



PACIFIC RACEWAYS  
TRAFFIC IMPACT ANALYSIS

*King County, WA*



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PACIFIC RACEWAYS  
TRAFFIC IMPACT ANALYSIS

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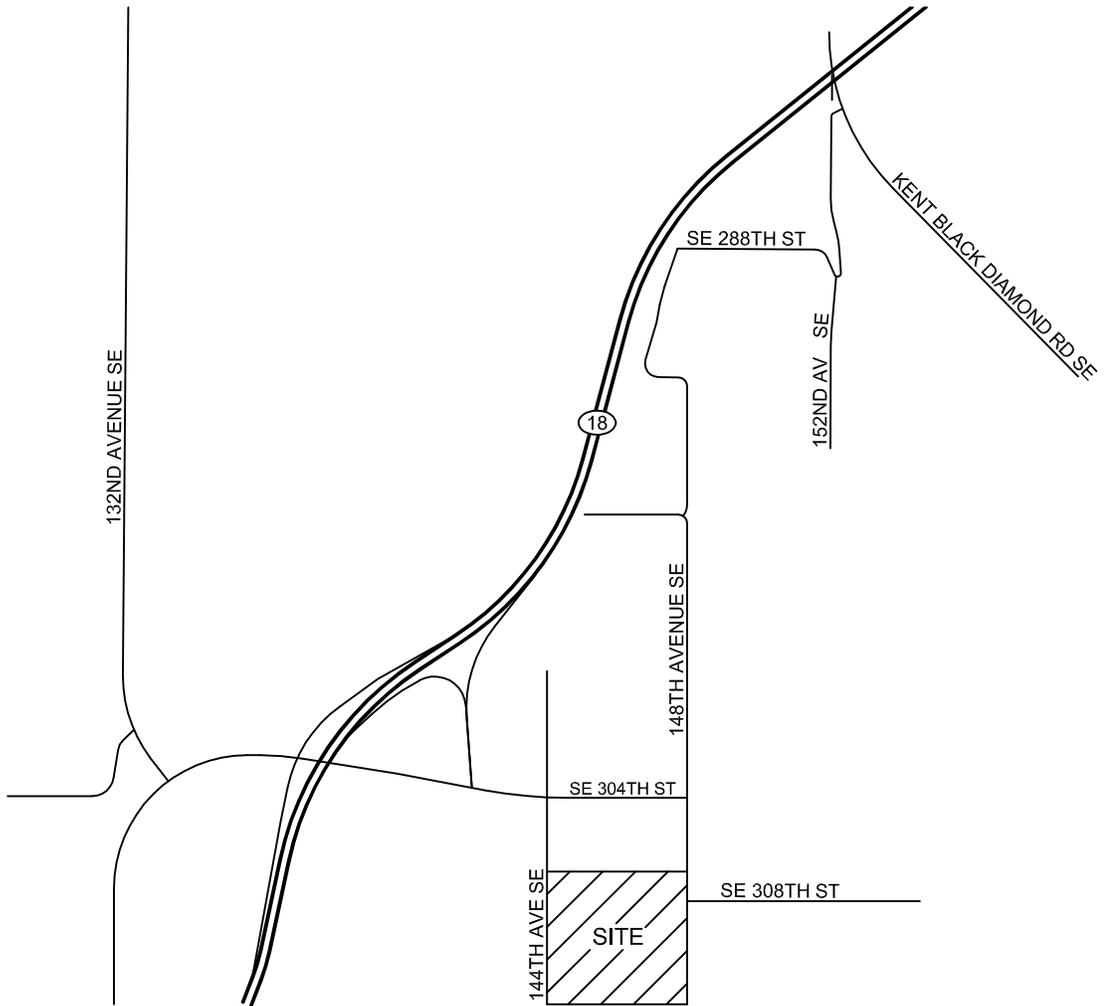
PACIFIC RACEWAYS  
TRAFFIC IMPACT ANALYSIS

**1. INTRODUCTION**

This report summarizes traffic impacts related to the proposed Pacific Raceways project. The general goals of this impact study concentrate on 1) the assessment of existing roadway conditions and intersection congestion, 2) forecasts of newly generated project traffic, 3) estimations of future delay, and 4) recommendations for mitigation. Preliminary tasks include the detailed collection of roadway information, road improvement information, and peak hour traffic counts. A level of service analysis for existing traffic conditions is then made to determine the present degree of intersection congestion. Based on this analysis, forecasts of future traffic levels on the surrounding street system are found. Following this forecast, the future service levels for the key intersections are investigated. As a final step, applicable conclusions and possible on-site or off-site mitigation measures are defined. The findings of this study are intended to ensure safe and efficient progression of vehicular and non-motorist traffic near the site.

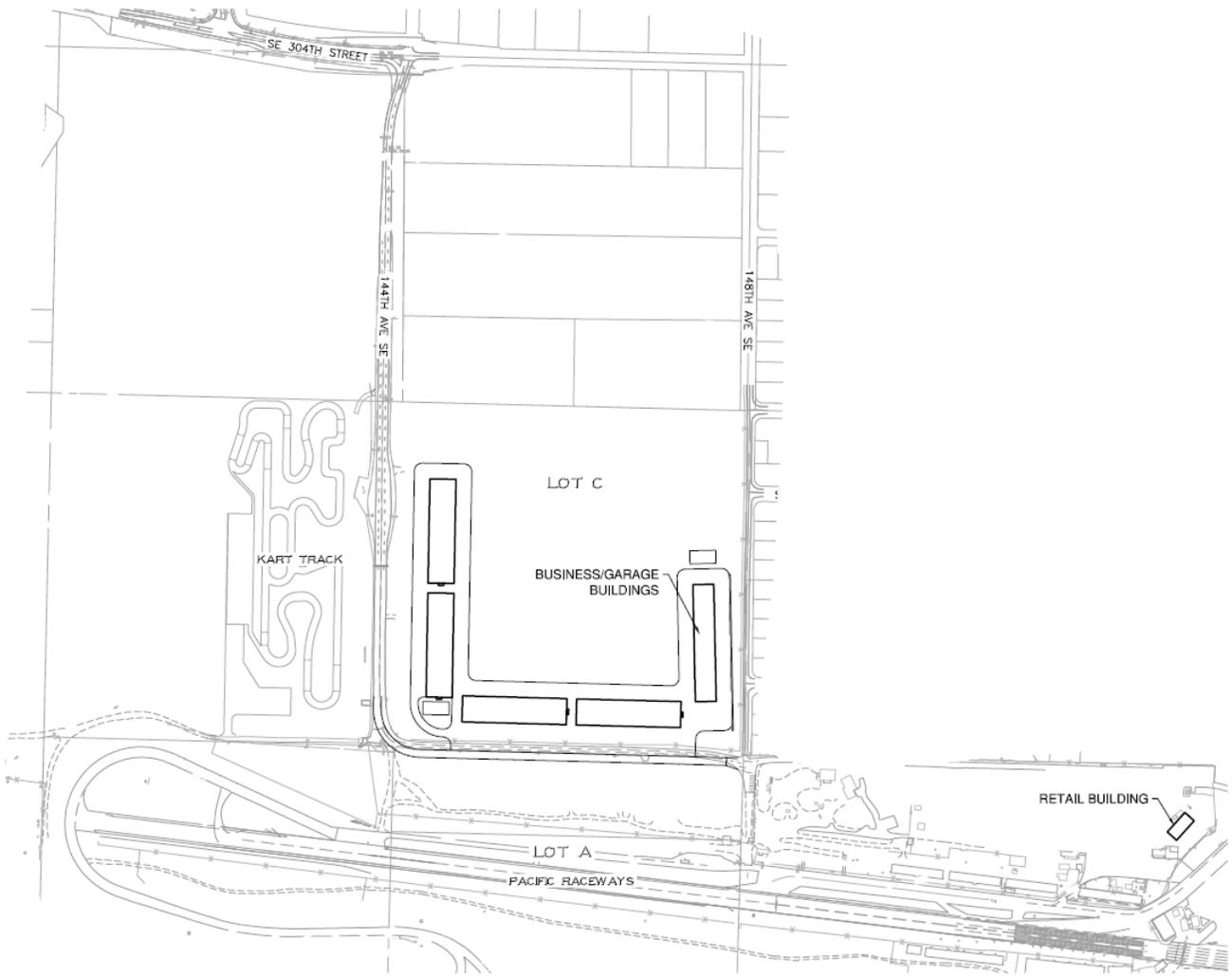
**2. PROJECT DESCRIPTION**

The Pacific Raceways project proposes to construct up to 200,000 square feet of industrial use buildings on an undeveloped parcel in Unincorporated King County (parcel number: 1021059003). The primary use of the development is to provide storage/racing garages for prospective tenants. The site is located just north of the existing Pacific Raceways track with 144th Street SE bordering to the west and 148th Avenue SE bordering to the east. Ingress/Egress to the site is planned at the existing access road bordering the south side of the site. Prior to construction and development of the industrial buildings, excavation and processing of materials will occur on-site for up to the first five years and material will be removed via truck transportation. Surrounding development consists of light residential uses. A six-year horizon was analyzed to depict conditions subsequent to excavation of materials and buildout of the proposed industrial buildings. Figure 1 on the following page shows the general site location and roadway network serving the site. A site plan illustrating the overall configuration of the project is portrayed on Figure 2.



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**PACIFIC RACEWAYS - KING COUNTY**  
VICINITY MAP & ROADWAY SYSTEM  
FIGURE 1



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**PACIFIC RACEWAYS - KING COUNTY**  
VICINITY MAP & ROADWAY SYSTEM  
FIGURE 1

### 3. EXISTING CONDITIONS

#### 3.1 Existing Street System

Roadways serving the proposed site consist of two- to four-lane roads which vary in width, terrain, and posted speeds. As indicated by their specific arterial designations, these roadways also vary in their overall function as part of the general network. The key streets near the site are described below.

*SE 304th Street* is an east-west, two-lane roadway which lies just north of the site and provides access to SR-18. The roadway has a posted speed limit of 35 mph and the road cross section in the area consists of one travel lane in either direction with turn lanes provided at major intersections. Shoulders are generally paved and vary in width. Grades are mild east of SR-18 near the site.

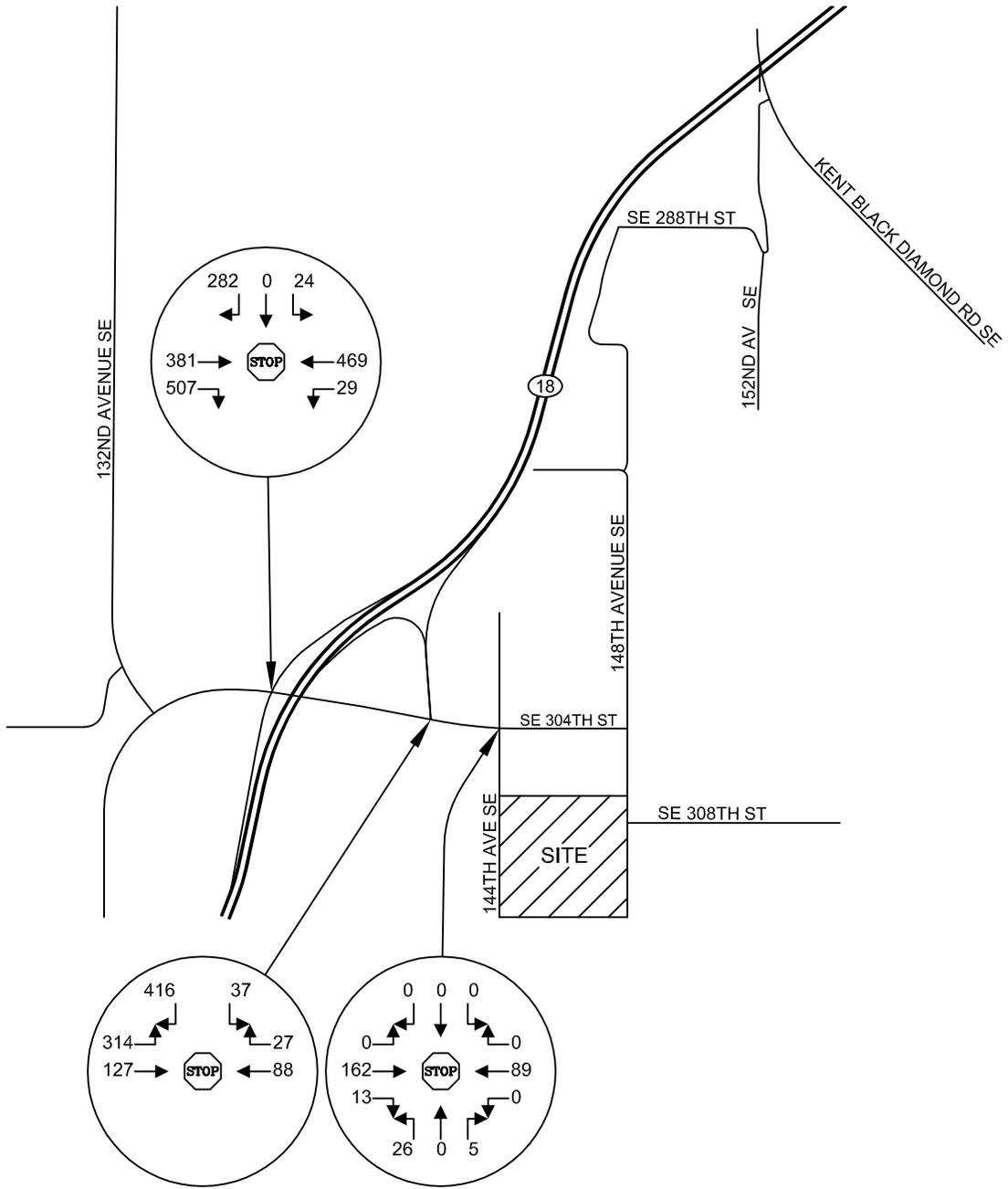
*144th Avenue SE* is a north-south, four-lane roadway that borders the west side of the project and provides primary access to the site. The total width of the roadway is approximately 40 feet with 10 foot wide travel lanes. Shoulders vary from paved to grass/gravel. Grades are rolling in areas.

#### 3.2 Existing Peak Hour Volumes

Field data for this study was collected in February of 2016; the volumes were increased by 3 percent to estimate and reflect current 2017 data. The traffic counts were taken during the evening peak period between the hours of 4 PM and 6 PM. This specific peak period is targeted for analysis purposes since it generally represents a worst case scenario for industrial developments with respect to traffic congestion. This is primarily due to the common 8 AM to 5 PM work schedule and the greater number of personal trips occurring after work hours. Most commuters leave and return to their dwellings at the same time of day which translates to a natural peak in intersection traffic loads, especially when combined with the relatively large number of personal trips. Table 1 below portrays the key intersections of study while Figure 3 on the following page shows the existing weekday PM peak hour volumes.

**Table 1**  
Study Area

<b>Control</b>	<b>Intersection</b>
	SR-18 Westbound Ramp & SE 304th Street
Two-Way Stop	SR-18 Eastbound Ramp & SE 304th Street
	144th Avenue SE & SE 304th Street



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**PACIFIC RACEWAYS - KING COUNTY**  
EXISTING PM PEAK HOUR VOLUMES  
FIGURE 3

### 3.3 Level of Service

Peak hour delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range<sup>1</sup> for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the Synchro 10 analysis program. Table 2 below portrays existing LOS delays for the key intersections defined in the study area.

**Table 2**  
Existing Level of Service  
*Delays given in seconds per vehicle*

Roadway	Intersecting	Control	LOS	Delay
SE 304th Street	SR-18 Westbound Ramp	TWSC <sup>1</sup>	C	17.3
	SR-18 Eastbound Ramp	TWSC	B	12.7
	144th Street SE	TWSC	B	10.6

1: TWSC: Two-Way Stop Control

Existing delays calculate at LOS C or better indicating mild disrupt to vehicular flow during the critical PM peak hour.

### 3.4 Pedestrian and Bicycle Traffic

<sup>1</sup> *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

*Stop Controlled Intersections – Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Highway Capacity Manual, 6th Edition

Observations for pedestrian and bicycle activity were made in the vicinity of the project during site visits. Given the nature of the area, there is currently little to no pedestrian traffic during normal commuter hours. Events associated with Pacific Raceways will not be impacted by the proposed project as operations are not intended to occur during these events. No conflicts between motorist and non-motorist traffic are anticipated.

### 3.5 Public Transit

A review of the Metro Transit regional bus schedule indicates that transit service is not provided directly to the project. Industrial developments would not be uses typically associated with any transit use.

## 4. FORECAST TRAFFIC DEMAND AND ANALYSIS

### 4.1 Project Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. Typically, the Institute of Transportation Engineer's publication *Trip Generation*, 9th Edition would be used. However, with the proposed material excavating and processing an estimated trip generation was derived based on the amount of material proposed to be removed. Plans indicate up to 1,000,000 cubic yards of rock/gravel/dirt to be processed and removed from the site over a five year period. During this time, vehicle and truck activity will be required for material relocation and employee trips. Assuming a typical average of 250 days of operation per year, an estimated trip generation can be calculated:

$200,000 \text{ cubic yards per year} / 250 \text{ days} = 800 \text{ cubic yards per day}$ :

$800 \text{ cubic yards} / 20 \text{ cubic yards per truck} = 40 \text{ trucks per day or } 80 \text{ trips (inbound and outbound movements)}$ .

5-10 employees can be expected for this operation which equates to roughly 10-20 trips per day.

A total of 100 trips (80 truck trips + 20 employee trips) can be expected on a typical day of excavation and processing.

As for the industrial buildings, forecast trip generation was derived from the Institute of Transportation Engineer’s publications *Trip Generation*, 9th Edition. The designated land use for this project is defined as Industrial Park (LUC 130). Table 3 below summarizes the estimated project trip generation subsequent to excavation and material processing. Included are the average weekday traffic (AWDT) and the AM and PM peak hours. Refer to the appendix for trip generation output.

**Table 3**  
Project Trip Generation

<b>Industrial Park</b> (200,000 sq. ft.)	<b>Rates</b> (Trip Generation per 1,000 sq. ft.)	<b>Trips</b>
AWDT	6.83	<b>1,366</b>
<b>AM Peak Hour</b>		
In	0.67	134
Out	0.15	30
<b>Total</b>	<b>0.82</b>	<b>164</b>
<b>PM Peak Hour</b>		
In	0.18	36
Out	0.67	134
<b>Total</b>	<b>0.85</b>	<b>170</b>

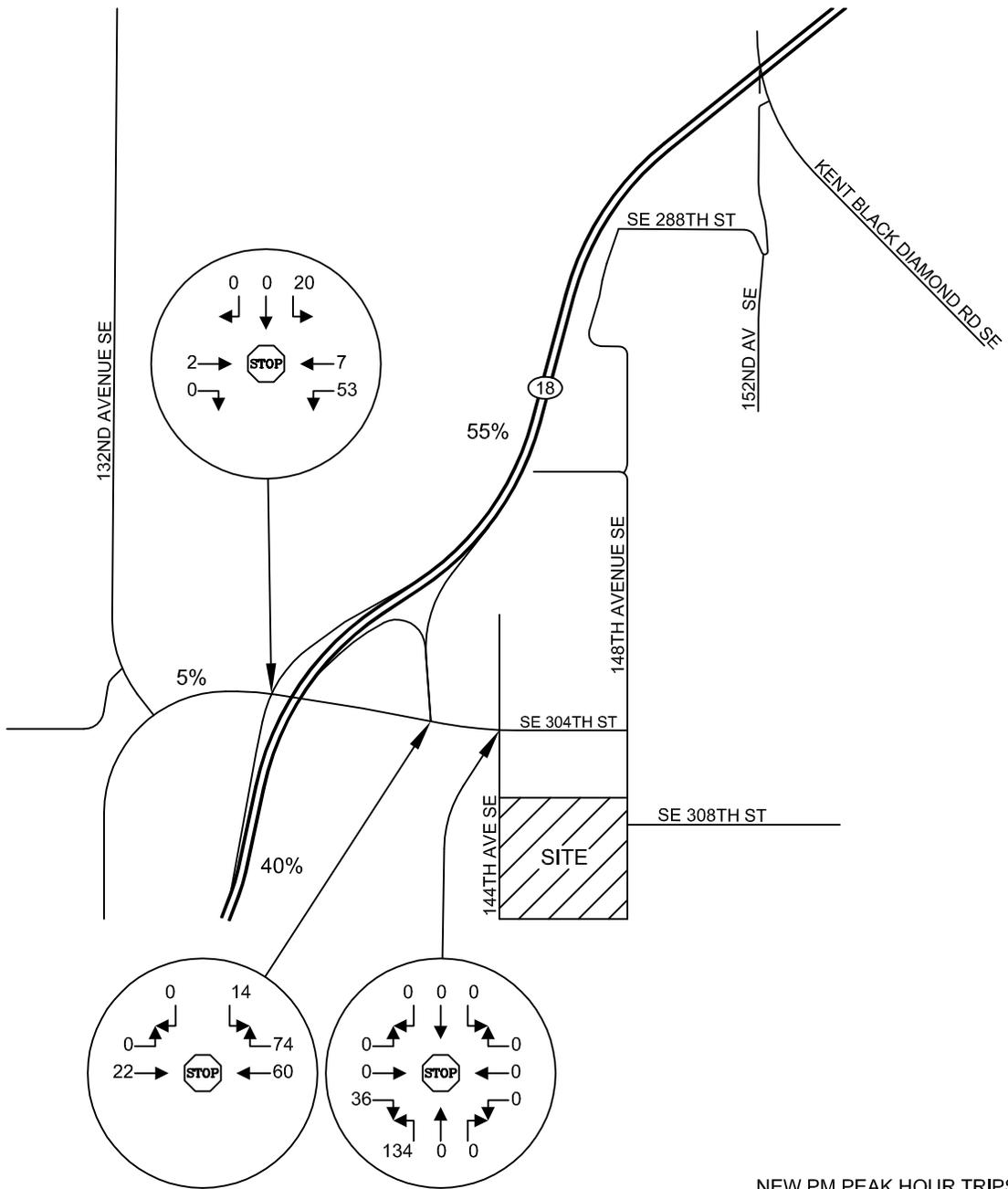
#### 4.2 Distribution & Assignment

Trip distribution describes the process by which project generated trips are dispersed on the street network surrounding the site. Site generated trips are expected to follow the trip pattern shown in Figure 4 on the following page. This figure reflects work-based and home-based trips taken by project traffic during the PM peak hour. Distribution percentages are roughly based on the roadway network configuration and routes to SR-18.

#### 4.3 Roadway Improvements

A review of the latest King County Capital Improvement Program shows that no roadway improvement projects are planned in the immediate vicinity of the site.

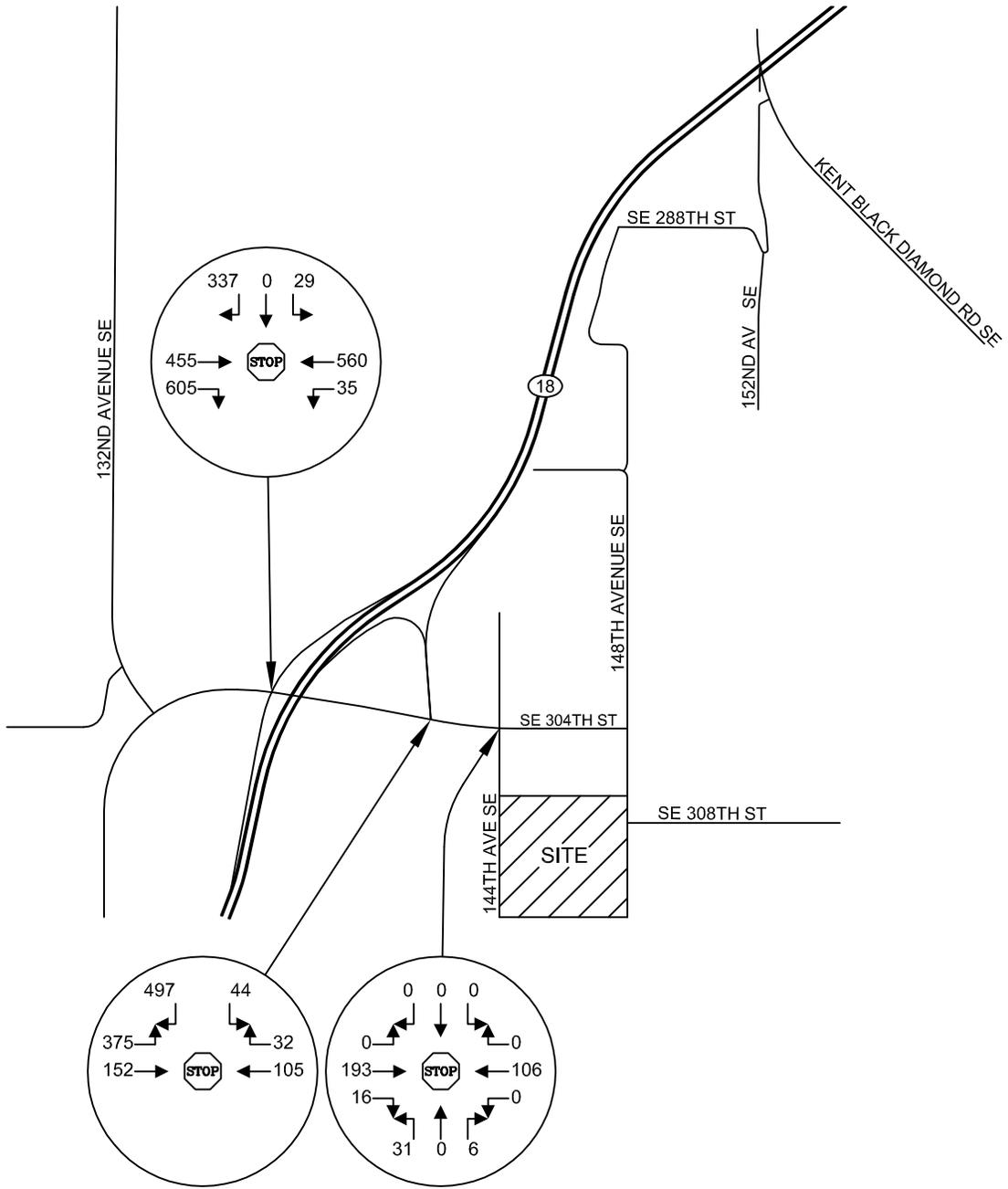
Figure 4



NEW PM PEAK HOUR TRIPS  
 INBOUND: 36 VPH  
 OUTBOUND: 134 VPH

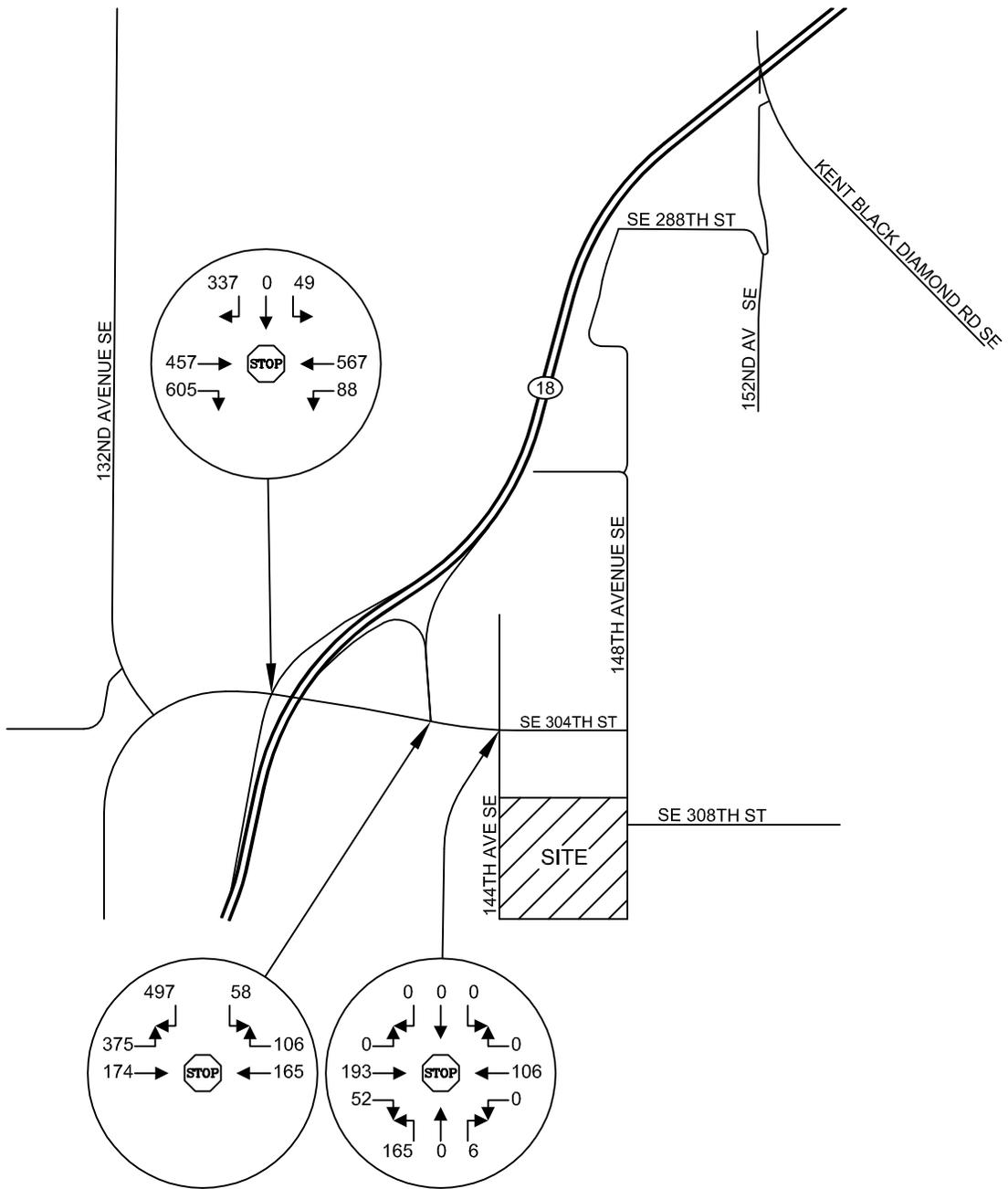
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**PACIFIC RACEWAYS - KING COUNTY**  
 PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT  
 FIGURE 4



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**PACIFIC RACEWAYS - KING COUNTY**  
FORECAST 2023 PM PEAK HOUR VOLUMES WITHOUT PROJECT  
FIGURE 5



#### 4.4 Peak Hour Volumes With and Without the Project

A 6-year horizon of 2023 was used for future traffic delay analysis; based on the trip generations provided above, the project buildout with the 200,000 square feet of industrial buildings is anticipated to create a greater demand of vehicular activity. For this reason, delay analysis targeted project buildout as delays associated with the excavation/material processing would be lower. Forecast 2023 background traffic volumes were derived by applying a 3 percent compound annual growth rate to the existing volumes shown on Figure 3. Forecast 2023 volumes without the proposed project are shown on Figure 5. Forecast 2023 volumes with project generated traffic are shown on Figure 6.

#### 4.5 Future Level of Service

Level of service analyses were made of the future PM peak hour volumes without and with project related trips added to the key roadways and intersections. This analysis once again involved the use of the Synchro 10 analysis program. Delays for the key intersections under future conditions are shown below in Table 4.

**Table 4**  
Forecast 2023 PM Peak Hour Level of Service  
*Delays given in Seconds per Vehicle*

Roadway	Intersecting	Control	Without <b>Project</b>		With <b>Project</b>	
			LOS	Delay	LOS	Delay
<b>SE 304th Street</b>	SR-18 Westbound Ramp	TWSC	D	25.1	D	26.7
	SR-18 Eastbound Ramp	TWSC	C	15.0	C	18.3
	144th Avenue SE	TWSC	B	11.1	B	14.0

As indicated above, forecast 2023 PM peak hour delays are anticipated to operate with delays up to LOS D without or with the proposed project. The addition of project generated traffic is not shown to significantly impact the roadway system. It should be noted that given the proximity to the Pacific Raceways track directly to the south, operations for the proposed excavation/processing as well as the industrial buildings will not take place during large events to avoid any potential conflicts. The project site will continue to be used as additional/overflow parking during events associated with Pacific Raceways. The LOS delays above reflect typical weekday operations.

## 5. CONCLUSIONS AND MITIGATION MEASURES

The incoming project proposes to construct up to 200,000 square feet of industrial type buildings that mainly consist of garage and/or other race related uses. The project is located in Unincorporated King County on tax parcel: 1021059003 with 144th Avenue SE bordering the west and 148th Street SE bordering the east. Access to the site is planned via the existing access roadway bordering the south side of the site. Currently there is a parking lot on-site that provides additional parking for large events held at the Pacific Raceways track. Field counts were taken at the SR-18 ramps & SE 304th Street intersections as well at 144th Avenue SE & SE 304th Street; delays are mild at LOS C or better and are outlined in Table 2.

For the first five years approximately 1,000,000 cubic yards of material is to be excavated and processed with the majority of material leaving the site. An estimated trip generation was derived given typical operations associated with the excavation and removal of materials; approximately 100 trips per day can be expected which include truck transportation and employee trips. Concurrent to material removal, the project will proceed with construction of the industrial buildings. Trip generation reflecting the industrial buildings is outlined in Table 3 and is based on ITE data which suggests 1,366 trips per day with 170 of those trips occurring during the PM peak hour. As the project is anticipated to have its greatest vehicular demand with the industrial uses, delays were analyzed under a six-year horizon which assumes a complete buildout of the proposed project.

Forecast 2023 delays are anticipated to operate at LOS D or better without or with project generated traffic added to the local roadway network. During large events held at the Pacific Raceways track to the south, the project property will continue to be used for additional/overflow parking. No material processing and/or business operations will occur during events to avoid any potential conflicts. Overall, the project is not anticipated to have any significant impacts on the local roadway system.

Based on the preceding analysis, no off-site or on-site mitigation is recommended at this time.

PACIFIC RACEWAYS  
TRAFFIC IMPACT ANALYSIS

APPENDIX

## LEVEL OF SERVICE

The following are excerpts from the *2016 Highway Capacity Manual - Transportation Research Board Special Report 209*.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions.

### Level-of-Service definitions

The following definitions generally define the various levels of service for arterials.

*Level of service A* represents primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delay at signalized intersections is minimal.

*Level of service B* represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver in the traffic stream is only slightly restricted and delays are not bothersome.

*Level of service C* represents stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the average free-flow speed for the arterial classification.

*Level of service D* borders on a range in which small increases in flow may cause substantial increases in approach delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free-flow speed.

*Level of service E* is characterized by significant delays and average travel speeds of one-third the free-flow speed or less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

*Level of service F* characterizes arterial flow at extremely low speeds, from less than one-third to one-quarter of the free-flow speed. Intersection congestion is likely at critical signalized locations, with long delays and extensive queuing.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them.

For each type of facility, levels of service are defined based on one or more operational parameters that best describe operating quality for the subject facility type. While the concept of level of service attempts to address a wide range of operating conditions, limitations on data collection and availability make it impractical to treat the full range of operational parameters for every type of facility. The parameters selected to define levels of service for each facility type are called "measures of effectiveness" or "MOE's", and represent available measures that best describe the quality of operation on the subject facility type.

Each level of service represents a range of conditions, as defined by a range in the parameters given. Thus, a level of service is not a discrete condition, but rather a range of conditions for which boundaries are established.

The following tables describe levels of service for signalized and unsignalized intersections. Level of service for signalized intersections is defined in terms of average control delay. Delay is a measure of driver discomfort, frustration, fuel consumption and lost travel time, as well as time from movements at slower speeds and stops on intersection approaches as vehicles move up in queue position or slow down upstream of an intersection. Level of service for unsignalized intersections is determined by the computed or measured control delay and is determined for each minor movement.

## Trip Generation Summary

Alternative: Alternative 1

Phase:

Open Date: 7/28/2017

Project: Pacific Raceways

Analysis Date: 7/28/2017

ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic					
		*	Enter	Exit	Total	*	Enter	Exit	Total	*	Enter	Exit	Total
130	INDUSTRIAL 1 200 Gross Floor Area 1000 SF		683	683	1366		134	30	164		36	134	170
Unadjusted Volume			683	683	1366		134	30	164		36	134	170
Internal Capture Trips			0	0	0		0	0	0		0	0	0
Pass-By Trips			0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets			683	683	1366		134	30	164		36	134	170

Total Weekday Average Daily Trips Internal Capture = 0 Percent

Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

\* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 9th Edition, 2012

**TRIP GENERATION 2014, TRAFFICWARE, LLC**

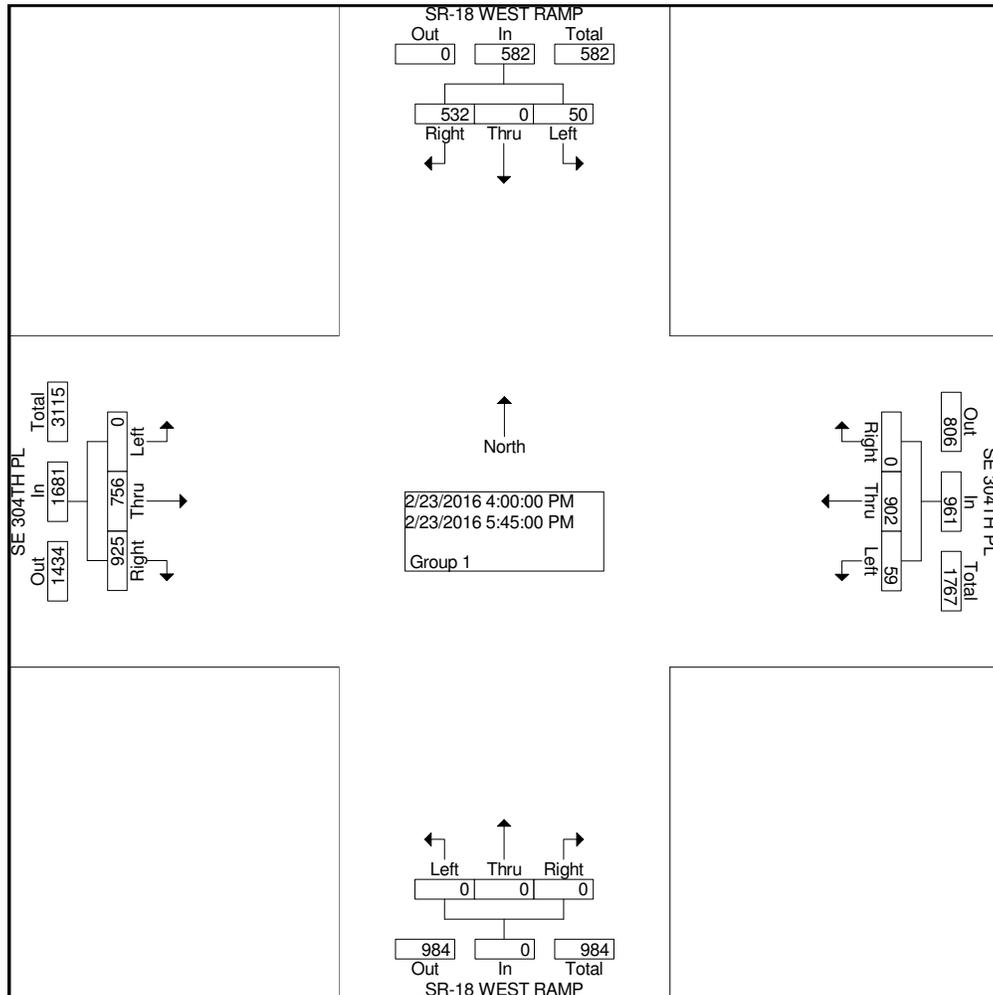
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Heath & Associates, Inc.  
 2214 Tacoma Road  
 Puyallup, WA 98371

File Name : 3737d  
 Site Code : 00003737  
 Start Date : 2/23/2016  
 Page No : 1

Groups Printed- Group 1

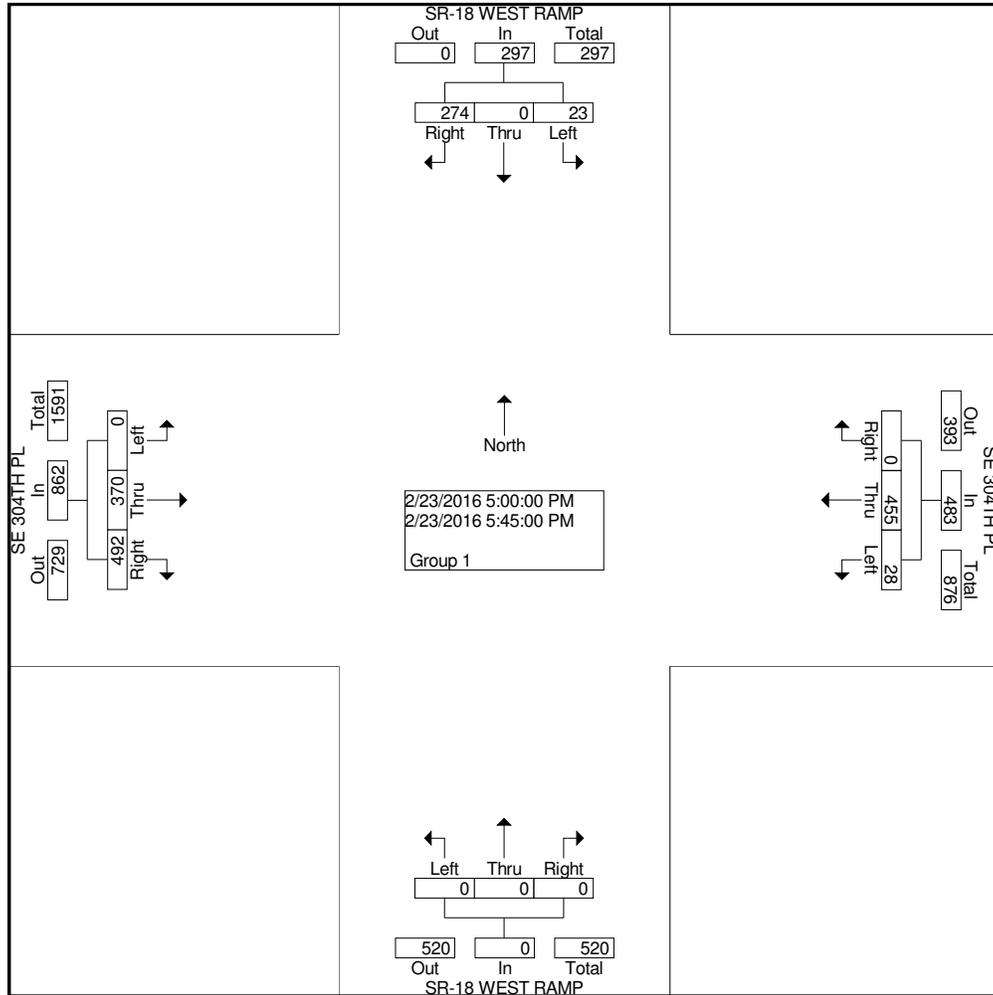
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	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	67	0	3	0	85	3	0	0	0	122	102	0	382
04:15 PM	57	0	8	0	127	11	0	0	0	106	83	0	392
04:30 PM	75	0	9	0	112	13	0	0	0	95	83	0	387
04:45 PM	59	0	7	0	123	4	0	0	0	110	118	0	421
Total	258	0	27	0	447	31	0	0	0	433	386	0	1582
05:00 PM	65	0	3	0	118	10	0	0	0	123	96	0	415
05:15 PM	56	0	9	0	110	6	0	0	0	114	98	0	393
05:30 PM	72	0	8	0	104	8	0	0	0	127	93	0	412
05:45 PM	81	0	3	0	123	4	0	0	0	128	83	0	422
Total	274	0	23	0	455	28	0	0	0	492	370	0	1642
Grand Total	532	0	50	0	902	59	0	0	0	925	756	0	3224
Apprch %	91.4	0.0	8.6	0.0	93.9	6.1	0.0	0.0	0.0	55.0	45.0	0.0	
Total %	16.5	0.0	1.6	0.0	28.0	1.8	0.0	0.0	0.0	28.7	23.4	0.0	



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 Site Code : 00003737  
 Start Date : 2/23/2016  
 Page No : 2

Start Time	SR-18 WEST RAMP Southbound				SE 304TH PL Westbound				SR-18 WEST RAMP Northbound				SE 304TH PL Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	274	0	23	297	0	455	28	483	0	0	0	0	492	370	0	862	1642
Percent	92.3	0.0	7.7		0.0	94.2	5.8		0.0	0.0	0.0		57.1	42.9	0.0		
05:45																	
Volume	81	0	3	84	0	123	4	127	0	0	0	0	128	83	0	211	422
Peak Factor	0.973																
High Int.	05:45 PM																
Volume	81	0	3	84	0	118	10	128	0	0	0	0	127	93	0	220	
Peak Factor	0.884				0.943								0.980				

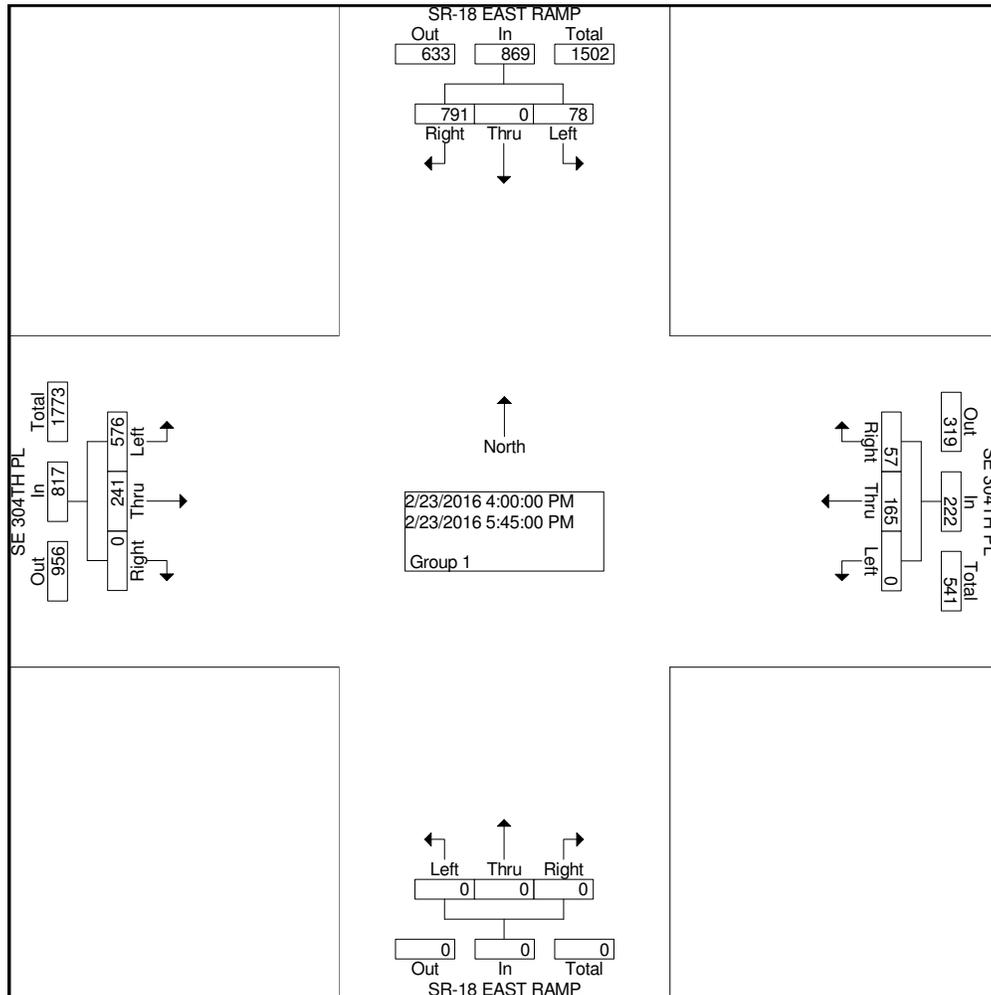


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Groups Printed- Group 1

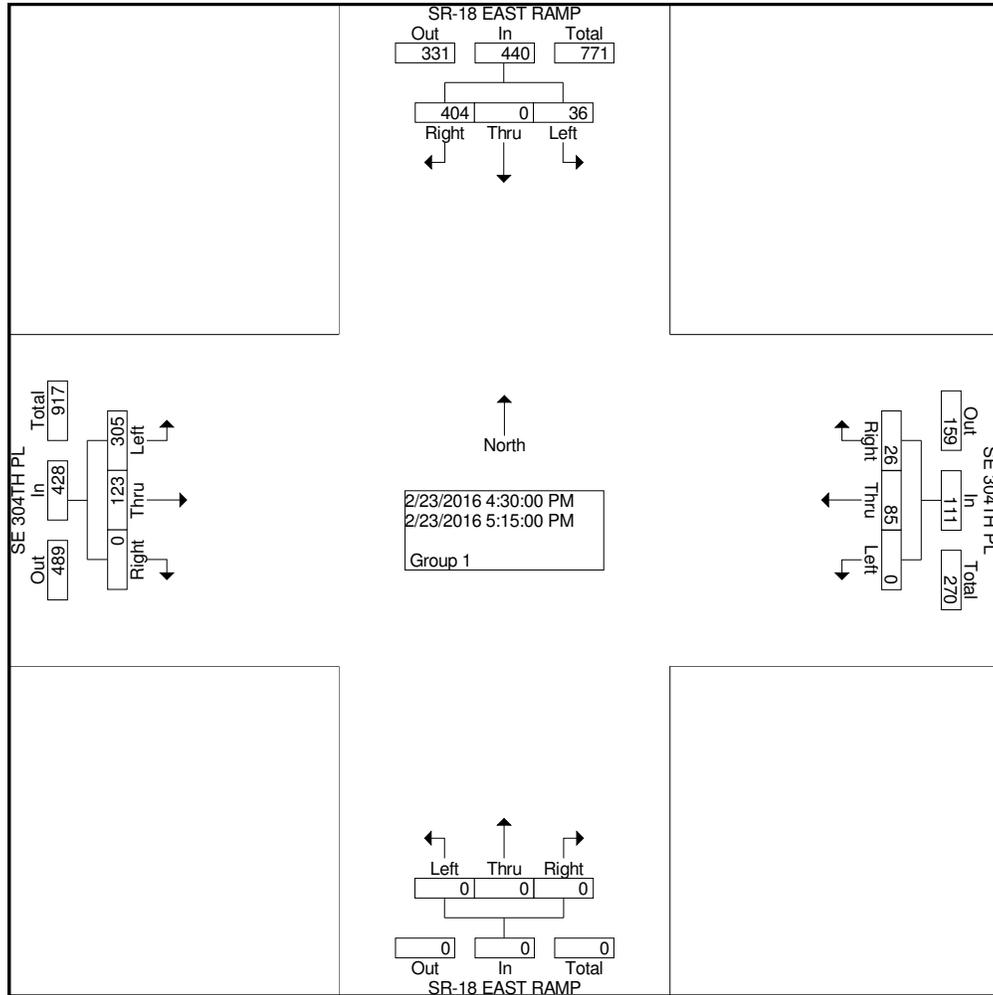
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Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	70	0	12	11	18	0	0	0	0	0	30	78	219
04:15 PM	106	0	16	7	26	0	0	0	0	0	34	56	245
04:30 PM	98	0	11	10	20	0	0	0	0	0	24	69	232
04:45 PM	102	0	8	3	20	0	0	0	0	0	41	83	257
Total	376	0	47	31	84	0	0	0	0	0	129	286	953
05:00 PM	106	0	7	4	26	0	0	0	0	0	27	71	241
05:15 PM	98	0	10	9	19	0	0	0	0	0	31	82	249
05:30 PM	93	0	7	6	16	0	0	0	0	0	30	69	221
05:45 PM	118	0	7	7	20	0	0	0	0	0	24	68	244
Total	415	0	31	26	81	0	0	0	0	0	112	290	955
Grand Total	791	0	78	57	165	0	0	0	0	0	241	576	1908
Apprch %	91.0	0.0	9.0	25.7	74.3	0.0	0.0	0.0	0.0	0.0	29.5	70.5	
Total %	41.5	0.0	4.1	3.0	8.6	0.0	0.0	0.0	0.0	0.0	12.6	30.2	



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 Start Date : 2/23/2016  
 Page No : 2

Start Time	SR-18 EAST RAMP Southbound				SE 304TH PL Westbound				SR-18 EAST RAMP Northbound				SE 304TH PL Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	404	0	36	440	26	85	0	111	0	0	0	0	0	123	305	428	979
Percent	91.8	0.0	8.2		23.4	76.6	0.0		0.0	0.0	0.0		0.0	28.7	71.3		
04:45																	
Volume	102	0	8	110	3	20	0	23	0	0	0	0	0	41	83	124	257
Peak Factor	0.952																
High Int.	05:00 PM																
Volume	106	0	7	113	10	20	0	30	0	0	0	0	0	41	83	124	
Peak Factor	0.973				0.925								0.863				

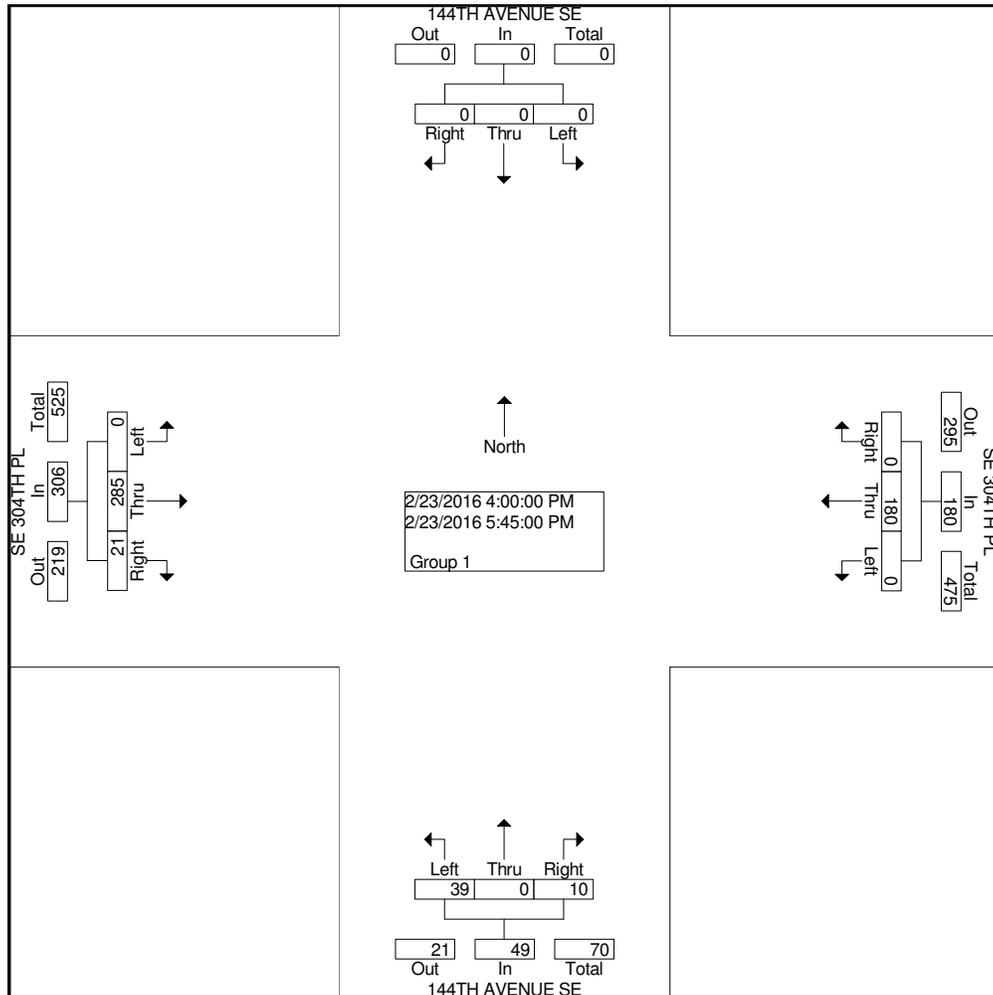


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 Puyallup, WA 98371

File Name : 3737f  
 Site Code : 00003737  
 Start Date : 2/23/2016  
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Groups Printed- Group 1

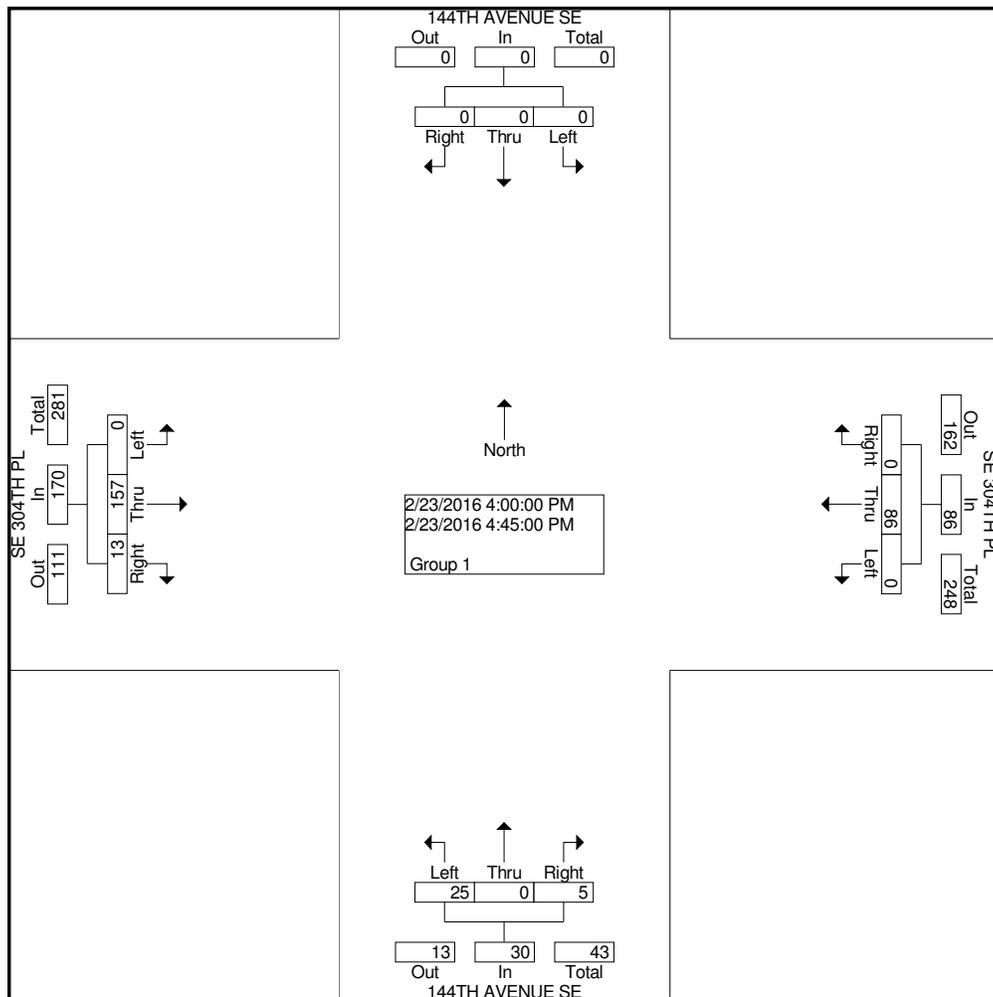
Start Time	144TH AVENUE SE Southbound			SE 304TH PL Westbound			144TH AVENUE SE Northbound			SE 304TH PL Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	0	0	0	15	0	1	0	12	3	33	0	64
04:15 PM	0	0	0	0	25	0	0	0	8	2	49	0	84
04:30 PM	0	0	0	0	24	0	1	0	4	4	31	0	64
04:45 PM	0	0	0	0	22	0	3	0	1	4	44	0	74
Total	0	0	0	0	86	0	5	0	25	13	157	0	286
05:00 PM	0	0	0	0	29	0	3	0	1	3	28	0	64
05:15 PM	0	0	0	0	22	0	1	0	6	2	36	0	67
05:30 PM	0	0	0	0	19	0	1	0	5	2	32	0	59
05:45 PM	0	0	0	0	24	0	0	0	2	1	32	0	59
Total	0	0	0	0	94	0	5	0	14	8	128	0	249
Grand Total	0	0	0	0	180	0	10	0	39	21	285	0	535
Apprch %	0.0	0.0	0.0	0.0	100.0	0.0	20.4	0.0	79.6	6.9	93.1	0.0	
Total %	0.0	0.0	0.0	0.0	33.6	0.0	1.9	0.0	7.3	3.9	53.3	0.0	



Heath & Associates, Inc.  
 2214 Tacoma Road  
 Puyallup, WA 98371

File Name : 3737f  
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Start Time	144TH AVENUE SE Southbound				SE 304TH PL Westbound				144TH AVENUE SE Northbound				SE 304TH PL Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	0	0	0	0	0	86	0	86	5	0	25	30	13	157	0	170	286
Percent	0.0	0.0	0.0		0.0	100.0	0.0		16.7	0.0	83.3		7.6	92.4	0.0		
04:15																	
Volume	0	0	0	0	0	25	0	25	0	0	8	8	2	49	0	51	84
Peak Factor	0.851																
High Int.	3:45:00 PM																
Volume	0	0	0	0	0	25	0	25	1	0	12	13	2	49	0	51	
Peak Factor	0.833																



**Intersection**

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	381	507	29	469	0	0	0	0	24	0	282
Future Vol, veh/h	0	381	507	29	469	0	0	0	0	24	0	282
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	350	150	-	-	-	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	393	523	30	484	0	0	0	0	25	0	291

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	393	0	0	937	937	484
Stage 1	-	-	-	-	-	-	544	544	-
Stage 2	-	-	-	-	-	-	393	393	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1166	-	0	294	265	583
Stage 1	0	-	0	-	-	0	582	519	-
Stage 2	0	-	0	-	-	0	682	606	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1166	-	-	286	0	583
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	0	-
Stage 1	-	-	-	-	-	-	567	0	-
Stage 2	-	-	-	-	-	-	682	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.5	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1166	-	286	583
HCM Lane V/C Ratio	-	0.026	-	0.087	0.499
HCM Control Delay (s)	-	8.2	-	18.8	17.2
HCM Lane LOS	-	A	-	C	C
HCM 95th %tile Q(veh)	-	0.1	-	0.3	2.8

**Intersection**

Int Delay, s/veh 8.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	314	127	88	27	37	416
Future Vol, veh/h	314	127	88	27	37	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	331	134	93	28	39	438

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	121	0	93
Stage 1	-	-	93
Stage 2	-	-	796
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1467	-	964
Stage 1	-	-	931
Stage 2	-	-	444
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1467	-	964
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	721
Stage 2	-	-	444

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1467	-	-	-	243	964
HCM Lane V/C Ratio	0.225	-	-	-	0.16	0.454
HCM Control Delay (s)	8.2	-	-	-	22.6	11.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.6	2.4

**Intersection**

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↕		↖	↗			↕	
Traffic Vol, veh/h	0	162	13	0	89	0	26	0	5	0	0	0
Future Vol, veh/h	0	162	13	0	89	0	26	0	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	400	-	-	-	400	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	191	15	0	105	0	31	0	6	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	-	191	0	0	296	296	191	299	296	105
Stage 1	-	-	-	-	-	-	191	191	-	105	105	-
Stage 2	-	-	-	-	-	-	105	105	-	194	191	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1486	-	0	1383	-	-	656	616	851	653	616	949
Stage 1	-	-	0	-	-	-	811	742	-	901	808	-
Stage 2	-	-	0	-	-	-	901	808	-	808	742	-
Platoon blocked, %		-			-							
Mov Cap-1 Maneuver	1486	-	-	1383	-	-	656	616	851	648	616	949
Mov Cap-2 Maneuver	-	-	-	-	-	-	656	616	-	648	616	-
Stage 1	-	-	-	-	-	-	811	742	-	901	808	-
Stage 2	-	-	-	-	-	-	901	808	-	802	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	10.6	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	656	851	1486	-	1383	-	-	-
HCM Lane V/C Ratio	0.047	0.007	-	-	-	-	-	-
HCM Control Delay (s)	10.8	9.3	0	-	0	-	-	0
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	0	-	0	-	-	-

**Intersection**

Int Delay, s/veh 6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	455	605	35	560	0	0	0	0	29	0	337
Future Vol, veh/h	0	455	605	35	560	0	0	0	0	29	0	337
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	350	150	-	-	-	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	469	624	36	577	0	0	0	0	30	0	347

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	469	0	0	1118	1118	577
Stage 1	-	-	-	-	-	-	649	649	-
Stage 2	-	-	-	-	-	-	469	469	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1093	-	0	229	207	516
Stage 1	0	-	0	-	-	0	520	466	-
Stage 2	0	-	0	-	-	0	630	561	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1093	-	-	221	0	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	221	0	-
Stage 1	-	-	-	-	-	-	503	0	-
Stage 2	-	-	-	-	-	-	630	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.5	25.1
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1093	-	221	516
HCM Lane V/C Ratio	-	0.033	-	0.135	0.673
HCM Control Delay (s)	-	8.4	-	23.8	25.2
HCM Lane LOS	-	A	-	C	D
HCM 95th %tile Q(veh)	-	0.1	-	0.5	5

**Intersection**

Int Delay, s/veh 9.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	375	152	105	32	44	497
Future Vol, veh/h	375	152	105	32	44	497
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	395	160	111	34	46	523

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	145	0	111
Stage 1	-	-	111
Stage 2	-	-	950
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1437	-	942
Stage 1	-	-	914
Stage 2	-	-	376
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1437	-	942
Mov Cap-2 Maneuver	-	-	180
Stage 1	-	-	663
Stage 2	-	-	376

Approach	EB	WB	SB
HCM Control Delay, s	6	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1437	-	-	-	180	942
HCM Lane V/C Ratio	0.275	-	-	-	0.257	0.555
HCM Control Delay (s)	8.5	-	-	-	31.8	13.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	1.1	-	-	-	1	3.5

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↕		↖	↗			↕	
Traffic Vol, veh/h	0	193	16	0	106	0	31	0	6	0	0	0
Future Vol, veh/h	0	193	16	0	106	0	31	0	6	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	400	-	-	-	400	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	227	19	0	125	0	36	0	7	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	125	0	-	227	0	0	352	352	227	356	352	125
Stage 1	-	-	-	-	-	-	227	227	-	125	125	-
Stage 2	-	-	-	-	-	-	125	125	-	231	227	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1462	-	0	1341	-	-	603	573	812	599	573	926
Stage 1	-	-	0	-	-	-	776	716	-	879	792	-
Stage 2	-	-	0	-	-	-	879	792	-	772	716	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1462	-	-	1341	-	-	603	573	812	594	573	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	603	573	-	594	573	-
Stage 1	-	-	-	-	-	-	776	716	-	879	792	-
Stage 2	-	-	-	-	-	-	879	792	-	765	716	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			11.1			0		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	603	812	1462	-	1341	-	-	-				
HCM Lane V/C Ratio	0.06	0.009	-	-	-	-	-	-				
HCM Control Delay (s)	11.4	9.5	0	-	0	-	-	0				
HCM Lane LOS	B	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	0.2	0	0	-	0	-	-	-				

**Intersection**

Int Delay, s/veh 7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Vol, veh/h	0	457	605	88	567	0	0	0	0	49	0	337
Future Vol, veh/h	0	457	605	88	567	0	0	0	0	49	0	337
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	350	150	-	-	-	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	6	2	2	2	2	2	6	2	2
Mvmt Flow	0	471	624	91	585	0	0	0	0	51	0	347

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	471	0	0	1238	1238	585
Stage 1	-	-	-	-	-	-	767	767	-
Stage 2	-	-	-	-	-	-	471	471	-
Critical Hdwy	-	-	-	4.16	-	-	6.46	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.46	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.46	5.52	-
Follow-up Hdwy	-	-	-	2.254	-	-	3.554	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1070	-	0	190	176	511
Stage 1	0	-	0	-	-	0	451	411	-
Stage 2	0	-	0	-	-	0	620	560	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1070	-	-	174	0	511
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	0	-
Stage 1	-	-	-	-	-	-	413	0	-
Stage 2	-	-	-	-	-	-	620	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	26.7
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1070	-	174	511
HCM Lane V/C Ratio	-	0.085	-	0.29	0.68
HCM Control Delay (s)	-	8.7	-	33.9	25.7
HCM Lane LOS	-	A	-	D	D
HCM 95th %tile Q(veh)	-	0.3	-	1.1	5.1

**Intersection**

Int Delay, s/veh 9.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗	↗	↘	↘	↘
Traffic Vol, veh/h	375	174	165	106	58	497
Future Vol, veh/h	375	174	165	106	58	497
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	200	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	6	6	6	6	2
Mvmt Flow	395	183	174	112	61	523

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	286	0	1147
Stage 1	-	-	174
Stage 2	-	-	973
Critical Hdwy	4.12	-	6.46
Critical Hdwy Stg 1	-	-	5.46
Critical Hdwy Stg 2	-	-	5.46
Follow-up Hdwy	2.218	-	3.554
Pot Cap-1 Maneuver	1276	-	216
Stage 1	-	-	847
Stage 2	-	-	360
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1276	-	149
Mov Cap-2 Maneuver	-	-	149
Stage 1	-	-	584
Stage 2	-	-	360

Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1276	-	-	-	149	869
HCM Lane V/C Ratio	0.309	-	-	-	0.41	0.602
HCM Control Delay (s)	9.1	-	-	-	45	15.2
HCM Lane LOS	A	-	-	-	E	C
HCM 95th %tile Q(veh)	1.3	-	-	-	1.8	4.1

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↕		↖	↗			↕	
Traffic Vol, veh/h	0	193	52	0	106	0	165	0	6	0	0	0
Future Vol, veh/h	0	193	52	0	106	0	165	0	6	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	400	-	-	-	400	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	13	2	2	2	13	2	2	2	2	2
Mvmt Flow	0	227	61	0	125	0	194	0	7	0	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	125	0	-	227	0	0	352	352	227	356	352	125
Stage 1	-	-	-	-	-	-	227	227	-	125	125	-
Stage 2	-	-	-	-	-	-	125	125	-	231	227	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.23	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.23	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.23	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.617	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1462	-	0	1341	-	-	583	573	812	599	573	926
Stage 1	-	-	0	-	-	-	752	716	-	879	792	-
Stage 2	-	-	0	-	-	-	853	792	-	772	716	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1462	-	-	1341	-	-	583	573	812	594	573	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	583	573	-	594	573	-
Stage 1	-	-	-	-	-	-	752	716	-	879	792	-
Stage 2	-	-	-	-	-	-	853	792	-	765	716	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			14			0		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	583	812	1462	-	1341	-	-	-				
HCM Lane V/C Ratio	0.333	0.009	-	-	-	-	-	-				
HCM Control Delay (s)	14.2	9.5	0	-	0	-	-	0				
HCM Lane LOS	B	A	A	-	A	-	-	A				
HCM 95th %tile Q(veh)	1.5	0	0	-	0	-	-	-				