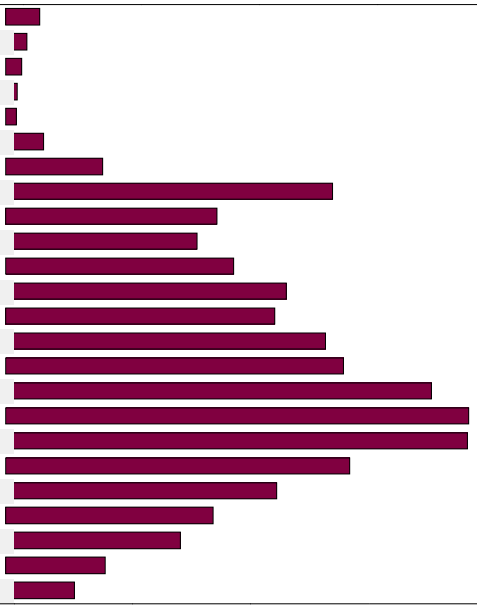
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Tue 18-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		17	30	24	19	90
01:00		14	15	19	9	57
02:00		18	8	10	7	43
03:00		7	10	8	6	31
04:00		6	9	8	7	30
05:00		13	21	37	29	100
06:00		43	52	66	89	250
07:00		148	230	250	211	839
08:00		156	122	130	134	542
09:00		132	124	118	118	492
10:00		124	158	158	145	585
11:00		168	183	176	193	720
12:00 PM		163	172	169	187	691
01:00		173	198	214	236	821
02:00		178	220	214	254	866
03:00		265	281	268	278	1092
04:00		302	311	289	285	1187
05:00		324	312	281	266	1183
06:00		267	234	198	184	883
07:00		162	196	161	176	695
08:00		142	145	134	111	532
09:00		112	126	116	95	449
10:00		74	66	61	56	257
11:00		52	50	35	41	178
Day Total						12613



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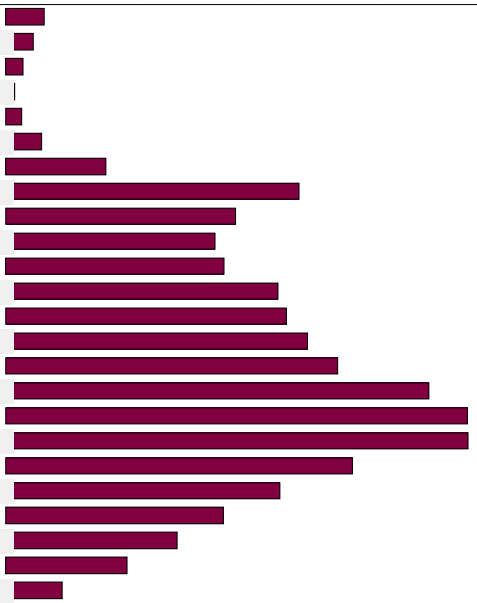
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Wed 19-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		36	24	17	24	101
01:00		18	25	15	15	73
02:00		19	14	8	6	47
03:00		10	3	10	2	25
04:00		12	14	9	8	43
05:00		14	21	28	31	94
06:00		34	62	65	97	258
07:00		134	192	232	194	752
08:00		195	148	120	128	591
09:00		116	141	139	142	538
10:00		130	122	135	174	561
11:00		172	166	172	188	698
12:00 PM		180	184	178	178	720
01:00		200	193	186	196	775
02:00		202	212	212	226	852
03:00		251	276	278	279	1084
04:00		289	303	294	298	1184
05:00		313	303	295	274	1185
06:00		252	252	185	200	889
07:00		204	165	145	190	704
08:00		136	147	152	124	559
09:00		122	117	108	93	440
10:00		88	79	75	71	313
11:00		39	37	41	29	146
Day Total						12632



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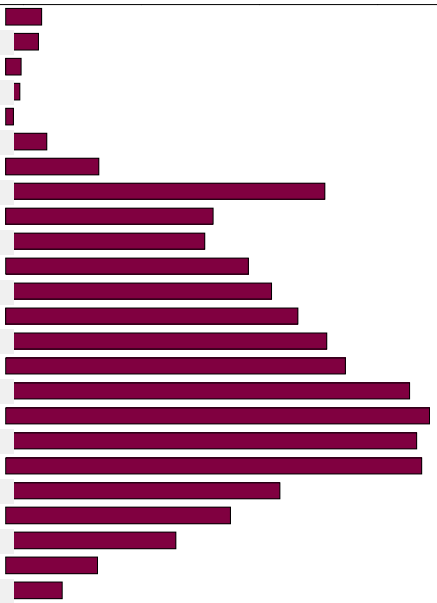
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Thu 20-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		27	28	21	18	94
01:00		33	23	16	14	86
02:00		11	13	7	11	42
03:00		7	8	10	13	38
04:00		2	7	5	8	22
05:00		16	25	36	30	107
06:00		25	53	76	86	240
07:00		154	198	254	212	818
08:00		154	123	133	123	533
09:00		132	112	146	122	512
10:00		142	168	144	169	623
11:00		170	190	160	163	683
12:00 PM		188	188	192	182	750
01:00		184	210	206	223	823
02:00		198	216	237	220	871
03:00		236	268	259	272	1035
04:00		282	254	262	288	1086
05:00		305	276	242	231	1054
06:00		280	292	236	259	1067
07:00		222	173	156	152	703
08:00		147	152	141	137	577
09:00		120	123	97	97	437
10:00		56	63	58	60	237
11:00		43	35	37	31	146
Day Total						12584



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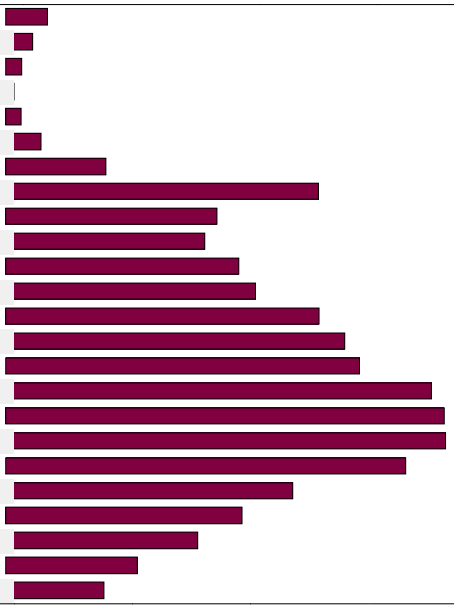
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Fri 21-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		42	24	26	18	110
01:00		24	22	15	10	71
02:00		15	14	8	7	44
03:00		7	3	4	9	23
04:00		8	10	8	15	41
05:00		15	22	30	26	93
06:00		47	48	65	99	259
07:00		116	218	266	202	802
08:00		136	152	132	122	542
09:00		114	145	126	126	511
10:00		153	136	132	178	599
11:00		154	143	159	185	641
12:00 PM		194	207	202	201	804
01:00		194	210	213	253	870
02:00		212	222	216	258	908
03:00		266	272	262	292	1092
04:00		309	294	252	269	1124
05:00		276	284	292	275	1127
06:00		292	252	241	240	1025
07:00		202	214	166	154	736
08:00		164	158	147	138	607
09:00		139	136	106	113	494
10:00		94	85	87	73	339
11:00		67	65	75	46	253
Day Total						13115



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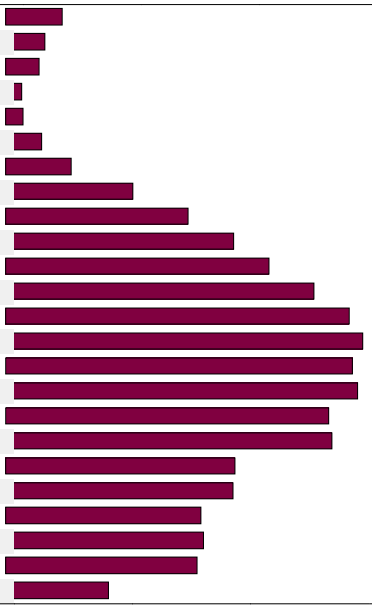
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Sat 22-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		51	36	28	31	146
01:00		33	23	16	30	102
02:00		26	23	16	22	87
03:00		14	11	9	10	44
04:00		8	7	22	10	47
05:00		16	22	24	32	94
06:00		34	39	45	51	169
07:00		64	50	106	107	327
08:00		98	102	135	134	469
09:00		122	152	162	149	585
10:00		160	185	160	171	676
11:00		180	203	192	216	791
12:00 PM		204	206	222	249	881
01:00		227	216	235	238	916
02:00		228	243	208	210	889
03:00		232	227	211	233	903
04:00		226	232	200	171	829
05:00		214	221	223	179	837
06:00		149	157	158	124	588
07:00		138	132	140	174	584
08:00		141	132	115	114	502
09:00		145	131	123	109	508
10:00		120	145	135	92	492
11:00		73	70	74	48	265
Day Total						11731



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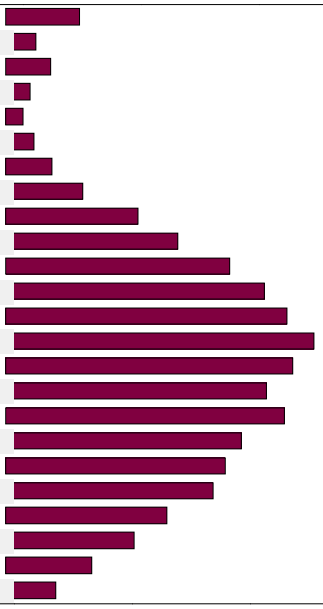
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Sun 23-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		69	50	46	27	192
01:00		24	19	18	18	79
02:00		42	31	20	24	117
03:00		20	20	16	9	65
04:00		14	10	9	13	46
05:00		20	15	19	20	74
06:00		36	24	39	22	121
07:00		42	45	61	51	199
08:00		62	75	98	105	340
09:00		102	101	112	128	443
10:00		146	152	136	141	575
11:00		169	150	176	170	665
12:00 PM		180	170	188	184	722
01:00		183	198	205	204	790
02:00		179	194	190	174	737
03:00		180	151	176	162	669
04:00		192	168	170	186	716
05:00		148	158	152	147	605
06:00		146	145	136	137	564
07:00		120	118	164	130	532
08:00		119	110	97	88	414
09:00		98	81	95	57	331
10:00		69	62	48	43	222
11:00		42	30	26	32	130
Day Total						9348



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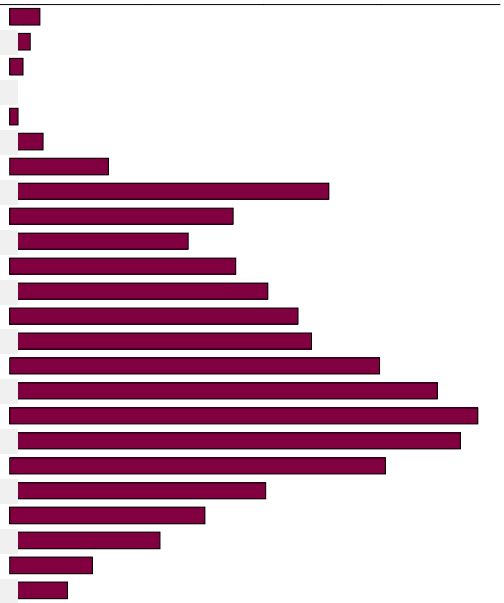
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		23	26	18	12	79
01:00		15	19	11	9	54
02:00		10	8	11	8	37
03:00		4	6	4	8	22
04:00		4	2	6	11	23
05:00		8	21	31	28	88
06:00		30	53	82	91	256
07:00		152	206	252	208	818
08:00		172	148	116	138	574
09:00		114	108	121	116	459
10:00		136	156	144	144	580
11:00		160	184	167	152	663
12:00 PM		182	161	206	190	739
01:00		198	190	199	187	774
02:00		217	247	224	260	948
03:00		266	272	268	290	1096
04:00		299	328	292	280	1199
05:00		292	302	300	262	1156
06:00		291	250	208	214	963
07:00		162	178	170	148	658
08:00		120	140	119	123	502
09:00		132	103	81	70	386
10:00		61	54	55	45	215
11:00		46	34	44	26	150
Day Total						12439



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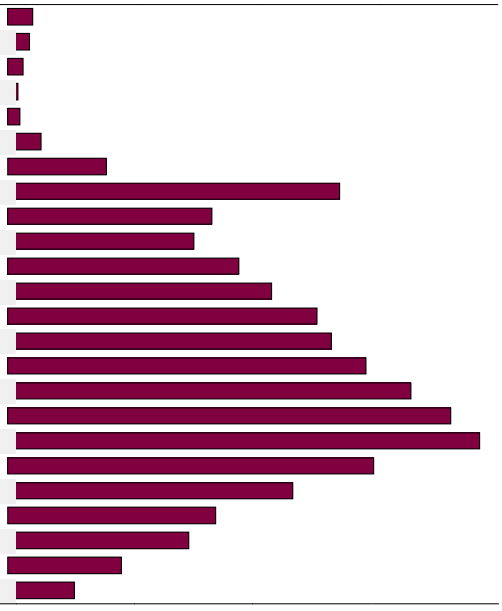
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Tue 25-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		16	10	21	20	67
01:00		18	10	12	19	59
02:00		15	8	10	8	41
03:00		10	4	6	8	28
04:00		14	3	7	10	34
05:00		13	19	31	24	87
06:00		39	46	77	94	256
07:00		165	208	256	223	852
08:00		158	113	118	136	525
09:00		118	109	118	133	478
10:00		142	140	151	160	593
11:00		154	170	178	176	678
12:00 PM		193	210	204	187	794
01:00		183	188	234	226	831
02:00		208	244	242	224	918
03:00		236	258	276	264	1034
04:00		294	288	274	280	1136
05:00		297	320	292	301	1210
06:00		246	245	236	212	939
07:00		192	184	182	174	732
08:00		152	134	132	116	534
09:00		149	132	92	92	465
10:00		78	72	87	56	293
11:00		40	46	46	41	173
Day Total						12757



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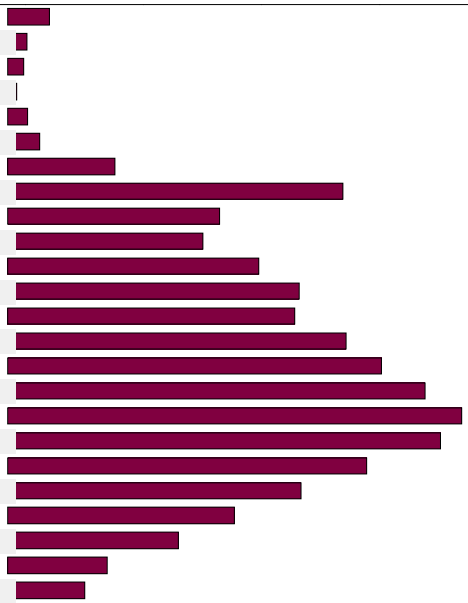
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Wed 26-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		41	23	29	16	109
01:00		19	12	10	10	51
02:00		13	10	11	9	43
03:00		8	5	7	6	26
04:00		8	19	14	12	53
05:00		12	19	30	24	85
06:00		38	58	76	105	277
07:00		161	202	265	232	860
08:00		164	152	107	121	544
09:00		129	122	134	116	501
10:00		142	180	160	162	644
11:00		173	190	181	204	748
12:00 PM		172	191	199	175	737
01:00		202	239	216	210	867
02:00		222	229	242	265	958
03:00		251	265	286	268	1070
04:00		294	285	284	300	1163
05:00		290	282	275	262	1109
06:00		266	235	220	200	921
07:00		217	186	172	177	752
08:00		141	141	161	139	582
09:00		125	133	89	92	439
10:00		77	64	56	60	257
11:00		52	48	60	40	200
Day Total						12996



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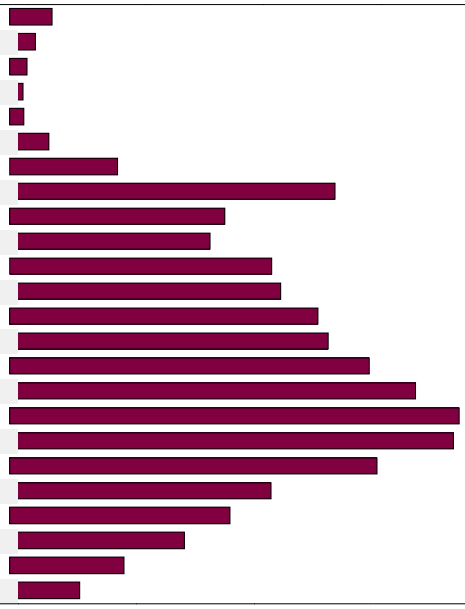
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Thu 27-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		39	32	22	18	111
01:00		15	18	20	15	68
02:00		17	9	14	7	47
03:00		10	8	12	7	37
04:00		9	11	6	13	39
05:00		12	20	39	32	103
06:00		38	61	91	88	278
07:00		165	202	252	216	835
08:00		175	134	120	124	553
09:00		128	117	128	142	515
10:00		152	177	173	170	672
11:00		140	180	196	180	696
12:00 PM		202	190	204	194	790
01:00		208	175	214	220	817
02:00		218	231	239	235	923
03:00		242	281	251	266	1040
04:00		272	282	288	310	1152
05:00		278	311	292	256	1137
06:00		271	245	205	220	941
07:00		188	162	148	172	670
08:00		147	139	148	131	565
09:00		123	128	105	93	449
10:00		90	73	78	54	295
11:00		56	38	53	34	181
Day Total						12914



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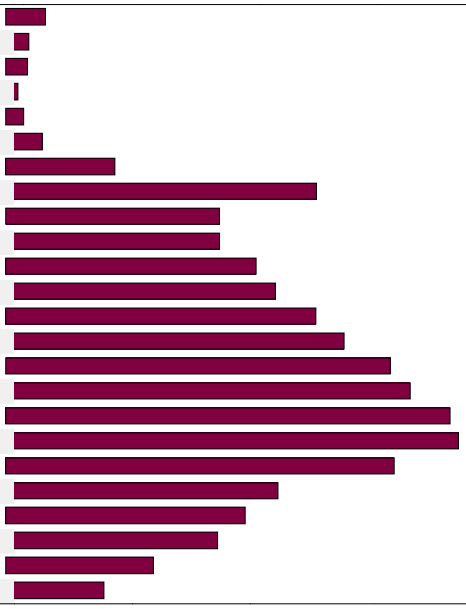
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Fri 28-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		30	24	29	21	104
01:00		15	13	14	19	61
02:00		18	14	18	8	58
03:00		10	4	11	9	34
04:00		10	11	14	14	49
05:00		16	18	34	28	96
06:00		34	64	76	107	281
07:00		162	225	228	182	797
08:00		172	130	130	118	550
09:00		136	123	144	146	549
10:00		127	166	169	181	643
11:00		175	164	167	186	692
12:00 PM		210	204	182	199	795
01:00		196	220	216	236	868
02:00		224	236	256	270	986
03:00		212	274	266	286	1038
04:00		292	273	275	299	1139
05:00		297	283	293	287	1160
06:00		249	294	241	212	996
07:00		188	183	185	142	698
08:00		164	164	151	136	615
09:00		144	135	158	108	545
10:00		114	88	76	102	380
11:00		71	69	54	60	254
Day Total						13388



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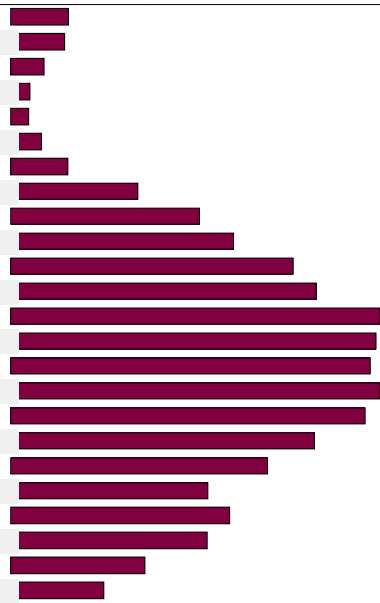
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Sat 29-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		45	40	30	35	150
01:00		42	42	28	29	141
02:00		30	25	26	7	88
03:00		16	11	11	14	52
04:00		9	13	12	14	48
05:00		14	13	32	22	81
06:00		36	26	40	46	148
07:00		67	66	102	93	328
08:00		122	106	132	126	486
09:00		122	136	164	151	573
10:00		180	189	168	188	725
11:00		197	219	182	186	784
12:00 PM		224	234	224	265	947
01:00		219	266	242	210	937
02:00		249	254	231	188	922
03:00		230	233	248	236	947
04:00		284	216	206	203	909
05:00		188	212	211	168	779
06:00		150	186	180	144	660
07:00		128	122	143	114	507
08:00		163	133	139	127	562
09:00		139	135	108	123	505
10:00		102	95	88	61	346
11:00		66	53	60	62	241
Day Total						11866



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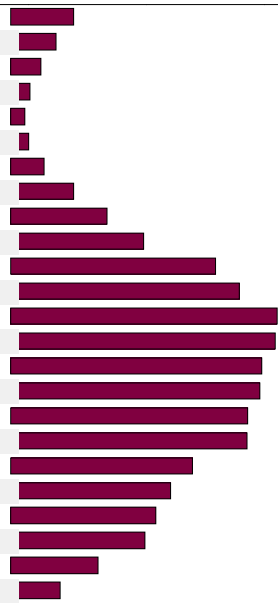
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Sun 30-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		56	43	32	32	163
01:00		30	35	25	29	119
02:00		30	16	16	18	80
03:00		14	13	15	9	51
04:00		14	12	7	6	39
05:00		14	10	13	11	48
06:00		16	24	27	21	88
07:00		32	43	33	56	164
08:00		46	47	74	82	249
09:00		66	96	89	92	343
10:00		100	133	137	156	526
11:00		132	157	150	148	587
12:00 PM		176	178	162	168	684
01:00		165	172	198	144	679
02:00		164	170	168	142	644
03:00		162	164	167	146	639
04:00		142	150	161	155	608
05:00		160	150	160	136	606
06:00		118	110	117	122	467
07:00		110	115	92	94	411
08:00		95	100	83	96	374
09:00		89	85	81	91	346
10:00		81	68	36	40	225
11:00		43	29	42	15	129
Day Total						8269



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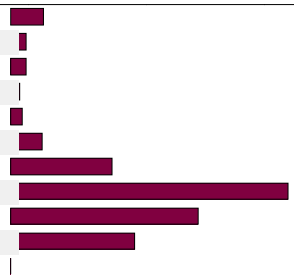
King H-1 EB On-Ramp - VOLUME
Site Code: AP-3
Station ID: 024669
Date Start: 17-Apr-17
Date End: 10-May-17

Start Time	Mon 01-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		19	21	32	14	86
01:00		16	12	6	7	41
02:00		13	12	10	7	42
03:00		10	6	6	3	25
04:00		5	5	7	14	31
05:00		9	17	28	28	82
06:00		34	68	67	92	261
07:00		142	152	238	180	712
08:00		135	113	112	122	482
09:00		124	116	80	0	320
10:00		0	0	2	0	2
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						2084



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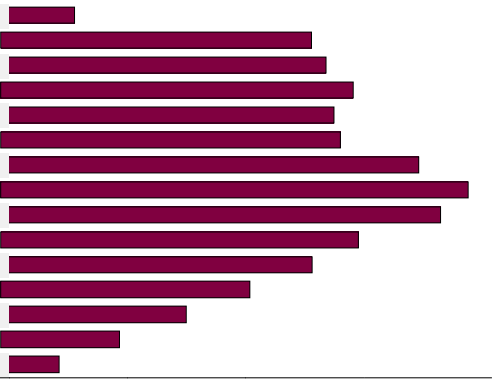
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 03-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	112	112
10:00		106	119	124	118	467
11:00		111	129	123	126	489
12:00 PM		116	144	134	136	530
01:00		111	134	130	126	501
02:00		118	120	136	136	510
03:00		150	156	172	150	628
04:00		174	164	170	194	702
05:00		177	150	164	170	661
06:00		149	128	130	130	537
07:00		122	134	98	114	468
08:00		98	88	100	89	375
09:00		68	80	68	64	280
10:00		56	54	31	38	179
11:00		29	18	23	19	89
Day Total						6528



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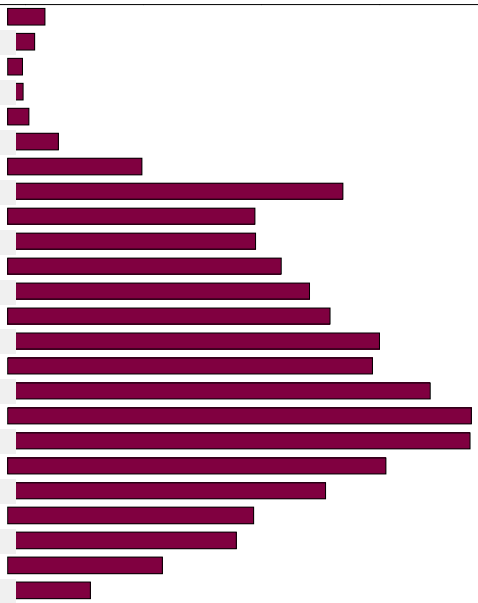
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 04-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		20	8	16	13	57
01:00		10	8	15	9	42
02:00		8	7	6	2	23
03:00		6	4	6	8	24
04:00		5	13	8	7	33
05:00		10	19	23	25	77
06:00		32	41	54	76	203
07:00		100	149	146	109	504
08:00		104	80	86	102	372
09:00		74	77	100	122	373
10:00		119	100	90	102	411
11:00		88	115	117	134	454
12:00 PM		112	124	110	138	484
01:00		150	141	138	130	559
02:00		123	151	138	136	548
03:00		148	149	172	166	635
04:00		164	156	200	176	696
05:00		168	170	187	169	694
06:00		132	152	148	136	568
07:00		127	120	123	108	478
08:00		99	90	89	92	370
09:00		114	77	92	61	344
10:00		73	72	48	40	233
11:00		34	39	19	34	126
Day Total						8308



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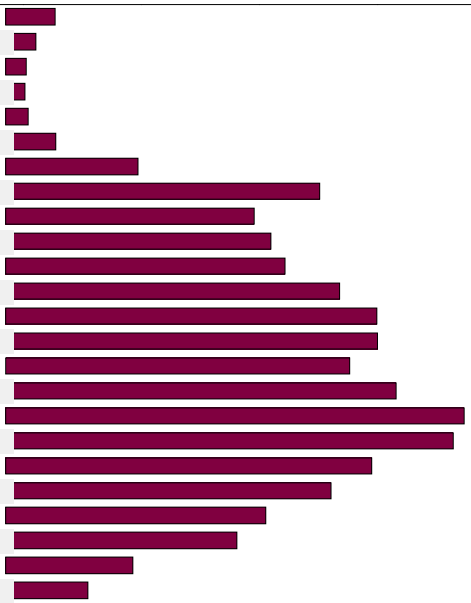
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 05-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		14	21	22	18	75
01:00		15	12	12	8	47
02:00		8	4	7	13	32
03:00		6	8	8	8	30
04:00		8	9	3	15	35
05:00		14	9	28	25	76
06:00		32	40	68	60	200
07:00		90	137	138	107	472
08:00		104	86	84	100	374
09:00		101	88	104	106	399
10:00		100	100	104	116	420
11:00		134	114	121	133	502
12:00 PM		132	133	149	144	558
01:00		142	128	146	143	559
02:00		139	126	132	120	517
03:00		124	153	151	158	586
04:00		165	156	194	174	689
05:00		172	176	166	158	672
06:00		148	154	124	124	550
07:00		125	130	122	112	489
08:00		69	114	110	98	391
09:00		87	96	97	68	348
10:00		58	62	49	23	192
11:00		38	32	25	30	125
Day Total						8338



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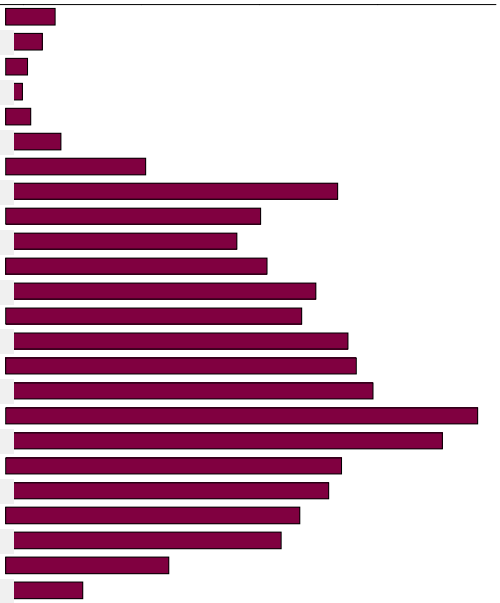
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		26	20	10	19	75
01:00		10	13	20	13	56
02:00		10	8	4	12	34
03:00		7	5	8	6	26
04:00		10	10	10	9	39
05:00		21	12	26	25	84
06:00		34	42	65	70	211
07:00		98	150	146	105	499
08:00		94	92	95	102	383
09:00		94	76	88	90	348
10:00		94	104	98	97	393
11:00		120	120	123	103	466
12:00 PM		116	106	121	102	445
01:00		114	134	124	142	514
02:00		134	135	140	118	527
03:00		128	136	150	138	552
04:00		166	181	182	180	709
05:00		181	173	158	144	656
06:00		158	134	106	107	505
07:00		145	104	116	120	485
08:00		97	121	110	114	442
09:00		92	108	110	104	414
10:00		74	70	56	46	246
11:00		38	27	24	28	117
Day Total						8226



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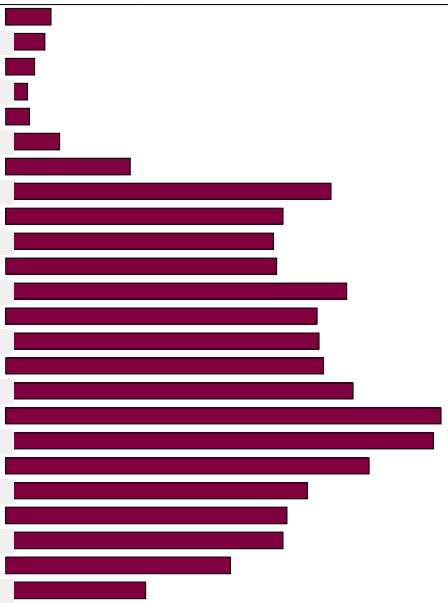
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 07-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		22	12	22	14	70
01:00		14	18	12	16	60
02:00		16	12	10	7	45
03:00		6	11	3	14	34
04:00		4	9	10	14	37
05:00		18	15	23	26	82
06:00		34	34	55	65	188
07:00		104	120	155	110	489
08:00		99	90	112	116	417
09:00		92	97	112	102	403
10:00		103	102	92	110	407
11:00		120	126	130	136	512
12:00 PM		119	108	124	117	468
01:00		120	109	116	126	471
02:00		129	120	126	103	478
03:00		111	136	143	132	522
04:00		152	170	177	155	654
05:00		182	160	151	149	642
06:00		146	142	128	130	546
07:00		112	120	108	114	454
08:00		114	107	106	96	423
09:00		120	90	107	100	417
10:00		96	90	80	72	338
11:00		60	58	52	41	211
Day Total						8368



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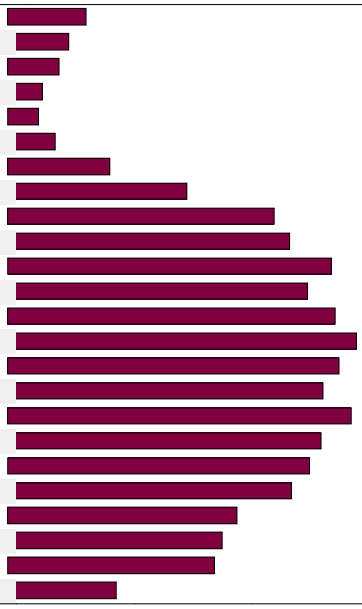
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 08-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		34	24	30	31	119
01:00		24	19	23	27	93
02:00		17	18	25	18	78
03:00		14	14	10	15	53
04:00		10	12	14	12	48
05:00		17	16	18	22	73
06:00		31	34	44	45	154
07:00		50	60	76	84	270
08:00		110	84	113	94	401
09:00		107	102	118	97	424
10:00		113	116	132	125	486
11:00		95	104	118	134	451
12:00 PM		122	143	121	106	492
01:00		112	146	133	133	524
02:00		124	116	136	122	498
03:00		112	122	130	110	474
04:00		130	120	114	152	516
05:00		139	112	120	100	471
06:00		106	122	116	110	454
07:00		111	128	94	94	427
08:00		91	88	89	77	345
09:00		95	86	75	67	323
10:00		98	82	68	63	311
11:00		43	40	39	42	164
Day Total						7649



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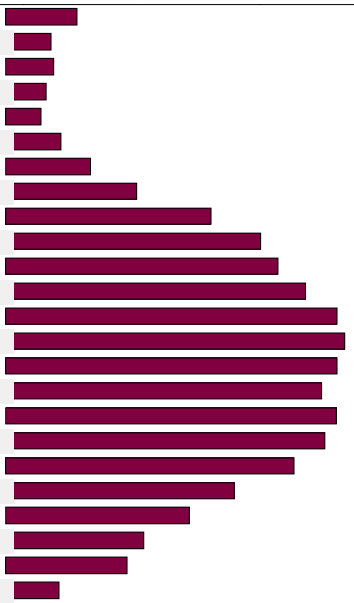
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 09-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		33	35	13	27	108
01:00		16	23	11	20	70
02:00		16	20	22	16	74
03:00		13	17	20	12	62
04:00		16	10	11	17	54
05:00		19	22	22	21	84
06:00		29	26	34	39	128
07:00		40	42	60	56	198
08:00		60	88	88	73	309
09:00		76	103	98	106	383
10:00		93	85	109	122	409
11:00		120	108	120	103	451
12:00 PM		133	129	106	130	498
01:00		132	134	115	128	509
02:00		138	125	115	120	498
03:00		117	120	114	124	475
04:00		118	139	138	102	497
05:00		133	129	100	118	480
06:00		126	114	105	88	433
07:00		92	74	82	96	344
08:00		71	76	64	66	277
09:00		55	59	42	52	208
10:00		65	42	48	28	183
11:00		26	28	10	17	81
Day Total						6813



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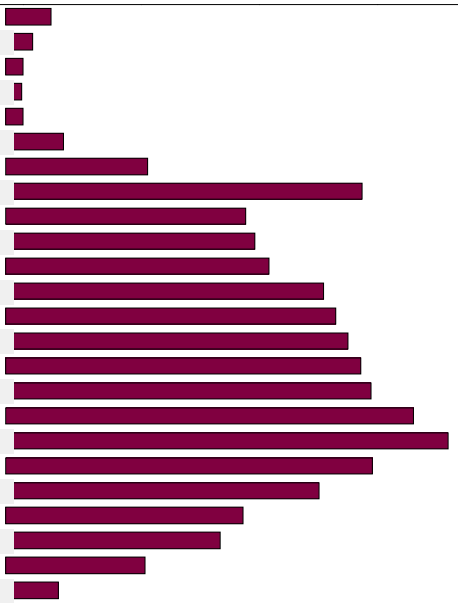
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 10-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		26	16	14	14	70
01:00		18	4	10	10	42
02:00		6	9	4	8	27
03:00		5	8	4	8	25
04:00		3	8	8	8	27
05:00		18	16	20	34	88
06:00		34	40	66	74	214
07:00		102	136	170	128	536
08:00		88	84	94	95	361
09:00		94	74	113	94	375
10:00		82	100	101	113	396
11:00		130	120	118	110	478
12:00 PM		123	130	116	127	496
01:00		124	120	112	158	514
02:00		154	130	136	114	534
03:00		130	112	156	151	549
04:00		142	150	162	159	613
05:00		166	178	160	160	664
06:00		172	129	141	109	551
07:00		127	129	106	109	471
08:00		106	104	83	65	358
09:00		92	86	77	68	323
10:00		65	60	46	39	210
11:00		25	28	13	14	80
Day Total						8002



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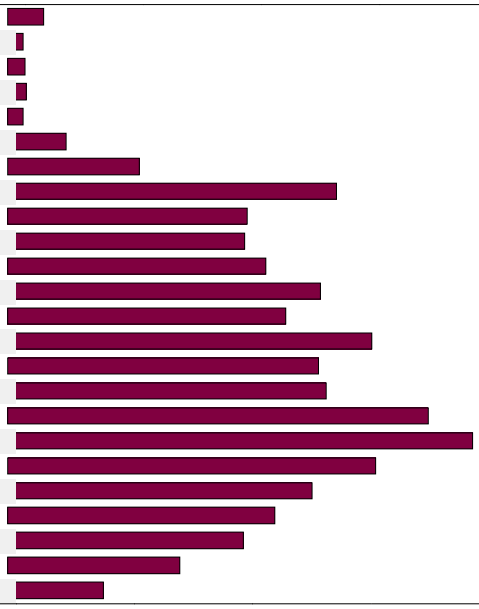
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 11-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		15	20	11	9	55
01:00		3	2	6	13	24
02:00		9	10	4	4	27
03:00		6	6	7	10	29
04:00		4	8	6	6	24
05:00		18	17	28	26	89
06:00		32	36	53	78	199
07:00		98	146	146	104	494
08:00		88	90	104	78	360
09:00		78	79	98	102	357
10:00		104	89	104	91	388
11:00		116	98	132	124	470
12:00 PM		108	100	110	100	418
01:00		124	130	154	139	547
02:00		130	116	116	105	467
03:00		112	110	130	127	479
04:00		138	166	174	154	632
05:00		160	168	178	192	698
06:00		162	152	113	126	553
07:00		110	118	112	118	458
08:00		118	106	88	90	402
09:00		118	74	94	68	354
10:00		64	66	67	62	259
11:00		46	34	37	28	145
Day Total						7928



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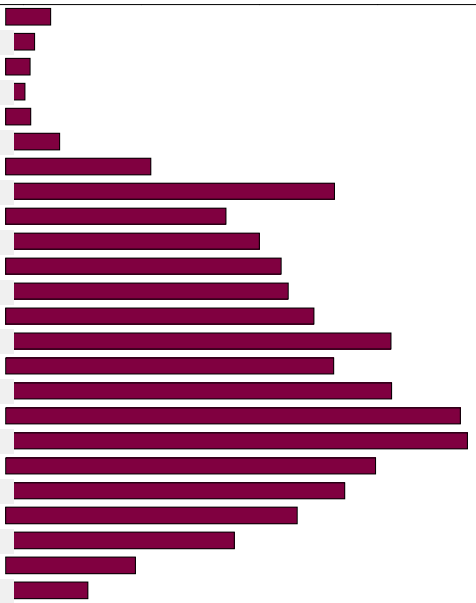
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 12-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		20	12	17	20	69
01:00		18	9	9	9	45
02:00		9	14	7	8	38
03:00		9	4	7	10	30
04:00		9	10	12	8	39
05:00		12	22	28	20	82
06:00		35	52	62	70	219
07:00		86	145	154	109	494
08:00		84	64	93	90	331
09:00		81	96	107	98	382
10:00		88	110	92	124	414
11:00		110	96	109	110	425
12:00 PM		126	110	104	123	463
01:00		129	154	141	155	579
02:00		122	120	112	139	493
03:00		128	153	151	148	580
04:00		155	167	180	181	683
05:00		178	179	174	162	693
06:00		164	140	130	122	556
07:00		129	138	118	124	509
08:00		119	108	116	95	438
09:00		98	82	92	72	344
10:00		66	46	56	28	196
11:00		34	43	22	26	125
Day Total						8227



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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 13-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		22	12	14	10	58
01:00		9	16	9	8	42
02:00		14	8	5	10	37
03:00		8	7	4	15	34
04:00		5	6	7	12	30
05:00		15	10	28	26	79
06:00		18	42	62	60	182
07:00		86	129	157	116	488
08:00		82	86	96	96	360
09:00		97	76	87	89	349
10:00		83	109	107	116	415
11:00		118	118	106	110	452
12:00 PM		117	117	122	108	464
01:00		118	128	115	122	483
02:00		144	135	140	122	541
03:00		116	138	163	132	549
04:00		144	176	163	165	648
05:00		154	142	150	180	626
06:00		150	154	114	103	521
07:00		152	112	136	115	515
08:00		104	118	98	94	414
09:00		102	114	100	98	414
10:00		65	62	62	58	247
11:00		44	32	30	30	136
Day Total						8084

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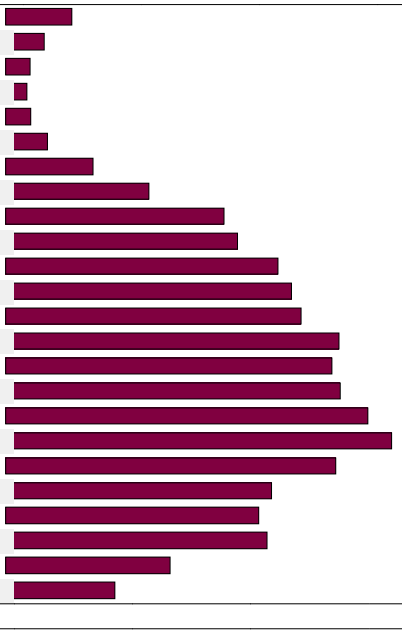
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 14-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		24	42	14	20	100
01:00		16	12	17	14	59
02:00		14	5	9	10	38
03:00		14	5	6	8	33
04:00		8	9	14	8	39
05:00		12	10	23	19	64
06:00		24	25	43	40	132
07:00		38	54	59	65	216
08:00		62	83	90	94	329
09:00		82	82	91	94	349
10:00		88	99	98	124	409
11:00		113	97	102	118	430
12:00 PM		106	111	98	129	444
01:00		126	130	118	127	501
02:00		136	117	118	119	490
03:00		146	110	119	128	503
04:00		146	145	119	134	544
05:00		148	150	152	130	580
06:00		138	112	134	112	496
07:00		108	102	114	76	400
08:00		106	79	102	94	381
09:00		104	99	96	94	393
10:00		79	58	54	57	248
11:00		49	46	38	32	165
Day Total						7343



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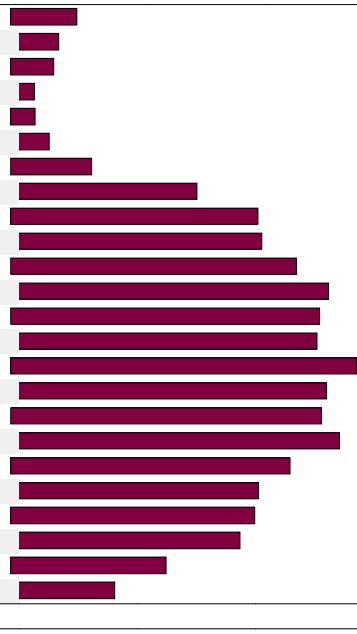
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 15-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		38	26	14	22	100
01:00		22	14	14	24	74
02:00		14	20	22	10	66
03:00		10	14	2	11	37
04:00		8	12	8	10	38
05:00		8	14	16	21	59
06:00		16	28	40	39	123
07:00		46	66	83	86	281
08:00		92	94	82	104	372
09:00		94	84	104	96	378
10:00		97	112	116	105	430
11:00		118	121	118	121	478
12:00 PM		118	116	120	110	464
01:00		98	123	117	122	460
02:00		142	114	142	122	520
03:00		120	114	120	121	475
04:00		107	118	102	140	467
05:00		122	130	120	122	494
06:00		100	104	108	108	420
07:00		96	84	102	91	373
08:00		96	104	86	81	367
09:00		80	80	105	80	345
10:00		64	70	44	56	234
11:00		44	38	33	42	157
Day Total						7212



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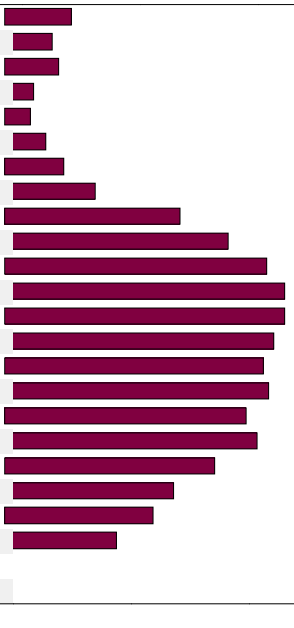
Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 16-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		20	35	24	22	101
01:00		19	20	16	18	73
02:00		21	28	17	16	82
03:00		16	8	11	10	45
04:00		16	6	8	10	40
05:00		14	16	10	23	63
06:00		16	18	26	30	90
07:00		22	28	33	54	137
08:00		50	68	71	75	264
09:00		72	94	74	96	336
10:00		86	95	109	104	394
11:00		101	118	102	100	421
12:00 PM		105	114	96	106	421
01:00		87	104	100	114	405
02:00		90	103	104	92	389
03:00		107	85	93	112	397
04:00		103	80	91	89	363
05:00		90	105	94	91	380
06:00		97	76	83	60	316
07:00		75	54	76	49	254
08:00		65	60	44	55	224
09:00		40	50	46	33	169
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						5364



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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 17-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	1	1
10:00		1	0	0	4	5
11:00		0	1	0	0	1
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						7

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 18-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 19-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 20-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 21-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 22-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 23-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 25-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 26-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 27-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 28-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 29-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 30-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 01-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 02-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 03-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 04-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 05-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 06-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 07-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 08-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 09-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	2	2
02:00		1	0	11	0	12
03:00		4	0	0	0	4
04:00		4	4	0	0	8
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	2	0	0	2
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						28

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Piikoi H-1 EB On-Ramp - VOLUME
Site Code: AP-2
Station ID: 024667
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 10-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	1	0	0	1
08:00		0	2	*	*	2
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
12:00 PM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						3
Total						106428

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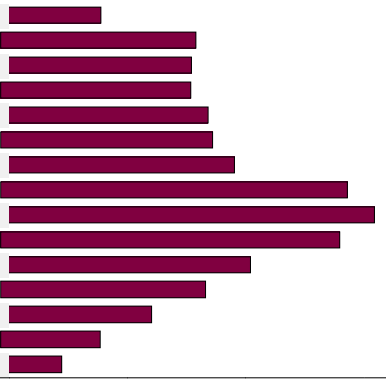
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 03-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	104	88	192
10:00		89	92	96	96	373
11:00		89	90	84	101	364
12:00 PM		92	98	92	81	363
01:00		87	96	109	104	396
02:00		110	92	99	104	405
03:00		92	128	97	130	447
04:00		134	187	159	182	662
05:00		190	180	162	181	713
06:00		165	152	162	168	647
07:00		146	104	126	101	477
08:00		106	108	100	78	392
09:00		89	79	63	58	289
10:00		66	52	38	35	191
11:00		35	30	37	16	118
Day Total						6029



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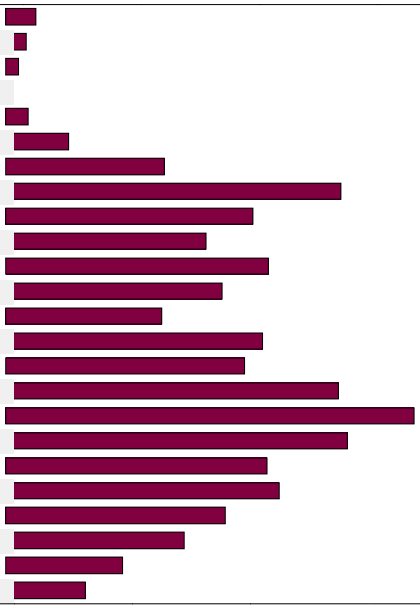
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 04-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		15	20	14	10	59
01:00		14	9	4	14	41
02:00		9	5	7	5	26
03:00		2	1	9	4	16
04:00		5	9	9	21	44
05:00		16	21	28	56	121
06:00		44	63	94	102	303
07:00		120	196	178	145	639
08:00		122	120	108	122	472
09:00		120	96	89	78	383
10:00		120	132	129	120	501
11:00		103	102	101	107	413
12:00 PM		78	78	66	77	299
01:00		100	122	123	145	490
02:00		100	109	125	122	456
03:00		130	163	146	196	635
04:00		192	184	206	197	779
05:00		194	159	155	144	652
06:00		150	122	102	125	499
07:00		138	124	141	119	522
08:00		114	104	101	100	419
09:00		74	91	106	70	341
10:00		66	69	47	42	224
11:00		54	34	34	31	153
Day Total						8487



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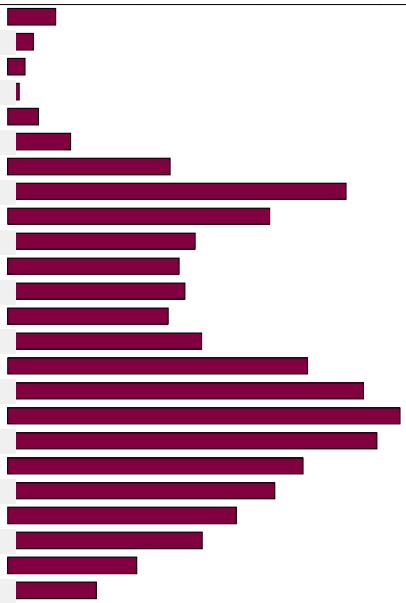
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 05-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		22	28	25	18	93
01:00		21	15	13	2	51
02:00		9	8	10	8	35
03:00		9	5	7	3	24
04:00		9	13	17	21	60
05:00		14	24	43	41	122
06:00		44	76	77	114	311
07:00		140	172	186	147	645
08:00		138	124	117	121	500
09:00		107	103	64	85	359
10:00		82	81	80	85	328
11:00		90	84	90	75	339
12:00 PM		90	75	68	74	307
01:00		94	88	94	94	370
02:00		141	136	147	148	572
03:00		161	161	166	191	679
04:00		171	178	201	198	748
05:00		170	189	176	169	704
06:00		124	154	132	154	564
07:00		140	137	126	107	510
08:00		120	103	116	98	437
09:00		103	115	83	71	372
10:00		72	74	60	41	247
11:00		48	42	36	44	170
Day Total						8547



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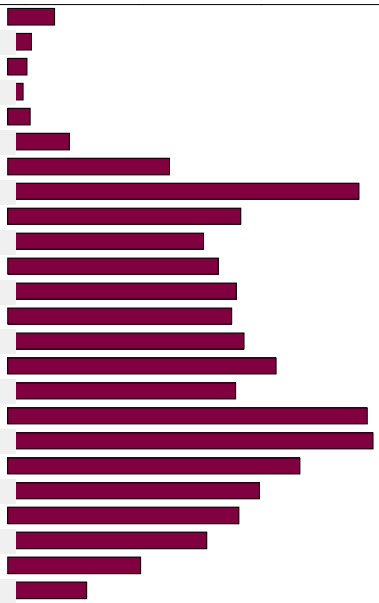
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 06-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		21	23	25	22	91
01:00		12	8	18	9	47
02:00		5	18	10	5	38
03:00		7	9	10	5	31
04:00		5	11	13	15	44
05:00		28	20	30	41	119
06:00		49	57	95	108	309
07:00		144	182	190	154	670
08:00		95	130	128	92	445
09:00		92	86	98	99	375
10:00		98	107	104	93	402
11:00		88	124	112	113	437
12:00 PM		97	102	112	117	428
01:00		96	103	108	144	451
02:00		126	123	130	133	512
03:00		112	106	110	108	436
04:00		124	176	184	202	686
05:00		196	180	162	159	697
06:00		144	142	124	148	558
07:00		139	126	118	98	481
08:00		136	115	109	82	442
09:00		87	96	96	101	380
10:00		66	74	58	56	254
11:00		38	38	46	30	152
Day Total						8485



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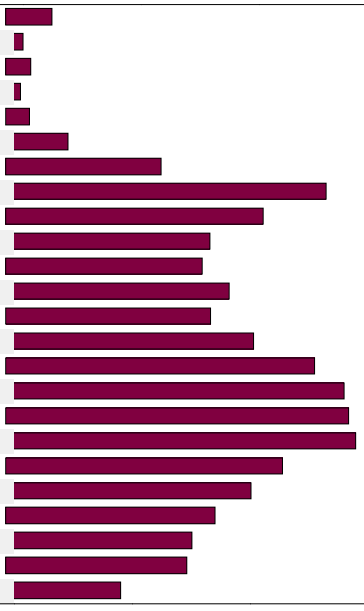
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 07-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		33	15	26	16	90
01:00		6	8	12	9	35
02:00		16	20	5	9	50
03:00		12	1	11	6	30
04:00		9	10	15	13	47
05:00		17	30	41	32	120
06:00		47	52	96	102	297
07:00		130	179	170	133	612
08:00		131	128	122	111	492
09:00		88	101	104	97	390
10:00		96	105	82	93	376
11:00		105	114	85	123	427
12:00 PM		94	104	98	96	392
01:00		102	131	100	140	473
02:00		148	166	135	140	589
03:00		126	138	186	195	645
04:00		150	164	168	172	654
05:00		184	170	165	149	668
06:00		151	122	129	126	528
07:00		125	118	107	118	468
08:00		120	100	98	82	400
09:00		106	94	87	69	356
10:00		91	92	94	69	346
11:00		73	55	43	49	220
Day Total						8705



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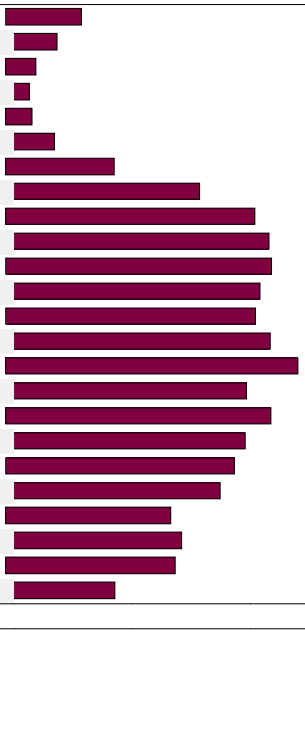
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 08-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		37	36	39	34	146
01:00		34	22	26	17	99
02:00		16	16	13	14	59
03:00		15	7	14	11	47
04:00		10	8	22	12	52
05:00		13	23	36	23	95
06:00		32	63	56	57	208
07:00		78	76	100	116	370
08:00		97	104	127	148	476
09:00		127	126	126	124	503
10:00		133	121	138	116	508
11:00		110	139	127	110	486
12:00 PM		112	126	121	118	477
01:00		116	117	143	129	505
02:00		160	130	142	126	558
03:00		109	122	122	107	460
04:00		121	120	118	147	506
05:00		124	120	114	100	458
06:00		126	98	109	104	437
07:00		101	108	88	113	410
08:00		92	90	65	68	315
09:00		81	79	102	74	336
10:00		94	94	79	57	324
11:00		52	54	49	55	210
Day Total						8045



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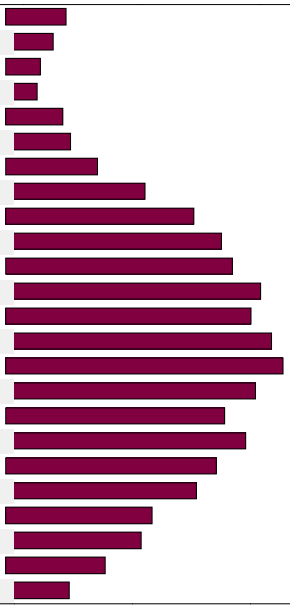
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 09-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		36	29	24	27	116
01:00		25	22	24	21	92
02:00		20	17	15	16	68
03:00		12	20	13	16	61
04:00		22	18	38	33	111
05:00		33	39	31	22	125
06:00		25	48	53	50	176
07:00		48	57	84	78	267
08:00		92	74	96	98	360
09:00		98	87	95	132	412
10:00		97	110	108	118	433
11:00		134	126	125	102	487
12:00 PM		108	121	126	113	468
01:00		114	127	126	140	507
02:00		124	130	140	135	529
03:00		132	117	117	111	477
04:00		91	100	112	115	418
05:00		120	137	115	87	459
06:00		109	129	80	84	402
07:00		98	74	105	87	364
08:00		78	79	67	56	280
09:00		58	58	84	59	259
10:00		61	58	40	32	191
11:00		36	32	23	32	123
Day Total						7185



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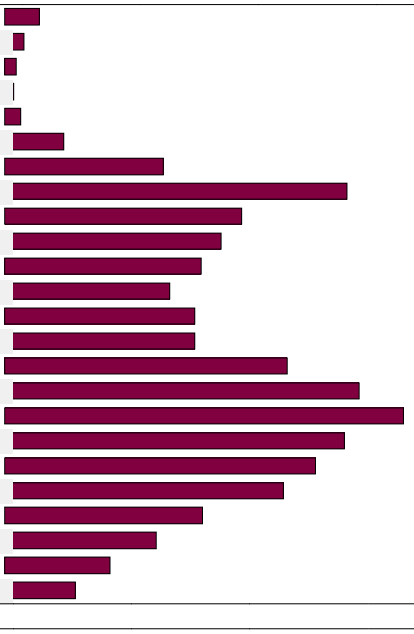
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 10-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		25	15	14	14	68
01:00		10	18	7	4	39
02:00		6	4	6	8	24
03:00		2	4	6	7	19
04:00		5	15	4	8	32
05:00		19	22	38	35	114
06:00		55	49	95	104	303
07:00		140	172	196	145	653
08:00		125	122	108	98	453
09:00		106	107	108	92	413
10:00		94	100	95	87	376
11:00		71	103	78	64	316
12:00 PM		63	87	98	115	363
01:00		92	113	88	70	363
02:00		118	137	127	157	539
03:00		156	156	182	182	676
04:00		185	180	202	193	760
05:00		188	143	149	168	648
06:00		168	160	131	134	593
07:00		152	137	133	110	532
08:00		102	95	105	76	378
09:00		83	80	68	59	290
10:00		45	63	50	44	202
11:00		34	38	36	28	136
Day Total						8290



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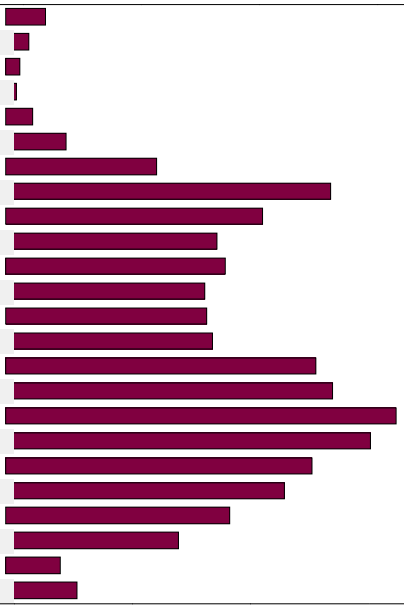
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 11-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		21	20	20	16	77
01:00		11	19	9	7	46
02:00		9	7	8	5	29
03:00		3	3	8	9	23
04:00		7	10	20	16	53
05:00		20	26	28	42	116
06:00		49	59	83	98	289
07:00		125	177	181	137	620
08:00		124	134	112	120	490
09:00		93	102	117	92	404
10:00		114	92	98	115	419
11:00		102	92	95	92	381
12:00 PM		90	91	91	112	384
01:00		84	87	109	115	395
02:00		136	156	170	130	592
03:00		127	157	172	168	624
04:00		178	174	192	201	745
05:00		185	167	172	172	696
06:00		165	156	133	131	585
07:00		139	152	133	108	532
08:00		134	108	110	76	428
09:00		88	88	78	77	331
10:00		59	45	2	0	106
11:00		3	48	51	35	137
Day Total						8502



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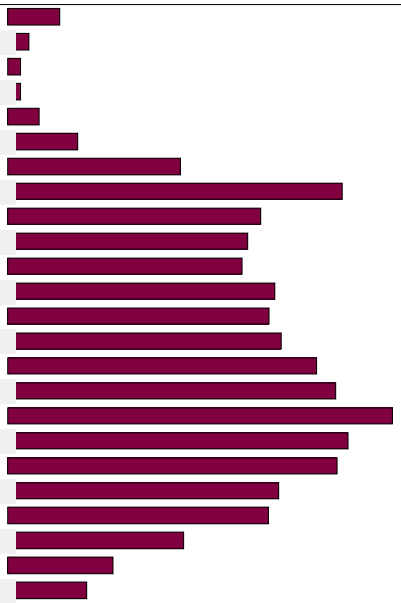
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 12-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		19	27	34	21	101
01:00		15	10	11	6	42
02:00		7	4	7	8	26
03:00		9	1	10	6	26
04:00		12	14	12	24	62
05:00		20	19	42	54	135
06:00		41	70	104	116	331
07:00		133	179	194	132	638
08:00		129	134	104	116	483
09:00		110	133	101	115	459
10:00		95	106	125	122	448
11:00		140	134	124	112	510
12:00 PM		118	128	135	118	499
01:00		144	128	150	100	522
02:00		130	154	166	139	589
03:00		136	155	153	182	626
04:00		177	176	186	195	734
05:00		192	147	150	160	649
06:00		155	162	147	164	628
07:00		126	122	126	143	517
08:00		155	144	111	88	498
09:00		100	78	88	70	336
10:00		68	36	65	33	202
11:00		41	32	41	38	152
Day Total						9213



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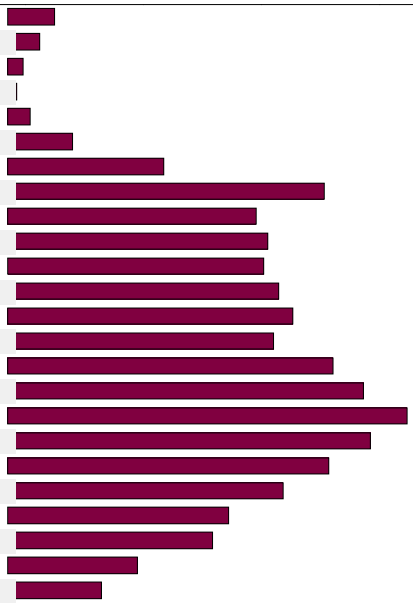
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 13-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		32	18	20	21	91
01:00		12	17	19	15	63
02:00		16	9	2	4	31
03:00		5	3	8	3	19
04:00		5	11	10	19	45
05:00		18	31	36	40	125
06:00		52	50	90	106	298
07:00		144	156	180	124	604
08:00		115	134	119	106	474
09:00		106	126	144	120	496
10:00		104	101	132	152	489
11:00		127	125	132	133	517
12:00 PM		138	137	137	132	544
01:00		130	127	128	123	508
02:00		134	167	150	170	621
03:00		160	161	181	177	679
04:00		182	186	201	193	762
05:00		166	168	183	175	692
06:00		173	161	138	141	613
07:00		134	127	140	125	526
08:00		114	93	101	114	422
09:00		103	95	104	90	392
10:00		56	66	62	64	248
11:00		49	40	48	43	180
Day Total						9439



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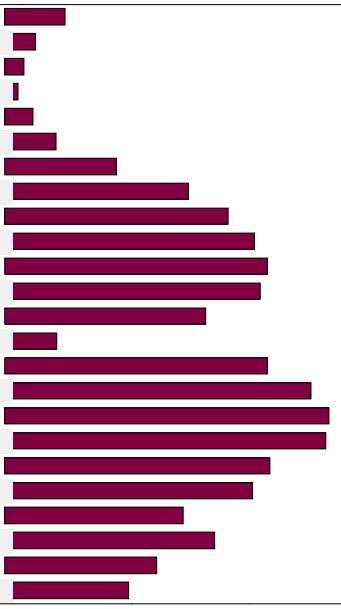
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 14-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		37	25	27	28	117
01:00		21	13	11	15	60
02:00		11	10	10	8	39
03:00		5	6	11	5	27
04:00		8	17	14	17	56
05:00		12	19	38	30	99
06:00		41	53	60	60	214
07:00		58	84	96	113	351
08:00		94	95	124	114	427
09:00		120	111	116	130	477
10:00		117	140	122	122	501
11:00		106	129	130	123	488
12:00 PM		140	120	90	34	384
01:00		18	32	38	13	101
02:00		77	121	151	152	501
03:00		152	142	139	152	585
04:00		156	144	161	158	619
05:00		162	166	148	137	613
06:00		139	146	102	119	506
07:00		144	124	107	98	473
08:00		95	78	92	76	341
09:00		101	95	109	96	401
10:00		78	82	66	65	291
11:00		64	61	62	50	237
Day Total						7908



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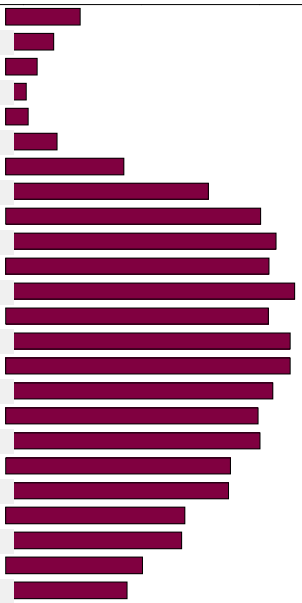
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 15-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		44	40	18	41	143
01:00		29	21	27	17	94
02:00		22	19	9	12	62
03:00		10	10	10	11	41
04:00		12	11	13	8	44
05:00		10	26	37	26	99
06:00		40	59	70	57	226
07:00		68	85	111	124	388
08:00		126	114	122	125	487
09:00		138	124	136	118	516
10:00		126	120	135	122	503
11:00		131	140	136	145	552
12:00 PM		128	130	112	131	501
01:00		136	129	121	157	543
02:00		125	153	147	118	543
03:00		121	145	136	108	510
04:00		130	114	117	121	482
05:00		125	110	128	122	485
06:00		111	100	114	105	430
07:00		111	81	128	106	426
08:00		88	85	83	87	343
09:00		82	93	90	71	336
10:00		57	86	52	67	262
11:00		51	68	61	53	233
Day Total						8249



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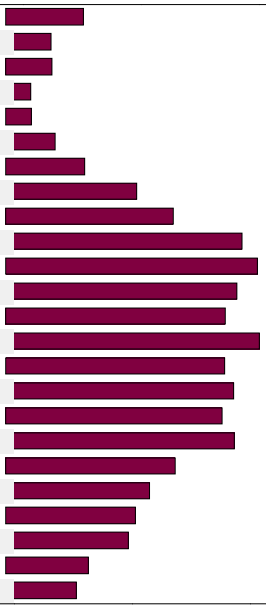
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 16-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		41	41	36	32	150
01:00		26	22	20	20	88
02:00		27	24	21	18	90
03:00		20	12	10	7	49
04:00		10	17	16	8	51
05:00		20	16	26	34	96
06:00		34	33	49	36	152
07:00		35	49	84	83	251
08:00		80	67	96	78	321
09:00		93	102	134	122	451
10:00		116	127	130	108	481
11:00		127	103	103	108	441
12:00 PM		106	110	107	97	420
01:00		119	143	122	100	484
02:00		113	102	119	84	418
03:00		123	102	107	104	436
04:00		112	97	106	98	413
05:00		116	108	117	96	437
06:00		92	79	68	85	324
07:00		72	67	74	63	276
08:00		71	56	63	59	249
09:00		66	62	52	55	235
10:00		49	39	36	35	159
11:00		36	40	31	29	136
Day Total						6608



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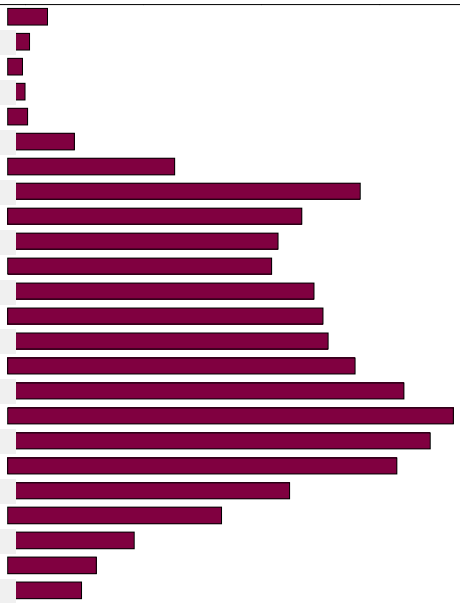
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 17-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		32	16	14	16	78
01:00		12	15	8	8	43
02:00		6	14	7	3	30
03:00		8	4	12	11	35
04:00		6	5	15	14	40
05:00		21	30	30	48	129
06:00		66	55	84	114	319
07:00		138	180	184	170	672
08:00		138	143	150	130	561
09:00		130	120	140	126	516
10:00		132	112	138	122	504
11:00		148	138	146	153	585
12:00 PM		146	160	150	146	602
01:00		144	150	158	160	612
02:00		155	176	168	164	663
03:00		187	196	177	196	756
04:00		204	210	214	222	850
05:00		221	189	207	189	806
06:00		198	208	170	166	742
07:00		150	150	134	104	538
08:00		108	127	96	78	409
09:00		74	68	58	42	242
10:00		44	42	45	39	170
11:00		35	47	30	30	142
Day Total						10044



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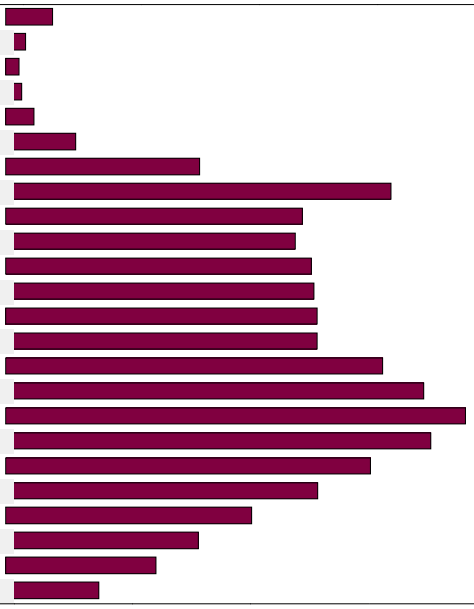
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 18-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		28	23	16	24	91
01:00		12	7	13	8	40
02:00		11	7	6	3	27
03:00		1	9	9	13	32
04:00		9	14	10	23	56
05:00		24	22	44	45	135
06:00		58	78	120	114	370
07:00		144	204	217	170	735
08:00		125	157	152	132	566
09:00		138	154	117	144	553
10:00		152	150	137	144	583
11:00		124	158	153	153	588
12:00 PM		154	149	144	147	594
01:00		144	142	142	166	594
02:00		173	178	186	182	719
03:00		181	190	212	214	797
04:00		229	216	222	209	876
05:00		219	197	199	196	811
06:00		197	199	145	155	696
07:00		150	154	148	143	595
08:00		142	120	105	103	470
09:00		92	111	95	70	368
10:00		86	80	60	62	288
11:00		59	47	46	27	179
Day Total						10763



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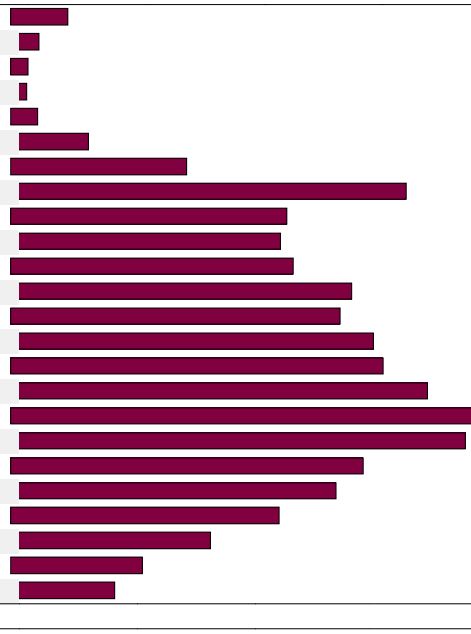
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 19-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		35	22	28	26	111
01:00		22	12	11	10	55
02:00		17	5	8	4	34
03:00		8	7	6	11	32
04:00		4	14	12	23	53
05:00		28	27	48	47	150
06:00		62	75	87	112	336
07:00		157	195	237	165	754
08:00		122	143	132	130	527
09:00		147	130	116	122	515
10:00		130	139	138	132	539
11:00		135	184	167	164	650
12:00 PM		158	151	162	157	628
01:00		153	187	180	172	692
02:00		174	178	189	170	711
03:00		186	198	196	214	794
04:00		210	200	237	232	879
05:00		224	215	206	222	867
06:00		166	172	174	160	672
07:00		167	175	139	140	621
08:00		128	129	119	136	512
09:00		136	102	76	68	382
10:00		56	90	57	49	252
11:00		53	47	51	49	200
Day Total						10966



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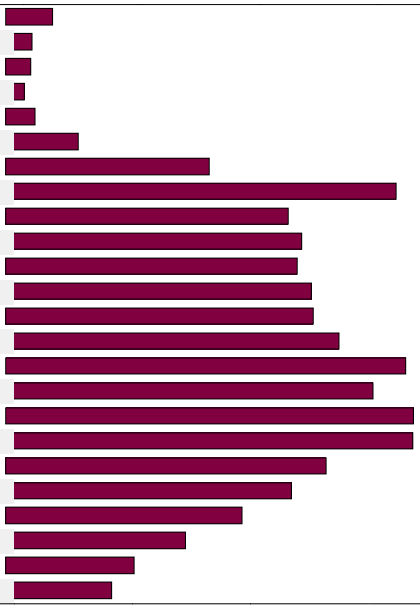
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 20-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		38	14	18	21	91
01:00		17	10	12	13	52
02:00		27	14	4	5	50
03:00		7	9	11	10	37
04:00		10	12	20	16	58
05:00		20	36	34	50	140
06:00		65	92	107	125	389
07:00		165	220	209	150	744
08:00		143	130	136	130	539
09:00		137	152	148	128	565
10:00		140	145	140	132	557
11:00		137	150	150	146	583
12:00 PM		154	148	142	143	587
01:00		145	159	158	174	636
02:00		198	188	184	193	763
03:00		142	168	206	185	701
04:00		186	180	214	197	777
05:00		219	185	182	190	776
06:00		145	146	159	162	612
07:00		142	154	118	132	546
08:00		121	114	126	90	451
09:00		86	95	93	70	344
10:00		90	54	51	51	246
11:00		51	56	50	46	203
Day Total						10447



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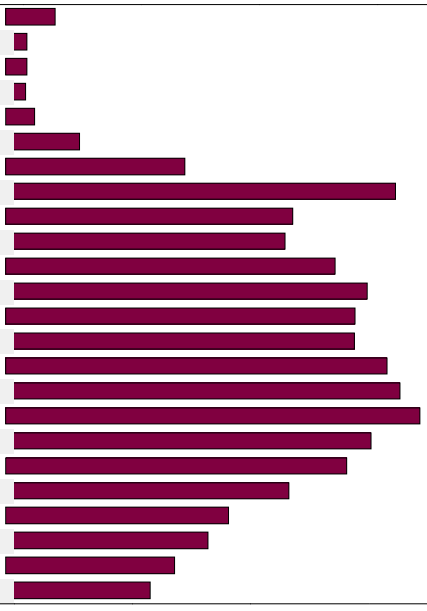
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 21-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		35	26	18	17	96
01:00		13	12	10	7	42
02:00		12	13	10	7	42
03:00		10	7	10	13	40
04:00		12	10	14	21	57
05:00		19	30	42	51	142
06:00		57	67	93	125	342
07:00		148	212	228	155	743
08:00		134	130	146	138	548
09:00		133	135	134	131	533
10:00		151	131	188	158	628
11:00		162	175	169	183	689
12:00 PM		170	172	175	149	666
01:00		174	159	168	164	665
02:00		168	192	191	176	727
03:00		169	193	186	204	752
04:00		200	190	212	188	790
05:00		213	150	172	162	697
06:00		192	146	170	142	650
07:00		138	140	134	128	540
08:00		113	100	113	99	425
09:00		100	111	98	77	386
10:00		93	82	81	67	323
11:00		72	78	75	52	277
Day Total						10800



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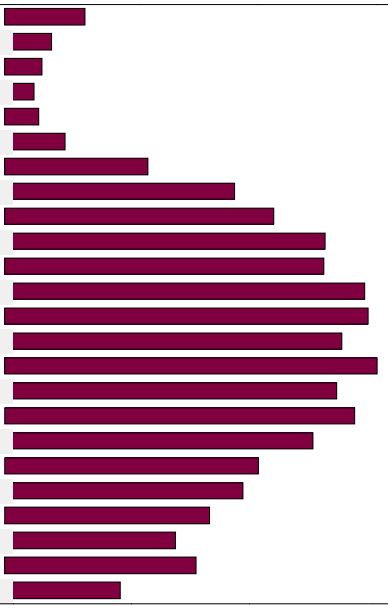
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 22-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		51	38	33	32	154
01:00		31	22	18	20	91
02:00		17	20	17	19	73
03:00		15	19	14	10	58
04:00		17	13	19	18	67
05:00		19	31	28	38	116
06:00		55	58	80	81	274
07:00		88	116	115	120	439
08:00		111	122	149	132	514
09:00		142	154	168	147	611
10:00		129	161	160	159	609
11:00		161	184	184	158	687
12:00 PM		172	178	177	166	693
01:00		148	161	171	163	643
02:00		174	176	190	171	711
03:00		162	156	173	142	633
04:00		152	168	189	159	668
05:00		162	146	156	124	588
06:00		136	124	119	105	484
07:00		120	112	134	89	455
08:00		102	95	97	97	391
09:00		84	93	77	73	327
10:00		105	100	84	77	366
11:00		64	64	44	50	222
Day Total						9874



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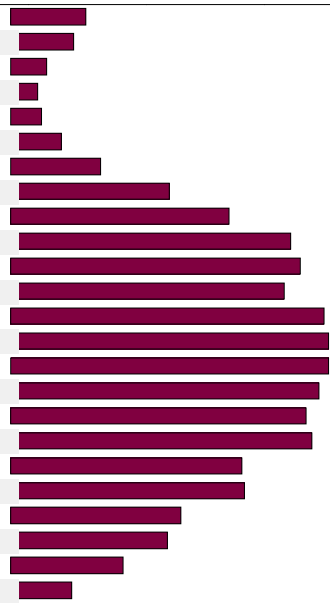
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 23-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		51	35	25	34	145
01:00		36	32	30	24	122
02:00		21	17	14	18	70
03:00		12	12	16	13	53
04:00		14	15	19	12	60
05:00		18	19	29	32	98
06:00		30	42	53	48	173
07:00		63	70	88	83	304
08:00		74	109	121	113	417
09:00		129	123	127	155	534
10:00		135	130	130	158	553
11:00		148	124	123	127	522
12:00 PM		138	145	160	155	598
01:00		161	126	156	164	607
02:00		138	146	156	167	607
03:00		141	156	144	147	588
04:00		142	126	154	142	564
05:00		134	151	134	156	575
06:00		120	115	102	105	442
07:00		106	110	118	113	447
08:00		100	87	78	60	325
09:00		80	88	66	66	300
10:00		53	59	60	44	216
11:00		35	28	29	26	118
Day Total						8438



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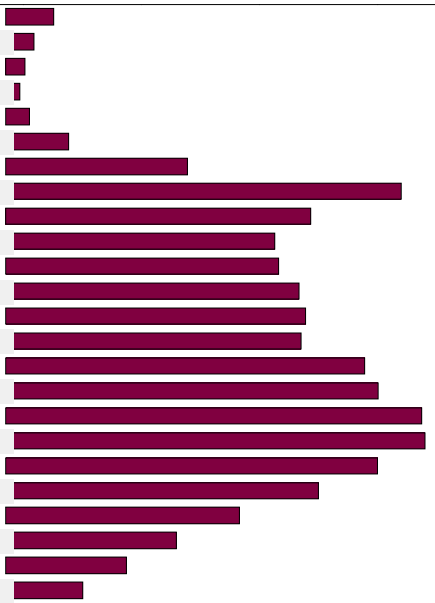
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 24-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		30	23	17	24	94
01:00		15	18	10	12	55
02:00		14	5	11	9	39
03:00		5	8	4	12	29
04:00		5	11	9	22	47
05:00		18	22	37	44	121
06:00		68	73	88	118	347
07:00		153	211	231	159	754
08:00		160	140	132	150	582
09:00		107	126	136	144	513
10:00		121	137	132	131	521
11:00		125	132	154	149	560
12:00 PM		161	144	121	146	572
01:00		117	139	165	143	564
02:00		168	186	166	165	685
03:00		176	174	186	174	710
04:00		179	202	200	212	793
05:00		208	210	200	182	800
06:00		189	181	163	176	709
07:00		156	154	139	148	597
08:00		116	117	108	106	447
09:00		88	106	58	75	327
10:00		64	64	62	41	231
11:00		42	38	33	36	149
Day Total						10246



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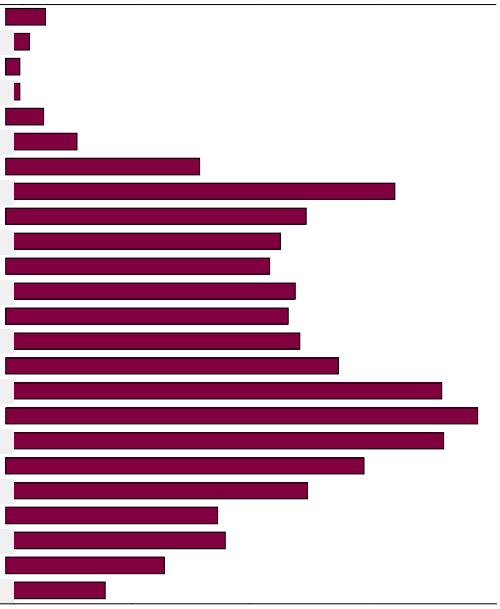
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 25-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		20	24	24	10	78
01:00		9	16	11	11	47
02:00		12	6	4	6	28
03:00		9	6	6	7	28
04:00		15	13	20	26	74
05:00		23	27	41	46	137
06:00		54	79	113	125	371
07:00		161	205	222	154	742
08:00		140	140	152	142	574
09:00		142	109	124	149	524
10:00		112	116	140	136	504
11:00		132	148	146	127	553
12:00 PM		133	126	142	138	539
01:00		140	125	150	146	561
02:00		155	164	151	165	635
03:00		192	225	200	214	831
04:00		220	210	232	238	900
05:00		220	204	206	205	835
06:00		171	190	144	179	684
07:00		159	140	151	126	576
08:00		104	116	95	90	405
09:00		114	130	92	83	419
10:00		75	82	93	54	304
11:00		52	56	45	38	191
Day Total						10540



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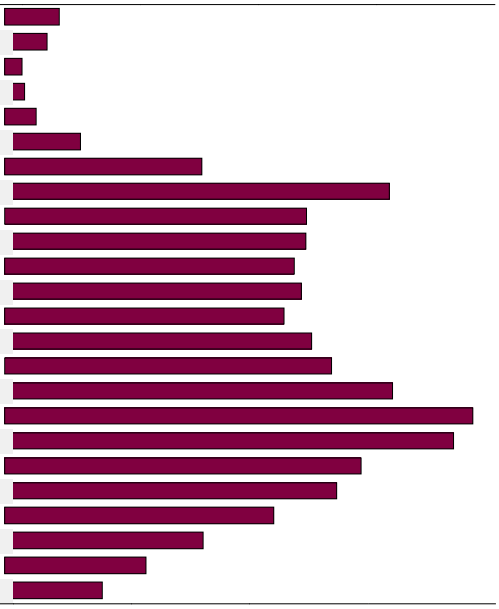
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 26-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		28	21	31	26	106
01:00		36	18	20	8	82
02:00		8	14	7	5	34
03:00		4	11	15	10	40
04:00		11	17	11	22	61
05:00		23	25	52	46	146
06:00		63	78	113	123	377
07:00		148	204	221	161	734
08:00		155	153	132	136	576
09:00		146	163	144	122	575
10:00		119	150	138	146	553
11:00		126	152	156	132	566
12:00 PM		144	126	130	133	533
01:00		144	152	152	138	586
02:00		166	160	150	148	624
03:00		174	161	197	208	740
04:00		212	228	225	228	893
05:00		218	217	211	210	856
06:00		173	176	159	172	680
07:00		169	159	156	149	633
08:00		133	150	108	122	513
09:00		104	110	92	73	379
10:00		68	75	61	66	270
11:00		54	53	50	30	187
Day Total						10744



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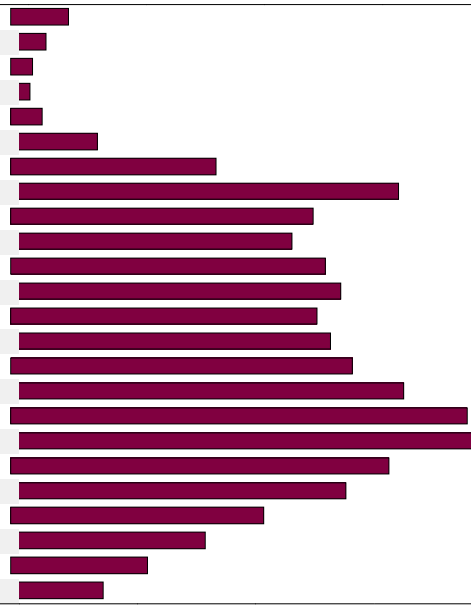
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 27-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		30	29	32	21	112
01:00		21	19	13	16	69
02:00		12	12	11	8	43
03:00		9	12	7	11	39
04:00		4	8	28	21	61
05:00		29	25	54	59	167
06:00		54	89	112	138	393
07:00		142	187	225	186	740
08:00		153	140	138	146	577
09:00		126	140	131	140	537
10:00		143	151	152	154	600
11:00		163	158	154	155	630
12:00 PM		157	129	161	137	584
01:00		152	156	142	160	610
02:00		139	170	183	159	651
03:00		163	194	190	202	749
04:00		172	236	226	236	870
05:00		240	233	214	192	879
06:00		194	177	173	177	721
07:00		170	164	149	157	640
08:00		141	118	112	112	483
09:00		80	110	108	74	372
10:00		69	64	64	65	262
11:00		44	50	45	39	178
Day Total						10967



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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 28-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		30	29	24	31	114
01:00		16	14	12	18	60
02:00		18	14	9	13	54
03:00		7	9	9	14	39
04:00		6	14	11	26	57
05:00		33	26	46	63	168
06:00		72	74	91	128	365
07:00		154	197	214	178	743
08:00		153	165	121	120	559
09:00		136	131	159	136	562
10:00		139	146	156	119	560
11:00		133	138	150	146	567
12:00 PM		163	142	132	134	571
01:00		131	135	123	171	560
02:00		170	188	182	166	706
03:00		154	156	170	144	624
04:00		133	125	150	196	604
05:00		158	188	176	172	694
06:00		162	180	192	160	694
07:00		158	114	144	143	559
08:00		132	134	105	125	496
09:00		124	120	119	89	452
10:00		96	86	92	88	362
11:00		74	54	63	69	260
Day Total						10430

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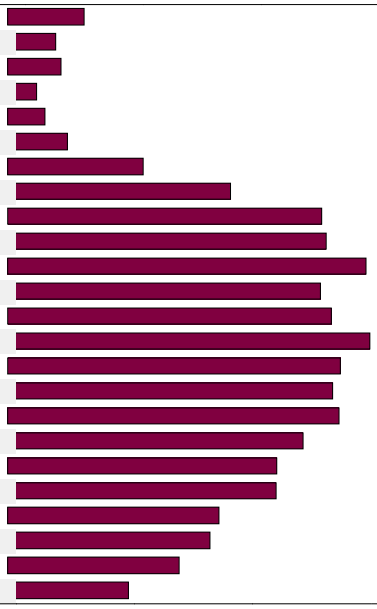
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 29-Apr-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		39	36	36	36	147
01:00		22	26	26	20	94
02:00		35	26	25	17	103
03:00		20	15	13	9	57
04:00		15	26	16	15	72
05:00		16	26	37	36	115
06:00		49	56	74	80	259
07:00		93	95	110	128	426
08:00		152	146	135	166	599
09:00		159	142	141	166	608
10:00		165	153	168	197	683
11:00		160	146	142	148	596
12:00 PM		161	139	168	150	618
01:00		174	169	192	156	691
02:00		175	150	155	154	634
03:00		161	159	167	133	620
04:00		152	156	162	162	632
05:00		126	162	158	118	564
06:00		146	131	119	118	514
07:00		116	129	150	117	512
08:00		109	104	96	95	404
09:00		96	122	90	78	386
10:00		77	96	89	66	328
11:00		74	72	46	39	231
Day Total						9893



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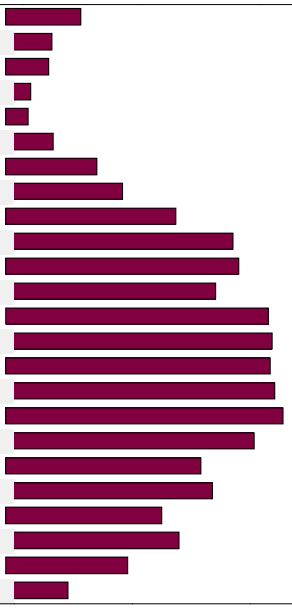
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 30-Apr-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		56	42	29	18	145
01:00		17	38	16	19	90
02:00		20	27	20	17	84
03:00		15	14	11	10	50
04:00		9	13	11	11	44
05:00		17	12	33	30	92
06:00		36	39	56	44	175
07:00		50	44	69	61	224
08:00		70	76	79	100	325
09:00		87	96	108	143	434
10:00		122	101	110	112	445
11:00		106	88	106	101	401
12:00 PM		120	109	133	140	502
01:00		109	141	121	138	509
02:00		134	129	107	135	505
03:00		126	136	124	128	514
04:00		141	123	130	136	530
05:00		141	109	108	116	474
06:00		106	106	86	75	373
07:00		91	94	108	102	395
08:00		81	66	79	72	298
09:00		76	66	86	104	332
10:00		82	68	51	33	234
11:00		26	35	33	26	120
Day Total						7295



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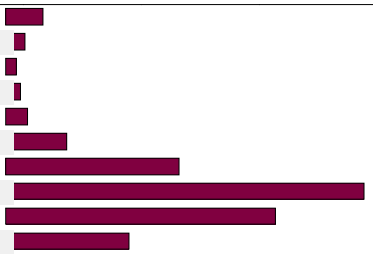
Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 01-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		27	17	15	14	73
01:00		8	16	10	4	38
02:00		3	8	6	6	23
03:00		6	4	10	10	30
04:00		8	10	9	16	43
05:00		17	22	40	39	118
06:00		50	76	96	110	332
07:00		140	184	205	154	683
08:00		144	123	111	137	515
09:00		123	109	4	0	236
10:00		4	0	6	4	14
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						2105



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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 02-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 03-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Thu 04-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Fri 05-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sat 06-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Sun 07-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Mon 08-May-17	<----------Quarter 1st	2nd	Hour----------> 3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						0

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Tue 09-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
12:00 PM		0	0	0	0	0
01:00		0	0	0	2	2
02:00		0	0	1	0	1
03:00		1	0	0	0	1
04:00		0	2	0	0	2
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	0	0	0	0
08:00		0	0	0	0	0
09:00		0	0	0	0	0
10:00		0	0	0	0	0
11:00		0	0	0	0	0
Day Total						6

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Ward H-1 EB On-Ramp - VOLUME
Site Code: AP-1
Station ID: 024670
Date Start: 03-Apr-17
Date End: 10-May-17

Start Time	Wed 10-May-17	<----------Quarter Hour----------> 1st	2nd	3rd	4th	Hour Total
12:00 AM		0	0	0	0	0
01:00		0	0	0	0	0
02:00		0	0	0	0	0
03:00		0	0	0	0	0
04:00		0	0	0	0	0
05:00		0	0	0	0	0
06:00		0	0	0	0	0
07:00		0	2	*	*	2
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
12:00 PM		*	*	*	*	*
01:00		*	*	*	*	*
02:00		*	*	*	*	*
03:00		*	*	*	*	*
04:00		*	*	*	*	*
05:00		*	*	*	*	*
06:00		*	*	*	*	*
07:00		*	*	*	*	*
08:00		*	*	*	*	*
09:00		*	*	*	*	*
10:00		*	*	*	*	*
11:00		*	*	*	*	*
Day Total						2
Total						257252

ADT ADT 6,971 AADT 6,971

APPENDIX B

TRAVEL TIME RUN DATA

APPENDIX B

TRAVEL TIME RUN DATA

- Pre-Closure Data

Austin, Tsutsumi & Associates
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PC-Travel Reports for study: Before Closure_H-1 AM EB

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Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/6/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
H-1 AM-EB-001	04/06/17	05:40	42459	Before	Primary
H-1 AM-EB-002	04/06/17	06:00	42400	Before	Secondary
H-1 AM-EB-003	04/06/17	07:03	42494	Before	Secondary
H-1 AM-EB-004	04/06/17	08:20	42446	Before	Secondary
H-1 AM-EB-005	04/06/17	07:38	26244	Before	Secondary

Notes:

Node Info

#	Len	Name
1	0	Moanalua Rd On-Ramp
2	2025	Airport/Tripler Hospital
3	2623	Ft Shafter/King St Exit
4	3669	Ft Shafter/King St On-
5	1345	Queen Liliuokalani Fwy
6	3168	Likelike Hwy Exit
7	1445	Kalihi St On-Ramp
8	2278	Vineyard Blvd Exit
9	3737	Liliha St On-Ramp
10	1723	Pali Hwy Exit
11	823	Punchbowl St Exit
12	1118	Pali Hwy On-Ramp
13	1338	Kinau St Exit
14	1275	Vineyard Blvd On-Ramp
15	860	Ward Ave On-Ramp
16	2662	Piikoi St On-Ramp
17	1273	Punahou St Exit
18	3144	Bingham St Exit
19	2400	University Ave On-Ramp
20	517	University Ave Exit
21	1495	King St Exit
22	744	King St On-Ramp
23	624	Kapiolani Blvd On-Ramp
24	2173	6th Ave Exit
25	-42459	
26	0	

Length of Study Route = feet

Austin, Tsutsumi & Associates

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Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/6/2017**
Page No. : **3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Moanalua Rd On-Ramp							
2	2025	Airport/Tripler Hospital Exit	28.6	0.0	48.3	0.0	0.0	0.0	26.4
3	2623	Ft Shafter/King St Exit	35.6	0.0	50.2	0.0	0.0	0.0	33.2
4	3669	Ft Shafter/King St On-Ramp	124.8	1.8	20.0	67.2	3.0	96.8	123.2
5	1345	Queen Liliuokalani Fwy	75.0	0.2	12.2	53.2	3.8	67.0	75.0
6	3168	Likelike Hwy Exit	124.6	2.2	17.3	74.2	3.8	102.0	124.6
7	1445	Kalihi St On-Ramp	45.4	0.6	21.7	22.6	2.6	36.0	45.4
8	2278	Vineyard Blvd Exit	63.4	0.4	24.5	28.4	2.4	51.8	60.4
9	3737	Liliha St On-Ramp	95.4	0.0	26.7	35.0	0.0	69.8	95.0
10	1723	Pali Hwy Exit	48.6	0.0	24.2	20.8	0.0	32.8	48.6
11	823	Punchbowl St Exit	24.8	0.0	22.6	12.0	0.0	17.6	23.2
12	1118	Pali Hwy On-Ramp	35.8	0.0	21.3	18.4	0.0	26.0	34.4
13	1338	Kinau St Exit	47.0	0.0	19.4	25.2	0.0	35.2	45.6
14	1275	Vineyard Blvd On-Ramp	77.0	1.0	11.3	58.0	0.8	67.6	76.6
15	860	Ward Ave On-Ramp	25.6	0.6	22.9	14.8	0.4	20.8	25.2
16	2662	Piikoi St On-Ramp	72.6	1.8	25.0	39.2	0.4	56.2	72.6
17	1273	Punahou St Exit	29.4	0.4	29.5	13.0	2.4	20.4	29.4
18	3144	Bingham St Exit	37.0	0.0	57.9	0.0	0.0	0.8	37.0
19	2400	University Ave On-Ramp	36.0	0.4	45.5	7.8	0.0	13.4	35.4
20	517	University Ave Exit	7.4	0.0	47.6	0.8	0.0	2.4	7.4
21	1495	King St Exit	17.0	0.0	60.0	0.0	0.0	0.0	16.2
22	744	King St On-Ramp	8.4	0.0	60.4	0.0	0.0	0.0	7.2
23	624	Kapiolani Blvd On-Ramp	7.0	0.0	60.8	0.0	0.0	0.0	7.0
24	2173	6th Ave Exit	29.0	0.2	51.1	3.2	0.0	6.2	28.6
25	-42459		0.4	0.0	-72373.3	0.0	0.0	0.2	0.2
26	0								
Total			**1096.0**	**9.6**	**0.0**	**493.8**	**19.6**	**723.0**	**1077.8**

Stats based on 5 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/6/2017**
Page No. : **4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Moanalua Rd On-Ramp				
2	2025	Airport/Tripler Hospital Exit	0.0184	1.3031	20.0842	0.7148
3	2623	Ft Shafter/King St Exit	0.0250	1.9052	30.8952	1.1361
4	3669	Ft Shafter/King St On-Ramp	0.0398	3.0676	33.3191	0.9973
5	1345	Queen Liliuokalani Fwy	0.0193	1.7274	15.1464	0.5563
6	3168	Likelike Hwy Exit	0.0396	3.6988	34.8422	1.7781
7	1445	Kalihi St On-Ramp	0.0154	1.2844	11.9172	0.5835
8	2278	Vineyard Blvd Exit	0.0231	1.9837	21.1584	0.9649
9	3737	Liliha St On-Ramp	0.0351	3.0315	30.6629	1.5351
10	1723	Pali Hwy Exit	0.0170	1.4616	16.3669	0.6414
11	823	Punchbowl St Exit	0.0086	0.7589	9.2561	0.3153
12	1118	Pali Hwy On-Ramp	0.0116	0.9113	9.7165	0.3070
13	1338	Kinau St Exit	0.0150	1.3639	16.0378	0.5305
14	1275	Vineyard Blvd On-Ramp	0.0193	1.6196	17.2669	0.2825
15	860	Ward Ave On-Ramp	0.0082	0.6877	6.9569	0.2793
16	2662	Piikoi St On-Ramp	0.0237	2.0403	20.7969	0.8854
17	1273	Punahou St Exit	0.0122	1.2692	12.2240	0.8449
18	3144	Bingham St Exit	0.0228	1.8145	26.8016	1.0768
19	2400	University Ave On-Ramp	0.0173	1.1841	13.6736	0.5838
20	517	University Ave Exit	0.0045	0.5085	6.6773	0.3742
21	1495	King St Exit	0.0114	1.0237	16.1611	0.6540
22	744	King St On-Ramp	0.0053	0.3246	4.8658	0.1653
23	624	Kapiolani Blvd On-Ramp	0.0040	0.2784	3.9494	0.1488
24	2173	6th Ave Exit	0.0155	1.0973	15.2545	0.5758
25	-42459		0.0000	0.0036	0.0364	0.0000
26	0					
Total			**0.4123**	**34.3490**	**394.0672**	**15.9310**

Stats based on 5 BEFORE runs.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/6/2017**
Page No. : **5**

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	29	28	30	30	26
3	2623	Ft Shafter/King St Exit	37	35	37	34	35
4	3669	Ft Shafter/King St On-	49	50	159	193	173
5	1345	Queen Liliuokalani Fwy	19	21	56	93	186
6	3168	Likelike Hwy Exit	44	45	90	144	300
7	1445	Kalihi St On-Ramp	19	20	35	39	114
8	2278	Vineyard Blvd Exit	29	29	53	67	139
9	3737	Liliha St On-Ramp	52	58	130	76	161
10	1723	Pali Hwy Exit	23	26	73	32	89
11	823	Punchbowl St Exit	10	12	35	14	53
12	1118	Pali Hwy On-Ramp	14	17	45	18	85
13	1338	Kinau St Exit	17	23	35	24	136
14	1275	Vineyard Blvd On-Ramp	16	19	91	25	234
15	860	Ward Ave On-Ramp	11	13	80	24	0
16	2662	Piikoi St On-Ramp	36	40	222	65	0
17	1273	Punahou St Exit	17	20	74	36	0
18	3144	Bingham St Exit	42	47	44	52	0
19	2400	University Ave On-Ramp	33	35	32	80	0
20	517	University Ave Exit	8	8	8	13	0
21	1495	King St Exit	22	21	19	23	0
22	744	King St On-Ramp	10	12	10	10	0
23	624	Kapiolani Blvd On-Ramp	9	9	8	9	0
24	2173	6th Ave Exit	30	31	53	31	0
25	-42459		1	0	1	0	0
26	0		0	0	1	0	0
Totals	**0**		**577**	**619**	**1,421**	**1,132**	**1,731**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2623	Ft Shafter/King St Exit	0	0	0	0	0
4	3669	Ft Shafter/King St On-	0	0	1	5	3
5	1345	Queen Liliuokalani Fwy	0	0	0	1	0
6	3168	Likelike Hwy Exit	0	0	1	2	8
7	1445	Kalihi St On-Ramp	0	0	0	0	3
8	2278	Vineyard Blvd Exit	0	0	0	0	2
9	3737	Liliha St On-Ramp	0	0	0	0	0
10	1723	Pali Hwy Exit	0	0	0	0	0
11	823	Punchbowl St Exit	0	0	0	0	0
12	1118	Pali Hwy On-Ramp	0	0	0	0	0
13	1338	Kinau St Exit	0	0	0	0	0
14	1275	Vineyard Blvd On-Ramp	0	0	4	0	1
15	860	Ward Ave On-Ramp	0	0	3	0	0
16	2662	Piikoi St On-Ramp	0	0	9	0	0
17	1273	Punahou St Exit	0	0	2	0	0
18	3144	Bingham St Exit	0	0	0	0	0
19	2400	University Ave On-Ramp	0	0	0	2	0
20	517	University Ave Exit	0	0	0	0	0
21	1495	King St Exit	0	0	0	0	0
22	744	King St On-Ramp	0	0	0	0	0
23	624	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2173	6th Ave Exit	0	0	1	0	0
25	-42459		0	0	0	0	0
26	0		0	0	0	0	0
Totals	**0**		**0**	**0**	**21**	**10**	**17**

Stops based on a Stop Speed of 5 MPH.

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501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	47.6	50.5	47.1	46.0	53.6
3	2623	Ft Shafter/King St Exit	48.2	51.3	48.0	54.1	51.6
4	3669	Ft Shafter/King St On-	51.0	49.5	15.6	12.7	14.3
5	1345	Queen Liliuokalani Fwy	48.2	44.3	16.6	9.9	5.0
6	3168	Likelike Hwy Exit	49.0	47.8	24.3	15.1	7.2
7	1445	Kalihi St On-Ramp	51.8	50.0	27.1	25.4	8.7
8	2278	Vineyard Blvd Exit	53.4	52.5	29.5	23.0	11.2
9	3737	Liliha St On-Ramp	48.9	44.3	19.5	33.6	15.8
10	1723	Pali Hwy Exit	51.0	44.8	16.2	37.6	13.2
11	823	Punchbowl St Exit	56.1	45.9	15.8	40.1	10.4
12	1118	Pali Hwy On-Ramp	54.4	45.3	16.9	41.7	9.1
13	1338	Kinau St Exit	53.6	39.5	26.3	38.0	6.7
14	1275	Vineyard Blvd On-Ramp	54.6	45.5	9.4	34.1	2.8
15	860	Ward Ave On-Ramp	53.4	47.8	7.4	24.6	0.0
16	2662	Piikoi St On-Ramp	50.4	44.6	8.2	28.0	0.0
17	1273	Punahou St Exit	50.9	43.7	12.0	24.9	0.0
18	3144	Bingham St Exit	51.0	45.7	49.2	40.7	0.0
19	2400	University Ave On-Ramp	49.5	46.3	50.3	20.4	0.0
20	517	University Ave Exit	44.1	47.8	45.3	28.2	0.0
21	1495	King St Exit	46.3	47.1	52.4	45.4	0.0
22	744	King St On-Ramp	50.6	45.4	54.7	47.9	0.0
23	624	Kapiolani Blvd On-Ramp	47.3	44.1	47.4	45.6	0.0
24	2173	6th Ave Exit	49.4	47.6	28.1	48.9	0.0
25	-42459		0.0	0.0	16.0	0.0	0.0
26	0		0.0	0.0	0.0	0.0	0.0
Totals	**0**		**50.2**	**46.8**	**20.4**	**25.6**	**10.4**

Austin, Tsutsumi & Associates
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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2623	Ft Shafter/King St Exit	0	0	0	0	0
4	3669	Ft Shafter/King St On-	0	0	96	130	110
5	1345	Queen Liliuokalani Fwy	0	0	33	70	163
6	3168	Likelike Hwy Exit	0	0	35	90	246
7	1445	Kalihi St On-Ramp	0	0	10	14	89
8	2278	Vineyard Blvd Exit	0	0	14	28	100
9	3737	Liliha St On-Ramp	0	0	66	12	97
10	1723	Pali Hwy Exit	0	0	43	2	59
11	823	Punchbowl St Exit	0	0	21	0	39
12	1118	Pali Hwy On-Ramp	0	0	26	0	66
13	1338	Kinau St Exit	0	0	12	1	113
14	1275	Vineyard Blvd On-Ramp	0	0	69	3	218
15	860	Ward Ave On-Ramp	0	0	65	9	0
16	2662	Piikoi St On-Ramp	0	0	177	19	0
17	1273	Punahou St Exit	0	0	52	13	0
18	3144	Bingham St Exit	0	0	0	0	0
19	2400	University Ave On-Ramp	0	0	0	39	0
20	517	University Ave Exit	0	0	0	4	0
21	1495	King St Exit	0	0	0	0	0
22	744	King St On-Ramp	0	0	0	0	0
23	624	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2173	6th Ave Exit	0	0	16	0	0
25	-42459		0	0	0	0	0
26	0		0	0	0	0	0
Totals	**0**		**0**	**0**	**735**	**434**	**1,300**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2623	Ft Shafter/King St Exit	0	0	0	0	0
4	3669	Ft Shafter/King St On-	0	0	0	0	15
5	1345	Queen Liliuokalani Fwy	0	0	0	0	19
6	3168	Likelike Hwy Exit	0	0	0	0	19
7	1445	Kalihi St On-Ramp	0	0	0	0	13
8	2278	Vineyard Blvd Exit	0	0	0	0	12
9	3737	Liliha St On-Ramp	0	0	0	0	0
10	1723	Pali Hwy Exit	0	0	0	0	0
11	823	Punchbowl St Exit	0	0	0	0	0
12	1118	Pali Hwy On-Ramp	0	0	0	0	0
13	1338	Kinau St Exit	0	0	0	0	0
14	1275	Vineyard Blvd On-Ramp	0	0	2	0	2
15	860	Ward Ave On-Ramp	0	0	2	0	0
16	2662	Piikoi St On-Ramp	0	0	2	0	0
17	1273	Punahou St Exit	0	0	12	0	0
18	3144	Bingham St Exit	0	0	0	0	0
19	2400	University Ave On-Ramp	0	0	0	0	0
20	517	University Ave Exit	0	0	0	0	0
21	1495	King St Exit	0	0	0	0	0
22	744	King St On-Ramp	0	0	0	0	0
23	624	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2173	6th Ave Exit	0	0	0	0	0
25	-42459		0	0	0	0	0
26	0		0	0	0	0	0
Totals	**0**		**0**	**0**	**18**	**0**	**80**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2623	Ft Shafter/King St Exit	0	0	0	0	0
4	3669	Ft Shafter/King St On-	0	0	146	184	154
5	1345	Queen Liliuokalani Fwy	0	0	56	93	186
6	3168	Likelike Hwy Exit	0	0	66	144	300
7	1445	Kalihi St On-Ramp	0	0	27	39	114
8	2278	Vineyard Blvd Exit	0	0	53	67	139
9	3737	Liliha St On-Ramp	0	0	130	58	161
10	1723	Pali Hwy Exit	0	0	73	2	89
11	823	Punchbowl St Exit	0	0	35	0	53
12	1118	Pali Hwy On-Ramp	0	0	45	0	85
13	1338	Kinau St Exit	0	0	35	5	136
14	1275	Vineyard Blvd On-Ramp	0	0	91	14	233
15	860	Ward Ave On-Ramp	0	0	80	24	0
16	2662	Piikoi St On-Ramp	0	0	222	59	0
17	1273	Punahou St Exit	0	0	73	29	0
18	3144	Bingham St Exit	0	0	0	4	0
19	2400	University Ave On-Ramp	0	0	0	67	0
20	517	University Ave Exit	0	0	0	12	0
21	1495	King St Exit	0	0	0	0	0
22	744	King St On-Ramp	0	0	0	0	0
23	624	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2173	6th Ave Exit	0	0	31	0	0
25	-42459		0	0	1	0	0
26	0		0	0	0	0	0
Totals	**0**		**0**	**0**	**1,164**	**801**	**1,650**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)
1	0	Moanalua Rd On-Ramp					
2	2025	Airport/Tripler Hospital Exit	29	28	30	30	15
3	2623	Ft Shafter/King St Exit	37	35	36	24	34
4	3669	Ft Shafter/King St On-	49	50	159	193	165
5	1345	Queen Liliuokalani Fwy	19	21	56	93	186
6	3168	Likelike Hwy Exit	44	45	90	144	300
7	1445	Kalihi St On-Ramp	19	20	35	39	114
8	2278	Vineyard Blvd Exit	20	23	53	67	139
9	3737	Liliha St On-Ramp	50	58	130	76	161
10	1723	Pali Hwy Exit	23	26	73	32	89
11	823	Punchbowl St Exit	2	12	35	14	53
12	1118	Pali Hwy On-Ramp	7	17	45	18	85
13	1338	Kinau St Exit	10	23	35	24	136
14	1275	Vineyard Blvd On-Ramp	15	19	91	25	233
15	860	Ward Ave On-Ramp	9	13	80	24	0
16	2662	Piikoi St On-Ramp	36	40	222	65	0
17	1273	Punahou St Exit	17	20	74	36	0
18	3144	Bingham St Exit	42	47	44	52	0
19	2400	University Ave On-Ramp	33	35	29	80	0
20	517	University Ave Exit	8	8	8	13	0
21	1495	King St Exit	22	21	15	23	0
22	744	King St On-Ramp	10	12	4	10	0
23	624	Kapiolani Blvd On-Ramp	9	9	8	9	0
24	2173	6th Ave Exit	30	30	53	30	0
25	-42459		0	0	1	0	0
26	0		0	0	0	0	0
Totals	**0**		**540**	**612**	**1,406**	**1,121**	**1,710**

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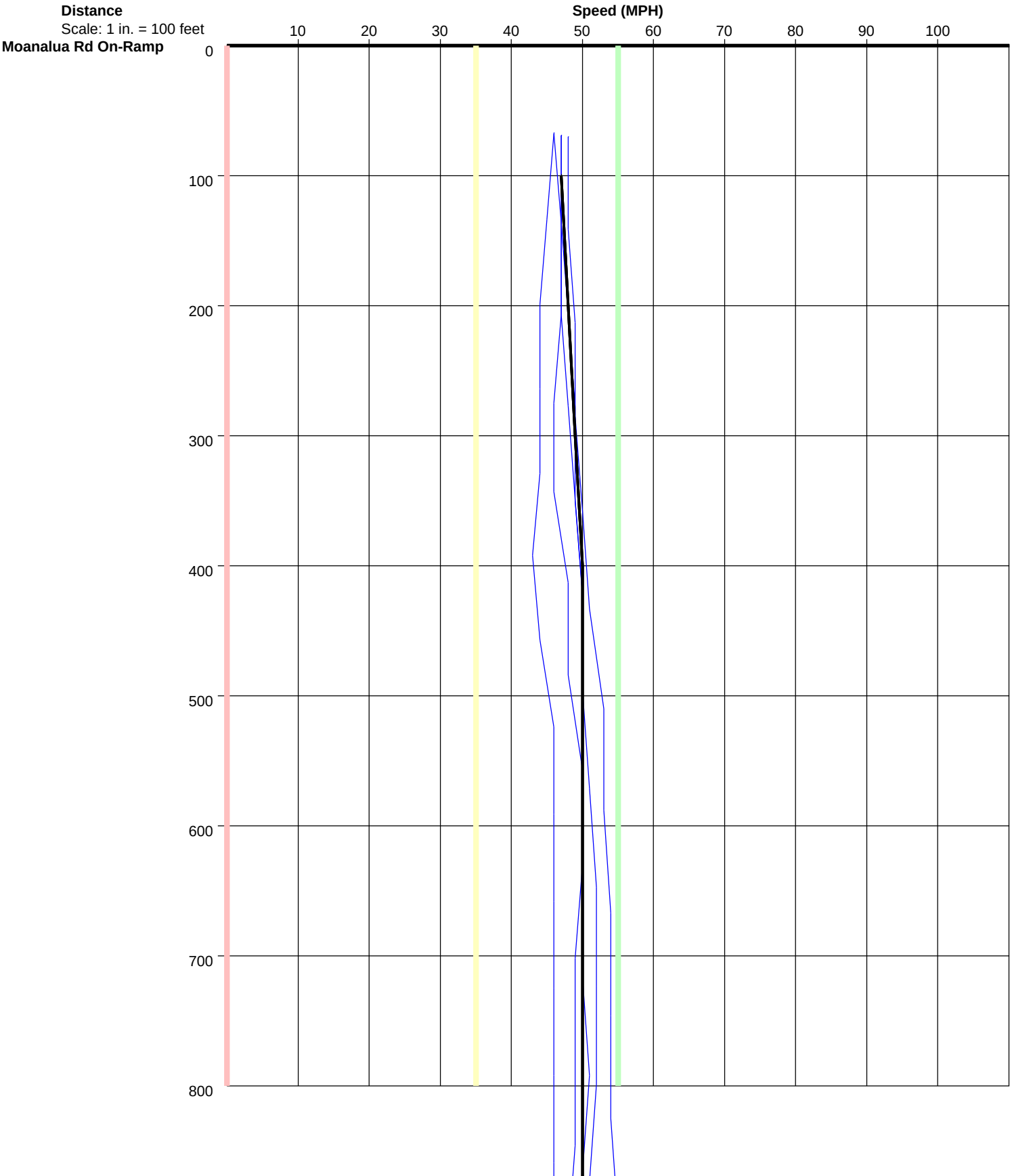
Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/6/2017**
Page No. **: 12**

Speed/Distance Profiles of All Runs



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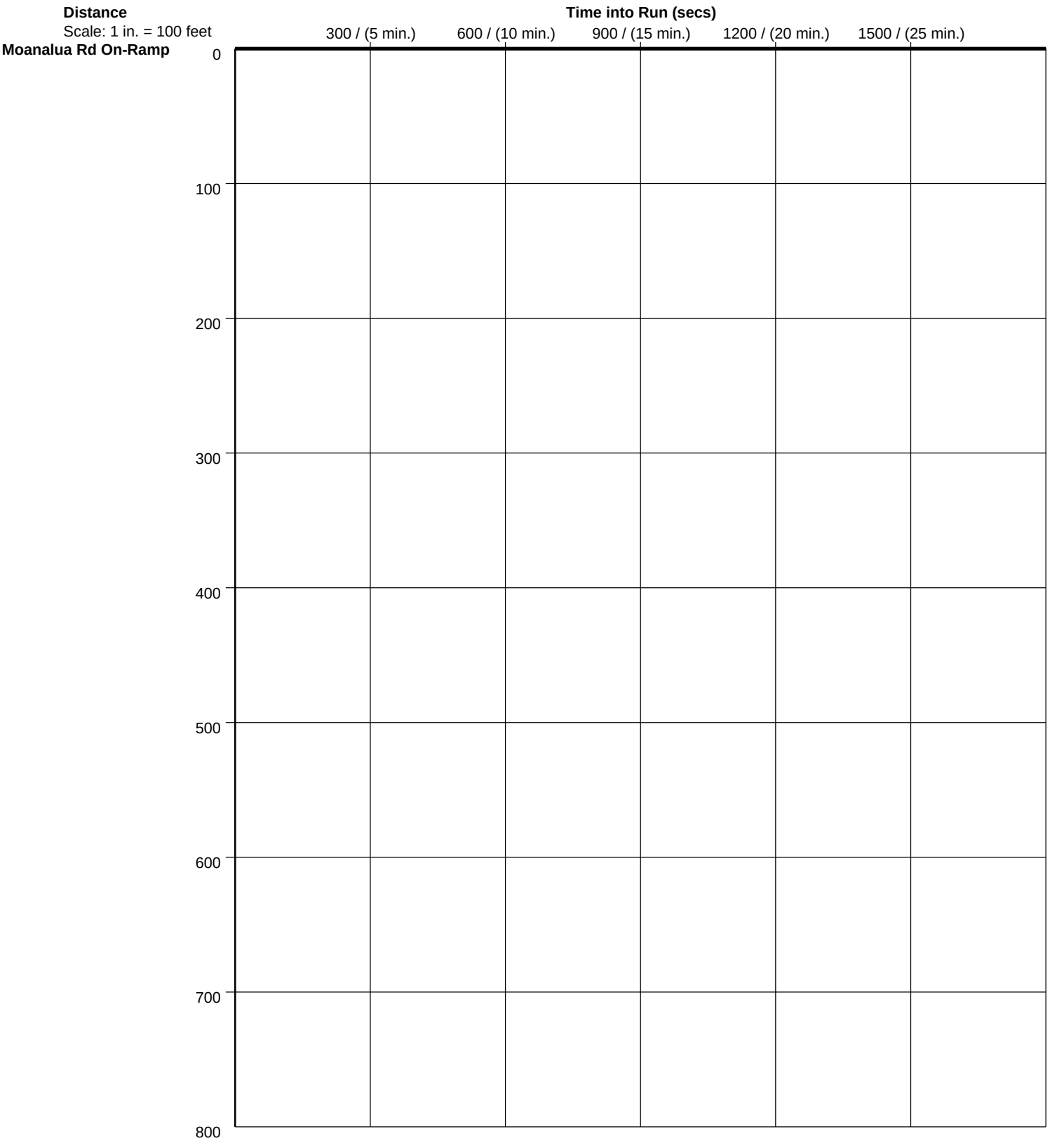
Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/6/2017**
Page No. **: 13**

Time/Space Trajectories of All Runs



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PC-Travel Reports for study: Before Closure_H-1 AM EB

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Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/5/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
H-1 AM-EB-001	04/05/17	05:32	42279	Before	Primary
H-1 AM-EB-002	04/05/17	05:46	42366	Before	Secondary
H-1 AM-EB-004	04/05/17	06:16	42307	Before	Secondary
H-1 AM-EB-005	04/05/17	06:30	42330	Before	Secondary
H-1 AM-EB-006	04/05/17	06:44	42219	Before	Secondary
H-1 AM-EB-007	04/05/17	07:02	42253	Before	Secondary
H-1 AM-EB-008	04/05/17	07:17	42319	Before	Secondary
H-1 AM-EB-009	04/05/17	07:45	42212	Before	Secondary
H-1 AM-EB-010	04/05/17	08:03	42326	Before	Secondary
H-1 AM-EB-011	04/05/17	08:16	42282	Before	Secondary
H-1 AM-EB-012	04/05/17	08:33	42210	Before	Secondary
H-1 AM-EB-013	04/05/17	08:48	42225	Before	Secondary
H-1 AM-EB-014	04/05/17	09:00	42248	Before	Secondary
H-1 AM-EB-015	04/05/17	09:14	42244	Before	Secondary
H-1 AM-EB-016	04/05/17	09:34	42301	Before	Secondary

Node Info

#	Len	Name
1	0	Moanalua Rd On-Ramp
2	1880	Airport/Tripler Hospital
3	2632	Ft Shafter/King St Exit
4	3665	Ft Shafter/King St On-
5	1332	Queen Liliuokalani Fwy
6	3188	Likelike Hwy Exit
7	1400	Kalihi St On-Ramp
8	2302	Vineyard Blvd Exit
9	3783	Liliha St On-Ramp
10	1666	Pali Hwy Exit
11	871	Punchbowl St Exit
12	1111	Pali Hwy On-Ramp
13	1313	Kinau St Exit
14	1272	Vineyard Blvd On-Ramp
15	835	Ward Ave On-Ramp
16	2491	Piikoi St On-Ramp
17	1335	Punahou St Exit
18	3223	Bingham St Exit
19	2348	University Ave On-Ramp
20	573	University Ave Exit
21	1448	King St Exit
22	750	King St On-Ramp
23	653	Kapiolani Blvd On-Ramp
24	2208	6th Ave Exit

Length of Study Route = 42,279 feet

Notes:

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Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
Page No. : **3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	26.6	0.0	48.2	0.0	0.0	0.0	23.1
3	2632	Ft Shafter/King St Exit	36.1	0.0	49.7	0.0	0.0	0.0	31.5
4	3665	Ft Shafter/King St On-Ramp	65.7	0.6	38.0	15.3	0.0	23.3	53.2
5	1332	Queen Liliuokalani Fwy	55.8	1.4	16.3	34.9	0.3	45.8	53.8
6	3188	Likelike Hwy Exit	83.5	0.6	26.0	31.2	0.5	55.0	83.2
7	1400	Kalihi St On-Ramp	34.3	0.1	27.9	11.8	0.0	21.7	34.3
8	2302	Vineyard Blvd Exit	53.5	0.2	29.3	16.7	0.7	32.1	52.9
9	3783	Liliha St On-Ramp	88.8	0.1	29.0	27.0	1.3	60.4	88.6
10	1666	Pali Hwy Exit	35.3	0.0	32.1	8.3	0.0	18.9	34.9
11	871	Punchbowl St Exit	17.5	0.0	34.0	3.1	0.0	7.9	17.4
12	1111	Pali Hwy On-Ramp	24.6	0.0	30.8	6.1	0.0	16.2	24.6
13	1313	Kinau St Exit	26.6	0.0	33.7	4.2	0.0	13.2	26.6
14	1272	Vineyard Blvd On-Ramp	24.6	0.0	35.3	5.2	0.0	9.1	24.6
15	835	Ward Ave On-Ramp	26.1	0.7	21.8	13.2	1.5	16.6	26.1
16	2491	Piikoi St On-Ramp	58.2	0.4	29.2	18.1	0.3	32.5	57.7
17	1335	Punahou St Exit	31.9	0.3	28.6	9.7	1.7	16.7	31.9
18	3223	Bingham St Exit	46.3	0.0	47.4	0.0	0.0	0.5	44.8
19	2348	University Ave On-Ramp	33.7	0.0	47.6	0.0	0.0	1.7	32.4
20	573	University Ave Exit	10.3	0.0	38.1	0.7	0.0	3.1	10.3
21	1448	King St Exit	20.8	0.0	47.5	0.0	0.0	0.2	18.7
22	750	King St On-Ramp	9.9	0.0	51.5	0.0	0.0	0.0	7.6
23	653	Kapiolani Blvd On-Ramp	9.7	0.0	45.7	0.1	0.0	0.1	8.7
24	2208	6th Ave Exit	30.0	0.0	50.2	0.1	0.0	0.9	23.5
Total	**42,279**		**849.9**	**4.4**	**33.9**	**205.7**	**6.3**	**375.7**	**810.2**

Stats based on 15 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
Page No. : **4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Moanalua Rd On-Ramp				
2	1880	Airport/Tripler Hospital Exit	0.0175	1.2271	19.1368	0.6726
3	2632	Ft Shafter/King St Exit	0.0251	1.9769	32.0749	1.1847
4	3665	Ft Shafter/King St On-Ramp	0.0359	2.3661	35.4114	1.0933
5	1332	Queen Liliuokalani Fwy	0.0166	1.2843	11.2060	0.4328
6	3188	Likelike Hwy Exit	0.0327	3.1553	33.4990	1.8512
7	1400	Kalihi St On-Ramp	0.0125	0.9558	10.0924	0.4000
8	2302	Vineyard Blvd Exit	0.0225	2.0831	24.0683	1.1924
9	3783	Liliha St On-Ramp	0.0351	3.0681	32.6962	1.6498
10	1666	Pali Hwy Exit	0.0156	1.4026	16.5584	0.8128
11	871	Punchbowl St Exit	0.0078	0.6655	7.1451	0.3903
12	1111	Pali Hwy On-Ramp	0.0102	0.9582	10.1677	0.5776
13	1313	Kinau St Exit	0.0130	1.4504	17.7319	0.9969
14	1272	Vineyard Blvd On-Ramp	0.0121	1.0516	14.1002	0.6017
15	835	Ward Ave On-Ramp	0.0092	0.7384	8.1026	0.3122
16	2491	Piikoi St On-Ramp	0.0231	1.8971	20.8487	0.9424
17	1335	Punahou St Exit	0.0135	1.2767	14.0546	0.7677
18	3223	Bingham St Exit	0.0305	2.5767	39.4733	1.6025
19	2348	University Ave On-Ramp	0.0200	1.2505	18.0786	0.6137
20	573	University Ave Exit	0.0055	0.5426	7.1411	0.3602
21	1448	King St Exit	0.0146	1.4276	22.8023	0.9499
22	750	King St On-Ramp	0.0068	0.4389	6.9421	0.2394
23	653	Kapiolani Blvd On-Ramp	0.0058	0.3718	5.1372	0.1941
24	2208	6th Ave Exit	0.0206	1.5581	24.6423	0.9334
Total	**42,279**		**0.4060**	**33.7232**	**431.1106**	**18.7712**

Stats based on 15 BEFORE runs.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
Page No. : **5**

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	24	24	29	29	28	27	25	29
3	2632	Ft Shafter/King St Exit	31	34	37	37	38	33	36	39
4	3665	Ft Shafter/King St On-	47	47	48	51	54	124	193	102
5	1332	Queen Liliuokalani Fwy	17	21	22	28	95	83	104	181
6	3188	Likelike Hwy Exit	43	53	47	92	115	110	145	133
7	1400	Kalihi St On-Ramp	18	21	21	23	44	56	47	73
8	2302	Vineyard Blvd Exit	29	33	33	44	64	96	88	122
9	3783	Liliha St On-Ramp	52	55	53	82	104	135	137	188
10	1666	Pali Hwy Exit	21	21	21	32	30	40	98	37
11	871	Punchbowl St Exit	12	12	12	14	14	16	35	15
12	1111	Pali Hwy On-Ramp	16	17	17	19	21	16	42	22
13	1313	Kinau St Exit	20	21	22	25	23	26	31	26
14	1272	Vineyard Blvd On-Ramp	18	16	18	20	19	48	70	26
15	835	Ward Ave On-Ramp	12	11	12	13	15	111	91	35
16	2491	Piikoi St On-Ramp	33	35	36	43	46	156	107	83
17	1335	Punahou St Exit	18	20	22	21	34	115	35	26
18	3223	Bingham St Exit	44	48	49	47	48	43	47	46
19	2348	University Ave On-Ramp	34	34	34	31	34	37	35	33
20	573	University Ave Exit	10	10	9	9	10	18	8	11
21	1448	King St Exit	19	21	23	20	21	20	20	22
22	750	King St On-Ramp	9	9	11	10	10	9	10	9
23	653	Kapiolani Blvd On-Ramp	8	9	10	10	10	12	11	9
24	2208	6th Ave Exit	27	28	30	31	31	31	39	27
Totals	**42279**		**562**	**600**	**616**	**731**	**908**	**1,362**	**1,454**	**1,294**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	27	25	26	28	24	26	28
3	2632	Ft Shafter/King St Exit	36	34	33	37	38	39	40
4	3665	Ft Shafter/King St On-	52	44	40	43	50	44	47
5	1332	Queen Liliuokalani Fwy	123	62	15	16	20	18	32
6	3188	Likelike Hwy Exit	138	91	54	48	53	48	82
7	1400	Kalihi St On-Ramp	54	47	24	20	24	20	22
8	2302	Vineyard Blvd Exit	63	51	35	39	36	35	35
9	3783	Liliha St On-Ramp	104	68	71	94	64	53	72
10	1666	Pali Hwy Exit	38	33	28	45	30	27	29
11	871	Punchbowl St Exit	16	21	19	23	19	17	17
12	1111	Pali Hwy On-Ramp	24	22	32	31	31	32	27
13	1313	Kinau St Exit	27	24	25	22	28	42	37
14	1272	Vineyard Blvd On-Ramp	20	18	17	17	19	22	21
15	835	Ward Ave On-Ramp	15	15	11	11	11	12	17
16	2491	Piikoi St On-Ramp	60	45	36	38	41	39	75
17	1335	Punahou St Exit	23	22	21	29	23	27	42
18	3223	Bingham St Exit	54	47	43	44	43	46	46
19	2348	University Ave On-Ramp	36	38	32	30	30	35	32
20	573	University Ave Exit	9	12	11	8	9	11	9
21	1448	King St Exit	22	22	23	18	18	22	21
22	750	King St On-Ramp	11	12	11	9	9	9	11
23	653	Kapiolani Blvd On-Ramp	11	10	10	8	8	8	12
24	2208	6th Ave Exit	32	30	29	27	27	28	33
Totals	**42279**		**995**	**793**	**646**	**685**	**655**	**660**	**787**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/5/2017**
Page No. **: 7**

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	1	6	2
5	1332	Queen Liliuokalani Fwy	0	0	0	0	1	0	4	8
6	3188	Likelike Hwy Exit	0	0	0	0	1	0	1	2
7	1400	Kalihi St On-Ramp	0	0	0	0	0	0	0	1
8	2302	Vineyard Blvd Exit	0	0	0	0	0	0	0	3
9	3783	Liliha St On-Ramp	0	0	0	0	0	0	0	2
10	1666	Pali Hwy Exit	0	0	0	0	0	0	0	0
11	871	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1111	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1313	Kinau St Exit	0	0	0	0	0	0	0	0
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	0	0	0
15	835	Ward Ave On-Ramp	0	0	0	0	0	6	5	0
16	2491	Piikoi St On-Ramp	0	0	0	0	0	5	1	0
17	1335	Punahou St Exit	0	0	0	0	0	4	0	0
18	3223	Bingham St Exit	0	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	573	University Ave Exit	0	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42279**		**0**	**0**	**0**	**0**	**2**	**16**	**17**	**18**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1332	Queen Liliuokalani Fwy	7	1	0	0	0	0	0
6	3188	Likelike Hwy Exit	4	0	0	0	0	0	1
7	1400	Kalihi St On-Ramp	0	0	0	0	0	0	0
8	2302	Vineyard Blvd Exit	0	0	0	0	0	0	0
9	3783	Liliha St On-Ramp	0	0	0	0	0	0	0
10	1666	Pali Hwy Exit	0	0	0	0	0	0	0
11	871	Punchbowl St Exit	0	0	0	0	0	0	0
12	1111	Pali Hwy On-Ramp	0	0	0	0	0	0	0
13	1313	Kinau St Exit	0	0	0	0	0	0	0
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	0	0
15	835	Ward Ave On-Ramp	0	0	0	0	0	0	0
16	2491	Piikoi St On-Ramp	0	0	0	0	0	0	0
17	1335	Punahou St Exit	0	0	0	0	0	0	0
18	3223	Bingham St Exit	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0
20	573	University Ave Exit	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	0
Totals	**42279**		**11**	**1**	**0**	**0**	**0**	**0**	**1**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	53.4	55.3	45.5	45.6	46.0	48.6	52.0	44.7
3	2632	Ft Shafter/King St Exit	57.9	52.0	48.4	48.5	47.1	54.8	49.3	46.2
4	3665	Ft Shafter/King St On-	53.1	53.8	51.8	48.6	46.2	19.9	13.0	24.3
5	1332	Queen Liliuokalani Fwy	53.6	42.5	41.5	31.8	9.7	10.8	8.7	5.0
6	3188	Likelike Hwy Exit	50.6	40.8	45.9	24.0	18.9	19.8	15.1	16.5
7	1400	Kalihi St On-Ramp	53.1	44.7	45.7	41.0	21.9	16.9	20.5	12.9
8	2302	Vineyard Blvd Exit	54.2	48.4	47.8	35.8	24.7	16.4	17.7	12.8
9	3783	Liliha St On-Ramp	49.5	47.1	48.9	31.2	24.8	19.2	18.8	13.8
10	1666	Pali Hwy Exit	54.2	53.2	52.2	36.6	37.7	27.9	11.7	31.4
11	871	Punchbowl St Exit	49.5	48.8	52.0	40.3	42.3	38.9	17.0	37.5
12	1111	Pali Hwy On-Ramp	47.3	43.9	44.6	40.5	36.2	45.8	18.0	35.4
13	1313	Kinau St Exit	44.7	44.2	40.8	35.8	38.0	34.8	29.4	35.1
14	1272	Vineyard Blvd On-Ramp	48.0	52.1	46.7	42.8	46.1	17.8	12.2	32.0
15	835	Ward Ave On-Ramp	47.4	51.9	49.3	44.6	38.9	5.1	6.3	16.1
16	2491	Piikoi St On-Ramp	51.5	48.8	46.2	39.6	37.0	10.9	16.1	20.8
17	1335	Punahou St Exit	50.5	44.6	41.4	44.3	26.5	8.0	25.5	35.0
18	3223	Bingham St Exit	49.9	46.0	45.2	46.7	45.9	51.1	47.3	48.0
19	2348	University Ave On-Ramp	46.9	47.1	46.8	51.2	46.4	43.1	45.6	48.1
20	573	University Ave Exit	39.0	41.6	43.8	44.8	42.0	22.5	46.1	33.3
21	1448	King St Exit	52.1	47.0	42.8	48.8	47.0	49.3	49.3	46.0
22	750	King St On-Ramp	56.9	54.0	48.0	49.6	48.7	54.1	51.4	54.6
23	653	Kapiolani Blvd On-Ramp	55.5	53.1	46.2	46.5	44.1	39.7	41.0	53.1
24	2208	6th Ave Exit	55.7	52.6	49.3	48.9	48.7	48.5	38.6	54.3
Totals	**42279**		**51.3**	**48.0**	**46.8**	**39.5**	**31.7**	**21.2**	**19.8**	**22.2**

Austin, Tsutsumi & Associates

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	47.8	53.4	50.7	46.0	54.2	51.2	46.1
3	2632	Ft Shafter/King St Exit	50.6	52.8	53.4	48.9	47.2	45.7	45.6
4	3665	Ft Shafter/King St On-	47.3	56.0	62.8	58.7	50.1	56.1	52.7
5	1332	Queen Liliuokalani Fwy	7.4	14.6	61.5	56.5	45.9	52.2	28.0
6	3188	Likelike Hwy Exit	15.9	24.0	40.0	44.6	40.5	44.7	26.7
7	1400	Kalihi St On-Ramp	17.4	19.9	40.0	47.6	41.0	47.2	43.6
8	2302	Vineyard Blvd Exit	25.2	31.5	44.0	40.6	43.1	45.5	45.5
9	3783	Liliha St On-Ramp	24.8	37.5	36.3	27.5	40.7	48.3	35.7
10	1666	Pali Hwy Exit	29.6	34.3	41.3	25.2	37.0	42.7	39.0
11	871	Punchbowl St Exit	38.6	28.0	30.1	25.2	31.2	34.5	33.4
12	1111	Pali Hwy On-Ramp	30.8	35.1	24.0	24.7	24.3	23.3	28.4
13	1313	Kinau St Exit	33.7	38.1	36.1	41.7	32.9	21.0	24.1
14	1272	Vineyard Blvd On-Ramp	43.0	46.3	50.8	50.8	45.8	40.5	41.8
15	835	Ward Ave On-Ramp	38.0	40.2	51.1	50.2	48.2	48.3	32.4
16	2491	Piikoi St On-Ramp	28.2	37.2	47.2	44.8	42.2	43.6	22.7
17	1335	Punahou St Exit	40.5	42.2	44.0	31.3	39.8	32.6	22.2
18	3223	Bingham St Exit	40.4	46.4	51.3	50.0	50.5	48.2	47.2
19	2348	University Ave On-Ramp	44.8	41.8	49.3	53.3	53.2	45.1	50.0
20	573	University Ave Exit	40.8	35.4	34.2	50.0	44.8	36.5	44.7
21	1448	King St Exit	46.7	43.6	43.0	55.6	54.3	46.2	48.1
22	750	King St On-Ramp	46.0	43.8	48.8	56.7	57.6	54.3	44.5
23	653	Kapiolani Blvd On-Ramp	39.7	45.3	45.4	53.3	56.5	53.8	35.8
24	2208	6th Ave Exit	47.1	49.1	50.8	55.6	56.4	54.7	45.7
Totals	**42279**		**29.0**	**36.4**	**44.6**	**42.1**	**44.1**	**43.7**	**36.6**

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501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
Page No. : **11**

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	61	130	39
5	1332	Queen Liliuokalani Fwy	0	0	0	5	72	60	81	158
6	3188	Likelike Hwy Exit	0	0	0	37	61	55	91	78
7	1400	Kalihi St On-Ramp	0	0	0	0	20	32	23	49
8	2302	Vineyard Blvd Exit	0	0	0	4	24	56	49	83
9	3783	Liliha St On-Ramp	0	0	0	17	39	70	72	123
10	1666	Pali Hwy Exit	0	0	0	3	1	12	69	8
11	871	Punchbowl St Exit	0	0	0	0	0	0	20	0
12	1111	Pali Hwy On-Ramp	0	0	0	0	1	0	23	2
13	1313	Kinau St Exit	0	0	0	2	1	3	8	3
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	26	48	4
15	835	Ward Ave On-Ramp	0	0	0	0	0	97	77	21
16	2491	Piikoi St On-Ramp	0	0	0	0	3	113	64	40
17	1335	Punahou St Exit	0	0	0	0	11	92	12	2
18	3223	Bingham St Exit	0	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	573	University Ave Exit	0	0	0	0	0	7	0	1
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	1	0
Totals	**42279**		**0**	**0**	**0**	**68**	**233**	**684**	**768**	**611**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1332	Queen Liliuokalani Fwy	100	39	0	0	0	0	9
6	3188	Likelike Hwy Exit	83	36	0	0	0	0	27
7	1400	Kalihi St On-Ramp	30	23	0	0	0	0	0
8	2302	Vineyard Blvd Exit	23	11	0	0	0	0	0
9	3783	Liliha St On-Ramp	39	3	6	29	0	0	7
10	1666	Pali Hwy Exit	10	4	0	16	1	0	0
11	871	Punchbowl St Exit	1	6	4	8	4	2	2
12	1111	Pali Hwy On-Ramp	5	3	13	12	12	13	8
13	1313	Kinau St Exit	4	1	2	0	5	20	14
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	0	0
15	835	Ward Ave On-Ramp	0	0	0	0	0	0	3
16	2491	Piikoi St On-Ramp	17	2	0	0	0	0	32
17	1335	Punahou St Exit	0	0	0	6	0	4	19
18	3223	Bingham St Exit	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0
20	573	University Ave Exit	0	1	1	0	0	1	0
21	1448	King St Exit	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	1
24	2208	6th Ave Exit	0	0	0	0	0	0	0
Totals	**42279**		**312**	**129**	**26**	**71**	**22**	**40**	**122**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	0	0	0
5	1332	Queen Liliuokalani Fwy	0	0	0	0	3	0	0	2
6	3188	Likelike Hwy Exit	0	0	0	0	0	0	7	0
7	1400	Kalihi St On-Ramp	0	0	0	0	0	0	0	0
8	2302	Vineyard Blvd Exit	0	0	0	0	0	0	0	11
9	3783	Liliha St On-Ramp	0	0	0	0	0	0	0	19
10	1666	Pali Hwy Exit	0	0	0	0	0	0	0	0
11	871	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1111	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1313	Kinau St Exit	0	0	0	0	0	0	0	0
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	0	0	0
15	835	Ward Ave On-Ramp	0	0	0	0	0	17	6	0
16	2491	Piikoi St On-Ramp	0	0	0	0	0	3	2	0
17	1335	Punahou St Exit	0	0	0	0	0	25	0	0
18	3223	Bingham St Exit	0	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	573	University Ave Exit	0	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42279**		**0**	**0**	**0**	**0**	**3**	**45**	**15**	**32**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1332	Queen Liliuokalani Fwy	0	0	0	0	0	0	0
6	3188	Likelike Hwy Exit	0	0	0	0	0	0	0
7	1400	Kalihi St On-Ramp	0	0	0	0	0	0	0
8	2302	Vineyard Blvd Exit	0	0	0	0	0	0	0
9	3783	Liliha St On-Ramp	0	0	0	0	0	0	0
10	1666	Pali Hwy Exit	0	0	0	0	0	0	0
11	871	Punchbowl St Exit	0	0	0	0	0	0	0
12	1111	Pali Hwy On-Ramp	0	0	0	0	0	0	0
13	1313	Kinau St Exit	0	0	0	0	0	0	0
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	0	0
15	835	Ward Ave On-Ramp	0	0	0	0	0	0	0
16	2491	Piikoi St On-Ramp	0	0	0	0	0	0	0
17	1335	Punahou St Exit	0	0	0	0	0	0	0
18	3223	Bingham St Exit	0	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	0	0
20	573	University Ave Exit	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	0
Totals	**42279**		**0**	**0**	**0**	**0**	**0**	**0**	**0**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name **: Before Closure_H-1 AM EB**
Study Date **: 4/5/2017**
Page No. **: 15**

Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	0	0	0	0	6	103	171	64
5	1332	Queen Liliuokalani Fwy	0	1	0	16	95	83	104	181
6	3188	Likelike Hwy Exit	0	13	0	70	90	110	145	133
7	1400	Kalihi St On-Ramp	0	0	0	0	43	56	47	73
8	2302	Vineyard Blvd Exit	0	0	0	18	64	96	88	122
9	3783	Liliha St On-Ramp	0	0	0	70	104	135	134	188
10	1666	Pali Hwy Exit	0	0	0	10	8	40	98	29
11	871	Punchbowl St Exit	0	0	0	0	0	1	35	0
12	1111	Pali Hwy On-Ramp	0	0	0	3	7	0	42	7
13	1313	Kinau St Exit	0	0	0	11	8	14	23	14
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	45	70	16
15	835	Ward Ave On-Ramp	0	0	0	0	0	111	91	35
16	2491	Piikoi St On-Ramp	0	0	0	0	7	156	107	82
17	1335	Punahou St Exit	0	0	0	0	23	113	34	10
18	3223	Bingham St Exit	0	0	0	0	4	0	0	0
19	2348	University Ave On-Ramp	0	0	0	0	0	15	0	0
20	573	University Ave Exit	1	0	0	0	0	18	0	8
21	1448	King St Exit	0	0	0	0	0	1	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2208	6th Ave Exit	0	0	0	0	0	0	13	0
Totals	**42279**		**1**	**14**	**0**	**198**	**459**	**1,097**	**1,202**	**962**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2632	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3665	Ft Shafter/King St On-	6	0	0	0	0	0	0
5	1332	Queen Liliuokalani Fwy	123	61	0	0	0	0	23
6	3188	Likelike Hwy Exit	138	68	6	0	0	0	52
7	1400	Kalihi St On-Ramp	54	47	5	0	0	0	0
8	2302	Vineyard Blvd Exit	63	25	0	2	0	3	0
9	3783	Liliha St On-Ramp	104	28	34	83	0	0	26
10	1666	Pali Hwy Exit	31	16	0	38	14	0	0
11	871	Punchbowl St Exit	0	16	11	23	16	6	10
12	1111	Pali Hwy On-Ramp	24	8	32	31	30	32	27
13	1313	Kinau St Exit	18	6	10	3	16	42	33
14	1272	Vineyard Blvd On-Ramp	0	0	0	0	0	5	0
15	835	Ward Ave On-Ramp	4	0	0	0	0	0	8
16	2491	Piikoi St On-Ramp	52	8	0	0	0	0	75
17	1335	Punahou St Exit	0	0	0	19	0	16	35
18	3223	Bingham St Exit	4	0	0	0	0	0	0
19	2348	University Ave On-Ramp	0	10	0	0	0	0	0
20	573	University Ave Exit	0	7	9	0	0	3	0
21	1448	King St Exit	0	0	2	0	0	0	0
22	750	King St On-Ramp	0	0	0	0	0	0	0
23	653	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	1
24	2208	6th Ave Exit	0	0	0	0	0	0	0
Totals	**42279**		**621**	**300**	**109**	**199**	**76**	**107**	**290**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-004)	Run #4 (H-1 AM-EB-005)	Run #5 (H-1 AM-EB-006)	Run #6 (H-1 AM-EB-007)	Run #7 (H-1 AM-EB-008)	Run #8 (H-1 AM-EB-009)
1	0	Moanalua Rd On-Ramp								
2	1880	Airport/Tripler Hospital Exit	12	3	29	29	28	27	21	29
3	2632	Ft Shafter/King St Exit	3	28	37	37	38	17	35	39
4	3665	Ft Shafter/King St On-	36	32	38	51	53	112	191	102
5	1332	Queen Liliuokalani Fwy	17	21	22	28	95	83	104	181
6	3188	Likelike Hwy Exit	39	53	47	92	115	110	145	133
7	1400	Kalihi St On-Ramp	18	21	21	23	44	56	47	73
8	2302	Vineyard Blvd Exit	19	33	33	44	64	96	88	122
9	3783	Liliha St On-Ramp	49	55	53	82	104	135	137	188
10	1666	Pali Hwy Exit	15	21	20	32	30	40	98	37
11	871	Punchbowl St Exit	11	12	12	14	14	16	35	15
12	1111	Pali Hwy On-Ramp	16	17	17	19	21	16	42	22
13	1313	Kinau St Exit	20	21	22	25	23	26	31	26
14	1272	Vineyard Blvd On-Ramp	18	16	18	20	19	48	70	26
15	835	Ward Ave On-Ramp	12	11	12	13	15	111	91	35
16	2491	Piikoi St On-Ramp	25	35	36	43	46	156	107	83
17	1335	Punahou St Exit	18	20	22	21	34	115	35	26
18	3223	Bingham St Exit	44	48	49	47	48	28	47	46
19	2348	University Ave On-Ramp	34	34	34	31	34	30	35	33
20	573	University Ave Exit	10	10	9	9	10	18	8	11
21	1448	King St Exit	12	21	23	20	21	16	20	22
22	750	King St On-Ramp	0	8	11	10	10	3	10	8
23	653	Kapiolani Blvd On-Ramp	0	9	10	10	10	12	11	7
24	2208	6th Ave Exit	9	19	30	31	30	30	39	13
Totals	**42279**		**437**	**548**	**605**	**731**	**906**	**1,301**	**1,447**	**1,277**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-010)	Run #10 (H-1 AM-EB-011)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)	Run #14 (H-1 AM-EB-015)	Run #15 (H-1 AM-EB-016)
1	0	Moanalua Rd On-Ramp							
2	1880	Airport/Tripler Hospital Exit	27	21	26	28	12	26	28
3	2632	Ft Shafter/King St Exit	36	29	20	37	38	39	40
4	3665	Ft Shafter/King St On-	52	13	1	3	50	17	47
5	1332	Queen Liliuokalani Fwy	123	62	2	4	20	13	32
6	3188	Likelike Hwy Exit	138	91	54	48	53	48	82
7	1400	Kalihi St On-Ramp	54	47	24	20	24	20	22
8	2302	Vineyard Blvd Exit	63	51	35	39	36	35	35
9	3783	Liliha St On-Ramp	104	68	71	94	64	53	72
10	1666	Pali Hwy Exit	38	33	28	45	30	27	29
11	871	Punchbowl St Exit	16	21	19	23	19	17	17
12	1111	Pali Hwy On-Ramp	24	22	32	31	31	32	27
13	1313	Kinau St Exit	27	24	25	22	28	42	37
14	1272	Vineyard Blvd On-Ramp	20	18	17	17	19	22	21
15	835	Ward Ave On-Ramp	15	15	11	11	11	12	17
16	2491	Piikoi St On-Ramp	60	45	36	38	41	39	75
17	1335	Punahou St Exit	23	22	21	29	23	27	42
18	3223	Bingham St Exit	54	47	43	44	35	46	46
19	2348	University Ave On-Ramp	36	38	32	30	18	35	32
20	573	University Ave Exit	9	12	11	8	9	11	9
21	1448	King St Exit	22	22	23	6	9	22	21
22	750	King St On-Ramp	11	12	11	1	0	8	11
23	653	Kapiolani Blvd On-Ramp	11	10	10	8	3	7	12
24	2208	6th Ave Exit	32	30	26	10	8	13	33
Totals	**42279**		**995**	**753**	**578**	**596**	**581**	**611**	**787**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
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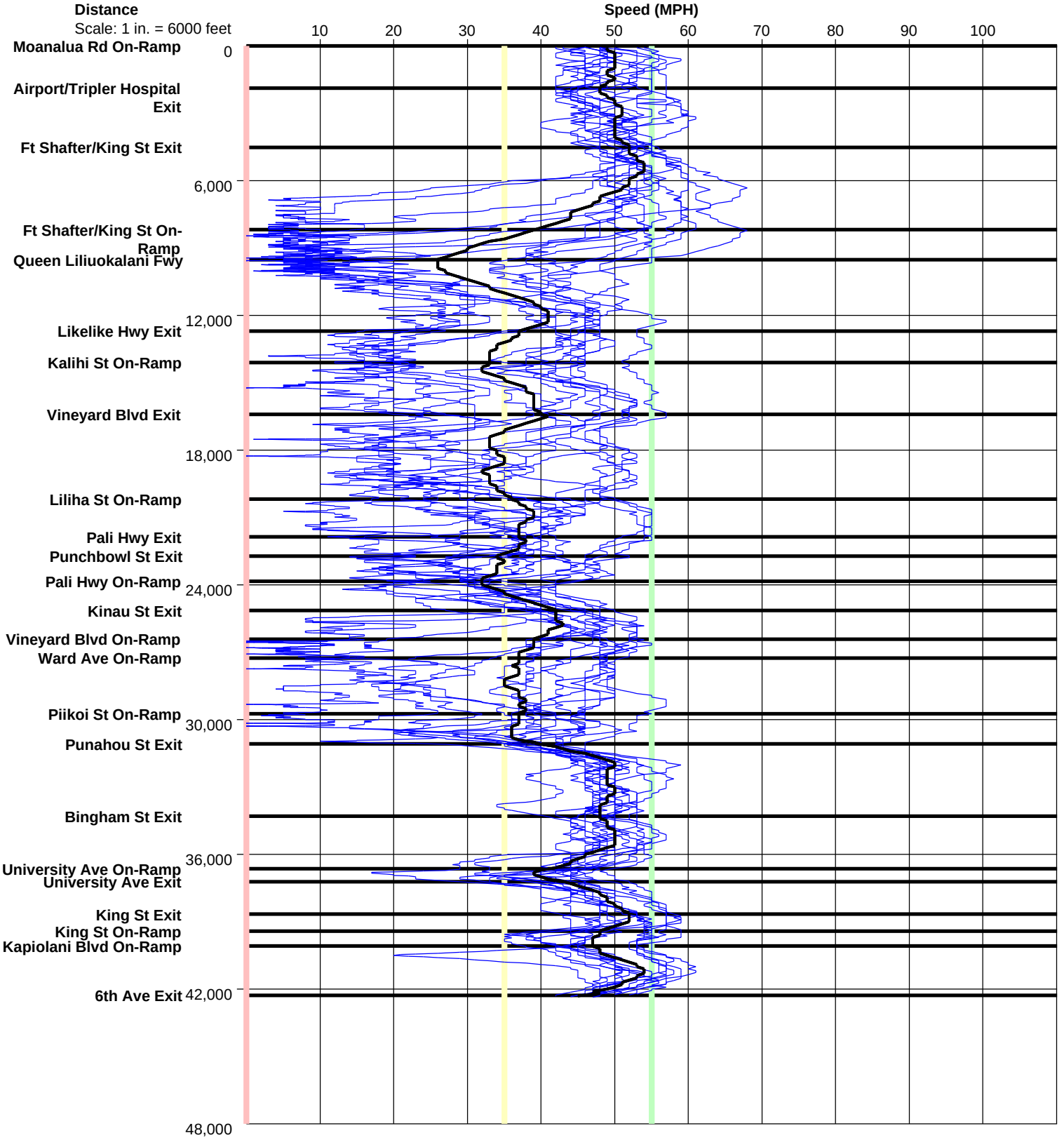
Speed/Distance Profiles of All Runs



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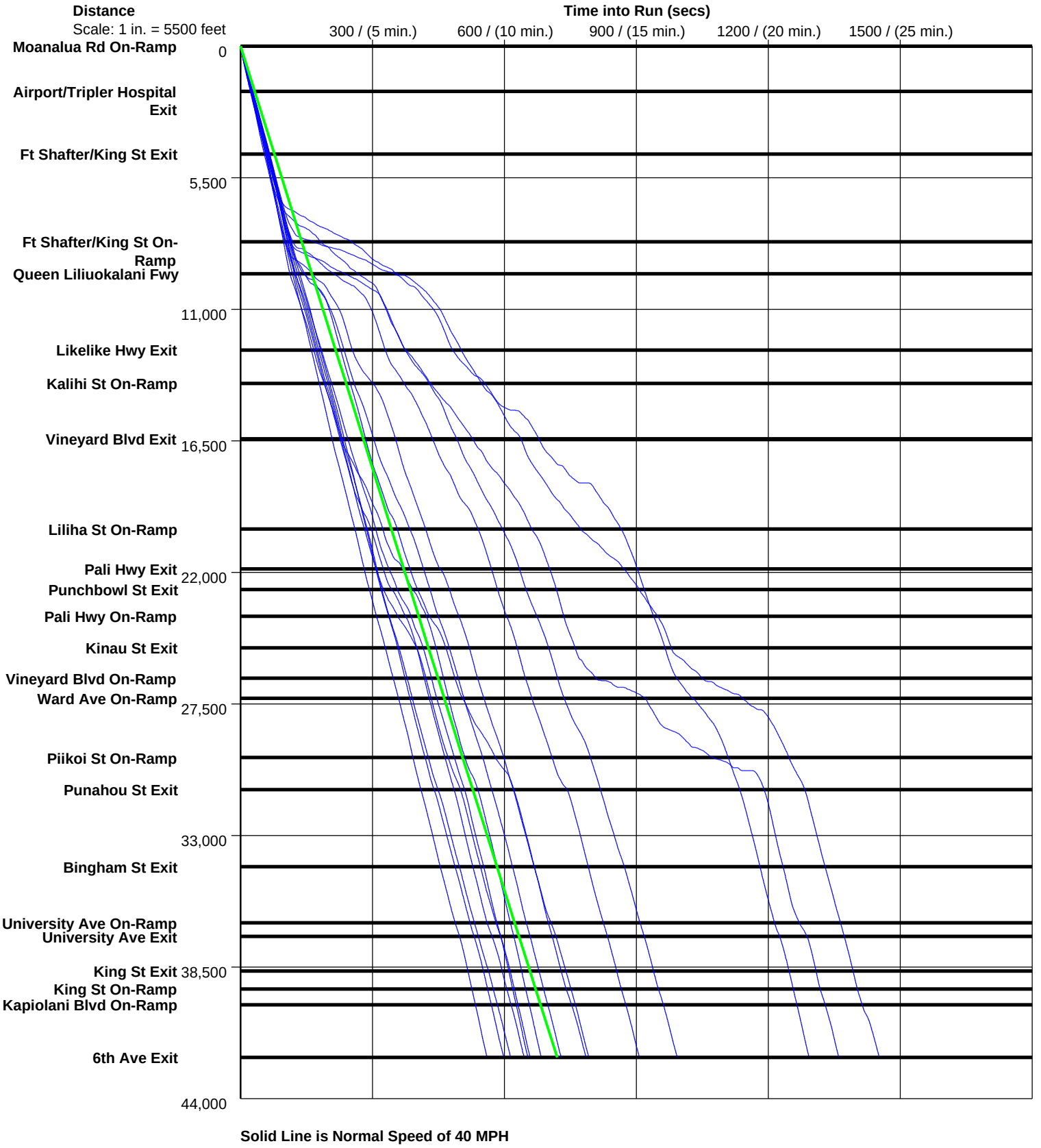
Study Name : **Before Closure_H-1 AM EB**
Study Date : **4/5/2017**
Page No. : **20**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

Austin, Tsutsumi & Associates
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Ph: (808) 533-3646 Fax: (808) 526-1267

PC-Travel Reports for study: Before Closure_H-1 PM EB

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Study Name **: Before Closure_H-1 PM EB**
Study Date **: 4/5/2017**
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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
H-1 PM-EB-001	04/05/17	15:02	42603	Before	Primary
H-1 PM-EB-002	04/05/17	15:16	42495	Before	Secondary
H-1 PM-EB-003	04/05/17	15:29	42362	Before	Secondary
H-1 PM-EB-004	04/05/17	15:47	42298	Before	Secondary
H-1 PM-EB-005	04/05/17	16:01	42422	Before	Secondary
H-1 PM-EB-006	04/05/17	16:17	42442	Before	Secondary
H-1 PM-EB-007	04/05/17	16:33	42347	Before	Secondary
H-1 PM-EB-008	04/05/17	16:47	42655	Before	Secondary
H-1 PM-EB-009	04/05/17	16:59	42464	Before	Secondary
H-1 PM-EB-010	04/05/17	17:19	42328	Before	Secondary
H-1 PM-EB-011	04/05/17	17:31	42582	Before	Secondary
H-1 PM-EB-012	04/05/17	17:47	47479	Before	Secondary
H-1 PM-EB-013	04/05/17	18:02	42471	Before	Secondary
H-1 PM-EB-014	04/05/17	18:17	42477	Before	Secondary
H-1 PM-EB-015	04/05/17	18:29	42399	Before	Secondary
H-1 PM-EB-016	04/05/17	18:48	42431	Before	Secondary
H-1 PM-EB-017	04/05/17	19:01	42420	Before	Secondary

Node Info

#	Len	Name
1	0	Moanalua Rd On-Ramp
2	2138	Airport/Tripler Hospital
3	2644	Ft Shafter/King St Exit
4	3654	Ft Shafter/King St On-
5	1337	Queen Liliuokalani Fwy
6	3165	Likelike Hwy Exit
7	1406	Kalihi St On-Ramp
8	2297	Vineyard Blvd Exit
9	3764	Liliha St On-Ramp
10	1708	Pali Hwy Exit
11	825	Punchbowl St Exit
12	1115	Pali Hwy On-Ramp
13	1348	Kinau St Exit
14	1231	Vineyard Blvd On-Ramp
15	821	Ward Ave On-Ramp
16	2704	Piikoi St On-Ramp
17	1251	Punahou St Exit
18	3198	Bingham St Exit
19	2340	University Ave On-Ramp
20	580	University Ave Exit
21	1453	King St Exit
22	760	King St On-Ramp
23	657	Kapiolani Blvd On-Ramp
24	2207	6th Ave Exit

Length of Study Route = 42,603 feet

Notes:

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Moanalua Rd On-Ramp							
2	2138	Airport/Tripler Hospital Exit	27.9	0.0	52.3	0.0	0.0	0.0	17.1
3	2644	Ft Shafter/King St Exit	34.8	0.0	51.8	0.0	0.0	0.0	27.1
4	3654	Ft Shafter/King St On-Ramp	58.4	0.5	42.7	6.9	0.5	12.8	46.9
5	1337	Queen Liliuokalani Fwy	79.4	2.2	11.5	58.4	1.9	70.7	78.2
6	3165	Likelike Hwy Exit	108.2	1.6	19.9	57.2	1.9	89.4	107.2
7	1406	Kalihi St On-Ramp	78.0	1.9	12.3	54.8	5.5	72.3	77.6
8	2297	Vineyard Blvd Exit	138.2	3.2	11.3	100.2	8.6	134.6	137.9
9	3764	Liliha St On-Ramp	221.5	4.0	11.6	158.8	9.0	215.2	221.5
10	1708	Pali Hwy Exit	81.3	1.1	14.3	52.9	0.3	78.4	80.9
11	825	Punchbowl St Exit	31.7	0.1	17.7	17.9	0.0	30.4	31.1
12	1115	Pali Hwy On-Ramp	44.8	0.1	17.0	26.1	0.0	42.9	44.6
13	1348	Kinau St Exit	69.6	1.8	13.2	46.9	1.8	67.2	69.6
14	1231	Vineyard Blvd On-Ramp	91.5	2.3	9.2	70.7	4.8	89.7	91.5
15	821	Ward Ave On-Ramp	62.3	1.9	9.0	48.4	3.8	61.6	62.3
16	2704	Piikoi St On-Ramp	120.6	1.3	15.3	74.9	2.9	117.8	120.6
17	1251	Punahou St Exit	36.8	0.1	23.2	15.0	0.0	30.7	36.8
18	3198	Bingham St Exit	65.1	0.4	33.5	17.3	3.1	23.8	65.0
19	2340	University Ave On-Ramp	58.4	0.9	27.3	24.1	4.2	29.5	57.9
20	580	University Ave Exit	10.7	0.0	36.9	1.4	0.0	3.2	10.7
21	1453	King St Exit	24.1	0.0	41.1	2.6	0.0	4.6	23.5
22	760	King St On-Ramp	13.2	0.0	39.3	1.4	0.0	3.4	13.1
23	657	Kapiolani Blvd On-Ramp	12.7	0.0	35.3	1.7	0.0	5.2	12.7
24	2207	6th Ave Exit	42.4	0.2	35.5	9.6	0.0	18.7	41.0
Total	**42,603**		**1511.5**	**23.7**	**19.2**	**847.2**	**48.3**	**1202.0**	**1474.9**

Stats based on 17 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Moanalua Rd On-Ramp				
2	2138	Airport/Tripler Hospital Exit	0.0207	1.3266	22.1988	0.7136
3	2644	Ft Shafter/King St Exit	0.0242	1.4775	23.1145	0.7630
4	3654	Ft Shafter/King St On-Ramp	0.0341	2.0489	30.2675	0.9381
5	1337	Queen Liliuokalani Fwy	0.0203	1.7128	15.3151	0.4703
6	3165	Likelike Hwy Exit	0.0360	3.3727	31.0557	1.7480
7	1406	Kalihi St On-Ramp	0.0202	1.8949	16.0474	0.7080
8	2297	Vineyard Blvd Exit	0.0344	3.3490	26.2584	1.2881
9	3764	Liliha St On-Ramp	0.0550	5.3499	41.4936	2.0542
10	1708	Pali Hwy Exit	0.0218	2.1473	17.6257	0.9282
11	825	Punchbowl St Exit	0.0090	0.8639	7.0264	0.3937
12	1115	Pali Hwy On-Ramp	0.0124	1.1935	9.6475	0.5316
13	1348	Kinau St Exit	0.0180	1.7653	14.0769	0.7324
14	1231	Vineyard Blvd On-Ramp	0.0209	1.9998	16.5123	0.5813
15	821	Ward Ave On-Ramp	0.0149	1.5105	10.8620	0.6100
16	2704	Piikoi St On-Ramp	0.0329	3.2808	25.9135	1.5058
17	1251	Punahou St Exit	0.0153	1.9030	18.6354	1.3736
18	3198	Bingham St Exit	0.0312	2.6276	36.2111	1.4047
19	2340	University Ave On-Ramp	0.0239	1.7616	22.3295	0.7301
20	580	University Ave Exit	0.0056	0.5711	7.9422	0.3642
21	1453	King St Exit	0.0140	1.2837	19.5007	0.7788
22	760	King St On-Ramp	0.0062	0.3570	4.5314	0.1365
23	657	Kapiolani Blvd On-Ramp	0.0066	0.7214	9.3313	0.4912
24	2207	6th Ave Exit	0.0192	1.6052	20.6048	0.8763
Total	**42,603**		**0.4969**	**44.1242**	**446.5015**	**20.1215**

Stats based on 17 BEFORE runs.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	24	28	26	27	28	29	32	26
3	2644	Ft Shafter/King St Exit	33	31	34	36	33	37	41	34
4	3654	Ft Shafter/King St On-	46	49	65	45	47	54	109	49
5	1337	Queen Liliuokalani Fwy	17	86	125	51	78	128	166	110
6	3165	Likelike Hwy Exit	68	101	118	130	159	138	163	143
7	1406	Kalihi St On-Ramp	43	56	61	77	82	92	93	152
8	2297	Vineyard Blvd Exit	80	137	98	89	142	159	176	217
9	3764	Liliha St On-Ramp	177	136	207	222	177	208	270	373
10	1708	Pali Hwy Exit	54	52	83	88	78	77	148	72
11	825	Punchbowl St Exit	22	21	29	33	29	39	48	31
12	1115	Pali Hwy On-Ramp	30	31	43	44	57	49	47	39
13	1348	Kinau St Exit	52	48	57	62	97	70	115	51
14	1231	Vineyard Blvd On-Ramp	84	69	141	70	91	82	167	132
15	821	Ward Ave On-Ramp	62	62	75	54	59	64	72	86
16	2704	Piikoi St On-Ramp	80	121	97	131	100	148	85	119
17	1251	Punahou St Exit	30	36	39	29	37	28	34	41
18	3198	Bingham St Exit	46	46	50	46	46	43	47	47
19	2340	University Ave On-Ramp	33	32	35	31	33	32	31	32
20	580	University Ave Exit	9	9	9	9	8	9	8	10
21	1453	King St Exit	22	22	21	20	19	21	18	21
22	760	King St On-Ramp	14	12	10	13	12	13	10	12
23	657	Kapiolani Blvd On-Ramp	12	12	9	12	11	13	9	13
24	2207	6th Ave Exit	65	42	26	30	28	31	28	58
Totals	**42603**		**1,103**	**1,239**	**1,458**	**1,349**	**1,451**	**1,564**	**1,917**	**1,868**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	33	27	29	29	24	25	27	29
3	2644	Ft Shafter/King St Exit	38	32	35	36	34	30	35	37
4	3654	Ft Shafter/King St On-	85	106	51	53	43	48	45	49
5	1337	Queen Liliuokalani Fwy	212	168	98	20	16	22	17	17
6	3165	Likelike Hwy Exit	189	169	158	85	39	46	44	47
7	1406	Kalihi St On-Ramp	158	128	110	83	19	109	23	20
8	2297	Vineyard Blvd Exit	128	174	159	141	284	200	105	31
9	3764	Liliha St On-Ramp	231	265	287	271	464	211	160	53
10	1708	Pali Hwy Exit	132	114	84	110	121	73	50	21
11	825	Punchbowl St Exit	36	46	53	41	34	31	24	10
12	1115	Pali Hwy On-Ramp	60	60	65	56	62	53	33	15
13	1348	Kinau St Exit	83	78	141	67	142	45	35	20
14	1231	Vineyard Blvd On-Ramp	106	138	196	61	97	46	37	21
15	821	Ward Ave On-Ramp	58	85	176	39	48	43	34	30
16	2704	Piikoi St On-Ramp	128	131	387	129	97	91	84	83
17	1251	Punahou St Exit	42	50	43	59	27	40	29	40
18	3198	Bingham St Exit	47	251	48	153	47	47	50	49
19	2340	University Ave On-Ramp	35	378	35	111	41	34	33	36
20	580	University Ave Exit	10	14	10	28	12	10	10	9
21	1453	King St Exit	21	27	22	66	26	22	22	20
22	760	King St On-Ramp	10	11	12	35	11	11	13	13
23	657	Kapiolani Blvd On-Ramp	10	12	14	30	10	12	13	13
24	2207	6th Ave Exit	82	36	35	100	32	33	35	29
Totals	**42603**		**1,934**	**2,500**	**2,248**	**1,803**	**1,730**	**1,282**	**958**	**692**

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Detailed Statistics By Run

Travel Time (sec) by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	31
3	2644	Ft Shafter/King St Exit	36
4	3654	Ft Shafter/King St On-	49
5	1337	Queen Liliuokalani Fwy	19
6	3165	Likelike Hwy Exit	43
7	1406	Kalihi St On-Ramp	20
8	2297	Vineyard Blvd Exit	29
9	3764	Liliha St On-Ramp	53
10	1708	Pali Hwy Exit	25
11	825	Punchbowl St Exit	12
12	1115	Pali Hwy On-Ramp	17
13	1348	Kinau St Exit	20
14	1231	Vineyard Blvd On-Ramp	18
15	821	Ward Ave On-Ramp	12
16	2704	Piikoi St On-Ramp	40
17	1251	Punahou St Exit	21
18	3198	Bingham St Exit	43
19	2340	University Ave On-Ramp	31
20	580	University Ave Exit	8
21	1453	King St Exit	20
22	760	King St On-Ramp	12
23	657	Kapiolani Blvd On-Ramp	11
24	2207	6th Ave Exit	30
Totals	**42603**		**600**

Austin, Tsutsumi & Associates

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Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	0	0	1	0	0	0	3	0
5	1337	Queen Liliuokalani Fwy	0	3	4	0	3	5	5	2
6	3165	Likelike Hwy Exit	0	1	2	2	3	0	5	3
7	1406	Kalihi St On-Ramp	1	0	2	1	2	0	4	5
8	2297	Vineyard Blvd Exit	0	3	2	1	2	3	5	9
9	3764	Liliha St On-Ramp	3	1	2	4	0	2	6	14
10	1708	Pali Hwy Exit	0	0	0	2	1	0	6	0
11	825	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1115	Pali Hwy On-Ramp	0	0	0	0	1	0	0	0
13	1348	Kinau St Exit	0	0	1	1	4	1	4	0
14	1231	Vineyard Blvd On-Ramp	2	0	4	3	1	2	6	4
15	821	Ward Ave On-Ramp	3	4	3	2	3	2	2	3
16	2704	Piikoi St On-Ramp	0	2	1	2	0	2	0	0
17	1251	Punahou St Exit	0	1	0	0	0	0	0	0
18	3198	Bingham St Exit	0	0	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	580	University Ave Exit	0	0	0	0	0	0	0	0
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	0	0	0	0	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2207	6th Ave Exit	1	0	0	0	0	0	0	0
Totals	**42603**		**10**	**15**	**22**	**18**	**20**	**17**	**46**	**40**

Stops based on a Stop Speed of 5 MPH.

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Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	2	3	0	0	0	0	0	0
5	1337	Queen Liliuokalani Fwy	6	5	4	0	0	0	0	0
6	3165	Likelike Hwy Exit	3	4	4	1	0	0	0	0
7	1406	Kalihi St On-Ramp	4	5	3	1	0	5	0	0
8	2297	Vineyard Blvd Exit	0	6	2	3	10	8	1	0
9	3764	Liliha St On-Ramp	2	4	8	7	14	1	0	0
10	1708	Pali Hwy Exit	4	1	0	1	3	0	0	0
11	825	Punchbowl St Exit	0	1	0	0	0	0	0	0
12	1115	Pali Hwy On-Ramp	0	0	0	0	0	1	0	0
13	1348	Kinau St Exit	2	2	5	0	10	0	0	0
14	1231	Vineyard Blvd On-Ramp	3	6	5	0	3	0	0	0
15	821	Ward Ave On-Ramp	1	5	4	0	0	1	0	0
16	2704	Piikoi St On-Ramp	0	1	14	0	0	0	0	0
17	1251	Punahou St Exit	0	0	0	0	0	0	0	0
18	3198	Bingham St Exit	0	7	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	16	0	0	0	0	0	0
20	580	University Ave Exit	0	0	0	0	0	0	0	0
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	0	0	0	0	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2207	6th Ave Exit	3	0	0	0	0	0	0	0
Totals	**42603**		**30**	**66**	**49**	**13**	**40**	**16**	**1**	**0**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	0
3	2644	Ft Shafter/King St Exit	0
4	3654	Ft Shafter/King St On-	0
5	1337	Queen Liliuokalani Fwy	0
6	3165	Likelike Hwy Exit	0
7	1406	Kalihi St On-Ramp	0
8	2297	Vineyard Blvd Exit	0
9	3764	Liliha St On-Ramp	0
10	1708	Pali Hwy Exit	0
11	825	Punchbowl St Exit	0
12	1115	Pali Hwy On-Ramp	0
13	1348	Kinau St Exit	0
14	1231	Vineyard Blvd On-Ramp	0
15	821	Ward Ave On-Ramp	0
16	2704	Piikoi St On-Ramp	0
17	1251	Punahou St Exit	0
18	3198	Bingham St Exit	0
19	2340	University Ave On-Ramp	0
20	580	University Ave Exit	0
21	1453	King St Exit	0
22	760	King St On-Ramp	0
23	657	Kapiolani Blvd On-Ramp	0
24	2207	6th Ave Exit	0
Totals	**42603**		**0**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

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Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	60.8	52.1	56.8	55.4	52.6	51.2	46.2	56.2
3	2644	Ft Shafter/King St Exit	54.7	59.7	53.2	48.9	54.6	48.3	44.2	53.0
4	3654	Ft Shafter/King St On-	54.2	50.4	38.0	56.3	52.9	45.9	22.6	51.6
5	1337	Queen Liliuokalani Fwy	53.7	10.4	7.4	17.0	11.6	7.1	5.4	7.9
6	3165	Likelike Hwy Exit	31.7	21.4	18.3	16.6	13.6	15.7	13.4	15.1
7	1406	Kalihi St On-Ramp	22.3	17.2	15.8	12.6	11.6	10.4	10.2	6.2
8	2297	Vineyard Blvd Exit	19.6	11.4	15.9	17.5	11.0	9.9	8.9	7.2
9	3764	Liliha St On-Ramp	14.5	18.9	12.4	11.6	14.6	12.3	9.5	6.9
10	1708	Pali Hwy Exit	21.6	22.5	14.1	13.2	15.1	15.2	7.9	16.3
11	825	Punchbowl St Exit	25.5	26.5	19.3	17.0	19.4	14.2	11.8	18.2
12	1115	Pali Hwy On-Ramp	25.3	24.5	17.9	17.2	13.2	15.6	16.0	19.0
13	1348	Kinau St Exit	17.6	19.1	15.8	14.6	9.4	13.1	8.0	17.9
14	1231	Vineyard Blvd On-Ramp	10.0	12.3	5.9	12.0	9.4	10.3	5.0	6.3
15	821	Ward Ave On-Ramp	9.0	8.8	7.4	10.4	9.3	8.7	7.7	6.5
16	2704	Piikoi St On-Ramp	23.0	15.3	19.1	14.1	18.5	12.5	21.8	15.5
17	1251	Punahou St Exit	28.4	23.6	22.4	30.8	23.7	31.3	25.4	21.2
18	3198	Bingham St Exit	47.3	47.2	43.2	47.5	46.9	50.1	46.9	46.6
19	2340	University Ave On-Ramp	48.3	50.1	45.8	49.9	49.1	50.1	50.4	48.8
20	580	University Ave Exit	44.0	45.9	42.8	45.2	49.0	45.3	48.0	40.7
21	1453	King St Exit	45.0	45.8	49.3	49.0	50.7	47.2	54.7	47.1
22	760	King St On-Ramp	37.0	41.8	51.0	40.0	45.8	37.9	53.8	44.2
23	657	Kapiolani Blvd On-Ramp	37.5	36.8	48.7	36.7	40.0	35.6	50.6	34.3
24	2207	6th Ave Exit	23.1	34.2	52.2	44.7	50.1	45.6	48.1	25.6
Totals	**42603**		**26.3**	**23.4**	**19.8**	**21.4**	**20.0**	**18.5**	**15.1**	**15.5**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	44.7	55.1	51.5	51.4	61.6	59.2	54.8	51.3
3	2644	Ft Shafter/King St Exit	47.5	55.7	50.8	49.9	53.1	59.9	52.2	48.1
4	3654	Ft Shafter/King St On-	29.0	23.6	48.9	47.0	57.4	51.7	55.3	51.6
5	1337	Queen Liliuokalani Fwy	4.2	5.5	9.1	45.5	57.0	42.9	51.2	52.4
6	3165	Likelike Hwy Exit	11.4	12.8	13.7	25.1	55.6	46.7	49.2	46.1
7	1406	Kalihi St On-Ramp	6.0	7.5	8.6	11.5	50.2	8.5	41.2	46.7
8	2297	Vineyard Blvd Exit	12.3	9.0	9.9	11.2	5.5	7.8	14.8	51.3
9	3764	Liliha St On-Ramp	11.2	9.7	9.0	9.5	5.5	12.2	16.1	48.6
10	1708	Pali Hwy Exit	8.9	10.3	13.9	10.9	9.8	16.0	23.6	53.8
11	825	Punchbowl St Exit	15.6	12.3	10.5	14.0	16.3	18.4	23.3	56.6
12	1115	Pali Hwy On-Ramp	12.8	12.6	11.8	14.0	12.4	14.4	22.9	52.1
13	1348	Kinau St Exit	11.0	11.8	6.6	14.0	6.4	20.4	26.1	46.0
14	1231	Vineyard Blvd On-Ramp	8.0	6.1	4.2	14.0	8.7	18.0	22.6	38.5
15	821	Ward Ave On-Ramp	9.7	6.6	3.2	14.0	11.8	13.2	16.2	18.7
16	2704	Piikoi St On-Ramp	14.4	14.1	4.7	14.0	19.3	20.2	22.0	22.2
17	1251	Punahou St Exit	21.0	17.7	20.1	14.0	31.6	21.3	29.1	21.8
18	3198	Bingham St Exit	45.9	8.6	46.0	14.0	45.8	46.8	44.5	44.6
19	2340	University Ave On-Ramp	45.9	4.2	44.7	14.0	39.4	46.7	47.5	44.1
20	580	University Ave Exit	41.3	28.2	39.3	14.0	32.0	41.2	40.0	42.8
21	1453	King St Exit	47.5	36.7	44.6	14.8	38.3	44.1	45.2	49.9
22	760	King St On-Ramp	49.8	46.4	44.3	15.0	48.0	45.8	38.7	39.7
23	657	Kapiolani Blvd On-Ramp	42.7	35.8	32.8	15.0	43.9	38.3	35.9	33.8
24	2207	6th Ave Exit	17.4	37.7	42.9	15.0	45.1	44.0	39.0	49.0
Totals	**42603**		**15.0**	**11.6**	**12.9**	**16.1**	**16.7**	**22.6**	**30.2**	**41.8**

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
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Detailed Statistics By Run

Average Speed (MPH) by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	47.1
3	2644	Ft Shafter/King St Exit	50.9
4	3654	Ft Shafter/King St On-	50.5
5	1337	Queen Liliuokalani Fwy	47.7
6	3165	Likelike Hwy Exit	49.6
7	1406	Kalihi St On-Ramp	49.0
8	2297	Vineyard Blvd Exit	53.3
9	3764	Liliha St On-Ramp	48.3
10	1708	Pali Hwy Exit	47.6
11	825	Punchbowl St Exit	44.7
12	1115	Pali Hwy On-Ramp	45.3
13	1348	Kinau St Exit	46.5
14	1231	Vineyard Blvd On-Ramp	45.8
15	821	Ward Ave On-Ramp	49.5
16	2704	Piikoi St On-Ramp	45.0
17	1251	Punahou St Exit	42.3
18	3198	Bingham St Exit	50.2
19	2340	University Ave On-Ramp	51.2
20	580	University Ave Exit	50.0
21	1453	King St Exit	49.7
22	760	King St On-Ramp	44.2
23	657	Kapiolani Blvd On-Ramp	41.0
24	2207	6th Ave Exit	46.2
Totals	**42603**		**48.2**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	0	0	3	0	0	0	47	0
5	1337	Queen Liliuokalani Fwy	0	63	102	28	55	105	143	87
6	3165	Likelike Hwy Exit	14	47	64	76	105	84	109	89
7	1406	Kalihi St On-Ramp	19	32	37	53	58	68	69	128
8	2297	Vineyard Blvd Exit	41	98	59	50	103	120	137	178
9	3764	Liliha St On-Ramp	113	72	143	158	113	144	206	309
10	1708	Pali Hwy Exit	25	23	54	59	49	48	119	42
11	825	Punchbowl St Exit	8	7	15	19	15	25	34	16
12	1115	Pali Hwy On-Ramp	11	12	24	25	38	30	28	20
13	1348	Kinau St Exit	29	25	34	39	74	47	92	28
14	1231	Vineyard Blvd On-Ramp	63	48	120	49	70	61	146	111
15	821	Ward Ave On-Ramp	48	48	61	40	45	50	58	72
16	2704	Piikoi St On-Ramp	34	75	51	85	54	102	39	73
17	1251	Punahou St Exit	9	14	17	7	15	6	12	19
18	3198	Bingham St Exit	0	0	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	580	University Ave Exit	0	0	0	0	0	0	0	0
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	1	0	0	0	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	1	0	0	1	0	1	0	1
24	2207	6th Ave Exit	27	6	0	0	0	0	0	20
Totals	**42603**		**443**	**570**	**784**	**689**	**794**	**891**	**1,239**	**1,193**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	23	44	0	0	0	0	0	0
5	1337	Queen Liliuokalani Fwy	189	145	75	0	0	0	0	0
6	3165	Likelike Hwy Exit	135	115	104	31	0	0	0	0
7	1406	Kalihi St On-Ramp	134	104	86	59	0	85	0	0
8	2297	Vineyard Blvd Exit	89	135	120	102	245	161	66	0
9	3764	Liliha St On-Ramp	167	201	223	207	400	147	96	0
10	1708	Pali Hwy Exit	103	85	55	81	92	44	20	0
11	825	Punchbowl St Exit	22	32	39	27	20	17	9	0
12	1115	Pali Hwy On-Ramp	41	41	46	37	43	34	14	0
13	1348	Kinau St Exit	60	55	118	44	119	22	12	0
14	1231	Vineyard Blvd On-Ramp	85	117	175	40	76	25	16	0
15	821	Ward Ave On-Ramp	44	71	162	25	34	29	20	16
16	2704	Piikoi St On-Ramp	82	85	341	83	50	45	38	37
17	1251	Punahou St Exit	20	28	21	38	5	19	7	18
18	3198	Bingham St Exit	0	196	0	98	0	0	0	0
19	2340	University Ave On-Ramp	0	338	0	71	0	0	0	0
20	580	University Ave Exit	0	4	0	18	2	0	0	0
21	1453	King St Exit	0	2	0	41	1	0	0	0
22	760	King St On-Ramp	0	0	0	22	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	0	1	2	19	0	0	1	2
24	2207	6th Ave Exit	46	2	0	62	0	0	0	0
Totals	**42603**		**1,240**	**1,801**	**1,567**	**1,105**	**1,087**	**628**	**299**	**73**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
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Detailed Statistics By Run

Total Delay (sec) by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	0
3	2644	Ft Shafter/King St Exit	0
4	3654	Ft Shafter/King St On-	0
5	1337	Queen Liliuokalani Fwy	0
6	3165	Likelike Hwy Exit	0
7	1406	Kalihi St On-Ramp	0
8	2297	Vineyard Blvd Exit	0
9	3764	Liliha St On-Ramp	0
10	1708	Pali Hwy Exit	0
11	825	Punchbowl St Exit	0
12	1115	Pali Hwy On-Ramp	0
13	1348	Kinau St Exit	0
14	1231	Vineyard Blvd On-Ramp	0
15	821	Ward Ave On-Ramp	0
16	2704	Piikoi St On-Ramp	0
17	1251	Punahou St Exit	0
18	3198	Bingham St Exit	0
19	2340	University Ave On-Ramp	0
20	580	University Ave Exit	0
21	1453	King St Exit	0
22	760	King St On-Ramp	0
23	657	Kapiolani Blvd On-Ramp	0
24	2207	6th Ave Exit	0
Totals	**42603**		**0**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	0	0	0	0	0	0	0	0
5	1337	Queen Liliuokalani Fwy	0	0	9	0	0	0	3	19
6	3165	Likelike Hwy Exit	0	0	0	0	0	0	8	0
7	1406	Kalihi St On-Ramp	7	0	4	10	4	0	0	30
8	2297	Vineyard Blvd Exit	0	22	0	0	0	6	8	24
9	3764	Liliha St On-Ramp	26	0	19	10	0	0	12	26
10	1708	Pali Hwy Exit	0	0	0	3	0	0	0	0
11	825	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1115	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1348	Kinau St Exit	0	0	0	0	0	0	9	0
14	1231	Vineyard Blvd On-Ramp	8	0	6	0	0	0	22	16
15	821	Ward Ave On-Ramp	0	1	0	0	0	3	0	10
16	2704	Piikoi St On-Ramp	0	0	0	0	0	0	0	0
17	1251	Punahou St Exit	0	0	0	0	0	0	0	0
18	3198	Bingham St Exit	0	0	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	580	University Ave Exit	0	0	0	0	0	0	0	0
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	0	0	0	0	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2207	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42603**		**41**	**23**	**38**	**23**	**4**	**9**	**62**	**125**

Austin, Tsutsumi & Associates

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	5	3	0	0	0	0	0	0
5	1337	Queen Liliuokalani Fwy	0	0	1	0	0	0	0	0
6	3165	Likelike Hwy Exit	9	0	0	15	0	0	0	0
7	1406	Kalihi St On-Ramp	13	21	5	0	0	0	0	0
8	2297	Vineyard Blvd Exit	0	7	0	0	69	11	0	0
9	3764	Liliha St On-Ramp	0	0	6	0	51	3	0	0
10	1708	Pali Hwy Exit	0	0	0	2	0	0	0	0
11	825	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1115	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1348	Kinau St Exit	0	4	12	0	5	0	0	0
14	1231	Vineyard Blvd On-Ramp	0	7	23	0	0	0	0	0
15	821	Ward Ave On-Ramp	0	0	50	0	0	0	0	0
16	2704	Piikoi St On-Ramp	0	5	45	0	0	0	0	0
17	1251	Punahou St Exit	0	0	0	0	0	0	0	0
18	3198	Bingham St Exit	0	52	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	72	0	0	0	0	0	0
20	580	University Ave Exit	0	0	0	0	0	0	0	0
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	0	0	0	0	0	0	0	0
23	657	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2207	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42603**		**27**	**171**	**142**	**17**	**125**	**14**	**0**	**0**

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Detailed Statistics By Run

Time <= 0 MPH by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	0
3	2644	Ft Shafter/King St Exit	0
4	3654	Ft Shafter/King St On-	0
5	1337	Queen Liliuokalani Fwy	0
6	3165	Likelike Hwy Exit	0
7	1406	Kalihi St On-Ramp	0
8	2297	Vineyard Blvd Exit	0
9	3764	Liliha St On-Ramp	0
10	1708	Pali Hwy Exit	0
11	825	Punchbowl St Exit	0
12	1115	Pali Hwy On-Ramp	0
13	1348	Kinau St Exit	0
14	1231	Vineyard Blvd On-Ramp	0
15	821	Ward Ave On-Ramp	0
16	2704	Piikoi St On-Ramp	0
17	1251	Punahou St Exit	0
18	3198	Bingham St Exit	0
19	2340	University Ave On-Ramp	0
20	580	University Ave Exit	0
21	1453	King St Exit	0
22	760	King St On-Ramp	0
23	657	Kapiolani Blvd On-Ramp	0
24	2207	6th Ave Exit	0
Totals	**42603**		**0**

Austin, Tsutsumi & Associates

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	0	0	27	0	0	5	76	0
5	1337	Queen Liliuokalani Fwy	0	83	125	44	75	128	166	107
6	3165	Likelike Hwy Exit	36	84	105	130	159	138	163	143
7	1406	Kalihi St On-Ramp	29	56	61	77	82	92	93	152
8	2297	Vineyard Blvd Exit	80	137	98	89	142	159	176	217
9	3764	Liliha St On-Ramp	177	136	207	222	177	208	270	373
10	1708	Pali Hwy Exit	50	52	83	88	78	77	148	72
11	825	Punchbowl St Exit	22	21	29	33	29	39	48	31
12	1115	Pali Hwy On-Ramp	30	31	43	44	57	49	47	39
13	1348	Kinau St Exit	52	48	57	62	97	70	115	51
14	1231	Vineyard Blvd On-Ramp	84	69	141	70	91	82	167	132
15	821	Ward Ave On-Ramp	62	62	75	54	59	64	72	86
16	2704	Piikoi St On-Ramp	80	121	97	131	100	148	85	119
17	1251	Punahou St Exit	26	26	35	14	33	18	28	35
18	3198	Bingham St Exit	0	0	0	0	0	0	0	0
19	2340	University Ave On-Ramp	0	0	0	0	0	0	0	3
20	580	University Ave Exit	0	0	0	0	0	0	0	1
21	1453	King St Exit	0	0	0	0	0	0	0	0
22	760	King St On-Ramp	7	4	0	0	0	6	0	2
23	657	Kapiolani Blvd On-Ramp	4	6	0	2	0	4	0	9
24	2207	6th Ave Exit	47	15	0	0	0	1	0	55
Totals	**42603**		**786**	**951**	**1,183**	**1,060**	**1,179**	**1,288**	**1,654**	**1,627**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2644	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3654	Ft Shafter/King St On-	43	66	0	0	0	0	0	0
5	1337	Queen Liliuokalani Fwy	212	168	94	0	0	0	0	0
6	3165	Likelike Hwy Exit	189	169	158	46	0	0	0	0
7	1406	Kalihi St On-Ramp	158	128	110	83	0	103	5	0
8	2297	Vineyard Blvd Exit	128	174	159	141	283	200	105	0
9	3764	Liliha St On-Ramp	231	265	287	271	464	211	160	0
10	1708	Pali Hwy Exit	132	114	84	110	121	73	50	0
11	825	Punchbowl St Exit	36	46	53	41	34	31	24	0
12	1115	Pali Hwy On-Ramp	60	60	65	56	62	53	33	0
13	1348	Kinau St Exit	83	78	141	67	142	45	35	0
14	1231	Vineyard Blvd On-Ramp	106	138	196	61	97	46	37	8
15	821	Ward Ave On-Ramp	58	85	176	39	48	43	34	30
16	2704	Piikoi St On-Ramp	128	131	387	129	97	91	75	83
17	1251	Punahou St Exit	40	45	43	59	23	36	26	35
18	3198	Bingham St Exit	0	251	0	153	0	0	0	0
19	2340	University Ave On-Ramp	0	378	0	111	9	0	0	0
20	580	University Ave Exit	0	14	0	28	12	0	0	0
21	1453	King St Exit	0	11	0	66	1	0	0	0
22	760	King St On-Ramp	0	0	1	35	0	0	0	3
23	657	Kapiolani Blvd On-Ramp	0	5	11	30	0	3	6	8
24	2207	6th Ave Exit	68	16	5	100	0	5	6	0
Totals	**42603**		**1,672**	**2,342**	**1,970**	**1,626**	**1,393**	**940**	**596**	**167**

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Detailed Statistics By Run

Time <= 35 MPH by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	0
3	2644	Ft Shafter/King St Exit	0
4	3654	Ft Shafter/King St On-	0
5	1337	Queen Liliuokalani Fwy	0
6	3165	Likelike Hwy Exit	0
7	1406	Kalihi St On-Ramp	0
8	2297	Vineyard Blvd Exit	0
9	3764	Liliha St On-Ramp	0
10	1708	Pali Hwy Exit	0
11	825	Punchbowl St Exit	0
12	1115	Pali Hwy On-Ramp	0
13	1348	Kinau St Exit	0
14	1231	Vineyard Blvd On-Ramp	0
15	821	Ward Ave On-Ramp	0
16	2704	Piikoi St On-Ramp	0
17	1251	Punahou St Exit	0
18	3198	Bingham St Exit	0
19	2340	University Ave On-Ramp	0
20	580	University Ave Exit	0
21	1453	King St Exit	0
22	760	King St On-Ramp	0
23	657	Kapiolani Blvd On-Ramp	0
24	2207	6th Ave Exit	0
Totals	**42603**		**0**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-001)	Run #2 (H-1 PM-EB-002)	Run #3 (H-1 PM-EB-003)	Run #4 (H-1 PM-EB-004)	Run #5 (H-1 PM-EB-005)	Run #6 (H-1 PM-EB-006)	Run #7 (H-1 PM-EB-007)	Run #8 (H-1 PM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	0	17	4	5	24	25	32	5
3	2644	Ft Shafter/King St Exit	15	0	33	36	15	37	41	29
4	3654	Ft Shafter/King St On-	31	32	43	13	30	54	109	36
5	1337	Queen Liliuokalani Fwy	12	86	125	51	78	128	166	110
6	3165	Likelike Hwy Exit	68	101	118	130	159	138	163	143
7	1406	Kalihi St On-Ramp	43	56	61	77	82	92	93	152
8	2297	Vineyard Blvd Exit	80	137	98	89	142	159	176	217
9	3764	Liliha St On-Ramp	177	136	207	222	177	208	270	373
10	1708	Pali Hwy Exit	54	52	83	88	78	77	148	72
11	825	Punchbowl St Exit	22	21	29	33	29	39	48	31
12	1115	Pali Hwy On-Ramp	30	31	43	44	57	49	47	39
13	1348	Kinau St Exit	52	48	57	62	97	70	115	51
14	1231	Vineyard Blvd On-Ramp	84	69	141	70	91	82	167	132
15	821	Ward Ave On-Ramp	62	62	75	54	59	64	72	86
16	2704	Piikoi St On-Ramp	80	121	97	131	100	148	85	119
17	1251	Punahou St Exit	30	36	39	29	37	28	34	41
18	3198	Bingham St Exit	46	46	50	46	45	43	47	47
19	2340	University Ave On-Ramp	33	27	35	31	31	32	31	31
20	580	University Ave Exit	9	9	9	9	8	9	8	10
21	1453	King St Exit	22	22	21	18	19	21	10	21
22	760	King St On-Ramp	14	12	10	13	12	13	8	12
23	657	Kapiolani Blvd On-Ramp	12	12	9	12	11	13	9	13
24	2207	6th Ave Exit	65	41	16	29	27	30	27	58
Totals	**42603**		**1,041**	**1,174**	**1,403**	**1,292**	**1,408**	**1,559**	**1,906**	**1,828**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-009)	Run #10 (H-1 PM-EB-010)	Run #11 (H-1 PM-EB-011)	Run #12 (H-1 PM-EB-012)	Run #13 (H-1 PM-EB-013)	Run #14 (H-1 PM-EB-014)	Run #15 (H-1 PM-EB-015)	Run #16 (H-1 PM-EB-016)
1	0	Moanalua Rd On-Ramp								
2	2138	Airport/Tripler Hospital Exit	33	8	29	29	1	5	16	27
3	2644	Ft Shafter/King St Exit	38	7	35	36	30	0	35	37
4	3654	Ft Shafter/King St On-	85	106	51	53	0	46	15	45
5	1337	Queen Liliuokalani Fwy	212	168	98	20	4	22	17	13
6	3165	Likelike Hwy Exit	189	169	158	85	22	46	44	47
7	1406	Kalihi St On-Ramp	158	128	110	83	13	109	23	20
8	2297	Vineyard Blvd Exit	128	174	159	141	284	200	105	31
9	3764	Liliha St On-Ramp	231	265	287	271	464	211	160	53
10	1708	Pali Hwy Exit	132	114	84	110	121	73	50	14
11	825	Punchbowl St Exit	36	46	53	41	34	31	24	0
12	1115	Pali Hwy On-Ramp	60	60	65	56	62	53	33	13
13	1348	Kinau St Exit	83	78	141	67	142	45	35	20
14	1231	Vineyard Blvd On-Ramp	106	138	196	61	97	46	37	21
15	821	Ward Ave On-Ramp	58	85	176	39	48	43	34	30
16	2704	Piikoi St On-Ramp	128	131	387	129	97	91	84	83
17	1251	Punahou St Exit	42	50	43	59	27	40	29	40
18	3198	Bingham St Exit	47	251	48	153	47	47	50	49
19	2340	University Ave On-Ramp	35	378	35	111	41	34	33	36
20	580	University Ave Exit	10	14	10	28	12	10	10	9
21	1453	King St Exit	21	27	22	66	26	22	22	19
22	760	King St On-Ramp	10	11	12	35	11	11	13	13
23	657	Kapiolani Blvd On-Ramp	10	12	14	30	10	12	13	13
24	2207	6th Ave Exit	81	35	34	100	31	32	34	28
Totals	**42603**		**1,933**	**2,455**	**2,247**	**1,803**	**1,624**	**1,229**	**916**	**661**

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Detailed Statistics By Run

Time <= 55 MPH by Section

H-1 PM-EB-017

Node #	Length	Node Name	Run #17
1	0	Moanalua Rd On-Ramp	
2	2138	Airport/Tripler Hospital Exit	31
3	2644	Ft Shafter/King St Exit	36
4	3654	Ft Shafter/King St On-	49
5	1337	Queen Liliuokalani Fwy	19
6	3165	Likelike Hwy Exit	43
7	1406	Kalihi St On-Ramp	20
8	2297	Vineyard Blvd Exit	25
9	3764	Liliha St On-Ramp	53
10	1708	Pali Hwy Exit	25
11	825	Punchbowl St Exit	12
12	1115	Pali Hwy On-Ramp	17
13	1348	Kinau St Exit	20
14	1231	Vineyard Blvd On-Ramp	18
15	821	Ward Ave On-Ramp	12
16	2704	Piikoi St On-Ramp	40
17	1251	Punahou St Exit	21
18	3198	Bingham St Exit	43
19	2340	University Ave On-Ramp	31
20	580	University Ave Exit	8
21	1453	King St Exit	20
22	760	King St On-Ramp	12
23	657	Kapiolani Blvd On-Ramp	11
24	2207	6th Ave Exit	29
Totals	**42603**		**595**

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Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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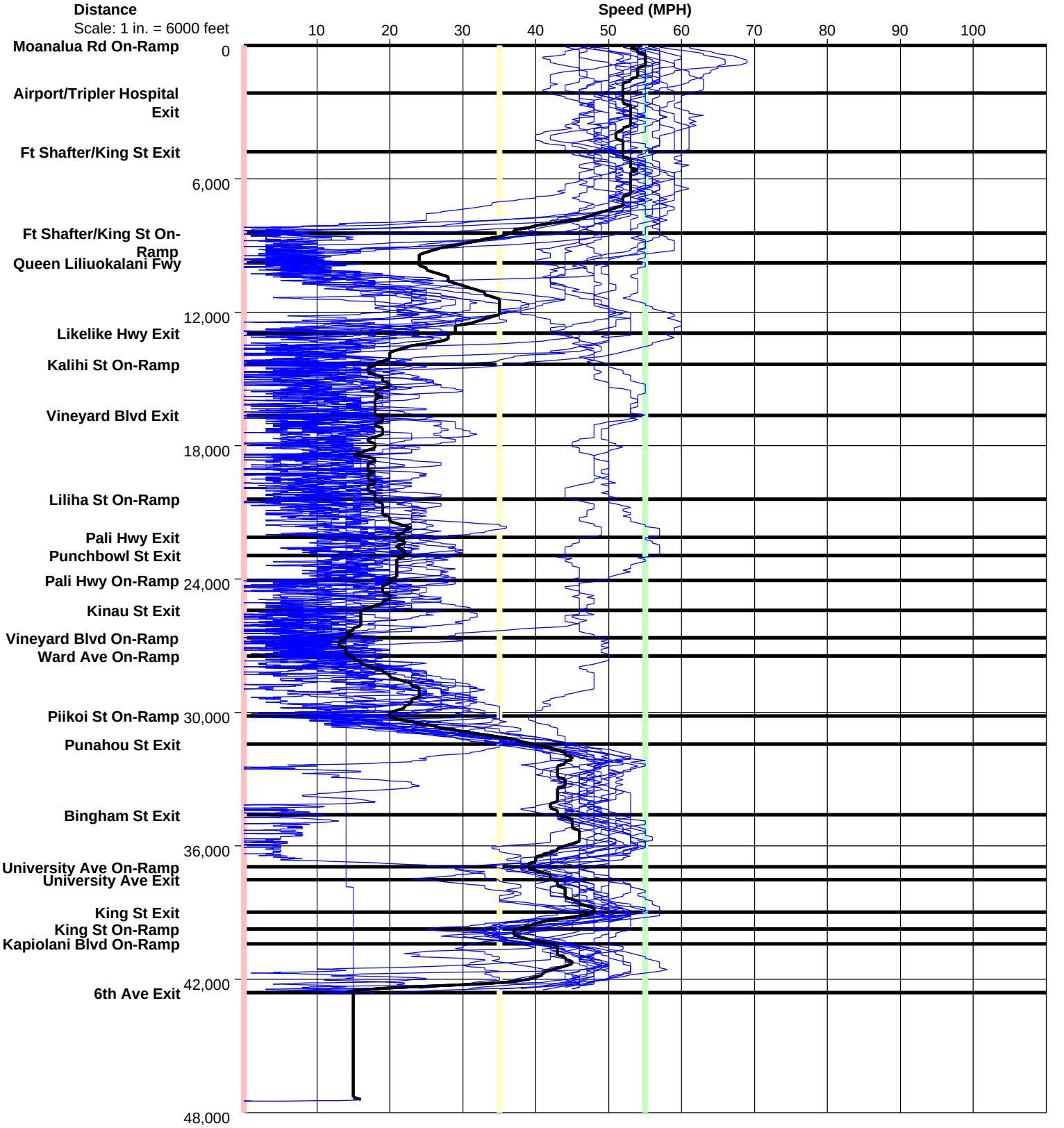
Speed/Distance Profiles of All Runs



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Study Name : **Before Closure_H-1 PM EB**
Study Date : **4/5/2017**
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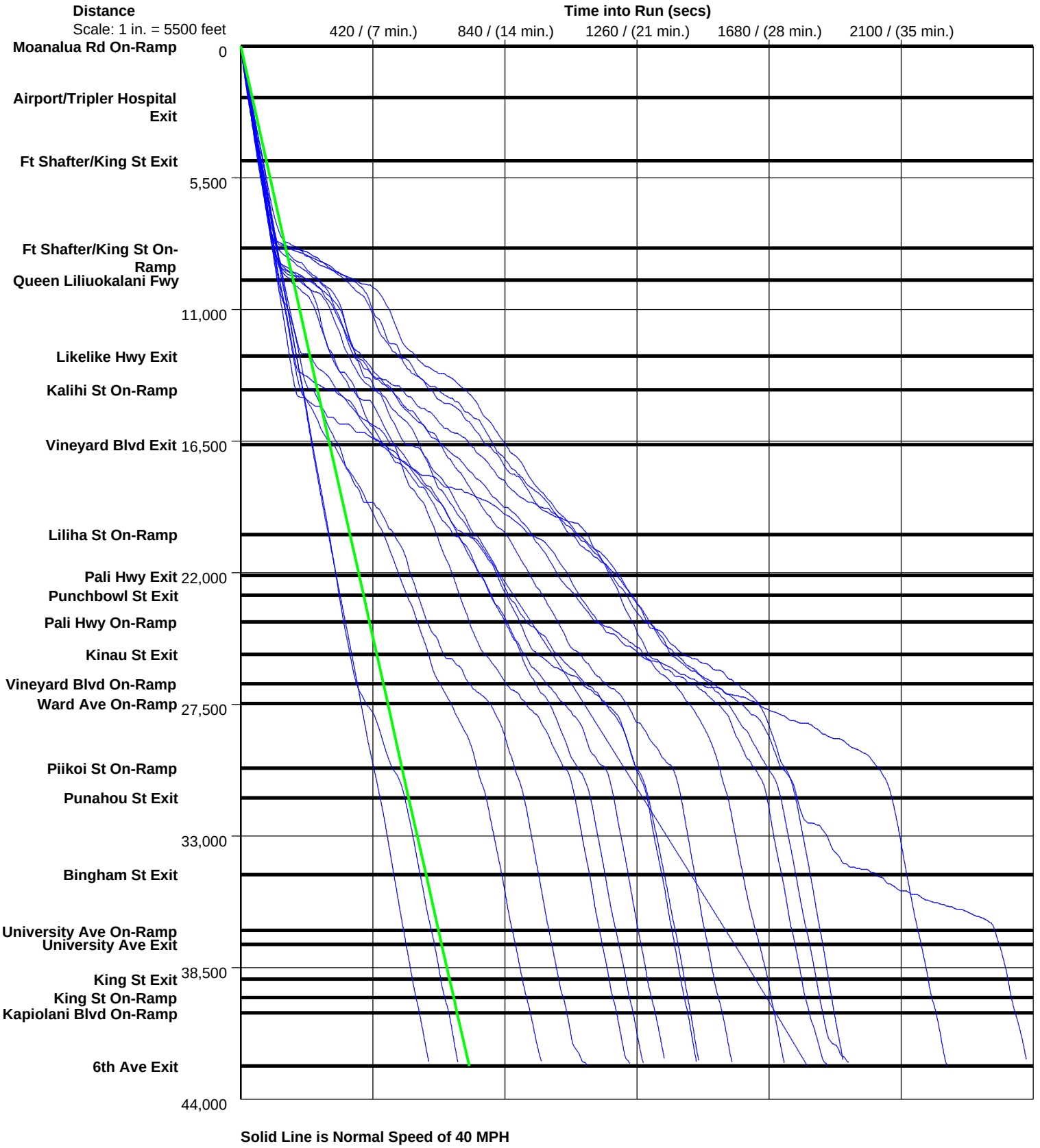
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_Kapiolani Blvd AM

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Kapiolani Blvd AM EB-R001	04/04/17	05:51	14775	Before	Primary
Kapiolani Blvd AM EB-R002	04/04/17	06:23	14768	Before	Secondary
Kapiolani Blvd AM EB-R003	04/04/17	06:51	14739	Before	Secondary
Kapiolani Blvd AM EB-R004	04/04/17	07:51	14696	Before	Secondary
Kapiolani Blvd AM EB-R005	04/04/17	08:27	14661	Before	Secondary
Kapiolani Blvd AM EB-R006	04/04/17	09:04	14673	Before	Secondary

Node Info

#	Len	Name
1	0	South St
2	713	Cooke St
3	1181	Ward Ave
4	1388	Kamakee St
5	753	Pensacola St
6	596	Piikoi St
7	744	Kona Iki St
8	664	Keeaumoku St
9	974	Kaheka St
10	1005	Atkinson Dr
11	556	Kalakaua Ave
12	1203	Mccully St
13	1682	Isenberg St
14	553	University Ave
15	828	Date St
16	1935	H-1 On-Ramp

Length of Study Route = 14,775 feet

Notes:

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	South St							
2	713	Cooke St	49.5	0.8	9.8	37.2	17.3	49.5	49.5
3	1181	Ward Ave	63.0	0.8	12.8	42.8	19.5	62.7	63.0
4	1388	Kamakee St	34.0	0.2	27.8	10.0	0.0	33.8	34.0
5	753	Pensacola St	33.7	0.3	15.2	20.5	10.2	33.7	33.7
6	596	Piikoi St	26.5	0.5	15.3	16.2	5.7	26.5	26.5
7	744	Kona Iki St	26.8	0.3	18.9	13.8	4.2	26.8	26.8
8	664	Keeaumoku St	20.8	0.2	21.7	9.3	2.0	20.8	20.8
9	974	Kaheka St	42.5	0.7	15.6	25.5	10.2	42.5	42.5
10	1005	Atkinson Dr	68.2	0.8	10.1	50.7	28.3	68.2	68.2
11	556	Kalakaua Ave	61.3	1.2	6.2	51.5	31.5	61.3	61.3
12	1203	Mccully St	31.7	0.0	25.9	10.7	0.0	31.7	31.7
13	1682	Isenberg St	43.8	0.3	26.2	14.8	1.2	43.0	43.8
14	553	University Ave	16.8	0.0	22.4	7.2	0.0	16.8	16.8
15	828	Date St	68.5	0.5	8.2	54.3	38.2	68.5	68.5
16	1935	H-1 On-Ramp	65.3	1.0	20.2	32.8	8.3	62.8	64.5
Total	**14,775**		**652.5**	**7.7**	**15.4**	**397.3**	**176.5**	**648.7**	**651.7**

Stats based on 6 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	South St				
2	713	Cooke St	0.0129	1.3425	9.9934	0.6138
3	1181	Ward Ave	0.0178	1.8834	15.2801	0.9483
4	1388	Kamakee St	0.0125	1.2096	11.2716	0.7051
5	753	Pensacola St	0.0096	0.9621	8.2445	0.4505
6	596	Piikoi St	0.0077	0.7746	6.1829	0.3910
7	744	Kona Iki St	0.0086	0.9171	7.4611	0.5359
8	664	Keeaumoku St	0.0068	0.6814	5.9790	0.3748
9	974	Kaheka St	0.0121	1.1516	9.6532	0.5115
10	1005	Atkinson Dr	0.0181	1.9212	14.7919	0.9121
11	556	Kalakaua Ave	0.0154	1.6700	12.4001	0.7555
12	1203	Mccully St	0.0118	1.2616	10.9512	0.8138
13	1682	Isenberg St	0.0148	1.3140	12.5081	0.6314
14	553	University Ave	0.0054	0.5320	4.2842	0.2917
15	828	Date St	0.0172	1.7932	14.9650	0.7174
16	1935	H-1 On-Ramp	0.0200	1.8535	15.8558	0.8823
Total	**14,775**		**0.1907**	**19.2678**	**159.8221**	**9.5351**

Stats based on 6 BEFORE runs.

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	20	50	40	58	53	76
3	1181	Ward Ave	85	60	72	62	74	25
4	1388	Kamakee St	36	32	30	30	31	45
5	753	Pensacola St	19	16	18	64	64	21
6	596	Piikoi St	35	40	39	16	14	15
7	744	Kona Iki St	21	21	18	67	17	17
8	664	Keeaumoku St	17	14	14	16	46	18
9	974	Kaheka St	45	50	49	22	66	23
10	1005	Atkinson Dr	84	97	84	42	56	46
11	556	Kalakaua Ave	69	81	67	57	43	51
12	1203	Mccully St	36	32	30	37	28	27
13	1682	Isenberg St	40	40	54	57	37	35
14	553	University Ave	19	16	20	23	12	11
15	828	Date St	23	19	21	128	124	96
16	1935	H-1 On-Ramp	59	62	68	89	57	57
Totals	**14775**		**608**	**630**	**624**	**768**	**722**	**563**

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Study Name **: Before Closure_Kapiolani Blvd AM**

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	0	1	1	1	1	1
3	1181	Ward Ave	1	1	1	1	1	0
4	1388	Kamakee St	0	0	0	0	0	1
5	753	Pensacola St	0	0	0	1	1	0
6	596	Piikoi St	1	1	1	0	0	0
7	744	Kona Iki St	0	0	0	2	0	0
8	664	Keeaumoku St	0	0	0	0	1	0
9	974	Kaheka St	1	1	1	0	1	0
10	1005	Atkinson Dr	1	1	1	0	1	1
11	556	Kalakaua Ave	1	1	1	2	1	1
12	1203	Mccully St	0	0	0	0	0	0
13	1682	Isenberg St	0	0	1	1	0	0
14	553	University Ave	0	0	0	0	0	0
15	828	Date St	0	0	0	1	1	1
16	1935	H-1 On-Ramp	1	1	1	1	1	1
Totals	**14775**		**6**	**7**	**8**	**10**	**9**	**6**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Before Closure_Kapiolani Blvd AM**

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	24.4	9.9	12.7	8.7	9.2	6.4
3	1181	Ward Ave	9.5	13.5	11.2	12.8	11.0	32.4
4	1388	Kamakee St	26.3	29.8	31.0	31.8	30.2	21.4
5	753	Pensacola St	27.2	33.1	28.3	8.1	8.1	24.2
6	596	Piikoi St	11.7	9.4	10.4	25.9	29.5	27.3
7	744	Kona Iki St	24.1	25.6	28.7	7.5	29.9	28.8
8	664	Keeaumoku St	26.7	31.8	32.0	27.3	9.8	26.0
9	974	Kaheka St	14.8	12.9	13.7	30.5	10.2	29.0
10	1005	Atkinson Dr	8.2	7.1	8.3	16.1	12.2	14.8
11	556	Kalakaua Ave	5.5	4.6	5.6	6.6	8.5	7.4
12	1203	Mccully St	22.8	26.0	27.8	22.3	30.0	30.3
13	1682	Isenberg St	28.7	29.0	20.8	20.0	30.5	32.7
14	553	University Ave	19.8	23.4	19.1	16.5	32.0	33.9
15	828	Date St	24.7	29.5	26.6	4.6	4.5	5.8
16	1935	H-1 On-Ramp	22.4	21.3	19.2	14.1	22.1	22.3
Totals	**14775**		**16.6**	**16.0**	**16.1**	**13.1**	**13.9**	**17.8**

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	8	38	27	45	41	64
3	1181	Ward Ave	65	40	51	42	54	5
4	1388	Kamakee St	12	8	6	6	7	21
5	753	Pensacola St	6	2	5	51	51	8
6	596	Piikoi St	25	30	29	5	4	4
7	744	Kona Iki St	8	8	5	54	4	4
8	664	Keeaumoku St	6	2	3	5	34	6
9	974	Kaheka St	28	33	32	5	49	6
10	1005	Atkinson Dr	67	80	66	25	38	28
11	556	Kalakaua Ave	60	71	57	47	33	41
12	1203	Mccully St	15	11	9	16	7	6
13	1682	Isenberg St	11	11	25	28	8	6
14	553	University Ave	10	6	10	14	2	1
15	828	Date St	9	5	7	113	110	82
16	1935	H-1 On-Ramp	26	29	35	57	25	25
Totals	**14775**		**356**	**374**	**367**	**513**	**467**	**307**

Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Kapiolani Blvd AM**

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	0	19	2	9	22	52
3	1181	Ward Ave	44	14	20	11	28	0
4	1388	Kamakee St	0	0	0	0	0	0
5	753	Pensacola St	0	0	0	26	35	0
6	596	Piikoi St	8	15	11	0	0	0
7	744	Kona Iki St	0	0	0	25	0	0
8	664	Keeaumoku St	0	0	0	0	12	0
9	974	Kaheka St	8	12	11	0	30	0
10	1005	Atkinson Dr	50	50	47	0	10	13
11	556	Kalakaua Ave	43	51	45	10	18	22
12	1203	Mccully St	0	0	0	0	0	0
13	1682	Isenberg St	0	0	7	0	0	0
14	553	University Ave	0	0	0	0	0	0
15	828	Date St	0	0	0	78	87	64
16	1935	H-1 On-Ramp	0	5	7	34	0	4
Totals	**14775**		**153**	**166**	**150**	**193**	**242**	**155**

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	20	50	40	58	53	76
3	1181	Ward Ave	85	60	72	62	74	23
4	1388	Kamakee St	36	32	30	29	31	45
5	753	Pensacola St	19	16	18	64	64	21
6	596	Piikoi St	35	40	39	16	14	15
7	744	Kona Iki St	21	21	18	67	17	17
8	664	Keeaumoku St	17	14	14	16	46	18
9	974	Kaheka St	45	50	49	22	66	23
10	1005	Atkinson Dr	84	97	84	42	56	46
11	556	Kalakaua Ave	69	81	67	57	43	51
12	1203	Mccully St	36	32	30	37	28	27
13	1682	Isenberg St	40	40	49	57	37	35
14	553	University Ave	19	16	20	23	12	11
15	828	Date St	23	19	21	128	124	96
16	1935	H-1 On-Ramp	59	61	64	88	56	49
Totals	**14775**		**608**	**629**	**615**	**766**	**721**	**553**

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Study Name **: Before Closure_Kapiolani Blvd**

AM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	713	Cooke St	20	50	40	58	53	76
3	1181	Ward Ave	85	60	72	62	74	25
4	1388	Kamakee St	36	32	30	30	31	45
5	753	Pensacola St	19	16	18	64	64	21
6	596	Piikoi St	35	40	39	16	14	15
7	744	Kona Iki St	21	21	18	67	17	17
8	664	Keeaumoku St	17	14	14	16	46	18
9	974	Kaheka St	45	50	49	22	66	23
10	1005	Atkinson Dr	84	97	84	42	56	46
11	556	Kalakaua Ave	69	81	67	57	43	51
12	1203	Mccully St	36	32	30	37	28	27
13	1682	Isenberg St	40	40	54	57	37	35
14	553	University Ave	19	16	20	23	12	11
15	828	Date St	23	19	21	128	124	96
16	1935	H-1 On-Ramp	59	61	67	88	56	56
Totals	**14775**		**608**	**629**	**623**	**767**	**721**	**562**

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Study Name : **Before Closure_Kapiolani Blvd**

AM

Study Date : **4/4/2017**

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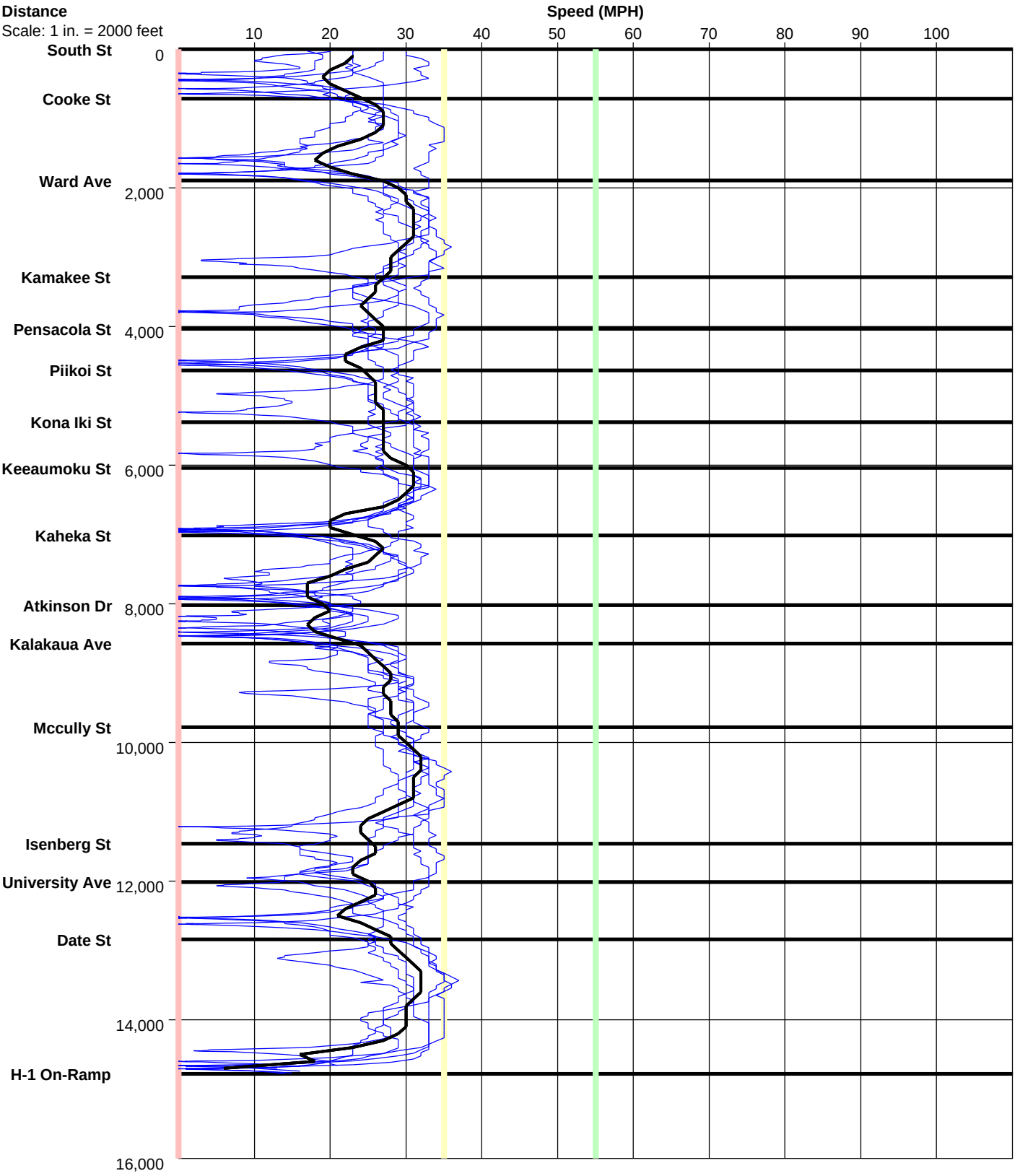
Speed/Distance Profiles of All Runs



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Study Name : **Before Closure_Kapiolani Blvd**

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Study Date : **4/4/2017**

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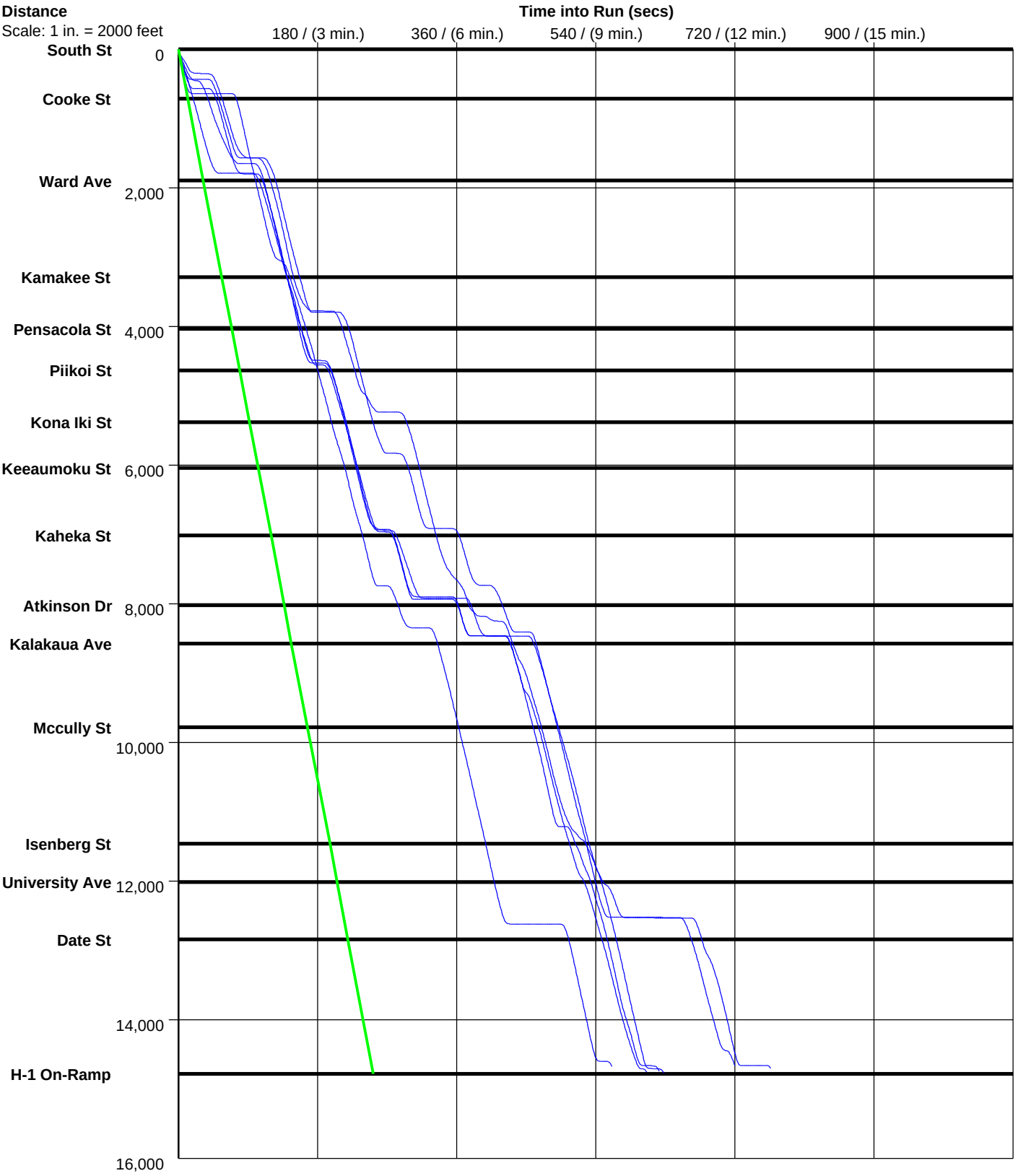
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_Kapiolani Blvd PM

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**
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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Kapiolani Blvd PM EB-R001	04/04/17	15:04	14728	Before	Secondary
Kapiolani Blvd PM EB-R002	04/04/17	15:38	14687	Before	Primary
Kapiolani Blvd PM EB-R003	04/04/17	16:14	14754	Before	Secondary
Kapiolani Blvd PM EB-R004	04/04/17	16:50	14749	Before	Secondary
Kapiolani Blvd PM EB-R005	04/04/17	17:30	14739	Before	Secondary
Kapiolani Blvd PM EB-R006	04/04/17	18:07	14707	Before	Secondary

Notes:

Node Info

#	Len	Name
1	0	South St
2	713	Cooke St
3	1181	Ward Ave
4	1388	Kamakee St
5	753	Pensacola St
6	596	Piikoi St
7	744	Kona Iki St
8	664	Keeaumoku St
9	974	Kaheka St
10	1005	Atkinson Dr
11	556	Kalakaua Ave
12	1203	Mccully St
13	1682	Isenberg St
14	553	University Ave
15	828	Date St
16	1935	H-1 On-Ramp

Length of Study Route = 14,775 feet

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	South St							
2	713	Cooke St	51.3	0.5	9.5	39.0	24.3	51.3	51.3
3	1181	Ward Ave	90.3	0.8	8.9	69.7	41.8	89.0	90.3
4	1388	Kamakee St	41.2	0.2	23.0	17.2	1.2	39.2	41.2
5	753	Pensacola St	20.2	0.0	25.5	7.2	0.0	20.2	20.2
6	596	Piikoi St	15.0	0.0	27.1	4.8	0.0	15.0	15.0
7	744	Kona Iki St	19.5	0.0	26.0	6.5	0.0	19.5	19.5
8	664	Keeaumoku St	39.5	0.3	11.5	27.5	12.7	39.5	39.5
9	974	Kaheka St	33.7	0.2	19.7	16.7	6.2	33.7	33.7
10	1005	Atkinson Dr	52.7	0.5	13.0	35.5	20.5	52.7	52.7
11	556	Kalakaua Ave	23.3	0.2	16.2	13.5	6.5	22.3	23.3
12	1203	Mccully St	70.7	0.8	11.6	49.7	28.2	70.2	70.7
13	1682	Isenberg St	91.7	1.7	12.5	62.7	19.5	91.7	91.7
14	553	University Ave	50.3	1.8	7.5	40.3	14.5	50.3	50.3
15	828	Date St	120.3	0.8	4.7	105.8	81.7	120.3	120.3
16	1935	H-1 On-Ramp	77.5	1.2	17.0	44.8	16.3	75.0	76.5
Total	**14,775**		**797.2**	**9.0**	**12.6**	**540.8**	**273.3**	**789.8**	**796.2**

Stats based on 6 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	South St				
2	713	Cooke St	0.0131	1.3828	11.1171	0.5943
3	1181	Ward Ave	0.0225	2.3320	19.8477	0.9150
4	1388	Kamakee St	0.0137	1.3797	11.6623	0.7927
5	753	Pensacola St	0.0070	0.7301	6.5742	0.4336
6	596	Piikoi St	0.0051	0.4863	4.4855	0.2615
7	744	Kona Iki St	0.0062	0.5612	5.3501	0.2555
8	664	Keeaumoku St	0.0104	1.0524	8.2328	0.4556
9	974	Kaheka St	0.0100	0.9599	8.6581	0.4401
10	1005	Atkinson Dr	0.0142	1.3875	12.0480	0.5631
11	556	Kalakaua Ave	0.0074	0.8118	7.0657	0.4689
12	1203	Mccully St	0.0186	1.8301	14.8187	0.7468
13	1682	Isenberg St	0.0240	2.3604	19.1863	0.9722
14	553	University Ave	0.0120	1.2213	8.8366	0.4882
15	828	Date St	0.0265	2.7107	23.0525	0.7389
16	1935	H-1 On-Ramp	0.0232	2.3753	19.6497	1.2628
Total	**14,775**		**0.2140**	**21.5816**	**180.5852**	**9.3891**

Stats based on 6 BEFORE runs.

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	25	23	81	71	85	23
3	1181	Ward Ave	94	95	27	97	118	111
4	1388	Kamakee St	35	48	31	52	41	40
5	753	Pensacola St	22	23	17	18	20	21
6	596	Piikoi St	15	16	12	13	16	18
7	744	Kona Iki St	19	19	18	20	17	24
8	664	Keeaumoku St	25	73	16	24	15	84
9	974	Kaheka St	79	25	21	24	22	31
10	1005	Atkinson Dr	88	26	21	22	90	69
11	556	Kalakaua Ave	14	12	11	67	21	15
12	1203	Mccully St	27	87	109	31	142	28
13	1682	Isenberg St	39	46	47	166	209	43
14	553	University Ave	13	55	46	83	80	25
15	828	Date St	21	141	141	147	136	136
16	1935	H-1 On-Ramp	50	58	70	103	104	80
Totals	**14775**		**566**	**747**	**668**	**938**	**1,116**	**748**

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	0	0	1	1	1	0
3	1181	Ward Ave	1	1	0	1	1	1
4	1388	Kamakee St	0	0	0	1	0	0
5	753	Pensacola St	0	0	0	0	0	0
6	596	Piikoi St	0	0	0	0	0	0
7	744	Kona Iki St	0	0	0	0	0	0
8	664	Keeaumoku St	0	1	0	0	0	1
9	974	Kaheka St	1	0	0	0	0	0
10	1005	Atkinson Dr	1	0	0	0	1	1
11	556	Kalakaua Ave	0	0	0	1	0	0
12	1203	Mccully St	0	1	2	0	2	0
13	1682	Isenberg St	0	0	0	4	6	0
14	553	University Ave	0	2	2	4	3	0
15	828	Date St	0	1	1	1	1	1
16	1935	H-1 On-Ramp	0	2	1	1	1	2
Totals	**14775**		**3**	**8**	**7**	**14**	**16**	**6**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	20.1	22.1	6.0	7.0	5.8	21.1
3	1181	Ward Ave	8.6	8.4	30.5	8.4	6.9	7.4
4	1388	Kamakee St	26.6	19.7	30.3	18.1	22.9	23.7
5	753	Pensacola St	23.6	21.8	30.7	28.5	25.9	24.6
6	596	Piikoi St	27.2	26.8	31.8	29.8	24.8	22.1
7	744	Kona Iki St	26.7	25.5	29.4	25.9	29.8	21.2
8	664	Keeaumoku St	18.3	6.5	28.0	19.3	31.4	5.4
9	974	Kaheka St	8.3	26.2	32.2	27.7	29.5	21.2
10	1005	Atkinson Dr	7.8	26.3	32.3	30.5	7.6	9.9
11	556	Kalakaua Ave	28.7	32.4	33.0	5.7	17.9	25.9
12	1203	Mccully St	29.9	9.3	7.6	26.6	5.9	29.0
13	1682	Isenberg St	29.4	24.8	24.7	7.0	5.4	26.6
14	553	University Ave	29.8	6.8	7.9	4.5	4.7	15.1
15	828	Date St	26.9	4.0	4.0	3.8	4.2	4.3
16	1935	H-1 On-Ramp	26.0	22.0	18.8	12.8	12.3	15.9
Totals	**14775**		**17.8**	**13.4**	**15.1**	**10.7**	**9.0**	**13.4**

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	12	10	69	59	73	11
3	1181	Ward Ave	73	74	6	76	98	91
4	1388	Kamakee St	11	24	7	28	17	16
5	753	Pensacola St	9	10	4	5	7	8
6	596	Piikoi St	5	5	2	3	6	8
7	744	Kona Iki St	6	6	5	7	4	11
8	664	Keeaumoku St	13	61	4	12	3	72
9	974	Kaheka St	62	8	4	7	5	14
10	1005	Atkinson Dr	71	9	3	5	73	52
11	556	Kalakaua Ave	4	2	1	57	12	5
12	1203	Mccully St	6	66	88	10	121	7
13	1682	Isenberg St	10	17	18	137	180	14
14	553	University Ave	3	45	36	73	70	15
15	828	Date St	6	127	127	133	121	121
16	1935	H-1 On-Ramp	17	26	37	70	71	48
Totals	**14775**		**308**	**490**	**411**	**682**	**861**	**493**

Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	0	0	54	43	49	0
3	1181	Ward Ave	42	38	0	58	64	49
4	1388	Kamakee St	0	0	0	7	0	0
5	753	Pensacola St	0	0	0	0	0	0
6	596	Piikoi St	0	0	0	0	0	0
7	744	Kona Iki St	0	0	0	0	0	0
8	664	Keeaumoku St	0	33	0	0	0	43
9	974	Kaheka St	37	0	0	0	0	0
10	1005	Atkinson Dr	52	0	0	0	59	12
11	556	Kalakaua Ave	0	0	0	39	0	0
12	1203	Mccully St	0	48	54	0	67	0
13	1682	Isenberg St	0	0	0	47	70	0
14	553	University Ave	0	23	11	26	27	0
15	828	Date St	0	97	98	103	99	93
16	1935	H-1 On-Ramp	0	0	3	45	41	9
Totals	**14775**		**131**	**239**	**220**	**368**	**476**	**206**

Austin, Tsutsumi & Associates

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	25	23	81	71	85	23
3	1181	Ward Ave	94	95	19	97	118	111
4	1388	Kamakee St	35	48	23	48	41	40
5	753	Pensacola St	22	23	17	18	20	21
6	596	Piikoi St	15	16	12	13	16	18
7	744	Kona Iki St	19	19	18	20	17	24
8	664	Keeaumoku St	25	73	16	24	15	84
9	974	Kaheka St	79	25	21	24	22	31
10	1005	Atkinson Dr	88	26	21	22	90	69
11	556	Kalakaua Ave	14	8	9	67	21	15
12	1203	Mccully St	27	84	109	31	142	28
13	1682	Isenberg St	39	46	47	166	209	43
14	553	University Ave	13	55	46	83	80	25
15	828	Date St	21	141	141	147	136	136
16	1935	H-1 On-Ramp	49	48	69	102	103	79
Totals	**14775**		**565**	**730**	**649**	**933**	**1,115**	**747**

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Study Name **: Before Closure_Kapiolani Blvd**

PM

Study Date **: 4/4/2017**

Page No. **: 11**

Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	713	Cooke St	25	23	81	71	85	23
3	1181	Ward Ave	94	95	27	97	118	111
4	1388	Kamakee St	35	48	31	52	41	40
5	753	Pensacola St	22	23	17	18	20	21
6	596	Piikoi St	15	16	12	13	16	18
7	744	Kona Iki St	19	19	18	20	17	24
8	664	Keeaumoku St	25	73	16	24	15	84
9	974	Kaheka St	79	25	21	24	22	31
10	1005	Atkinson Dr	88	26	21	22	90	69
11	556	Kalakaua Ave	14	12	11	67	21	15
12	1203	Mccully St	27	87	109	31	142	28
13	1682	Isenberg St	39	46	47	166	209	43
14	553	University Ave	13	55	46	83	80	25
15	828	Date St	21	141	141	147	136	136
16	1935	H-1 On-Ramp	49	57	69	102	103	79
Totals	**14775**		**565**	**746**	**667**	**937**	**1,115**	**747**

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Study Name : **Before Closure_Kapiolani Blvd**

PM

Study Date : **4/4/2017**

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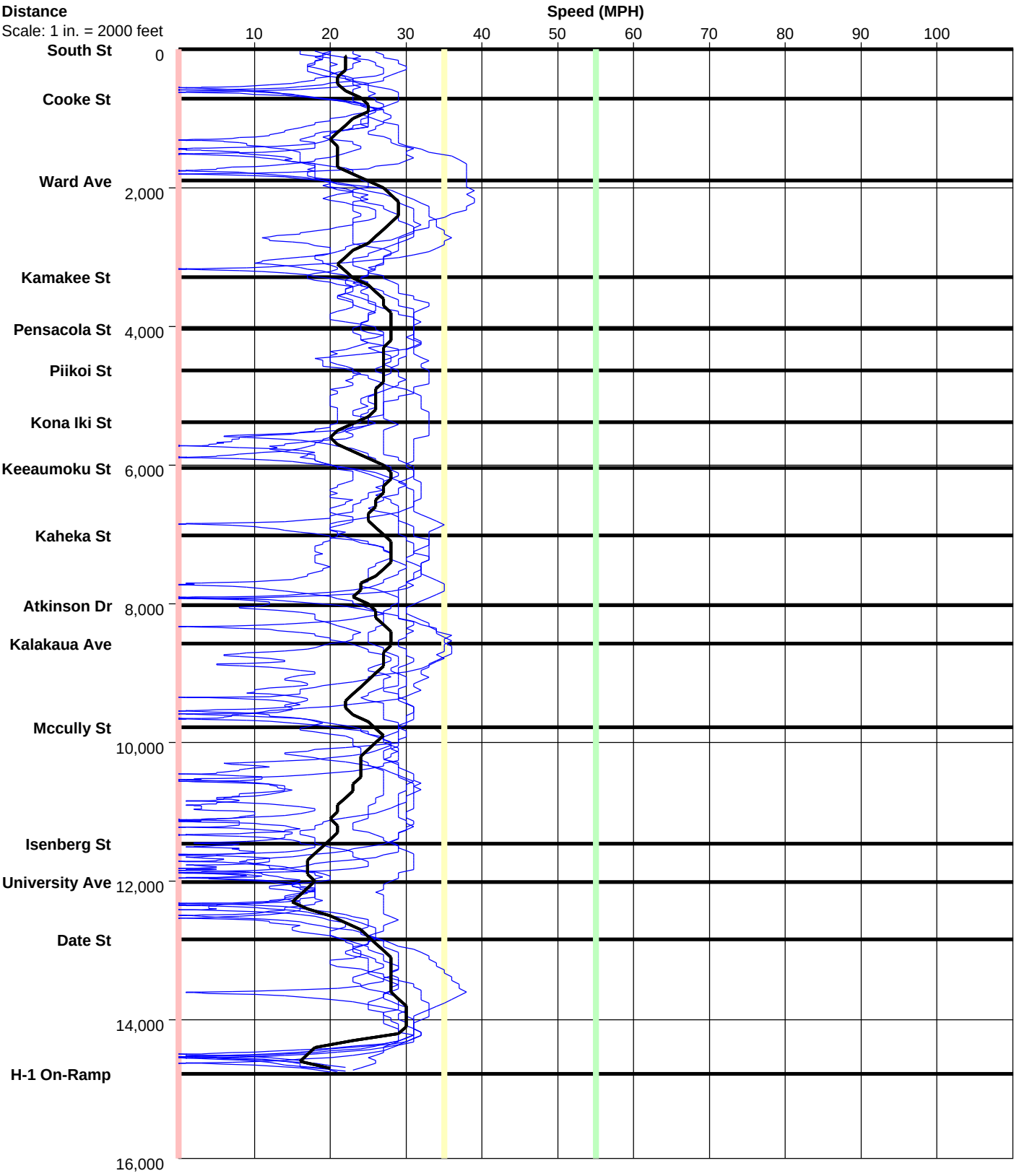
Speed/Distance Profiles of All Runs



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Study Name : **Before Closure_Kapiolani Blvd**

PM

Study Date : **4/4/2017**

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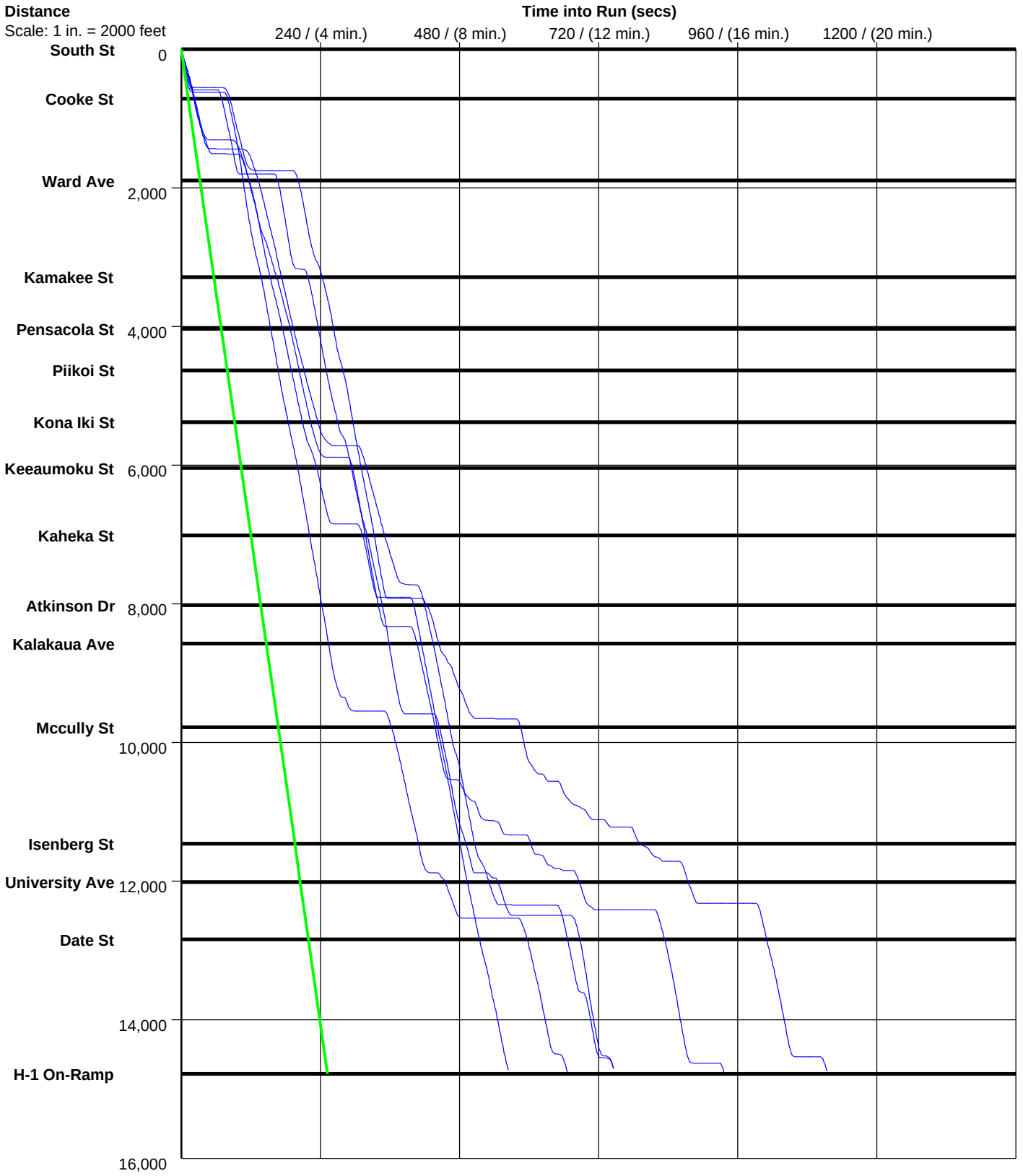
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_King St AM EB

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Study Name **: Before Closure_King St AM EB**
Study Date **: 4/4/2017**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
King St AM-EB-001	04/04/17	07:32	15411	Before	Primary
King St AM-EB-002	04/04/17	08:05	15393	Before	Secondary
King St AM-EB-003	04/04/17	08:47	15438	Before	Secondary
King St AM-EB-004	04/04/17	09:19	3127	Before	Secondary
King St AM-EB-005	04/04/17	09:59	15396	Before	Secondary

Notes:

Node Info

#	Len	Name
1	0	Punchbowl St
2	1315	Alapai/South St
3	1670	Ward Ave
4	490	Victoria St
5	414	Longs Crosswalk
6	688	Pensacola St
7	624	Piikoi St
8	1378	Keeaumoku St
9	819	Kaheka St
10	392	Kalakaua Ave
11	278	Punahou St
12	951	Pawaa Ln
13	1251	Mccully St
14	1672	Isenberg St
15	684	Hausten St
16	689	University Ave
17	409	Kahuna Ln
18	1687	King St On-Ramp

Length of Study Route = 15,411 feet

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Study Name **: Before Closure_King St AM EB**
Study Date **: 4/4/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Punchbowl St							
2	1315	Alapai/South St	44.8	0.6	20.0	22.2	3.4	40.8	44.8
3	1670	Ward Ave	69.4	0.8	16.4	40.8	10.6	68.2	69.4
4	490	Victoria St	12.8	0.2	26.1	5.8	0.0	12.6	12.6
5	414	Longs Crosswalk	9.2	0.0	30.7	3.6	0.0	9.2	9.2
6	688	Pensacola St	30.0	0.2	15.6	20.4	8.8	30.0	30.0
7	624	Piikoi St	21.8	0.2	19.5	13.0	7.4	21.8	21.8
8	1378	Keeaumoku St	39.0	0.4	24.1	20.0	9.2	37.6	39.0
9	819	Kaheka St	15.8	0.0	35.3	4.6	0.0	15.0	15.8
10	392	Kalakaua Ave	9.6	0.0	27.8	4.0	0.0	9.6	9.6
11	278	Punahou St	7.8	0.0	24.3	3.8	0.0	7.8	7.8
12	951	Pawaa Ln	19.0	0.2	34.1	5.8	0.0	18.2	19.0
13	1251	Mccully St	30.8	0.2	27.7	13.8	0.6	30.8	30.8
14	1672	Isenberg St	34.2	0.0	33.3	11.2	0.0	34.2	34.2
15	684	Hausten St	13.2	0.0	35.3	3.6	0.0	13.2	13.2
16	689	University Ave	18.6	0.2	25.3	9.0	1.4	18.6	18.6
17	409	Kahuna Ln	24.4	0.6	11.4	18.8	6.2	24.4	24.4
18	1687	King St On-Ramp	40.8	0.2	28.2	17.6	0.0	40.4	40.4
Total	**15,411**		**441.2**	**3.8**	**23.8**	**218.0**	**47.6**	**432.4**	**440.6**

Stats based on 5 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_King St AM EB**
Study Date **: 4/4/2017**
Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Punchbowl St				
2	1315	Alapai/South St	0.0143	1.4234	11.6352	0.7814
3	1670	Ward Ave	0.0189	1.7801	15.1835	0.7181
4	490	Victoria St	0.0043	0.4720	3.7941	0.3020
5	414	Longs Crosswalk	0.0029	0.2536	2.2351	0.1131
6	688	Pensacola St	0.0076	0.7215	6.0292	0.2535
7	624	Piikoi St	0.0066	0.6896	5.8167	0.3628
8	1378	Keeaumoku St	0.0123	1.2168	10.7608	0.6231
9	819	Kaheka St	0.0055	0.5084	5.0718	0.2637
10	392	Kalakaua Ave	0.0029	0.2821	2.6521	0.1339
11	278	Punahou St	0.0023	0.2338	1.8880	0.1200
12	951	Pawaa Ln	0.0071	0.7222	7.1128	0.4391
13	1251	Mccully St	0.0104	1.0926	8.5607	0.6762
14	1672	Isenberg St	0.0127	1.3180	12.0937	0.8182
15	684	Hausten St	0.0042	0.3433	3.3087	0.1364
16	689	University Ave	0.0054	0.5033	4.2938	0.2223
17	409	Kahuna Ln	0.0059	0.5921	4.4636	0.2324
18	1687	King St On-Ramp	0.0156	1.8251	14.6903	1.3063
Total	**15,411**		**0.1389**	**13.9778**	**119.5902**	**7.5025**

Stats based on 5 BEFORE runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	55	57	52	35	25
3	1670	Ward Ave	38	96	105	63	45
4	490	Victoria St	10	13	16	9	16
5	414	Longs Crosswalk	9	11	13	0	13
6	688	Pensacola St	18	19	94	0	19
7	624	Piikoi St	15	18	16	0	60
8	1378	Keeaumoku St	28	88	29	0	50
9	819	Kaheka St	18	23	19	0	19
10	392	Kalakaua Ave	11	18	9	0	10
11	278	Punahou St	7	17	7	0	8
12	951	Pawaa Ln	21	26	28	0	20
13	1251	Mccully St	43	36	37	0	38
14	1672	Isenberg St	40	39	47	0	45
15	684	Hausten St	16	15	17	0	18
16	689	University Ave	16	18	42	0	17
17	409	Kahuna Ln	11	70	13	0	28
18	1687	King St On-Ramp	51	47	55	0	51
Totals	**15411**		**407**	**611**	**599**	**107**	**482**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	1	1	1	0	0
3	1670	Ward Ave	0	1	2	1	0
4	490	Victoria St	0	0	0	1	0
5	414	Longs Crosswalk	0	0	0	0	0
6	688	Pensacola St	0	0	1	0	0
7	624	Piikoi St	0	0	0	0	1
8	1378	Keeaumoku St	0	1	0	0	1
9	819	Kaheka St	0	0	0	0	0
10	392	Kalakaua Ave	0	0	0	0	0
11	278	Punahou St	0	0	0	0	0
12	951	Pawaa Ln	0	0	1	0	0
13	1251	Mccully St	1	0	0	0	0
14	1672	Isenberg St	0	0	0	0	0
15	684	Hausten St	0	0	0	0	0
16	689	University Ave	0	0	1	0	0
17	409	Kahuna Ln	0	2	0	0	1
18	1687	King St On-Ramp	1	0	0	0	0
Totals	**15411**		**3**	**5**	**6**	**2**	**3**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	16.3	15.9	17.6	26.1	35.8
3	1670	Ward Ave	29.9	11.8	10.7	17.9	25.6
4	490	Victoria St	33.4	25.6	20.9	11.8	20.1
5	414	Longs Crosswalk	31.4	26.1	22.2	0.0	22.2
6	688	Pensacola St	26.1	24.9	4.9	0.0	25.2
7	624	Piikoi St	28.5	24.1	28.1	0.0	6.8
8	1378	Keeaumoku St	33.6	10.6	31.7	0.0	19.0
9	819	Kaheka St	30.9	24.6	29.7	0.0	29.2
10	392	Kalakaua Ave	24.3	13.8	28.8	0.0	26.9
11	278	Punahou St	27.1	11.6	28.7	0.0	24.3
12	951	Pawaa Ln	30.8	25.3	22.5	0.0	32.5
13	1251	Mccully St	19.9	23.3	23.0	0.0	22.4
14	1672	Isenberg St	28.6	29.7	24.9	0.0	25.1
15	684	Hausten St	29.3	30.7	25.9	0.0	26.1
16	689	University Ave	29.3	25.9	11.0	0.0	28.4
17	409	Kahuna Ln	25.5	3.8	21.6	0.0	9.4
18	1687	King St On-Ramp	22.5	24.7	21.3	0.0	22.8
Totals	**15411**		**25.8**	**17.2**	**17.6**	**20.2**	**21.8**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	33	34	29	12	3
3	1670	Ward Ave	10	67	77	34	16
4	490	Victoria St	2	5	8	6	8
5	414	Longs Crosswalk	2	4	6	0	6
6	688	Pensacola St	6	7	82	0	7
7	624	Piikoi St	4	7	5	0	49
8	1378	Keeaumoku St	5	64	5	0	26
9	819	Kaheka St	4	9	5	0	5
10	392	Kalakaua Ave	4	11	2	0	3
11	278	Punahou St	2	12	2	0	3
12	951	Pawaa Ln	5	9	12	0	3
13	1251	Mccully St	22	15	16	0	16
14	1672	Isenberg St	12	10	18	0	16
15	684	Hausten St	4	3	5	0	6
16	689	University Ave	4	6	30	0	5
17	409	Kahuna Ln	4	63	6	0	21
18	1687	King St On-Ramp	22	18	26	0	22
Totals	**15411**		**145**	**344**	**334**	**52**	**215**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	12	5	0	0	0
3	1670	Ward Ave	0	31	22	0	0
4	490	Victoria St	0	0	0	0	0
5	414	Longs Crosswalk	0	0	0	0	0
6	688	Pensacola St	0	0	44	0	0
7	624	Piikoi St	0	0	0	0	37
8	1378	Keeaumoku St	0	43	0	0	3
9	819	Kaheka St	0	0	0	0	0
10	392	Kalakaua Ave	0	0	0	0	0
11	278	Punahou St	0	0	0	0	0
12	951	Pawaa Ln	0	0	0	0	0
13	1251	Mccully St	3	0	0	0	0
14	1672	Isenberg St	0	0	0	0	0
15	684	Hausten St	0	0	0	0	0
16	689	University Ave	0	0	7	0	0
17	409	Kahuna Ln	0	30	0	0	1
18	1687	King St On-Ramp	0	0	0	0	0
Totals	**15411**		**15**	**109**	**73**	**0**	**41**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	55	57	52	35	5
3	1670	Ward Ave	38	96	105	63	39
4	490	Victoria St	10	13	16	8	16
5	414	Longs Crosswalk	9	11	13	0	13
6	688	Pensacola St	18	19	94	0	19
7	624	Piikoi St	15	18	16	0	60
8	1378	Keeaumoku St	21	88	29	0	50
9	819	Kaheka St	18	23	15	0	19
10	392	Kalakaua Ave	11	18	9	0	10
11	278	Punahou St	7	17	7	0	8
12	951	Pawaa Ln	21	26	28	0	16
13	1251	Mccully St	43	36	37	0	38
14	1672	Isenberg St	40	39	47	0	45
15	684	Hausten St	16	15	17	0	18
16	689	University Ave	16	18	42	0	17
17	409	Kahuna Ln	11	70	13	0	28
18	1687	King St On-Ramp	51	46	55	0	50
Totals	**15411**		**400**	**610**	**595**	**106**	**451**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)
1	0	Punchbowl St					
2	1315	Alapai/South St	55	57	52	35	25
3	1670	Ward Ave	38	96	105	63	45
4	490	Victoria St	10	13	16	8	16
5	414	Longs Crosswalk	9	11	13	0	13
6	688	Pensacola St	18	19	94	0	19
7	624	Piikoi St	15	18	16	0	60
8	1378	Keeaumoku St	28	88	29	0	50
9	819	Kaheka St	18	23	19	0	19
10	392	Kalakaua Ave	11	18	9	0	10
11	278	Punahou St	7	17	7	0	8
12	951	Pawaa Ln	21	26	28	0	20
13	1251	Mccully St	43	36	37	0	38
14	1672	Isenberg St	40	39	47	0	45
15	684	Hausten St	16	15	17	0	18
16	689	University Ave	16	18	42	0	17
17	409	Kahuna Ln	11	70	13	0	28
18	1687	King St On-Ramp	51	46	55	0	50
Totals	**15411**		**407**	**610**	**599**	**106**	**481**

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Study Name : **Before Closure_King St AM EB**
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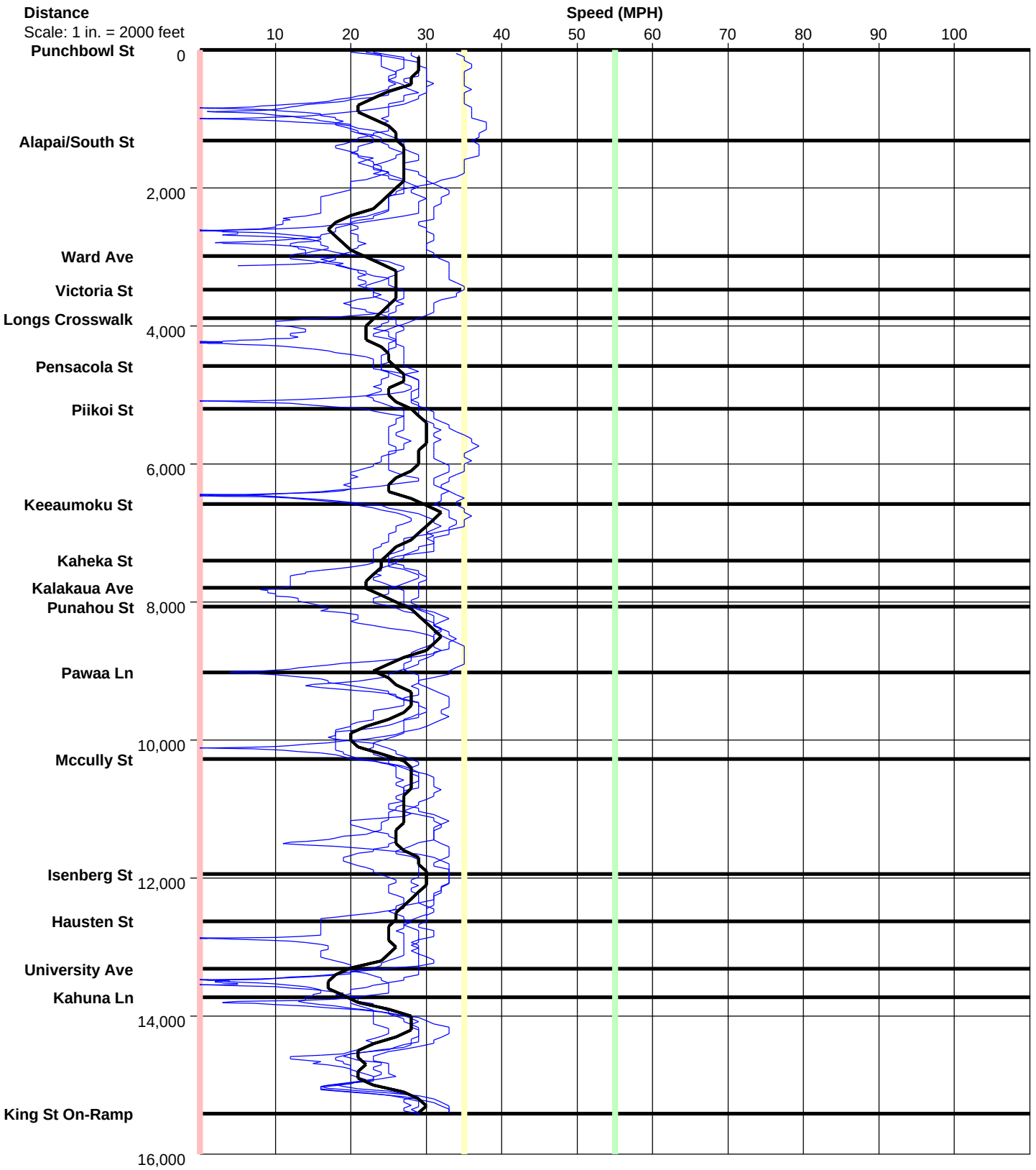
Speed/Distance Profiles of All Runs



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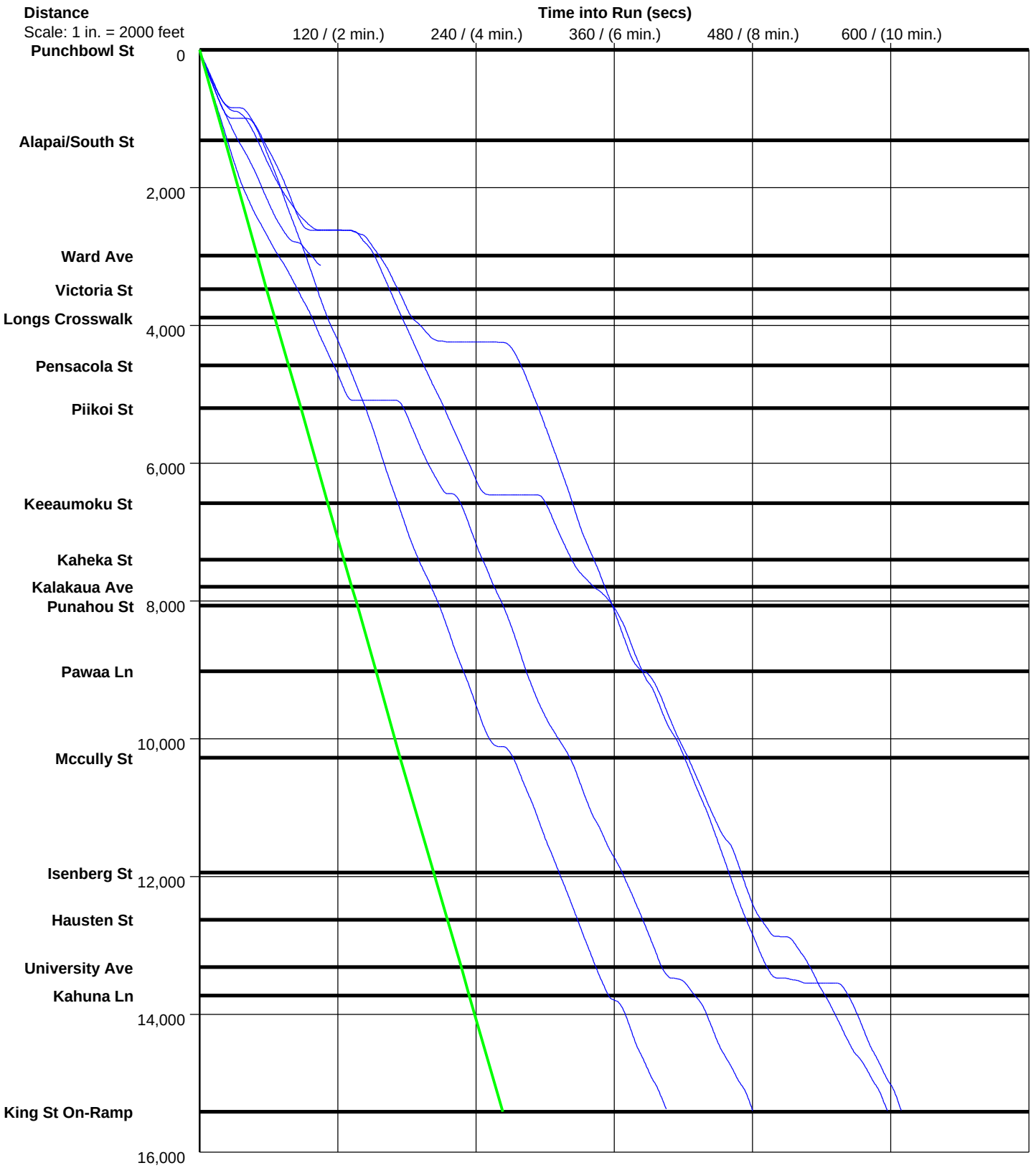
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_King St PM EB

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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
King St PM-EB-001	04/04/17	15:42	15340	Before	Secondary
King St PM-EB-002	04/04/17	16:17	15388	Before	Secondary
King St PM-EB-003	04/04/17	17:51	15394	Before	Primary

Notes:

Node Info

#	Len	Name
1	0	Punchbowl St
2	1252	Alapai/South St
3	1669	Ward Ave
4	491	Victoria St
5	414	Longs Crosswalk
6	702	Pensacola St
7	619	Piikoi St
8	1382	Keeaumoku St
9	799	Kaheka St
10	411	Kalakaua Ave
11	311	Punahou St
12	929	Pawaa Ln
13	1206	Mccully St
14	1710	Isenberg St
15	653	Hausten St
16	686	University Ave
17	424	Kahuna Ln
18	1736	King St On-Ramp

Length of Study Route = 15,394 feet

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Study Name **: Before Closure_King St PM EB**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Punchbowl St							
2	1252	Alapai/South St	102.3	1.0	8.3	81.0	49.7	102.3	102.3
3	1669	Ward Ave	80.7	1.3	14.1	52.0	12.0	80.7	80.7
4	491	Victoria St	13.7	0.0	24.5	5.0	0.0	13.7	13.7
5	414	Longs Crosswalk	12.0	0.0	23.5	5.0	0.0	12.0	12.0
6	702	Pensacola St	45.3	0.7	10.6	33.3	16.0	45.3	45.3
7	619	Piikoi St	33.7	0.3	12.5	22.7	12.7	33.7	33.7
8	1382	Keeaumoku St	69.3	1.3	13.6	45.3	16.0	69.3	69.3
9	799	Kaheka St	22.7	0.0	24.0	8.7	0.0	22.7	22.7
10	411	Kalakaua Ave	15.7	0.3	17.9	8.7	0.0	15.7	15.7
11	311	Punahou St	32.7	0.7	6.5	27.3	17.0	32.7	32.7
12	929	Pawaa Ln	26.3	0.0	24.1	10.3	0.0	26.0	26.3
13	1206	Mccully St	58.0	1.0	14.2	37.0	14.3	58.0	58.0
14	1710	Isenberg St	47.0	0.0	24.8	17.7	0.0	47.0	47.0
15	653	Hausten St	15.3	0.0	29.0	4.3	0.0	15.3	15.3
16	686	University Ave	86.0	1.0	5.4	74.0	47.0	86.0	86.0
17	424	Kahuna Ln	16.7	0.3	17.3	9.3	0.0	16.7	16.7
18	1736	King St On-Ramp	66.3	1.0	17.8	36.7	6.7	65.7	65.7
Total	**15,394**		**743.7**	**9.0**	**14.1**	**478.3**	**191.3**	**742.7**	**743.0**

Stats based on 3 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_King St PM EB**
Study Date **: 4/4/2017**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Punchbowl St				
2	1252	Alapai/South St	0.0243	2.4246	20.1447	0.7917
3	1669	Ward Ave	0.0226	2.4279	17.3074	1.3194
4	491	Victoria St	0.0048	0.5223	4.5206	0.3271
5	414	Longs Crosswalk	0.0033	0.2615	2.5009	0.0727
6	702	Pensacola St	0.0116	1.2227	9.1270	0.5582
7	619	Piikoi St	0.0095	1.0111	8.0045	0.5066
8	1382	Keeaumoku St	0.0189	1.9055	14.8171	0.8905
9	799	Kaheka St	0.0084	0.9077	7.4759	0.5958
10	411	Kalakaua Ave	0.0045	0.4559	3.3386	0.2371
11	311	Punahou St	0.0081	0.8643	5.8296	0.3878
12	929	Pawaa Ln	0.0091	0.9644	8.3848	0.5806
13	1206	Mccully St	0.0164	1.7145	13.1058	0.8820
14	1710	Isenberg St	0.0152	1.4720	13.3742	0.7633
15	653	Hausten St	0.0059	0.6079	5.7886	0.3801
16	686	University Ave	0.0191	1.8984	15.7132	0.5336
17	424	Kahuna Ln	0.0051	0.5470	3.8424	0.3230
18	1736	King St On-Ramp	0.0224	2.5973	20.4600	1.7248
Total	**15,394**		**0.2093**	**21.8051**	**173.7352**	**10.8742**

Stats based on 3 BEFORE runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	121	45	141
3	1669	Ward Ave	105	75	62
4	491	Victoria St	16	12	13
5	414	Longs Crosswalk	12	12	12
6	702	Pensacola St	33	82	21
7	619	Piikoi St	66	16	19
8	1382	Keeaumoku St	64	51	93
9	799	Kaheka St	21	23	24
10	411	Kalakaua Ave	18	18	11
11	311	Punahou St	12	68	18
12	929	Pawaa Ln	29	21	29
13	1206	Mccully St	97	43	34
14	1710	Isenberg St	49	46	46
15	653	Hausten St	15	16	15
16	686	University Ave	85	60	113
17	424	Kahuna Ln	16	22	12
18	1736	King St On-Ramp	89	64	46
Totals	**15394**		**848**	**674**	**709**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	1	1	1
3	1669	Ward Ave	2	1	1
4	491	Victoria St	0	0	0
5	414	Longs Crosswalk	0	0	0
6	702	Pensacola St	1	1	0
7	619	Piikoi St	1	0	0
8	1382	Keeaumoku St	2	1	1
9	799	Kaheka St	0	0	0
10	411	Kalakaua Ave	1	0	0
11	311	Punahou St	0	1	1
12	929	Pawaa Ln	0	0	0
13	1206	Mccully St	2	1	0
14	1710	Isenberg St	0	0	0
15	653	Hausten St	0	0	0
16	686	University Ave	1	1	1
17	424	Kahuna Ln	0	1	0
18	1736	King St On-Ramp	2	1	0
Totals	**15394**		**13**	**9**	**5**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Before Closure_King St PM EB**
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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	7.1	19.1	6.1
3	1669	Ward Ave	10.9	15.4	18.3
4	491	Victoria St	20.2	27.0	25.8
5	414	Longs Crosswalk	24.2	23.6	23.6
6	702	Pensacola St	14.0	5.9	22.9
7	619	Piikoi St	6.5	26.1	22.1
8	1382	Keeaumoku St	14.4	18.4	10.1
9	799	Kaheka St	26.6	24.4	22.7
10	411	Kalakaua Ave	14.8	14.8	25.5
11	311	Punahou St	18.0	3.3	11.7
12	929	Pawaa Ln	22.1	30.5	21.8
13	1206	Mccully St	8.4	19.0	24.2
14	1710	Isenberg St	23.9	25.6	25.3
15	653	Hausten St	29.5	27.2	29.8
16	686	University Ave	5.6	7.8	4.1
17	424	Kahuna Ln	17.6	13.3	24.0
18	1736	King St On-Ramp	13.0	18.6	25.8
Totals	**15394**		**12.3**	**15.6**	**14.8**

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Study Name **: Before Closure_King St PM EB**
Study Date **: 4/4/2017**
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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	100	23	120
3	1669	Ward Ave	76	46	34
4	491	Victoria St	7	3	5
5	414	Longs Crosswalk	5	5	5
6	702	Pensacola St	21	70	9
7	619	Piikoi St	55	5	8
8	1382	Keeaumoku St	40	27	69
9	799	Kaheka St	7	9	10
10	411	Kalakaua Ave	11	11	4
11	311	Punahou St	7	62	13
12	929	Pawaa Ln	13	5	13
13	1206	Mccully St	76	22	13
14	1710	Isenberg St	20	16	17
15	653	Hausten St	4	5	4
16	686	University Ave	73	48	101
17	424	Kahuna Ln	9	14	5
18	1736	King St On-Ramp	60	34	16
Totals	**15394**		**584**	**405**	**446**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	63	0	86
3	1669	Ward Ave	21	10	5
4	491	Victoria St	0	0	0
5	414	Longs Crosswalk	0	0	0
6	702	Pensacola St	0	48	0
7	619	Piikoi St	38	0	0
8	1382	Keeaumoku St	0	1	47
9	799	Kaheka St	0	0	0
10	411	Kalakaua Ave	0	0	0
11	311	Punahou St	0	51	0
12	929	Pawaa Ln	0	0	0
13	1206	Mccully St	39	4	0
14	1710	Isenberg St	0	0	0
15	653	Hausten St	0	0	0
16	686	University Ave	46	15	80
17	424	Kahuna Ln	0	0	0
18	1736	King St On-Ramp	14	6	0
Totals	**15394**		**221**	**135**	**218**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	121	45	141
3	1669	Ward Ave	105	75	62
4	491	Victoria St	16	12	13
5	414	Longs Crosswalk	12	12	12
6	702	Pensacola St	33	82	21
7	619	Piikoi St	66	16	19
8	1382	Keeaumoku St	64	51	93
9	799	Kaheka St	21	23	24
10	411	Kalakaua Ave	18	18	11
11	311	Punahou St	12	68	18
12	929	Pawaa Ln	29	20	29
13	1206	Mccully St	97	43	34
14	1710	Isenberg St	49	46	46
15	653	Hausten St	15	16	15
16	686	University Ave	85	60	113
17	424	Kahuna Ln	16	22	12
18	1736	King St On-Ramp	88	63	46
Totals	**15394**		**847**	**672**	**709**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)
1	0	Punchbowl St			
2	1252	Alapai/South St	121	45	141
3	1669	Ward Ave	105	75	62
4	491	Victoria St	16	12	13
5	414	Longs Crosswalk	12	12	12
6	702	Pensacola St	33	82	21
7	619	Piikoi St	66	16	19
8	1382	Keeaumoku St	64	51	93
9	799	Kaheka St	21	23	24
10	411	Kalakaua Ave	18	18	11
11	311	Punahou St	12	68	18
12	929	Pawaa Ln	29	21	29
13	1206	Mccully St	97	43	34
14	1710	Isenberg St	49	46	46
15	653	Hausten St	15	16	15
16	686	University Ave	85	60	113
17	424	Kahuna Ln	16	22	12
18	1736	King St On-Ramp	88	63	46
Totals	**15394**		**847**	**673**	**709**

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Study Name : **Before Closure_King St PM EB**
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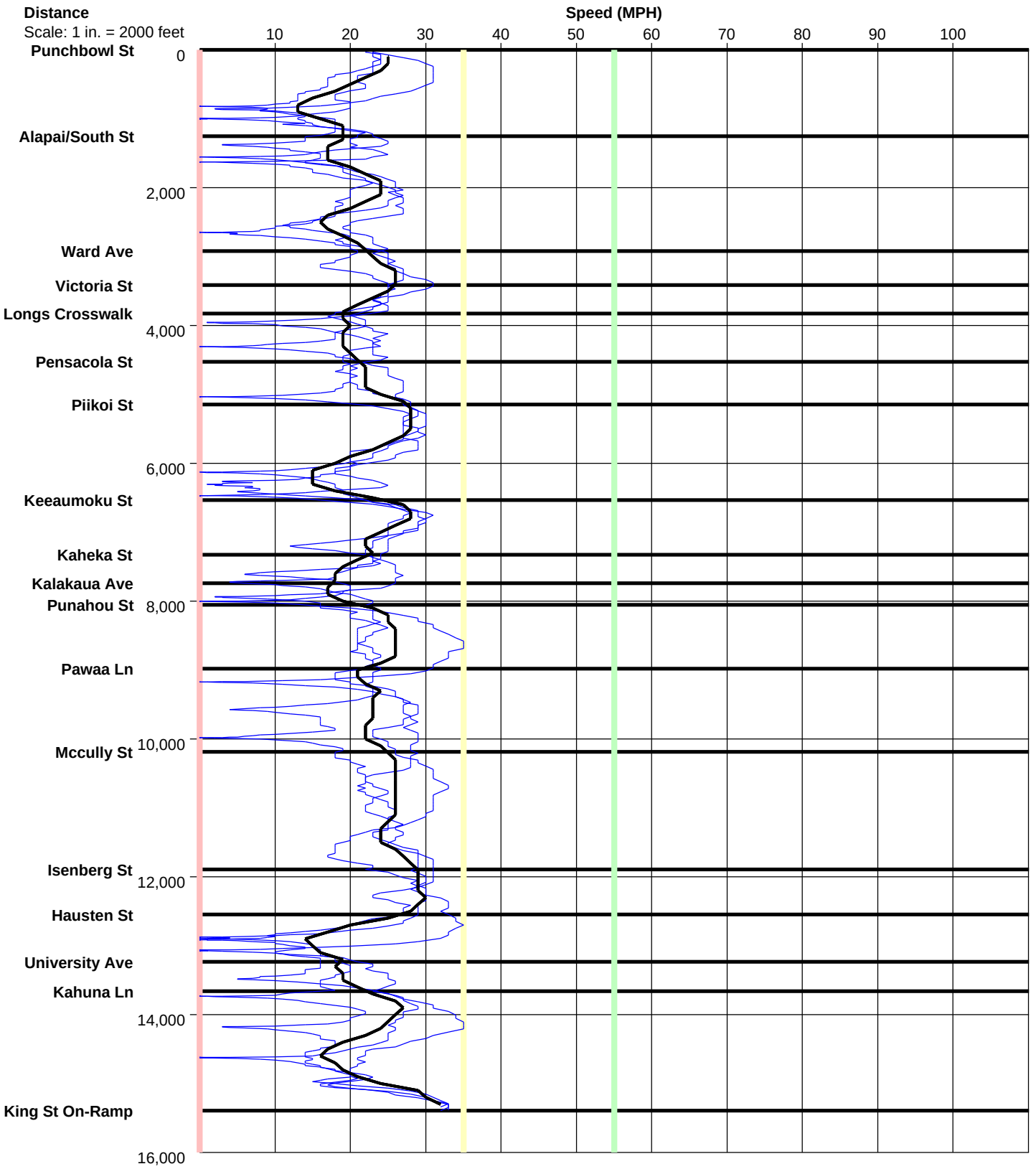
Speed/Distance Profiles of All Runs



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Study Name : **Before Closure_King St PM EB**
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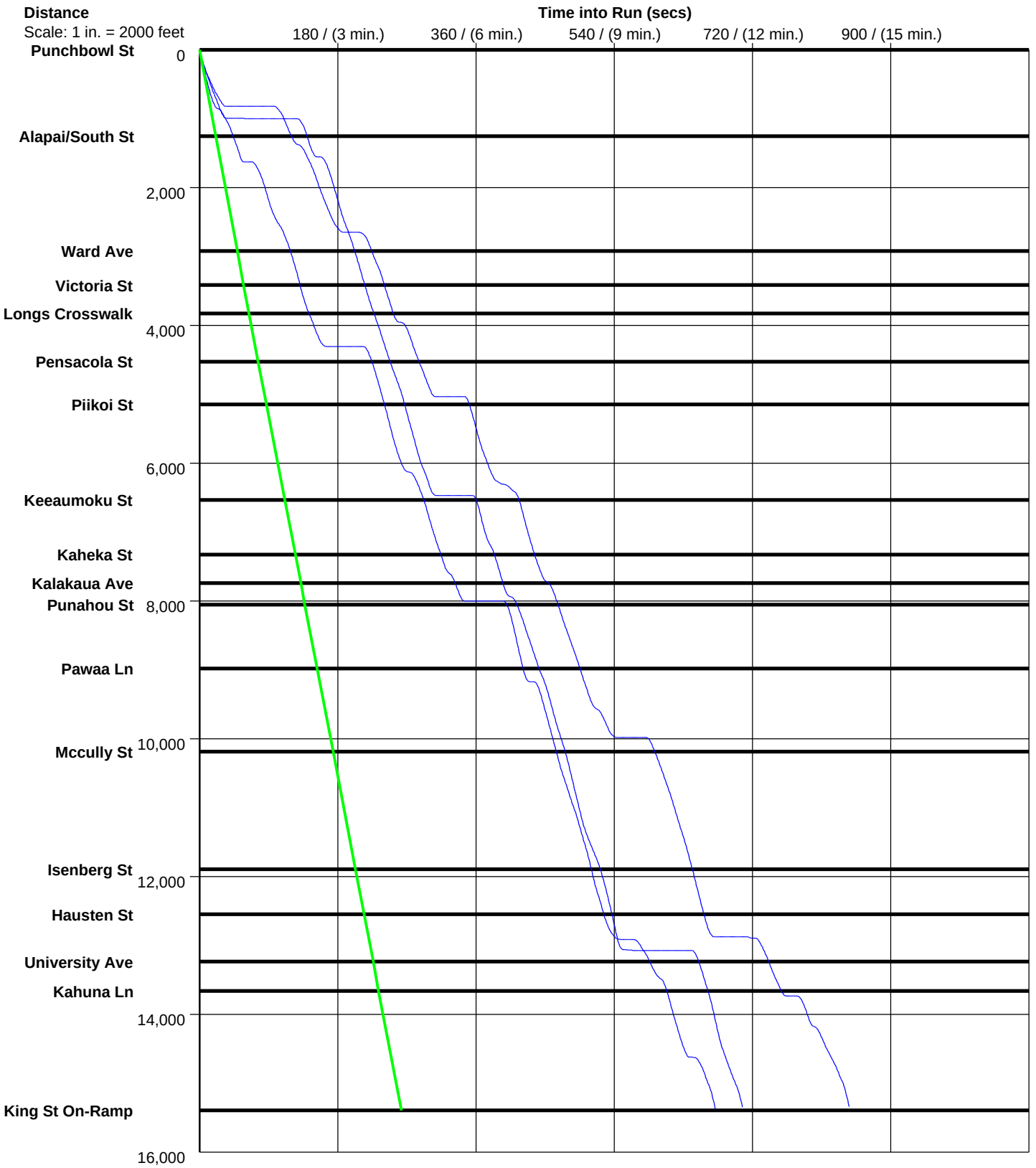
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_Piikoi St AM NB

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Study Name : **Before Closure_Piikoi St AM NB**
Study Date : **4/4/2017**
Page No. : **2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Piikoi St AM-NB-001	04/04/17	07:10	3346	Before	Primary
Piikoi St AM-NB-002	04/04/17	08:06	3387	Before	Secondary
Piikoi St AM-NB-003	04/04/17	08:32	3361	Before	Secondary
Piikoi St AM-NB-004	04/04/17	08:54	3354	Before	Secondary
Piikoi St AM-NB-005	04/04/17	09:16	3338	Before	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1207	Rycroft St
3	860	King St
4	310	Young St
5	355	Beretania St
6	411	Kinau St
7	203	H-1 EB On-Ramp

Length of Study Route = 3,346 feet

Notes:

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Study Name **: Before Closure_Piikoi St AM NB**
Study Date **: 4/4/2017**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1207	Rycroft St	41.6	0.4	19.8	20.6	1.4	41.6	41.6
3	860	King St	37.8	0.4	15.5	22.8	7.0	37.8	37.8
4	310	Young St	14.8	0.4	14.3	9.4	1.0	14.8	14.8
5	355	Beretania St	36.8	1.0	6.6	30.8	16.8	36.8	36.8
6	411	Kinau St	16.6	0.0	16.9	9.6	0.0	16.6	16.6
7	203	H-1 EB On-Ramp	7.2	0.0	19.2	3.4	0.0	7.0	7.0
Total	**3,346**		**154.8**	**2.2**	**14.7**	**96.6**	**26.2**	**154.6**	**154.6**

Stats based on 5 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Piikoi St AM NB**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1207	Rycroft St	0.0133	1.4069	10.4765	0.8336
3	860	King St	0.0102	0.9596	7.8869	0.3832
4	310	Young St	0.0040	0.3928	2.7097	0.1847
5	355	Beretania St	0.0086	0.8775	6.2878	0.3206
6	411	Kinau St	0.0050	0.5582	3.7452	0.3443
7	203	H-1 EB On-Ramp	0.0019	0.1817	1.5640	0.0769
Total	**3,346**		**0.0430**	**4.3766**	**32.6702**	**2.1434**

Stats based on 5 BEFORE runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	41	32	33	43	59
3	860	King St	50	28	22	65	24
4	310	Young St	25	22	9	10	8
5	355	Beretania St	24	29	12	66	53
6	411	Kinau St	15	21	13	14	20
7	203	H-1 EB On-Ramp	6	10	6	6	8
Totals	**3346**		**161**	**142**	**95**	**204**	**172**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	1	0	0	0	1
3	860	King St	1	0	0	1	0
4	310	Young St	1	1	0	0	0
5	355	Beretania St	1	2	0	1	1
6	411	Kinau St	0	0	0	0	0
7	203	H-1 EB On-Ramp	0	0	0	0	0
Totals	**3346**		**4**	**3**	**0**	**2**	**2**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	20.1	25.7	25.1	19.5	14.3
3	860	King St	11.8	21.3	27.0	9.0	24.1
4	310	Young St	8.4	9.7	23.7	20.9	24.8
5	355	Beretania St	10.2	8.0	19.1	3.7	4.6
6	411	Kinau St	18.6	13.6	21.8	20.4	14.0
7	203	H-1 EB On-Ramp	23.2	13.8	24.0	21.5	18.3
Totals	**3346**		**14.2**	**16.1**	**24.1**	**11.2**	**13.3**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	20	11	12	22	38
3	860	King St	35	13	7	50	9
4	310	Young St	20	16	3	5	3
5	355	Beretania St	18	23	6	60	47
6	411	Kinau St	8	14	6	7	13
7	203	H-1 EB On-Ramp	3	6	2	2	4
Totals	**3346**		**104**	**83**	**36**	**146**	**114**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	0	0	0	0	7
3	860	King St	21	0	0	14	0
4	310	Young St	5	0	0	0	0
5	355	Beretania St	0	0	0	49	35
6	411	Kinau St	0	0	0	0	0
7	203	H-1 EB On-Ramp	0	0	0	0	0
Totals	**3346**		**26**	**0**	**0**	**63**	**42**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	41	32	33	43	59
3	860	King St	50	28	22	65	24
4	310	Young St	25	22	9	10	8
5	355	Beretania St	24	29	12	66	53
6	411	Kinau St	15	21	13	14	20
7	203	H-1 EB On-Ramp	6	10	6	6	7
Totals	**3346**		**161**	**142**	**95**	**204**	**171**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)
1	0	Kapiolani Blvd					
2	1207	Rycroft St	41	32	33	43	59
3	860	King St	50	28	22	65	24
4	310	Young St	25	22	9	10	8
5	355	Beretania St	24	29	12	66	53
6	411	Kinau St	15	21	13	14	20
7	203	H-1 EB On-Ramp	6	10	6	6	7
Totals	**3346**		**161**	**142**	**95**	**204**	**171**

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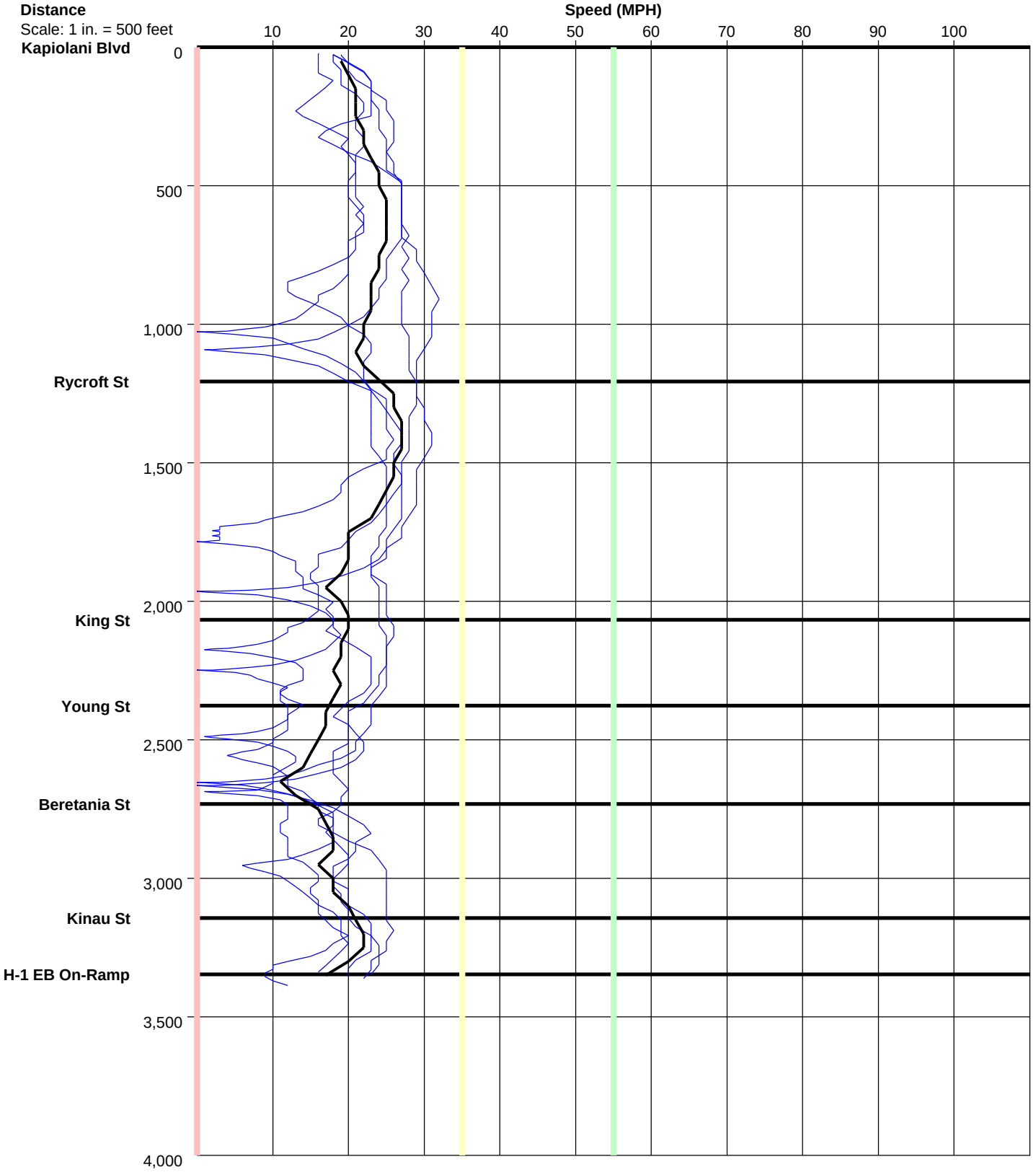
Speed/Distance Profiles of All Runs



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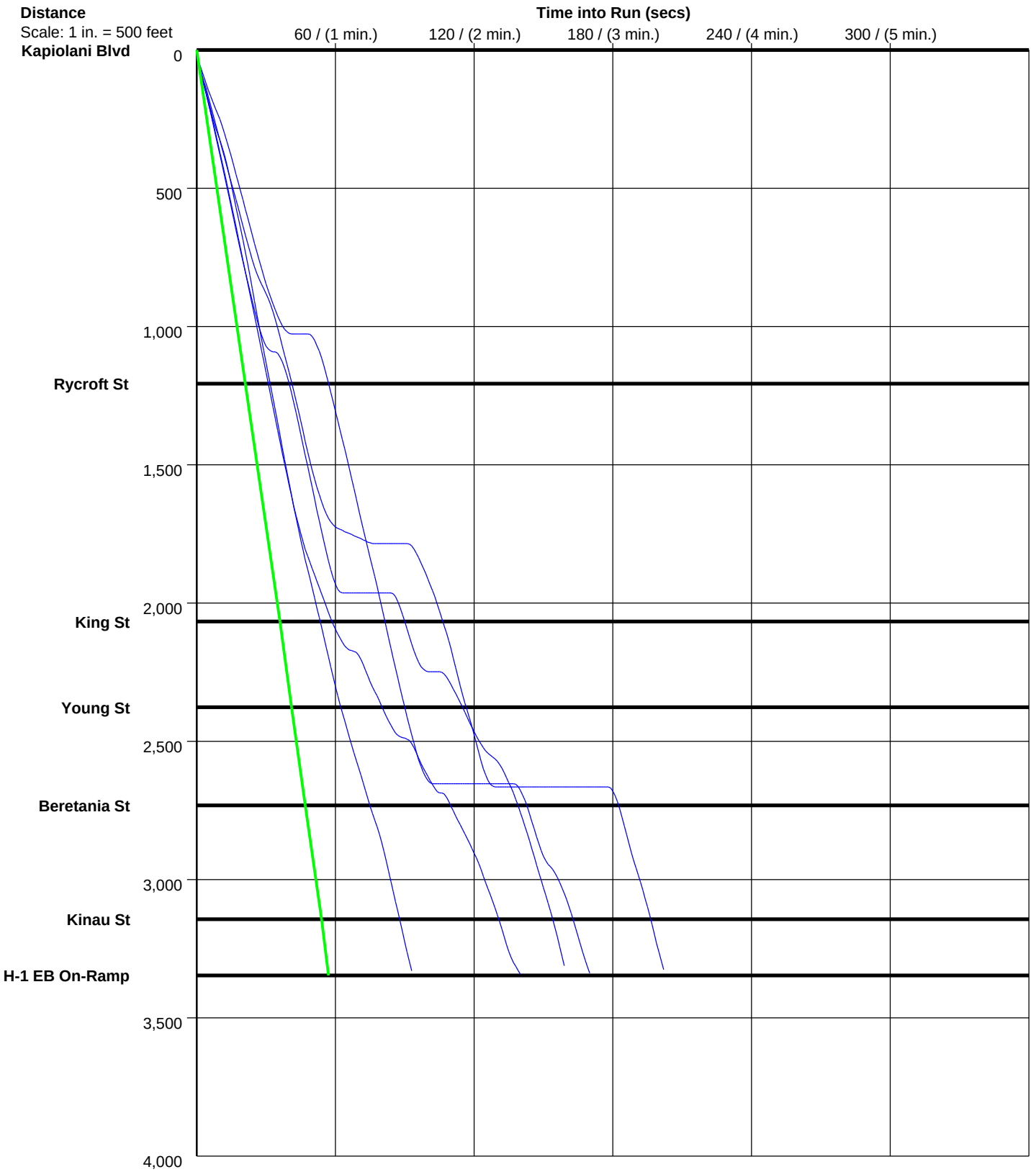
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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Study Name : **Before Closure_Piikoi St PM NB**
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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Piikoi St PM-NB-001	04/04/17	14:52	3351	Before	Primary
Piikoi St PM-NB-002	04/04/17	15:24	3359	Before	Secondary
Piikoi St PM-NB-003	04/04/17	15:53	3385	Before	Secondary
Piikoi St PM-NB-004	04/04/17	16:31	3362	Before	Secondary
Piikoi St PM-NB-005	04/04/17	17:05	3319	Before	Secondary
Piikoi St PM-NB-006	04/04/17	17:42	3301	Before	Secondary
Piikoi St PM-NB-007	04/04/17	18:15	3343	Before	Secondary
Piikoi St PM-NB-008	04/04/17	18:42	3372	Before	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1126	Rycroft St
3	867	King St
4	346	Young St
5	347	Beretania St
6	359	Kinau St
7	306	H-1 EB On-Ramp

Length of Study Route = 3,351 feet

Notes:

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Study Name **: Before Closure_Piikoi St PM NB**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1126	Rycroft St	54.9	0.8	14.0	35.6	8.0	54.9	54.9
3	867	King St	121.8	1.6	4.9	106.8	74.8	121.8	121.8
4	346	Young St	47.6	1.3	5.0	41.6	19.9	47.6	47.6
5	347	Beretania St	67.6	1.3	3.5	61.6	41.1	67.6	67.6
6	359	Kinau St	23.6	0.5	10.4	17.5	6.3	23.6	23.6
7	306	H-1 EB On-Ramp	11.5	0.0	18.1	6.3	0.0	11.1	11.1
Total	**3,351**		**327.0**	**5.4**	**7.0**	**269.4**	**150.0**	**326.6**	**326.6**

Stats based on 8 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1126	Rycroft St	0.0146	1.4676	11.1005	0.6652
3	867	King St	0.0264	2.6385	22.3945	0.6557
4	346	Young St	0.0102	1.0221	7.9637	0.2851
5	347	Beretania St	0.0141	1.4062	11.5473	0.3106
6	359	Kinau St	0.0063	0.6863	4.2903	0.3657
7	306	H-1 EB On-Ramp	0.0034	0.3833	2.7968	0.2363
Total	**3,351**		**0.0750**	**7.6042**	**60.0931**	**2.5186**

Stats based on 8 BEFORE runs.

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Study Name **: Before Closure_Piikoi St PM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	52	59	64	35	71	63	61	34
3	867	King St	236	75	80	78	166	253	26	60
4	346	Young St	89	25	34	27	81	103	10	12
5	347	Beretania St	32	64	137	71	24	73	68	72
6	359	Kinau St	14	17	14	14	69	24	13	24
7	306	H-1 EB On-Ramp	13	11	12	15	9	8	9	15
Totals	**3351**		**436**	**251**	**341**	**240**	**420**	**524**	**187**	**217**

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Study Name **: Before Closure_Piikoi St PM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	1	1	1	0	1	1	1	0
3	867	King St	3	1	1	1	3	3	0	1
4	346	Young St	2	1	2	1	2	2	0	0
5	347	Beretania St	1	1	3	1	1	1	1	1
6	359	Kinau St	0	0	0	0	1	2	0	1
7	306	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**3351**		**7**	**4**	**7**	**3**	**8**	**9**	**2**	**3**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Before Closure_Piikoi St PM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Piikoi St PM-NB-001 Run #1	Piikoi St PM-NB-002 Run #2	Piikoi St PM-NB-003 Run #3	Piikoi St PM-NB-004 Run #4	Piikoi St PM-NB-005 Run #5	Piikoi St PM-NB-006 Run #6	Piikoi St PM-NB-007 Run #7	Piikoi St PM-NB-00 Run #8
1	0	Kapiolani Blvd								
2	1126	Rycroft St	14.7	13.3	12.0	22.0	11.0	12.2	12.6	22.6
3	867	King St	2.5	7.8	7.6	7.6	3.5	2.3	23.6	9.8
4	346	Young St	2.6	9.1	6.8	9.0	2.9	2.3	22.1	19.3
5	347	Beretania St	7.4	3.8	1.7	3.3	10.1	3.2	3.4	3.3
6	359	Kinau St	17.4	15.0	17.4	17.0	3.6	10.7	18.5	10.2
7	306	H-1 EB On-Ramp	16.0	17.9	17.8	14.4	22.1	23.3	25.0	13.7
Totals	**3351**		**5.2**	**9.1**	**6.7**	**9.6**	**5.4**	**4.3**	**12.2**	**10.5**

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Study Name **: Before Closure_Piikoi St PM NB**
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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	33	39	45	16	51	44	42	15
3	867	King St	221	60	65	63	151	238	11	45
4	346	Young St	83	19	28	21	75	97	4	6
5	347	Beretania St	26	58	131	65	18	67	62	66
6	359	Kinau St	8	10	8	8	63	18	7	18
7	306	H-1 EB On-Ramp	8	6	6	10	4	3	3	10
Totals	**3351**		**379**	**192**	**283**	**183**	**362**	**467**	**129**	**160**

Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Piikoi St PM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	0	0	14	0	20	12	18	0
3	867	King St	180	42	43	47	103	159	0	24
4	346	Young St	48	0	4	0	48	59	0	0
5	347	Beretania St	6	40	99	36	0	48	49	51
6	359	Kinau St	0	0	0	0	50	0	0	0
7	306	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**3351**		**234**	**82**	**160**	**83**	**221**	**278**	**67**	**75**

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Study Name **: Before Closure_Piikoi St PM NB**
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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	52	59	64	35	71	63	61	34
3	867	King St	236	75	80	78	166	253	26	60
4	346	Young St	89	25	34	27	81	103	10	12
5	347	Beretania St	32	64	137	71	24	73	68	72
6	359	Kinau St	14	17	14	14	69	24	13	24
7	306	H-1 EB On-Ramp	13	11	12	15	8	7	8	15
Totals	**3351**		**436**	**251**	**341**	**240**	**419**	**523**	**186**	**217**

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Study Name **: Before Closure_Piikoi St PM NB**
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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)	Run #7 (Piikoi St PM-NB-007)	Run #8 (Piikoi St PM-NB-00
1	0	Kapiolani Blvd								
2	1126	Rycroft St	52	59	64	35	71	63	61	34
3	867	King St	236	75	80	78	166	253	26	60
4	346	Young St	89	25	34	27	81	103	10	12
5	347	Beretania St	32	64	137	71	24	73	68	72
6	359	Kinau St	14	17	14	14	69	24	13	24
7	306	H-1 EB On-Ramp	13	11	12	15	8	7	8	15
Totals	**3351**		**436**	**251**	**341**	**240**	**419**	**523**	**186**	**217**

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Study Name : **Before Closure_Piikoi St PM NB**
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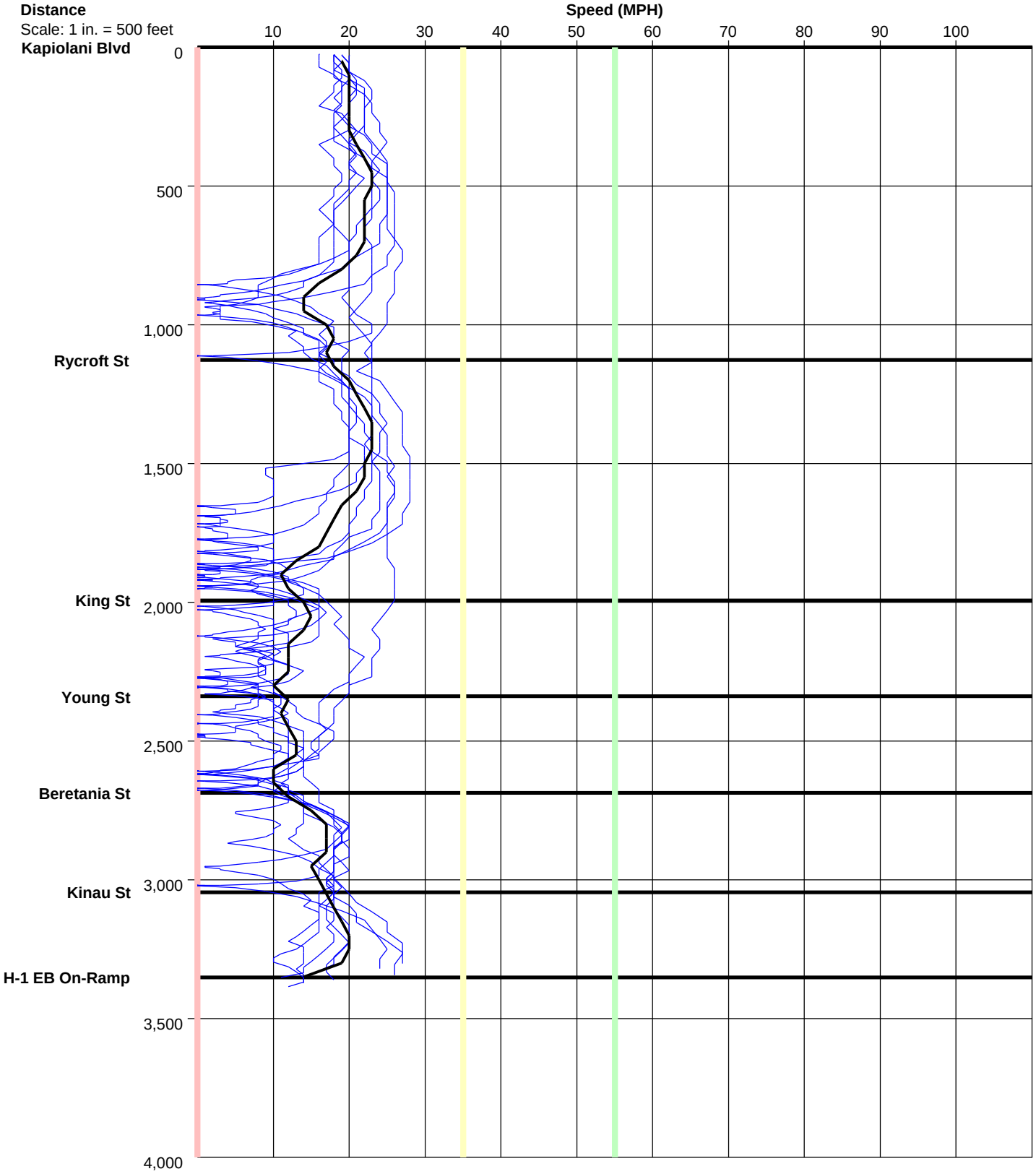
Speed/Distance Profiles of All Runs



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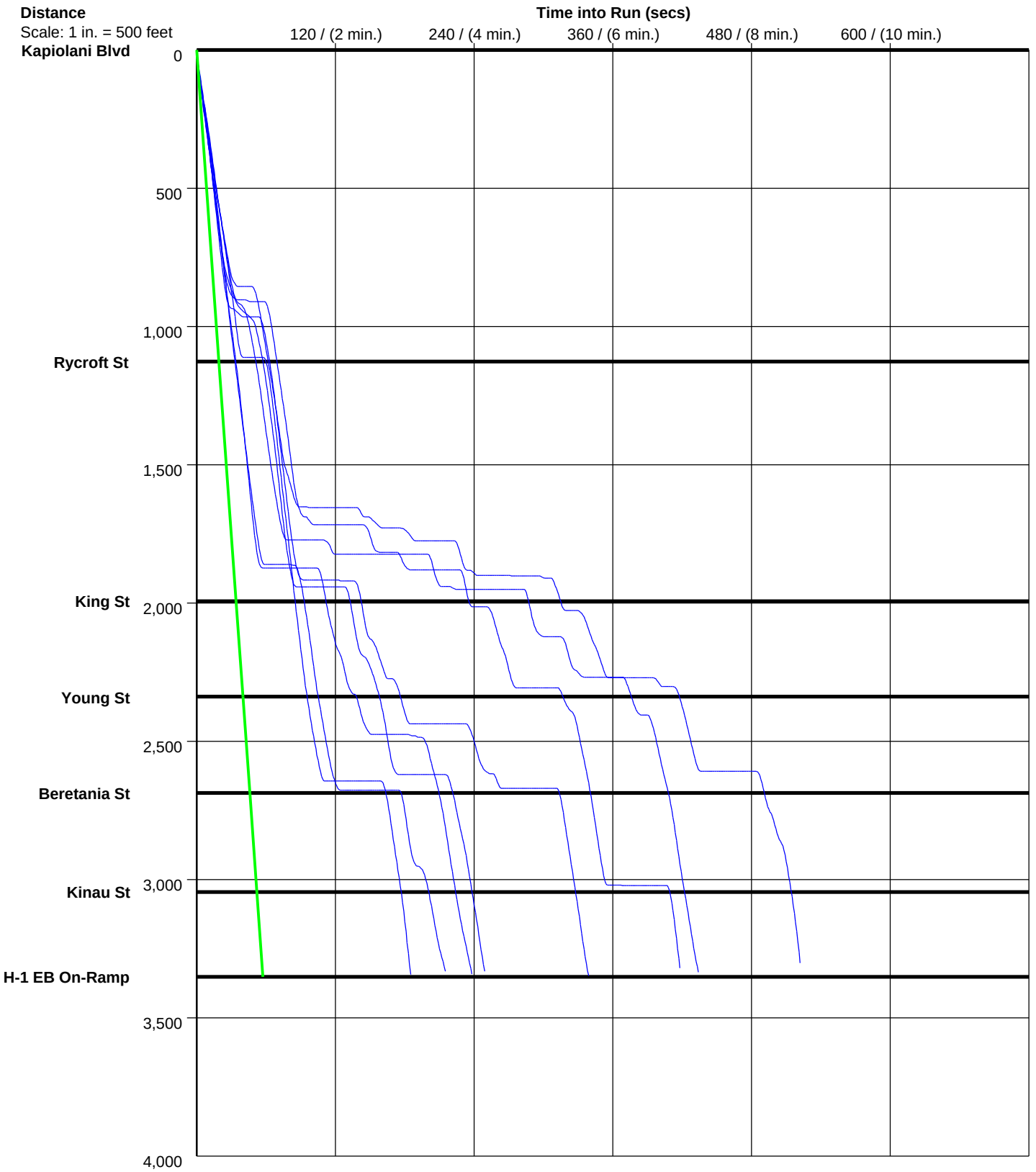
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_Ward Ave AM NB

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Study Name **: Before Closure_Ward Ave AM NB**
Study Date **: 4/4/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Ward Ave AM-NB-001	04/04/17	06:08	2714	Before	Secondary
Ward Ave AM-NB-002	04/04/17	06:18	2706	Before	Primary
Ward Ave AM-NB-003	04/04/17	06:28	2702	Before	Secondary
Ward Ave AM-NB-004	04/04/17	06:36	2724	Before	Secondary
Ward Ave AM-NB-005	04/04/17	06:46	2707	Before	Secondary
Ward Ave AM-NB-006	04/04/17	06:57	2671	Before	Secondary
Ward Ave AM-NB-007	04/04/17	07:06	2706	Before	Secondary
Ward Ave AM-NB-008	04/04/17	07:32	2713	Before	Secondary
Ward Ave AM-NB-009	04/04/17	07:46	2820	Before	Secondary
Ward Ave AM-NB-010	04/04/17	08:00	2734	Before	Secondary
Ward Ave AM-NB-011	04/04/17	08:45	2720	Before	Secondary
Ward Ave AM-NB-012	04/04/17	09:01	2735	Before	Secondary
Ward Ave AM-NB-013	04/04/17	09:17	2703	Before	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1384	King St
3	717	Beretania St
4	375	Kinau St
5	230	H-1 EB On-Ramp

Length of Study Route = 2,706 feet

Notes:

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Study Name **: Before Closure_Ward Ave AM NB**
Study Date **: 4/4/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1384	King St	70.8	1.1	13.3	46.8	24.2	70.8	70.8
3	717	Beretania St	88.5	1.6	5.5	76.3	51.0	88.5	88.5
4	375	Kinau St	53.0	0.8	4.8	46.4	33.8	53.0	53.0
5	230	H-1 EB On-Ramp	11.6	0.2	13.5	7.6	2.5	11.4	11.4
Total	**2,706**		**223.9**	**3.7**	**8.2**	**177.1**	**111.6**	**223.7**	**223.7**

Stats based on 13 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Study Name **: Before Closure_Ward Ave AM NB**
Study Date **: 4/4/2017**
Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1384	King St	0.0196	1.9701	15.9680	0.8997
3	717	Beretania St	0.0202	2.0670	16.3444	0.6740
4	375	Kinau St	0.0121	1.2633	9.7479	0.4304
5	230	H-1 EB On-Ramp	0.0034	0.3822	2.6333	0.2297
Total	**2,706**		**0.0552**	**5.6825**	**44.6935**	**2.2339**

Stats based on 13 BEFORE runs.

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Study Name **: Before Closure_Ward Ave AM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Travel Time (sec) by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1384	King St	43	77	54	69	43	35	77	44
3	717	Beretania St	20	77	46	76	52	74	78	178
4	375	Kinau St	65	12	11	12	74	12	13	84
5	230	H-1 EB On-Ramp	7	7	6	7	7	6	6	8
Totals	**2706**		**135**	**173**	**117**	**164**	**176**	**127**	**174**	**314**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	32	76	217	69	84
3	717	Beretania St	137	82	120	89	122
4	375	Kinau St	84	77	83	78	84
5	230	H-1 EB On-Ramp	58	9	9	9	12
Totals	**2706**		**311**	**244**	**429**	**245**	**302**

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Detailed Statistics By Run

Number of Stops by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1384	King St	1	1	1	1	1	0	1	1
3	717	Beretania St	0	1	1	1	1	1	1	4
4	375	Kinau St	1	0	0	0	1	0	0	2
5	230	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2706**		**2**	**2**	**2**	**2**	**3**	**1**	**2**	**7**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	0	1	3	1	2
3	717	Beretania St	4	1	2	1	3
4	375	Kinau St	2	1	1	1	2
5	230	H-1 EB On-Ramp	2	0	0	0	0
Totals	**2706**		**8**	**3**	**6**	**3**	**7**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Before Closure_Ward Ave AM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Ward Ave AM-NB-001)	Run #2 (Ward Ave AM-NB-002)	Run #3 (Ward Ave AM-NB-003)	Run #4 (Ward Ave AM-NB-004)	Run #5 (Ward Ave AM-NB-005)	Run #6 (Ward Ave AM-NB-006)	Run #7 (Ward Ave AM-NB-007)	Run #8 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1384	King St	22.1	12.3	17.9	13.8	22.1	27.3	12.4	21.5
3	717	Beretania St	24.8	6.3	10.4	6.4	9.3	6.7	6.1	2.8
4	375	Kinau St	3.9	21.3	25.0	21.6	3.6	21.3	20.5	3.0
5	230	H-1 EB On-Ramp	21.9	22.1	26.0	23.7	20.9	24.2	24.3	19.0
Totals	**2706**		**13.7**	**10.7**	**15.9**	**11.3**	**10.5**	**14.5**	**10.6**	**5.9**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	29.5	12.5	4.4	13.8	11.3
3	717	Beretania St	3.5	6.0	4.1	5.5	4.0
4	375	Kinau St	3.1	3.2	3.2	3.2	3.0
5	230	H-1 EB On-Ramp	2.6	19.4	16.9	19.1	13.8
Totals	**2706**		**5.9**	**7.6**	**4.3**	**7.6**	**6.1**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Ward Ave AM-NB-001)	Run #2 (Ward Ave AM-NB-002)	Run #3 (Ward Ave AM-NB-003)	Run #4 (Ward Ave AM-NB-004)	Run #5 (Ward Ave AM-NB-005)	Run #6 (Ward Ave AM-NB-006)	Run #7 (Ward Ave AM-NB-007)	Run #8 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1384	King St	19	53	30	45	19	11	53	20
3	717	Beretania St	7	65	34	64	40	61	66	166
4	375	Kinau St	58	6	4	6	67	5	6	77
5	230	H-1 EB On-Ramp	3	3	2	3	3	2	2	4
Totals	**2706**		**87**	**127**	**70**	**118**	**129**	**79**	**127**	**267**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	8	52	193	45	60
3	717	Beretania St	125	70	108	76	110
4	375	Kinau St	77	71	76	72	78
5	230	H-1 EB On-Ramp	54	5	5	5	8
Totals	**2706**		**264**	**198**	**382**	**198**	**256**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1384	King St	2	28	0	25	0	0	29	0
3	717	Beretania St	0	49	15	44	21	46	48	112
4	375	Kinau St	47	0	0	0	58	0	0	51
5	230	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2706**		**49**	**77**	**15**	**69**	**79**	**46**	**77**	**163**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	0	29	148	21	33
3	717	Beretania St	90	49	59	52	78
4	375	Kinau St	57	57	58	58	54
5	230	H-1 EB On-Ramp	33	0	0	0	0
Totals	**2706**		**180**	**135**	**265**	**131**	**165**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1384	King St	43	77	54	69	43	35	77	44
3	717	Beretania St	20	77	46	76	52	74	78	178
4	375	Kinau St	65	12	11	12	74	12	13	84
5	230	H-1 EB On-Ramp	7	7	5	7	7	5	6	8
Totals	**2706**		**135**	**173**	**116**	**164**	**176**	**126**	**174**	**314**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	32	76	217	69	84
3	717	Beretania St	137	82	120	89	122
4	375	Kinau St	84	77	83	78	84
5	230	H-1 EB On-Ramp	58	9	9	9	11
Totals	**2706**		**311**	**244**	**429**	**245**	**301**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1384	King St	43	77	54	69	43	35	77	44
3	717	Beretania St	20	77	46	76	52	74	78	178
4	375	Kinau St	65	12	11	12	74	12	13	84
5	230	H-1 EB On-Ramp	7	7	5	7	7	5	6	8
Totals	**2706**		**135**	**173**	**116**	**164**	**176**	**126**	**174**	**314**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)
1	0	Kapiolani Blvd					
2	1384	King St	32	76	217	69	84
3	717	Beretania St	137	82	120	89	122
4	375	Kinau St	84	77	83	78	84
5	230	H-1 EB On-Ramp	58	9	9	9	11
Totals	**2706**		**311**	**244**	**429**	**245**	**301**

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Study Name : **Before Closure_Ward Ave AM NB**
Study Date : **4/4/2017**
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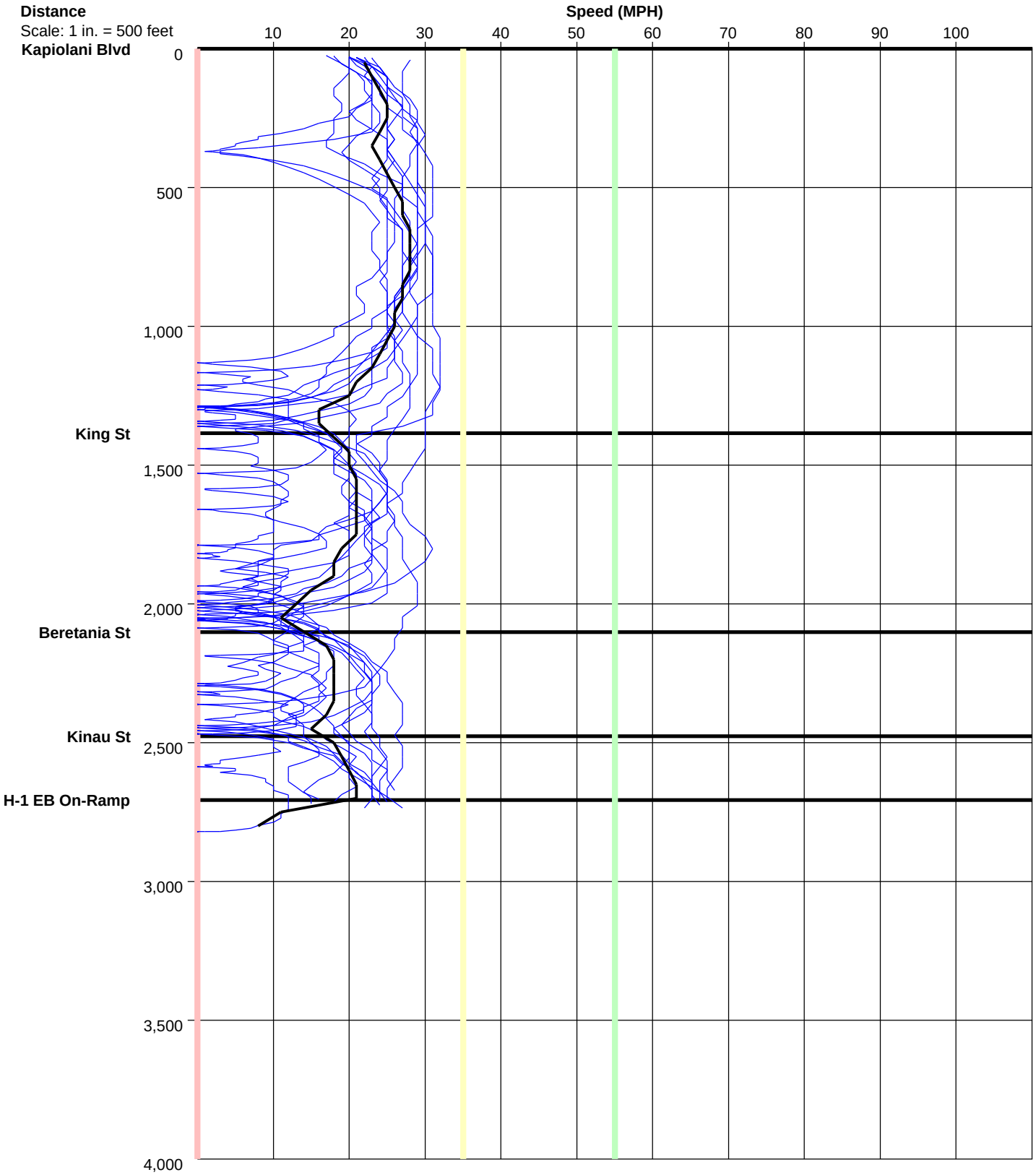
Speed/Distance Profiles of All Runs



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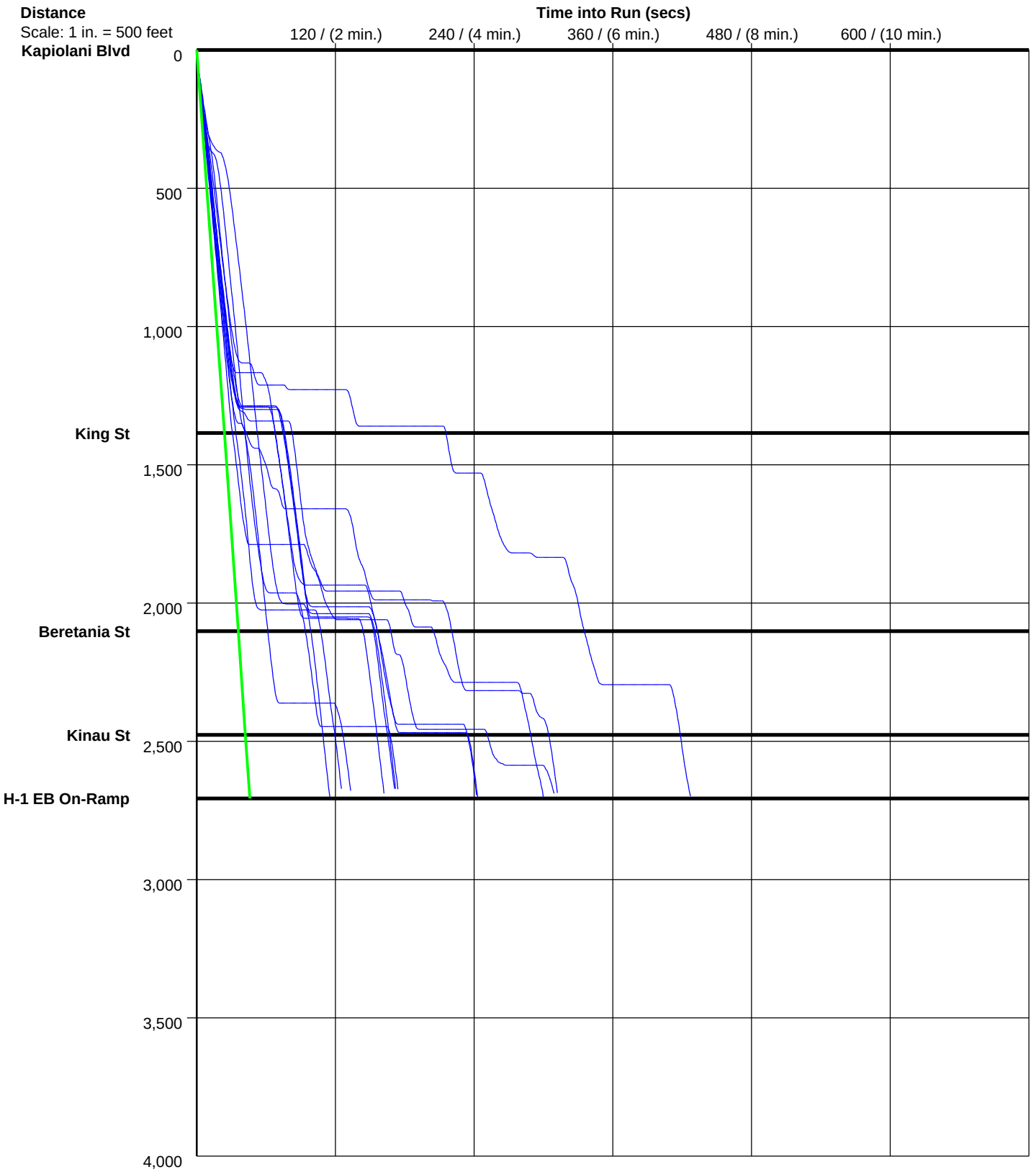
Study Name : **Before Closure_Ward Ave AM NB**
Study Date : **4/4/2017**
Page No. : **20**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Before Closure_Ward Ave PM NB

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Study Name **: Before Closure_Ward Ave PM NB**
Study Date **: 4/4/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Ward Ave PM-NB-001	04/04/17	15:04	2678	Before	Primary
Ward Ave PM-NB-002	04/04/17	15:26	2667	Before	Secondary
Ward Ave PM-NB-003	04/04/17	15:40	2698	Before	Secondary
Ward Ave PM-NB-004	04/04/17	15:58	2721	Before	Secondary
Ward Ave PM-NB-005	04/04/17	16:14	2645	Before	Secondary
Ward Ave PM-NB-006	04/04/17	16:32	2679	Before	Secondary
Ward Ave PM-NB-007	04/04/17	17:00	2687	Before	Secondary
Ward Ave PM-NB-008	04/04/17	17:26	2674	Before	Secondary
Ward Ave PM-NB-009	04/04/17	17:52	2668	Before	Secondary
Ward Ave PM-NB-010	04/04/17	18:14	2675	Before	Secondary
Ward Ave PM-NB-011	04/04/17	18:39	2729	Before	Secondary
Ward Ave PM-NB-012	04/04/17	18:50	2710	Before	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1418	King St
3	700	Beretania St
4	375	Kinau St
5	185	H-1 EB On-Ramp

Length of Study Route = 2,678 feet

Notes:

Austin, Tsutsumi & Associates

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Study Name **: Before Closure_Ward Ave PM NB**
Study Date **: 4/4/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1418	King St	189.7	2.3	5.1	165.4	116.3	189.7	189.7
3	700	Beretania St	214.5	4.0	2.2	202.5	142.9	214.5	214.5
4	375	Kinau St	66.8	1.3	3.8	60.0	40.6	66.8	66.8
5	185	H-1 EB On-Ramp	8.1	0.2	15.6	4.8	0.0	7.7	7.7
Total	**2,678**		**479.0**	**7.8**	**3.8**	**432.8**	**299.8**	**478.6**	**478.6**

Stats based on 12 BEFORE runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Before Closure_Ward Ave PM NB**
Study Date **: 4/4/2017**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1418	King St	0.0414	4.1039	36.3410	0.9795
3	700	Beretania St	0.0440	4.4051	36.8719	0.8900
4	375	Kinau St	0.0146	1.5036	11.3138	0.4572
5	185	H-1 EB On-Ramp	0.0026	0.3195	1.7904	0.2378
Total	**2,678**		**0.1026**	**10.3321**	**86.3170**	**2.5645**

Stats based on 12 BEFORE runs.

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Study Name **: Before Closure_Ward Ave PM NB**

Study Date **: 4/4/2017**

Detailed Statistics By Run

Travel Time (sec) by Section

Ward Ave PM-NB-001 | Ward Ave PM-NB-002 | Ward Ave PM-NB-003 | Ward Ave PM-NB-004 | Ward Ave PM-NB-005 | Ward Ave PM-NB-006 | Ward Ave PM-NB-007 | Ward Ave PM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1418	King St	182	103	152	88	104	98	503	477
3	700	Beretania St	448	182	204	171	278	206	267	254
4	375	Kinau St	78	16	73	79	88	93	79	26
5	185	H-1 EB On-Ramp	21	7	7	7	5	7	7	8
Totals	**2678**		**729**	**308**	**436**	**345**	**475**	**404**	**856**	**765**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	345	107	61	56
3	700	Beretania St	203	102	100	159
4	375	Kinau St	76	79	91	23
5	185	H-1 EB On-Ramp	7	7	7	7
Totals	**2678**		**631**	**295**	**259**	**245**

Austin, Tsutsumi & Associates

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1418	King St	3	2	2	2	1	1	6	4
3	700	Beretania St	7	4	4	3	6	4	5	3
4	375	Kinau St	1	0	2	1	2	2	1	1
5	185	H-1 EB On-Ramp	2	0	0	0	0	0	0	0
Totals	**2678**		**13**	**6**	**8**	**6**	**9**	**7**	**12**	**8**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	4	1	1	1
3	700	Beretania St	6	2	2	2
4	375	Kinau St	1	1	3	1
5	185	H-1 EB On-Ramp	0	0	0	0
Totals	**2678**		**11**	**4**	**6**	**4**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1418	King St	5.3	9.4	6.4	11.0	9.4	10.0	1.9	2.0
3	700	Beretania St	1.1	2.6	2.3	2.9	1.7	2.3	1.8	1.9
4	375	Kinau St	3.3	16.8	3.6	3.2	3.1	2.6	3.2	9.3
5	185	H-1 EB On-Ramp	6.0	17.7	19.0	17.6	21.8	17.3	18.0	17.4
Totals	**2678**		**2.5**	**5.9**	**4.2**	**5.3**	**3.8**	**4.5**	**2.1**	**2.4**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	2.8	9.2	16.0	17.5
3	700	Beretania St	2.4	4.5	4.7	2.9
4	375	Kinau St	3.3	3.4	2.9	11.0
5	185	H-1 EB On-Ramp	19.3	18.2	19.1	17.6
Totals	**2678**		**2.9**	**6.2**	**7.1**	**7.5**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1418	King St	158	79	128	64	80	74	479	453
3	700	Beretania St	436	170	192	159	266	194	255	242
4	375	Kinau St	72	9	66	72	81	86	72	20
5	185	H-1 EB On-Ramp	18	4	4	4	2	4	4	4
Totals	**2678**		**684**	**262**	**390**	**299**	**429**	**358**	**810**	**719**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	321	82	36	31
3	700	Beretania St	191	90	88	147
4	375	Kinau St	70	72	84	16
5	185	H-1 EB On-Ramp	3	3	4	4
Totals	**2678**		**585**	**247**	**212**	**198**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Ward Ave PM-NB-001 | Ward Ave PM-NB-002 | Ward Ave PM-NB-003 | Ward Ave PM-NB-004 | Ward Ave PM-NB-005 | Ward Ave PM-NB-006 | Ward Ave PM-NB-007 | Ward Ave PM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1418	King St	92	49	80	24	58	46	352	372
3	700	Beretania St	340	122	132	109	178	123	184	182
4	375	Kinau St	51	0	45	53	50	60	55	7
5	185	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2678**		**483**	**171**	**257**	**186**	**286**	**229**	**591**	**561**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	267	51	5	0
3	700	Beretania St	126	48	46	125
4	375	Kinau St	53	54	59	0
5	185	H-1 EB On-Ramp	0	0	0	0
Totals	**2678**		**446**	**153**	**110**	**125**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1418	King St	182	103	152	88	104	98	503	477
3	700	Beretania St	448	182	204	171	278	206	267	254
4	375	Kinau St	78	16	73	79	88	93	79	26
5	185	H-1 EB On-Ramp	21	6	7	7	4	7	7	7
Totals	**2678**		**729**	**307**	**436**	**345**	**474**	**404**	**856**	**764**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	345	107	61	56
3	700	Beretania St	203	102	100	159
4	375	Kinau St	76	79	91	23
5	185	H-1 EB On-Ramp	6	6	7	7
Totals	**2678**		**630**	**294**	**259**	**245**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1418	King St	182	103	152	88	104	98	503	477
3	700	Beretania St	448	182	204	171	278	206	267	254
4	375	Kinau St	78	16	73	79	88	93	79	26
5	185	H-1 EB On-Ramp	21	6	7	7	4	7	7	7
Totals	**2678**		**729**	**307**	**436**	**345**	**474**	**404**	**856**	**764**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1418	King St	345	107	61	56
3	700	Beretania St	203	102	100	159
4	375	Kinau St	76	79	91	23
5	185	H-1 EB On-Ramp	6	6	7	7
Totals	**2678**		**630**	**294**	**259**	**245**

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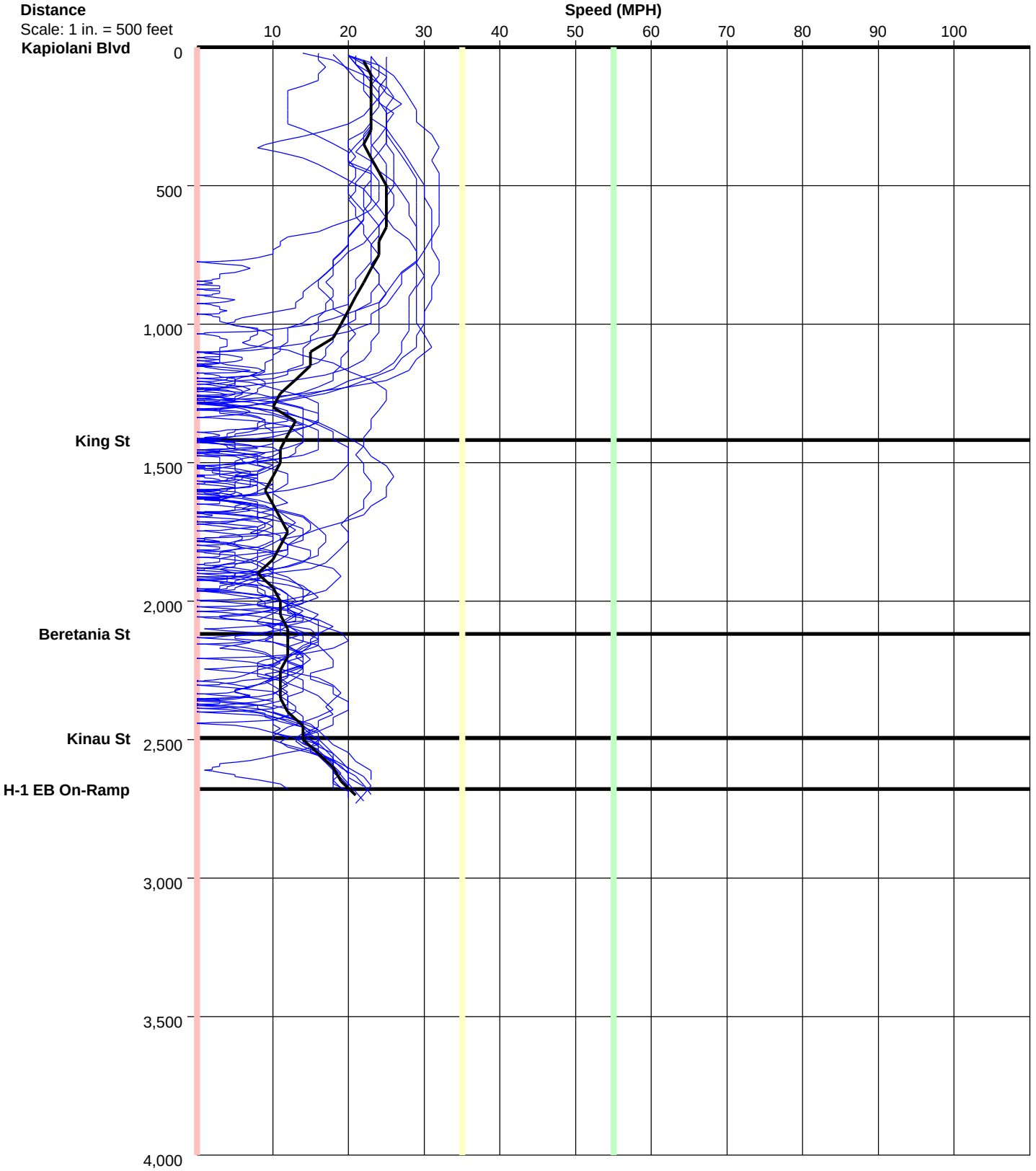
Study Name : **Before Closure_Ward Ave PM NB**
Study Date : **4/4/2017**
Page No. : **19**

Speed/Distance Profiles of All Runs



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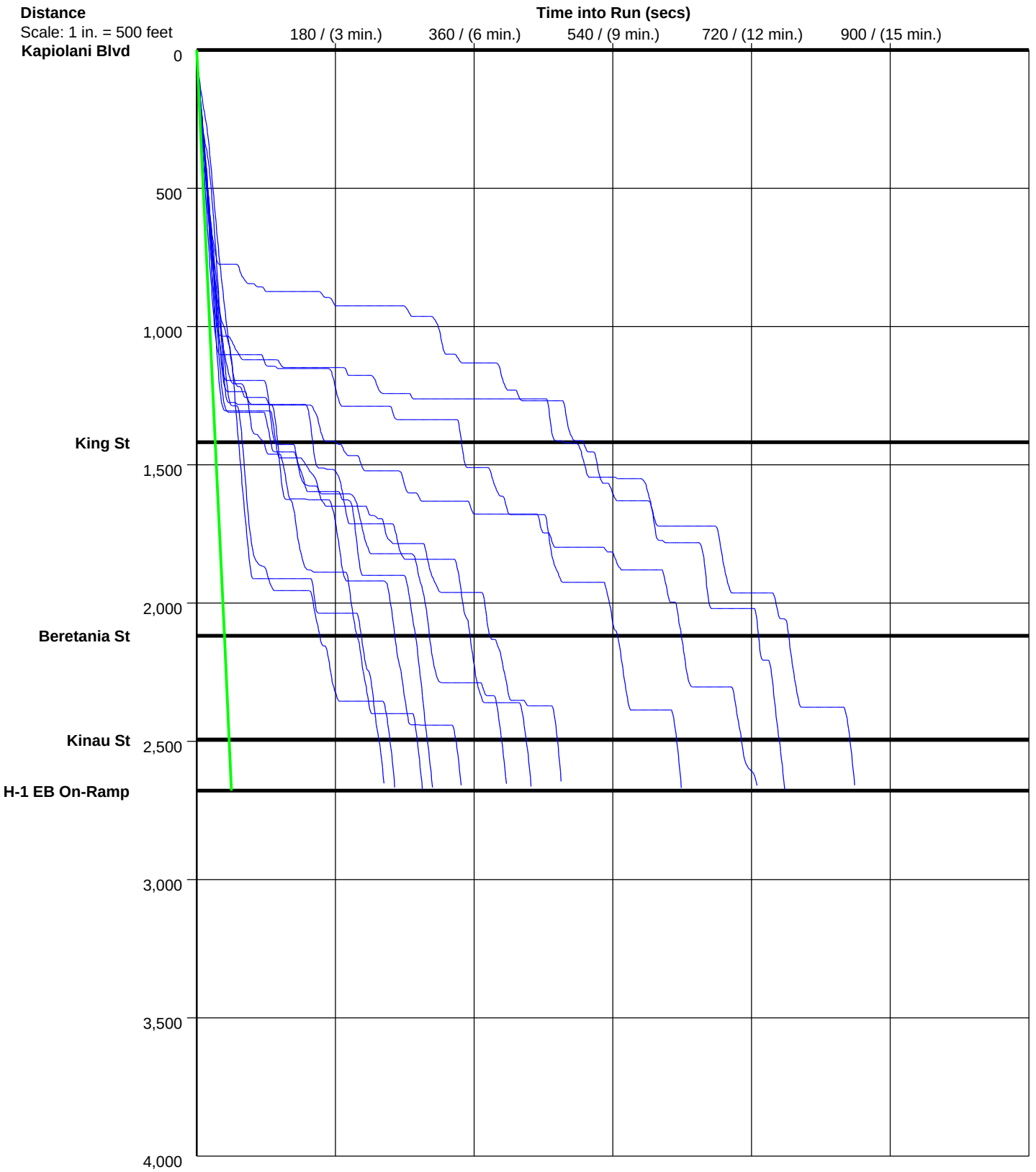
Study Name : **Before Closure_Ward Ave PM NB**
Study Date : **4/4/2017**
Page No. : **20**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

APPENDIX B

TRAVEL TIME RUN DATA

- During Closure Data

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PC-Travel Reports for study: Closure_H-1 AM EB

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Study Name **: Closure_H-1 AM EB**
Study Date **: 4/26/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
H-1 AM-EB-001	04/26/17	05:45	42300	After	Secondary
H-1 AM-EB-002	04/26/17	06:01	42292	After	Secondary
H-1 AM-EB-003	04/26/17	06:16	42444	After	Secondary
H-1 AM-EB-004	04/26/17	06:35	42309	After	Secondary
H-1 AM-EB-005	04/26/17	06:48	42344	After	Primary
H-1 AM-EB-006	04/26/17	07:15	42317	After	Secondary
H-1 AM-EB-007	04/26/17	07:31	42286	After	Secondary
H-1 AM-EB-008	04/26/17	07:47	42344	After	Secondary
H-1 AM-EB-009	04/26/17	08:04	42251	After	Secondary
H-1 AM-EB-010	04/26/17	08:18	42226	After	Secondary
H-1 AM-EB-012	04/26/17	09:01	42395	After	Secondary
H-1 AM-EB-013	04/26/17	09:17	42426	After	Secondary
H-1 AM-EB-014	04/26/17	09:35	42346	After	Secondary

Node Info

#	Len	Name
1	0	Moanalua Rd On-Ramp
2	1845	Airport/Tripler Hospital
3	2650	Ft Shafter/King St Exit
4	3783	Ft Shafter/King St On-
5	1274	Queen Liliuokalani Fwy
6	3143	Likelike Hwy Exit
7	1451	Kalihi St On-Ramp
8	2321	Vineyard Blvd Exit
9	3702	Liliha St On-Ramp
10	1661	Pali Hwy Exit
11	922	Punchbowl St Exit
12	1091	Pali Hwy On-Ramp
13	1293	Kinau St Exit
14	1298	Vineyard Blvd On-Ramp
15	855	Ward Ave On-Ramp
16	2656	Piikoi St On-Ramp
17	1196	Punahou St Exit
18	3225	Bingham St Exit
19	2342	University Ave On-Ramp
20	578	University Ave Exit
21	1448	King St Exit
22	740	King St On-Ramp
23	667	Kapiolani Blvd On-Ramp
24	2203	6th Ave Exit

Length of Study Route = 42,344 feet

Notes:

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Study Name **: Closure_H-1 AM EB**
Study Date **: 4/26/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Moanalua Rd On-Ramp							
2	1845	Airport/Tripler Hospital Exit	25.4	0.0	49.6	0.0	0.0	0.0	21.0
3	2650	Ft Shafter/King St Exit	36.4	0.0	49.7	0.2	0.0	2.1	31.0
4	3783	Ft Shafter/King St On-Ramp	81.2	0.8	31.8	25.8	1.5	40.3	71.1
5	1274	Queen Liliuokalani Fwy	52.9	1.1	16.4	32.5	0.0	43.3	51.5
6	3143	Likelike Hwy Exit	91.5	0.8	23.4	38.2	0.0	68.5	91.5
7	1451	Kalihi St On-Ramp	32.2	0.1	30.8	8.6	0.3	17.5	31.9
8	2321	Vineyard Blvd Exit	52.1	0.4	30.4	15.1	0.3	26.2	52.1
9	3702	Liliha St On-Ramp	91.5	0.5	27.6	32.1	0.0	58.5	91.5
10	1661	Pali Hwy Exit	30.7	0.0	36.9	4.5	0.0	12.0	29.8
11	922	Punchbowl St Exit	17.0	0.0	37.0	2.8	0.0	6.8	16.6
12	1091	Pali Hwy On-Ramp	20.5	0.0	36.2	2.9	0.0	8.9	20.5
13	1293	Kinau St Exit	26.2	0.2	33.7	5.0	0.5	10.8	26.2
14	1298	Vineyard Blvd On-Ramp	32.0	0.5	27.7	12.2	0.6	18.2	32.0
15	855	Ward Ave On-Ramp	22.6	0.2	25.8	9.5	0.4	15.2	22.5
16	2656	Piikoi St On-Ramp	54.2	0.1	33.4	12.0	0.0	26.5	54.2
17	1196	Punahou St Exit	19.0	0.0	42.9	0.2	0.0	0.5	19.0
18	3225	Bingham St Exit	45.2	0.0	48.7	0.0	0.0	0.0	40.9
19	2342	University Ave On-Ramp	33.9	0.1	47.1	1.0	0.0	2.2	30.0
20	578	University Ave Exit	10.8	0.1	36.6	1.4	0.0	2.5	10.8
21	1448	King St Exit	21.1	0.0	46.8	0.0	0.0	0.1	19.6
22	740	King St On-Ramp	9.8	0.0	51.2	0.0	0.0	0.0	8.1
23	667	Kapiolani Blvd On-Ramp	9.5	0.0	48.1	0.0	0.0	0.0	8.8
24	2203	6th Ave Exit	31.4	0.0	47.9	0.0	0.0	0.8	30.2
Total	**42,344**		**846.8**	**4.6**	**34.1**	**204.0**	**3.5**	**360.7**	**810.6**

Stats based on 13 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Moanalua Rd On-Ramp				
2	1845	Airport/Tripler Hospital Exit	0.0172	1.1392	18.0810	0.6029
3	2650	Ft Shafter/King St Exit	0.0246	1.7397	27.5857	0.9774
4	3783	Ft Shafter/King St On-Ramp	0.0375	2.5688	33.5437	1.1255
5	1274	Queen Liliuokalani Fwy	0.0156	1.2272	10.6156	0.4201
6	3143	Likelike Hwy Exit	0.0344	3.6004	36.3989	2.2112
7	1451	Kalihi St On-Ramp	0.0132	1.0815	12.2751	0.5531
8	2321	Vineyard Blvd Exit	0.0222	1.9628	23.2530	1.0831
9	3702	Liliha St On-Ramp	0.0344	2.7730	28.1965	1.3265
10	1661	Pali Hwy Exit	0.0154	1.3816	18.2499	0.8248
11	922	Punchbowl St Exit	0.0082	0.7002	8.8738	0.4045
12	1091	Pali Hwy On-Ramp	0.0092	0.6507	7.3007	0.3148
13	1293	Kinau St Exit	0.0121	1.1520	14.5933	0.6915
14	1298	Vineyard Blvd On-Ramp	0.0127	0.9800	11.4533	0.4367
15	855	Ward Ave On-Ramp	0.0085	0.7060	7.5061	0.3433
16	2656	Piikoi St On-Ramp	0.0241	1.9677	21.7059	1.0799
17	1196	Punahou St Exit	0.0102	0.7986	10.8296	0.4499
18	3225	Bingham St Exit	0.0302	2.3991	37.7193	1.4393
19	2342	University Ave On-Ramp	0.0208	1.2804	18.7177	0.6362
20	578	University Ave Exit	0.0054	0.4850	5.9041	0.3032
21	1448	King St Exit	0.0142	1.3804	21.8287	0.9113
22	740	King St On-Ramp	0.0069	0.4710	7.6415	0.2627
23	667	Kapiolani Blvd On-Ramp	0.0055	0.2700	3.5744	0.1025
24	2203	6th Ave Exit	0.0187	1.2692	19.0132	0.6703
Total	**42,344**		**0.4010**	**31.9845**	**404.8609**	**17.1709**

Stats based on 13 AFTER runs.

Austin, Tsutsumi & Associates

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Study Name : **Closure_H-1 AM EB**
Study Date : **4/26/2017**
Page No. : **5**

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	26	25	24	27	26	27	27	25
3	2650	Ft Shafter/King St Exit	36	33	36	37	48	40	37	38
4	3783	Ft Shafter/King St On-	51	56	48	91	236	150	117	66
5	1274	Queen Liliuokalani Fwy	22	17	23	111	59	80	165	117
6	3143	Likelike Hwy Exit	58	46	87	110	74	133	210	127
7	1451	Kalihi St On-Ramp	21	19	28	27	28	77	58	41
8	2321	Vineyard Blvd Exit	31	34	43	40	50	139	65	98
9	3702	Liliha St On-Ramp	52	53	65	80	103	200	171	147
10	1661	Pali Hwy Exit	22	21	25	28	27	35	64	32
11	922	Punchbowl St Exit	12	11	13	21	20	16	40	16
12	1091	Pali Hwy On-Ramp	16	14	18	23	21	25	40	23
13	1293	Kinau St Exit	20	18	23	23	23	68	31	26
14	1298	Vineyard Blvd On-Ramp	17	17	20	20	28	120	40	58
15	855	Ward Ave On-Ramp	12	10	12	14	24	54	53	41
16	2656	Piikoi St On-Ramp	37	41	38	43	59	94	86	74
17	1196	Punahou St Exit	16	20	18	19	21	19	22	19
18	3225	Bingham St Exit	41	49	45	48	43	45	51	42
19	2342	University Ave On-Ramp	32	35	31	34	30	33	31	30
20	578	University Ave Exit	11	9	10	11	8	10	9	9
21	1448	King St Exit	24	22	22	22	18	21	20	19
22	740	King St On-Ramp	10	10	9	10	9	10	9	9
23	667	Kapiolani Blvd On-Ramp	9	10	8	10	9	9	10	9
24	2203	6th Ave Exit	30	31	32	29	31	35	31	31
Totals	**42344**		**606**	**601**	**678**	**878**	**995**	**1,440**	**1,387**	**1,097**

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	28	24	23	23	25
3	2650	Ft Shafter/King St Exit	36	31	33	35	33
4	3783	Ft Shafter/King St On-	52	51	45	48	44
5	1274	Queen Liliuokalani Fwy	21	18	18	21	16
6	3143	Likelike Hwy Exit	78	52	83	73	58
7	1451	Kalihi St On-Ramp	29	22	24	21	23
8	2321	Vineyard Blvd Exit	41	32	33	33	38
9	3702	Liliha St On-Ramp	95	54	56	53	60
10	1661	Pali Hwy Exit	39	23	25	25	33
11	922	Punchbowl St Exit	18	12	12	13	17
12	1091	Pali Hwy On-Ramp	20	17	15	17	18
13	1293	Kinau St Exit	28	20	20	19	21
14	1298	Vineyard Blvd On-Ramp	22	18	17	18	21
15	855	Ward Ave On-Ramp	26	12	11	13	12
16	2656	Piikoi St On-Ramp	71	37	42	43	39
17	1196	Punahou St Exit	20	16	18	19	20
18	3225	Bingham St Exit	47	40	45	43	48
19	2342	University Ave On-Ramp	53	28	35	37	32
20	578	University Ave Exit	28	7	8	11	9
21	1448	King St Exit	23	18	21	22	22
22	740	King St On-Ramp	10	10	10	11	11
23	667	Kapiolani Blvd On-Ramp	11	9	9	10	10
24	2203	6th Ave Exit	31	30	32	34	31
Totals	**42344**		**827**	**581**	**635**	**642**	**641**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name **: Closure_H-1 AM EB**
Study Date **: 4/26/2017**
Page No. **: 7**

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	2	4	1	3	0
5	1274	Queen Liliuokalani Fwy	0	0	0	3	0	2	5	4
6	3143	Likelike Hwy Exit	0	0	0	1	0	4	4	2
7	1451	Kalihi St On-Ramp	0	0	0	0	0	1	0	0
8	2321	Vineyard Blvd Exit	0	0	0	0	0	5	0	0
9	3702	Liliha St On-Ramp	0	0	0	0	1	3	1	1
10	1661	Pali Hwy Exit	0	0	0	0	0	0	0	0
11	922	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1091	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1293	Kinau St Exit	0	0	0	0	0	2	0	0
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	0	5	0	1
15	855	Ward Ave On-Ramp	0	0	0	0	0	1	0	1
16	2656	Piikoi St On-Ramp	0	0	0	0	0	1	0	0
17	1196	Punahou St Exit	0	0	0	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0	0	0	0
19	2342	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	578	University Ave Exit	0	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42344**		**0**	**0**	**0**	**6**	**5**	**25**	**13**	**9**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0
6	3143	Likelike Hwy Exit	0	0	0	0	0
7	1451	Kalihi St On-Ramp	0	0	0	0	0
8	2321	Vineyard Blvd Exit	0	0	0	0	0
9	3702	Liliha St On-Ramp	0	0	0	0	0
10	1661	Pali Hwy Exit	0	0	0	0	0
11	922	Punchbowl St Exit	0	0	0	0	0
12	1091	Pali Hwy On-Ramp	0	0	0	0	0
13	1293	Kinau St Exit	0	0	0	0	0
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	0
15	855	Ward Ave On-Ramp	0	0	0	0	0
16	2656	Piikoi St On-Ramp	0	0	0	0	0
17	1196	Punahou St Exit	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0
19	2342	University Ave On-Ramp	1	0	0	0	0
20	578	University Ave Exit	1	0	0	0	0
21	1448	King St Exit	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0
Totals	**42344**		**2**	**0**	**0**	**0**	**0**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name **: Closure_H-1 AM EB**
Study Date **: 4/26/2017**
Page No. **: 9**

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	49.5	51.3	52.7	47.0	48.2	47.3	48.1	50.7
3	2650	Ft Shafter/King St Exit	50.0	54.1	50.8	48.7	37.7	45.2	48.7	47.6
4	3783	Ft Shafter/King St On-	50.6	46.8	53.5	28.3	11.0	17.1	21.7	38.9
5	1274	Queen Liliuokalani Fwy	38.5	50.5	37.3	7.9	14.8	10.8	5.1	7.4
6	3143	Likelike Hwy Exit	36.7	46.2	24.7	19.6	28.9	16.3	10.3	17.0
7	1451	Kalihi St On-Ramp	48.7	51.2	35.0	37.0	35.3	12.7	16.8	24.3
8	2321	Vineyard Blvd Exit	50.8	47.1	37.1	39.7	31.6	11.5	24.5	16.0
9	3702	Liliha St On-Ramp	48.3	47.6	39.2	31.3	24.4	12.6	14.7	17.3
10	1661	Pali Hwy Exit	51.3	54.3	45.4	40.3	42.0	32.7	17.6	35.2
11	922	Punchbowl St Exit	50.2	55.1	46.0	30.4	31.5	38.8	15.7	39.8
12	1091	Pali Hwy On-Ramp	47.3	52.8	41.6	32.6	35.4	30.4	18.5	32.6
13	1293	Kinau St Exit	44.9	49.9	38.3	38.3	38.3	12.6	29.3	34.0
14	1298	Vineyard Blvd On-Ramp	50.8	53.4	44.8	44.3	31.5	7.5	21.8	14.9
15	855	Ward Ave On-Ramp	49.8	54.0	48.1	42.4	24.3	10.8	10.9	14.4
16	2656	Piikoi St On-Ramp	49.0	44.1	48.4	42.1	30.6	19.6	21.1	24.5
17	1196	Punahou St Exit	50.1	42.3	43.4	41.7	38.9	43.5	36.8	44.3
18	3225	Bingham St Exit	54.0	44.3	49.5	45.9	51.1	48.5	43.7	51.8
19	2342	University Ave On-Ramp	49.6	46.6	50.7	46.8	53.3	48.1	50.3	53.6
20	578	University Ave Exit	36.0	43.7	42.1	37.5	49.3	38.0	44.9	43.6
21	1448	King St Exit	41.8	44.8	45.1	44.1	54.9	47.0	50.7	51.5
22	740	King St On-Ramp	50.5	47.0	54.3	51.7	56.0	50.8	52.0	56.3
23	667	Kapiolani Blvd On-Ramp	49.6	45.9	55.4	45.2	50.4	52.1	46.8	52.1
24	2203	6th Ave Exit	49.7	48.7	47.3	51.9	48.4	42.7	48.0	47.3
Totals	**42344**		**47.6**	**48.0**	**42.6**	**32.9**	**29.0**	**20.1**	**20.8**	**26.3**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	46.5	54.8	56.2	55.4	51.4
3	2650	Ft Shafter/King St Exit	50.3	56.8	54.2	52.5	55.4
4	3783	Ft Shafter/King St On-	49.0	51.0	58.3	53.3	57.5
5	1274	Queen Liliuokalani Fwy	41.1	47.6	45.8	40.9	54.6
6	3143	Likelike Hwy Exit	27.2	41.1	26.2	29.4	37.4
7	1451	Kalihi St On-Ramp	34.9	46.4	40.2	48.6	43.1
8	2321	Vineyard Blvd Exit	38.7	49.2	48.3	47.7	41.3
9	3702	Liliha St On-Ramp	26.4	46.1	44.8	47.5	42.0
10	1661	Pali Hwy Exit	29.1	50.3	46.9	44.4	34.7
11	922	Punchbowl St Exit	35.4	50.8	48.8	47.8	36.5
12	1091	Pali Hwy On-Ramp	35.9	45.1	49.5	45.8	42.1
13	1293	Kinau St Exit	32.0	42.8	45.9	45.9	40.4
14	1298	Vineyard Blvd On-Ramp	40.4	48.7	52.1	48.7	44.0
15	855	Ward Ave On-Ramp	21.7	49.4	49.3	43.1	46.8
16	2656	Piikoi St On-Ramp	25.6	49.7	43.6	43.0	46.7
17	1196	Punahou St Exit	41.3	50.1	45.2	43.1	40.5
18	3225	Bingham St Exit	46.5	54.8	48.9	51.0	45.5
19	2342	University Ave On-Ramp	30.0	57.8	46.0	42.2	50.5
20	578	University Ave Exit	15.0	52.3	46.0	39.5	43.4
21	1448	King St Exit	43.5	54.4	46.5	43.8	43.9
22	740	King St On-Ramp	47.6	53.7	54.4	48.4	46.5
23	667	Kapiolani Blvd On-Ramp	43.0	49.6	49.9	43.4	44.5
24	2203	6th Ave Exit	46.8	47.7	46.8	43.4	48.3
Totals	**42344**		**34.8**	**49.6**	**45.5**	**45.0**	**45.0**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	3	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	26	172	85	52	1
5	1274	Queen Liliuokalani Fwy	0	0	1	89	37	58	143	95
6	3143	Likelike Hwy Exit	4	0	33	56	20	79	156	73
7	1451	Kalihi St On-Ramp	0	0	3	2	3	52	33	16
8	2321	Vineyard Blvd Exit	0	0	3	0	10	99	25	58
9	3702	Liliha St On-Ramp	0	0	1	17	40	137	108	83
10	1661	Pali Hwy Exit	0	0	0	0	0	6	36	3
11	922	Punchbowl St Exit	0	0	0	5	4	0	24	0
12	1091	Pali Hwy On-Ramp	0	0	0	4	2	6	21	4
13	1293	Kinau St Exit	0	0	1	0	1	46	8	3
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	6	98	18	36
15	855	Ward Ave On-Ramp	0	0	0	0	9	39	38	26
16	2656	Piikoi St On-Ramp	0	0	0	0	14	48	40	28
17	1196	Punahou St Exit	0	0	0	0	1	0	1	0
18	3225	Bingham St Exit	0	0	0	0	0	0	0	0
19	2342	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	578	University Ave Exit	1	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42344**		**5**	**0**	**42**	**199**	**322**	**753**	**703**	**426**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0
6	3143	Likelike Hwy Exit	24	0	29	19	4
7	1451	Kalihi St On-Ramp	3	0	0	0	0
8	2321	Vineyard Blvd Exit	1	0	0	0	0
9	3702	Liliha St On-Ramp	31	0	0	0	0
10	1661	Pali Hwy Exit	10	0	0	0	4
11	922	Punchbowl St Exit	2	0	0	0	1
12	1091	Pali Hwy On-Ramp	1	0	0	0	0
13	1293	Kinau St Exit	6	0	0	0	0
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	0
15	855	Ward Ave On-Ramp	11	0	0	0	0
16	2656	Piikoi St On-Ramp	26	0	0	0	0
17	1196	Punahou St Exit	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0
19	2342	University Ave On-Ramp	13	0	0	0	0
20	578	University Ave Exit	17	0	0	0	0
21	1448	King St Exit	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0
Totals	**42344**		**145**	**0**	**29**	**19**	**9**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Closure_H-1 AM EB**
Study Date : **4/26/2017**
Page No. : **13**

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	0	13	0	6	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0	0	0	0
6	3143	Likelike Hwy Exit	0	0	0	0	0	0	0	0
7	1451	Kalihi St On-Ramp	0	0	0	0	0	4	0	0
8	2321	Vineyard Blvd Exit	0	0	0	0	0	4	0	0
9	3702	Liliha St On-Ramp	0	0	0	0	0	0	0	0
10	1661	Pali Hwy Exit	0	0	0	0	0	0	0	0
11	922	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1091	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1293	Kinau St Exit	0	0	0	0	0	6	0	0
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	0	8	0	0
15	855	Ward Ave On-Ramp	0	0	0	0	0	4	0	1
16	2656	Piikoi St On-Ramp	0	0	0	0	0	0	0	0
17	1196	Punahou St Exit	0	0	0	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0	0	0	0
19	2342	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	578	University Ave Exit	0	0	0	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0	0	0	0
Totals	**42344**		**0**	**0**	**0**	**0**	**13**	**26**	**6**	**1**

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0
6	3143	Likelike Hwy Exit	0	0	0	0	0
7	1451	Kalihi St On-Ramp	0	0	0	0	0
8	2321	Vineyard Blvd Exit	0	0	0	0	0
9	3702	Liliha St On-Ramp	0	0	0	0	0
10	1661	Pali Hwy Exit	0	0	0	0	0
11	922	Punchbowl St Exit	0	0	0	0	0
12	1091	Pali Hwy On-Ramp	0	0	0	0	0
13	1293	Kinau St Exit	0	0	0	0	0
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	0
15	855	Ward Ave On-Ramp	0	0	0	0	0
16	2656	Piikoi St On-Ramp	0	0	0	0	0
17	1196	Punahou St Exit	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0
19	2342	University Ave On-Ramp	0	0	0	0	0
20	578	University Ave Exit	0	0	0	0	0
21	1448	King St Exit	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0
Totals	**42344**		**0**	**0**	**0**	**0**	**0**

Austin, Tsutsumi & Associates

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Study Name **: Closure_H-1 AM EB**
Study Date **: 4/26/2017**
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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	27	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	46	236	133	84	25
5	1274	Queen Liliuokalani Fwy	7	0	10	111	59	80	165	117
6	3143	Likelike Hwy Exit	23	0	68	86	51	119	210	122
7	1451	Kalihi St On-Ramp	0	0	16	12	13	77	58	38
8	2321	Vineyard Blvd Exit	0	0	10	0	28	139	65	98
9	3702	Liliha St On-Ramp	0	0	4	52	91	200	171	147
10	1661	Pali Hwy Exit	0	0	0	3	0	17	64	15
11	922	Punchbowl St Exit	0	0	0	21	16	0	40	0
12	1091	Pali Hwy On-Ramp	0	0	0	23	7	25	40	15
13	1293	Kinau St Exit	0	0	0	4	1	68	31	11
14	1298	Vineyard Blvd On-Ramp	0	0	0	0	23	120	40	53
15	855	Ward Ave On-Ramp	0	0	0	0	24	54	53	41
16	2656	Piikoi St On-Ramp	0	0	0	0	49	82	85	64
17	1196	Punahou St Exit	0	0	0	0	0	0	6	0
18	3225	Bingham St Exit	0	0	0	0	0	0	0	0
19	2342	University Ave On-Ramp	0	0	0	0	0	1	0	0
20	578	University Ave Exit	2	0	0	0	0	3	0	0
21	1448	King St Exit	0	0	0	0	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	0	0	5	0	0
Totals	**42344**		**32**	**0**	**108**	**358**	**625**	**1,123**	**1,112**	**746**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	0	0	0	0	0
3	2650	Ft Shafter/King St Exit	0	0	0	0	0
4	3783	Ft Shafter/King St On-	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	5	0	5	4	0
6	3143	Likelike Hwy Exit	73	4	64	50	21
7	1451	Kalihi St On-Ramp	13	0	0	0	0
8	2321	Vineyard Blvd Exit	0	0	0	0	0
9	3702	Liliha St On-Ramp	88	0	0	0	7
10	1661	Pali Hwy Exit	39	0	0	0	18
11	922	Punchbowl St Exit	8	0	0	0	3
12	1091	Pali Hwy On-Ramp	6	0	0	0	0
13	1293	Kinau St Exit	25	0	0	0	0
14	1298	Vineyard Blvd On-Ramp	1	0	0	0	0
15	855	Ward Ave On-Ramp	26	0	0	0	0
16	2656	Piikoi St On-Ramp	64	0	0	0	0
17	1196	Punahou St Exit	0	0	0	0	0
18	3225	Bingham St Exit	0	0	0	0	0
19	2342	University Ave On-Ramp	24	0	0	3	0
20	578	University Ave Exit	28	0	0	0	0
21	1448	King St Exit	1	0	0	0	0
22	740	King St On-Ramp	0	0	0	0	0
23	667	Kapiolani Blvd On-Ramp	0	0	0	0	0
24	2203	6th Ave Exit	0	0	0	5	0
Totals	**42344**		**401**	**4**	**69**	**62**	**49**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 AM-EB-001)	Run #2 (H-1 AM-EB-002)	Run #3 (H-1 AM-EB-003)	Run #4 (H-1 AM-EB-004)	Run #5 (H-1 AM-EB-005)	Run #6 (H-1 AM-EB-006)	Run #7 (H-1 AM-EB-007)	Run #8 (H-1 AM-EB-008)
1	0	Moanalua Rd On-Ramp								
2	1845	Airport/Tripler Hospital Exit	26	23	24	27	26	27	27	17
3	2650	Ft Shafter/King St Exit	36	15	36	37	48	40	37	37
4	3783	Ft Shafter/King St On-	51	56	30	91	236	150	105	55
5	1274	Queen Liliuokalani Fwy	22	17	23	111	59	80	165	117
6	3143	Likelike Hwy Exit	58	46	87	110	74	133	210	127
7	1451	Kalihi St On-Ramp	21	16	28	27	28	77	58	41
8	2321	Vineyard Blvd Exit	31	34	43	40	50	139	65	98
9	3702	Liliha St On-Ramp	52	53	65	80	103	200	171	147
10	1661	Pali Hwy Exit	22	10	25	28	27	35	64	32
11	922	Punchbowl St Exit	12	6	13	21	20	16	40	16
12	1091	Pali Hwy On-Ramp	16	14	18	23	21	25	40	23
13	1293	Kinau St Exit	20	18	23	23	23	68	31	26
14	1298	Vineyard Blvd On-Ramp	17	17	20	20	28	120	40	58
15	855	Ward Ave On-Ramp	12	8	12	14	24	54	53	41
16	2656	Piikoi St On-Ramp	37	41	38	43	59	94	86	74
17	1196	Punahou St Exit	16	20	18	19	21	19	22	19
18	3225	Bingham St Exit	32	49	45	48	32	45	51	34
19	2342	University Ave On-Ramp	25	35	31	34	21	33	31	19
20	578	University Ave Exit	11	9	10	11	8	10	9	9
21	1448	King St Exit	24	22	22	22	7	21	20	15
22	740	King St On-Ramp	10	10	5	10	4	10	8	1
23	667	Kapiolani Blvd On-Ramp	9	10	0	10	9	9	10	9
24	2203	6th Ave Exit	29	30	31	20	31	34	30	31
Totals	**42344**		**589**	**559**	**647**	**869**	**959**	**1,439**	**1,373**	**1,046**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 AM-EB-009)	Run #10 (H-1 AM-EB-010)	Run #11 (H-1 AM-EB-012)	Run #12 (H-1 AM-EB-013)	Run #13 (H-1 AM-EB-014)
1	0	Moanalua Rd On-Ramp					
2	1845	Airport/Tripler Hospital Exit	28	9	7	7	25
3	2650	Ft Shafter/King St Exit	36	8	25	31	17
4	3783	Ft Shafter/King St On-	52	51	9	38	0
5	1274	Queen Liliuokalani Fwy	21	18	11	21	4
6	3143	Likelike Hwy Exit	78	52	83	73	58
7	1451	Kalihi St On-Ramp	29	22	24	21	23
8	2321	Vineyard Blvd Exit	41	32	33	33	38
9	3702	Liliha St On-Ramp	95	54	56	53	60
10	1661	Pali Hwy Exit	39	23	25	25	33
11	922	Punchbowl St Exit	18	12	12	13	17
12	1091	Pali Hwy On-Ramp	20	17	15	17	18
13	1293	Kinau St Exit	28	20	20	19	21
14	1298	Vineyard Blvd On-Ramp	22	18	17	18	21
15	855	Ward Ave On-Ramp	26	12	11	13	12
16	2656	Piikoi St On-Ramp	71	37	42	43	39
17	1196	Punahou St Exit	20	16	18	19	20
18	3225	Bingham St Exit	47	20	45	36	48
19	2342	University Ave On-Ramp	53	4	35	37	32
20	578	University Ave Exit	28	7	8	11	9
21	1448	King St Exit	23	14	21	22	22
22	740	King St On-Ramp	10	7	8	11	11
23	667	Kapiolani Blvd On-Ramp	11	9	9	10	10
24	2203	6th Ave Exit	30	29	32	34	31
Totals	**42344**		**826**	**491**	**566**	**605**	**569**

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Study Name : **Closure_H-1 AM EB**
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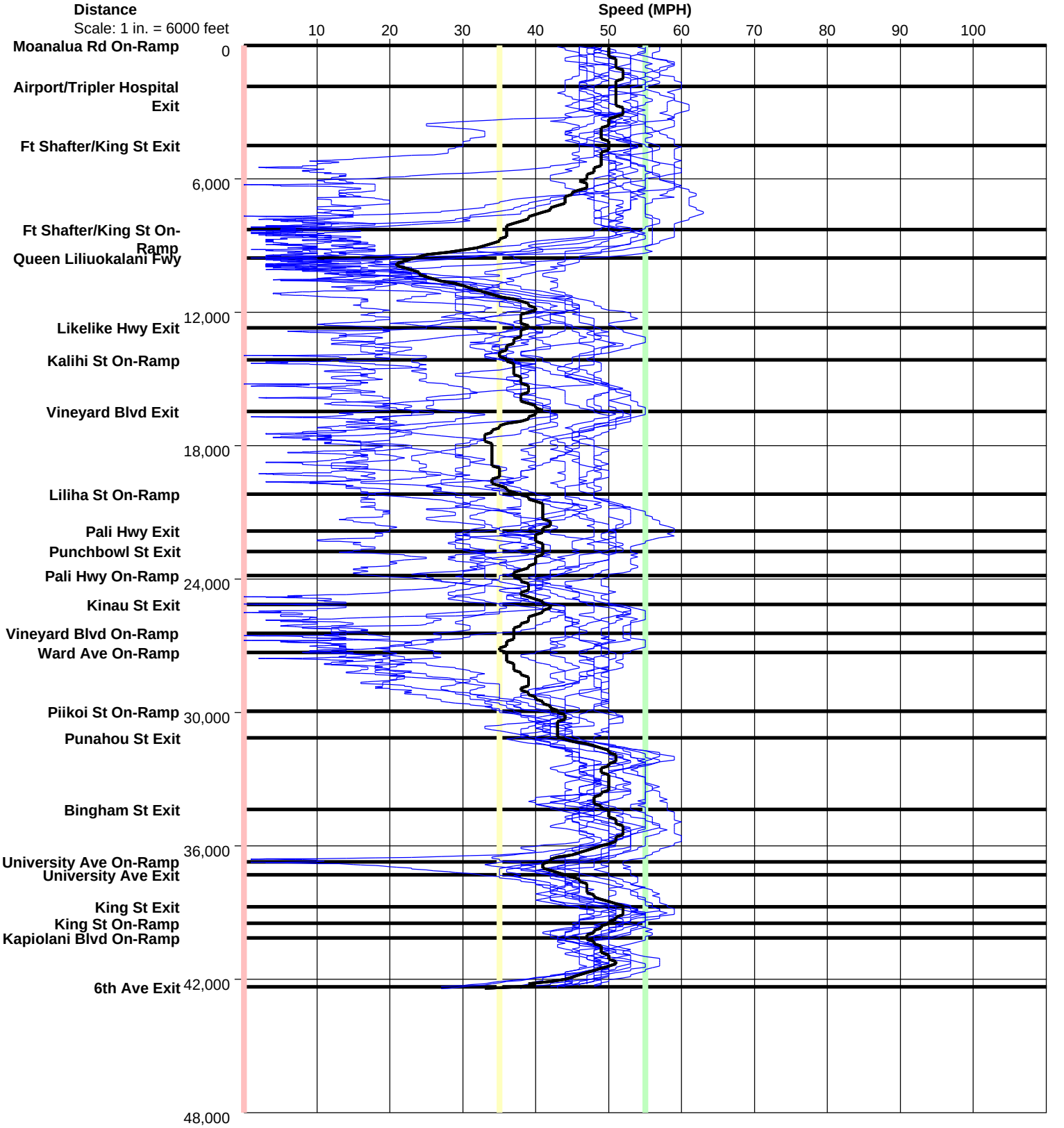
Speed/Distance Profiles of All Runs



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Study Name : **Closure_H-1 AM EB**
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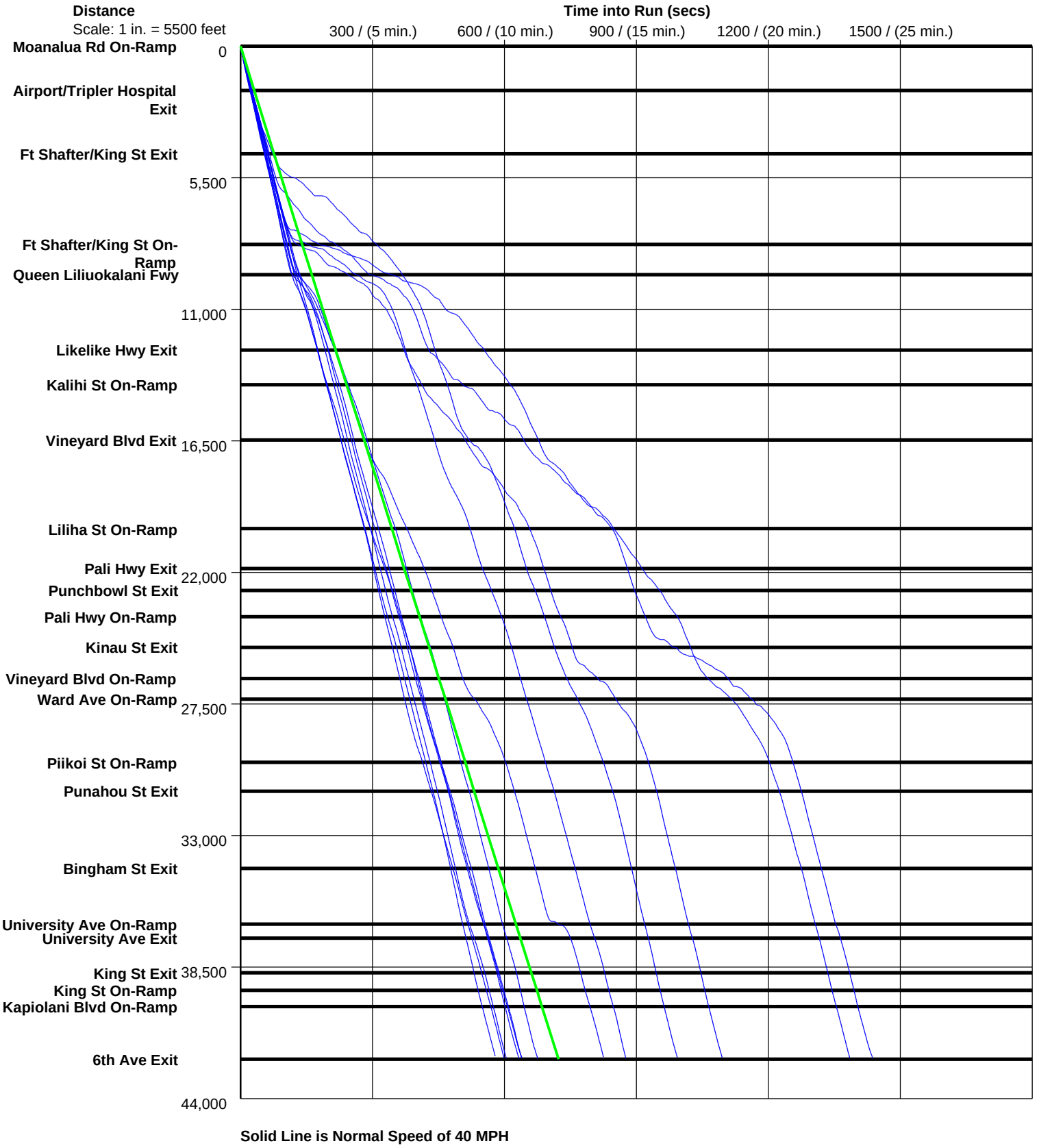
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_H-1 PM EB

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Study Name **: Closure_H-1 PM EB**
Study Date **: 4/26/2017**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
H-1 PM-EB-002	04/26/17	15:15	42315	After	Secondary
H-1 PM-EB-003	04/26/17	15:32	42566	After	Primary
H-1 PM-EB-004	04/26/17	15:56	42563	After	Secondary
H-1 PM-EB-005	04/26/17	16:07	42627	After	Secondary
H-1 PM-EB-007	04/26/17	16:32	42563	After	Secondary
H-1 PM-EB-008	04/26/17	16:45	42297	After	Secondary
H-1 PM-EB-009	04/26/17	17:00	42363	After	Secondary
H-1 PM-EB-010	04/26/17	17:16	42423	After	Secondary
H-1 PM-EB-011	04/26/17	17:32	42388	After	Secondary
H-1 PM-EB-012	04/26/17	17:48	42538	After	Secondary
H-1 PM-EB-013	04/26/17	18:01	27977	After	Secondary
H-1 PM-EB-014	04/26/17	18:15	42335	After	Secondary
H-1 PM-EB-015	04/26/17	18:31	42462	After	Secondary
H-1 PM-EB-016	04/26/17	18:45	42529	After	Secondary
H-1 PM-EB-017	04/26/17	19:07	42660	After	Secondary

Node Info

#	Len	Name
1	0	Moanalua Rd On-Ramp
2	2150	Airport/Tripler Hospital
3	2584	Ft Shafter/King St Exit
4	3735	Ft Shafter/King St On-
5	1274	Queen Liliuokalani Fwy
6	3197	Likelike Hwy Exit
7	1476	Kalihi St On-Ramp
8	2282	Vineyard Blvd Exit
9	3708	Liliha St On-Ramp
10	1681	Pali Hwy Exit
11	891	Punchbowl St Exit
12	1105	Pali Hwy On-Ramp
13	1280	Kinau St Exit
14	1255	Vineyard Blvd On-Ramp
15	853	Ward Ave On-Ramp
16	2734	Piikoi St On-Ramp
17	1168	Punahou St Exit
18	3313	Bingham St Exit
19	2308	University Ave On-Ramp
20	596	University Ave Exit
21	1429	King St Exit
22	704	King St On-Ramp
23	681	Kapiolani Blvd On-Ramp
24	2162	6th Ave Exit

Length of Study Route = 42,566 feet

Notes:

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Study Name **: Closure_H-1 PM EB**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	27.7	0.0	53.0	0.0	0.0	0.0	17.2
3	2584	Ft Shafter/King St Exit	33.5	0.0	52.6	0.0	0.0	0.0	22.8
4	3735	Ft Shafter/King St On-Ramp	48.7	0.0	52.3	0.0	0.0	0.5	31.3
5	1274	Queen Liliuokalani Fwy	44.1	1.3	19.7	24.3	0.4	33.1	42.3
6	3197	Likelike Hwy Exit	94.1	1.0	23.2	42.5	0.3	68.3	93.7
7	1476	Kalihi St On-Ramp	53.9	0.7	18.7	30.9	4.5	42.9	53.3
8	2282	Vineyard Blvd Exit	91.2	1.5	17.1	55.7	3.1	77.7	89.6
9	3708	Liliha St On-Ramp	144.9	1.7	17.5	84.6	2.3	126.1	143.2
10	1681	Pali Hwy Exit	64.2	0.3	17.9	37.0	0.0	58.3	63.5
11	891	Punchbowl St Exit	30.7	0.2	19.8	16.0	0.0	28.1	30.2
12	1105	Pali Hwy On-Ramp	36.7	0.2	20.5	18.3	0.0	33.5	36.3
13	1280	Kinau St Exit	55.8	0.9	15.6	34.2	0.4	51.8	55.7
14	1255	Vineyard Blvd On-Ramp	79.9	1.5	10.7	59.3	3.3	76.5	79.7
15	853	Ward Ave On-Ramp	52.2	1.2	11.1	37.3	0.6	50.4	52.2
16	2734	Piikoi St On-Ramp	94.0	0.5	19.8	49.5	17.6	81.7	93.9
17	1168	Punahou St Exit	18.9	0.0	42.2	0.7	0.0	3.7	18.9
18	3313	Bingham St Exit	44.4	0.0	50.9	0.0	0.0	0.2	43.1
19	2308	University Ave On-Ramp	30.4	0.0	51.8	0.1	0.0	0.3	26.5
20	596	University Ave Exit	8.4	0.0	48.4	0.1	0.0	0.4	8.4
21	1429	King St Exit	18.7	0.0	52.2	0.0	0.0	0.0	17.7
22	704	King St On-Ramp	9.5	0.0	50.3	0.1	0.0	0.5	8.7
23	681	Kapiolani Blvd On-Ramp	10.5	0.0	44.1	0.7	0.0	3.0	10.0
24	2162	6th Ave Exit	34.4	0.2	42.9	4.8	0.3	8.7	32.9
Total	**42,566**		**1126.7**	**11.3**	**25.8**	**495.9**	**32.7**	**745.7**	**1070.9**

Stats based on 15 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Closure_H-1 PM EB**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Moanalua Rd On-Ramp				
2	2150	Airport/Tripler Hospital Exit	0.0215	1.3978	23.8119	0.7716
3	2584	Ft Shafter/King St Exit	0.0244	1.5681	25.6729	0.8460
4	3735	Ft Shafter/King St On-Ramp	0.0347	2.0745	33.3758	1.0639
5	1274	Queen Liliuokalani Fwy	0.0141	1.0481	11.0378	0.3433
6	3197	Likelike Hwy Exit	0.0354	3.4192	35.6328	1.9536
7	1476	Kalihi St On-Ramp	0.0175	1.5502	15.1275	0.7047
8	2282	Vineyard Blvd Exit	0.0286	2.6260	25.4046	1.2079
9	3708	Liliha St On-Ramp	0.0428	3.8906	33.3999	1.7057
10	1681	Pali Hwy Exit	0.0196	1.8177	14.9967	0.8671
11	891	Punchbowl St Exit	0.0097	0.9233	8.2046	0.4618
12	1105	Pali Hwy On-Ramp	0.0111	1.0092	8.3714	0.4679
13	1280	Kinau St Exit	0.0157	1.5420	13.6849	0.6931
14	1255	Vineyard Blvd On-Ramp	0.0192	1.7951	15.0871	0.5593
15	853	Ward Ave On-Ramp	0.0130	1.2809	9.0554	0.5311
16	2734	Piikoi St On-Ramp	0.0309	3.2819	30.2464	1.8523
17	1168	Punahou St Exit	0.0097	0.9144	12.1017	0.5695
18	3313	Bingham St Exit	0.0291	2.3915	37.2499	1.4516
19	2308	University Ave On-Ramp	0.0184	1.0899	15.6978	0.5153
20	596	University Ave Exit	0.0055	0.5428	8.2413	0.3610
21	1429	King St Exit	0.0129	1.1231	18.4428	0.6963
22	704	King St On-Ramp	0.0055	0.3162	4.2219	0.1548
23	681	Kapiolani Blvd On-Ramp	0.0061	0.5696	7.9088	0.3680
24	2162	6th Ave Exit	0.0179	1.4078	19.2020	0.7992
Total	**42,566**		**0.4432**	**37.5800**	**426.1761**	**18.9448**

Stats based on 15 AFTER runs.

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Study Name **: Closure_H-1 PM EB**
Study Date **: 4/26/2017**
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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	28	23	26	27	29	28	29	31
3	2584	Ft Shafter/King St Exit	34	36	30	33	35	33	36	37
4	3735	Ft Shafter/King St On-	48	49	48	47	47	51	58	57
5	1274	Queen Liliuokalani Fwy	27	51	91	18	50	162	95	36
6	3197	Likelike Hwy Exit	87	102	96	110	148	126	159	163
7	1476	Kalihi St On-Ramp	21	22	50	60	129	89	68	138
8	2282	Vineyard Blvd Exit	30	42	126	137	172	216	110	141
9	3708	Liliha St On-Ramp	62	145	175	207	170	228	221	221
10	1681	Pali Hwy Exit	57	61	81	83	75	70	99	81
11	891	Punchbowl St Exit	26	24	25	29	55	27	40	31
12	1105	Pali Hwy On-Ramp	33	36	43	42	64	33	42	39
13	1280	Kinau St Exit	38	37	76	88	87	35	70	61
14	1255	Vineyard Blvd On-Ramp	81	86	111	118	82	95	100	95
15	853	Ward Ave On-Ramp	40	74	53	54	63	55	58	72
16	2734	Piikoi St On-Ramp	70	113	83	75	73	90	91	76
17	1168	Punahou St Exit	20	18	20	18	22	18	21	20
18	3313	Bingham St Exit	46	47	43	50	47	46	49	45
19	2308	University Ave On-Ramp	31	32	36	33	33	31	33	31
20	596	University Ave Exit	9	8	10	9	9	9	8	9
21	1429	King St Exit	19	19	19	21	21	20	20	19
22	704	King St On-Ramp	11	11	8	14	11	9	9	10
23	681	Kapiolani Blvd On-Ramp	10	10	8	17	13	9	10	10
24	2162	6th Ave Exit	27	35	66	43	57	25	27	29
Totals	**42566**		**855**	**1,081**	**1,324**	**1,333**	**1,492**	**1,505**	**1,453**	**1,452**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	28	26	27	29	28	27	29
3	2584	Ft Shafter/King St Exit	33	29	31	33	31	35	36
4	3735	Ft Shafter/King St On-	46	46	44	47	49	41	53
5	1274	Queen Liliuokalani Fwy	28	15	17	18	20	16	18
6	3197	Likelike Hwy Exit	142	44	49	43	48	44	51
7	1476	Kalihi St On-Ramp	87	43	21	18	21	21	21
8	2282	Vineyard Blvd Exit	145	98	31	29	32	28	31
9	3708	Liliha St On-Ramp	181	191	162	53	55	46	56
10	1681	Pali Hwy Exit	90	95	82	24	22	20	23
11	891	Punchbowl St Exit	40	52	58	18	11	11	13
12	1105	Pali Hwy On-Ramp	40	47	51	32	15	14	19
13	1280	Kinau St Exit	62	107	57	59	18	20	22
14	1255	Vineyard Blvd On-Ramp	112	107	53	106	17	17	18
15	853	Ward Ave On-Ramp	71	66	48	47	53	15	14
16	2734	Piikoi St On-Ramp	92	91	291	91	79	48	47
17	1168	Punahou St Exit	18	22	0	18	25	20	23
18	3313	Bingham St Exit	47	45	0	50	44	52	55
19	2308	University Ave On-Ramp	29	32	0	34	31	30	40
20	596	University Ave Exit	8	9	0	9	8	9	12
21	1429	King St Exit	21	21	0	20	18	18	24
22	704	King St On-Ramp	9	10	0	11	10	9	11
23	681	Kapiolani Blvd On-Ramp	10	13	0	11	12	10	15
24	2162	6th Ave Exit	28	54	0	27	32	29	37
Totals	**42566**		**1,367**	**1,263**	**1,022**	**827**	**679**	**580**	**668**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name **: Closure_H-1 PM EB**
Study Date **: 4/26/2017**
Page No. **: 7**

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	2	2	0	1	10	4	1
6	3197	Likelike Hwy Exit	1	2	1	1	2	2	2	2
7	1476	Kalihi St On-Ramp	0	0	1	0	2	1	1	3
8	2282	Vineyard Blvd Exit	0	0	1	3	4	6	1	4
9	3708	Liliha St On-Ramp	0	2	0	3	2	5	4	5
10	1681	Pali Hwy Exit	0	0	0	1	0	0	0	0
11	891	Punchbowl St Exit	0	0	0	0	2	0	0	0
12	1105	Pali Hwy On-Ramp	0	0	0	0	1	0	0	0
13	1280	Kinau St Exit	0	0	2	4	0	0	1	1
14	1255	Vineyard Blvd On-Ramp	1	2	2	4	0	2	1	4
15	853	Ward Ave On-Ramp	0	3	1	0	2	1	1	4
16	2734	Piikoi St On-Ramp	0	2	0	0	0	1	0	0
17	1168	Punahou St Exit	0	0	0	0	0	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2162	6th Ave Exit	0	0	2	0	0	0	0	0
Totals	**42566**		**2**	**13**	**12**	**16**	**16**	**28**	**15**	**24**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0	0	0
6	3197	Likelike Hwy Exit	2	0	0	0	0	0	0
7	1476	Kalihi St On-Ramp	2	1	0	0	0	0	0
8	2282	Vineyard Blvd Exit	3	1	0	0	0	0	0
9	3708	Liliha St On-Ramp	1	2	1	0	0	0	0
10	1681	Pali Hwy Exit	1	2	1	0	0	0	0
11	891	Punchbowl St Exit	0	0	1	0	0	0	0
12	1105	Pali Hwy On-Ramp	0	1	1	0	0	0	0
13	1280	Kinau St Exit	1	4	0	0	0	0	0
14	1255	Vineyard Blvd On-Ramp	1	2	0	3	0	0	0
15	853	Ward Ave On-Ramp	4	1	0	0	1	0	0
16	2734	Piikoi St On-Ramp	1	1	2	1	0	0	0
17	1168	Punahou St Exit	0	0	0	0	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0
24	2162	6th Ave Exit	0	1	0	0	0	0	0
Totals	**42566**		**16**	**16**	**6**	**4**	**1**	**0**	**0**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name : **Closure_H-1 PM EB**
Study Date : **4/26/2017**
Page No. : **9**

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	53.1	63.6	58.2	54.6	52.3	52.3	52.1	48.4
3	2584	Ft Shafter/King St Exit	51.2	48.9	57.9	53.8	49.7	54.8	48.4	47.8
4	3735	Ft Shafter/King St On-	54.0	52.0	53.3	54.1	54.3	49.2	43.7	44.5
5	1274	Queen Liliuokalani Fwy	30.4	17.0	9.4	47.2	16.6	5.3	8.9	23.3
6	3197	Likelike Hwy Exit	25.4	21.4	23.1	19.9	14.8	17.4	13.8	13.4
7	1476	Kalihi St On-Ramp	47.2	45.7	19.4	16.8	7.8	11.2	14.8	7.3
8	2282	Vineyard Blvd Exit	51.9	37.0	12.4	11.4	9.1	7.2	14.1	11.0
9	3708	Liliha St On-Ramp	41.0	17.5	14.4	12.2	14.8	11.1	11.5	11.5
10	1681	Pali Hwy Exit	19.7	18.8	14.2	13.7	15.5	16.2	11.7	14.3
11	891	Punchbowl St Exit	24.2	25.4	24.2	20.8	10.9	22.9	15.3	19.7
12	1105	Pali Hwy On-Ramp	22.2	20.9	17.7	18.1	11.8	22.8	17.7	18.7
13	1280	Kinau St Exit	23.3	23.5	11.4	9.9	10.0	24.7	12.4	14.3
14	1255	Vineyard Blvd On-Ramp	10.5	9.9	7.7	7.2	10.5	9.0	8.5	9.1
15	853	Ward Ave On-Ramp	14.5	7.9	11.2	11.1	9.3	10.7	10.2	8.0
16	2734	Piikoi St On-Ramp	26.8	16.5	22.4	24.7	25.8	20.9	20.6	24.6
17	1168	Punahou St Exit	40.6	44.3	41.1	44.2	34.9	43.5	39.3	41.0
18	3313	Bingham St Exit	49.1	48.1	52.6	45.9	48.1	49.6	45.9	50.8
19	2308	University Ave On-Ramp	49.6	49.2	43.5	47.2	48.6	50.7	48.1	49.9
20	596	University Ave Exit	47.4	50.8	40.3	42.2	45.0	45.3	46.6	47.2
21	1429	King St Exit	49.8	51.2	50.2	47.7	46.6	48.9	49.6	50.2
22	704	King St On-Ramp	45.5	43.7	59.1	32.5	41.8	52.2	50.8	48.5
23	681	Kapiolani Blvd On-Ramp	46.5	46.3	58.4	27.4	34.9	50.9	46.4	46.6
24	2162	6th Ave Exit	49.3	42.1	22.5	34.0	26.1	53.0	51.0	48.0
Totals	**42566**		**33.8**	**26.8**	**21.9**	**21.8**	**19.5**	**19.2**	**19.9**	**19.9**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	53.9	57.6	55.0	50.9	53.3	55.3	51.1
3	2584	Ft Shafter/King St Exit	52.9	59.7	57.8	53.7	56.6	51.0	48.5
4	3735	Ft Shafter/King St On-	55.0	56.6	57.0	53.9	52.1	61.4	48.7
5	1274	Queen Liliuokalani Fwy	30.7	55.2	52.9	48.1	44.5	53.8	47.3
6	3197	Likelike Hwy Exit	15.4	49.6	44.4	51.5	45.4	49.9	43.1
7	1476	Kalihi St On-Ramp	11.6	22.9	47.0	54.4	46.7	48.0	48.5
8	2282	Vineyard Blvd Exit	10.7	15.9	50.2	53.7	49.0	56.2	49.5
9	3708	Liliha St On-Ramp	13.9	13.3	15.5	47.7	45.6	55.1	45.4
10	1681	Pali Hwy Exit	12.8	12.2	13.9	47.5	53.1	54.9	50.0
11	891	Punchbowl St Exit	15.3	11.7	10.6	34.8	52.9	56.1	44.1
12	1105	Pali Hwy On-Ramp	18.7	15.8	14.6	22.8	50.9	53.6	40.2
13	1280	Kinau St Exit	14.0	8.2	15.4	14.8	50.4	45.2	40.5
14	1255	Vineyard Blvd On-Ramp	7.6	8.0	16.0	8.2	47.8	48.5	47.1
15	853	Ward Ave On-Ramp	8.2	8.9	12.2	12.3	10.9	40.4	43.4
16	2734	Piikoi St On-Ramp	20.5	20.8	1.1	20.8	23.7	38.4	39.3
17	1168	Punahou St Exit	45.1	36.0	0.0	42.4	32.7	40.2	34.6
18	3313	Bingham St Exit	48.1	50.2	0.0	45.9	50.7	44.1	41.5
19	2308	University Ave On-Ramp	53.6	48.7	0.0	45.5	50.9	51.8	38.8
20	596	University Ave Exit	48.0	45.4	0.0	46.4	52.0	44.7	37.0
21	1429	King St Exit	48.2	47.1	0.0	48.3	54.1	53.4	40.8
22	704	King St On-Ramp	49.6	47.4	0.0	43.1	46.2	52.9	41.4
23	681	Kapiolani Blvd On-Ramp	50.0	34.2	0.0	41.8	41.3	50.4	30.9
24	2162	6th Ave Exit	48.6	27.3	0.0	50.2	44.0	50.0	40.4
Totals	**42566**		**21.2**	**23.0**	**18.7**	**34.9**	**42.7**	**50.1**	**43.6**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	5	29	69	0	28	140	73	14
6	3197	Likelike Hwy Exit	32	48	40	55	93	71	104	108
7	1476	Kalihi St On-Ramp	0	0	25	35	104	64	42	113
8	2282	Vineyard Blvd Exit	0	3	87	98	133	177	71	102
9	3708	Liliha St On-Ramp	0	82	112	143	107	164	158	158
10	1681	Pali Hwy Exit	28	32	52	54	46	41	70	52
11	891	Punchbowl St Exit	10	9	10	14	40	11	25	15
12	1105	Pali Hwy On-Ramp	14	17	24	23	45	14	23	20
13	1280	Kinau St Exit	16	15	54	66	65	13	48	39
14	1255	Vineyard Blvd On-Ramp	59	65	90	97	60	74	79	73
15	853	Ward Ave On-Ramp	25	59	38	39	48	40	43	57
16	2734	Piikoi St On-Ramp	23	66	36	28	26	43	44	29
17	1168	Punahou St Exit	0	0	0	0	2	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	2	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	5	1	0	0	0
24	2162	6th Ave Exit	0	0	29	6	20	0	0	0
Totals	**42566**		**212**	**425**	**666**	**665**	**818**	**852**	**780**	**780**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	6	0	0	0	0	0	0
6	3197	Likelike Hwy Exit	87	0	0	0	0	0	0
7	1476	Kalihi St On-Ramp	62	18	0	0	0	0	0
8	2282	Vineyard Blvd Exit	106	59	0	0	0	0	0
9	3708	Liliha St On-Ramp	118	128	99	0	0	0	0
10	1681	Pali Hwy Exit	61	66	53	0	0	0	0
11	891	Punchbowl St Exit	25	36	43	2	0	0	0
12	1105	Pali Hwy On-Ramp	21	28	32	13	0	0	0
13	1280	Kinau St Exit	40	85	35	37	0	0	0
14	1255	Vineyard Blvd On-Ramp	90	86	32	84	0	0	0
15	853	Ward Ave On-Ramp	56	51	33	32	38	0	0
16	2734	Piikoi St On-Ramp	45	44	282	44	32	1	0
17	1168	Punahou St Exit	0	1	0	0	4	0	3
18	3313	Bingham St Exit	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	1
20	596	University Ave Exit	0	0	0	0	0	0	1
21	1429	King St Exit	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	1	0	0	0	0	3
24	2162	6th Ave Exit	0	17	0	0	0	0	0
Totals	**42566**		**717**	**620**	**609**	**212**	**74**	**1**	**8**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	4	2	0	0
6	3197	Likelike Hwy Exit	0	0	0	0	0	0	0	5
7	1476	Kalihi St On-Ramp	0	0	6	0	16	6	5	27
8	2282	Vineyard Blvd Exit	0	0	0	0	10	33	3	0
9	3708	Liliha St On-Ramp	0	0	0	9	0	11	0	0
10	1681	Pali Hwy Exit	0	0	0	0	0	0	0	0
11	891	Punchbowl St Exit	0	0	0	0	0	0	0	0
12	1105	Pali Hwy On-Ramp	0	0	0	0	0	0	0	0
13	1280	Kinau St Exit	0	0	0	0	0	0	0	6
14	1255	Vineyard Blvd On-Ramp	13	0	16	13	0	0	0	0
15	853	Ward Ave On-Ramp	0	2	0	0	0	2	0	2
16	2734	Piikoi St On-Ramp	0	2	0	0	0	0	0	0
17	1168	Punahou St Exit	0	0	0	0	0	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0	0
24	2162	6th Ave Exit	0	0	5	0	0	0	0	0
Totals	**42566**		**13**	**4**	**27**	**22**	**30**	**54**	**8**	**40**

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	0	0	0	0	0	0	0
6	3197	Likelike Hwy Exit	0	0	0	0	0	0	0
7	1476	Kalihi St On-Ramp	0	7	0	0	0	0	0
8	2282	Vineyard Blvd Exit	0	0	0	0	0	0	0
9	3708	Liliha St On-Ramp	5	0	9	0	0	0	0
10	1681	Pali Hwy Exit	0	0	0	0	0	0	0
11	891	Punchbowl St Exit	0	0	0	0	0	0	0
12	1105	Pali Hwy On-Ramp	0	0	0	0	0	0	0
13	1280	Kinau St Exit	0	0	0	0	0	0	0
14	1255	Vineyard Blvd On-Ramp	3	4	0	0	0	0	0
15	853	Ward Ave On-Ramp	0	0	0	0	3	0	0
16	2734	Piikoi St On-Ramp	0	0	262	0	0	0	0
17	1168	Punahou St Exit	0	0	0	0	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	0	0	0	0
24	2162	6th Ave Exit	0	0	0	0	0	0	0
Totals	**42566**		**8**	**11**	**271**	**0**	**3**	**0**	**0**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	2	0	0	5	0	0
5	1274	Queen Liliuokalani Fwy	19	42	91	3	43	162	95	25
6	3197	Likelike Hwy Exit	56	75	72	97	148	113	159	163
7	1476	Kalihi St On-Ramp	0	0	42	60	129	89	68	138
8	2282	Vineyard Blvd Exit	0	21	126	137	172	216	110	141
9	3708	Liliha St On-Ramp	5	143	175	207	170	228	221	221
10	1681	Pali Hwy Exit	57	61	81	83	75	70	99	81
11	891	Punchbowl St Exit	26	24	25	29	55	27	40	31
12	1105	Pali Hwy On-Ramp	33	36	43	42	64	33	42	39
13	1280	Kinau St Exit	38	37	76	88	87	35	70	61
14	1255	Vineyard Blvd On-Ramp	81	86	111	118	82	95	100	95
15	853	Ward Ave On-Ramp	40	74	53	54	63	55	58	72
16	2734	Piikoi St On-Ramp	62	103	68	67	68	76	84	65
17	1168	Punahou St Exit	0	0	0	0	14	0	0	0
18	3313	Bingham St Exit	0	0	0	0	0	0	0	0
19	2308	University Ave On-Ramp	0	0	0	0	0	0	0	0
20	596	University Ave Exit	0	0	0	0	0	0	0	0
21	1429	King St Exit	0	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	8	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	0	0	15	7	0	0	0
24	2162	6th Ave Exit	0	6	43	20	31	0	0	0
Totals	**42566**		**417**	**708**	**1,008**	**1,028**	**1,208**	**1,204**	**1,146**	**1,132**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	0	0	0	0	0	0	0
3	2584	Ft Shafter/King St Exit	0	0	0	0	0	0	0
4	3735	Ft Shafter/King St On-	0	0	0	0	0	0	0
5	1274	Queen Liliuokalani Fwy	16	0	0	0	0	0	0
6	3197	Likelike Hwy Exit	142	0	0	0	0	0	0
7	1476	Kalihi St On-Ramp	87	31	0	0	0	0	0
8	2282	Vineyard Blvd Exit	145	98	0	0	0	0	0
9	3708	Liliha St On-Ramp	181	191	150	0	0	0	0
10	1681	Pali Hwy Exit	90	95	82	0	0	0	0
11	891	Punchbowl St Exit	40	52	58	14	0	0	0
12	1105	Pali Hwy On-Ramp	40	47	51	32	0	0	0
13	1280	Kinau St Exit	62	107	57	59	0	0	0
14	1255	Vineyard Blvd On-Ramp	112	107	53	106	2	0	0
15	853	Ward Ave On-Ramp	71	66	48	47	53	2	0
16	2734	Piikoi St On-Ramp	83	90	290	80	73	16	1
17	1168	Punahou St Exit	0	10	0	0	16	0	15
18	3313	Bingham St Exit	0	0	0	0	0	0	3
19	2308	University Ave On-Ramp	0	0	0	0	0	0	4
20	596	University Ave Exit	0	0	0	0	0	0	6
21	1429	King St Exit	0	0	0	0	0	0	0
22	704	King St On-Ramp	0	0	0	0	0	0	0
23	681	Kapiolani Blvd On-Ramp	0	9	0	0	0	0	14
24	2162	6th Ave Exit	0	27	0	0	0	0	4
Totals	**42566**		**1,069**	**930**	**789**	**338**	**144**	**18**	**47**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (H-1 PM-EB-002)	Run #2 (H-1 PM-EB-003)	Run #3 (H-1 PM-EB-004)	Run #4 (H-1 PM-EB-005)	Run #5 (H-1 PM-EB-007)	Run #6 (H-1 PM-EB-008)	Run #7 (H-1 PM-EB-009)	Run #8 (H-1 PM-EB-010)
1	0	Moanalua Rd On-Ramp								
2	2150	Airport/Tripler Hospital Exit	26	0	0	14	23	27	21	30
3	2584	Ft Shafter/King St Exit	34	29	0	29	30	18	36	37
4	3735	Ft Shafter/King St On-	30	48	15	31	24	51	58	57
5	1274	Queen Liliuokalani Fwy	27	51	91	12	50	162	95	36
6	3197	Likelike Hwy Exit	87	102	96	110	148	126	159	163
7	1476	Kalihi St On-Ramp	21	22	50	60	129	89	68	138
8	2282	Vineyard Blvd Exit	30	42	126	137	172	216	110	141
9	3708	Liliha St On-Ramp	62	145	175	207	170	228	221	221
10	1681	Pali Hwy Exit	57	61	81	83	75	70	99	81
11	891	Punchbowl St Exit	26	24	25	29	55	27	40	31
12	1105	Pali Hwy On-Ramp	33	36	43	42	64	33	42	39
13	1280	Kinau St Exit	38	37	76	88	87	35	70	61
14	1255	Vineyard Blvd On-Ramp	81	86	111	118	82	95	100	95
15	853	Ward Ave On-Ramp	40	74	53	54	63	55	58	72
16	2734	Piikoi St On-Ramp	70	113	83	75	73	90	91	76
17	1168	Punahou St Exit	20	18	20	18	22	18	21	20
18	3313	Bingham St Exit	46	47	33	50	47	46	49	36
19	2308	University Ave On-Ramp	31	32	36	33	33	17	33	19
20	596	University Ave Exit	9	8	10	9	9	9	8	9
21	1429	King St Exit	19	18	16	21	21	20	18	17
22	704	King St On-Ramp	11	10	0	14	11	9	8	8
23	681	Kapiolani Blvd On-Ramp	10	10	0	17	13	9	10	10
24	2162	6th Ave Exit	26	35	65	43	56	15	25	27
Totals	**42566**		**834**	**1,048**	**1,205**	**1,294**	**1,457**	**1,465**	**1,440**	**1,424**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (H-1 PM-EB-011)	Run #10 (H-1 PM-EB-012)	Run #11 (H-1 PM-EB-013)	Run #12 (H-1 PM-EB-014)	Run #13 (H-1 PM-EB-015)	Run #14 (H-1 PM-EB-016)	Run #15 (H-1 PM-EB-017)
1	0	Moanalua Rd On-Ramp							
2	2150	Airport/Tripler Hospital Exit	19	1	10	29	19	10	29
3	2584	Ft Shafter/King St Exit	33	2	0	17	10	31	36
4	3735	Ft Shafter/King St On-	25	13	0	24	41	0	53
5	1274	Queen Liliuokalani Fwy	28	7	10	18	20	9	18
6	3197	Likelike Hwy Exit	142	44	49	36	48	44	51
7	1476	Kalihi St On-Ramp	87	43	21	8	21	21	21
8	2282	Vineyard Blvd Exit	145	98	31	22	32	11	31
9	3708	Liliha St On-Ramp	181	191	162	53	55	21	56
10	1681	Pali Hwy Exit	90	95	82	24	20	11	23
11	891	Punchbowl St Exit	40	52	58	18	11	4	13
12	1105	Pali Hwy On-Ramp	40	47	51	32	15	8	19
13	1280	Kinau St Exit	62	107	57	59	16	20	22
14	1255	Vineyard Blvd On-Ramp	112	107	53	106	14	17	18
15	853	Ward Ave On-Ramp	71	66	48	47	53	15	14
16	2734	Piikoi St On-Ramp	92	91	290	91	79	48	47
17	1168	Punahou St Exit	18	22	0	18	25	20	23
18	3313	Bingham St Exit	47	45	0	50	44	52	55
19	2308	University Ave On-Ramp	14	32	0	34	31	13	40
20	596	University Ave Exit	8	9	0	9	8	9	12
21	1429	King St Exit	21	21	0	20	14	15	24
22	704	King St On-Ramp	9	10	0	11	9	9	11
23	681	Kapiolani Blvd On-Ramp	10	13	0	11	12	10	15
24	2162	6th Ave Exit	27	53	0	26	31	28	37
Totals	**42566**		**1,321**	**1,169**	**922**	**763**	**628**	**426**	**668**

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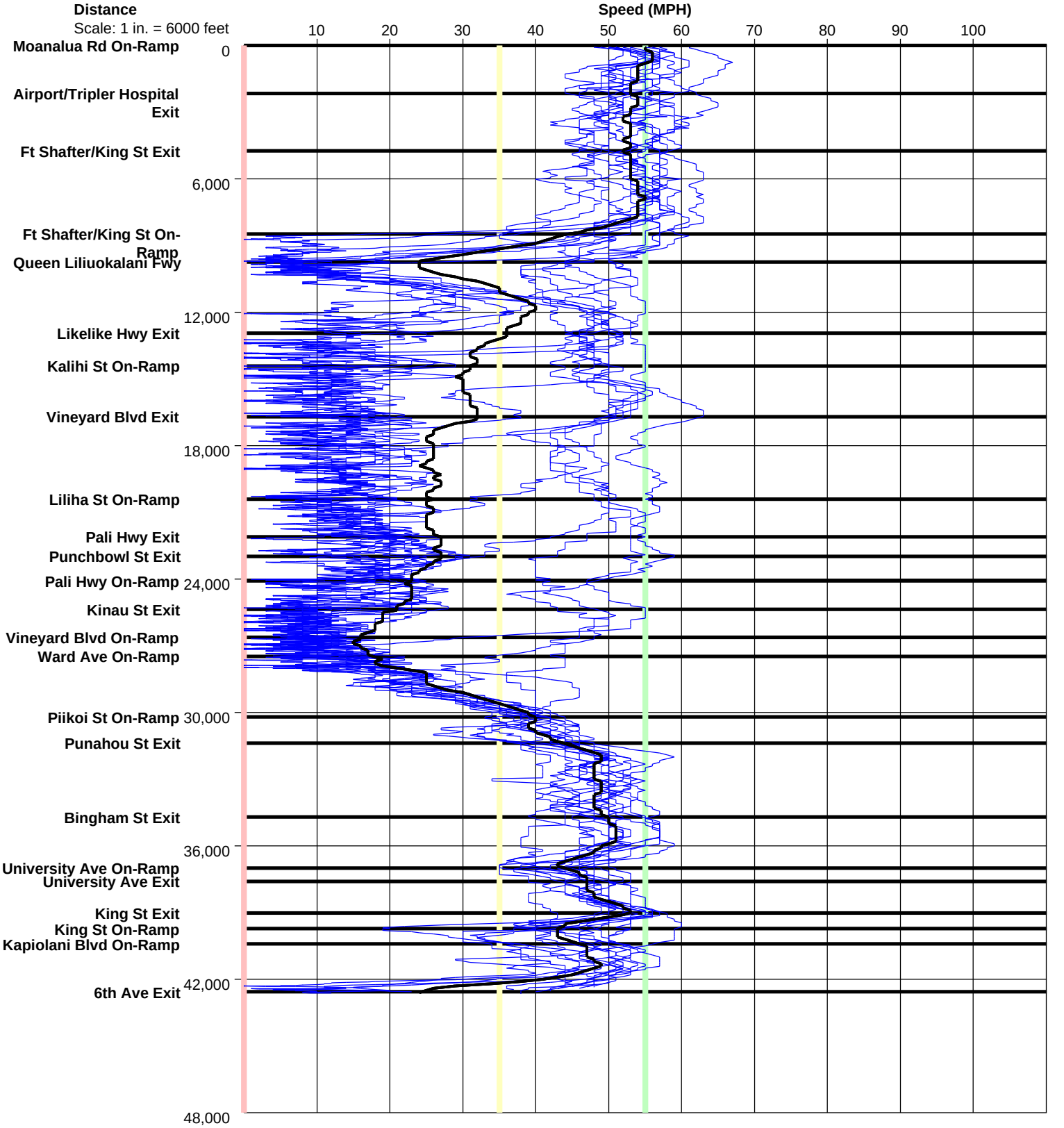
Study Name : **Closure_H-1 PM EB**
Study Date : **4/26/2017**
Page No. : **19**

Speed/Distance Profiles of All Runs



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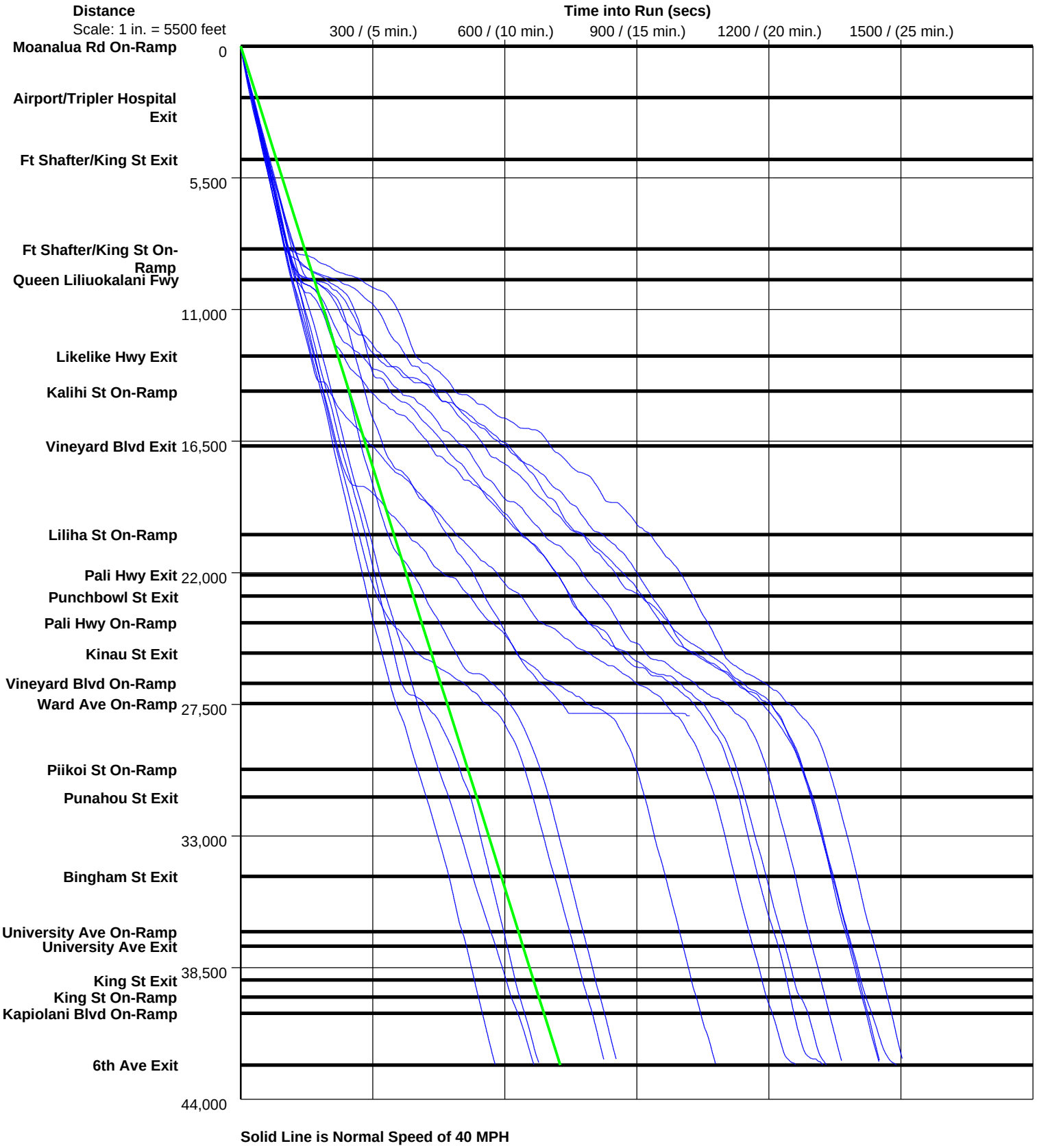
Study Name : **Closure_H-1 PM EB**
Study Date : **4/26/2017**
Page No. : **20**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Kapiolani Blvd AM EB

Report Name	***Page***
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Study Name **: Closure_Kapiolani Blvd AM EB**
Study Date **: 4/25/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Kapiolani Blvd AM EB-R001	04/25/17	05:51	14771	After	Primary
Kapiolani Blvd AM EB-R002	04/25/17	06:16	14839	After	Secondary
Kapiolani Blvd AM EB-R003	04/25/17	06:41	14740	After	Secondary
Kapiolani Blvd AM EB-R004	04/25/17	07:10	14790	After	Secondary
Kapiolani Blvd AM EB-R005	04/25/17	07:49	14746	After	Secondary
Kapiolani Blvd AM EB-R006	04/25/17	08:42	14821	After	Secondary

Notes:

Node Info

#	Len	Name
1	0	South St
2	773	Cooke St
3	1194	Ward Ave
4	1340	Kamakee St
5	747	Pensacola St
6	590	Piikoi St
7	773	Kona Iki St
8	654	Keeaumoku St
9	1035	Kaheka St
10	982	Atkinson Dr
11	573	Kalakaua Ave
12	1190	Mccully St
13	1651	Isenberg St
14	595	University Ave
15	818	Date St
16	1856	H-1 On-Ramp

Length of Study Route = 14,771 feet

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Study Name **: Closure_Kapiolani Blvd AM EB**
Study Date **: 4/25/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	South St							
2	773	Cooke St	47.5	0.7	11.1	34.5	14.3	47.5	47.5
3	1194	Ward Ave	85.8	1.0	9.5	65.2	36.8	84.8	85.8
4	1340	Kamakee St	36.0	0.2	25.4	13.0	3.7	33.8	36.0
5	747	Pensacola St	26.8	0.3	19.0	13.8	4.8	26.2	26.8
6	590	Piikoi St	27.7	0.5	14.5	17.3	8.0	27.7	27.7
7	773	Kona Iki St	22.0	0.2	24.0	9.0	0.0	22.0	22.0
8	654	Keeaumoku St	30.3	0.3	14.7	18.8	7.7	29.3	30.3
9	1035	Kaheka St	33.8	0.3	20.9	15.8	1.8	31.7	33.8
10	982	Atkinson Dr	72.5	1.0	9.2	55.5	32.8	71.5	72.5
11	573	Kalakaua Ave	57.7	1.0	6.8	47.7	22.8	57.7	57.7
12	1190	Mccully St	27.8	0.0	29.2	7.5	0.0	25.5	27.8
13	1651	Isenberg St	56.2	1.2	20.0	27.8	4.3	48.7	56.2
14	595	University Ave	30.8	0.2	13.2	20.7	9.0	30.3	30.8
15	818	Date St	67.2	0.7	8.3	53.0	32.7	67.2	67.2
16	1856	H-1 On-Ramp	56.5	0.8	22.4	24.5	8.0	51.7	56.2
Total	**14,771**		**678.7**	**8.3**	**14.8**	**424.2**	**186.8**	**655.5**	**678.3**

Stats based on 6 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Closure_Kapiolani Blvd AM EB**
Study Date **: 4/25/2017**
Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	South St				
2	773	Cooke St	0.0130	1.4050	10.5038	0.7259
3	1194	Ward Ave	0.0221	2.3009	18.9001	0.9875
4	1340	Kamakee St	0.0127	1.2281	11.7286	0.6711
5	747	Pensacola St	0.0084	0.7965	6.7176	0.3967
6	590	Piikoi St	0.0080	0.7926	6.1898	0.3885
7	773	Kona Iki St	0.0075	0.7995	6.5398	0.4985
8	654	Keeaumoku St	0.0091	0.9292	7.7508	0.4751
9	1035	Kaheka St	0.0110	1.0353	9.2737	0.5296
10	982	Atkinson Dr	0.0194	1.9636	16.1836	0.8384
11	573	Kalakaua Ave	0.0144	1.5379	11.4967	0.6845
12	1190	Mccully St	0.0106	1.0666	10.2776	0.6446
13	1651	Isenberg St	0.0168	1.4608	12.9994	0.6030
14	595	University Ave	0.0088	0.9467	7.1887	0.4996
15	818	Date St	0.0166	1.6661	14.0387	0.6102
16	1856	H-1 On-Ramp	0.0182	1.5930	13.9460	0.7318
Total	**14,771**		**0.1965**	**19.5218**	**163.7348**	**9.2850**

Stats based on 6 AFTER runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	20	26	61	57	60	61
3	1194	Ward Ave	100	61	64	65	82	143
4	1340	Kamakee St	28	32	31	29	33	63
5	747	Pensacola St	15	15	16	48	48	19
6	590	Piikoi St	47	36	38	15	18	12
7	773	Kona Iki St	20	21	20	17	25	29
8	654	Keeaumoku St	13	15	15	69	50	20
9	1035	Kaheka St	55	33	50	23	22	20
10	982	Atkinson Dr	80	27	87	24	165	52
11	573	Kalakaua Ave	67	49	65	62	61	42
12	1190	Mccully St	24	28	26	32	32	25
13	1651	Isenberg St	47	44	45	99	70	32
14	595	University Ave	14	21	17	94	27	12
15	818	Date St	17	19	22	158	115	72
16	1856	H-1 On-Ramp	36	66	69	48	70	50
Totals	**14771**		**583**	**493**	**626**	**840**	**878**	**652**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	0	0	1	1	1	1
3	1194	Ward Ave	1	1	1	1	1	1
4	1340	Kamakee St	0	0	0	0	0	1
5	747	Pensacola St	0	0	0	1	1	0
6	590	Piikoi St	1	1	1	0	0	0
7	773	Kona Iki St	0	0	0	0	0	1
8	654	Keeaumoku St	0	0	0	1	1	0
9	1035	Kaheka St	1	0	1	0	0	0
10	982	Atkinson Dr	1	0	1	0	3	1
11	573	Kalakaua Ave	1	1	1	1	1	1
12	1190	Mccully St	0	0	0	0	0	0
13	1651	Isenberg St	1	1	1	2	2	0
14	595	University Ave	0	0	0	1	0	0
15	818	Date St	0	0	0	2	1	1
16	1856	H-1 On-Ramp	0	1	1	1	1	1
Totals	**14771**		**6**	**5**	**8**	**11**	**12**	**8**

Stops based on a Stop Speed of 5 MPH.

Austin, Tsutsumi & Associates
501 Sumner Street #521, Honolulu, HI 96817
Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	26.4	20.2	8.7	9.3	9.0	8.8
3	1194	Ward Ave	8.2	13.4	12.8	12.7	9.9	5.7
4	1340	Kamakee St	32.6	28.8	29.3	31.6	27.8	14.2
5	747	Pensacola St	34.1	33.8	32.4	10.6	10.8	28.1
6	590	Piikoi St	8.5	11.1	10.3	27.4	21.8	33.3
7	773	Kona Iki St	26.4	24.6	27.0	29.5	21.4	17.5
8	654	Keeaumoku St	34.2	31.1	30.3	6.6	9.0	23.4
9	1035	Kaheka St	12.8	21.2	13.8	30.3	31.9	34.5
10	982	Atkinson Dr	8.3	24.7	7.9	28.5	4.1	12.9
11	573	Kalakaua Ave	5.9	8.2	6.0	6.3	6.4	9.4
12	1190	Mccully St	33.7	29.3	30.8	25.4	25.1	32.0
13	1651	Isenberg St	24.0	25.3	24.9	11.2	16.1	35.6
14	595	University Ave	28.9	18.9	23.9	4.4	15.4	34.9
15	818	Date St	32.8	30.0	25.4	3.7	4.8	7.5
16	1856	H-1 On-Ramp	35.0	18.8	18.3	26.2	18.0	25.0
Totals	**14771**		**17.3**	**20.4**	**16.1**	**12.0**	**11.5**	**15.4**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	7	13	48	44	47	48
3	1194	Ward Ave	80	40	44	44	61	122
4	1340	Kamakee St	5	9	8	6	10	40
5	747	Pensacola St	2	2	3	35	35	6
6	590	Piikoi St	37	26	28	4	8	1
7	773	Kona Iki St	7	8	7	4	12	16
8	654	Keeaumoku St	2	3	3	58	39	8
9	1035	Kaheka St	37	15	32	5	4	2
10	982	Atkinson Dr	63	10	70	7	148	35
11	573	Kalakaua Ave	57	39	55	52	51	32
12	1190	Mccully St	4	7	6	11	12	5
13	1651	Isenberg St	19	15	17	71	42	3
14	595	University Ave	4	11	7	84	17	1
15	818	Date St	3	4	8	144	101	58
16	1856	H-1 On-Ramp	4	34	37	16	38	18
Totals	**14771**		**331**	**236**	**373**	**585**	**625**	**395**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	0	0	24	17	14	31
3	1194	Ward Ave	67	15	9	8	19	103
4	1340	Kamakee St	0	0	0	0	0	22
5	747	Pensacola St	0	0	0	13	16	0
6	590	Piikoi St	25	9	14	0	0	0
7	773	Kona Iki St	0	0	0	0	0	0
8	654	Keeaumoku St	0	0	0	37	9	0
9	1035	Kaheka St	7	0	4	0	0	0
10	982	Atkinson Dr	48	0	47	0	90	12
11	573	Kalakaua Ave	33	25	37	10	15	17
12	1190	Mccully St	0	0	0	0	0	0
13	1651	Isenberg St	5	0	0	21	0	0
14	595	University Ave	0	0	0	54	0	0
15	818	Date St	0	0	0	77	80	39
16	1856	H-1 On-Ramp	0	16	12	0	18	2
Totals	**14771**		**185**	**65**	**147**	**237**	**261**	**226**

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	20	26	61	57	60	61
3	1194	Ward Ave	100	61	64	65	82	137
4	1340	Kamakee St	25	32	31	29	33	53
5	747	Pensacola St	15	11	16	48	48	19
6	590	Piikoi St	47	36	38	15	18	12
7	773	Kona Iki St	20	21	20	17	25	29
8	654	Keeaumoku St	7	15	15	69	50	20
9	1035	Kaheka St	51	33	50	23	22	11
10	982	Atkinson Dr	80	27	87	24	165	46
11	573	Kalakaua Ave	67	49	65	62	61	42
12	1190	Mccully St	10	28	26	32	32	25
13	1651	Isenberg St	24	44	45	99	70	10
14	595	University Ave	14	21	17	94	27	9
15	818	Date St	17	19	22	158	115	72
16	1856	H-1 On-Ramp	9	66	68	48	69	50
Totals	**14771**		**506**	**489**	**625**	**840**	**877**	**596**

Austin, Tsutsumi & Associates

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd AM EB-R001)	Run #2 (Kapiolani Blvd AM EB-R002)	Run #3 (Kapiolani Blvd AM EB-R003)	Run #4 (Kapiolani Blvd AM EB-R004)	Run #5 (Kapiolani Blvd AM EB-R005)	Run #6 (Kapiolani Blvd AM EB-R006)
1	0	South St						
2	773	Cooke St	20	26	61	57	60	61
3	1194	Ward Ave	100	61	64	65	82	143
4	1340	Kamakee St	28	32	31	29	33	63
5	747	Pensacola St	15	15	16	48	48	19
6	590	Piikoi St	47	36	38	15	18	12
7	773	Kona Iki St	20	21	20	17	25	29
8	654	Keeaumoku St	13	15	15	69	50	20
9	1035	Kaheka St	55	33	50	23	22	20
10	982	Atkinson Dr	80	27	87	24	165	52
11	573	Kalakaua Ave	67	49	65	62	61	42
12	1190	Mccully St	24	28	26	32	32	25
13	1651	Isenberg St	47	44	45	99	70	32
14	595	University Ave	14	21	17	94	27	12
15	818	Date St	17	19	22	158	115	72
16	1856	H-1 On-Ramp	36	66	68	48	69	50
Totals	**14771**		**583**	**493**	**625**	**840**	**877**	**652**

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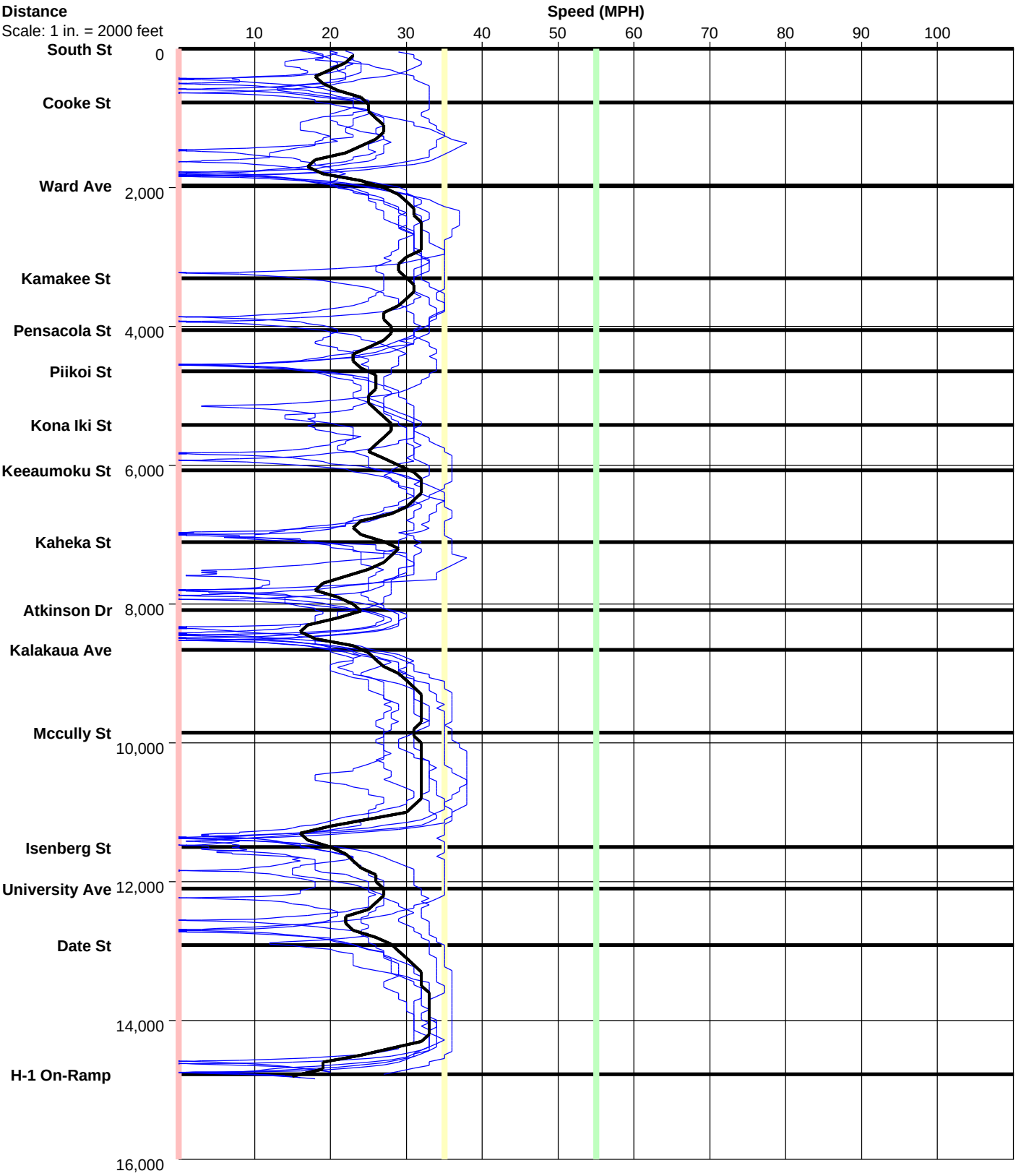
Study Name : **Closure_Kapiolani Blvd AM EB**
Study Date : **4/25/2017**
Page No. : **12**

Speed/Distance Profiles of All Runs



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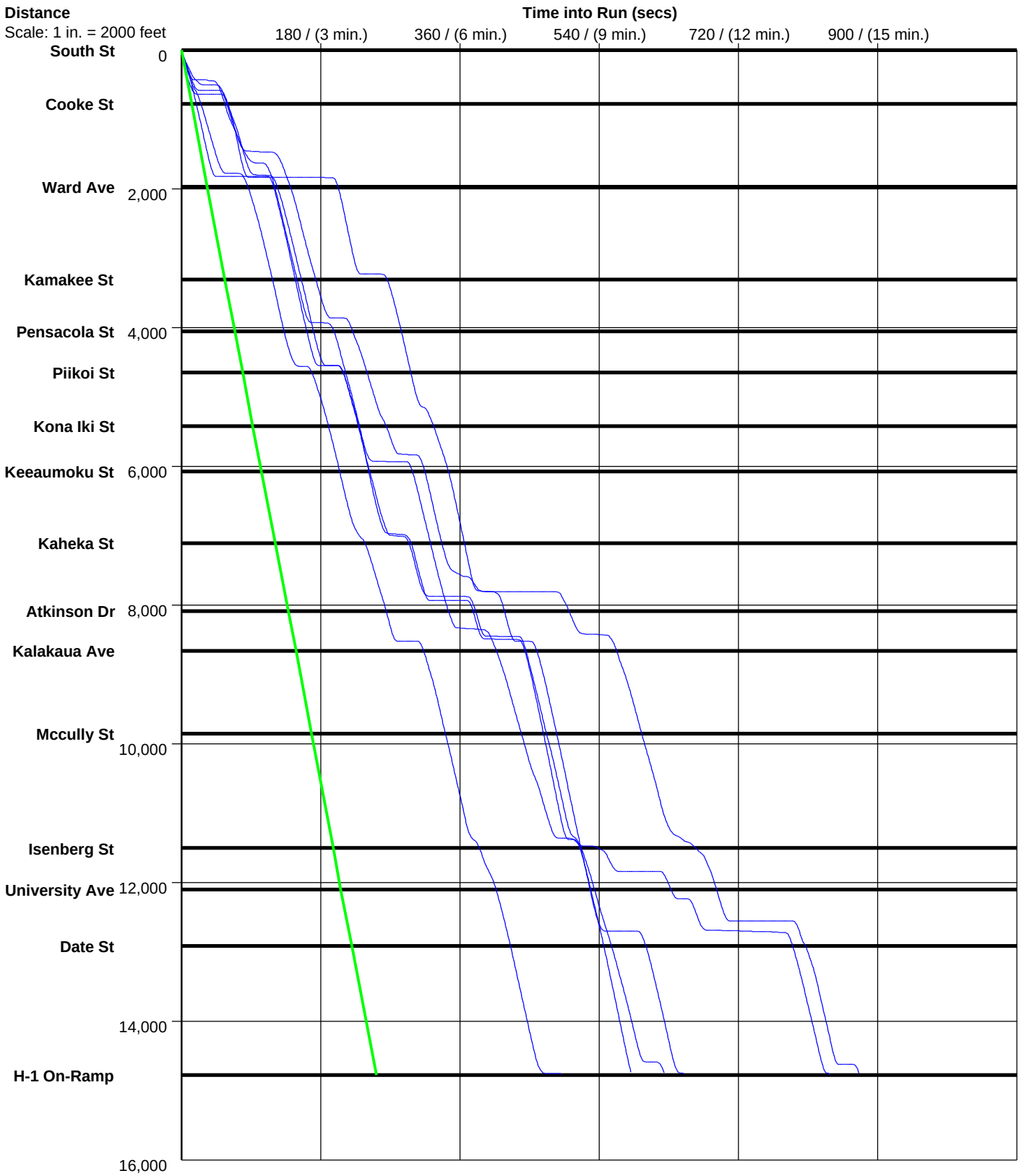
Study Name : **Closure_Kapiolani Blvd AM EB**
Study Date : **4/25/2017**
Page No. : **13**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Kapiolani Blvd PM EB

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Austin,
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501 Sumner Street #521, Honolulu, HI 96817
Ph: (808) 533-3646 Fax: (808) 526-1267

Study Name **: Closure_Kapiolani Blvd PM EB**
Study Date **: 4/25/2017**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Kapiolani Blvd PM EB-R001	04/25/17	18:42	14746	After	Secondary
Kapiolani Blvd PM EB-R002	04/25/17	15:25	14809	After	Primary
Kapiolani Blvd PM EB-R003	04/25/17	16:02	14733	After	Secondary
Kapiolani Blvd PM EB-R004	04/25/17	16:36	15908	After	Secondary
Kapiolani Blvd PM EB-R005	04/25/17	17:20	14794	After	Secondary
Kapiolani Blvd PM EB-R006	04/25/17	18:00	14787	After	Secondary

Notes:

Node Info

#	Len	Name
1	0	South St
2	844	Cooke St
3	1178	Ward Ave
4	1281	Kamakee St
5	786	Pensacola St
6	553	Piikoi St
7	766	Kona Iki St
8	670	Keeaumoku St
9	961	Kaheka St
10	1035	Atkinson Dr
11	578	Kalakaua Ave
12	1164	Mccully St
13	1718	Isenberg St
14	562	University Ave
15	883	Date St
16	1830	H-1 On-Ramp

Length of Study Route = 14,809 feet

Austin, Tsutsumi & Associates

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Study Name **: Closure_Kapiolani Blvd PM EB**
Study Date **: 4/25/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	South St							
2	844	Cooke St	57.7	0.8	10.0	43.2	24.3	57.7	57.7
3	1178	Ward Ave	91.0	1.0	8.8	70.8	39.0	91.0	91.0
4	1281	Kamakee St	42.8	0.5	20.4	20.8	4.0	42.7	42.8
5	786	Pensacola St	22.2	0.0	24.2	8.7	0.0	22.2	22.2
6	553	Piikoi St	14.7	0.0	25.7	5.0	0.0	14.3	14.7
7	766	Kona Iki St	29.7	0.3	17.6	16.3	4.0	29.7	29.7
8	670	Keeaumoku St	29.8	0.2	15.3	18.0	7.2	29.8	29.8
9	961	Kaheka St	33.3	0.3	19.7	16.7	1.3	33.3	33.3
10	1035	Atkinson Dr	51.0	0.5	13.8	33.0	15.3	51.0	51.0
11	578	Kalakaua Ave	33.0	0.5	11.9	23.0	8.8	33.0	33.0
12	1164	Mccully St	57.5	0.8	13.8	37.5	14.2	57.5	57.5
13	1718	Isenberg St	123.0	2.3	9.5	93.8	30.8	123.0	123.0
14	562	University Ave	70.3	1.5	5.4	60.3	32.3	70.3	70.3
15	883	Date St	146.0	1.8	4.1	130.7	92.5	146.0	146.0
16	1830	H-1 On-Ramp	79.3	0.7	15.7	48.2	28.3	75.7	78.7
Total	**14,809**		**881.3**	**11.3**	**11.5**	**626.0**	**302.2**	**877.2**	**880.7**

Stats based on 6 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

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Study Name **: Closure_Kapiolani Blvd PM EB**
Study Date **: 4/25/2017**
Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	South St				
2	844	Cooke St	0.0150	1.5517	12.2141	0.6852
3	1178	Ward Ave	0.0231	2.4177	19.2438	1.0328
4	1281	Kamakee St	0.0142	1.4611	12.1379	0.8507
5	786	Pensacola St	0.0076	0.7595	6.7894	0.4321
6	553	Piikoi St	0.0049	0.4457	4.1647	0.2213
7	766	Kona Iki St	0.0081	0.7078	5.7543	0.2484
8	670	Keeaumoku St	0.0087	0.9047	7.3589	0.4639
9	961	Kaheka St	0.0100	0.9513	8.1826	0.4524
10	1035	Atkinson Dr	0.0145	1.4848	12.1131	0.7109
11	578	Kalakaua Ave	0.0093	0.9909	7.8526	0.5139
12	1164	Mccully St	0.0162	1.6601	13.1520	0.8142
13	1718	Isenberg St	0.0292	2.8123	23.1990	0.9133
14	562	University Ave	0.0159	1.6090	12.3318	0.5166
15	883	Date St	0.0326	3.3882	27.8361	1.0484
16	1830	H-1 On-Ramp	0.0228	2.2838	20.2320	1.0667
Total	**14,809**		**0.2320**	**23.4286**	**192.5622**	**9.9708**

Stats based on 6 AFTER runs.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	49	44	78	76	19	80
3	1178	Ward Ave	43	95	86	125	74	123
4	1281	Kamakee St	34	46	58	48	43	28
5	786	Pensacola St	38	17	19	17	22	20
6	553	Piikoi St	23	11	13	13	13	15
7	766	Kona Iki St	52	16	21	18	21	50
8	670	Keeaumoku St	21	15	20	18	20	85
9	961	Kaheka St	64	20	27	33	26	30
10	1035	Atkinson Dr	88	24	25	42	38	89
11	578	Kalakaua Ave	56	12	65	16	15	34
12	1164	Mccully St	27	24	32	55	170	37
13	1718	Isenberg St	42	48	54	52	401	141
14	562	University Ave	14	90	35	54	136	93
15	883	Date St	114	179	135	160	144	144
16	1830	H-1 On-Ramp	45	62	45	165	71	88
Totals	**14809**		**710**	**703**	**713**	**892**	**1,213**	**1,057**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	1	1	1	1	0	1
3	1178	Ward Ave	0	1	1	2	1	1
4	1281	Kamakee St	0	1	1	0	1	0
5	786	Pensacola St	0	0	0	0	0	0
6	553	Piikoi St	0	0	0	0	0	0
7	766	Kona Iki St	1	0	0	0	0	1
8	670	Keeaumoku St	0	0	0	0	0	1
9	961	Kaheka St	1	0	0	1	0	0
10	1035	Atkinson Dr	1	0	0	0	1	1
11	578	Kalakaua Ave	1	0	1	0	0	1
12	1164	Mccully St	0	0	0	1	4	0
13	1718	Isenberg St	0	0	0	0	10	4
14	562	University Ave	0	1	1	2	2	3
15	883	Date St	1	2	1	4	2	1
16	1830	H-1 On-Ramp	0	1	0	1	1	1
Totals	**14809**		**6**	**7**	**6**	**12**	**22**	**15**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	11.9	13.0	7.4	7.7	30.3	7.3
3	1178	Ward Ave	18.8	8.4	9.5	6.4	11.1	6.6
4	1281	Kamakee St	25.6	19.0	14.9	18.4	20.0	32.0
5	786	Pensacola St	14.1	31.5	28.9	30.8	24.7	25.7
6	553	Piikoi St	16.3	34.3	28.7	30.8	29.1	25.2
7	766	Kona Iki St	10.0	32.9	24.5	28.7	25.5	10.7
8	670	Keeaumoku St	21.9	30.5	22.6	25.6	23.1	5.5
9	961	Kaheka St	10.3	32.7	24.5	19.5	24.7	21.7
10	1035	Atkinson Dr	8.3	29.5	29.0	16.9	18.7	7.8
11	578	Kalakaua Ave	7.1	32.8	5.9	23.9	25.3	11.8
12	1164	Mccully St	29.1	33.1	25.0	14.6	4.7	21.4
13	1718	Isenberg St	28.1	24.4	21.4	22.3	2.9	8.3
14	562	University Ave	26.3	4.3	10.9	7.3	2.8	4.2
15	883	Date St	5.5	3.4	4.6	3.8	4.3	4.2
16	1830	H-1 On-Ramp	26.9	20.1	26.9	7.6	17.3	14.1
Totals	**14809**		**14.2**	**14.4**	**14.1**	**11.3**	**8.3**	**9.6**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	34	30	64	61	5	65
3	1178	Ward Ave	23	75	65	105	54	103
4	1281	Kamakee St	12	24	36	26	21	6
5	786	Pensacola St	24	4	5	4	8	7
6	553	Piikoi St	13	2	3	3	3	6
7	766	Kona Iki St	39	3	8	4	7	37
8	670	Keeaumoku St	9	4	8	6	8	73
9	961	Kaheka St	48	4	10	16	9	13
10	1035	Atkinson Dr	70	6	7	24	20	71
11	578	Kalakaua Ave	46	2	55	6	5	24
12	1164	Mccully St	7	4	12	35	150	17
13	1718	Isenberg St	12	19	25	23	372	112
14	562	University Ave	4	80	25	44	126	83
15	883	Date St	98	164	120	145	128	129
16	1830	H-1 On-Ramp	14	31	15	133	39	57
Totals	**14809**		**453**	**452**	**458**	**635**	**955**	**803**

Total Delay based on a Normal Speed of 40 MPH.

Austin, Tsutsumi & Associates

501 Sumner Street #521, Honolulu, HI 96817

Ph: (808) 533-3646 Fax: (808) 526-1267

Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	5	12	39	42	0	48
3	1178	Ward Ave	0	37	50	65	13	69
4	1281	Kamakee St	0	1	23	0	0	0
5	786	Pensacola St	0	0	0	0	0	0
6	553	Piikoi St	0	0	0	0	0	0
7	766	Kona Iki St	15	0	0	0	0	9
8	670	Keeaumoku St	0	0	0	0	0	43
9	961	Kaheka St	8	0	0	0	0	0
10	1035	Atkinson Dr	39	0	0	0	0	53
11	578	Kalakaua Ave	25	0	25	0	0	3
12	1164	Mccully St	0	0	0	3	82	0
13	1718	Isenberg St	0	0	0	0	156	29
14	562	University Ave	0	58	5	13	79	39
15	883	Date St	69	129	88	80	90	99
16	1830	H-1 On-Ramp	0	20	0	105	14	31
Totals	**14809**		**161**	**257**	**230**	**308**	**434**	**423**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	49	44	78	76	19	80
3	1178	Ward Ave	43	95	86	125	74	123
4	1281	Kamakee St	34	46	57	48	43	28
5	786	Pensacola St	38	17	19	17	22	20
6	553	Piikoi St	23	9	13	13	13	15
7	766	Kona Iki St	52	16	21	18	21	50
8	670	Keeaumoku St	21	15	20	18	20	85
9	961	Kaheka St	64	20	27	33	26	30
10	1035	Atkinson Dr	88	24	25	42	38	89
11	578	Kalakaua Ave	56	12	65	16	15	34
12	1164	Mccully St	27	24	32	55	170	37
13	1718	Isenberg St	42	48	54	52	401	141
14	562	University Ave	14	90	35	54	136	93
15	883	Date St	114	179	135	160	144	144
16	1830	H-1 On-Ramp	44	44	44	165	70	87
Totals	**14809**		**709**	**683**	**711**	**892**	**1,212**	**1,056**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Kapiolani Blvd PM EB-R001)	Run #2 (Kapiolani Blvd PM EB-R002)	Run #3 (Kapiolani Blvd PM EB-R003)	Run #4 (Kapiolani Blvd PM EB-R004)	Run #5 (Kapiolani Blvd PM EB-R005)	Run #6 (Kapiolani Blvd PM EB-R006)
1	0	South St						
2	844	Cooke St	49	44	78	76	19	80
3	1178	Ward Ave	43	95	86	125	74	123
4	1281	Kamakee St	34	46	58	48	43	28
5	786	Pensacola St	38	17	19	17	22	20
6	553	Piikoi St	23	11	13	13	13	15
7	766	Kona Iki St	52	16	21	18	21	50
8	670	Keeaumoku St	21	15	20	18	20	85
9	961	Kaheka St	64	20	27	33	26	30
10	1035	Atkinson Dr	88	24	25	42	38	89
11	578	Kalakaua Ave	56	12	65	16	15	34
12	1164	Mccully St	27	24	32	55	170	37
13	1718	Isenberg St	42	48	54	52	401	141
14	562	University Ave	14	90	35	54	136	93
15	883	Date St	114	179	135	160	144	144
16	1830	H-1 On-Ramp	44	62	44	165	70	87
Totals	**14809**		**709**	**703**	**712**	**892**	**1,212**	**1,056**

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Study Name : **Closure_Kapiolani Blvd PM EB**
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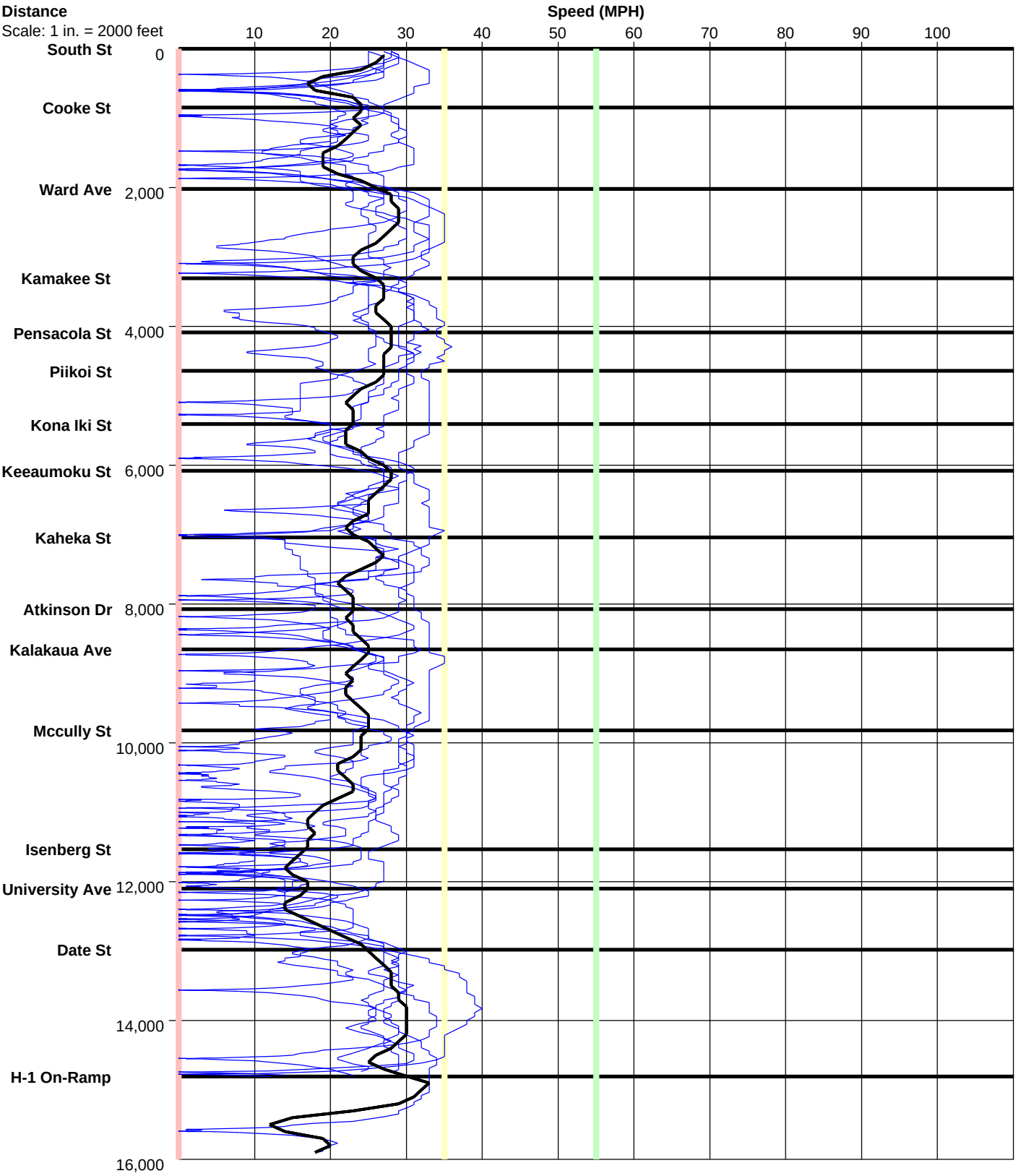
Speed/Distance Profiles of All Runs



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Study Name : **Closure_Kapiolani Blvd PM EB**
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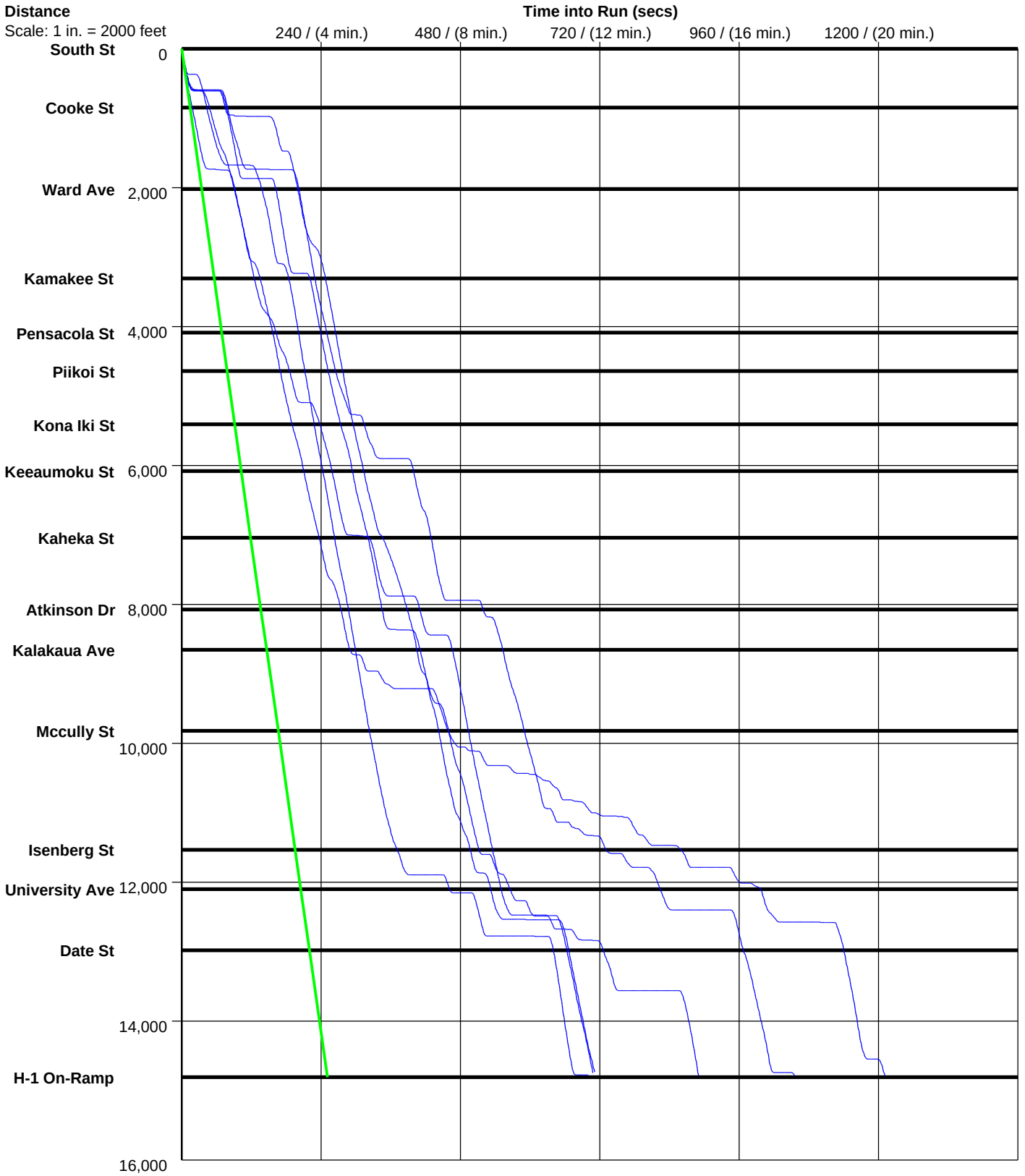
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_King St AM EB

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Study Name **: Closure_King St AM EB**
Study Date **: 4/25/2017**
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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
King St AM-EB-001	04/25/17	06:07	15461	After	Primary
King St AM-EB-002	04/25/17	06:25	15455	After	Secondary
King St AM-EB-003	04/25/17	07:11	15360	After	Secondary
King St AM-EB-004	04/25/17	08:01	15360	After	Secondary
King St AM-EB-005	04/25/17	08:29	15355	After	Secondary
King St AM-EB-006	04/25/17	08:57	15367	After	Secondary
King St AM-EB-007	04/25/17	09:21	15386	After	Secondary

Notes:

Node Info

#	Len	Name
1	0	Punchbowl St
2	1391	Alapai/South St
3	1665	Ward Ave
4	524	Victoria St
5	418	Longs Crosswalk
6	667	Pensacola St
7	624	Piikoi St
8	1379	Keeaumoku St
9	810	Kaheka St
10	382	Kalakaua Ave
11	299	Punahou St
12	968	Pawaa Ln
13	1220	Mccully St
14	1703	Isenberg St
15	715	Hausten St
16	615	University Ave
17	414	Kahuna Ln
18	1667	King St On-Ramp

Length of Study Route = 15,461 feet

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Study Name **: Closure_King St AM EB**
Study Date **: 4/25/2017**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Punchbowl St							
2	1391	Alapai/South St	43.0	0.4	22.1	19.0	3.6	40.9	43.0
3	1665	Ward Ave	72.7	1.0	15.6	44.1	9.0	72.3	72.7
4	524	Victoria St	19.6	0.1	18.3	10.6	2.0	19.6	19.6
5	418	Longs Crosswalk	10.7	0.0	26.6	3.3	0.0	10.7	10.7
6	667	Pensacola St	26.9	0.3	16.9	15.3	7.1	26.7	26.9
7	624	Piikoi St	22.0	0.1	19.3	11.0	4.0	22.0	22.0
8	1379	Keeaumoku St	64.0	0.7	14.7	40.0	24.4	63.9	64.0
9	810	Kaheka St	20.9	0.0	26.5	6.7	0.0	19.9	20.9
10	382	Kalakaua Ave	13.4	0.1	19.4	6.4	0.0	12.4	13.4
11	299	Punahou St	8.3	0.0	24.6	3.0	0.0	7.4	8.3
12	968	Pawaa Ln	26.3	0.1	25.1	9.4	1.9	25.0	26.3
13	1220	Mccully St	37.9	0.4	22.0	16.6	1.4	37.9	37.9
14	1703	Isenberg St	41.6	0.0	27.9	12.1	0.0	41.6	41.6
15	715	Hausten St	16.6	0.0	29.4	4.1	0.0	16.3	16.6
16	615	University Ave	43.6	0.4	9.6	32.7	22.1	42.7	43.6
17	414	Kahuna Ln	15.0	0.1	18.8	7.9	3.9	15.0	15.0
18	1667	King St On-Ramp	43.3	0.1	26.3	15.4	0.7	41.4	42.4
Total	**15,461**		**525.6**	**4.1**	**20.1**	**257.7**	**80.1**	**515.6**	**524.7**

Stats based on 7 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name : **Closure_King St AM EB**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Punchbowl St				
2	1391	Alapai/South St	0.0143	1.4243	12.2842	0.7948
3	1665	Ward Ave	0.0210	2.1295	16.1565	1.0938
4	524	Victoria St	0.0067	0.7803	6.5794	0.5059
5	418	Longs Crosswalk	0.0036	0.3176	2.9003	0.1555
6	667	Pensacola St	0.0079	0.7758	6.4908	0.3719
7	624	Piikoi St	0.0068	0.6986	6.0879	0.3685
8	1379	Keeaumoku St	0.0196	2.0765	17.3982	1.1199
9	810	Kaheka St	0.0070	0.6345	6.3810	0.3100
10	382	Kalakaua Ave	0.0044	0.4648	3.4337	0.2868
11	299	Punahou St	0.0035	0.4217	3.3326	0.3197
12	968	Pawaa Ln	0.0084	0.7125	6.7756	0.2987
13	1220	Mccully St	0.0130	1.3776	11.1507	0.8556
14	1703	Isenberg St	0.0148	1.4397	13.6109	0.8098
15	715	Hausten St	0.0057	0.4992	5.1921	0.2330
16	615	University Ave	0.0109	1.0656	8.9308	0.3815
17	414	Kahuna Ln	0.0053	0.6329	5.5882	0.4193
18	1667	King St On-Ramp	0.0169	1.8780	16.8940	1.2927
Total	**15,461**		**0.1698**	**17.3290**	**149.1868**	**9.6175**

Stats based on 7 AFTER runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	27	28	55	68	58	34	31
3	1665	Ward Ave	67	50	93	74	86	67	72
4	524	Victoria St	16	12	13	11	56	13	16
5	418	Longs Crosswalk	9	9	11	10	16	10	10
6	667	Pensacola St	14	14	20	76	29	19	16
7	624	Piikoi St	15	15	17	18	57	16	16
8	1379	Keeaumoku St	30	31	90	31	67	98	101
9	810	Kaheka St	17	17	26	20	17	28	21
10	382	Kalakaua Ave	10	10	21	16	7	14	16
11	299	Punahou St	9	8	10	12	5	7	7
12	968	Pawaa Ln	22	20	25	26	20	21	50
13	1220	Mccully St	41	46	36	34	46	33	29
14	1703	Isenberg St	37	40	41	40	44	45	44
15	715	Hausten St	15	15	18	14	20	18	16
16	615	University Ave	12	14	98	14	18	62	87
17	414	Kahuna Ln	9	9	11	46	10	10	10
18	1667	King St On-Ramp	42	42	54	42	42	40	41
Totals	**15461**		**392**	**380**	**639**	**552**	**598**	**535**	**583**

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Study Name **: Closure_King St AM EB**
Study Date **: 4/25/2017**
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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	0	0	1	1	1	0	0
3	1665	Ward Ave	1	1	1	1	1	1	1
4	524	Victoria St	0	0	0	0	1	0	0
5	418	Longs Crosswalk	0	0	0	0	0	0	0
6	667	Pensacola St	0	0	0	1	1	0	0
7	624	Piikoi St	0	0	0	0	1	0	0
8	1379	Keeaumoku St	0	0	1	0	1	1	2
9	810	Kaheka St	0	0	0	0	0	0	0
10	382	Kalakaua Ave	0	0	1	0	0	0	0
11	299	Punahou St	0	0	0	0	0	0	0
12	968	Pawaa Ln	0	0	0	0	0	0	1
13	1220	Mccully St	1	1	0	0	1	0	0
14	1703	Isenberg St	0	0	0	0	0	0	0
15	715	Hausten St	0	0	0	0	0	0	0
16	615	University Ave	0	0	1	0	0	1	1
17	414	Kahuna Ln	0	0	0	1	0	0	0
18	1667	King St On-Ramp	0	0	1	0	0	0	0
Totals	**15461**		**2**	**2**	**6**	**4**	**7**	**3**	**5**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	35.0	34.2	17.6	14.1	16.5	28.4	30.6
3	1665	Ward Ave	16.9	22.6	12.2	15.5	13.2	16.7	15.9
4	524	Victoria St	22.4	30.0	26.9	30.9	6.2	28.2	22.3
5	418	Longs Crosswalk	31.7	33.7	25.2	30.1	18.6	28.1	27.7
6	667	Pensacola St	32.4	32.8	23.1	5.8	15.3	23.6	29.1
7	624	Piikoi St	28.3	27.1	25.5	23.6	7.6	27.4	26.4
8	1379	Keeaumoku St	31.3	31.1	10.5	30.4	13.9	9.5	9.3
9	810	Kaheka St	32.4	32.2	21.2	28.2	33.8	19.6	25.7
10	382	Kalakaua Ave	26.1	23.7	12.1	15.3	37.4	19.4	17.6
11	299	Punahou St	22.6	25.8	21.5	18.9	37.4	32.0	27.7
12	968	Pawaa Ln	30.0	33.2	26.0	25.2	32.3	30.3	13.0
13	1220	Mccully St	20.3	18.0	23.3	24.1	18.2	25.9	29.6
14	1703	Isenberg St	31.3	29.6	28.0	29.5	26.3	25.5	26.3
15	715	Hausten St	32.5	31.5	28.2	34.0	25.3	26.2	30.8
16	615	University Ave	34.9	30.4	4.1	30.1	23.8	6.9	4.7
17	414	Kahuna Ln	31.4	29.8	27.0	5.9	27.1	27.5	27.6
18	1667	King St On-Ramp	27.1	27.5	19.8	26.0	25.6	27.4	26.9
Totals	**15461**		**26.8**	**27.8**	**16.4**	**19.0**	**17.5**	**19.6**	**18.0**

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Study Name **: Closure_King St AM EB**
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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	3	4	31	44	34	10	7
3	1665	Ward Ave	39	22	64	45	57	39	43
4	524	Victoria St	7	3	4	2	47	4	7
5	418	Longs Crosswalk	2	1	4	2	8	3	3
6	667	Pensacola St	3	2	8	65	17	8	4
7	624	Piikoi St	4	4	6	7	46	5	5
8	1379	Keeaumoku St	6	7	66	7	43	74	77
9	810	Kaheka St	3	3	12	6	2	14	7
10	382	Kalakaua Ave	3	3	14	9	0	7	9
11	299	Punahou St	4	3	5	6	0	1	2
12	968	Pawaa Ln	6	3	8	9	3	4	33
13	1220	Mccully St	20	25	15	13	25	11	7
14	1703	Isenberg St	8	10	12	10	15	16	14
15	715	Hausten St	3	3	5	2	7	6	3
16	615	University Ave	2	3	87	3	7	51	76
17	414	Kahuna Ln	2	2	3	39	3	3	3
18	1667	King St On-Ramp	14	13	27	14	15	12	13
Totals	**15461**		**129**	**111**	**371**	**283**	**329**	**268**	**313**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	0	0	0	14	11	0	0
3	1665	Ward Ave	14	3	28	0	10	2	6
4	524	Victoria St	0	0	0	0	14	0	0
5	418	Longs Crosswalk	0	0	0	0	0	0	0
6	667	Pensacola St	0	0	0	50	0	0	0
7	624	Piikoi St	0	0	0	0	28	0	0
8	1379	Keeaumoku St	0	0	47	0	21	50	53
9	810	Kaheka St	0	0	0	0	0	0	0
10	382	Kalakaua Ave	0	0	0	0	0	0	0
11	299	Punahou St	0	0	0	0	0	0	0
12	968	Pawaa Ln	0	0	0	0	0	0	13
13	1220	Mccully St	3	7	0	0	0	0	0
14	1703	Isenberg St	0	0	0	0	0	0	0
15	715	Hausten St	0	0	0	0	0	0	0
16	615	University Ave	0	0	65	0	0	28	62
17	414	Kahuna Ln	0	0	0	27	0	0	0
18	1667	King St On-Ramp	0	0	5	0	0	0	0
Totals	**15461**		**17**	**10**	**145**	**91**	**84**	**80**	**134**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	12	28	55	68	58	34	31
3	1665	Ward Ave	67	47	93	74	86	67	72
4	524	Victoria St	16	12	13	11	56	13	16
5	418	Longs Crosswalk	9	9	11	10	16	10	10
6	667	Pensacola St	14	13	20	76	29	19	16
7	624	Piikoi St	15	15	17	18	57	16	16
8	1379	Keeaumoku St	30	31	90	30	67	98	101
9	810	Kaheka St	17	17	26	17	13	28	21
10	382	Kalakaua Ave	10	10	21	16	0	14	16
11	299	Punahou St	9	8	10	12	0	6	7
12	968	Pawaa Ln	22	15	25	26	17	20	50
13	1220	Mccully St	41	46	36	34	46	33	29
14	1703	Isenberg St	37	40	41	40	44	45	44
15	715	Hausten St	14	15	18	13	20	18	16
16	615	University Ave	6	14	98	14	18	62	87
17	414	Kahuna Ln	9	9	11	46	10	10	10
18	1667	King St On-Ramp	41	35	53	41	41	39	40
Totals	**15461**		**369**	**364**	**638**	**546**	**578**	**532**	**582**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (King St AM-EB-001)	Run #2 (King St AM-EB-002)	Run #3 (King St AM-EB-003)	Run #4 (King St AM-EB-004)	Run #5 (King St AM-EB-005)	Run #6 (King St AM-EB-006)	Run #7 (King St AM-EB-007)
1	0	Punchbowl St							
2	1391	Alapai/South St	27	28	55	68	58	34	31
3	1665	Ward Ave	67	50	93	74	86	67	72
4	524	Victoria St	16	12	13	11	56	13	16
5	418	Longs Crosswalk	9	9	11	10	16	10	10
6	667	Pensacola St	14	14	20	76	29	19	16
7	624	Piikoi St	15	15	17	18	57	16	16
8	1379	Keeaumoku St	30	31	90	31	67	98	101
9	810	Kaheka St	17	17	26	20	17	28	21
10	382	Kalakaua Ave	10	10	21	16	7	14	16
11	299	Punahou St	9	8	10	12	5	7	7
12	968	Pawaa Ln	22	20	25	26	20	21	50
13	1220	Mccully St	41	46	36	34	46	33	29
14	1703	Isenberg St	37	40	41	40	44	45	44
15	715	Hausten St	15	15	18	14	20	18	16
16	615	University Ave	12	14	98	14	18	62	87
17	414	Kahuna Ln	9	9	11	46	10	10	10
18	1667	King St On-Ramp	42	41	53	41	41	39	40
Totals	**15461**		**392**	**379**	**638**	**551**	**597**	**534**	**582**

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Study Name : **Closure_King St AM EB**
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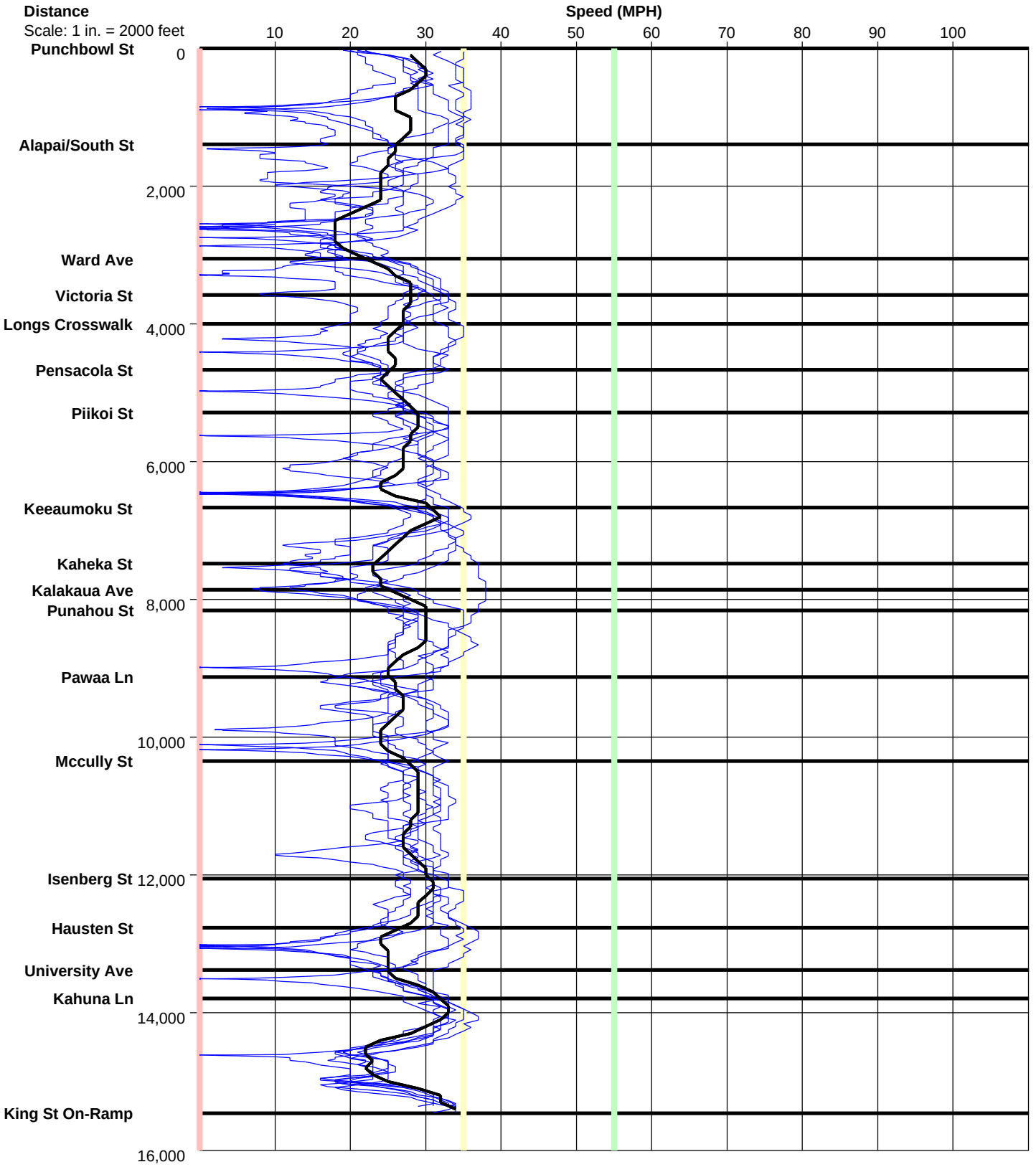
Speed/Distance Profiles of All Runs



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Study Name : **Closure_King St AM EB**
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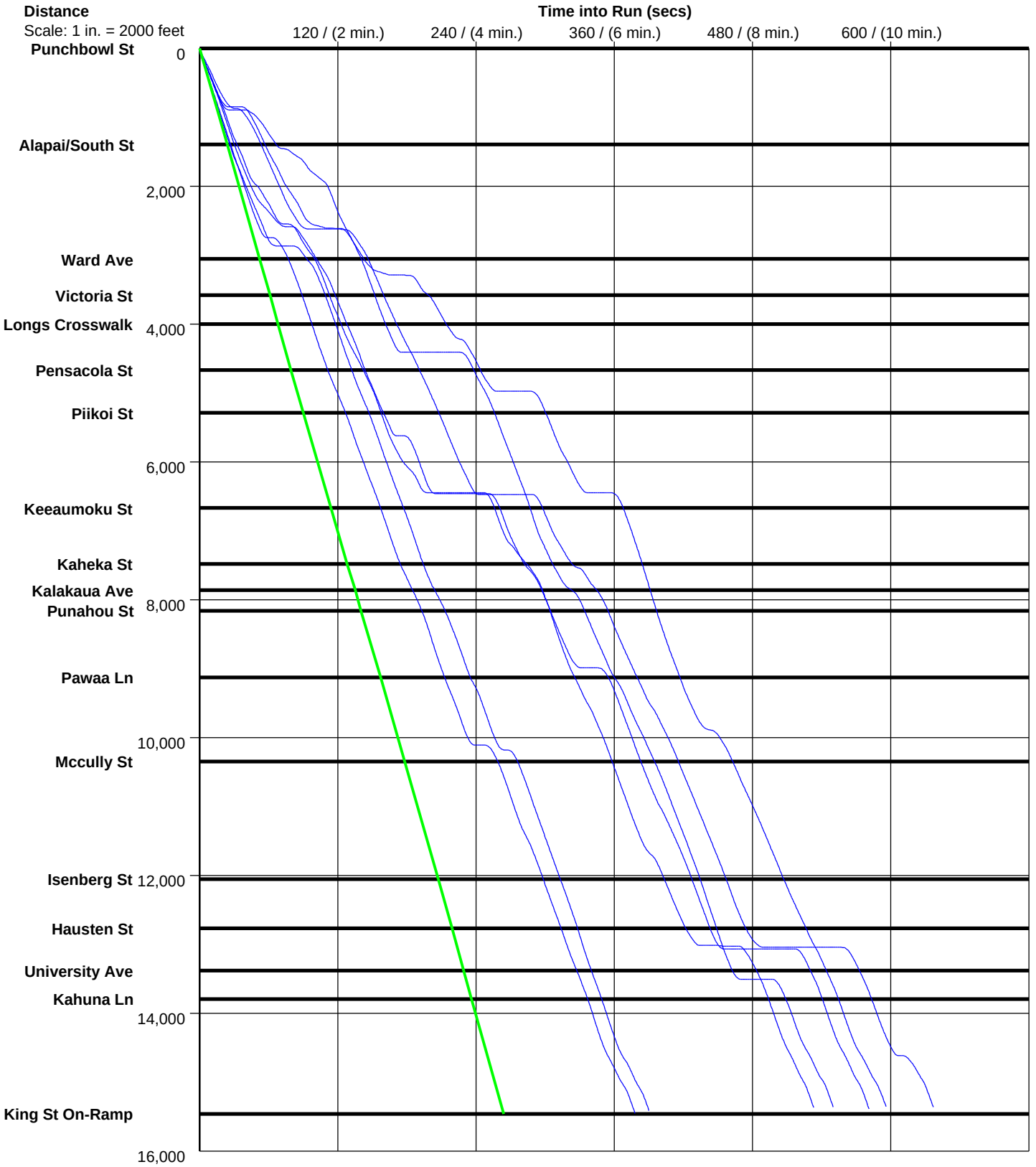
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_King St PM EB

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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
King St PM-EB-001	04/25/17	15:24	15455	After	Primary
King St PM-EB-002	04/25/17	15:58	15411	After	Secondary
King St PM-EB-003	04/25/17	18:15	15403	After	Secondary
King St PM-EB-004	04/25/17	18:38	15424	After	Secondary

Notes:

Node Info

#	Len	Name
1	0	Punchbowl St
2	1361	Alapai/South St
3	1680	Ward Ave
4	508	Victoria St
5	394	Longs Crosswalk
6	675	Pensacola St
7	620	Piikoi St
8	1397	Keeaumoku St
9	789	Kaheka St
10	409	Kalakaua Ave
11	311	Punahou St
12	930	Pawaa Ln
13	1267	Mccully St
14	1683	Isenberg St
15	684	Hausten St
16	651	University Ave
17	432	Kahuna Ln
18	1664	King St On-Ramp

Length of Study Route = 15,455 feet

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Study Name **: Closure_King St PM EB**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Punchbowl St							
2	1361	Alapai/South St	93.3	1.0	10.0	70.0	39.0	93.3	93.3
3	1680	Ward Ave	74.3	1.3	15.4	45.3	10.0	74.3	74.3
4	508	Victoria St	17.3	0.3	20.1	8.3	0.0	17.3	17.3
5	394	Longs Crosswalk	17.5	0.3	15.4	10.5	1.5	17.5	17.5
6	675	Pensacola St	31.5	0.3	14.6	19.5	6.8	31.5	31.5
7	620	Piikoi St	17.3	0.0	24.5	6.3	0.0	17.3	17.3
8	1397	Keeaumoku St	56.8	0.3	16.8	32.8	11.8	56.8	56.8
9	789	Kaheka St	21.0	0.0	25.6	7.3	0.0	21.0	21.0
10	409	Kalakaua Ave	33.0	1.0	8.5	26.0	10.5	33.0	33.0
11	311	Punahou St	13.3	0.3	16.0	7.8	1.3	13.3	13.3
12	930	Pawaa Ln	27.3	0.0	23.3	11.3	0.0	27.3	27.3
13	1267	Mccully St	101.3	1.8	8.5	79.3	35.8	101.3	101.3
14	1683	Isenberg St	60.8	0.5	18.9	31.8	2.0	60.8	60.8
15	684	Hausten St	62.8	0.8	7.4	50.8	32.3	62.8	62.8
16	651	University Ave	95.0	1.3	4.7	83.5	60.3	95.0	95.0
17	432	Kahuna Ln	15.3	0.0	19.3	7.5	0.0	15.3	15.3
18	1664	King St On-Ramp	61.5	0.5	18.4	33.3	3.8	60.5	60.8
Total	**15,455**		**798.8**	**9.3**	**13.2**	**530.8**	**214.8**	**797.8**	**798.0**

Stats based on 4 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name : **Closure_King St PM EB**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Punchbowl St				
2	1361	Alapai/South St	0.0231	2.3209	18.7319	0.8789
3	1680	Ward Ave	0.0203	2.0070	15.6128	0.9184
4	508	Victoria St	0.0055	0.5765	4.2105	0.3396
5	394	Longs Crosswalk	0.0049	0.5004	4.0333	0.2456
6	675	Pensacola St	0.0087	0.8811	7.0049	0.4148
7	620	Piikoi St	0.0057	0.5694	4.8703	0.3225
8	1397	Keeaumoku St	0.0168	1.6751	13.3776	0.8352
9	789	Kaheka St	0.0064	0.5518	5.1691	0.2218
10	409	Kalakaua Ave	0.0083	0.8640	5.8620	0.3936
11	311	Punahou St	0.0043	0.4956	3.1697	0.3337
12	930	Pawaa Ln	0.0086	0.8256	7.3641	0.4048
13	1267	Mccully St	0.0248	2.5786	19.1562	1.0746
14	1683	Isenberg St	0.0184	1.9256	15.2998	1.0719
15	684	Hausten St	0.0142	1.3750	12.5666	0.3494
16	651	University Ave	0.0211	2.1549	17.1204	0.6373
17	432	Kahuna Ln	0.0050	0.5692	4.4521	0.3606
18	1664	King St On-Ramp	0.0210	2.3904	18.8995	1.5749
Total	**15,455**		**0.2170**	**22.2610**	**176.9007**	**10.3777**

Stats based on 4 AFTER runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	58	128	68	119
3	1680	Ward Ave	90	58	74	75
4	508	Victoria St	24	15	15	15
5	394	Longs Crosswalk	36	12	10	12
6	675	Pensacola St	66	28	16	16
7	620	Piikoi St	23	15	17	14
8	1397	Keeaumoku St	106	44	43	34
9	789	Kaheka St	23	20	20	21
10	409	Kalakaua Ave	33	68	19	12
11	311	Punahou St	10	23	10	10
12	930	Pawaa Ln	24	27	36	22
13	1267	Mccully St	95	110	89	111
14	1683	Isenberg St	62	67	60	54
15	684	Hausten St	61	159	15	16
16	651	University Ave	118	130	32	100
17	432	Kahuna Ln	15	14	22	10
18	1664	King St On-Ramp	94	60	50	42
Totals	**15455**		**938**	**978**	**596**	**683**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	1	1	1	1
3	1680	Ward Ave	2	1	1	1
4	508	Victoria St	1	0	0	0
5	394	Longs Crosswalk	1	0	0	0
6	675	Pensacola St	1	0	0	0
7	620	Piikoi St	0	0	0	0
8	1397	Keeaumoku St	1	0	0	0
9	789	Kaheka St	0	0	0	0
10	409	Kalakaua Ave	2	1	1	0
11	311	Punahou St	0	1	0	0
12	930	Pawaa Ln	0	0	0	0
13	1267	Mccully St	1	2	1	3
14	1683	Isenberg St	1	1	0	0
15	684	Hausten St	1	2	0	0
16	651	University Ave	1	2	1	1
17	432	Kahuna Ln	0	0	0	0
18	1664	King St On-Ramp	2	0	0	0
Totals	**15455**		**15**	**11**	**5**	**6**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	15.9	7.3	13.6	8.0
3	1680	Ward Ave	12.7	20.0	15.7	15.1
4	508	Victoria St	14.5	22.1	23.5	23.0
5	394	Longs Crosswalk	7.4	23.7	27.4	23.1
6	675	Pensacola St	6.9	16.7	28.6	28.9
7	620	Piikoi St	18.4	27.0	23.8	31.1
8	1397	Keeaumoku St	9.0	22.2	22.5	28.1
9	789	Kaheka St	23.4	26.6	26.4	24.8
10	409	Kalakaua Ave	8.5	4.1	15.1	23.8
11	311	Punahou St	21.1	9.6	20.9	19.9
12	930	Pawaa Ln	26.5	22.8	17.7	28.9
13	1267	Mccully St	9.1	7.9	9.7	7.7
14	1683	Isenberg St	18.5	17.0	19.5	21.6
15	684	Hausten St	7.7	2.9	29.5	29.8
16	651	University Ave	3.8	3.5	14.1	4.3
17	432	Kahuna Ln	19.4	20.4	13.5	30.4
18	1664	King St On-Ramp	12.0	18.6	22.2	26.5
Totals	**15455**		**11.2**	**10.8**	**17.7**	**15.4**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	35	105	45	95
3	1680	Ward Ave	61	29	45	46
4	508	Victoria St	15	6	6	6
5	394	Longs Crosswalk	29	5	3	5
6	675	Pensacola St	54	16	4	4
7	620	Piikoi St	12	4	6	3
8	1397	Keeaumoku St	82	20	19	10
9	789	Kaheka St	10	6	6	7
10	409	Kalakaua Ave	26	61	12	5
11	311	Punahou St	5	17	4	5
12	930	Pawaa Ln	8	11	20	6
13	1267	Mccully St	73	88	67	89
14	1683	Isenberg St	33	38	31	25
15	684	Hausten St	49	147	3	4
16	651	University Ave	107	118	21	88
17	432	Kahuna Ln	8	6	14	2
18	1664	King St On-Ramp	66	32	22	13
Totals	**15455**		**673**	**709**	**328**	**413**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	6	76	8	66
3	1680	Ward Ave	21	0	7	12
4	508	Victoria St	0	0	0	0
5	394	Longs Crosswalk	6	0	0	0
6	675	Pensacola St	27	0	0	0
7	620	Piikoi St	0	0	0	0
8	1397	Keeaumoku St	47	0	0	0
9	789	Kaheka St	0	0	0	0
10	409	Kalakaua Ave	2	40	0	0
11	311	Punahou St	0	5	0	0
12	930	Pawaa Ln	0	0	0	0
13	1267	Mccully St	45	42	17	39
14	1683	Isenberg St	8	0	0	0
15	684	Hausten St	29	100	0	0
16	651	University Ave	86	79	0	76
17	432	Kahuna Ln	0	0	0	0
18	1664	King St On-Ramp	15	0	0	0
Totals	**15455**		**292**	**342**	**32**	**193**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	58	128	68	119
3	1680	Ward Ave	90	58	74	75
4	508	Victoria St	24	15	15	15
5	394	Longs Crosswalk	36	12	10	12
6	675	Pensacola St	66	28	16	16
7	620	Piikoi St	23	15	17	14
8	1397	Keeaumoku St	106	44	43	34
9	789	Kaheka St	23	20	20	21
10	409	Kalakaua Ave	33	68	19	12
11	311	Punahou St	10	23	10	10
12	930	Pawaa Ln	24	27	36	22
13	1267	Mccully St	95	110	89	111
14	1683	Isenberg St	62	67	60	54
15	684	Hausten St	61	159	15	16
16	651	University Ave	118	130	32	100
17	432	Kahuna Ln	15	14	22	10
18	1664	King St On-Ramp	93	59	49	41
Totals	**15455**		**937**	**977**	**595**	**682**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (King St PM-EB-001)	Run #2 (King St PM-EB-002)	Run #3 (King St PM-EB-003)	Run #4 (King St PM-EB-004)
1	0	Punchbowl St				
2	1361	Alapai/South St	58	128	68	119
3	1680	Ward Ave	90	58	74	75
4	508	Victoria St	24	15	15	15
5	394	Longs Crosswalk	36	12	10	12
6	675	Pensacola St	66	28	16	16
7	620	Piikoi St	23	15	17	14
8	1397	Keeaumoku St	106	44	43	34
9	789	Kaheka St	23	20	20	21
10	409	Kalakaua Ave	33	68	19	12
11	311	Punahou St	10	23	10	10
12	930	Pawaa Ln	24	27	36	22
13	1267	Mccully St	95	110	89	111
14	1683	Isenberg St	62	67	60	54
15	684	Hausten St	61	159	15	16
16	651	University Ave	118	130	32	100
17	432	Kahuna Ln	15	14	22	10
18	1664	King St On-Ramp	94	59	49	41
Totals	**15455**		**938**	**977**	**595**	**682**

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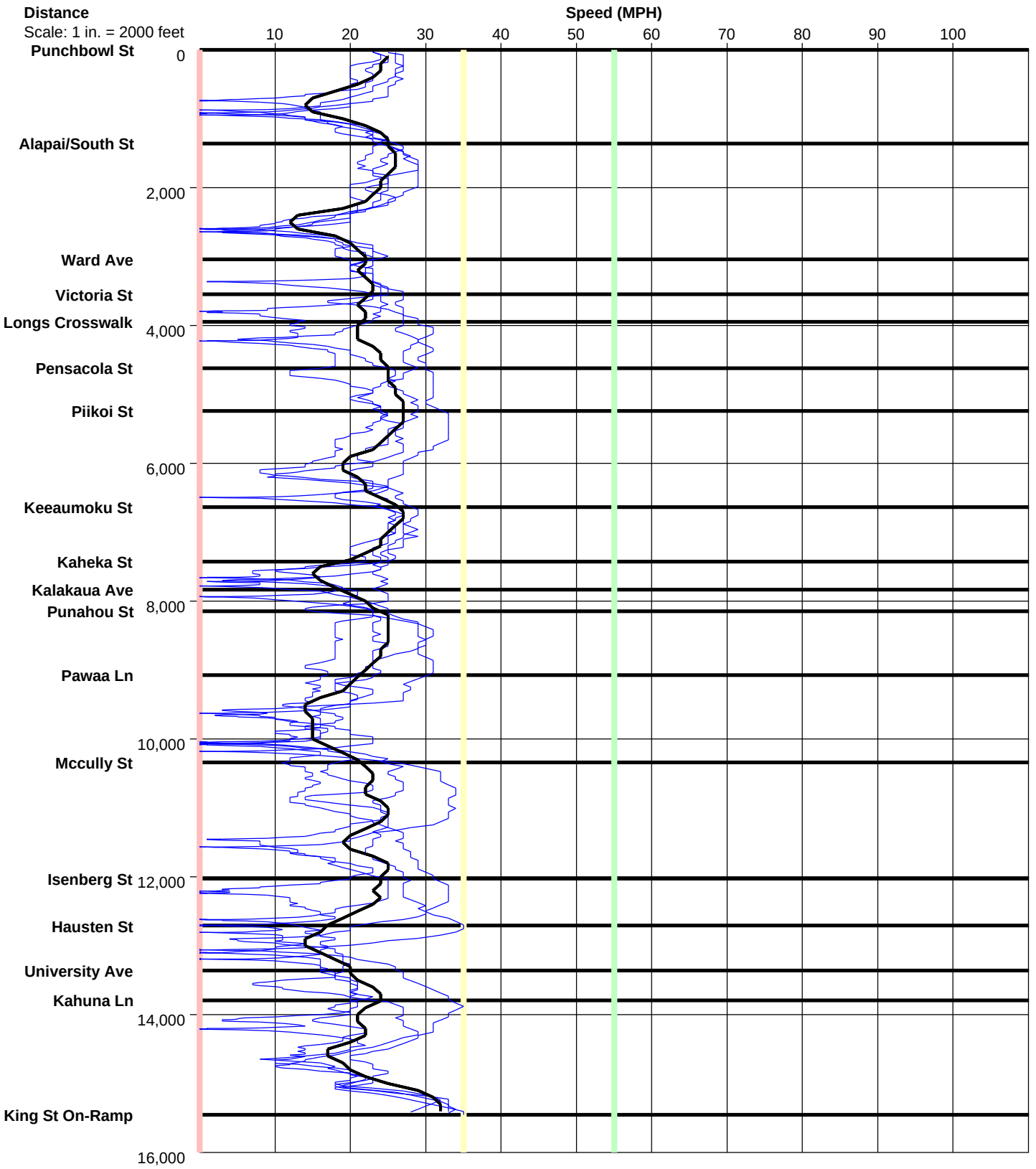
Speed/Distance Profiles of All Runs



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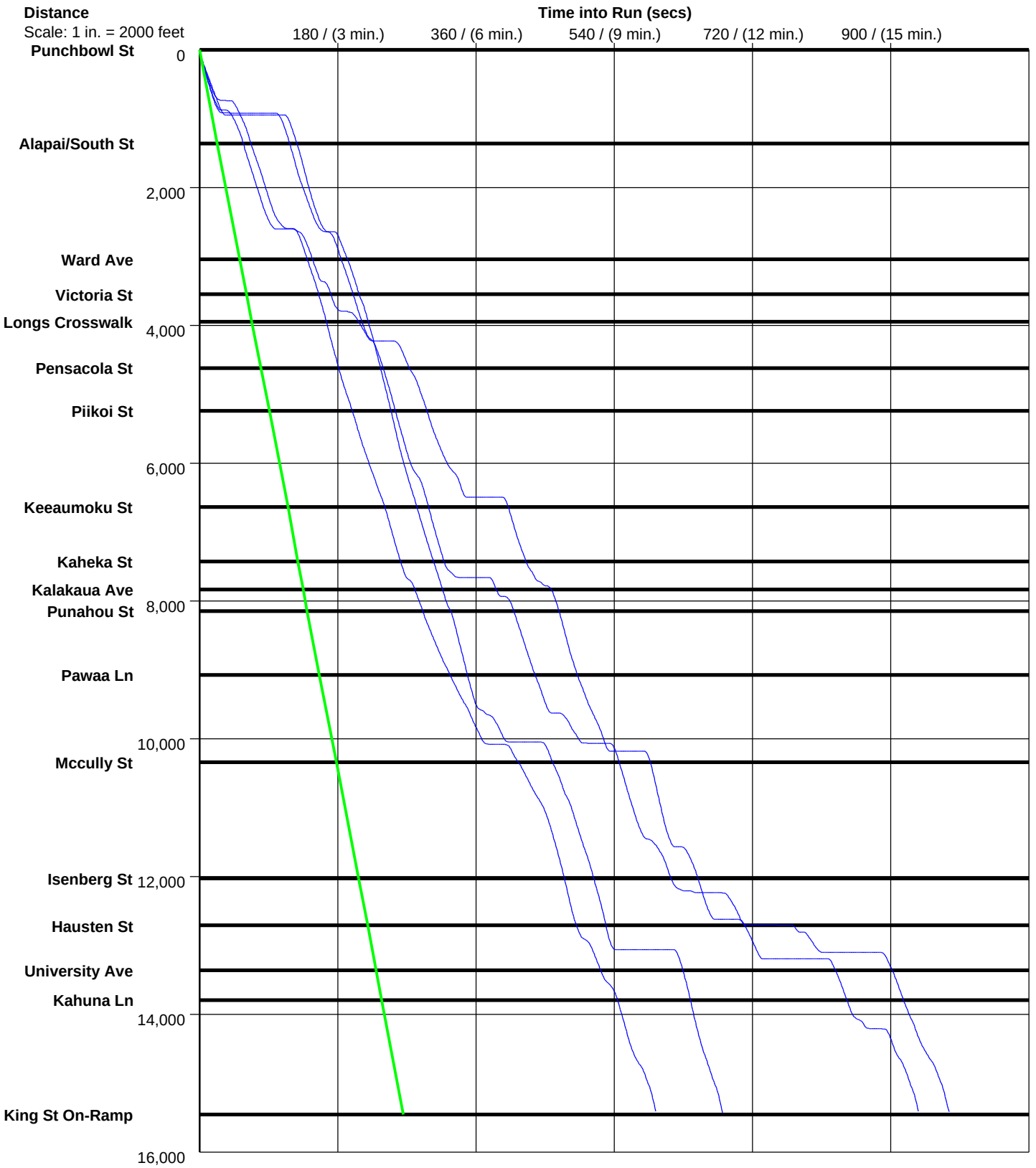
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Piikoi St AM NB

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Study Name **: Closure_Piikoi St AM NB**
Study Date **: 4/25/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Piikoi St AM-NB-001	04/25/17	05:32	3414	After	Primary
Piikoi St AM-NB-002	04/25/17	05:58	3461	After	Secondary
Piikoi St AM-NB-003	04/25/17	06:18	3343	After	Secondary
Piikoi St AM-NB-004	04/25/17	06:40	3338	After	Secondary
Piikoi St AM-NB-005	04/25/17	07:00	3326	After	Secondary
Piikoi St AM-NB-006	04/25/17	07:24	3415	After	Secondary
Piikoi St AM-NB-007	04/25/17	07:52	3386	After	Secondary
Piikoi St AM-NB-008	04/25/17	08:28	3361	After	Secondary
Piikoi St AM-NB-009	04/25/17	08:52	3360	After	Secondary
Piikoi St AM-NB-010	04/25/17	09:18	3385	After	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1274	Rycroft St
3	876	King St
4	278	Young St
5	381	Beretania St
6	407	Kinau St
7	198	H-1 EB On-Ramp

Length of Study Route = 3,414 feet

Notes:

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Study Name **: Closure_Piikoi St AM NB**
Study Date **: 4/25/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1274	Rycroft St	40.1	0.4	21.7	18.1	3.3	39.7	40.1
3	876	King St	41.0	0.8	14.6	26.0	7.3	41.0	41.0
4	278	Young St	19.5	0.5	9.7	14.5	6.0	19.5	19.5
5	381	Beretania St	38.5	1.0	6.7	31.6	16.9	38.5	38.5
6	407	Kinau St	21.9	0.3	12.7	14.9	4.8	21.9	21.9
7	198	H-1 EB On-Ramp	14.1	0.3	9.6	11.0	6.2	13.4	13.4
Total	**3,414**		**175.1**	**3.3**	**13.3**	**116.1**	**44.5**	**174.0**	**174.4**

Stats based on 10 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1274	Rycroft St	0.0148	1.6398	13.4301	1.0963
3	876	King St	0.0117	1.1642	8.7176	0.5786
4	278	Young St	0.0051	0.5213	3.5482	0.2412
5	381	Beretania St	0.0095	0.9895	7.1249	0.4173
6	407	Kinau St	0.0064	0.7128	5.2964	0.4094
7	198	H-1 EB On-Ramp	0.0030	0.2888	2.5598	0.0715
Total	**3,414**		**0.0505**	**5.3165**	**40.6771**	**2.8142**

Stats based on 10 AFTER runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	31	28	29	29	31	32	62	48
3	876	King St	39	18	37	68	42	38	34	40
4	278	Young St	7	7	8	18	14	17	52	19
5	381	Beretania St	9	9	32	21	31	40	123	25
6	407	Kinau St	10	10	13	14	14	25	93	17
7	198	H-1 EB On-Ramp	13	7	4	4	3	47	50	4
Totals	**3414**		**109**	**79**	**123**	**154**	**135**	**199**	**414**	**153**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (Piikoi St AM-NB-009)	Run #10 (Piikoi St AM-NB-010)
1	0	Kapiolani Blvd		
2	1274	Rycroft St	42	69
3	876	King St	19	75
4	278	Young St	6	47
5	381	Beretania St	62	33
6	407	Kinau St	13	10
7	198	H-1 EB On-Ramp	4	5
Totals	**3414**		**146**	**239**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	0	0	0	0	0	0	1	1
3	876	King St	1	0	1	1	1	1	1	1
4	278	Young St	0	0	0	1	0	1	1	1
5	381	Beretania St	0	0	1	1	1	2	2	1
6	407	Kinau St	0	0	0	0	0	0	3	0
7	198	H-1 EB On-Ramp	1	0	0	0	0	1	1	0
Totals	**3414**		**2**	**0**	**2**	**3**	**2**	**5**	**9**	**4**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (Piikoi St AM-NB-009)	Run #10 (Piikoi St AM-NB-010)
1	0	Kapiolani Blvd		
2	1274	Rycroft St	1	1
3	876	King St	0	1
4	278	Young St	0	1
5	381	Beretania St	1	1
6	407	Kinau St	0	0
7	198	H-1 EB On-Ramp	0	0
Totals	**3414**		**2**	**4**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	28.0	31.5	30.0	30.4	28.8	27.5	14.4	18.1
3	876	King St	15.4	32.4	16.2	8.6	14.0	15.8	17.1	14.9
4	278	Young St	27.0	29.0	24.5	10.5	13.1	11.2	3.8	10.2
5	381	Beretania St	28.9	28.3	8.2	12.8	8.1	6.2	2.1	10.6
6	407	Kinau St	27.7	27.9	20.5	19.2	20.9	11.4	3.0	16.6
7	198	H-1 EB On-Ramp	10.5	18.1	29.0	27.0	29.0	2.8	2.3	28.3
Totals	**3414**		**21.4**	**29.5**	**18.7**	**14.9**	**16.9**	**11.7**	**5.6**	**15.1**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Piikoi St AM-NB-009 Run #9	Piikoi St AM-NB-010 Run #10
1	0	Kapiolani Blvd		
2	1274	Rycroft St	21.0	12.9
3	876	King St	31.5	7.8
4	278	Young St	31.7	3.9
5	381	Beretania St	4.1	7.8
6	407	Kinau St	21.4	27.6
7	198	H-1 EB On-Ramp	27.0	28.0
Totals	**3414**		**15.8**	**9.7**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	9	6	7	7	9	10	40	26
3	876	King St	24	3	22	53	27	23	19	25
4	278	Young St	2	2	3	13	9	12	47	14
5	381	Beretania St	3	2	25	14	24	33	116	18
6	407	Kinau St	3	3	6	7	7	18	86	10
7	198	H-1 EB On-Ramp	10	3	1	1	0	44	47	1
Totals	**3414**		**51**	**19**	**64**	**95**	**76**	**140**	**355**	**94**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (Piikoi St AM-NB-009)	Run #10 (Piikoi St AM-NB-010)
1	0	Kapiolani Blvd		
2	1274	Rycroft St	20	47
3	876	King St	4	60
4	278	Young St	1	42
5	381	Beretania St	55	26
6	407	Kinau St	6	3
7	198	H-1 EB On-Ramp	1	2
Totals	**3414**		**87**	**180**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	0	0	0	0	0	0	7	10
3	876	King St	4	0	4	35	1	0	0	5
4	278	Young St	0	0	0	0	0	0	35	0
5	381	Beretania St	0	0	11	0	8	8	83	4
6	407	Kinau St	0	0	0	0	0	0	48	0
7	198	H-1 EB On-Ramp	0	0	0	0	0	31	31	0
Totals	**3414**		**4**	**0**	**15**	**35**	**9**	**39**	**204**	**19**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Piikoi St AM-NB-009 Run #9	Piikoi St AM-NB-010 Run #10
1	0	Kapiolani Blvd		
2	1274	Rycroft St	0	16
3	876	King St	0	24
4	278	Young St	0	25
5	381	Beretania St	43	12
6	407	Kinau St	0	0
7	198	H-1 EB On-Ramp	0	0
Totals	**3414**		**43**	**77**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	31	26	29	27	31	32	62	48
3	876	King St	39	18	37	68	42	38	34	40
4	278	Young St	7	7	8	18	14	17	52	19
5	381	Beretania St	9	9	32	21	31	40	123	25
6	407	Kinau St	10	10	13	14	14	25	93	17
7	198	H-1 EB On-Ramp	13	7	3	3	2	47	49	3
Totals	**3414**		**109**	**77**	**122**	**151**	**134**	**199**	**413**	**152**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (Piikoi St AM-NB-009)	Run #10 (Piikoi St AM-NB-010)
1	0	Kapiolani Blvd		
2	1274	Rycroft St	42	69
3	876	King St	19	75
4	278	Young St	6	47
5	381	Beretania St	62	33
6	407	Kinau St	13	10
7	198	H-1 EB On-Ramp	3	4
Totals	**3414**		**145**	**238**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St AM-NB-001)	Run #2 (Piikoi St AM-NB-002)	Run #3 (Piikoi St AM-NB-003)	Run #4 (Piikoi St AM-NB-004)	Run #5 (Piikoi St AM-NB-005)	Run #6 (Piikoi St AM-NB-006)	Run #7 (Piikoi St AM-NB-007)	Run #8 (Piikoi St AM-NB-00
1	0	Kapiolani Blvd								
2	1274	Rycroft St	31	28	29	29	31	32	62	48
3	876	King St	39	18	37	68	42	38	34	40
4	278	Young St	7	7	8	18	14	17	52	19
5	381	Beretania St	9	9	32	21	31	40	123	25
6	407	Kinau St	10	10	13	14	14	25	93	17
7	198	H-1 EB On-Ramp	13	7	3	3	2	47	49	3
Totals	**3414**		**109**	**79**	**122**	**153**	**134**	**199**	**413**	**152**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (Piikoi St AM-NB-009)	Run #10 (Piikoi St AM-NB-010)
1	0	Kapiolani Blvd		
2	1274	Rycroft St	42	69
3	876	King St	19	75
4	278	Young St	6	47
5	381	Beretania St	62	33
6	407	Kinau St	13	10
7	198	H-1 EB On-Ramp	3	4
Totals	**3414**		**145**	**238**

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Study Name **: Closure_Piikoi St AM NB**
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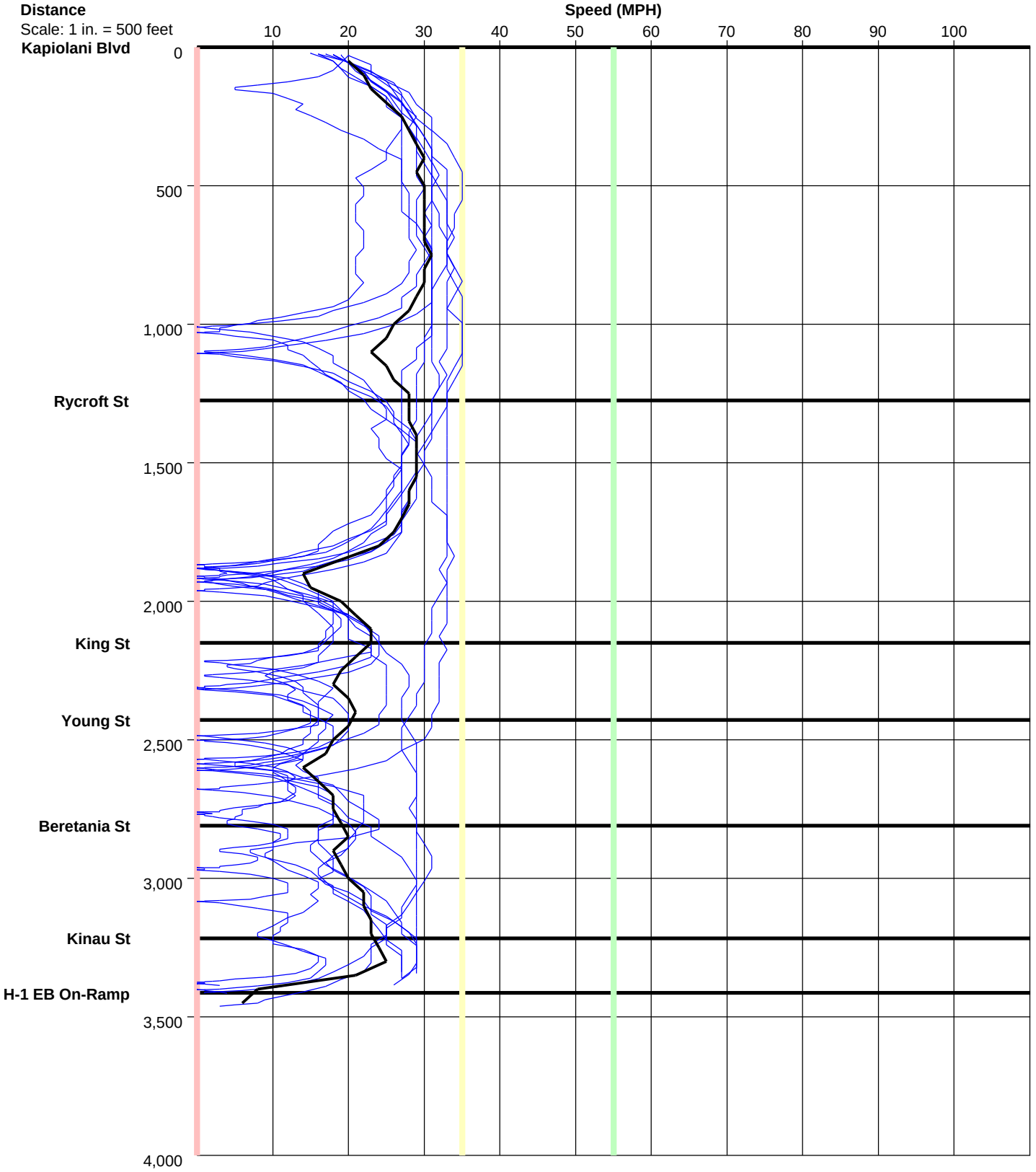
Speed/Distance Profiles of All Runs



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Study Name : **Closure_Piikoi St AM NB**
Study Date : **4/25/2017**
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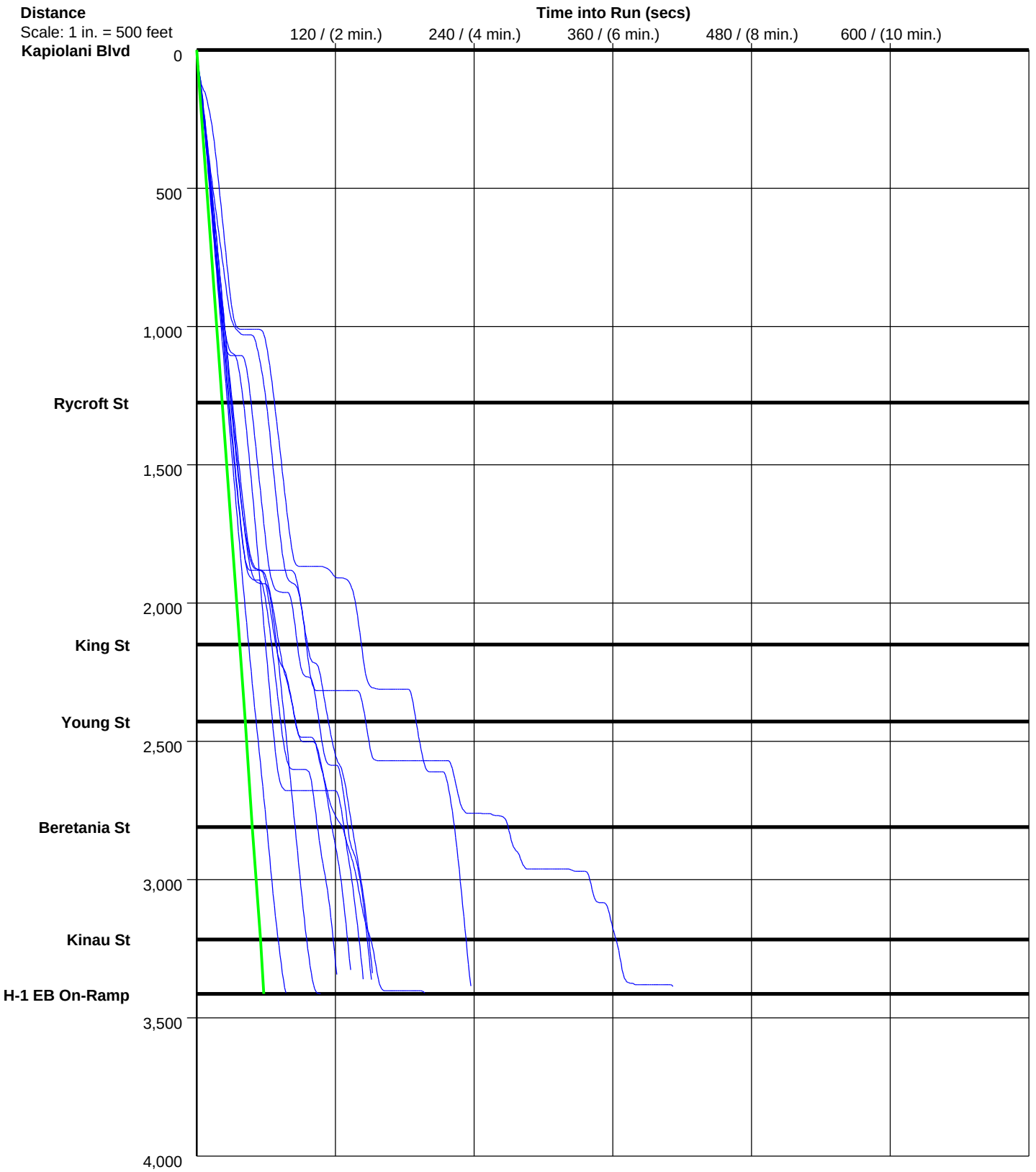
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Piikoi St PM NB

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Study Name **: Closure_Piikoi St PM NB**
Study Date **: 4/25/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Piikoi St PM-NB-001	04/25/17	15:01	3423	After	Primary
Piikoi St PM-NB-002	04/25/17	15:34	3365	After	Secondary
Piikoi St PM-NB-003	04/25/17	16:18	3359	After	Secondary
Piikoi St PM-NB-004	04/25/17	17:10	3355	After	Secondary
Piikoi St PM-NB-005	04/25/17	17:40	3351	After	Secondary
Piikoi St PM-NB-006	04/25/17	18:11	77	After	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1283	Rycroft St
3	849	King St
4	315	Young St
5	356	Beretania St
6	449	Kinau St
7	171	H-1 EB On-Ramp

Length of Study Route = 3,423 feet

Notes:

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Study Name **: Closure_Piikoi St PM NB**
Study Date **: 4/25/2017**
Page No. **: 3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1283	Rycroft St	84.5	0.3	10.4	66.0	35.2	83.7	84.3
3	849	King St	44.5	0.8	13.0	32.2	14.0	44.5	44.5
4	315	Young St	8.7	0.0	24.8	4.0	0.0	8.7	8.7
5	356	Beretania St	57.2	0.8	4.2	52.2	38.8	57.2	57.2
6	449	Kinau St	12.2	0.0	25.2	5.5	0.0	12.2	12.2
7	171	H-1 EB On-Ramp	6.3	0.3	18.4	4.5	0.7	5.7	5.7
Total	**3,423**		**213.3**	**2.3**	**10.9**	**164.3**	**88.7**	**211.8**	**212.5**

Stats based on 6 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1283	Rycroft St	0.0208	2.1303	18.6459	0.7711
3	849	King St	0.0116	1.1629	8.5532	0.5034
4	315	Young St	0.0024	0.2160	1.8752	0.0824
5	356	Beretania St	0.0125	1.2896	10.1977	0.3759
6	449	Kinau St	0.0039	0.4326	3.2256	0.2720
7	171	H-1 EB On-Ramp	0.0013	0.1235	1.1174	0.0374
Total	**3,423**		**0.0524**	**5.3548**	**43.6151**	**2.0423**

Stats based on 6 AFTER runs.

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	60	36	64	30	39	278
3	849	King St	25	55	79	54	54	0
4	315	Young St	8	9	10	13	12	0
5	356	Beretania St	60	67	68	71	77	0
6	449	Kinau St	13	16	13	16	15	0
7	171	H-1 EB On-Ramp	8	5	17	4	4	0
Totals	**3423**		**174**	**188**	**251**	**188**	**201**	**278**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	1	0	1	0	0	0
3	849	King St	0	1	2	1	1	0
4	315	Young St	0	0	0	0	0	0
5	356	Beretania St	1	1	1	1	1	0
6	449	Kinau St	0	0	0	0	0	0
7	171	H-1 EB On-Ramp	1	0	1	0	0	0
Totals	**3423**		**3**	**2**	**5**	**2**	**2**	**0**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	14.5	24.4	14.0	30.0	22.5	0.3
3	849	King St	23.3	10.8	7.2	10.5	11.0	0.0
4	315	Young St	26.9	22.3	21.7	16.5	16.7	0.0
5	356	Beretania St	4.1	3.8	3.6	3.4	3.3	0.0
6	449	Kinau St	23.6	18.1	22.9	18.7	20.3	0.0
7	171	H-1 EB On-Ramp	14.5	19.3	4.3	23.0	18.3	0.0
Totals	**3423**		**13.4**	**12.3**	**9.2**	**12.2**	**11.4**	**0.3**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	38	14	42	8	17	277
3	849	King St	11	40	64	39	39	0
4	315	Young St	3	3	4	7	7	0
5	356	Beretania St	54	61	62	65	71	0
6	449	Kinau St	5	8	5	8	7	0
7	171	H-1 EB On-Ramp	5	3	15	2	2	0
Totals	**3423**		**116**	**129**	**192**	**129**	**143**	**277**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	0	0	11	0	0	200
3	849	King St	0	22	29	21	12	0
4	315	Young St	0	0	0	0	0	0
5	356	Beretania St	39	49	51	51	43	0
6	449	Kinau St	0	0	0	0	0	0
7	171	H-1 EB On-Ramp	0	0	4	0	0	0
Totals	**3423**		**39**	**71**	**95**	**72**	**55**	**200**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	60	36	64	26	39	277
3	849	King St	25	55	79	54	54	0
4	315	Young St	8	9	10	13	12	0
5	356	Beretania St	60	67	68	71	77	0
6	449	Kinau St	13	16	13	16	15	0
7	171	H-1 EB On-Ramp	8	4	16	3	3	0
Totals	**3423**		**174**	**187**	**250**	**183**	**200**	**277**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Piikoi St PM-NB-001)	Run #2 (Piikoi St PM-NB-002)	Run #3 (Piikoi St PM-NB-003)	Run #4 (Piikoi St PM-NB-004)	Run #5 (Piikoi St PM-NB-005)	Run #6 (Piikoi St PM-NB-006)
1	0	Kapiolani Blvd						
2	1283	Rycroft St	60	36	64	30	39	277
3	849	King St	25	55	79	54	54	0
4	315	Young St	8	9	10	13	12	0
5	356	Beretania St	60	67	68	71	77	0
6	449	Kinau St	13	16	13	16	15	0
7	171	H-1 EB On-Ramp	8	4	16	3	3	0
Totals	**3423**		**174**	**187**	**250**	**187**	**200**	**277**

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Study Name : **Closure_Piikoi St PM NB**
Study Date : **4/25/2017**
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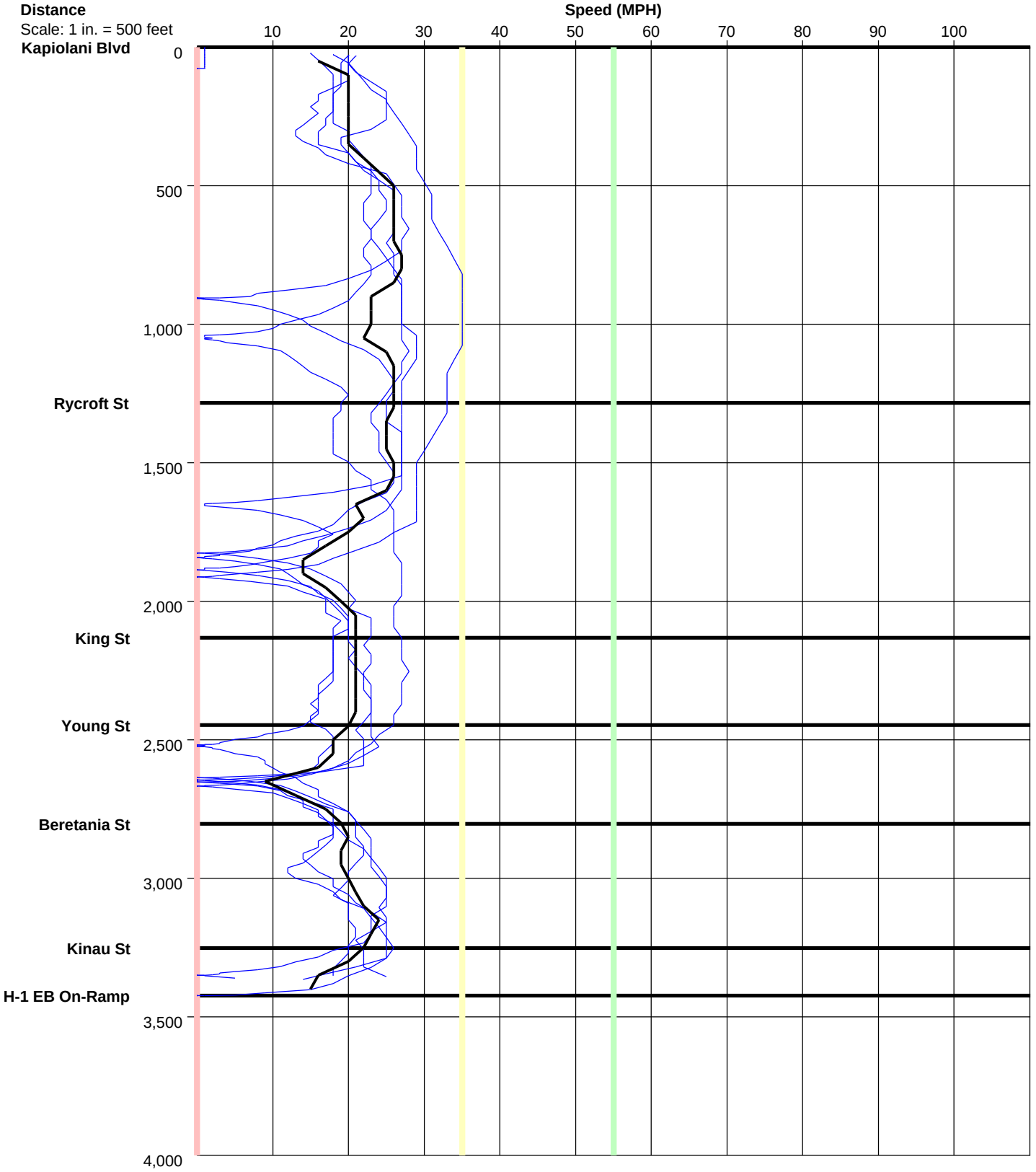
Speed/Distance Profiles of All Runs



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Study Name : **Closure_Piikoi St PM NB**
Study Date : **4/25/2017**
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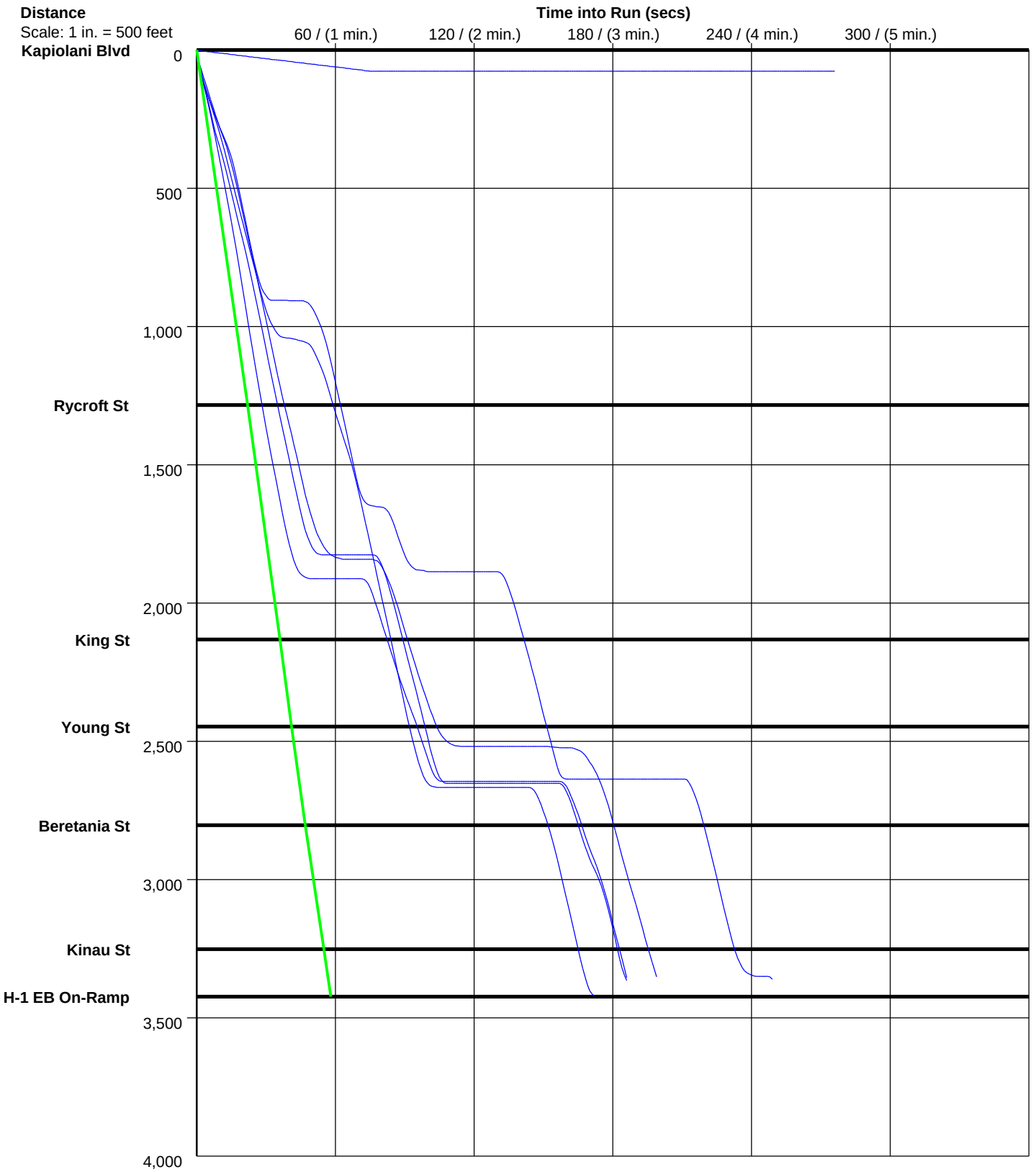
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Ward Ave AM NB

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Study Name **: Closure_Ward Ave AM NB**
Study Date **: 4/25/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Ward Ave AM-NB-001	04/25/17	05:42	2713	After	Primary
Ward Ave AM-NB-002	04/25/17	05:52	2722	After	Secondary
Ward Ave AM-NB-003	04/25/17	06:02	2706	After	Secondary
Ward Ave AM-NB-004	04/25/17	06:11	2694	After	Secondary
Ward Ave AM-NB-005	04/25/17	06:18	2721	After	Secondary
Ward Ave AM-NB-006	04/25/17	06:29	2720	After	Secondary
Ward Ave AM-NB-007	04/25/17	06:46	2684	After	Secondary
Ward Ave AM-NB-008	04/25/17	06:57	2683	After	Secondary
Ward Ave AM-NB-009	04/25/17	07:25	2737	After	Secondary
Ward Ave AM-NB-010	04/25/17	07:41	2701	After	Secondary
Ward Ave AM-NB-011	04/25/17	07:55	2743	After	Secondary
Ward Ave AM-NB-012	04/25/17	08:11	2668	After	Secondary
Ward Ave AM-NB-013	04/25/17	08:24	2712	After	Secondary
Ward Ave AM-NB-014	04/25/17	08:47	2701	After	Secondary
Ward Ave AM-NB-015	04/25/17	09:03	2736	After	Secondary
Ward Ave AM-NB-016	04/25/17	09:16	2728	After	Secondary
Ward Ave AM-NB-017	04/25/17	06:36	2688	After	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1479	King St
3	684	Beretania St
4	394	Kinau St
5	156	H-1 EB On-Ramp

Length of Study Route = 2,713 feet

Notes:

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Study Name **: Closure_Ward Ave AM NB**
Study Date **: 4/25/2017**
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Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1479	King St	84.4	1.1	11.9	59.0	33.6	84.4	84.4
3	684	Beretania St	78.1	1.7	6.0	66.1	40.6	78.1	78.1
4	394	Kinau St	53.3	0.7	5.0	46.3	35.2	53.3	53.3
5	156	H-1 EB On-Ramp	5.5	0.1	19.2	2.5	0.0	5.0	5.0
Total	**2,713**		**221.4**	**3.5**	**8.4**	**173.9**	**109.5**	**220.8**	**220.8**

Stats based on 17 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Closure_Ward Ave AM NB**
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Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1479	King St	0.0224	2.2323	18.6799	0.9255
3	684	Beretania St	0.0181	1.8502	14.6289	0.6313
4	394	Kinau St	0.0124	1.3049	10.0167	0.4720
5	156	H-1 EB On-Ramp	0.0015	0.1650	1.1844	0.0985
Total	**2,713**		**0.0544**	**5.5524**	**44.5099**	**2.1273**

Stats based on 17 AFTER runs.

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Study Name **: Closure_Ward Ave AM NB**

Study Date **: 4/25/2017**

Detailed Statistics By Run

Travel Time (sec) by Section

Ward Ave AM-NB-001 Ward Ave AM-NB-002 Ward Ave AM-NB-003 Ward Ave AM-NB-004 Ward Ave AM-NB-005 Ward Ave AM-NB-006 Ward Ave AM-NB-007 Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1479	King St	37	64	86	38	79	88	37	44
3	684	Beretania St	16	17	28	65	18	17	62	74
4	394	Kinau St	73	10	14	76	60	72	11	18
5	156	H-1 EB On-Ramp	5	5	5	5	5	5	4	5
Totals	**2713**		**131**	**96**	**133**	**184**	**162**	**182**	**114**	**141**

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Study Name **: Closure_Ward Ave AM NB**
Study Date **: 4/25/2017**
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Detailed Statistics By Run

Travel Time (sec) by Section

Ward Ave AM-NB-009
Ward Ave AM-NB-010
Ward Ave AM-NB-011
Ward Ave AM-NB-012
Ward Ave AM-NB-013
Ward Ave AM-NB-014
Ward Ave AM-NB-015
Ward Ave AM-NB-0

Node #	Length	Node Name	Run #9	Run #10	Run #11	Run #12	Run #13	Run #14	Run #15	Run #16
1	0	Kapiolani Blvd								
2	1479	King St	157	39	80	103	80	253	76	96
3	684	Beretania St	170	165	162	179	100	93	70	75
4	394	Kinau St	80	84	81	76	88	74	15	14
5	156	H-1 EB On-Ramp	13	6	5	4	7	6	5	5
Totals	**2713**		**420**	**294**	**328**	**362**	**275**	**426**	**166**	**190**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Ward Ave AM-NB-017 Run #17
1	0	Kapiolani Blvd	
2	1479	King St	78
3	684	Beretania St	17
4	394	Kinau St	60
5	156	H-1 EB On-Ramp	4
Totals	**2713**		**159**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Ward Ave AM-NB-001)	Run #2 (Ward Ave AM-NB-002)	Run #3 (Ward Ave AM-NB-003)	Run #4 (Ward Ave AM-NB-004)	Run #5 (Ward Ave AM-NB-005)	Run #6 (Ward Ave AM-NB-006)	Run #7 (Ward Ave AM-NB-007)	Run #8 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	0	1	1	0	1	1	0	0
3	684	Beretania St	0	0	0	1	0	0	1	1
4	394	Kinau St	1	0	0	1	1	1	0	0
5	156	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2713**		**1**	**1**	**1**	**2**	**2**	**2**	**1**	**1**

Stops based on a Stop Speed of 5 MPH.

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Study Name **: Closure_Ward Ave AM NB**
Study Date **: 4/25/2017**
Page No. **: 9**

Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)	Run #14 (Ward Ave AM-NB-014)	Run #15 (Ward Ave AM-NB-015)	Run #16 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	3	0	1	1	1	4	2	1
3	684	Beretania St	5	4	2	7	4	1	1	2
4	394	Kinau St	1	1	1	1	2	1	0	0
5	156	H-1 EB On-Ramp	1	0	0	0	0	0	0	0
Totals	**2713**		**10**	**5**	**4**	**9**	**7**	**6**	**3**	**3**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	1
3	684	Beretania St	0
4	394	Kinau St	1
5	156	H-1 EB On-Ramp	0
Totals	**2713**		**2**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Ward Ave AM-NB-001)	Run #2 (Ward Ave AM-NB-002)	Run #3 (Ward Ave AM-NB-003)	Run #4 (Ward Ave AM-NB-004)	Run #5 (Ward Ave AM-NB-005)	Run #6 (Ward Ave AM-NB-006)	Run #7 (Ward Ave AM-NB-007)	Run #8 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	27.3	15.9	12.0	26.9	13.0	11.6	27.8	23.1
3	684	Beretania St	29.3	26.8	16.5	7.2	26.3	27.1	7.4	6.2
4	394	Kinau St	3.7	26.7	19.3	3.4	4.2	3.8	25.5	15.0
5	156	H-1 EB On-Ramp	21.2	22.6	20.8	21.5	21.8	20.2	22.0	21.0
Totals	**2713**		**14.1**	**19.3**	**14.0**	**10.0**	**11.5**	**10.2**	**16.2**	**13.1**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)	Run #14 (Ward Ave AM-NB-014)	Run #15 (Ward Ave AM-NB-015)	Run #16 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	6.5	25.8	12.7	9.9	12.9	4.0	13.5	10.6
3	684	Beretania St	2.8	2.9	2.9	2.6	4.5	5.1	6.5	6.2
4	394	Kinau St	3.3	3.2	3.4	3.5	3.1	3.5	18.9	18.7
5	156	H-1 EB On-Ramp	8.0	18.0	19.6	24.0	16.5	19.6	20.2	22.0
Totals	**2713**		**4.4**	**6.3**	**5.6**	**5.0**	**6.7**	**4.3**	**11.3**	**9.8**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	13.1
3	684	Beretania St	26.9
4	394	Kinau St	4.7
5	156	H-1 EB On-Ramp	24.7
Totals	**2713**		**11.6**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Ward Ave AM-NB-001)	Run #2 (Ward Ave AM-NB-002)	Run #3 (Ward Ave AM-NB-003)	Run #4 (Ward Ave AM-NB-004)	Run #5 (Ward Ave AM-NB-005)	Run #6 (Ward Ave AM-NB-006)	Run #7 (Ward Ave AM-NB-007)	Run #8 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	12	38	60	13	53	63	11	19
3	684	Beretania St	4	5	16	53	6	5	50	62
4	394	Kinau St	66	3	7	69	53	65	4	11
5	156	H-1 EB On-Ramp	2	2	2	2	2	2	1	2
Totals	**2713**		**84**	**48**	**85**	**137**	**114**	**135**	**66**	**94**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave AM-NB-009)	Run #10 (Ward Ave AM-NB-010)	Run #11 (Ward Ave AM-NB-011)	Run #12 (Ward Ave AM-NB-012)	Run #13 (Ward Ave AM-NB-013)	Run #14 (Ward Ave AM-NB-014)	Run #15 (Ward Ave AM-NB-015)	Run #16 (Ward Ave AM-NB-0
1	0	Kapiolani Blvd								
2	1479	King St	132	14	55	78	54	228	50	71
3	684	Beretania St	158	153	150	167	88	81	58	63
4	394	Kinau St	73	77	74	69	81	67	8	7
5	156	H-1 EB On-Ramp	10	3	2	1	4	3	2	2
Totals	**2713**		**373**	**247**	**281**	**315**	**227**	**379**	**118**	**143**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	52
3	684	Beretania St	5
4	394	Kinau St	53
5	156	H-1 EB On-Ramp	1
Totals	**2713**		**111**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1479	King St	0	16	38	0	33	45	0	0
3	684	Beretania St	0	0	0	35	0	0	30	45
4	394	Kinau St	56	0	0	59	41	52	0	0
5	156	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2713**		**56**	**16**	**38**	**94**	**74**	**97**	**30**	**45**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Ward Ave AM-NB-009
Ward Ave AM-NB-010
Ward Ave AM-NB-011
Ward Ave AM-NB-012
Ward Ave AM-NB-013
Ward Ave AM-NB-014
Ward Ave AM-NB-015
Ward Ave AM-NB-0

Node #	Length	Node Name	Run #9	Run #10	Run #11	Run #12	Run #13	Run #14	Run #15	Run #16
1	0	Kapiolani Blvd								
2	1479	King St	77	0	31	53	39	155	19	39
3	684	Beretania St	87	98	116	99	48	47	46	40
4	394	Kinau St	59	61	59	56	63	55	0	0
5	156	H-1 EB On-Ramp	0	0	0	0	0	0	0	0
Totals	**2713**		**223**	**159**	**206**	**208**	**150**	**257**	**65**	**79**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	27
3	684	Beretania St	0
4	394	Kinau St	38
5	156	H-1 EB On-Ramp	0
Totals	**2713**		**65**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1479	King St	37	64	86	38	79	88	37	44
3	684	Beretania St	16	17	28	65	18	17	62	74
4	394	Kinau St	73	10	14	76	60	72	11	18
5	156	H-1 EB On-Ramp	5	5	4	4	5	5	3	4
Totals	**2713**		**131**	**96**	**132**	**183**	**162**	**182**	**113**	**140**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Ward Ave AM-NB-009 | Ward Ave AM-NB-010 | Ward Ave AM-NB-011 | Ward Ave AM-NB-012 | Ward Ave AM-NB-013 | Ward Ave AM-NB-014 | Ward Ave AM-NB-015 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #9	Run #10	Run #11	Run #12	Run #13	Run #14	Run #15	Run #16
1	0	Kapiolani Blvd								
2	1479	King St	157	39	80	103	80	253	76	96
3	684	Beretania St	170	165	162	179	100	93	70	75
4	394	Kinau St	80	84	81	76	88	74	15	14
5	156	H-1 EB On-Ramp	13	5	5	3	6	5	5	5
Totals	**2713**		**420**	**293**	**328**	**361**	**274**	**425**	**166**	**190**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	78
3	684	Beretania St	17
4	394	Kinau St	60
5	156	H-1 EB On-Ramp	3
Totals	**2713**		**158**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Ward Ave AM-NB-001 | Ward Ave AM-NB-002 | Ward Ave AM-NB-003 | Ward Ave AM-NB-004 | Ward Ave AM-NB-005 | Ward Ave AM-NB-006 | Ward Ave AM-NB-007 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1479	King St	37	64	86	38	79	88	37	44
3	684	Beretania St	16	17	28	65	18	17	62	74
4	394	Kinau St	73	10	14	76	60	72	11	18
5	156	H-1 EB On-Ramp	5	5	4	4	5	5	3	4
Totals	**2713**		**131**	**96**	**132**	**183**	**162**	**182**	**113**	**140**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Ward Ave AM-NB-009 | Ward Ave AM-NB-010 | Ward Ave AM-NB-011 | Ward Ave AM-NB-012 | Ward Ave AM-NB-013 | Ward Ave AM-NB-014 | Ward Ave AM-NB-015 | Ward Ave AM-NB-0

Node #	Length	Node Name	Run #9	Run #10	Run #11	Run #12	Run #13	Run #14	Run #15	Run #16
1	0	Kapiolani Blvd								
2	1479	King St	157	39	80	103	80	253	76	96
3	684	Beretania St	170	165	162	179	100	93	70	75
4	394	Kinau St	80	84	81	76	88	74	15	14
5	156	H-1 EB On-Ramp	13	5	5	3	6	5	5	5
Totals	**2713**		**420**	**293**	**328**	**361**	**274**	**425**	**166**	**190**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Ward Ave AM-NB-017

Node #	Length	Node Name	Run #17
1	0	Kapiolani Blvd	
2	1479	King St	78
3	684	Beretania St	17
4	394	Kinau St	60
5	156	H-1 EB On-Ramp	3
Totals	**2713**		**158**

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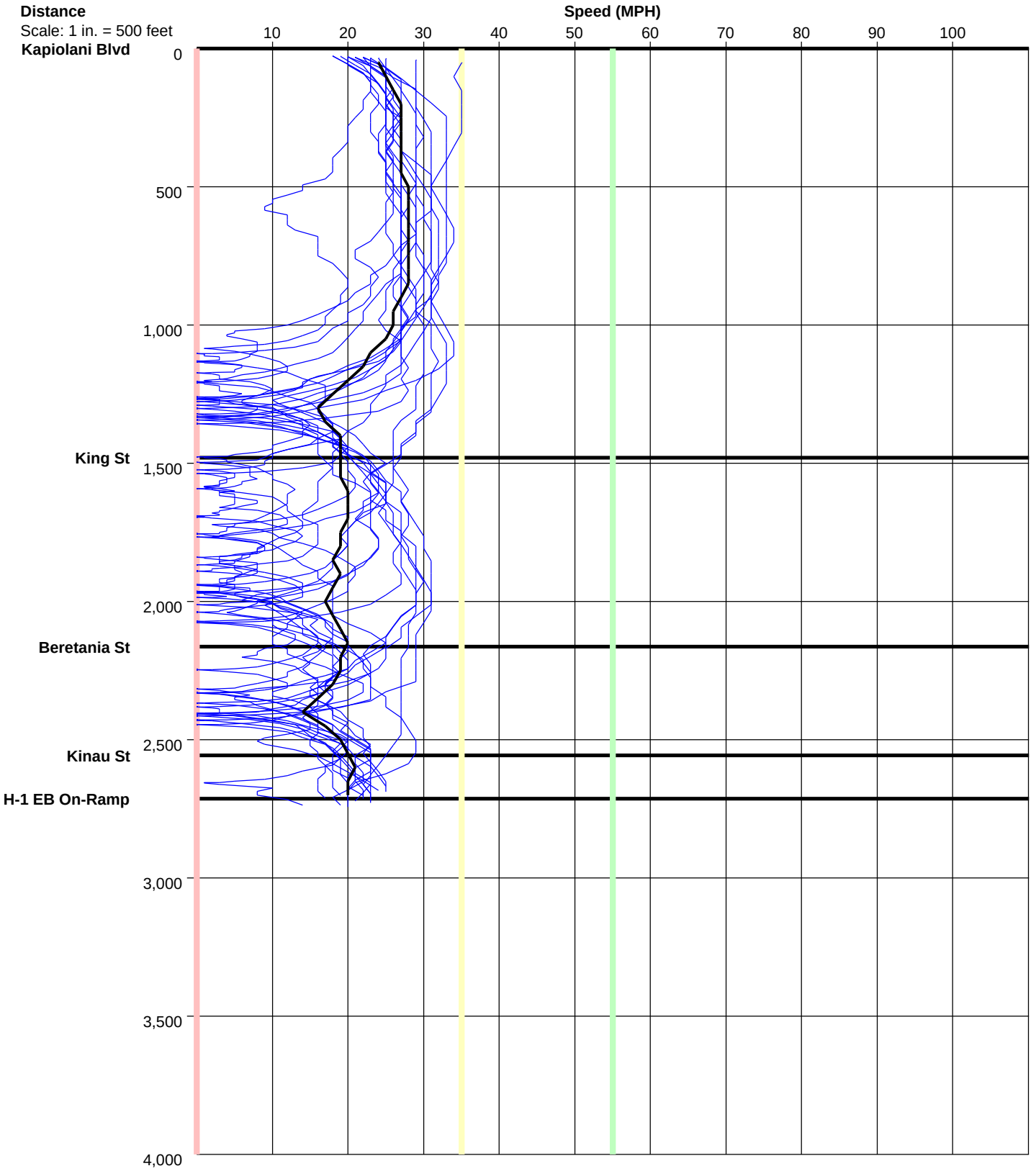
Study Name : **Closure_Ward Ave AM NB**
Study Date : **4/25/2017**
Page No. : **26**

Speed/Distance Profiles of All Runs



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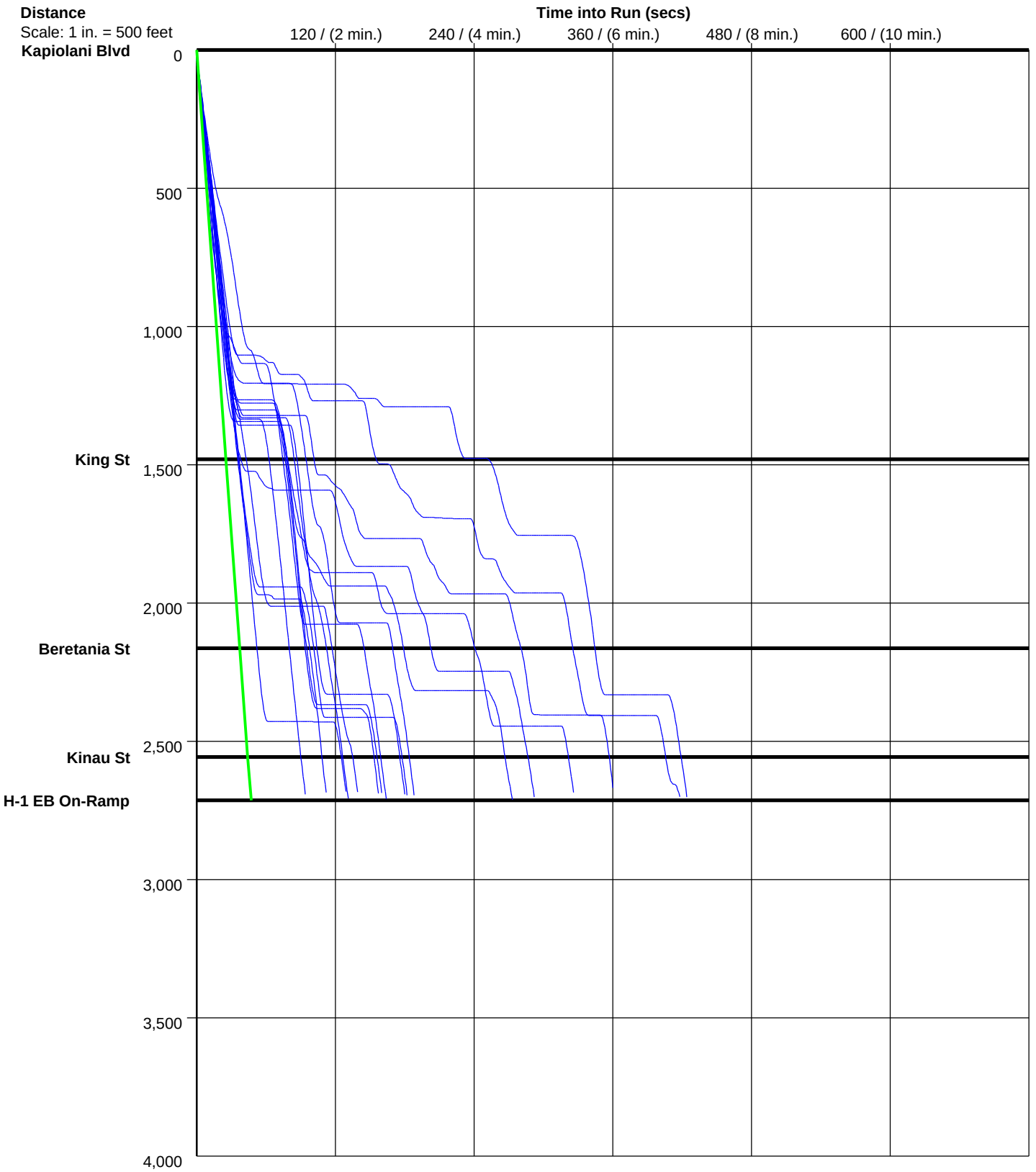
Study Name : **Closure_Ward Ave AM NB**
Study Date : **4/25/2017**
Page No. : **27**

Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH

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PC-Travel Reports for study: Closure_Ward Ave PM NB

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Study Name **: Closure_Ward Ave PM NB**
Study Date **: 4/25/2017**
Page No. **: 2**

Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type
Ward Ave PM-NB-001	04/25/17	15:05	2713	After	Primary
Ward Ave PM-NB-002	04/25/17	15:21	2690	After	Secondary
Ward Ave PM-NB-003	04/25/17	15:37	2685	After	Secondary
Ward Ave PM-NB-004	04/25/17	16:05	2659	After	Secondary
Ward Ave PM-NB-005	04/25/17	16:21	2693	After	Secondary
Ward Ave PM-NB-006	04/25/17	16:41	2697	After	Secondary
Ward Ave PM-NB-007	04/25/17	17:01	2679	After	Secondary
Ward Ave PM-NB-008	04/25/17	17:22	2683	After	Secondary
Ward Ave PM-NB-009	04/25/17	17:55	2647	After	Secondary
Ward Ave PM-NB-010	04/25/17	18:11	2671	After	Secondary
Ward Ave PM-NB-011	04/25/17	18:25	2679	After	Secondary
Ward Ave PM-NB-012	04/25/17	18:39	2678	After	Secondary

Node Info

#	Len	Name
1	0	Kapiolani Blvd
2	1460	King St
3	729	Beretania St
4	396	Kinau St
5	128	H-1 EB On-Ramp

Length of Study Route = 2,713 feet

Notes:

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Study Name : **Closure_Ward Ave PM NB**
Study Date : **4/25/2017**
Page No. : **3**

Overall Output Statistics

Node #	Length	Node	Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 0 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Kapiolani Blvd							
2	1460	King St	163.3	2.4	6.1	138.2	88.8	163.3	163.3
3	729	Beretania St	174.2	3.8	2.9	161.3	102.1	174.2	174.2
4	396	Kinau St	66.8	1.0	4.0	59.8	44.4	66.8	66.8
5	128	H-1 EB On-Ramp	5.0	0.1	17.5	3.0	0.5	4.1	4.1
Total	**2,713**		**409.2**	**7.3**	**4.5**	**362.3**	**235.8**	**408.3**	**408.3**

Stats based on 12 AFTER runs.
Stops based on a Stop Speed of 5 MPH.
Total Delay based on a Normal Speed of 40 MPH.

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Study Name **: Closure_Ward Ave PM NB**
Study Date **: 4/25/2017**
Page No. **: 4**

Fuel Consumption & Emissions

Node #	Length	Node Name	Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Kapiolani Blvd				
2	1460	King St	0.0366	3.6255	31.1833	0.9771
3	729	Beretania St	0.0363	3.6578	29.6626	0.8522
4	396	Kinau St	0.0151	1.5795	12.0267	0.5303
5	128	H-1 EB On-Ramp	0.0012	0.1341	0.8031	0.0841
Total	**2,713**		**0.0892**	**8.9969**	**73.6757**	**2.4437**

Stats based on 12 AFTER runs.

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Study Name **: Closure_Ward Ave PM NB**
Study Date **: 4/25/2017**
Page No. **: 5**

Detailed Statistics By Run

Travel Time (sec) by Section

Ward Ave PM-NB-001 | Ward Ave PM-NB-002 | Ward Ave PM-NB-003 | Ward Ave PM-NB-004 | Ward Ave PM-NB-005 | Ward Ave PM-NB-006 | Ward Ave PM-NB-007 | Ward Ave PM-NB-0

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Kapiolani Blvd								
2	1460	King St	76	118	42	76	209	92	318	529
3	729	Beretania St	196	177	115	198	258	267	192	207
4	396	Kinau St	78	28	72	72	85	76	74	73
5	128	H-1 EB On-Ramp	16	5	4	3	6	5	4	4
Totals	**2713**		**366**	**328**	**233**	**349**	**558**	**440**	**588**	**813**

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Detailed Statistics By Run

Travel Time (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	229	141	53	76
3	729	Beretania St	179	116	79	106
4	396	Kinau St	74	77	17	75
5	128	H-1 EB On-Ramp	2	3	4	4
Totals	**2713**		**484**	**337**	**153**	**261**

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	1	2	0	1	4	2	5	6
3	729	Beretania St	5	2	3	4	5	7	5	4
4	396	Kinau St	1	1	1	1	2	1	1	1
5	128	H-1 EB On-Ramp	1	0	0	0	0	0	0	0
Totals	**2713**		**8**	**5**	**4**	**6**	**11**	**10**	**11**	**11**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Number of Stops by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	5	2	0	1
3	729	Beretania St	3	4	1	2
4	396	Kinau St	1	1	0	1
5	128	H-1 EB On-Ramp	0	0	0	0
Totals	**2713**		**9**	**7**	**1**	**4**

Stops based on a Stop Speed of 5 MPH.

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	13.1	8.4	23.9	13.1	4.7	10.8	3.1	1.9
3	729	Beretania St	2.5	2.9	4.3	2.6	1.9	1.9	2.6	2.4
4	396	Kinau St	3.4	9.5	3.8	3.6	3.2	3.5	3.7	3.8
5	128	H-1 EB On-Ramp	5.5	16.0	20.7	23.5	14.0	17.5	16.7	18.7
Totals	**2713**		**5.1**	**5.6**	**7.9**	**5.2**	**3.3**	**4.2**	**3.1**	**2.2**

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Detailed Statistics By Run

Average Speed (MPH) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	4.4	7.1	19.3	13.1
3	729	Beretania St	2.9	4.3	5.9	4.7
4	396	Kinau St	3.7	3.6	16.4	3.6
5	128	H-1 EB On-Ramp	25.0	21.5	18.3	18.3
Totals	**2713**		**3.7**	**5.4**	**12.0**	**7.0**

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	51	93	17	51	184	67	293	504
3	729	Beretania St	184	164	102	185	245	254	179	194
4	396	Kinau St	71	21	65	65	78	69	67	66
5	128	H-1 EB On-Ramp	14	3	2	1	4	3	2	2
Totals	**2713**		**320**	**281**	**186**	**302**	**511**	**393**	**541**	**766**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Total Delay (sec) by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	204	116	27	51
3	729	Beretania St	166	103	67	93
4	396	Kinau St	67	70	10	68
5	128	H-1 EB On-Ramp	0	1	2	2
Totals	**2713**		**437**	**290**	**106**	**214**

Total Delay based on a Normal Speed of 40 MPH.

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	17	46	0	24	134	29	234	407
3	729	Beretania St	110	108	43	118	177	162	103	133
4	396	Kinau St	57	3	46	53	54	54	51	52
5	128	H-1 EB On-Ramp	6	0	0	0	0	0	0	0
Totals	**2713**		**190**	**157**	**89**	**195**	**365**	**245**	**388**	**592**

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Detailed Statistics By Run

Time <= 0 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	111	53	0	10
3	729	Beretania St	112	51	51	57
4	396	Kinau St	57	53	0	53
5	128	H-1 EB On-Ramp	0	0	0	0
Totals	**2713**		**280**	**157**	**51**	**120**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	76	118	42	76	209	92	318	529
3	729	Beretania St	196	177	115	198	258	267	192	207
4	396	Kinau St	78	28	72	72	85	76	74	73
5	128	H-1 EB On-Ramp	16	4	3	2	5	4	3	3
Totals	**2713**		**366**	**327**	**232**	**348**	**557**	**439**	**587**	**812**

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Detailed Statistics By Run

Time <= 35 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	229	141	53	76
3	729	Beretania St	179	116	79	106
4	396	Kinau St	74	77	17	75
5	128	H-1 EB On-Ramp	1	2	3	3
Totals	**2713**		**483**	**336**	**152**	**260**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #1 (Ward Ave PM-NB-001)	Run #2 (Ward Ave PM-NB-002)	Run #3 (Ward Ave PM-NB-003)	Run #4 (Ward Ave PM-NB-004)	Run #5 (Ward Ave PM-NB-005)	Run #6 (Ward Ave PM-NB-006)	Run #7 (Ward Ave PM-NB-007)	Run #8 (Ward Ave PM-NB-0
1	0	Kapiolani Blvd								
2	1460	King St	76	118	42	76	209	92	318	529
3	729	Beretania St	196	177	115	198	258	267	192	207
4	396	Kinau St	78	28	72	72	85	76	74	73
5	128	H-1 EB On-Ramp	16	4	3	2	5	4	3	3
Totals	**2713**		**366**	**327**	**232**	**348**	**557**	**439**	**587**	**812**

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Detailed Statistics By Run

Time <= 55 MPH by Section

Node #	Length	Node Name	Run #9 (Ward Ave PM-NB-009)	Run #10 (Ward Ave PM-NB-010)	Run #11 (Ward Ave PM-NB-011)	Run #12 (Ward Ave PM-NB-012)
1	0	Kapiolani Blvd				
2	1460	King St	229	141	53	76
3	729	Beretania St	179	116	79	106
4	396	Kinau St	74	77	17	75
5	128	H-1 EB On-Ramp	1	2	3	3
Totals	**2713**		**483**	**336**	**152**	**260**

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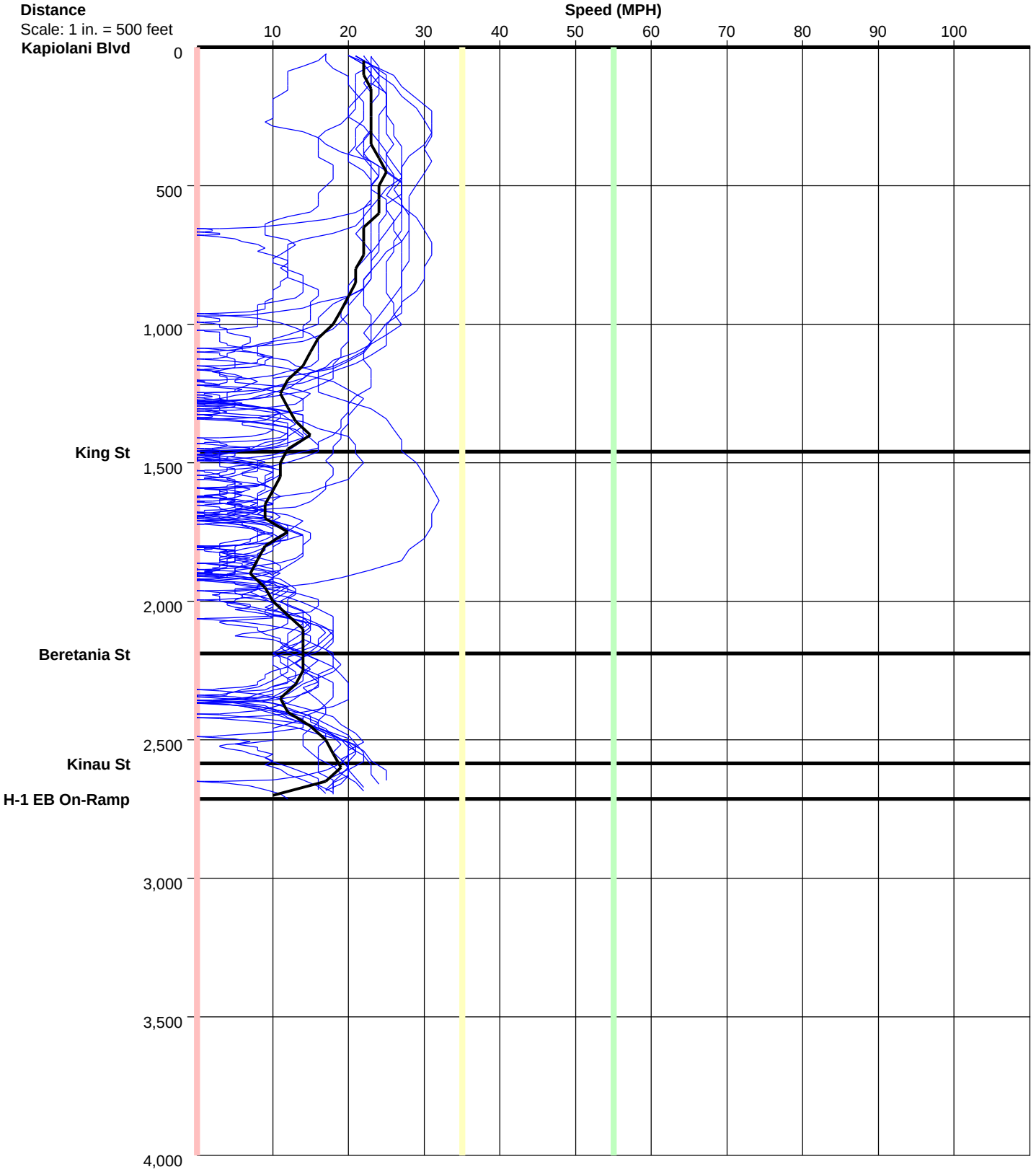
Speed/Distance Profiles of All Runs



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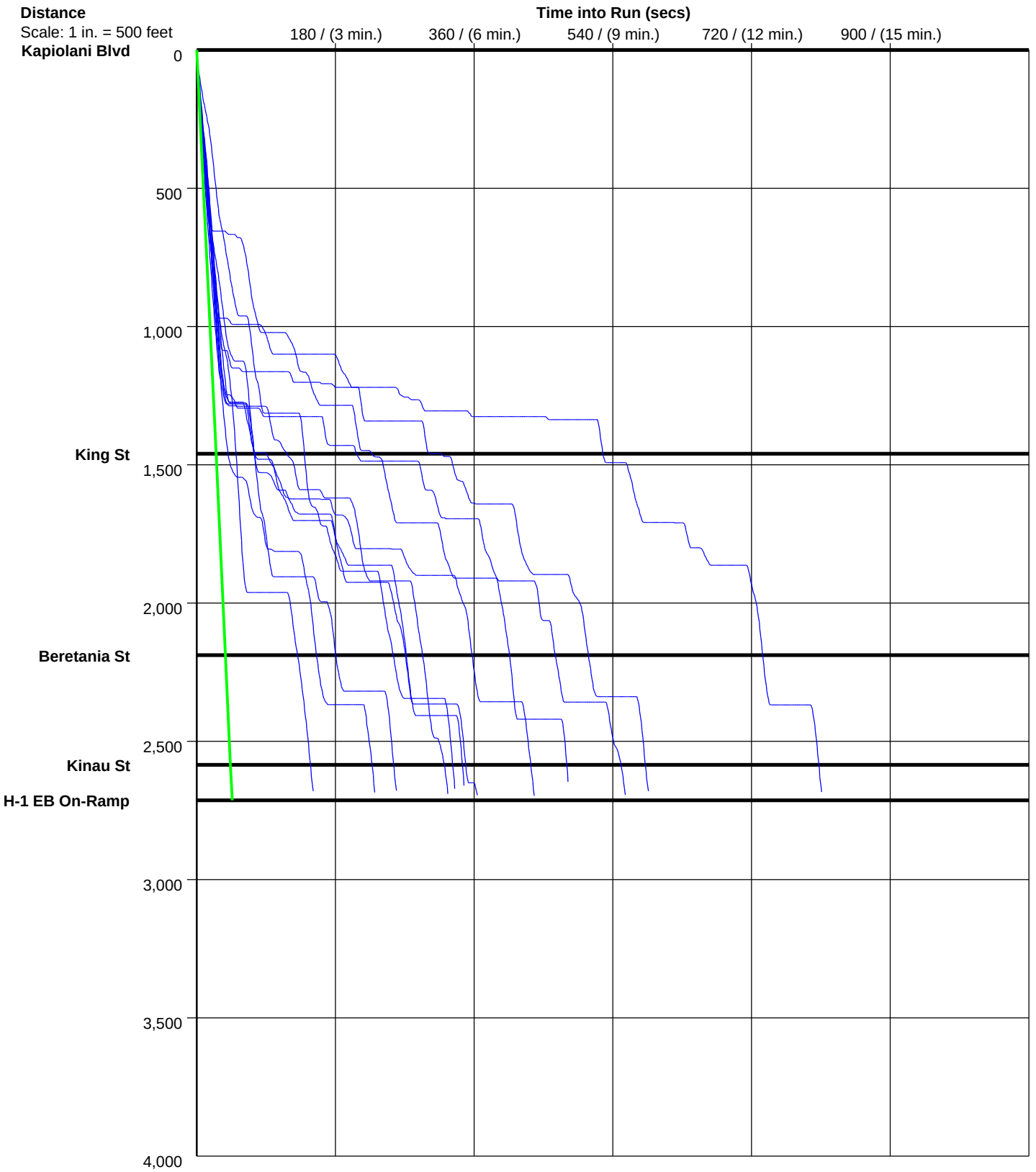
Time/Space Trajectories of All Runs



Solid Line is Normal Speed of 40 MPH