# FRED HILL MATERIALS
# SHINE PIT
# TRAFFIC ANALYSIS

*JEFFERSON COUNTY, WA*

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*TABLE OF CONTENTS*



*LIST OF TABLES*



*LIST OF FIGURES*

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TRAFFIC ANALYSIS

## *I. INTRODUCTION*

The Washington State Department of Transportation has required Fred Hill Materials to perform annual traffic analyses as a Condition of Approval for Fred Hill Materials application to mine the Wahl Extraction site (Jefferson County MLA03-00377). The WSDOT requires Fred Hill Materials to construct a center refuge left turn lane and an east bound shoulder acceleration lane on SR-104 at Rock-to-Go Road to mitigate traffic impacts when the Wahl Extraction site is fully operational. In recognition that traffic increases will occur gradually over time, the construction of the improvements are not required until the traffic analysis determines that the work is warranted. Mining operations at the Wahl Extraction site have not begun due to approval delays caused by other studies required as part of the approval process. This report presents the results of our first annual analysis of current traffic conditions at the Fred Hill Material Shine Pit as required by the WSDOT. Because mining of material from the Wahl Extraction site has not begun and therefore mitigation is not required, this analysis and report provides baseline data to be used with future annual reports to track growth of Fred Hill Materials traffic and background growth of traffic on SR-104.

## *II. PROJECT DESCRIPTION*

The Fred Hill Materials Shine Pit contains a gravel surface mine operated by Fred Hill Materials and a portable asphalt batching plant operated by Ace Paving. The project site is located in Jefferson County on Rock-to-Go Road on the south side of SR-104 in the vicinity of Mile Post 9.85 Right. Surrounding land use consists of forest management by Olympic Resources Management and the Shine Quarry (located on the north side of SR-104 on Old Beaver Valley Road). Old Beaver Valley Road and Rock to Go Road are private Forest Service roads that have coincident intersection with SR-104 in the vicinity of MP 9.85. The site location and roadway system is shown in Figure 1 on the following page. The Shine Pit operated with 16 employees on site during the study periods of July 12 and 13, 2006. Specific output during the study periods are as follows;

July 12th, 2006
4,076.22 tons of gravel
208.16 tons of asphalt
16 employees on site

July 13th, 2006
3,334.87 tons of gravel
300.55 tons of asphalt
16 employees on site


SHINE PIT

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Transportation and Civil Engineering

VICINTY MAP & ROADWAY SYSTEM

FIGURE 1

## *III. EXISTING CONDITIONS*

### A. Peak Hour Volumes

As noted above, field data for this study was collected on July 12-13 of 2006. Traffic counts were taken between the hours of 6 AM and 6 PM. This specific range was targeted as requested by WSDOT for a full operational day analysis. For analysis purposes, this 12 hour time period was split into 6 two hour periods for which peak hours were determined, based on total intersection volumes. Therefore 6 peak hours were determined for each day of study. Turning count data can be found in the appendix for the total 12 hour period as well as the individual peak periods for the 6 two hour time slots for each day.

### B. Level of Service Description

Peak hour information and geometric intersection data collected in the field were used to perform capacity computations in accordance with the *2000 Highway Capacity Manual*. Capacity analysis is used to determine level of service, which is an established measure of congestion for transportation facilities. Level of service is defined for a variety of facilities including intersections, freeways, rural highways, weaving sections, etc. The methodology for determining the LOS at signalized intersections strives to determine the volume to capacity (v/c) ratios for the various intersection movements as well as the average stopped delay for those movements. *Delay* is generally used to measure the degree of driver discomfort, frustration, fuel consumption, and lost time. *Stopped delay*, in particular, is defined as the amount of time a vehicle, on average, spends not in motion at an intersection. The methodology for determining the LOS at unsignalized (better known as stop-control) intersections strives to determine the potential capacity and the average total delay for each movement. *Potential capacity* represents the number of additional vehicles that could effectively utilize a particular movement, which is essentially the equivalent of the difference between the movement capacity and the existing movement volume. *Total delay* is described as the time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. *Average total delay* is simply the mean over the entire traffic stream for a specific approach.

### C. Level of Service Results

Levels of service calculations were made using the computer analysis program known as HCS-2000. This program follows the *Highway Capacity Manual* procedures for intersection analysis. Level of service conditions for existing conditions are summarized in Table 1 on the following page. Included in the results are specific movement delays and corresponding LOS values for each of the 6 peak periods determined during the two study days.

**TABLE 1**
Existing Level of Service
SR-104 & Rock-To-Go Road
*Delays Given In Seconds Per Vehicle*

| *Time Period* | *Approach* | *LOS* | *Delay* |
|---|---|---|---|
| Day 1, Time Slot 1 (6am-8am) | Northbound | C | 16.8 |
| | Westbound | A | 9.4 |
| Day 1, Time Slot 2 (8am-10am) | Northbound | C | 17.8 |
| | Westbound | A | 9.7 |
| Day 1, Time Slot 3 (10am-12pm) | Northbound | C | 22.4 |
| | Westbound | B | 10.1 |
| Day 1, Time Slot 4 (12pm-2pm) | Northbound | C | 19.9 |
| | Westbound | A | 9.7 |
| Day 1, Time Slot 5 (2pm-4pm) | Northbound | D | 29.3 |
| | Westbound | B | 10.1 |
| Day 1, Time Slot 6 (4pm-6pm) | Northbound | D | 29.8 |
| | Westbound | A | 9.7 |
| Day 2, Time Slot 1 (6am-8am) | Northbound | B | 14.6 |
| | Westbound | A | 9.1 |
| Day 2, Time Slot 2 (8am-10am) | Northbound | C | 18.4 |
| | Westbound | B | 10.0 |
| Day 2, Time Slot 3 (10am-12pm) | Northbound | C | 22.7 |
| | Westbound | A | 9.9 |
| Day 2, Time Slot 4 (12pm-2pm) | Northbound | C | 24.2 |
| | Westbound | B | 10.2 |
| Day 2, Time Slot 5 (2pm-4pm) | Northbound | D | 29.0 |
| | Westbound | A | 10.0 |
| Day 2, Time Slot 6 (4pm-6pm) | Northbound | E | 41.3 |
| | Westbound | B | 10.3 |

The results of the table indicate northbound delays are typically in the LOS C to LOS D range. However, the final time slot on Day 2 experienced LOS E delays for the northbound approach on Rock-To-Go Road.

D. Left Turn Warrants

Left turn lanes are a means of providing necessary storage space for left turning vehicles at intersections. For a two-lane or four-lane arterial with no left turn storage, delays are often created by vehicles waiting to complete the desired left turn movement. These turning vehicles typically block the heavier through movement, thereby causing some disruption to traffic flow and subsequent congestion. For this impact study, procedures described by WSDOT Design Manual (Figure 910-8a) were used to ascertain westbound left turn storage requirements on SR-104 at Rock-To-Go Road. As in the LOS analysis,

the left turn lane analysis was performed for each of the 6 time slots for both study days. The individual warrant analyses with input data and the charts may be found in the appendix. Note that the speed limit on SR-104 is 60 mph. The results of the analyses are summarized below in Table 2.

**TABLE 2**
Left Turn Lane Warrants
SR-104 EB @ Rock-To-Go Road

| *Time Period* | *Warrant Met?* |
|---|---|
| Day 1, Time Slot 1 (6am-8am) | NO |
| Day 1, Time Slot 2 (8am-10am) | NO |
| Day 1, Time Slot 3 (10am-12pm) | YES |
| Day 1, Time Slot 4 (12pm-2pm) | NO |
| Day 1, Time Slot 5 (2pm-4pm) | YES |
| Day 1, Time Slot 6 (4pm-6pm) | NO |
| Day 2, Time Slot 1 (6am-8am) | NO |
| Day 2, Time Slot 2 (8am-10am) | NO |
| Day 2, Time Slot 3 (10am-12pm) | YES |
| Day 2, Time Slot 4 (12pm-2pm) | NO |
| Day 2, Time Slot 5 (2pm-4pm) | YES |
| Day 2, Time Slot 6 (4pm-6pm) | NO |

## *IV. SUMMARY*

WSDOT has required the Fred Hill Materials Shine Pit to construct a center left turn refuge lane plus tapers on SR-104 at Rock-To-Go Road. An eastbound shoulder acceleration lane on SR-104 has also been required. Due to gradual increases in project traffic, these mitigations are conditioned upon meeting left turn lane warrants or dropping to LOS E for the northbound delays, or by 2009 whichever occurs first. According to this study, LOS E northbound delays were noted based on current volumes between 4-6 PM on the second analysis day. Left turn lane warrants are met for two time periods on the first analysis day and for two periods on the second analysis day. From the above analyses, the aforementioned mitigations are required based on current volumes.

FRED HILL MATERIALS
SHINE PIT
TRAFFIC ANALYSIS

*APPENDIX*

# LEVEL OF SERVICE

The following are excerpts from the *2000 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.

*Signalized Intersections - Level of Service*

| Level of Service | Control Delay per Vehicle (sec) |
|---|---|
| A | $\leq 10$ |
| B | $> 10$ and $\leq 20$ |
| C | $> 20$ and $\leq 35$ |
| D | $> 35$ and $\leq 55$ |
| E | $> 55$ and $\leq 80$ |
| F | $> 80$ |

*Unsignalized Intersections - Level of Service*

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

As described in the 2000 Highway Capacity Manual, level of service breakpoints for all-way stop controlled (AWSC) intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from distinct kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an AWSC intersection. Thus a higher level of control delay is acceptable at a signalized intersection for the same level of service.

*AWSC Intersections - Level of Service*

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

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Site Code : 00002642
Start Date : 07/12/2006
Page No : 1

NOTE: HVs ARE ALREADY INCORPORATED INTO THE TURNING MOVEMENTS

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:00 AM | 0 | 0 | 1 | 1 | 0 | 43 | 2 | 8 | 3 | 0 | 1 | 3 | 7 | 71 | 0 | 8 | 148 |
| 06:15 AM | 1 | 0 | 1 | 1 | 0 | 44 | 7 | 11 | 4 | 0 | 2 | 5 | 2 | 76 | 1 | 5 | 160 |
| 06:30 AM | 0 | 0 | 0 | 0 | 0 | 75 | 2 | 16 | 3 | 1 | 2 | 6 | 0 | 62 | 2 | 1 | 170 |
| 06:45 AM | 0 | 1 | 1 | 2 | 0 | 68 | 1 | 11 | 6 | 0 | 2 | 6 | 0 | 61 | 1 | 5 | 165 |
| Total | 1 | 1 | 3 | 4 | 0 | 230 | 12 | 46 | 16 | 1 | 7 | 20 | 9 | 270 | 4 | 19 | 643 |
| 07:00 AM | 1 | 0 | 0 | 1 | 0 | 52 | 1 | 9 | 5 | 0 | 0 | 4 | 0 | 63 | 0 | 2 | 138 |
| 07:15 AM | 0 | 0 | 0 | 0 | 2 | 76 | 2 | 16 | 1 | 0 | 0 | 1 | 5 | 86 | 1 | 11 | 201 |
| 07:30 AM | 0 | 0 | 3 | 2 | 3 | 65 | 9 | 20 | 1 | 0 | 4 | 2 | 0 | 101 | 0 | 8 | 218 |
| 07:45 AM | 1 | 0 | 1 | 2 | 0 | 92 | 7 | 24 | 7 | 0 | 3 | 8 | 1 | 80 | 1 | 4 | 231 |
| Total | 2 | 0 | 4 | 5 | 5 | 285 | 19 | 69 | 14 | 0 | 7 | 15 | 6 | 330 | 2 | 25 | 788 |
| 08:00 AM | 0 | 0 | 3 | 3 | 3 | 98 | 4 | 15 | 7 | 0 | 0 | 7 | 3 | 82 | 0 | 10 | 235 |
| 08:15 AM | 0 | 0 | 3 | 3 | 1 | 94 | 2 | 16 | 2 | 0 | 3 | 1 | 2 | 114 | 1 | 17 | 259 |
| 08:30 AM | 0 | 0 | 1 | 1 | 2 | 95 | 4 | 13 | 4 | 1 | 0 | 5 | 0 | 114 | 0 | 7 | 247 |
| 08:45 AM | 0 | 0 | 5 | 5 | 1 | 84 | 4 | 15 | 6 | 0 | 1 | 6 | 6 | 97 | 2 | 11 | 243 |
| Total | 0 | 0 | 12 | 12 | 7 | 371 | 14 | 59 | 19 | 1 | 4 | 19 | 11 | 407 | 3 | 45 | 984 |
| 09:00 AM | 1 | 0 | 5 | 3 | 4 | 98 | 3 | 14 | 5 | 0 | 3 | 8 | 1 | 104 | 1 | 8 | 258 |
| 09:15 AM | 1 | 0 | 2 | 3 | 2 | 85 | 2 | 12 | 1 | 0 | 2 | 3 | 4 | 97 | 0 | 9 | 223 |
| 09:30 AM | 0 | 0 | 3 | 3 | 5 | 94 | 7 | 24 | 5 | 0 | 1 | 6 | 0 | 108 | 0 | 10 | 266 |
| 09:45 AM | 0 | 0 | 2 | 2 | 1 | 97 | 6 | 15 | 4 | 0 | 0 | 4 | 2 | 106 | 0 | 13 | 252 |
| Total | 2 | 0 | 12 | 11 | 12 | 374 | 18 | 65 | 15 | 0 | 6 | 21 | 7 | 415 | 1 | 40 | 999 |
| 10:00 AM | 0 | 0 | 2 | 2 | 1 | 90 | 4 | 12 | 3 | 0 | 1 | 4 | 0 | 117 | 0 | 8 | 244 |
| 10:15 AM | 0 | 0 | 0 | 0 | 2 | 112 | 3 | 13 | 4 | 1 | 1 | 6 | 1 | 148 | 0 | 13 | 304 |
| 10:30 AM | 0 | 0 | 2 | 2 | 4 | 87 | 6 | 20 | 6 | 0 | 1 | 5 | 2 | 125 | 1 | 10 | 271 |
| 10:45 AM | 2 | 0 | 4 | 5 | 1 | 121 | 4 | 15 | 4 | 1 | 1 | 3 | 2 | 125 | 0 | 19 | 307 |
| Total | 2 | 0 | 8 | 9 | 8 | 410 | 17 | 60 | 17 | 2 | 4 | 18 | 5 | 515 | 1 | 50 | 1126 |
| 11:00 AM | 0 | 0 | 3 | 3 | 1 | 124 | 4 | 21 | 1 | 0 | 1 | 2 | 2 | 123 | 2 | 12 | 299 |
| 11:15 AM | 2 | 0 | 0 | 2 | 1 | 97 | 7 | 15 | 6 | 0 | 1 | 6 | 0 | 105 | 0 | 8 | 250 |
| 11:30 AM | 0 | 0 | 1 | 1 | 2 | 132 | 6 | 23 | 2 | 0 | 3 | 4 | 1 | 132 | 0 | 23 | 330 |
| 11:45 AM | 0 | 0 | 2 | 2 | 3 | 46 | 1 | 9 | 5 | 0 | 1 | 6 | 1 | 132 | 0 | 8 | 216 |
| Total | 2 | 0 | 6 | 8 | 7 | 399 | 18 | 68 | 14 | 0 | 6 | 18 | 4 | 492 | 2 | 51 | 1095 |
| 12:00 PM | 0 | 0 | 3 | 2 | 1 | 30 | 0 | 3 | 3 | 0 | 2 | 2 | 0 | 112 | 0 | 5 | 163 |
| 12:15 PM | 0 | 0 | 0 | 0 | 1 | 194 | 3 | 23 | 0 | 0 | 0 | 0 | 1 | 115 | 0 | 13 | 350 |
| 12:30 PM | 0 | 0 | 2 | 2 | 4 | 135 | 3 | 22 | 6 | 0 | 1 | 5 | 1 | 118 | 0 | 19 | 318 |
| 12:45 PM | 0 | 1 | 2 | 2 | 1 | 122 | 2 | 19 | 5 | 0 | 1 | 4 | 2 | 84 | 1 | 9 | 255 |
| Total | 0 | 1 | 7 | 6 | 7 | 481 | 8 | 67 | 14 | 0 | 4 | 11 | 4 | 429 | 1 | 46 | 1086 |
| 01:00 PM | 1 | 0 | 4 | 5 | 1 | 109 | 4 | 19 | 2 | 0 | 1 | 3 | 2 | 110 | 2 | 13 | 276 |
| 01:15 PM | 2 | 0 | 1 | 3 | 1 | 96 | 7 | 13 | 6 | 0 | 1 | 6 | 0 | 106 | 0 | 14 | 256 |
| 01:30 PM | 0 | 0 | 0 | 0 | 2 | 123 | 2 | 17 | 6 | 0 | 1 | 7 | 1 | 123 | 0 | 11 | 293 |
| 01:45 PM | 0 | 0 | 1 | 1 | 1 | 106 | 1 | 11 | 3 | 0 | 1 | 4 | 2 | 121 | 0 | 14 | 266 |
| Total | 3 | 0 | 6 | 9 | 5 | 434 | 14 | 60 | 17 | 0 | 4 | 20 | 5 | 460 | 2 | 52 | 1091 |
| 02:00 PM | 0 | 0 | 2 | 1 | 3 | 93 | 2 | 14 | 2 | 0 | 0 | 2 | 2 | 120 | 0 | 9 | 250 |
| 02:15 PM | 0 | 0 | 3 | 3 | 1 | 145 | 6 | 15 | 2 | 0 | 3 | 4 | 2 | 109 | 0 | 9 | 302 |
| 02:30 PM | 0 | 1 | 0 | 1 | 2 | 133 | 3 | 10 | 9 | 0 | 2 | 6 | 1 | 123 | 0 | 13 | 304 |
| 02:45 PM | 0 | 0 | 1 | 0 | 0 | 110 | 2 | 12 | 3 | 1 | 1 | 1 | 2 | 125 | 0 | 16 | 274 |
| Total | 0 | 1 | 6 | 5 | 6 | 481 | 13 | 51 | 16 | 1 | 6 | 13 | 7 | 477 | 0 | 47 | 1130 |
| 03:00 PM | 1 | 0 | 1 | 1 | 0 | 115 | 2 | 7 | 2 | 0 | 3 | 5 | 0 | 129 | 0 | 8 | 274 |
| 03:15 PM | 1 | 0 | 0 | 0 | 2 | 177 | 6 | 20 | 1 | 0 | 0 | 0 | 3 | 124 | 0 | 9 | 343 |
| 03:30 PM | 0 | 0 | 1 | 0 | 0 | 119 | 3 | 8 | 4 | 0 | 1 | 3 | 2 | 116 | 1 | 11 | 269 |
| 03:45 PM | 0 | 0 | 0 | 0 | 1 | 146 | 2 | 12 | 3 | 0 | 2 | 2 | 3 | 136 | 0 | 13 | 320 |
| Total | 2 | 0 | 2 | 1 | 3 | 557 | 13 | 47 | 10 | 0 | 6 | 10 | 8 | 505 | 1 | 41 | 1206 |

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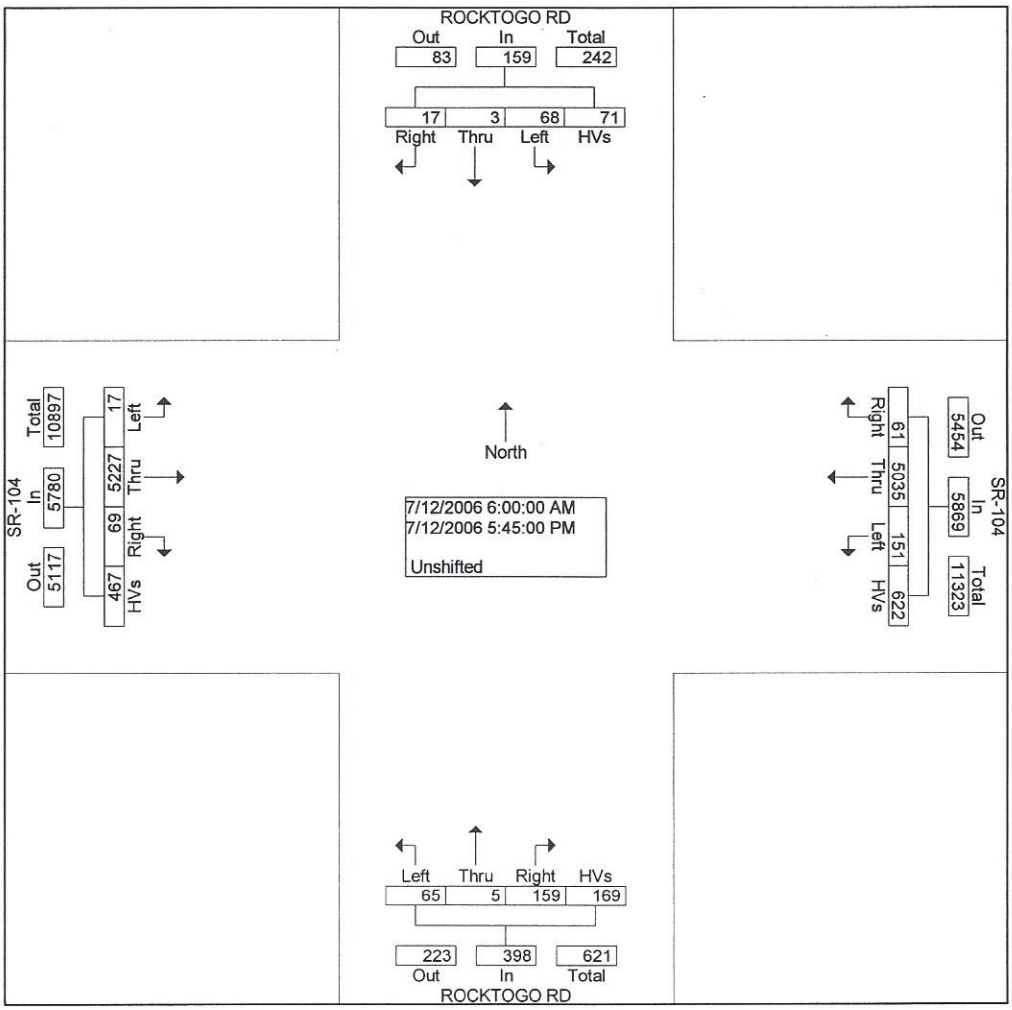
Page No : 2

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 1 | 0 | 2 | 1 | 0 | 132 | 1 | 6 | 3 | 0 | 5 | 2 | 1 | 104 | 0 | 9 | 267 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 129 | 2 | 8 | 1 | 0 | 2 | 1 | 0 | 117 | 0 | 5 | 265 |
| 04:30 PM | 1 | 0 | 0 | 0 | 0 | 145 | 0 | 5 | 0 | 0 | 1 | 0 | 1 | 124 | 0 | 12 | 289 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 134 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 124 | 0 | 4 | 268 |
| Total | 2 | 0 | 2 | 1 | 0 | 540 | 4 | 22 | 5 | 0 | 9 | 3 | 2 | 469 | 0 | 30 | 1089 |
| 05:00 PM | 1 | 0 | 0 | 0 | 0 | 124 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 115 | 0 | 9 | 252 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 3 | 1 | 0 | 2 | 1 | 0 | 112 | 0 | 4 | 278 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 100 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 127 | 0 | 6 | 235 |
| 05:45 PM | 0 | 0 | 0 | 0 | 1 | 94 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 2 | 204 |
| Total | 1 | 0 | 0 | 0 | 1 | 473 | 1 | 8 | 2 | 0 | 2 | 1 | 1 | 458 | 0 | 21 | 969 |
| Grand Total | 17 | 3 | 68 | 71 | 61 | 5035 | 151 | 622 | 159 | 5 | 65 | 169 | 69 | 5227 | 17 | 467 | 12206 |
| Apprch % | 10.7 | 1.9 | 42.8 | 44.7 | 1.0 | 85.8 | 2.6 | 10.6 | 39.9 | 1.3 | 16.3 | 42.5 | 1.2 | 90.4 | 0.3 | 8.1 | |
| Total % | 0.1 | 0.0 | 0.6 | 0.6 | 0.5 | 41.3 | 1.2 | 5.1 | 1.3 | 0.0 | 0.5 | 1.4 | 0.6 | 42.8 | 0.1 | 3.8 | |



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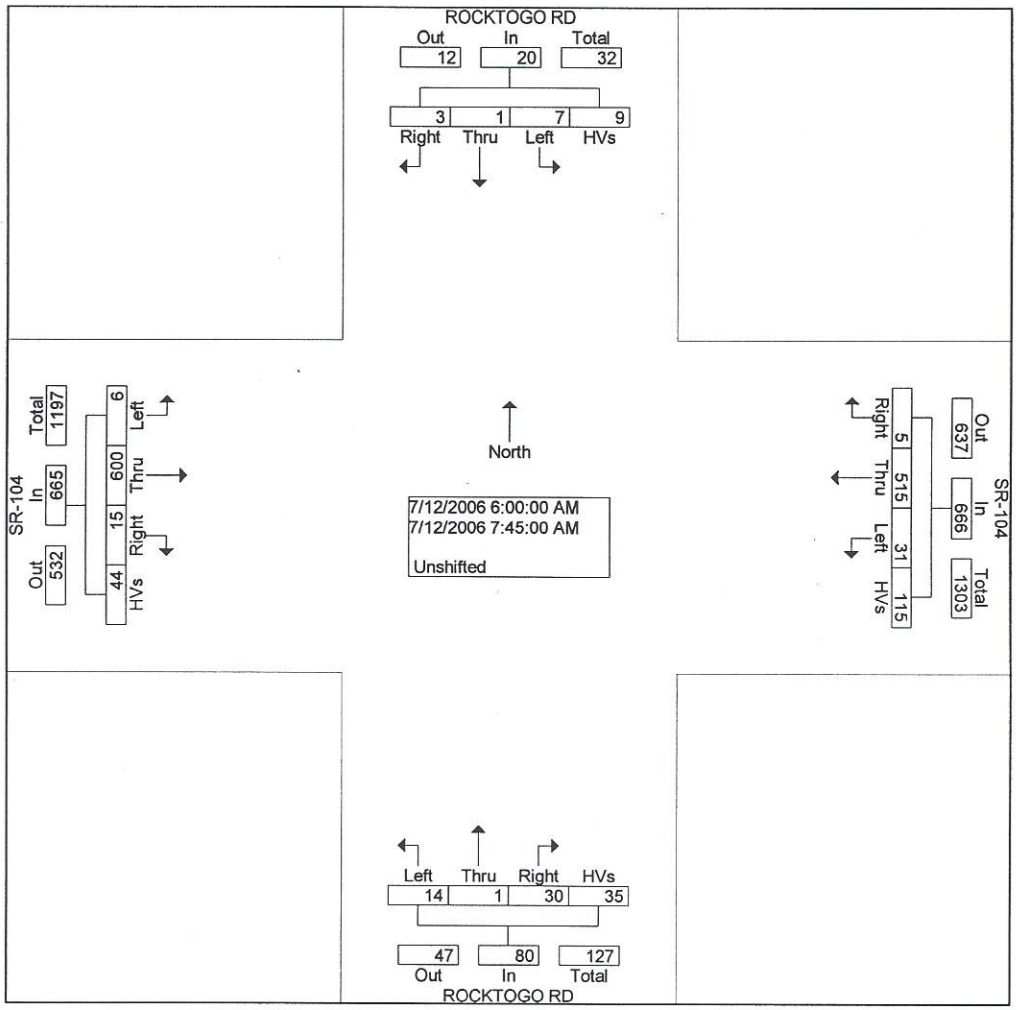
Site Code : 00002642
Start Date : 07/12/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:00 AM | 0 | 0 | 1 | 1 | 0 | 43 | 2 | 8 | 3 | 0 | 1 | 3 | 7 | 71 | 0 | 8 | 148 |
| 06:15 AM | 1 | 0 | 1 | 1 | 0 | 44 | 7 | 11 | 4 | 0 | 2 | 5 | 2 | 76 | 1 | 5 | 160 |
| 06:30 AM | 0 | 0 | 0 | 0 | 0 | 75 | 2 | 16 | 3 | 1 | 2 | 6 | 0 | 62 | 2 | 1 | 170 |
| 06:45 AM | 0 | 1 | 1 | 2 | 0 | 68 | 1 | 11 | 6 | 0 | 2 | 6 | 0 | 61 | 1 | 5 | 165 |
| Total | 1 | 1 | 3 | 4 | 0 | 230 | 12 | 46 | 16 | 1 | 7 | 20 | 9 | 270 | 4 | 19 | 643 |
| 07:00 AM | 1 | 0 | 0 | 1 | 0 | 52 | 1 | 9 | 5 | 0 | 0 | 4 | 0 | 63 | 0 | 2 | 138 |
| 07:15 AM | 0 | 0 | 0 | 0 | 2 | 76 | 2 | 16 | 1 | 0 | 0 | 1 | 5 | 86 | 1 | 11 | 201 |
| 07:30 AM | 0 | 0 | 3 | 2 | 3 | 65 | 9 | 20 | 1 | 0 | 4 | 2 | 0 | 101 | 0 | 8 | 218 |
| 07:45 AM | 1 | 0 | 1 | 2 | 0 | 92 | 7 | 24 | 7 | 0 | 3 | 8 | 1 | 80 | 1 | 4 | 231 |
| Total | 2 | 0 | 4 | 5 | 5 | 285 | 19 | 69 | 14 | 0 | 7 | 15 | 6 | 330 | 2 | 25 | 788 |
| Grand Total | 3 | 1 | 7 | 9 | 5 | 515 | 31 | 115 | 30 | 1 | 14 | 35 | 15 | 600 | 6 | 44 | 1431 |
| Apprch % | 15.0 | 5.0 | 35.0 | 45.0 | 0.8 | 77.3 | 4.7 | 17.3 | 37.5 | 1.3 | 17.5 | 43.8 | 2.3 | 90.2 | 0.9 | 6.6 | |
| Total % | 0.2 | 0.1 | 0.5 | 0.6 | 0.3 | 36.0 | 2.2 | 8.0 | 2.1 | 0.1 | 1.0 | 2.4 | 1.0 | 41.9 | 0.4 | 3.1 | |



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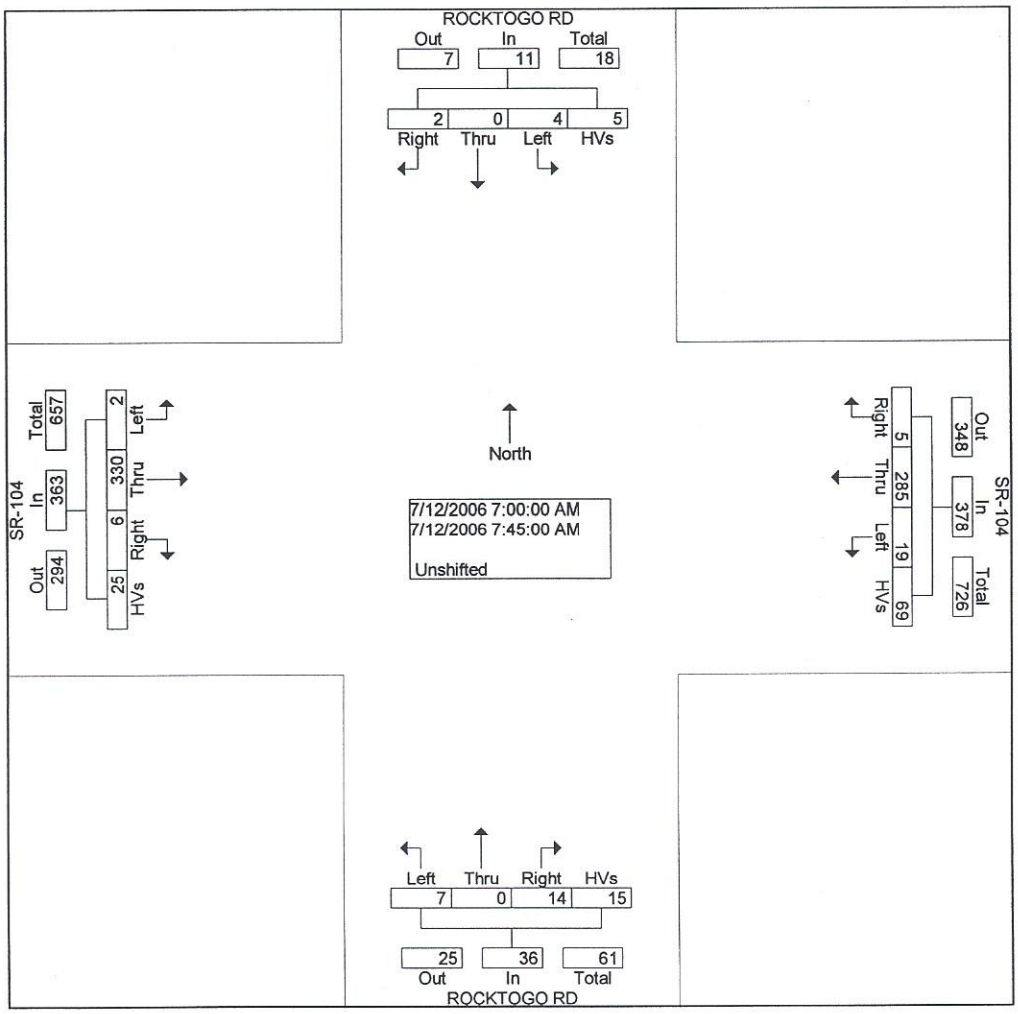
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 06:00 AM to 07:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 07:00 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 4 | 5 | 11 | 5 | 285 | 19 | 69 | 378 | 14 | 0 | 7 | 15 | 36 | 6 | 330 | 2 | 25 | 363 | 788 |
| Percent | 18.2 | 0.0 | 36.4 | 45.5 | | 1.3 | 75.4 | 5.0 | 18.3 | | 38.9 | 0.0 | 19.4 | 41.7 | | 1.7 | 90.9 | 0.6 | 6.9 | | |
| 07:45 Volume | 1 | 0 | 1 | 2 | 4 | 0 | 92 | 7 | 24 | 123 | 7 | 0 | 3 | 8 | 18 | 1 | 80 | 1 | 4 | 86 | 231 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.853 |
| High Int. | 07:30 AM | | | | | 07:45 AM | | | | | 07:45 AM | | | | | 07:30 AM | | | | | |
| Volume | 0 | 0 | 3 | 2 | 5 | 0 | 92 | 7 | 24 | 123 | 7 | 0 | 3 | 8 | 18 | 0 | 101 | 0 | 8 | 109 | |
| Peak Factor | | | | | 0.550 | | | | | 0.768 | | | | | 0.500 | | | | | 0.833 | |



Heath & Associates Inc.
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Puyallup, WA 98371

File Name : 2642b
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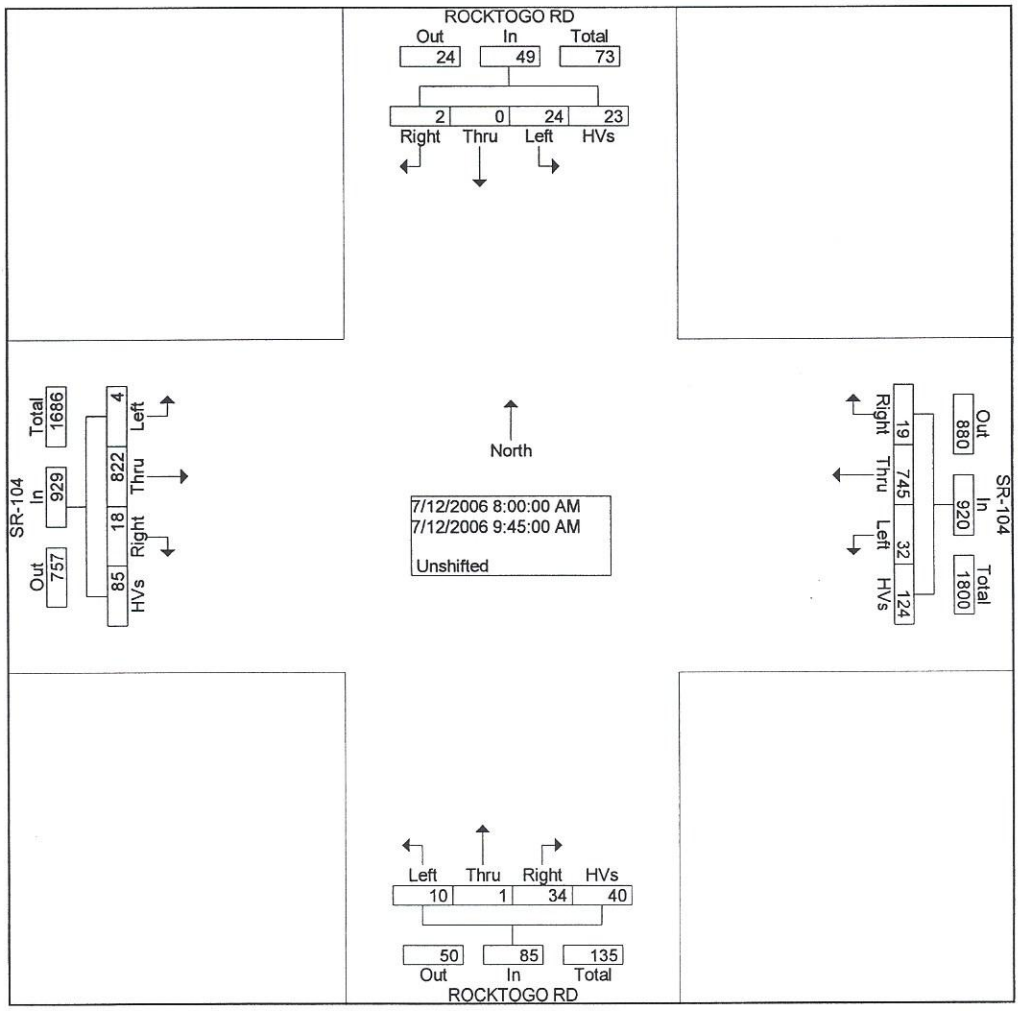
Start Date : 07/12/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 08:00 AM | 0 | 0 | 3 | 3 | 3 | 98 | 4 | 15 | 7 | 0 | 0 | 7 | 3 | 82 | 0 | 10 | 235 |
| 08:15 AM | 0 | 0 | 3 | 3 | 1 | 94 | 2 | 16 | 2 | 0 | 3 | 1 | 2 | 114 | 1 | 17 | 259 |
| 08:30 AM | 0 | 0 | 1 | 1 | 2 | 95 | 4 | 13 | 4 | 1 | 0 | 5 | 0 | 114 | 0 | 7 | 247 |
| 08:45 AM | 0 | 0 | 5 | 5 | 1 | 84 | 4 | 15 | 6 | 0 | 1 | 6 | 6 | 97 | 2 | 11 | 243 |
| Total | 0 | 0 | 12 | 12 | 7 | 371 | 14 | 59 | 19 | 1 | 4 | 19 | 11 | 407 | 3 | 45 | 984 |
| 09:00 AM | 1 | 0 | 5 | 3 | 4 | 98 | 3 | 14 | 5 | 0 | 3 | 8 | 1 | 104 | 1 | 8 | 258 |
| 09:15 AM | 1 | 0 | 2 | 3 | 2 | 85 | 2 | 12 | 1 | 0 | 2 | 3 | 4 | 97 | 0 | 9 | 223 |
| 09:30 AM | 0 | 0 | 3 | 3 | 5 | 94 | 7 | 24 | 5 | 0 | 1 | 6 | 0 | 108 | 0 | 10 | 266 |
| 09:45 AM | 0 | 0 | 2 | 2 | 1 | 97 | 6 | 15 | 4 | 0 | 0 | 4 | 2 | 106 | 0 | 13 | 252 |
| Total | 2 | 0 | 12 | 11 | 12 | 374 | 18 | 65 | 15 | 0 | 6 | 21 | 7 | 415 | 1 | 40 | 999 |
| Grand Total | 2 | 0 | 24 | 23 | 19 | 745 | 32 | 124 | 34 | 1 | 10 | 40 | 18 | 822 | 4 | 85 | 1983 |
| Apprch % | 4.1 | 0.0 | 49.0 | 46.9 | 2.1 | 81.0 | 3.5 | 13.5 | 40.0 | 1.2 | 11.8 | 47.1 | 1.9 | 88.5 | 0.4 | 9.1 | |
| Total % | 0.1 | 0.0 | 1.2 | 1.2 | 1.0 | 37.6 | 1.6 | 6.3 | 1.7 | 0.1 | 0.5 | 2.0 | 0.9 | 41.5 | 0.2 | 4.3 | |



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Puyallup, WA 98371

File Name : 2642b
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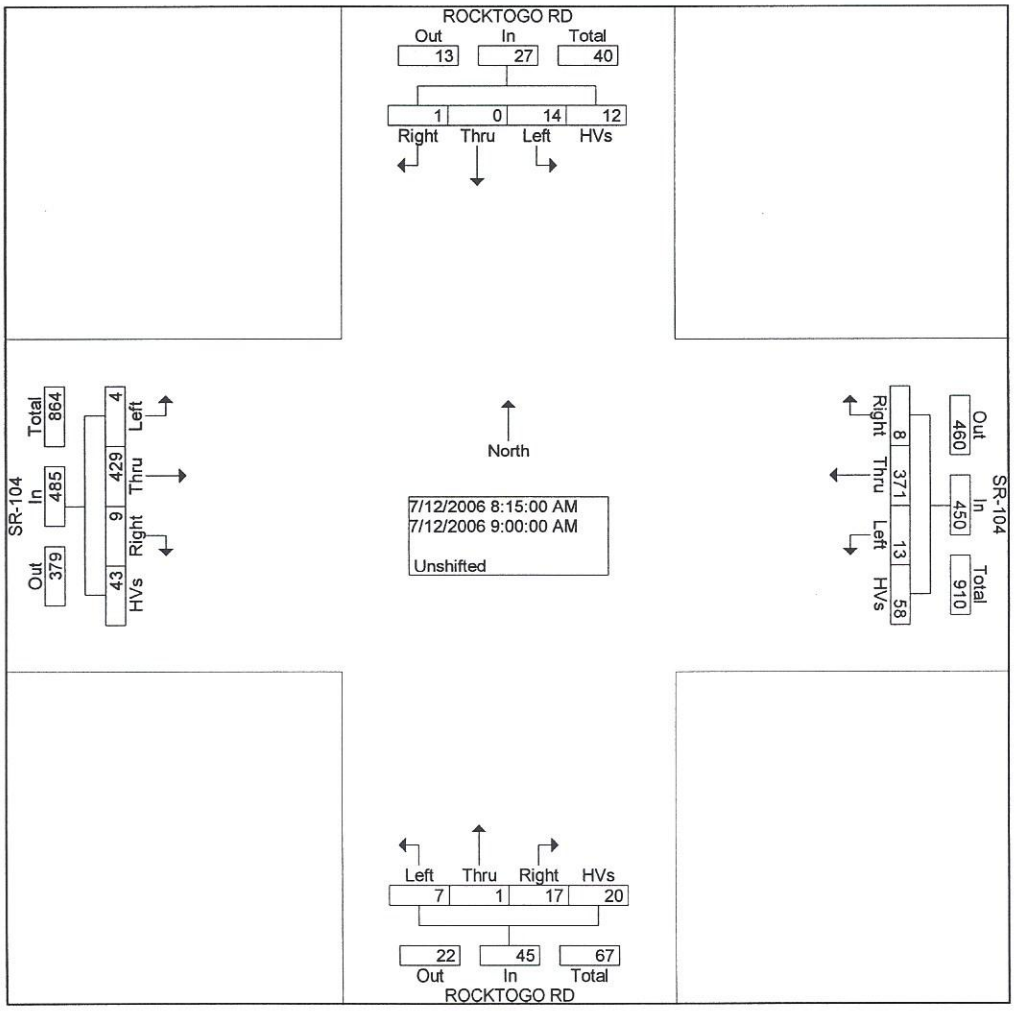
Start Date : 07/12/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 08:00 AM to 09:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 08:15 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 1 | 0 | 14 | 12 | 27 | 8 | 371 | 13 | 58 | 450 | 17 | 1 | 7 | 20 | 45 | 9 | 429 | 4 | 43 | 485 | 1007 |
| Percent | 3.7 | 0.0 | 51.9 | 44.4 | | 1.8 | 82.4 | 2.9 | 12.9 | | 37.8 | 2.2 | 15.6 | 44.4 | | 1.9 | 88.5 | 0.8 | 8.9 | | |
| 08:15 Volume | 0 | 0 | 3 | 3 | 6 | 1 | 94 | 2 | 16 | 113 | 2 | 0 | 3 | 1 | 6 | 2 | 114 | 1 | 17 | 134 | 259 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.972 |
| High Int. | 08:45 AM | | | | | 09:00 AM | | | | | 09:00 AM | | | | | 08:15 AM | | | | | |
| Volume | 0 | 0 | 5 | 5 | 10 | 4 | 98 | 3 | 14 | 119 | 5 | 0 | 3 | 8 | 16 | 2 | 114 | 1 | 17 | 134 | |
| Peak Factor | | | | | 0.675 | | | | | 0.945 | | | | | 0.703 | | | | | 0.905 | |



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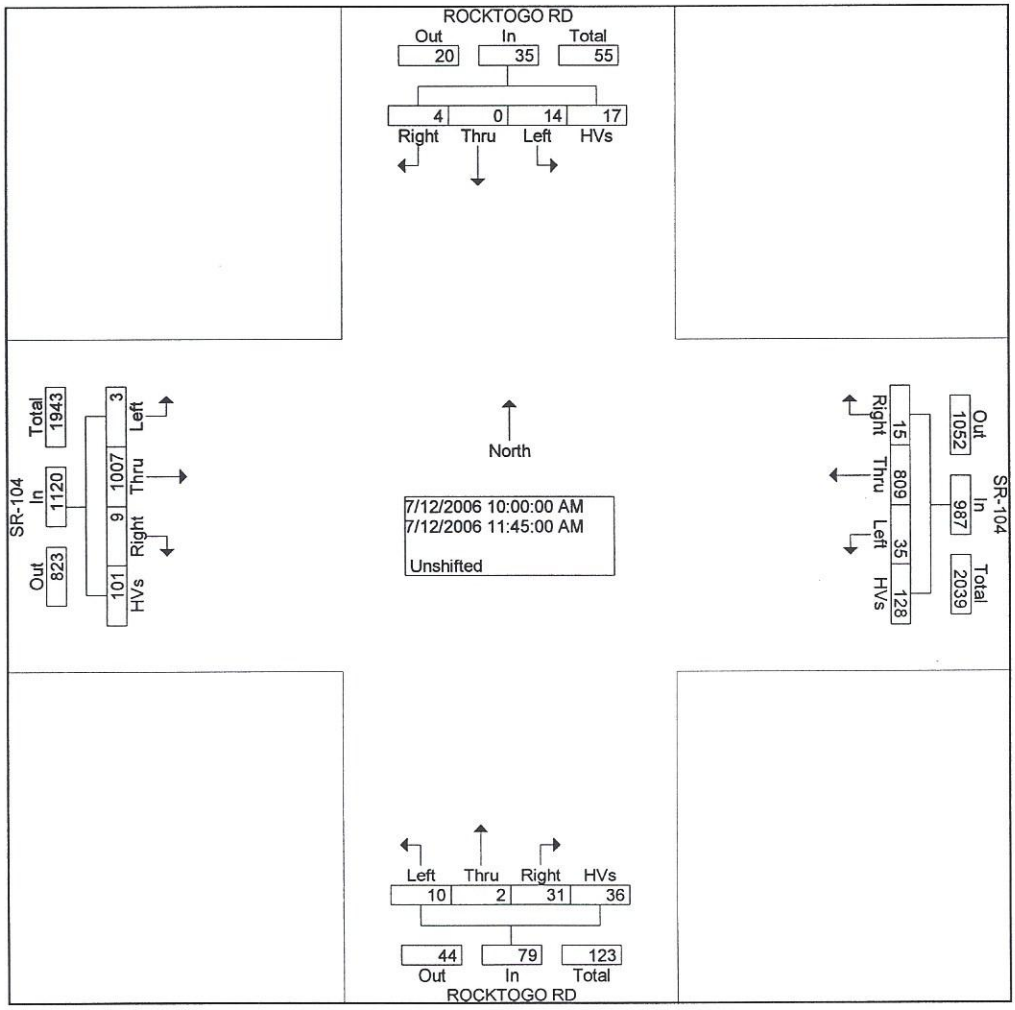
Puyallup, WA 98371

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 10:00 AM | 0 | 0 | 2 | 2 | 1 | 90 | 4 | 12 | 3 | 0 | 1 | 4 | 0 | 117 | 0 | 8 | 244 |
| 10:15 AM | 0 | 0 | 0 | 0 | 2 | 112 | 3 | 13 | 4 | 1 | 1 | 6 | 1 | 148 | 0 | 13 | 304 |
| 10:30 AM | 0 | 0 | 2 | 2 | 4 | 87 | 6 | 20 | 6 | 0 | 1 | 5 | 2 | 125 | 1 | 10 | 271 |
| 10:45 AM | 2 | 0 | 4 | 5 | 1 | 121 | 4 | 15 | 4 | 1 | 1 | 3 | 2 | 125 | 0 | 19 | 307 |
| Total | 2 | 0 | 8 | 9 | 8 | 410 | 17 | 60 | 17 | 2 | 4 | 18 | 5 | 515 | 1 | 50 | 1126 |
| 11:00 AM | 0 | 0 | 3 | 3 | 1 | 124 | 4 | 21 | 1 | 0 | 1 | 2 | 2 | 123 | 2 | 12 | 299 |
| 11:15 AM | 2 | 0 | 0 | 2 | 1 | 97 | 7 | 15 | 6 | 0 | 1 | 6 | 0 | 105 | 0 | 8 | 250 |
| 11:30 AM | 0 | 0 | 1 | 1 | 2 | 132 | 6 | 23 | 2 | 0 | 3 | 4 | 1 | 132 | 0 | 23 | 330 |
| 11:45 AM | 0 | 0 | 2 | 2 | 3 | 46 | 1 | 9 | 5 | 0 | 1 | 6 | 1 | 132 | 0 | 8 | 216 |
| Total | 2 | 0 | 6 | 8 | 7 | 399 | 18 | 68 | 14 | 0 | 6 | 18 | 4 | 492 | 2 | 51 | 1095 |
| Grand Total | 4 | 0 | 14 | 17 | 15 | 809 | 35 | 128 | 31 | 2 | 10 | 36 | 9 | 1007 | 3 | 101 | 2221 |
| Apprch % | 11.4 | 0.0 | 40.0 | 48.6 | 1.5 | 82.0 | 3.5 | 13.0 | 39.2 | 2.5 | 12.7 | 45.6 | 0.8 | 89.9 | 0.3 | 9.0 | |
| Total % | 0.2 | 0.0 | 0.6 | 0.8 | 0.7 | 36.4 | 1.6 | 5.8 | 1.4 | 0.1 | 0.5 | 1.6 | 0.4 | 45.3 | 0.1 | 4.5 | |



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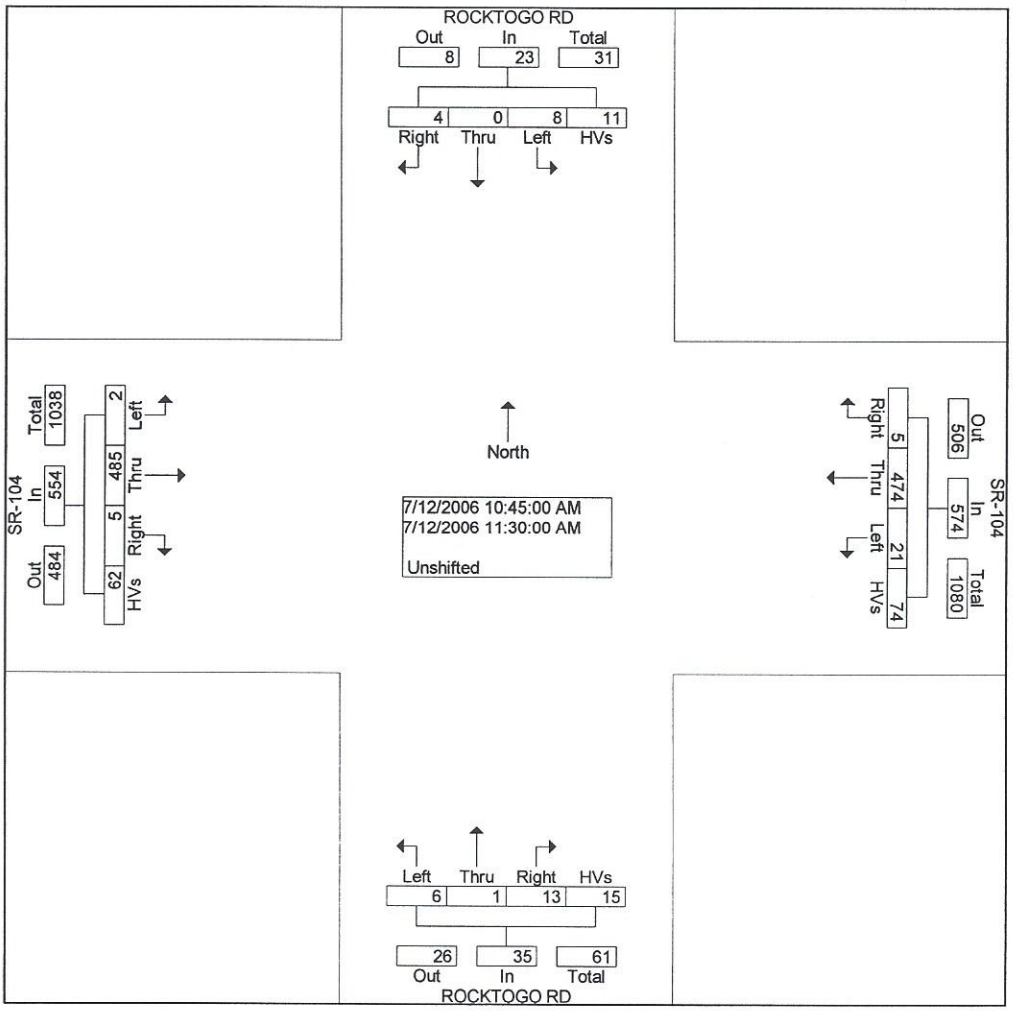
Puyallup, WA 98371

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 10:00 AM to 11:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 10:45 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 4 | 0 | 8 | 11 | 23 | 5 | 474 | 21 | 74 | 574 | 13 | 1 | 6 | 15 | 35 | 5 | 485 | 2 | 62 | 554 | 1186 |
| Percent | 17.4 | 0.0 | 34.8 | 47.8 | | 0.9 | 82.6 | 3.7 | 12.9 | | 37.1 | 2.9 | 17.1 | 42.9 | | 0.9 | 87.5 | 0.4 | 11.2 | | |
| 11:30 Volume | 0 | 0 | 1 | 1 | 2 | 2 | 132 | 6 | 23 | 163 | 2 | 0 | 3 | 4 | 9 | 1 | 132 | 0 | 23 | 156 | 330 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.898 |
| High Int. | 10:45 AM | | | | | 11:30 AM | | | | | 11:15 AM | | | | | 11:30 AM | | | | | |
| Volume | 2 | 0 | 4 | 5 | 11 | 2 | 132 | 6 | 23 | 163 | 6 | 0 | 1 | 6 | 13 | 1 | 132 | 0 | 23 | 156 | |
| Peak Factor | | | | | 0.523 | | | | | 0.880 | | | | | 0.673 | | | | | 0.888 | |



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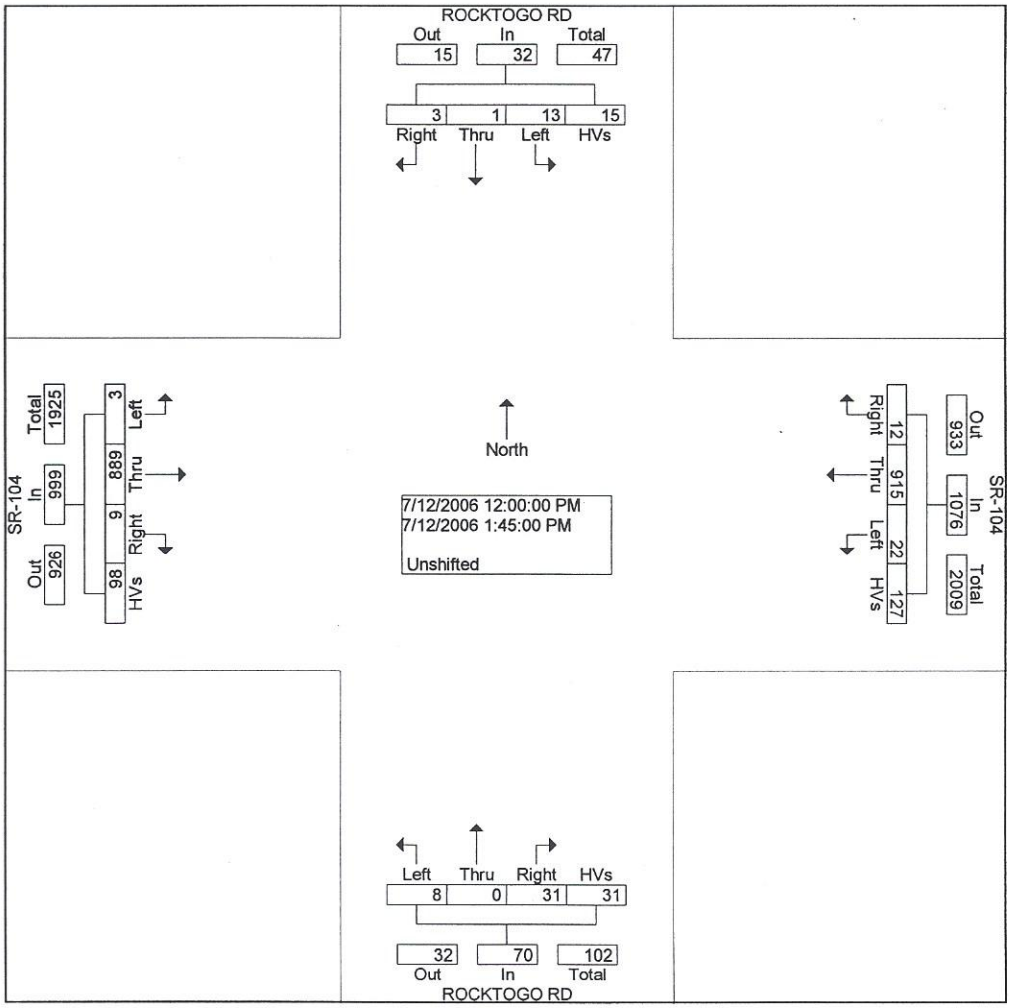
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 12:00 PM | 0 | 0 | 3 | 2 | 1 | 30 | 0 | 3 | 3 | 0 | 2 | 2 | 0 | 112 | 0 | 5 | 163 |
| 12:15 PM | 0 | 0 | 0 | 0 | 1 | 194 | 3 | 23 | 0 | 0 | 0 | 0 | 1 | 115 | 0 | 13 | 350 |
| 12:30 PM | 0 | 0 | 2 | 2 | 4 | 135 | 3 | 22 | 6 | 0 | 1 | 5 | 1 | 118 | 0 | 19 | 318 |
| 12:45 PM | 0 | 1 | 2 | 2 | 1 | 122 | 2 | 19 | 5 | 0 | 1 | 4 | 2 | 84 | 1 | 9 | 255 |
| Total | 0 | 1 | 7 | 6 | 7 | 481 | 8 | 67 | 14 | 0 | 4 | 11 | 4 | 429 | 1 | 46 | 1086 |
| 01:00 PM | 1 | 0 | 4 | 5 | 1 | 109 | 4 | 19 | 2 | 0 | 1 | 3 | 2 | 110 | 2 | 13 | 276 |
| 01:15 PM | 2 | 0 | 1 | 3 | 1 | 96 | 7 | 13 | 6 | 0 | 1 | 6 | 0 | 106 | 0 | 14 | 256 |
| 01:30 PM | 0 | 0 | 0 | 0 | 2 | 123 | 2 | 17 | 6 | 0 | 1 | 7 | 1 | 123 | 0 | 11 | 293 |
| 01:45 PM | 0 | 0 | 1 | 1 | 1 | 106 | 1 | 11 | 3 | 0 | 1 | 4 | 2 | 121 | 0 | 14 | 266 |
| Total | 3 | 0 | 6 | 9 | 5 | 434 | 14 | 60 | 17 | 0 | 4 | 20 | 5 | 460 | 2 | 52 | 1091 |
| Grand Total | 3 | 1 | 13 | 15 | 12 | 915 | 22 | 127 | 31 | 0 | 8 | 31 | 9 | 889 | 3 | 98 | 2177 |
| Apprch % | 9.4 | 3.1 | 40.6 | 46.9 | 1.1 | 85.0 | 2.0 | 11.8 | 44.3 | 0.0 | 11.4 | 44.3 | 0.9 | 89.0 | 0.3 | 9.8 | |
| Total % | 0.1 | 0.0 | 0.6 | 0.7 | 0.6 | 42.0 | 1.0 | 5.8 | 1.4 | 0.0 | 0.4 | 1.4 | 0.4 | 40.8 | 0.1 | 4.5 | |



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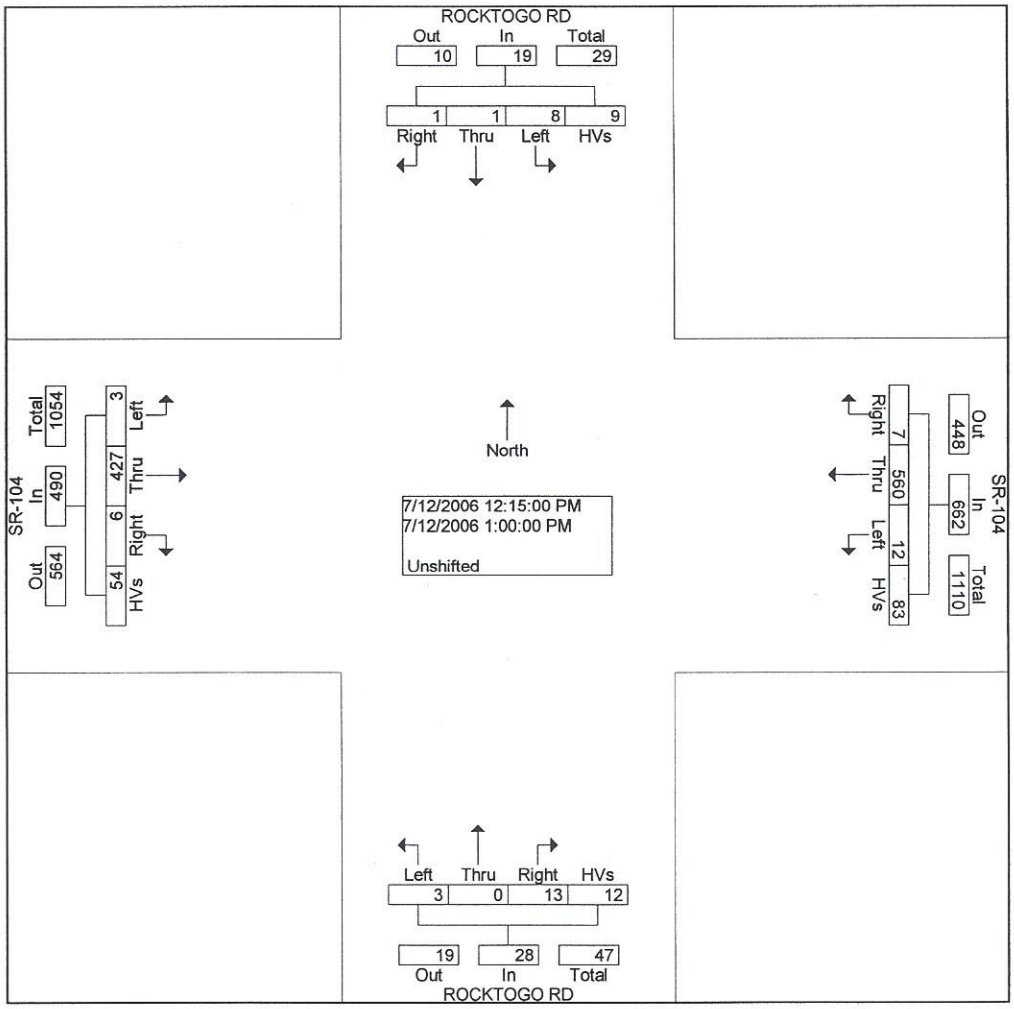
Puyallup, WA 98371

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 12:00 PM to 01:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 12:15 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 1 | 1 | 8 | 9 | 19 | 7 | 560 | 12 | 83 | 662 | 13 | 0 | 3 | 12 | 28 | 6 | 427 | 3 | 54 | 490 | 1199 |
| Percent | 5.3 | 5.3 | 42.1 | 47.4 | | 1.1 | 84.6 | 1.8 | 12.5 | | 46.4 | 0.0 | 10.7 | 42.9 | | 1.2 | 87.1 | 0.6 | 11.0 | | |
| 12:15 Volume | 0 | 0 | 0 | 0 | 0 | 1 | 194 | 3 | 23 | 221 | 0 | 0 | 0 | 0 | 0 | 1 | 115 | 0 | 13 | 129 | 350 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.856 |
| High Int. | 01:00 PM | | | | | 12:15 PM | | | | | 12:30 PM | | | | | 12:30 PM | | | | | |
| Volume | 1 | 0 | 4 | 5 | 10 | 1 | 194 | 3 | 23 | 221 | 6 | 0 | 1 | 5 | 12 | 1 | 118 | 0 | 19 | 138 | |
| Peak Factor | | | | | 0.475 | | | | | 0.749 | | | | | 0.583 | | | | | 0.888 | |



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File Name : 2642b
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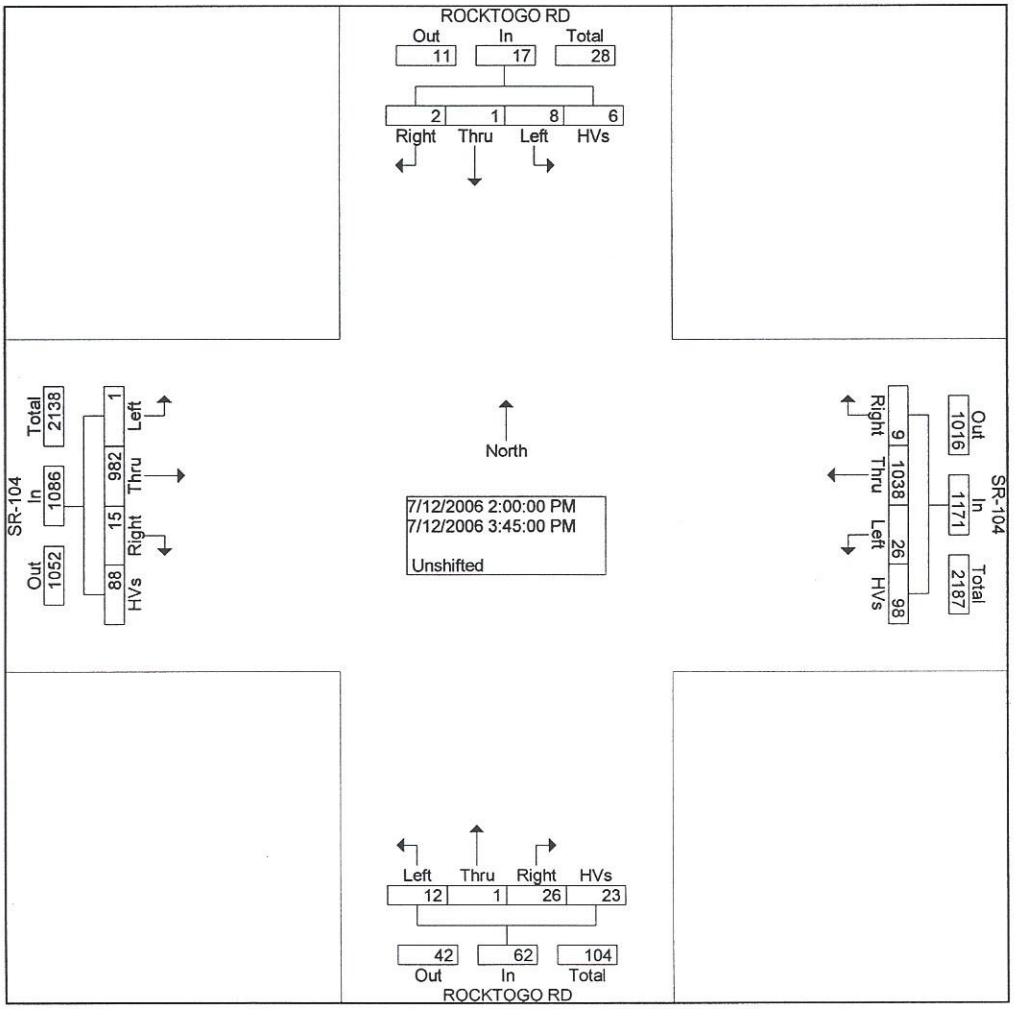
Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 02:00 PM | 0 | 0 | 2 | 1 | 3 | 93 | 2 | 14 | 2 | 0 | 0 | 2 | 2 | 120 | 0 | 9 | 250 |
| 02:15 PM | 0 | 0 | 3 | 3 | 1 | 145 | 6 | 15 | 2 | 0 | 3 | 4 | 2 | 109 | 0 | 9 | 302 |
| 02:30 PM | 0 | 1 | 0 | 1 | 2 | 133 | 3 | 10 | 9 | 0 | 2 | 6 | 1 | 123 | 0 | 13 | 304 |
| 02:45 PM | 0 | 0 | 1 | 0 | 0 | 110 | 2 | 12 | 3 | 1 | 1 | 1 | 2 | 125 | 0 | 16 | 274 |
| Total | 0 | 1 | 6 | 5 | 6 | 481 | 13 | 51 | 16 | 1 | 6 | 13 | 7 | 477 | 0 | 47 | 1130 |
| 03:00 PM | 1 | 0 | 1 | 1 | 0 | 115 | 2 | 7 | 2 | 0 | 3 | 5 | 0 | 129 | 0 | 8 | 274 |
| 03:15 PM | 1 | 0 | 0 | 0 | 2 | 177 | 6 | 20 | 1 | 0 | 0 | 0 | 3 | 124 | 0 | 9 | 343 |
| 03:30 PM | 0 | 0 | 1 | 0 | 0 | 119 | 3 | 8 | 4 | 0 | 1 | 3 | 2 | 116 | 1 | 11 | 269 |
| 03:45 PM | 0 | 0 | 0 | 0 | 1 | 146 | 2 | 12 | 3 | 0 | 2 | 2 | 3 | 136 | 0 | 13 | 320 |
| Total | 2 | 0 | 2 | 1 | 3 | 557 | 13 | 47 | 10 | 0 | 6 | 10 | 8 | 505 | 1 | 41 | 1206 |
| Grand Total | 2 | 1 | 8 | 6 | 9 | 1038 | 26 | 98 | 26 | 1 | 12 | 23 | 15 | 982 | 1 | 88 | 2336 |
| Apprch % | 11.8 | 5.9 | 47.1 | 35.3 | 0.8 | 88.6 | 2.2 | 8.4 | 41.9 | 1.6 | 19.4 | 37.1 | 1.4 | 90.4 | 0.1 | 8.1 | |
| Total % | 0.1 | 0.0 | 0.3 | 0.3 | 0.4 | 44.4 | 1.1 | 4.2 | 1.1 | 0.0 | 0.5 | 1.0 | 0.6 | 42.0 | 0.0 | 3.8 | |



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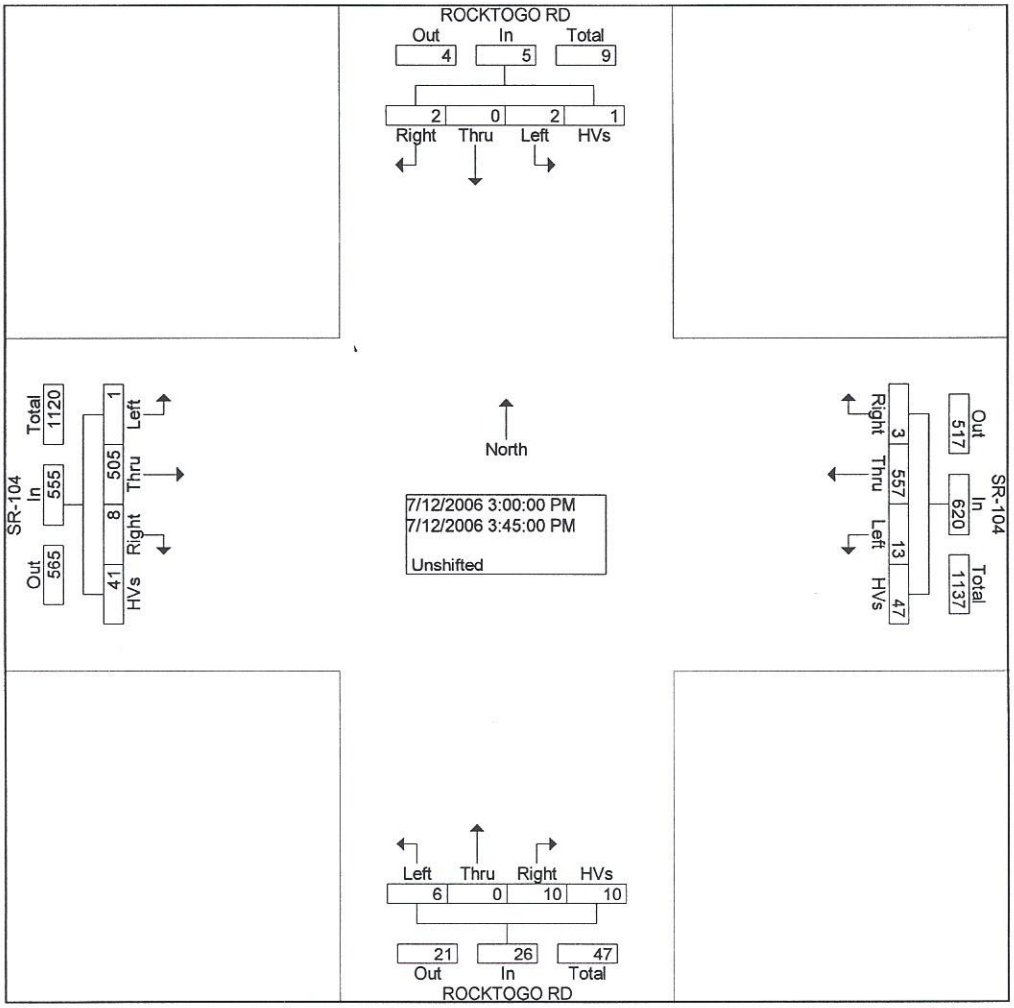
| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 03:00 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 2 | 1 | 5 | 3 | 557 | 13 | 47 | 620 | 10 | 0 | 6 | 10 | 26 | 8 | 505 | 1 | 41 | 555 | 1206 |
| Percent | 40.0 | 0.0 | 40.0 | 20.0 | | 0.5 | 89.8 | 2.1 | 7.6 | | 38.5 | 0.0 | 23.1 | 38.5 | | 1.4 | 91.0 | 0.2 | 7.4 | | |
| 03:15 Volume | 1 | 0 | 0 | 0 | 1 | 2 | 177 | 6 | 20 | 205 | 1 | 0 | 0 | 0 | 1 | 3 | 124 | 0 | 9 | 136 | 343 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.879 |
| High Int. | 03:00 PM | | | | | 03:15 PM | | | | | 03:00 PM | | | | | 03:45 PM | | | | | |
| Volume | 1 | 0 | 1 | 1 | 3 | 2 | 177 | 6 | 20 | 205 | 2 | 0 | 3 | 5 | 10 | 3 | 136 | 0 | 13 | 152 | |
| Peak Factor | | | | | 0.417 | | | | | 0.756 | | | | | 0.650 | | | | | 0.913 | |



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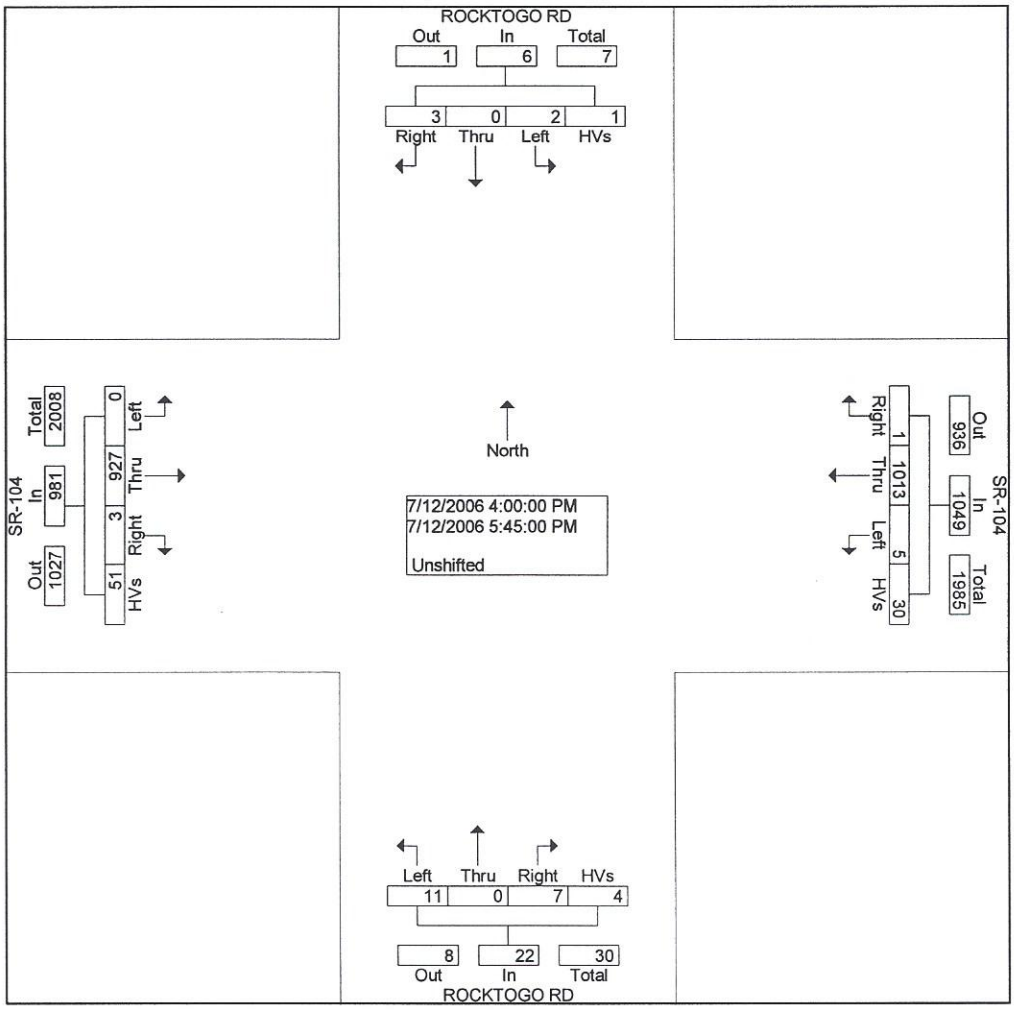
Groups Printed- Unshifted

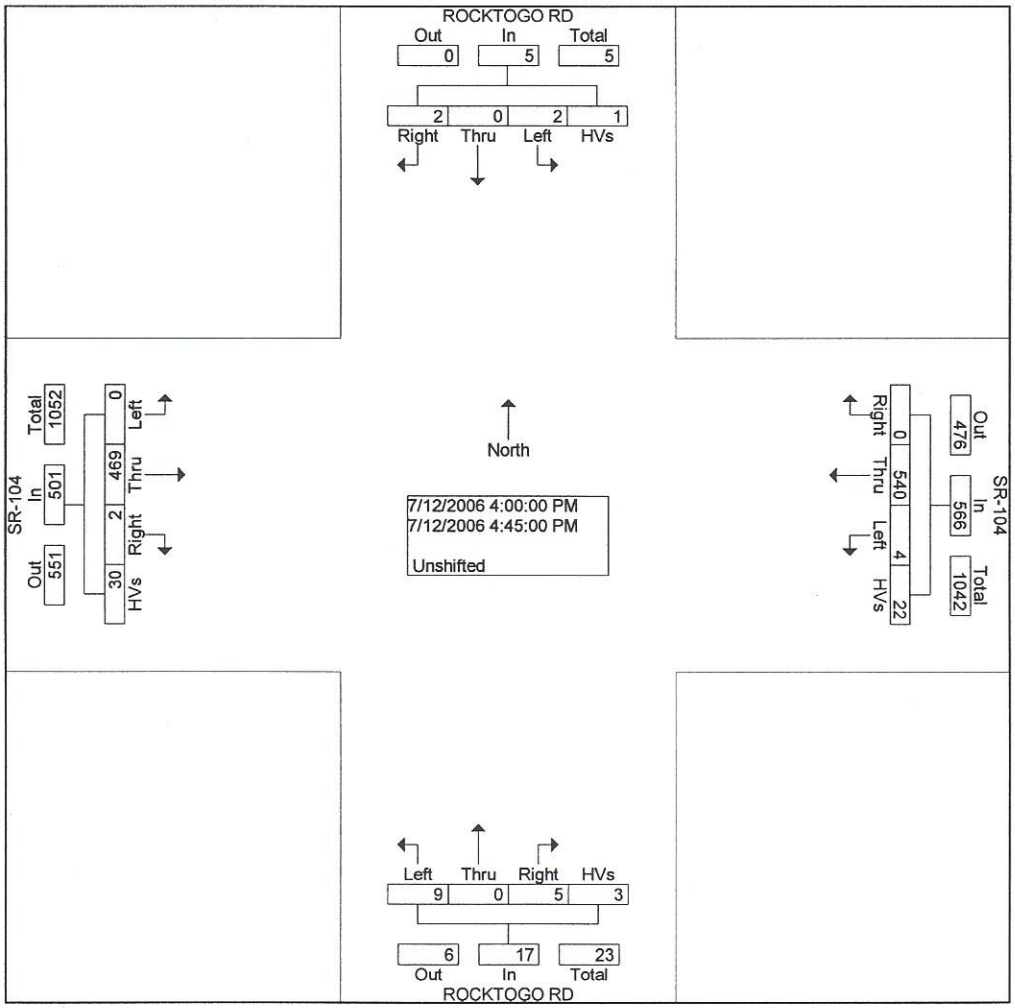
| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCKTOGO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 1 | 0 | 2 | 1 | 0 | 132 | 1 | 6 | 3 | 0 | 5 | 2 | 1 | 104 | 0 | 9 | 267 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 129 | 2 | 8 | 1 | 0 | 2 | 1 | 0 | 117 | 0 | 5 | 265 |
| 04:30 PM | 1 | 0 | 0 | 0 | 0 | 145 | 0 | 5 | 0 | 0 | 1 | 0 | 1 | 124 | 0 | 12 | 289 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 134 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 124 | 0 | 4 | 268 |
| Total | 2 | 0 | 2 | 1 | 0 | 540 | 4 | 22 | 5 | 0 | 9 | 3 | 2 | 469 | 0 | 30 | 1089 |
| 05:00 PM | 1 | 0 | 0 | 0 | 0 | 124 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 115 | 0 | 9 | 252 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 155 | 0 | 3 | 1 | 0 | 2 | 1 | 0 | 112 | 0 | 4 | 278 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 100 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 127 | 0 | 6 | 235 |
| 05:45 PM | 0 | 0 | 0 | 0 | 1 | 94 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 2 | 204 |
| Total | 1 | 0 | 0 | 0 | 1 | 473 | 1 | 8 | 2 | 0 | 2 | 1 | 1 | 458 | 0 | 21 | 969 |
| Grand Total | 3 | 0 | 2 | 1 | 1 | 1013 | 5 | 30 | 7 | 0 | 11 | 4 | 3 | 927 | 0 | 51 | 2058 |
| Apprch % | 50.0 | 0.0 | 33.3 | 16.7 | 0.1 | 96.6 | 0.5 | 2.9 | 31.8 | 0.0 | 50.0 | 18.2 | 0.3 | 94.5 | 0.0 | 5.2 | |
| Total % | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 49.2 | 0.2 | 1.5 | 0.3 | 0.0 | 0.5 | 0.2 | 0.1 | 45.0 | 0.0 | 2.5 | |



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

File Name : 2642b
Site Code : 00002642
Start Date : 07/12/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCKTOGO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 04:00 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 2 | 1 | 5 | 0 | 540 | 4 | 22 | 566 | 5 | 0 | 9 | 3 | 17 | 2 | 469 | 0 | 30 | 501 | 1089 |
| Percent | 40.0 | 0.0 | 40.0 | 20.0 | | 0.0 | 95.4 | 0.7 | 3.9 | | 29.4 | 0.0 | 52.9 | 17.6 | | 0.4 | 93.6 | 0.0 | 6.0 | | |
| 04:30 Volume | 1 | 0 | 0 | 0 | 1 | 0 | 145 | 0 | 5 | 150 | 0 | 0 | 1 | 0 | 1 | 1 | 124 | 0 | 12 | 137 | 289 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.942 |
| High Int. | 04:00 PM | | | | | 04:30 PM | | | | | 04:00 PM | | | | | 04:30 PM | | | | | |
| Volume | 1 | 0 | 2 | 1 | 4 | 0 | 145 | 0 | 5 | 150 | 3 | 0 | 5 | 2 | 10 | 1 | 124 | 0 | 12 | 137 | |
| Peak Factor | | | | | 0.313 | | | | | 0.943 | | | | | 0.425 | | | | | 0.914 | |



# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/12/06; 6 AM - 8 AM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 1*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 2 | 330 | 6 | 19 | 285 | 5 |
| Peak-hour factor, PHF | 0.83 | 0.83 | 0.83 | 0.76 | 0.76 | 0.76 |
| Hourly Flow Rate (veh/h) | 2 | 397 | 7 | 25 | 375 | 6 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 7 | 0 | 14 | 4 | 0 | 2 |
| Peak-hour factor, PHF | 0.50 | 0.50 | 0.50 | 0.55 | 0.55 | 0.55 |
| Hourly Flow Rate (veh/h) | 14 | 0 | 28 | 7 | 0 | 3 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 2 | 25 | | 42 | | | 10 | |
| Capacity, $c_m$ (vph) | 853 | 850 | | 348 | | | 237 | |
| v/c ratio | 0.00 | 0.03 | | 0.12 | | | 0.04 | |
| Queue length (95%) | 0.01 | 0.09 | | 0.41 | | | 0.13 | |
| Control Delay (s/veh) | 9.2 | 9.4 | | 16.8 | | | 20.9 | |
| LOS | A | A | | C | | | C | |
| Approach delay (s/veh) | -- | -- | 16.8 | | | 20.9 | | |
| Approach LOS | -- | -- | C | | | C | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/12/06; 8 AM - 10 AM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 2*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 4 | 429 | 9 | 13 | 371 | 8 |
| Peak-hour factor, PHF | 0.90 | 0.90 | 0.90 | 0.94 | 0.94 | 0.94 |
| Hourly Flow Rate (veh/h) | 4 | 476 | 10 | 13 | 394 | 8 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 7 | 1 | 17 | 14 | 0 | 1 |
| Peak-hour factor, PHF | 0.70 | 0.70 | 0.70 | 0.67 | 0.67 | 0.67 |
| Hourly Flow Rate (veh/h) | 10 | 1 | 24 | 20 | 0 | 1 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 4 | 13 | | 35 | | | 21 | |
| Capacity, $c_m$ (vph) | 836 | 785 | | 317 | | | 175 | |
| v/c ratio | 0.00 | 0.02 | | 0.11 | | | 0.12 | |
| Queue length (95%) | 0.01 | 0.05 | | 0.37 | | | 0.40 | |
| Control Delay (s/veh) | 9.3 | 9.7 | | 17.8 | | | 28.4 | |
| LOS | A | A | | C | | | D | |
| Approach delay (s/veh) | -- | -- | 17.8 | | | 28.4 | | |
| Approach LOS | -- | -- | C | | | D | | |

## TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/12/06; 10 AM - 12 PM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 3*

| | |
|---|---|
| East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road* |
| Intersection Orientation: *East-West* | Study Period (hrs): *0.25* |

### Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 2 | 485 | 5 | 21 | 474 | 5 |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Hourly Flow Rate (veh/h) | 2 | 551 | 5 | 23 | 538 | 5 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 1 | 13 | 8 | 0 | 4 |
| Peak-hour factor, PHF | 0.67 | 0.67 | 0.67 | 0.52 | 0.52 | 0.52 |
| Hourly Flow Rate (veh/h) | 8 | 1 | 19 | 15 | 0 | 7 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

### Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 2 | 23 | | 28 | | | 22 | |
| Capacity, $c_m$ (vph) | 728 | 733 | | 235 | | | 147 | |
| v/c ratio | 0.00 | 0.03 | | 0.12 | | | 0.15 | |
| Queue length (95%) | 0.01 | 0.10 | | 0.40 | | | 0.51 | |
| Control Delay (s/veh) | 10.0 | 10.1 | | 22.4 | | | 33.8 | |
| LOS | A | B | | C | | | D | |
| Approach delay (s/veh) | -- | -- | 22.4 | | | 33.8 | | |
| Approach LOS | -- | -- | C | | | D | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/12/06; 12 PM - 2 PM | | |

Project Description: EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 4

East/West Street: SR-104 | North/South Street: Rock-To-Go Road

Intersection Orientation: East-West | Study Period (hrs): 0.25

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 3 | 427 | 6 | 12 | 560 | 7 |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.74 | 0.74 | 0.74 |
| Hourly Flow Rate (veh/h) | 3 | 485 | 6 | 16 | 756 | 9 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 3 | 0 | 13 | 8 | 1 | 1 |
| Peak-hour factor, PHF | 0.58 | 0.58 | 0.58 | 0.47 | 0.47 | 0.47 |
| Hourly Flow Rate (veh/h) | 5 | 0 | 22 | 17 | 2 | 2 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 3 | 16 | | 27 | | | 21 | |
| Capacity, $c_m$ (vph) | 584 | 781 | | 268 | | | 96 | |
| v/c ratio | 0.01 | 0.02 | | 0.10 | | | 0.22 | |
| Queue length (95%) | 0.02 | 0.06 | | 0.33 | | | 0.78 | |
| Control Delay (s/veh) | 11.2 | 9.7 | | 19.9 | | | 52.7 | |
| LOS | B | A | | C | | | F | |
| Approach delay (s/veh) | -- | -- | 19.9 | | | 52.7 | | |
| Approach LOS | -- | -- | C | | | F | | |

## TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/12/06; 2 PM - 4 PM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 5*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

### Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 1 | 505 | 8 | 13 | 557 | 3 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.75 | 0.75 | 0.75 |
| Hourly Flow Rate (veh/h) | 1 | 554 | 8 | 17 | 742 | 4 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 0 | 10 | 2 | 0 | 2 |
| Peak-hour factor, PHF | 0.65 | 0.65 | 0.65 | 0.41 | 0.41 | 0.41 |
| Hourly Flow Rate (veh/h) | 9 | 0 | 15 | 4 | 0 | 4 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

### Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 1 | 17 | | 24 | | | 8 | |
| Capacity, $c_m$ (vph) | 595 | 729 | | 172 | | | 130 | |
| v/c ratio | 0.00 | 0.02 | | 0.14 | | | 0.06 | |
| Queue length (95%) | 0.01 | 0.07 | | 0.47 | | | 0.19 | |
| Control Delay (s/veh) | 11.1 | 10.1 | | 29.3 | | | 34.5 | |
| LOS | B | B | | D | | | D | |
| Approach delay (s/veh) | -- | -- | 29.3 | | | 34.5 | | |
| Approach LOS | -- | -- | D | | | D | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/12/06; 4 PM - 6 PM | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 1 TIME SLOT 6*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

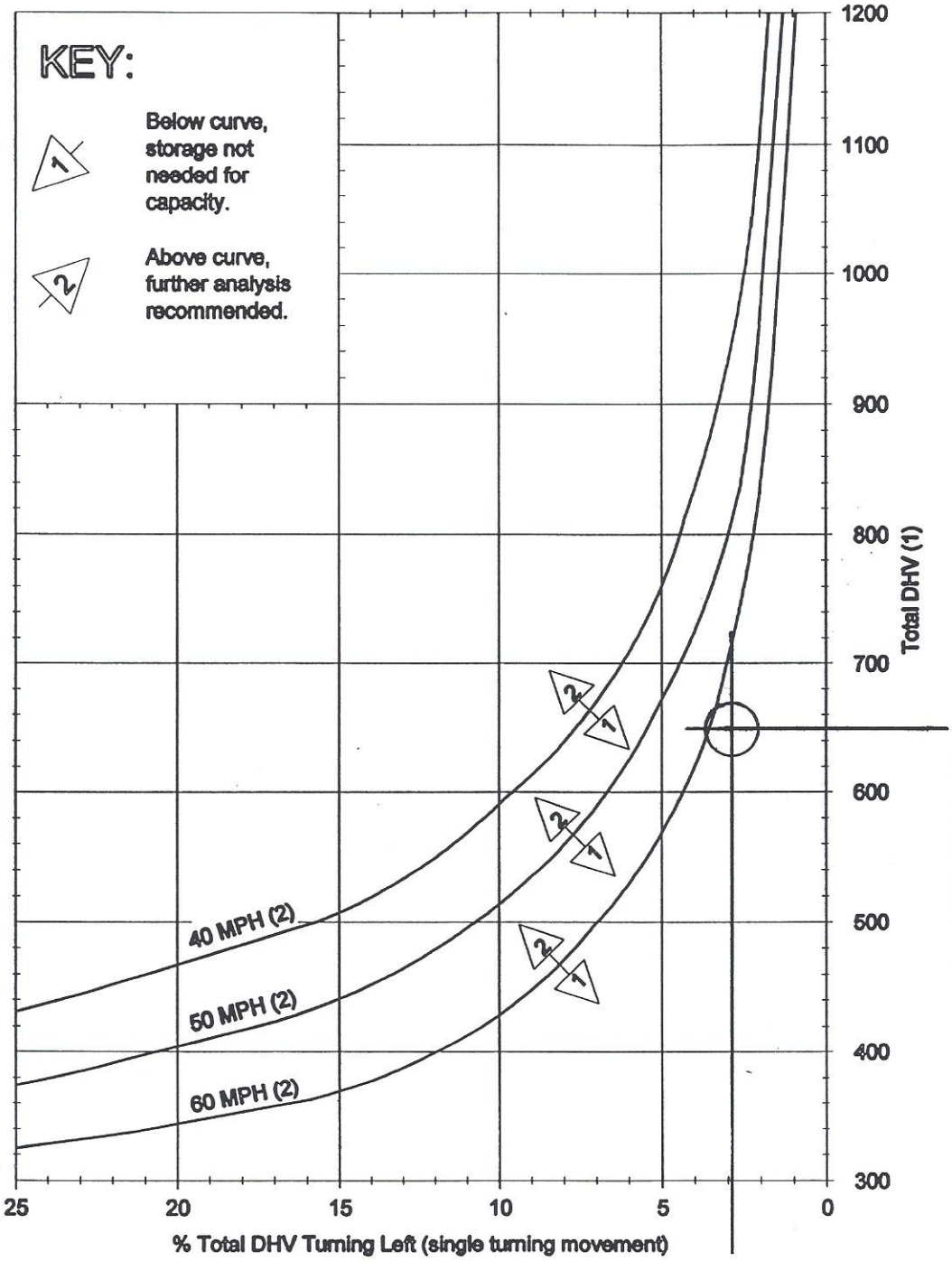
## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 0 | 469 | 2 | 4 | 540 | 0 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.94 | 0.94 | 0.94 |
| Hourly Flow Rate (veh/h) | 0 | 515 | 2 | 4 | 574 | 0 |
| Proportion of heavy vehicles, $P_{HV}$ | 80 | -- | -- | 75 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 9 | 0 | 5 | 2 | 0 | 2 |
| Peak-hour factor, PHF | 0.42 | 0.42 | 0.42 | 0.31 | 0.31 | 0.31 |
| Hourly Flow Rate (veh/h) | 21 | 0 | 11 | 6 | 0 | 6 |
| Proportion of heavy vehicles, $P_{HV}$ | 75 | 75 | 75 | 80 | 80 | 80 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 0 | 4 | | 32 | | | 12 | |
| Capacity, $c_m$ (vph) | 706 | 762 | | 177 | | | 197 | |
| v/c ratio | 0.00 | 0.01 | | 0.18 | | | 0.06 | |
| Queue length (95%) | 0.00 | 0.02 | | 0.64 | | | 0.19 | |
| Control Delay (s/veh) | 10.1 | 9.7 | | 29.8 | | | 24.5 | |
| LOS | B | A | | D | | | C | |
| Approach delay (s/veh) | -- | -- | 29.8 | | | 24.5 | | |
| Approach LOS | -- | -- | D | | | C | | |

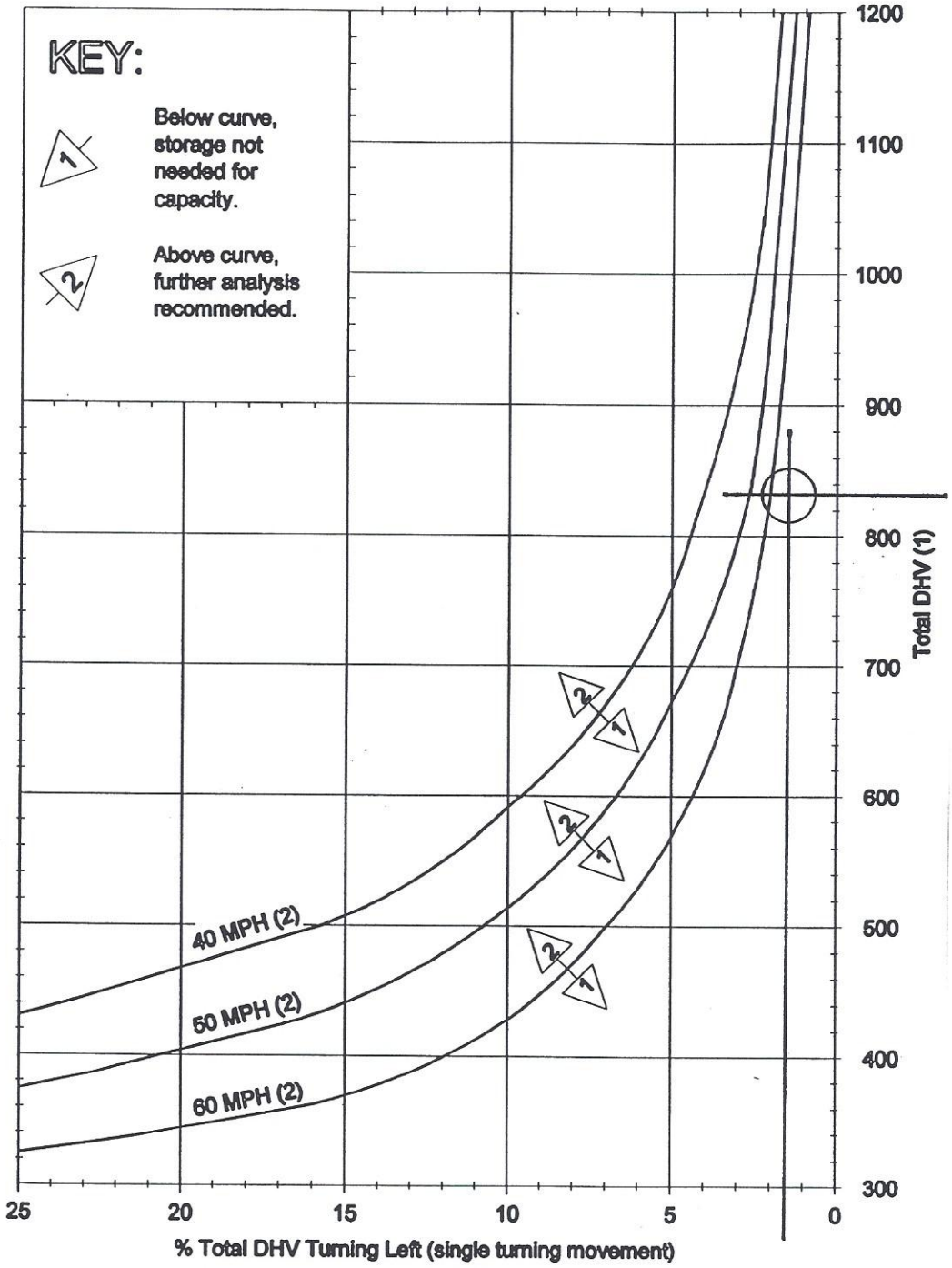



SR-104 & Rock To Go Rd
Day 1 Time Slot 1; 6-8 AM Peak
Total DHV: 647 vph
% Turning Left (WB): 19/647 = 2.9%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

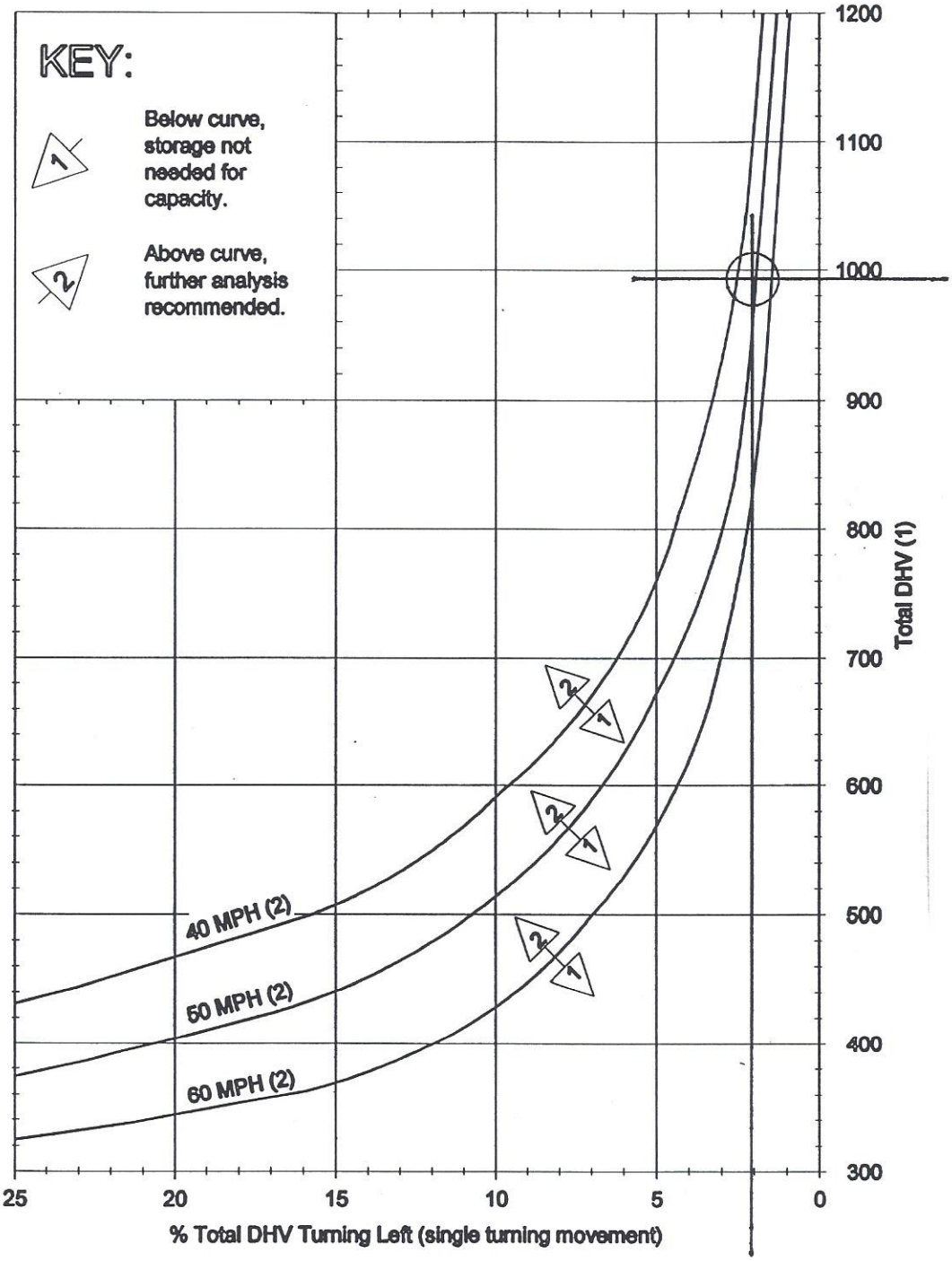



SR-104 & Rock To Go Rd
Day 1 Time Slot 2; 8-10 AM Peak
Total DHV: 834 vph
% Turning Left (WB): 13/834 = 1.6%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

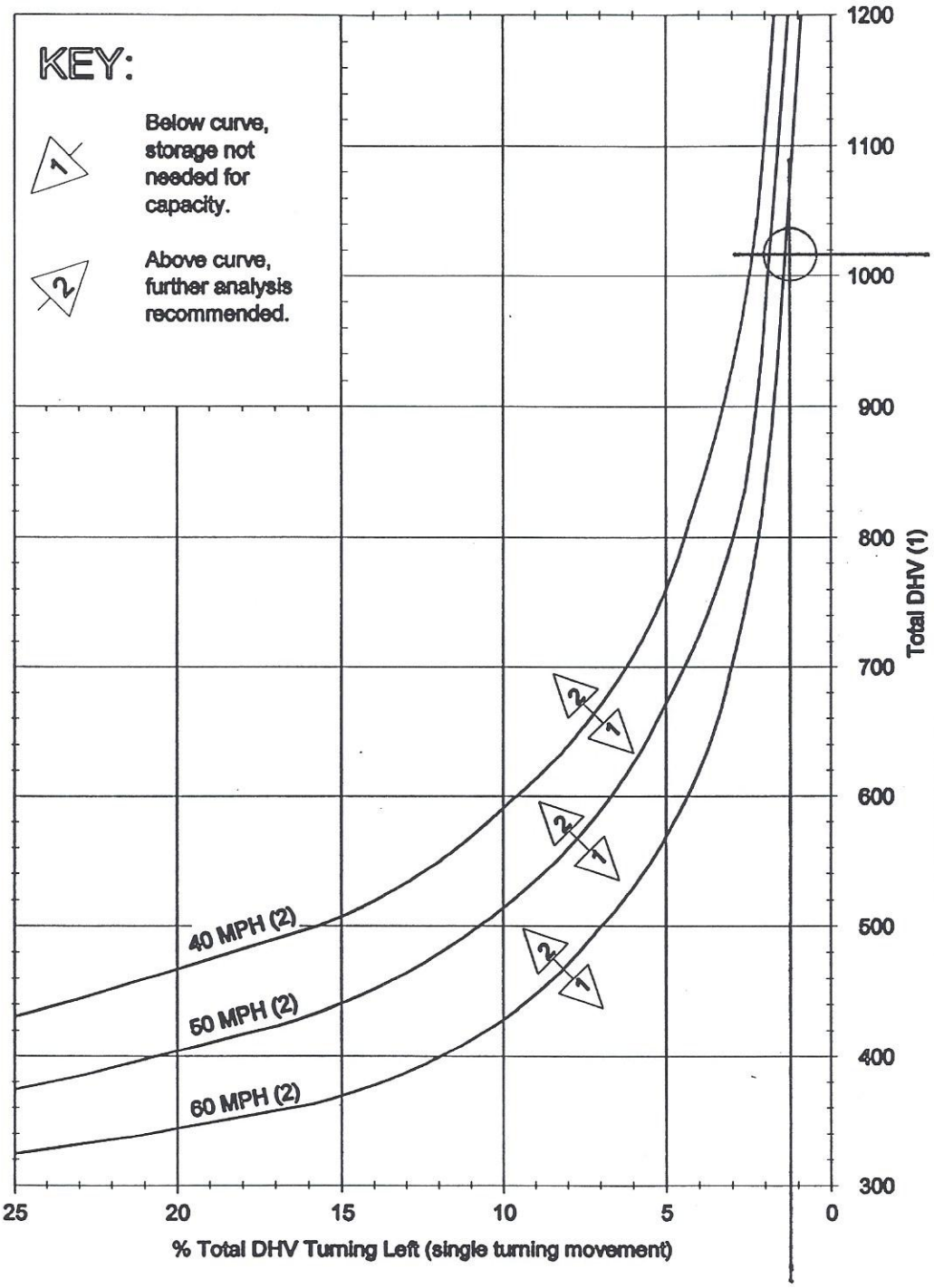



SR-104 & Rock To Go Rd
Day 1 Time Slot 3; 10 AM-12 PM Peak
Total DHV: 992 vph
% Turning Left (WB): 21/992 = 2.1%
LEFT TURN LANE IS WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

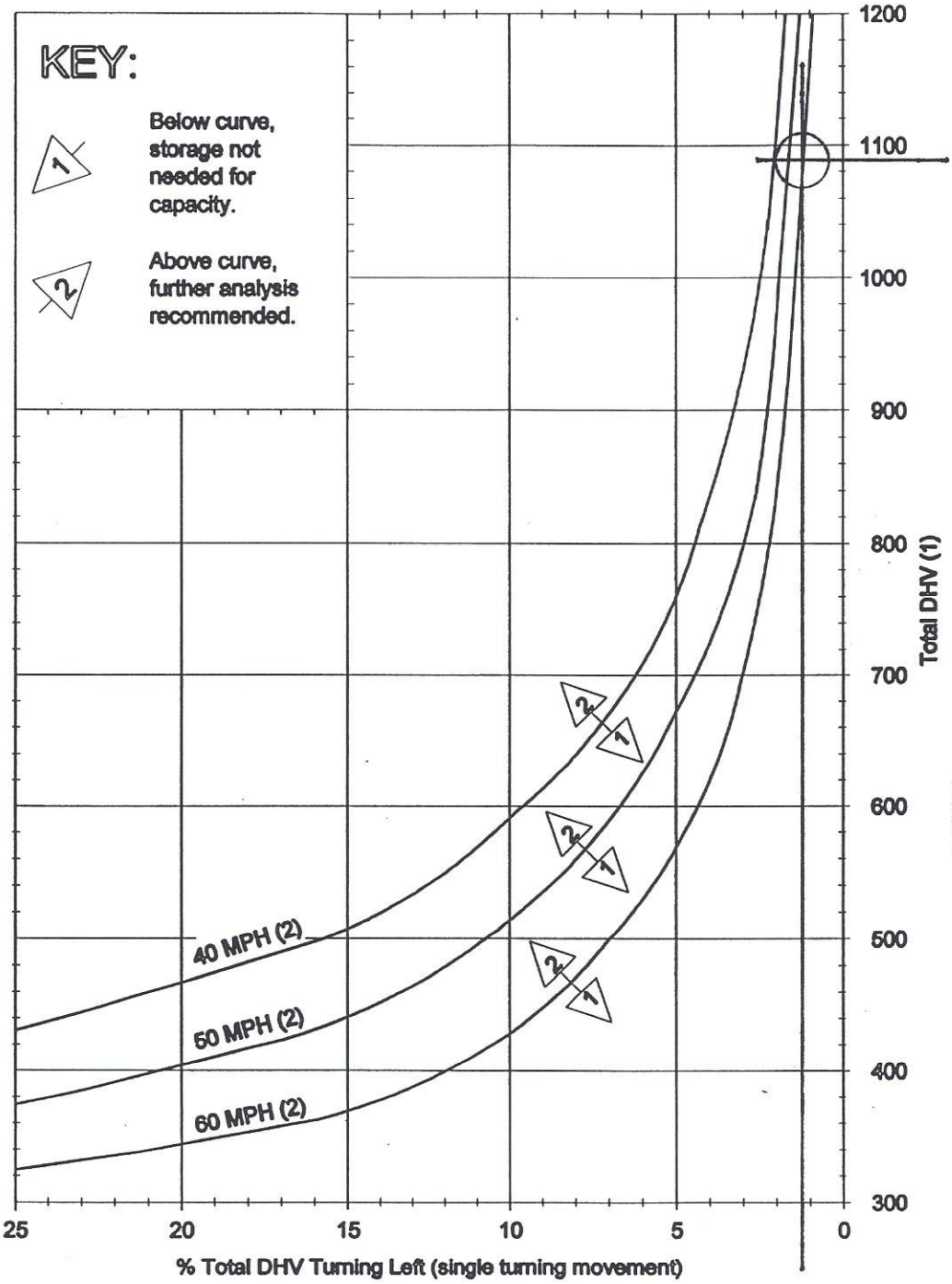



SR-104 & Rock To Go Rd
Day 1 Time Slot 4; 12-2 PM Peak
Total DHV: 1015 vph
% Turning Left (WB): 12/1015 = 1.2%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

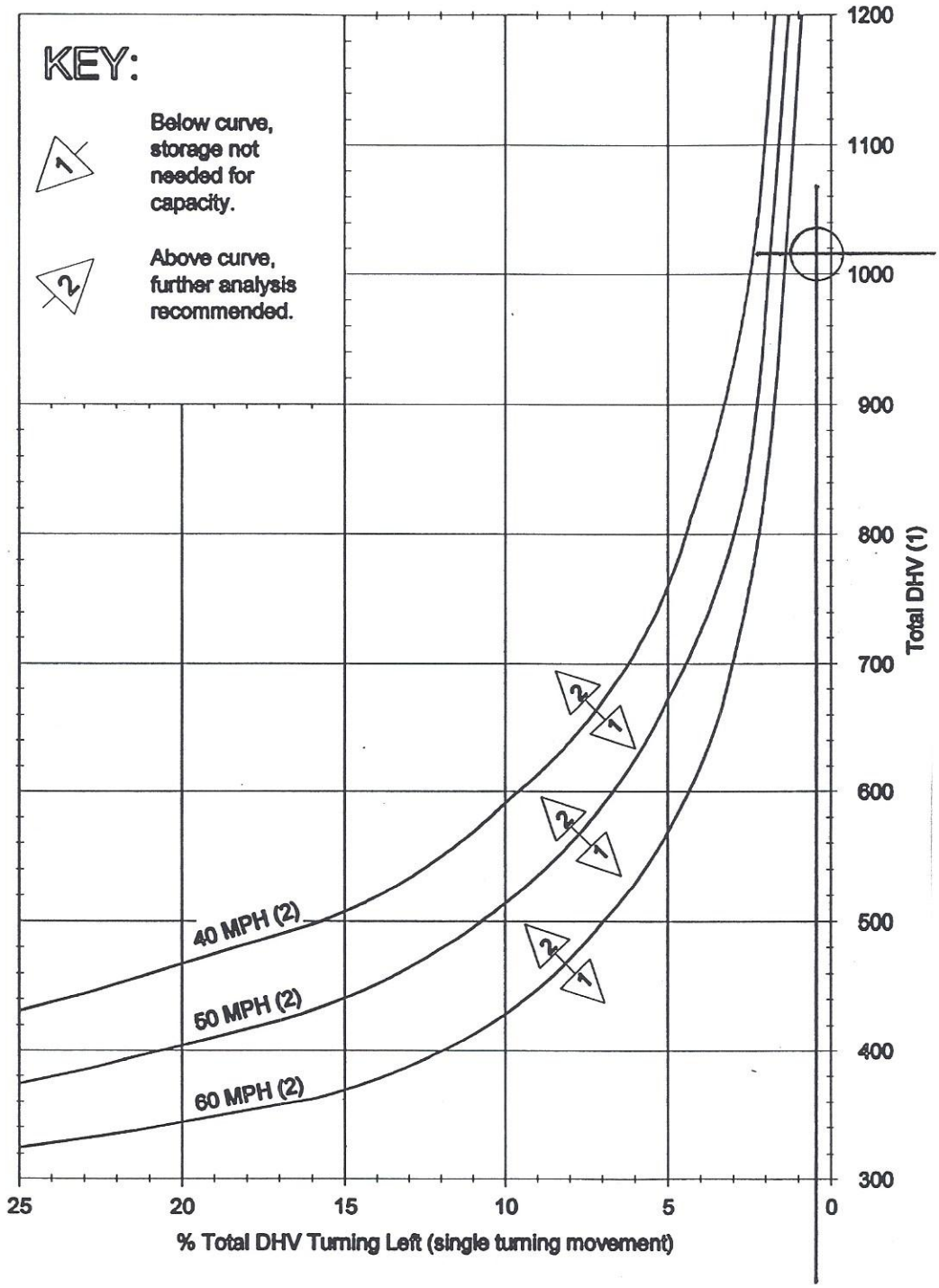



SR-104 & Rock To Go Rd
Day 1 Time Slot 5; 2-4 PM Peak
Total DHV: 1087 vph
% Turning Left (WB): 13/1087 = 1.2%
LEFT TURN LANE IS WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*




SR-104 & Rock To Go Rd
Day 1 Time Slot 6; 4-6 PM Peak
Total DHV: 1015 vph
% Turning Left (WB): 4/1015 = 0.4%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

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

NOTE: HVs ARE ALREADY INCORPORATED INTO THE TURNING MOVEMENTS

File Name : untitled5
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

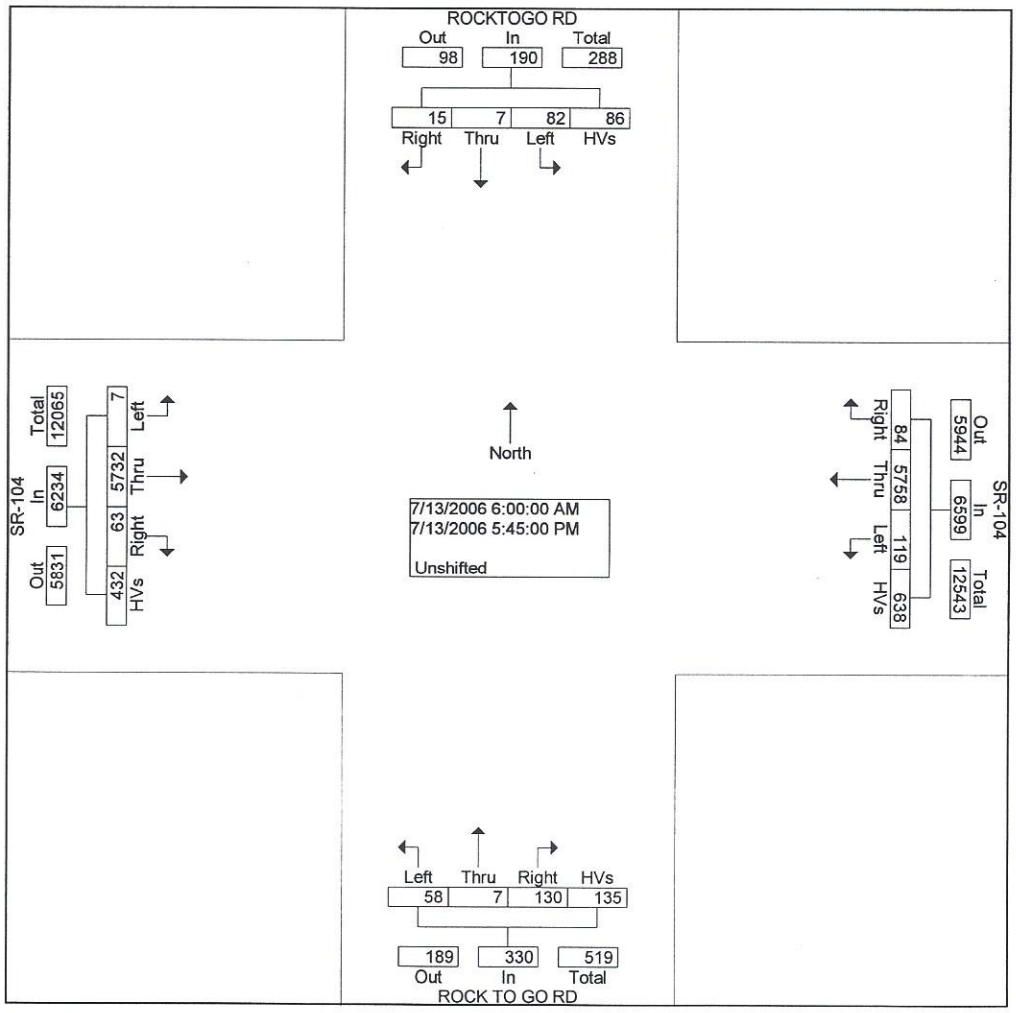
| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:00 AM | 0 | 0 | 3 | 3 | 0 | 38 | 4 | 8 | 2 | 2 | 2 | 4 | 7 | 84 | 1 | 8 | 166 |
| 06:15 AM | 0 | 0 | 3 | 3 | 1 | 32 | 3 | 12 | 5 | 2 | 2 | 7 | 1 | 58 | 0 | 5 | 134 |
| 06:30 AM | 2 | 0 | 1 | 2 | 1 | 75 | 5 | 15 | 4 | 0 | 2 | 5 | 1 | 54 | 1 | 5 | 173 |
| 06:45 AM | 0 | 0 | 2 | 2 | 1 | 66 | 0 | 13 | 6 | 0 | 0 | 6 | 1 | 75 | 0 | 5 | 177 |
| Total | 2 | 0 | 9 | 10 | 3 | 211 | 12 | 48 | 17 | 4 | 6 | 22 | 10 | 271 | 2 | 23 | 650 |
| 07:00 AM | 0 | 0 | 2 | 2 | 1 | 50 | 0 | 5 | 4 | 0 | 0 | 4 | 0 | 71 | 0 | 4 | 143 |
| 07:15 AM | 0 | 0 | 0 | 0 | 2 | 73 | 3 | 14 | 1 | 0 | 0 | 1 | 1 | 82 | 0 | 8 | 185 |
| 07:30 AM | 1 | 0 | 2 | 2 | 1 | 102 | 4 | 21 | 2 | 0 | 1 | 2 | 2 | 78 | 0 | 1 | 219 |
| 07:45 AM | 0 | 0 | 1 | 1 | 3 | 109 | 6 | 14 | 7 | 1 | 0 | 9 | 1 | 118 | 0 | 11 | 281 |
| Total | 1 | 0 | 5 | 5 | 7 | 334 | 13 | 54 | 14 | 1 | 1 | 16 | 4 | 349 | 0 | 24 | 828 |
| 08:00 AM | 0 | 0 | 4 | 4 | 1 | 95 | 2 | 16 | 4 | 0 | 1 | 4 | 0 | 97 | 0 | 9 | 237 |
| 08:15 AM | 0 | 1 | 1 | 1 | 2 | 122 | 2 | 15 | 3 | 0 | 0 | 3 | 1 | 102 | 0 | 8 | 261 |
| 08:30 AM | 0 | 0 | 1 | 1 | 3 | 100 | 4 | 19 | 2 | 0 | 0 | 1 | 1 | 103 | 0 | 3 | 238 |
| 08:45 AM | 1 | 0 | 4 | 4 | 4 | 109 | 6 | 18 | 3 | 0 | 0 | 2 | 1 | 103 | 0 | 12 | 267 |
| Total | 1 | 1 | 10 | 10 | 10 | 426 | 14 | 68 | 12 | 0 | 1 | 10 | 3 | 405 | 0 | 32 | 1003 |
| 09:00 AM | 0 | 0 | 1 | 1 | 2 | 85 | 2 | 11 | 5 | 0 | 2 | 6 | 0 | 113 | 0 | 12 | 240 |
| 09:15 AM | 1 | 0 | 4 | 4 | 2 | 153 | 1 | 18 | 3 | 0 | 1 | 4 | 3 | 109 | 1 | 12 | 316 |
| 09:30 AM | 1 | 0 | 1 | 2 | 1 | 101 | 5 | 18 | 2 | 0 | 0 | 2 | 1 | 146 | 0 | 10 | 290 |
| 09:45 AM | 0 | 0 | 2 | 2 | 3 | 101 | 3 | 16 | 4 | 0 | 0 | 4 | 0 | 137 | 0 | 9 | 281 |
| Total | 2 | 0 | 8 | 9 | 8 | 440 | 11 | 63 | 14 | 0 | 3 | 16 | 4 | 505 | 1 | 43 | 1127 |
| 10:00 AM | 1 | 0 | 1 | 1 | 0 | 131 | 2 | 12 | 5 | 0 | 1 | 3 | 1 | 118 | 0 | 7 | 283 |
| 10:15 AM | 0 | 0 | 0 | 0 | 4 | 133 | 2 | 26 | 5 | 0 | 0 | 4 | 1 | 117 | 0 | 10 | 302 |
| 10:30 AM | 1 | 0 | 2 | 3 | 2 | 118 | 4 | 15 | 1 | 0 | 1 | 1 | 0 | 132 | 0 | 10 | 290 |
| 10:45 AM | 0 | 0 | 2 | 2 | 1 | 146 | 4 | 25 | 2 | 0 | 2 | 4 | 1 | 121 | 0 | 12 | 322 |
| Total | 2 | 0 | 5 | 6 | 7 | 528 | 12 | 78 | 13 | 0 | 4 | 12 | 3 | 488 | 0 | 39 | 1197 |
| 11:00 AM | 0 | 0 | 1 | 1 | 3 | 144 | 6 | 20 | 4 | 0 | 1 | 4 | 0 | 104 | 1 | 8 | 297 |
| 11:15 AM | 0 | 0 | 5 | 5 | 2 | 109 | 3 | 21 | 4 | 0 | 1 | 4 | 1 | 107 | 0 | 7 | 269 |
| 11:30 AM | 0 | 1 | 1 | 1 | 3 | 132 | 4 | 19 | 4 | 0 | 0 | 3 | 1 | 138 | 0 | 9 | 316 |
| 11:45 AM | 1 | 0 | 4 | 5 | 3 | 156 | 2 | 21 | 0 | 1 | 4 | 3 | 2 | 131 | 1 | 13 | 347 |
| Total | 1 | 1 | 11 | 12 | 11 | 541 | 15 | 81 | 12 | 1 | 6 | 14 | 4 | 480 | 2 | 37 | 1229 |
| 12:00 PM | 0 | 0 | 2 | 2 | 1 | 101 | 2 | 12 | 1 | 0 | 1 | 2 | 1 | 117 | 0 | 11 | 253 |
| 12:15 PM | 1 | 0 | 0 | 0 | 6 | 139 | 2 | 14 | 2 | 0 | 0 | 2 | 1 | 114 | 0 | 8 | 289 |
| 12:30 PM | 0 | 0 | 3 | 4 | 4 | 139 | 2 | 19 | 1 | 1 | 1 | 2 | 2 | 119 | 0 | 9 | 306 |
| 12:45 PM | 0 | 1 | 2 | 2 | 1 | 132 | 1 | 12 | 4 | 0 | 1 | 5 | 1 | 125 | 0 | 21 | 308 |
| Total | 1 | 1 | 7 | 8 | 12 | 511 | 7 | 57 | 8 | 1 | 3 | 11 | 5 | 475 | 0 | 49 | 1156 |
| 01:00 PM | 2 | 0 | 2 | 3 | 4 | 124 | 1 | 12 | 3 | 0 | 0 | 2 | 1 | 112 | 1 | 7 | 274 |
| 01:15 PM | 0 | 1 | 3 | 3 | 4 | 103 | 5 | 13 | 3 | 0 | 1 | 3 | 1 | 127 | 0 | 11 | 278 |
| 01:30 PM | 0 | 0 | 2 | 1 | 2 | 168 | 3 | 16 | 3 | 0 | 3 | 5 | 1 | 156 | 0 | 10 | 370 |
| 01:45 PM | 0 | 2 | 3 | 5 | 1 | 145 | 2 | 18 | 4 | 0 | 1 | 5 | 2 | 141 | 0 | 14 | 343 |
| Total | 2 | 3 | 10 | 12 | 11 | 540 | 11 | 59 | 13 | 0 | 5 | 15 | 5 | 536 | 1 | 42 | 1265 |
| 02:00 PM | 0 | 0 | 1 | 1 | 1 | 99 | 1 | 7 | 1 | 0 | 1 | 2 | 2 | 123 | 0 | 11 | 250 |
| 02:15 PM | 0 | 0 | 1 | 0 | 4 | 138 | 4 | 17 | 1 | 0 | 1 | 2 | 3 | 140 | 0 | 15 | 326 |
| 02:30 PM | 0 | 0 | 6 | 5 | 3 | 151 | 3 | 14 | 4 | 0 | 1 | 3 | 1 | 118 | 0 | 4 | 313 |
| 02:45 PM | 0 | 0 | 2 | 2 | 3 | 149 | 2 | 11 | 2 | 0 | 2 | 1 | 4 | 126 | 1 | 13 | 318 |
| Total | 0 | 0 | 10 | 8 | 11 | 537 | 10 | 49 | 8 | 0 | 5 | 8 | 10 | 507 | 1 | 43 | 1207 |
| 03:00 PM | 0 | 0 | 4 | 3 | 0 | 133 | 1 | 14 | 4 | 0 | 4 | 2 | 0 | 124 | 0 | 10 | 299 |
| 03:15 PM | 0 | 1 | 0 | 1 | 2 | 163 | 6 | 13 | 1 | 0 | 2 | 1 | 4 | 140 | 0 | 8 | 342 |
| 03:30 PM | 0 | 0 | 1 | 1 | 0 | 137 | 4 | 10 | 2 | 0 | 3 | 2 | 2 | 133 | 0 | 4 | 299 |
| 03:45 PM | 1 | 0 | 0 | 0 | 2 | 156 | 1 | 9 | 2 | 0 | 2 | 3 | 2 | 141 | 0 | 7 | 326 |
| Total | 1 | 1 | 5 | 5 | 4 | 589 | 12 | 46 | 9 | 0 | 11 | 8 | 8 | 538 | 0 | 29 | 1266 |

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

File Name : untitled5
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 150 | 1 | 6 | 4 | 0 | 2 | 1 | 2 | 158 | 0 | 8 | 332 |
| 04:15 PM | 0 | 0 | 1 | 1 | 0 | 117 | 0 | 4 | 1 | 0 | 2 | 2 | 0 | 149 | 0 | 4 | 281 |
| 04:30 PM | 2 | 0 | 1 | 0 | 0 | 175 | 0 | 8 | 1 | 0 | 2 | 0 | 1 | 129 | 0 | 10 | 329 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 167 | 1 | 7 | 0 | 0 | 2 | 0 | 0 | 151 | 0 | 7 | 335 |
| Total | 2 | 0 | 2 | 1 | 0 | 609 | 2 | 25 | 6 | 0 | 8 | 3 | 3 | 587 | 0 | 29 | 1277 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 152 | 0 | 14 | 300 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 157 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | 163 | 0 | 8 | 334 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 3 | 2 | 0 | 1 | 0 | 0 | 137 | 0 | 10 | 258 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 102 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 139 | 0 | 10 | 256 |
| Total | 0 | 0 | 0 | 0 | 0 | 492 | 0 | 10 | 4 | 0 | 5 | 0 | 4 | 591 | 0 | 42 | 1148 |
| Grand Total | 15 | 7 | 82 | 86 | 84 | 5758 | 119 | 638 | 130 | 7 | 58 | 135 | 63 | 5732 | 7 | 432 | 13353 |
| Apprch % | 7.9 | 3.7 | 43.2 | 45.3 | 1.3 | 87.3 | 1.8 | 9.7 | 39.4 | 2.1 | 17.6 | 40.9 | 1.0 | 91.9 | 0.1 | 6.9 | |
| Total % | 0.1 | 0.1 | 0.6 | 0.6 | 0.6 | 43.1 | 0.9 | 4.8 | 1.0 | 0.1 | 0.4 | 1.0 | 0.5 | 42.9 | 0.1 | 3.2 | |

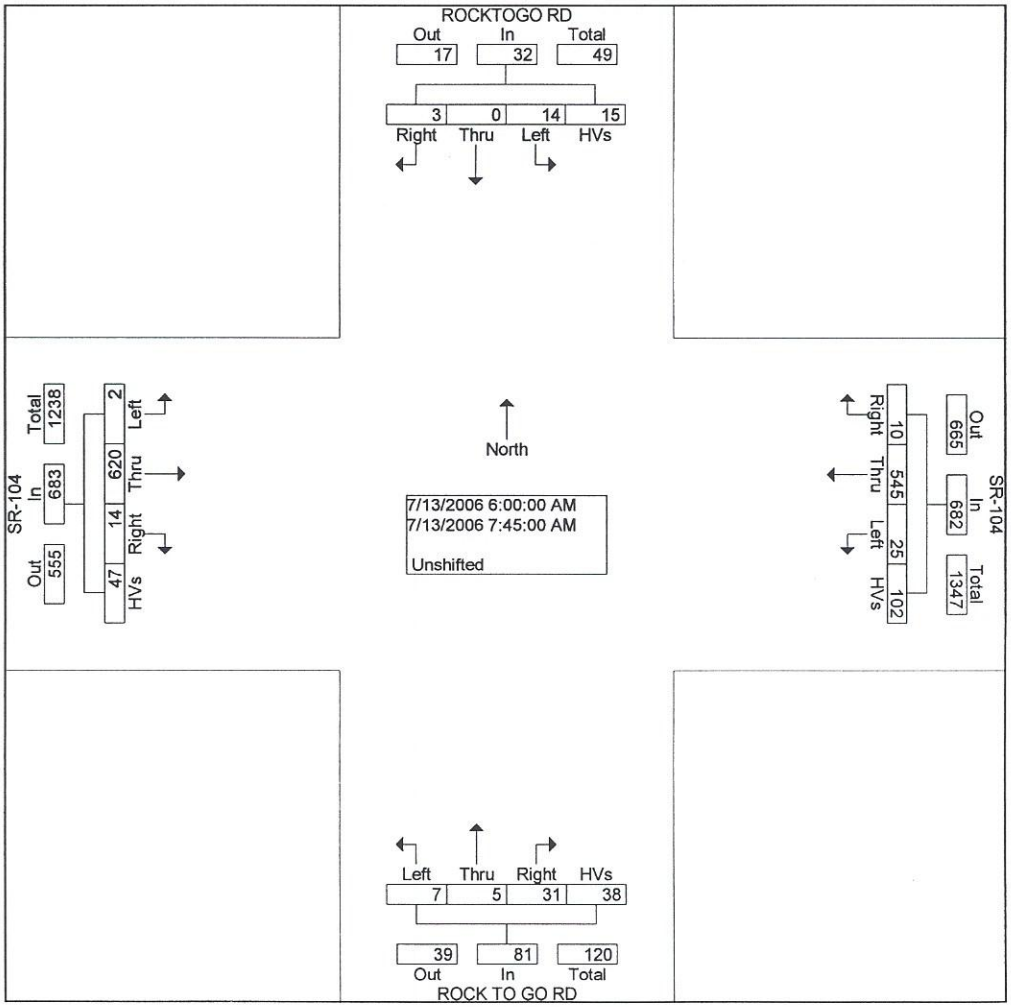


Heath & Associates Inc.
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

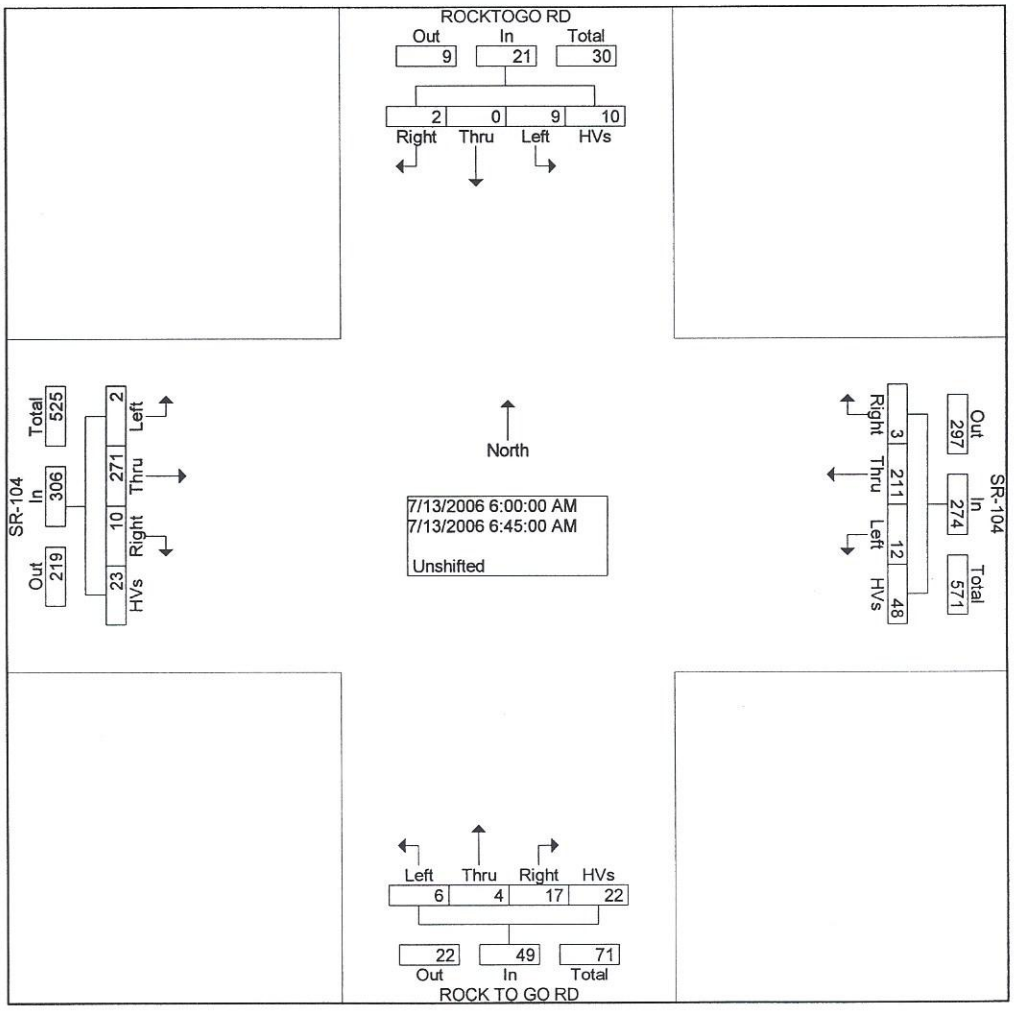
| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:00 AM | 0 | 0 | 3 | 3 | 0 | 38 | 4 | 8 | 2 | 2 | 2 | 4 | 7 | 84 | 1 | 8 | 166 |
| 06:15 AM | 0 | 0 | 3 | 3 | 1 | 32 | 3 | 12 | 5 | 2 | 2 | 7 | 1 | 58 | 0 | 5 | 134 |
| 06:30 AM | 2 | 0 | 1 | 2 | 1 | 75 | 5 | 15 | 4 | 0 | 2 | 5 | 1 | 54 | 1 | 5 | 173 |
| 06:45 AM | 0 | 0 | 2 | 2 | 1 | 66 | 0 | 13 | 6 | 0 | 0 | 6 | 1 | 75 | 0 | 5 | 177 |
| Total | 2 | 0 | 9 | 10 | 3 | 211 | 12 | 48 | 17 | 4 | 6 | 22 | 10 | 271 | 2 | 23 | 650 |
| 07:00 AM | 0 | 0 | 2 | 2 | 1 | 50 | 0 | 5 | 4 | 0 | 0 | 4 | 0 | 71 | 0 | 4 | 143 |
| 07:15 AM | 0 | 0 | 0 | 0 | 2 | 73 | 3 | 14 | 1 | 0 | 0 | 1 | 1 | 82 | 0 | 8 | 185 |
| 07:30 AM | 1 | 0 | 2 | 2 | 1 | 102 | 4 | 21 | 2 | 0 | 1 | 2 | 2 | 78 | 0 | 1 | 219 |
| 07:45 AM | 0 | 0 | 1 | 1 | 3 | 109 | 6 | 14 | 7 | 1 | 0 | 9 | 1 | 118 | 0 | 11 | 281 |
| Total | 1 | 0 | 5 | 5 | 7 | 334 | 13 | 54 | 14 | 1 | 1 | 16 | 4 | 349 | 0 | 24 | 828 |
| Grand Total | 3 | 0 | 14 | 15 | 10 | 545 | 25 | 102 | 31 | 5 | 7 | 38 | 14 | 620 | 2 | 47 | 1478 |
| Apprch % | 9.4 | 0.0 | 43.8 | 46.9 | 1.5 | 79.9 | 3.7 | 15.0 | 38.3 | 6.2 | 8.6 | 46.9 | 2.0 | 90.8 | 0.3 | 6.9 | |
| Total % | 0.2 | 0.0 | 0.9 | 1.0 | 0.7 | 36.9 | 1.7 | 6.9 | 2.1 | 0.3 | 0.5 | 2.6 | 0.9 | 41.9 | 0.1 | 3.2 | |



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

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 06:00 AM to 06:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 06:00 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 9 | 10 | 21 | 3 | 211 | 12 | 48 | 274 | 17 | 4 | 6 | 22 | 49 | 10 | 271 | 2 | 23 | 306 | 650 |
| Percent | 9.5 | 0.0 | 42.9 | 47.6 | | 1.1 | 77.0 | 4.4 | 17.5 | | 34.7 | 8.2 | 12.2 | 44.9 | | 3.3 | 88.6 | 0.7 | 7.5 | | |
| 06:45 Volume | 0 | 0 | 2 | 2 | 4 | 1 | 66 | 0 | 13 | 80 | 6 | 0 | 0 | 6 | 12 | 1 | 75 | 0 | 5 | 81 | 177 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.918 |
| High Int. | 06:00 AM | | | | | 06:30 AM | | | | | 06:15 AM | | | | | 06:00 AM | | | | | |
| Volume | 0 | 0 | 3 | 3 | 6 | 1 | 75 | 5 | 15 | 96 | 5 | 2 | 2 | 7 | 16 | 7 | 84 | 1 | 8 | 100 | |
| Peak Factor | | | | | 0.875 | | | | | 0.714 | | | | | 0.766 | | | | | 0.765 | |

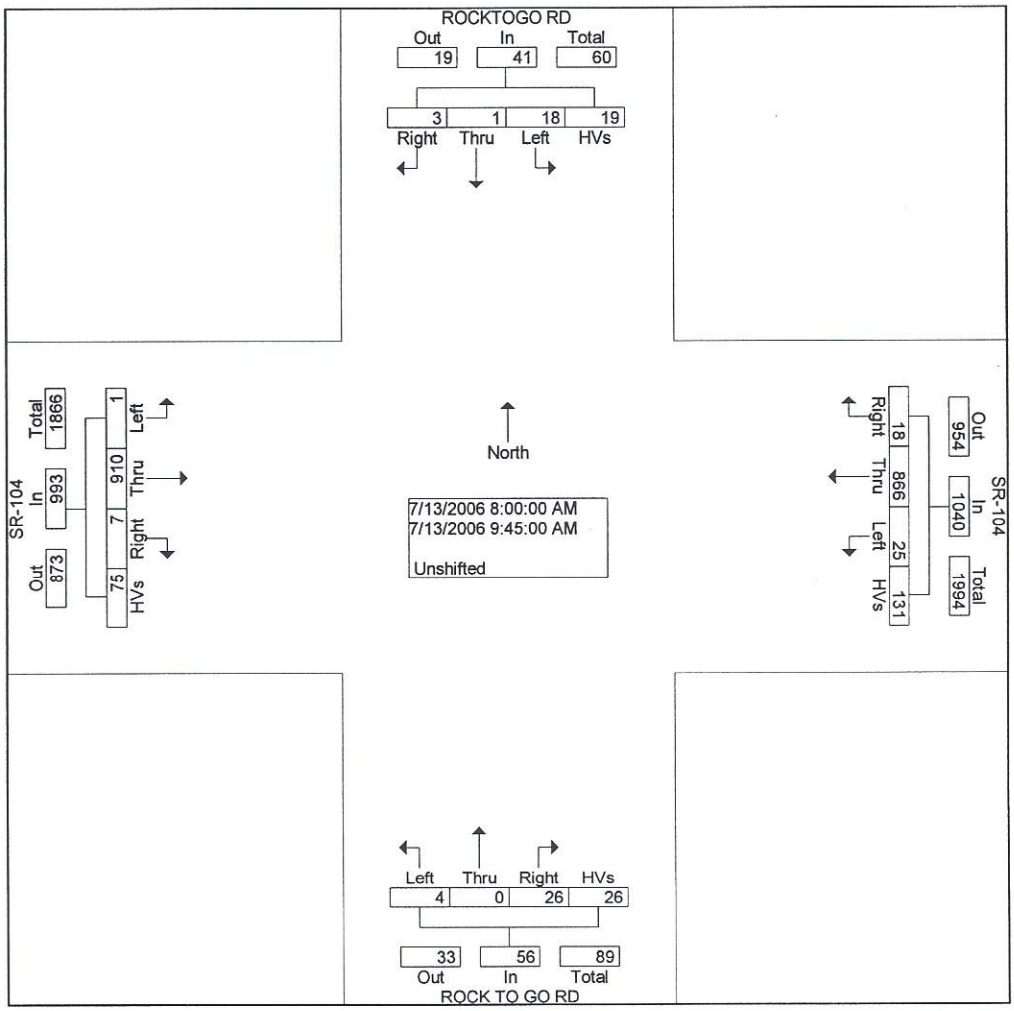


Heath & Associates Inc.
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

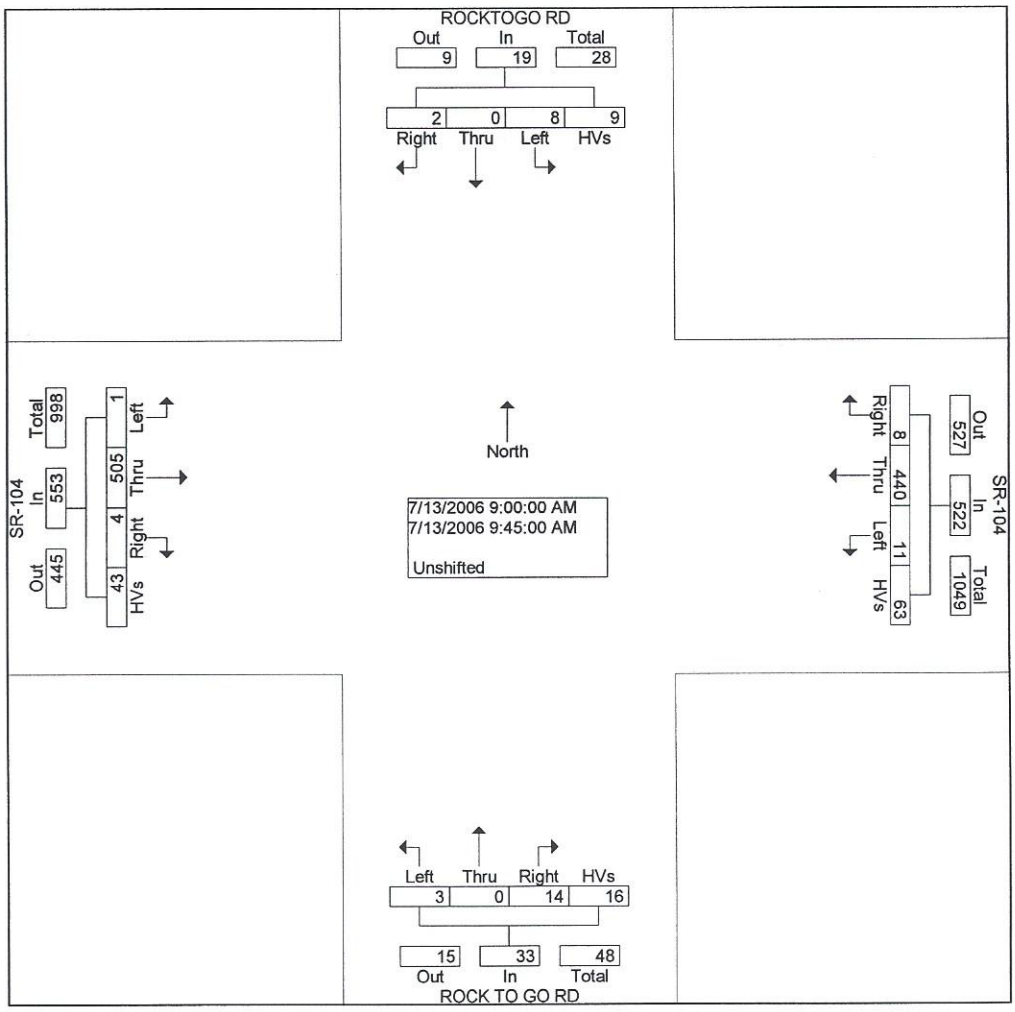
| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 08:00 AM | 0 | 0 | 4 | 4 | 1 | 95 | 2 | 16 | 4 | 0 | 1 | 4 | 0 | 97 | 0 | 9 | 237 |
| 08:15 AM | 0 | 1 | 1 | 1 | 2 | 122 | 2 | 15 | 3 | 0 | 0 | 3 | 1 | 102 | 0 | 8 | 261 |
| 08:30 AM | 0 | 0 | 1 | 1 | 3 | 100 | 4 | 19 | 2 | 0 | 0 | 1 | 1 | 103 | 0 | 3 | 238 |
| 08:45 AM | 1 | 0 | 4 | 4 | 4 | 109 | 6 | 18 | 3 | 0 | 0 | 2 | 1 | 103 | 0 | 12 | 267 |
| Total | 1 | 1 | 10 | 10 | 10 | 426 | 14 | 68 | 12 | 0 | 1 | 10 | 3 | 405 | 0 | 32 | 1003 |
| 09:00 AM | 0 | 0 | 1 | 1 | 2 | 85 | 2 | 11 | 5 | 0 | 2 | 6 | 0 | 113 | 0 | 12 | 240 |
| 09:15 AM | 1 | 0 | 4 | 4 | 2 | 153 | 1 | 18 | 3 | 0 | 1 | 4 | 3 | 109 | 1 | 12 | 316 |
| 09:30 AM | 1 | 0 | 1 | 2 | 1 | 101 | 5 | 18 | 2 | 0 | 0 | 2 | 1 | 146 | 0 | 10 | 290 |
| 09:45 AM | 0 | 0 | 2 | 2 | 3 | 101 | 3 | 16 | 4 | 0 | 0 | 4 | 0 | 137 | 0 | 9 | 281 |
| Total | 2 | 0 | 8 | 9 | 8 | 440 | 11 | 63 | 14 | 0 | 3 | 16 | 4 | 505 | 1 | 43 | 1127 |
| Grand Total | 3 | 1 | 18 | 19 | 18 | 866 | 25 | 131 | 26 | 0 | 4 | 26 | 7 | 910 | 1 | 75 | 2130 |
| Apprch % | 7.3 | 2.4 | 43.9 | 46.3 | 1.7 | 83.3 | 2.4 | 12.6 | 46.4 | 0.0 | 7.1 | 46.4 | 0.7 | 91.6 | 0.1 | 7.6 | |
| Total % | 0.1 | 0.0 | 0.8 | 0.9 | 0.8 | 40.7 | 1.2 | 6.2 | 1.2 | 0.0 | 0.2 | 1.2 | 0.3 | 42.7 | 0.0 | 3.5 | |



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

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 08:00 AM to 09:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 09:00 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 8 | 9 | 19 | 8 | 440 | 11 | 63 | 522 | 14 | 0 | 3 | 16 | 33 | 4 | 505 | 1 | 43 | 553 | 1127 |
| Percent | 10.5 | 0.0 | 42.1 | 47.4 | | 1.5 | 84.3 | 2.1 | 12.1 | | 42.4 | 0.0 | 9.1 | 48.5 | | 0.7 | 91.3 | 0.2 | 7.8 | | |
| 09:15 Volume | 1 | 0 | 4 | 4 | 9 | 2 | 153 | 1 | 18 | 174 | 3 | 0 | 1 | 4 | 8 | 3 | 109 | 1 | 12 | 125 | 316 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.892 |
| High Int. | 09:15 AM | | | | | 09:15 AM | | | | | 09:00 AM | | | | | 09:30 AM | | | | | |
| Volume | 1 | 0 | 4 | 4 | 9 | 2 | 153 | 1 | 18 | 174 | 5 | 0 | 2 | 6 | 13 | 1 | 146 | 0 | 10 | 157 | |
| Peak Factor | | | | | 0.528 | | | | | 0.750 | | | | | 0.635 | | | | | 0.881 | |

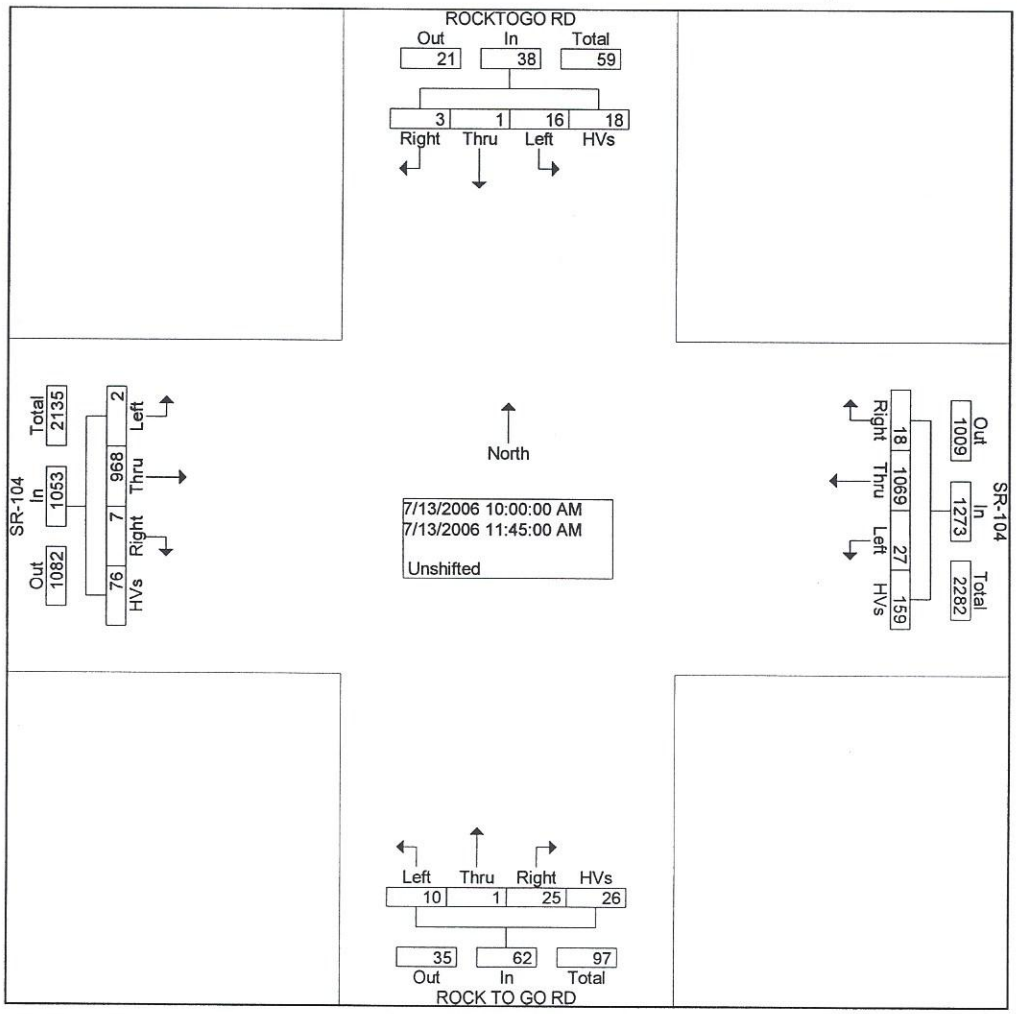


Heath & Associates Inc.
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 10:00 AM | 1 | 0 | 1 | 1 | 0 | 131 | 2 | 12 | 5 | 0 | 1 | 3 | 1 | 118 | 0 | 7 | 283 |
| 10:15 AM | 0 | 0 | 0 | 0 | 4 | 133 | 2 | 26 | 5 | 0 | 0 | 4 | 1 | 117 | 0 | 10 | 302 |
| 10:30 AM | 1 | 0 | 2 | 3 | 2 | 118 | 4 | 15 | 1 | 0 | 1 | 1 | 0 | 132 | 0 | 10 | 290 |
| 10:45 AM | 0 | 0 | 2 | 2 | 1 | 146 | 4 | 25 | 2 | 0 | 2 | 4 | 1 | 121 | 0 | 12 | 322 |
| Total | 2 | 0 | 5 | 6 | 7 | 528 | 12 | 78 | 13 | 0 | 4 | 12 | 3 | 488 | 0 | 39 | 1197 |
| 11:00 AM | 0 | 0 | 1 | 1 | 3 | 144 | 6 | 20 | 4 | 0 | 1 | 4 | 0 | 104 | 1 | 8 | 297 |
| 11:15 AM | 0 | 0 | 5 | 5 | 2 | 109 | 3 | 21 | 4 | 0 | 1 | 4 | 1 | 107 | 0 | 7 | 269 |
| 11:30 AM | 0 | 1 | 1 | 1 | 3 | 132 | 4 | 19 | 4 | 0 | 0 | 3 | 1 | 138 | 0 | 9 | 316 |
| 11:45 AM | 1 | 0 | 4 | 5 | 3 | 156 | 2 | 21 | 0 | 1 | 4 | 3 | 2 | 131 | 1 | 13 | 347 |
| Total | 1 | 1 | 11 | 12 | 11 | 541 | 15 | 81 | 12 | 1 | 6 | 14 | 4 | 480 | 2 | 37 | 1229 |
| Grand Total | 3 | 1 | 16 | 18 | 18 | 1069 | 27 | 159 | 25 | 1 | 10 | 26 | 7 | 968 | 2 | 76 | 2426 |
| Apprch % | 7.9 | 2.6 | 42.1 | 47.4 | 1.4 | 84.0 | 2.1 | 12.5 | 40.3 | 1.6 | 16.1 | 41.9 | 0.7 | 91.9 | 0.2 | 7.2 | |
| Total % | 0.1 | 0.0 | 0.7 | 0.7 | 0.7 | 44.1 | 1.1 | 6.6 | 1.0 | 0.0 | 0.4 | 1.1 | 0.3 | 39.9 | 0.1 | 3.1 | |



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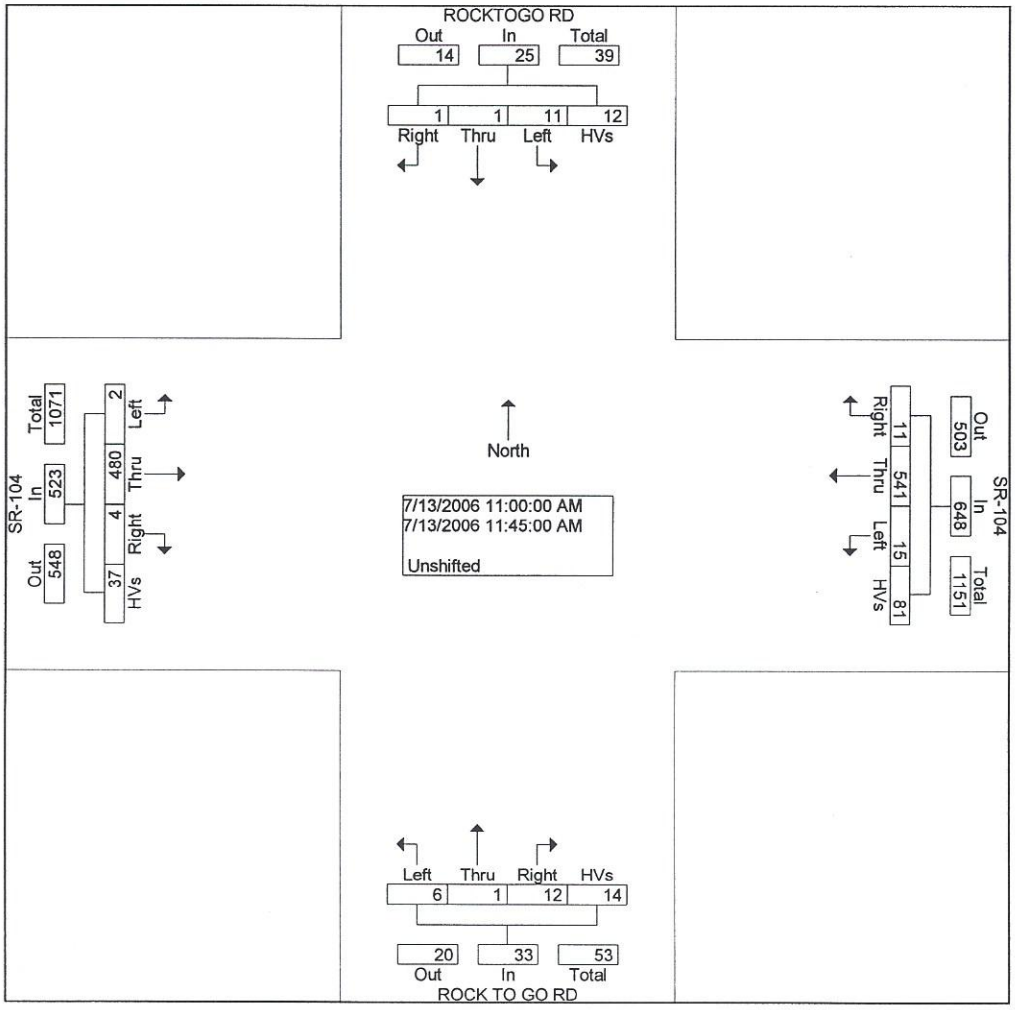
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 10:00 AM to 11:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 11:00 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 1 | 1 | 11 | 12 | 25 | 11 | 541 | 15 | 81 | 648 | 12 | 1 | 6 | 14 | 33 | 4 | 480 | 2 | 37 | 523 | 1229 |
| Percent | 4.0 | 4.0 | 44.0 | 48.0 | | 1.7 | 83.5 | 2.3 | 12.5 | | 36.4 | 3.0 | 18.2 | 42.4 | | 0.8 | 91.8 | 0.4 | 7.1 | | |
| 11:45 Volume | 1 | 0 | 4 | 5 | 10 | 3 | 156 | 2 | 21 | 182 | 0 | 1 | 4 | 3 | 8 | 2 | 131 | 1 | 13 | 147 | 347 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.885 |
| High Int. | 11:15 AM | | | | | 11:45 AM | | | | | 11:00 AM | | | | | 11:30 AM | | | | | |
| Volume | 0 | 0 | 5 | 5 | 10 | 3 | 156 | 2 | 21 | 182 | 4 | 0 | 1 | 4 | 9 | 1 | 138 | 0 | 9 | 148 | |
| Peak Factor | | | | | 0.625 | | | | | 0.890 | | | | | 0.917 | | | | | 0.883 | |



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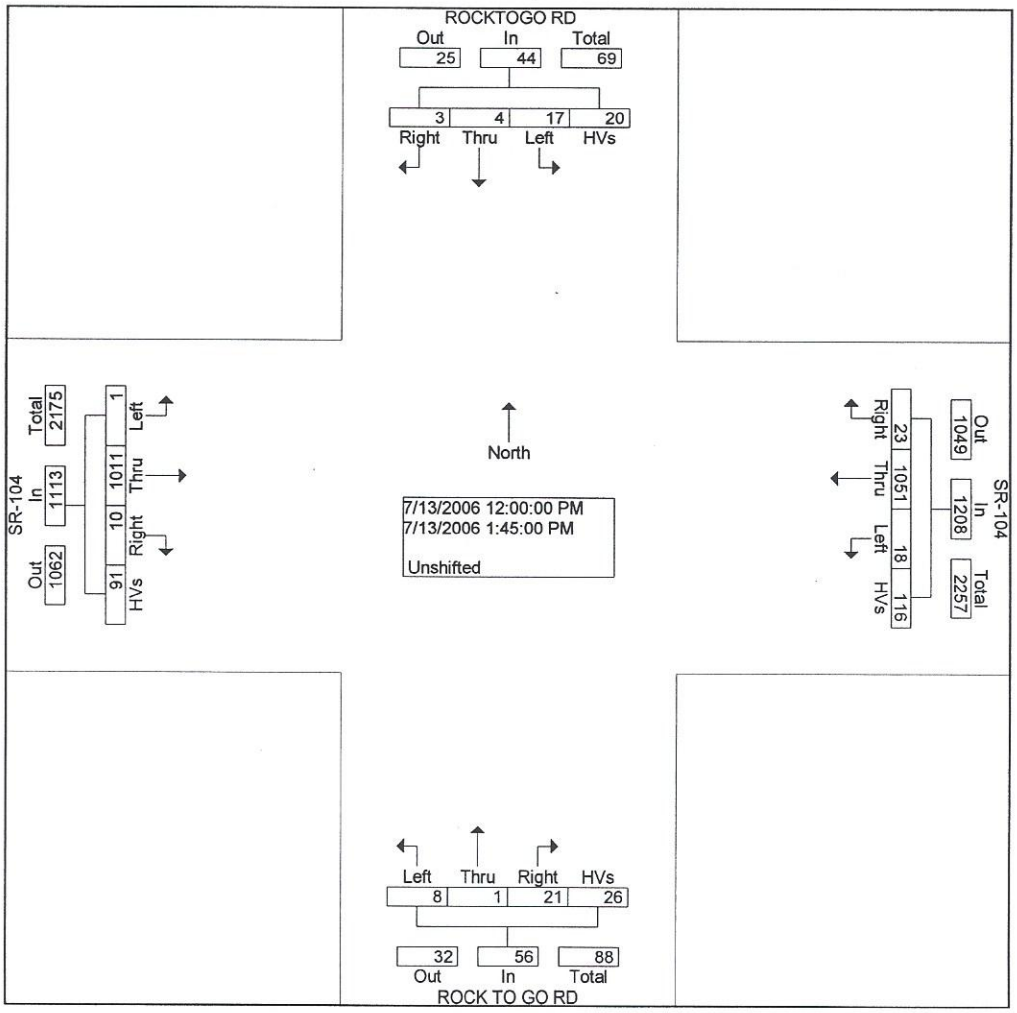
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 12:00 PM | 0 | 0 | 2 | 2 | 1 | 101 | 2 | 12 | 1 | 0 | 1 | 2 | 1 | 117 | 0 | 11 | 253 |
| 12:15 PM | 1 | 0 | 0 | 0 | 6 | 139 | 2 | 14 | 2 | 0 | 0 | 2 | 1 | 114 | 0 | 8 | 289 |
| 12:30 PM | 0 | 0 | 3 | 4 | 4 | 139 | 2 | 19 | 1 | 1 | 1 | 2 | 2 | 119 | 0 | 9 | 306 |
| 12:45 PM | 0 | 1 | 2 | 2 | 1 | 132 | 1 | 12 | 4 | 0 | 1 | 5 | 1 | 125 | 0 | 21 | 308 |
| Total | 1 | 1 | 7 | 8 | 12 | 511 | 7 | 57 | 8 | 1 | 3 | 11 | 5 | 475 | 0 | 49 | 1156 |
| 01:00 PM | 2 | 0 | 2 | 3 | 4 | 124 | 1 | 12 | 3 | 0 | 0 | 2 | 1 | 112 | 1 | 7 | 274 |
| 01:15 PM | 0 | 1 | 3 | 3 | 4 | 103 | 5 | 13 | 3 | 0 | 1 | 3 | 1 | 127 | 0 | 11 | 278 |
| 01:30 PM | 0 | 0 | 2 | 1 | 2 | 168 | 3 | 16 | 3 | 0 | 3 | 5 | 1 | 156 | 0 | 10 | 370 |
| 01:45 PM | 0 | 2 | 3 | 5 | 1 | 145 | 2 | 18 | 4 | 0 | 1 | 5 | 2 | 141 | 0 | 14 | 343 |
| Total | 2 | 3 | 10 | 12 | 11 | 540 | 11 | 59 | 13 | 0 | 5 | 15 | 5 | 536 | 1 | 42 | 1265 |
| Grand Total | 3 | 4 | 17 | 20 | 23 | 1051 | 18 | 116 | 21 | 1 | 8 | 26 | 10 | 1011 | 1 | 91 | 2421 |
| Apprch % | 6.8 | 9.1 | 38.6 | 45.5 | 1.9 | 87.0 | 1.5 | 9.6 | 37.5 | 1.8 | 14.3 | 46.4 | 0.9 | 90.8 | 0.1 | 8.2 | |
| Total % | 0.1 | 0.2 | 0.7 | 0.8 | 1.0 | 43.4 | 0.7 | 4.8 | 0.9 | 0.0 | 0.3 | 1.1 | 0.4 | 41.8 | 0.0 | 3.8 | |



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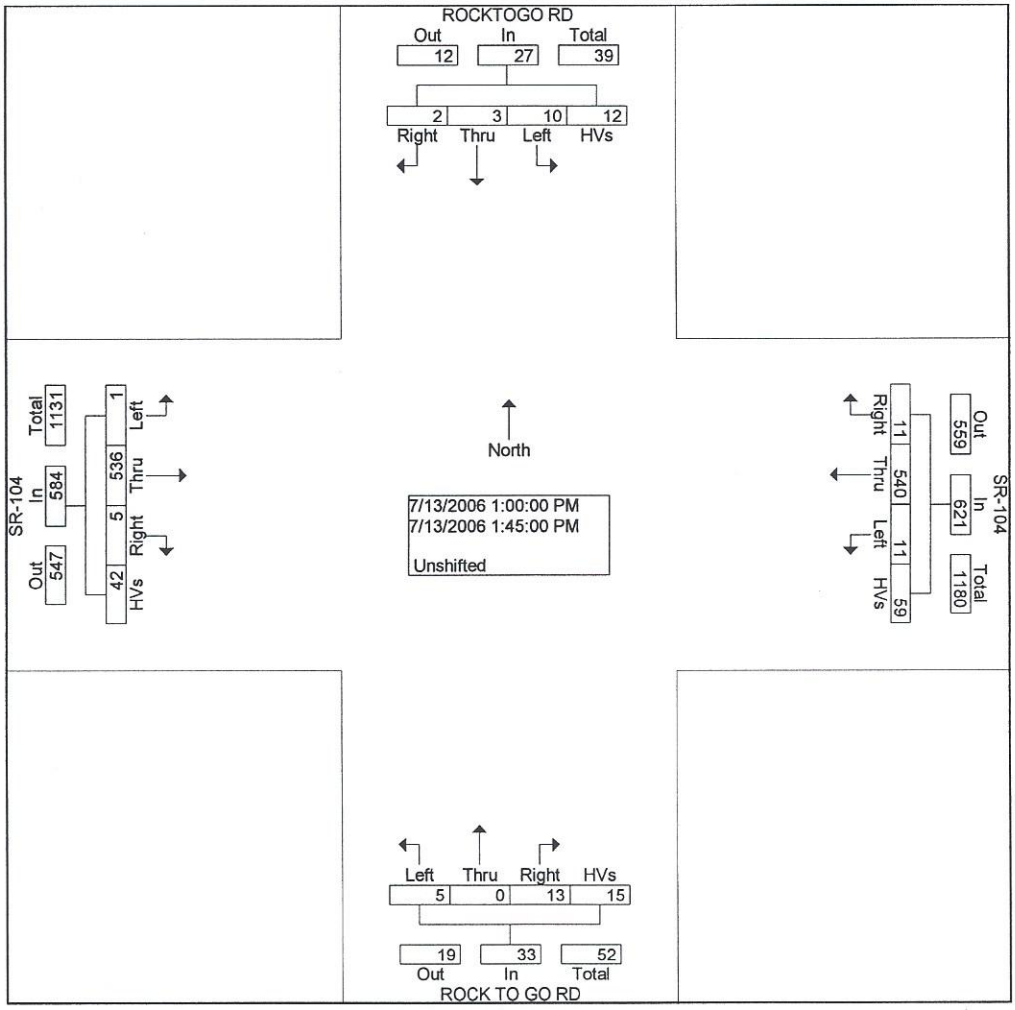
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 12:00 PM to 01:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 01:00 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 3 | 10 | 12 | 27 | 11 | 540 | 11 | 59 | 621 | 13 | 0 | 5 | 15 | 33 | 5 | 536 | 1 | 42 | 584 | 1265 |
| Percent | 7.4 | 11.1 | 37.0 | 44.4 | | 1.8 | 87.0 | 1.8 | 9.5 | | 39.4 | 0.0 | 15.2 | 45.5 | | 0.9 | 91.8 | 0.2 | 7.2 | | |
| 01:30 Volume | 0 | 0 | 2 | 1 | 3 | 2 | 168 | 3 | 16 | 189 | 3 | 0 | 3 | 5 | 11 | 1 | 156 | 0 | 10 | 167 | 370 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.855 |
| High Int. | 01:45 PM | | | | | 01:30 PM | | | | | 01:30 PM | | | | | 01:30 PM | | | | | |
| Volume | 0 | 2 | 3 | 5 | 10 | 2 | 168 | 3 | 16 | 189 | 3 | 0 | 3 | 5 | 11 | 1 | 156 | 0 | 10 | 167 | |
| Peak Factor | | | | | 0.675 | | | | | 0.821 | | | | | 0.750 | | | | | 0.874 | |



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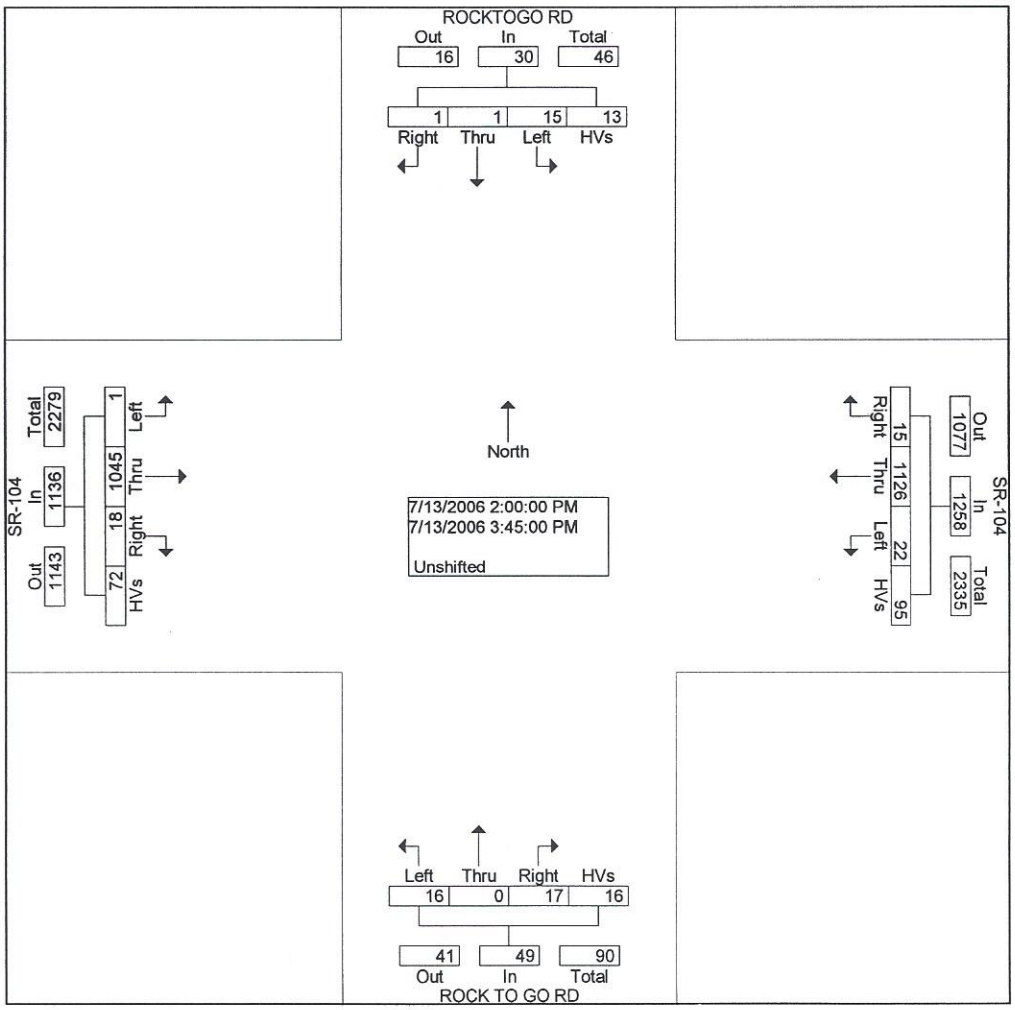
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 02:00 PM | 0 | 0 | 1 | 1 | 1 | 99 | 1 | 7 | 1 | 0 | 1 | 2 | 2 | 123 | 0 | 11 | 250 |
| 02:15 PM | 0 | 0 | 1 | 0 | 4 | 138 | 4 | 17 | 1 | 0 | 1 | 2 | 3 | 140 | 0 | 15 | 326 |
| 02:30 PM | 0 | 0 | 6 | 5 | 3 | 151 | 3 | 14 | 4 | 0 | 1 | 3 | 1 | 118 | 0 | 4 | 313 |
| 02:45 PM | 0 | 0 | 2 | 2 | 3 | 149 | 2 | 11 | 2 | 0 | 2 | 1 | 4 | 126 | 1 | 13 | 318 |
| Total | 0 | 0 | 10 | 8 | 11 | 537 | 10 | 49 | 8 | 0 | 5 | 8 | 10 | 507 | 1 | 43 | 1207 |
| 03:00 PM | 0 | 0 | 4 | 3 | 0 | 133 | 1 | 14 | 4 | 0 | 4 | 2 | 0 | 124 | 0 | 10 | 299 |
| 03:15 PM | 0 | 1 | 0 | 1 | 2 | 163 | 6 | 13 | 1 | 0 | 2 | 1 | 4 | 140 | 0 | 8 | 342 |
| 03:30 PM | 0 | 0 | 1 | 1 | 0 | 137 | 4 | 10 | 2 | 0 | 3 | 2 | 2 | 133 | 0 | 4 | 299 |
| 03:45 PM | 1 | 0 | 0 | 0 | 2 | 156 | 1 | 9 | 2 | 0 | 2 | 3 | 2 | 141 | 0 | 7 | 326 |
| Total | 1 | 1 | 5 | 5 | 4 | 589 | 12 | 46 | 9 | 0 | 11 | 8 | 8 | 538 | 0 | 29 | 1266 |
| Grand Total | 1 | 1 | 15 | 13 | 15 | 1126 | 22 | 95 | 17 | 0 | 16 | 16 | 18 | 1045 | 1 | 72 | 2473 |
| Apprch % | 3.3 | 3.3 | 50.0 | 43.3 | 1.2 | 89.5 | 1.7 | 7.6 | 34.7 | 0.0 | 32.7 | 32.7 | 1.6 | 92.0 | 0.1 | 6.3 | |
| Total % | 0.0 | 0.0 | 0.6 | 0.5 | 0.6 | 45.5 | 0.9 | 3.8 | 0.7 | 0.0 | 0.6 | 0.6 | 0.7 | 42.3 | 0.0 | 2.9 | |



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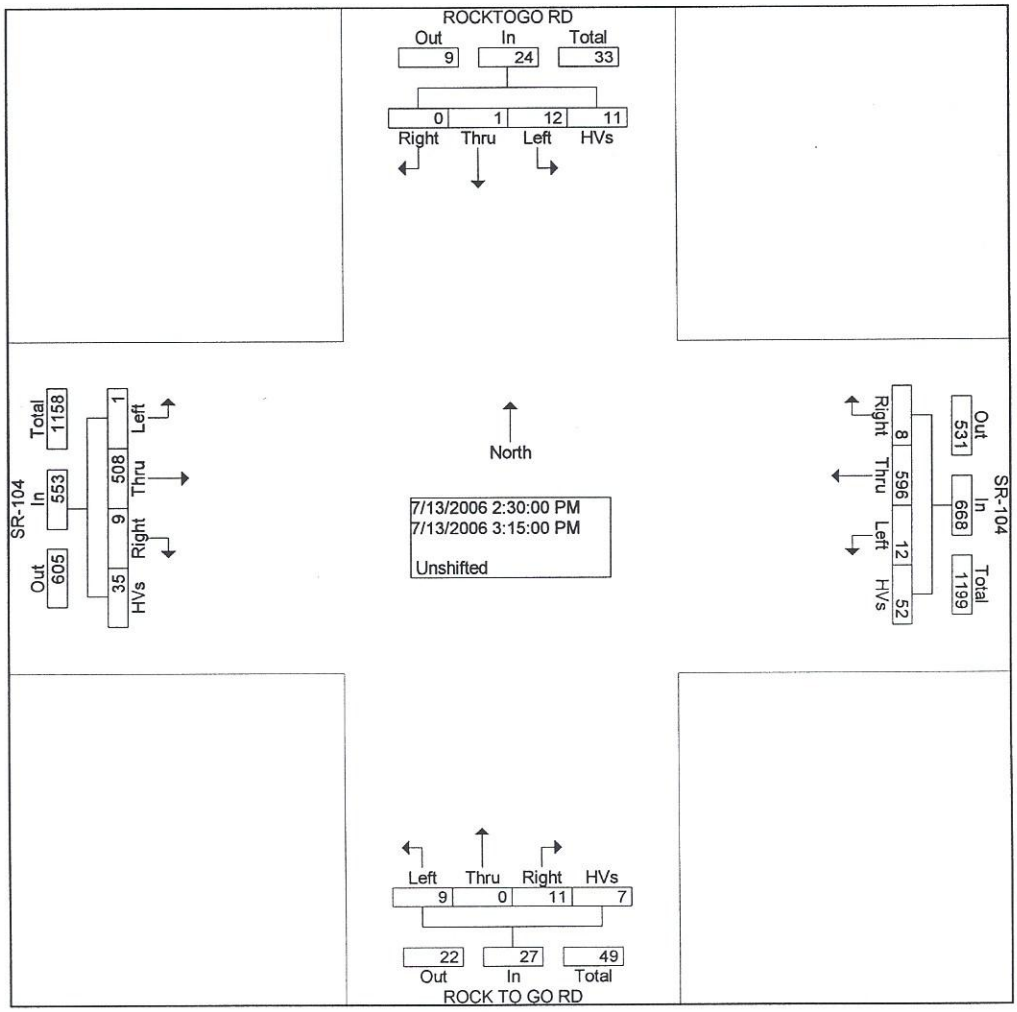
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 02:00 PM to 03:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 02:30 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 0 | 1 | 12 | 11 | 24 | 8 | 596 | 12 | 52 | 668 | 11 | 0 | 9 | 7 | 27 | 9 | 508 | 1 | 35 | 553 | 1272 |
| Percent | 0.0 | 4.2 | 50.0 | 45.8 | | 1.2 | 89.2 | 1.8 | 7.8 | | 40.7 | 0.0 | 33.3 | 25.9 | | 1.6 | 91.9 | 0.2 | 6.3 | | |
| 03:15 Volume | 0 | 1 | 0 | 1 | 2 | 2 | 163 | 6 | 13 | 184 | 1 | 0 | 2 | 1 | 4 | 4 | 140 | 0 | 8 | 152 | 342 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.930 |
| High Int. | 02:30 PM | | | | | 03:15 PM | | | | | 03:00 PM | | | | | 03:15 PM | | | | | |
| Volume | 0 | 0 | 6 | 5 | 11 | 2 | 163 | 6 | 13 | 184 | 4 | 0 | 4 | 2 | 10 | 4 | 140 | 0 | 8 | 152 | |
| Peak Factor | | | | | 0.545 | | | | | 0.908 | | | | | 0.675 | | | | | 0.910 | |



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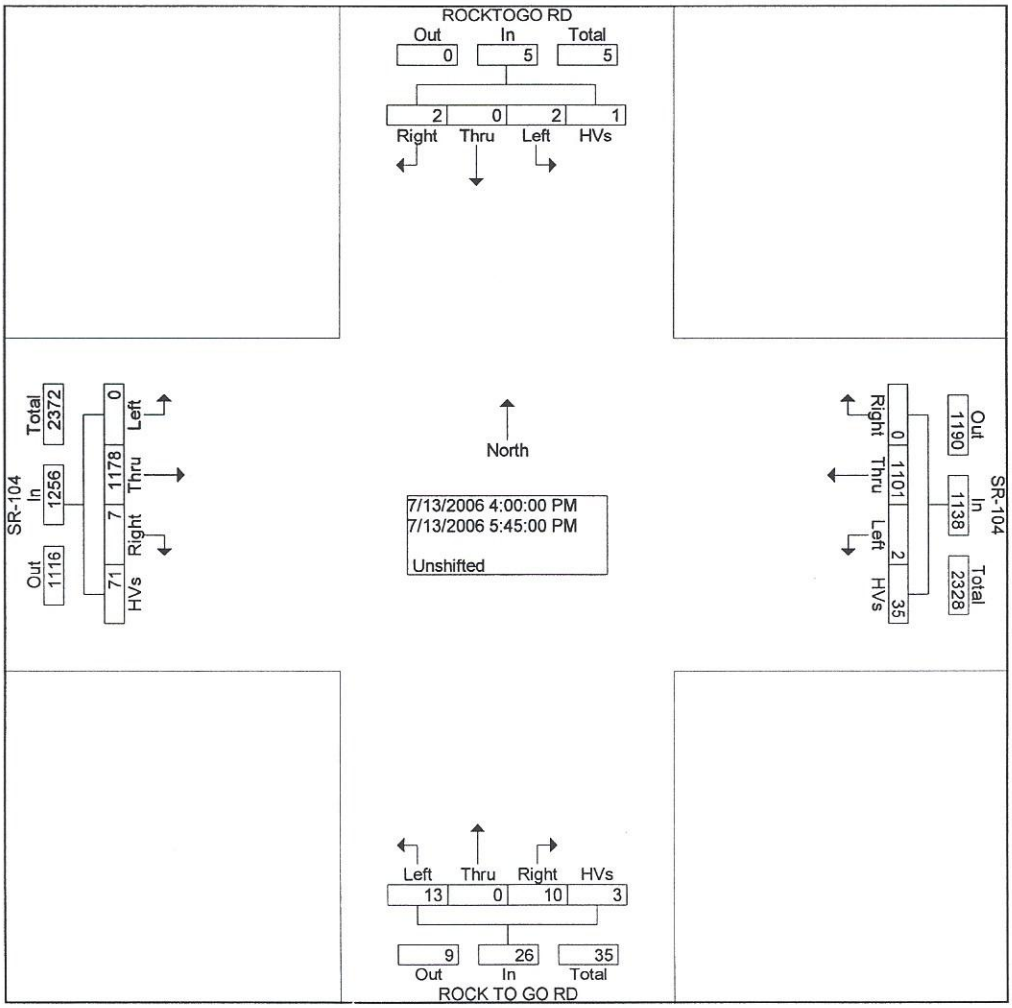
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 1

Groups Printed- Unshifted

| | ROCKTOGO RD Southbound | | | | SR-104 Westbound | | | | ROCK TO GO RD Northbound | | | | SR-104 Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Right | Thru | Left | HVs | Int. Total |
| 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 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 150 | 1 | 6 | 4 | 0 | 2 | 1 | 2 | 158 | 0 | 8 | 332 |
| 04:15 PM | 0 | 0 | 1 | 1 | 0 | 117 | 0 | 4 | 1 | 0 | 2 | 2 | 0 | 149 | 0 | 4 | 281 |
| 04:30 PM | 2 | 0 | 1 | 0 | 0 | 175 | 0 | 8 | 1 | 0 | 2 | 0 | 1 | 129 | 0 | 10 | 329 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 167 | 1 | 7 | 0 | 0 | 2 | 0 | 0 | 151 | 0 | 7 | 335 |
| Total | 2 | 0 | 2 | 1 | 0 | 609 | 2 | 25 | 6 | 0 | 8 | 3 | 3 | 587 | 0 | 29 | 1277 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 128 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 152 | 0 | 14 | 300 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 157 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | 163 | 0 | 8 | 334 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 3 | 2 | 0 | 1 | 0 | 0 | 137 | 0 | 10 | 258 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 102 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 139 | 0 | 10 | 256 |
| Total | 0 | 0 | 0 | 0 | 0 | 492 | 0 | 10 | 4 | 0 | 5 | 0 | 4 | 591 | 0 | 42 | 1148 |
| Grand Total | 2 | 0 | 2 | 1 | 0 | 1101 | 2 | 35 | 10 | 0 | 13 | 3 | 7 | 1178 | 0 | 71 | 2425 |
| Apprch % | 40.0 | 0.0 | 40.0 | 20.0 | 0.0 | 96.7 | 0.2 | 3.1 | 38.5 | 0.0 | 50.0 | 11.5 | 0.6 | 93.8 | 0.0 | 5.7 | |
| Total % | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 45.4 | 0.1 | 1.4 | 0.4 | 0.0 | 0.5 | 0.1 | 0.3 | 48.6 | 0.0 | 2.9 | |



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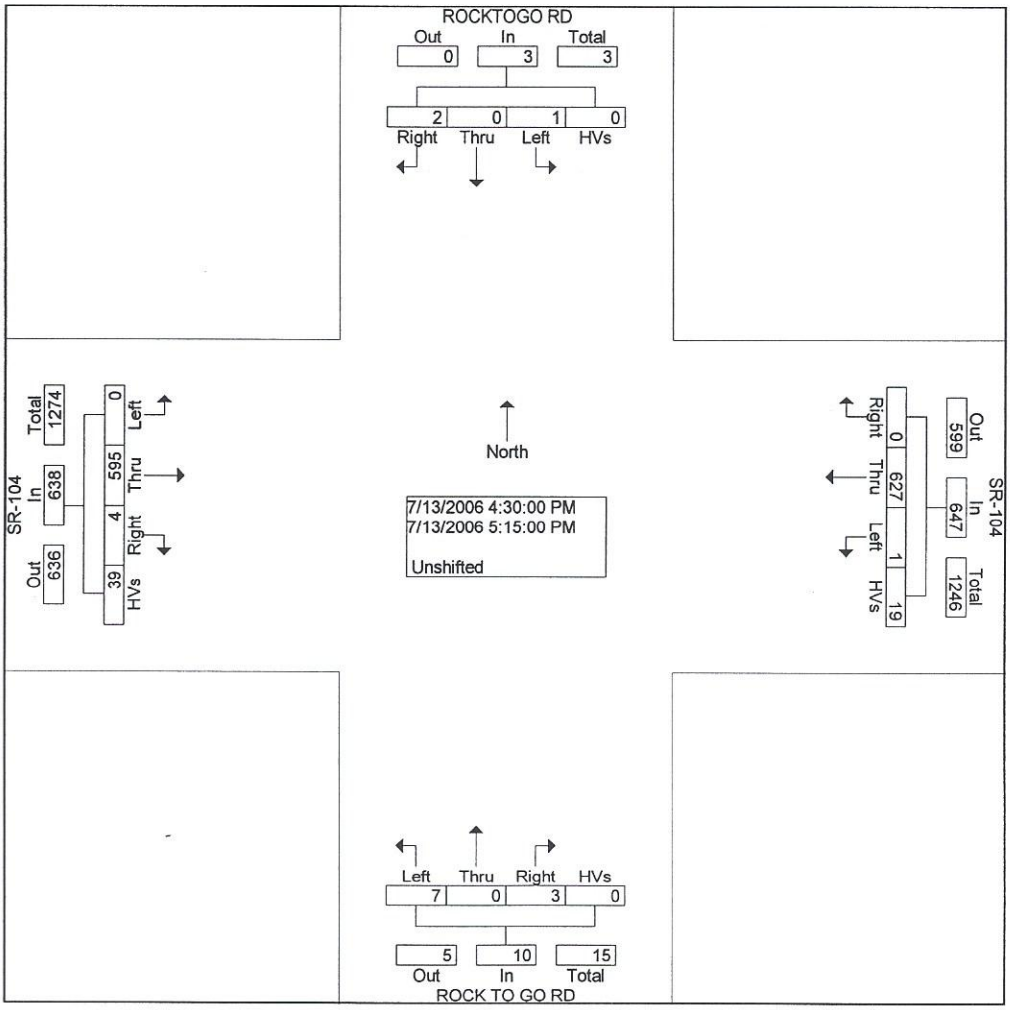
2214 Tacoma Road
Puyallup, WA 98371

File Name : 2642a
Site Code : 00002642
Start Date : 07/13/2006
Page No : 2

| | ROCKTOGO RD Southbound | | | | | SR-104 Westbound | | | | | ROCK TO GO RD Northbound | | | | | SR-104 Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Right | Thru | Left | HVs | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 04:30 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 2 | 0 | 1 | 0 | 3 | 0 | 627 | 1 | 19 | 647 | 3 | 0 | 7 | 0 | 10 | 4 | 595 | 0 | 39 | 638 | 1298 |
| Percent | 66.7 | 0.0 | 33.3 | 0.0 | | 0.0 | 96.9 | 0.2 | 2.9 | | 30.0 | 0.0 | 70.0 | 0.0 | | 0.6 | 93.3 | 0.0 | 6.1 | | |
| 04:45 Volume | 0 | 0 | 0 | 0 | 0 | 0 | 167 | 1 | 7 | 175 | 0 | 0 | 2 | 0 | 2 | 0 | 151 | 0 | 7 | 158 | 335 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.969 |
| High Int. | 04:30 PM | | | | | 04:30 PM | | | | | 04:30 PM | | | | | 05:15 PM | | | | | |
| Volume | 2 | 0 | 1 | 0 | 3 | 0 | 175 | 0 | 8 | 183 | 1 | 0 | 2 | 0 | 3 | 2 | 163 | 0 | 8 | 173 | |
| Peak Factor | | | | | 0.250 | | | | | 0.884 | | | | | 0.833 | | | | | 0.922 | |



# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/13/06; 6 AM - 8 AM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 1*

| | |
|---|---|
| East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road* |
| Intersection Orientation: *East-West* | Study Period (hrs): *0.25* |

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 2 | 271 | 10 | 12 | 211 | 3 |
| Peak-hour factor, PHF | 0.76 | 0.76 | 0.76 | 0.71 | 0.71 | 0.71 |
| Hourly Flow Rate (veh/h) | 2 | 356 | 13 | 16 | 297 | 4 |
| Proportion of heavy vehicles, $P_{HV}$ | 85 | -- | -- | 70 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 4 | 17 | 9 | 0 | 2 |
| Peak-hour factor, PHF | 0.76 | 0.76 | 0.76 | 0.87 | 0.87 | 0.87 |
| Hourly Flow Rate (veh/h) | 7 | 5 | 22 | 10 | 0 | 2 |
| Proportion of heavy vehicles, $P_{HV}$ | 70 | 70 | 70 | 85 | 85 | 85 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 2 | 16 | | 34 | | | 12 | |
| Capacity, $c_m$ (vph) | 906 | 896 | | 410 | | | 268 | |
| v/c ratio | 0.00 | 0.02 | | 0.08 | | | 0.04 | |
| Queue length (95%) | 0.01 | 0.05 | | 0.27 | | | 0.14 | |
| Control Delay (s/veh) | 9.0 | 9.1 | | 14.6 | | | 19.1 | |
| LOS | A | A | | B | | | C | |
| Approach delay (s/veh) | -- | -- | 14.6 | | | 19.1 | | |
| Approach LOS | -- | -- | B | | | C | | |

## TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/13/06; 8 AM - 10 AM | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 2*

| | |
|---|---|
| East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road* |
| Intersection Orientation: *East-West* | Study Period (hrs): *0.25* |

### Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 1 | 505 | 4 | 11 | 440 | 8 |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.75 | 0.75 | 0.75 |
| Hourly Flow Rate (veh/h) | 1 | 573 | 4 | 14 | 586 | 10 |
| Proportion of heavy vehicles, $P_{HV}$ | 85 | -- | -- | 70 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 3 | 0 | 14 | 8 | 0 | 2 |
| Peak-hour factor, PHF | 0.63 | 0.63 | 0.63 | 0.52 | 0.52 | 0.52 |
| Hourly Flow Rate (veh/h) | 4 | 0 | 22 | 15 | 0 | 3 |
| Proportion of heavy vehicles, $P_{HV}$ | 70 | 70 | 70 | 85 | 85 | 85 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

### Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 1 | 14 | | 26 | | | 18 | |
| Capacity, $c_m$ (vph) | 677 | 733 | | 295 | | | 116 | |
| v/c ratio | 0.00 | 0.02 | | 0.09 | | | 0.16 | |
| Queue length (95%) | 0.00 | 0.06 | | 0.29 | | | 0.53 | |
| Control Delay (s/veh) | 10.3 | 10.0 | | 18.4 | | | 41.7 | |
| LOS | B | B | | C | | | E | |
| Approach delay (s/veh) | -- | -- | 18.4 | | | 41.7 | | |
| Approach LOS | -- | -- | C | | | E | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/13/06; 10 AM - 12 PM | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 3*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 2 | 480 | 4 | 15 | 541 | 11 |
| Peak-hour factor, PHF | 0.88 | 0.88 | 0.88 | 0.89 | 0.89 | 0.89 |
| Hourly Flow Rate (veh/h) | 2 | 545 | 4 | 16 | 607 | 12 |
| Proportion of heavy vehicles, $P_{HV}$ | 85 | -- | -- | 70 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 6 | 1 | 12 | 11 | 1 | 1 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.62 | 0.62 | 0.62 |
| Hourly Flow Rate (veh/h) | 6 | 1 | 13 | 17 | 1 | 1 |
| Proportion of heavy vehicles, $P_{HV}$ | 70 | 70 | 70 | 85 | 85 | 85 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 2 | 16 | | 20 | | | 19 | |
| Capacity, $c_m$ (vph) | 662 | 753 | | 223 | | | 109 | |
| v/c ratio | 0.00 | 0.02 | | 0.09 | | | 0.17 | |
| Queue length (95%) | 0.01 | 0.07 | | 0.29 | | | 0.60 | |
| Control Delay (s/veh) | 10.5 | 9.9 | | 22.7 | | | 44.9 | |
| LOS | B | A | | C | | | E | |
| Approach delay (s/veh) | -- | -- | 22.7 | | | 44.9 | | |
| Approach LOS | -- | -- | C | | | E | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | *SR-104 & Rock-To-Go Rd* |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | *7/13/06; 12 PM - 2 PM* | | |

Project Description *EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 4*

East/West Street: *SR-104* | North/South Street: *Rock-To-Go Road*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | *1* | *536* | *5* | *11* | *540* | *11* |
| Peak-hour factor, PHF | *0.87* | *0.87* | *0.87* | *0.82* | *0.82* | *0.82* |
| Hourly Flow Rate (veh/h) | *1* | *616* | *5* | *13* | *658* | *13* |
| Proportion of heavy vehicles, $P_{HV}$ | *85* | -- | -- | *70* | -- | -- |
| Median type | *Undivided* | | | | | |
| RT Channelized? | | | *0* | | | *0* |
| Lanes | *0* | *1* | *0* | *0* | *1* | *0* |
| Configuration | *LTR* | | | *LTR* | | |
| Upstream Signal | | *0* | | | *0* | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | *5* | *0* | *13* | *10* | *3* | *2* |
| Peak-hour factor, PHF | *0.75* | *0.75* | *0.75* | *0.67* | *0.67* | *0.67* |
| Hourly Flow Rate (veh/h) | *6* | *0* | *17* | *14* | *4* | *2* |
| Proportion of heavy vehicles, $P_{HV}$ | *70* | *70* | *70* | *85* | *85* | *85* |
| Percent grade (%) | | *0* | | | *0* | |
| Flared approach | | *N* | | | *N* | |
| Storage | | *0* | | | *0* | |
| RT Channelized? | | | *0* | | | *0* |
| Lanes | *0* | *1* | *0* | *0* | *1* | *0* |
| Configuration | | *LTR* | | | *LTR* | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | *LTR* | *LTR* | | *LTR* | | | *LTR* | |
| Volume, v (vph) | *1* | *13* | | *23* | | | *20* | |
| Capacity, $c_m$ (vph) | *628* | *702* | | *210* | | | *96* | |
| v/c ratio | *0.00* | *0.02* | | *0.11* | | | *0.21* | |
| Queue length (95%) | *0.00* | *0.06* | | *0.36* | | | *0.73* | |
| Control Delay (s/veh) | *10.7* | *10.2* | | *24.2* | | | *52.1* | |
| LOS | *B* | *B* | | *C* | | | *F* | |
| Approach delay (s/veh) | -- | -- | *24.2* | | | *52.1* | | |
| Approach LOS | -- | -- | *C* | | | *F* | | |

## TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/13/06; 2 PM - 4 PM | | |

Project Description: EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 5

East/West Street: SR-104 | North/South Street: Rock-To-Go Road

Intersection Orientation: East-West | Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 1 | 508 | 9 | 12 | 596 | 8 |
| Peak-hour factor, PHF | 0.91 | 0.91 | 0.91 | 0.90 | 0.90 | 0.90 |
| Hourly Flow Rate (veh/h) | 1 | 558 | 9 | 13 | 662 | 8 |
| Proportion of heavy vehicles, $P_{HV}$ | 85 | -- | -- | 70 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 9 | 0 | 11 | 12 | 1 | 0 |
| Peak-hour factor, PHF | 0.67 | 0.67 | 0.67 | 0.54 | 0.54 | 0.54 |
| Hourly Flow Rate (veh/h) | 13 | 0 | 16 | 22 | 1 | 0 |
| Proportion of heavy vehicles, $P_{HV}$ | 70 | 70 | 70 | 85 | 85 | 85 |
| Percent grade (%) | | 0 | | | 0 | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

### Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 1 | 13 | | 29 | | | 23 | |
| Capacity, $c_m$ (vph) | 629 | 740 | | 179 | | | 95 | |
| v/c ratio | 0.00 | 0.02 | | 0.16 | | | 0.24 | |
| Queue length (95%) | 0.00 | 0.05 | | 0.56 | | | 0.87 | |
| Control Delay (s/veh) | 10.7 | 10.0 | | 29.0 | | | 54.6 | |
| LOS | B | A | | D | | | F | |
| Approach delay (s/veh) | -- | -- | 29.0 | | | 54.6 | | |
| Approach LOS | -- | -- | D | | | F | | |

# TWO-WAY STOP CONTROL SUMMARY

| General Information | | Site Information | |
|---|---|---|---|
| Analyst | | Intersection | SR-104 & Rock-To-Go Rd |
| Agency/Co. | | Jurisdiction | |
| Date Performed | | Analysis Year | |
| Analysis Time Period | 7/13/06; 4 PM - 6 PM | | |

| | |
|---|---|
| Project Description | EXISTING PEAK HOUR VOLUMES; DAY 2 TIME SLOT 6 |
| East/West Street: SR-104 | North/South Street: Rock-To-Go Road |
| Intersection Orientation: East-West | Study Period (hrs): 0.25 |

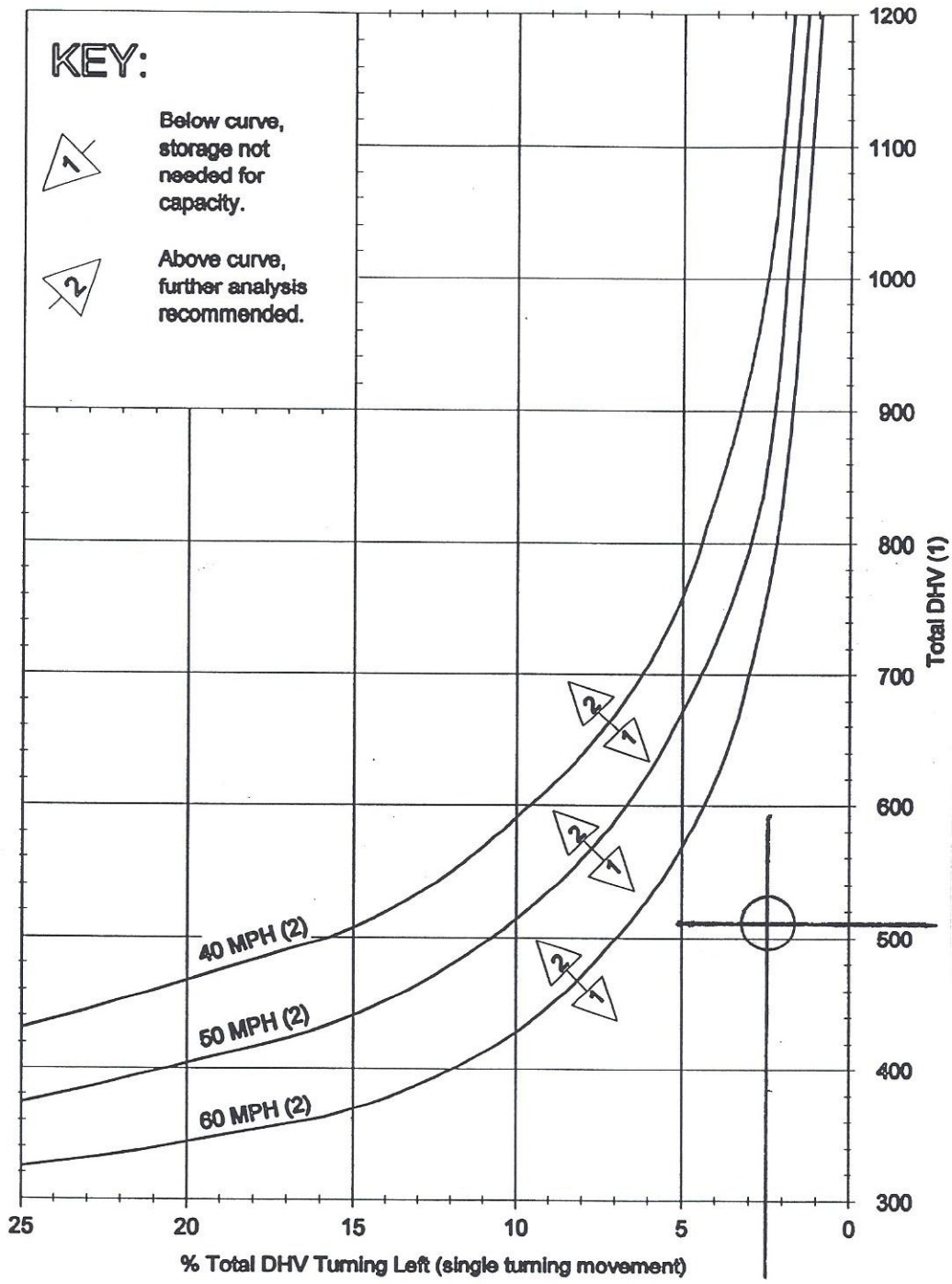
## Vehicle Volumes and Adjustments

| Major Street | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|
| Movement | 1 | 2 | 3 | 4 | 5 | 6 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 0 | 595 | 4 | 1 | 627 | 0 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 |
| Hourly Flow Rate (veh/h) | 0 | 646 | 4 | 1 | 712 | 0 |
| Proportion of heavy vehicles, $P_{HV}$ | 85 | -- | -- | 70 | -- | -- |
| Median type | Undivided | | | | | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | LTR | | | LTR | | |
| Upstream Signal | | 0 | | | 0 | |

| Minor Street | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|
| Movement | 7 | 8 | 9 | 10 | 11 | 12 |
| | L | T | R | L | T | R |
| Volume (veh/h) | 7 | 0 | 3 | 1 | 0 | 2 |
| Peak-hour factor, PHF | 0.83 | 0.83 | 0.83 | 0.25 | 0.25 | 0.25 |
| Hourly Flow Rate (veh/h) | 8 | 0 | 3 | 4 | 0 | 8 |
| Proportion of heavy vehicles, $P_{HV}$ | 70 | 70 | 70 | 85 | 85 | 85 |
| Percent grade (%) | 0 | | | 0 | | |
| Flared approach | | N | | | N | |
| Storage | | 0 | | | 0 | |
| RT Channelized? | | | 0 | | | 0 |
| Lanes | 0 | 1 | 0 | 0 | 1 | 0 |
| Configuration | | LTR | | | LTR | |

## Control Delay, Queue Length, Level of Service

| Approach | EB | WB | Northbound | | | Southbound | | |
|---|---|---|---|---|---|---|---|---|
| Movement | 1 | 4 | 7 | 8 | 9 | 10 | 11 | 12 |
| Lane Configuration | LTR | LTR | | LTR | | | LTR | |
| Volume, v (vph) | 0 | 1 | | 11 | | | 12 | |
| Capacity, $c_m$ (vph) | 603 | 683 | | 110 | | | 164 | |
| v/c ratio | 0.00 | 0.00 | | 0.10 | | | 0.07 | |
| Queue length (95%) | 0.00 | 0.00 | | 0.32 | | | 0.23 | |
| Control Delay (s/veh) | 11.0 | 10.3 | | 41.3 | | | 28.7 | |
| LOS | B | B | | E | | | D | |
| Approach delay (s/veh) | -- | -- | 41.3 | | | 28.7 | | |
| Approach LOS | -- | -- | E | | | D | | |

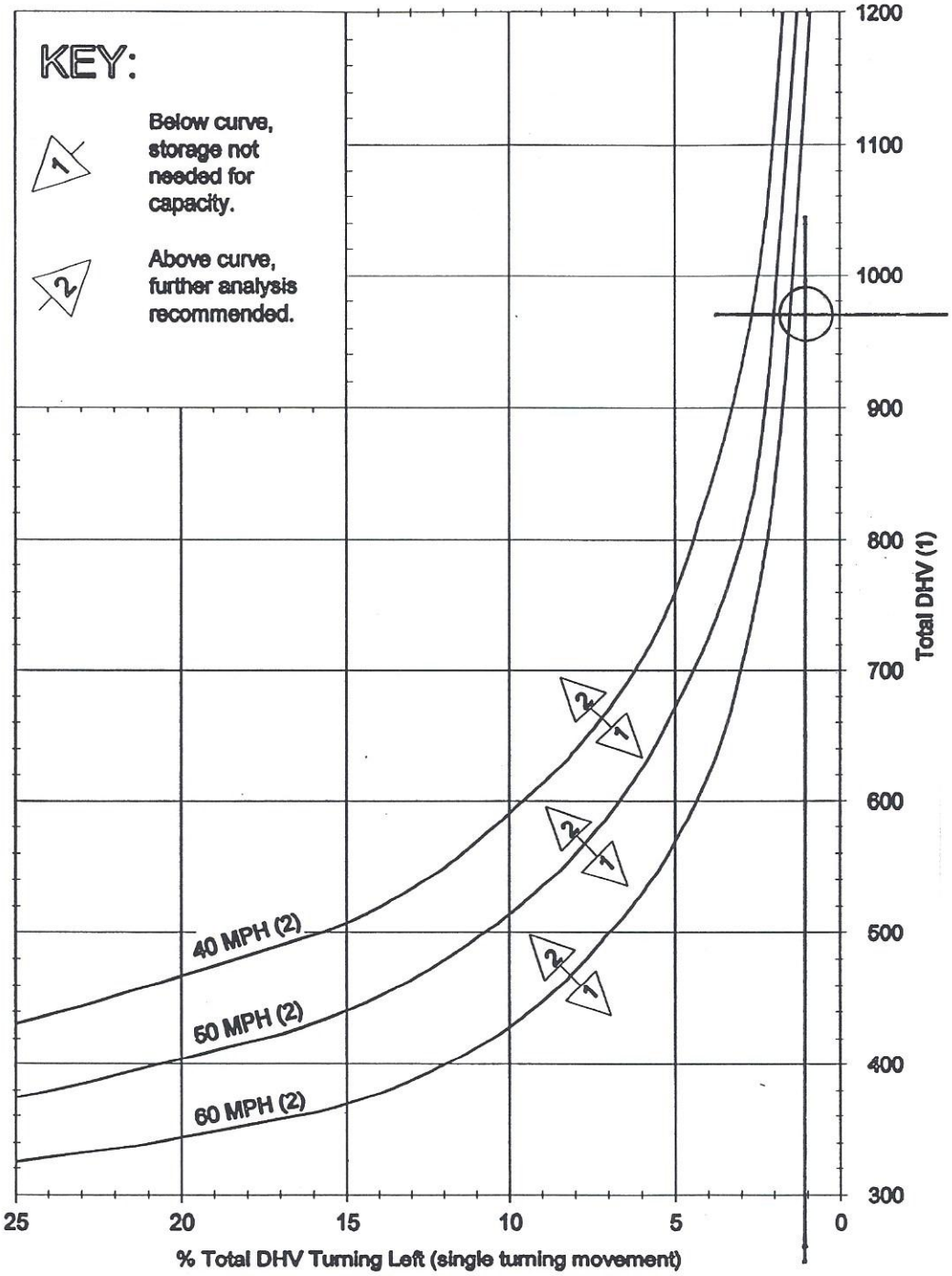



SR-104 & Rock To Go Rd
Day 2 Time Slot 1; 6-8 AM Peak
Total DHV: 509 vph
% Turning Left (WB): 12/509 = 2.4%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

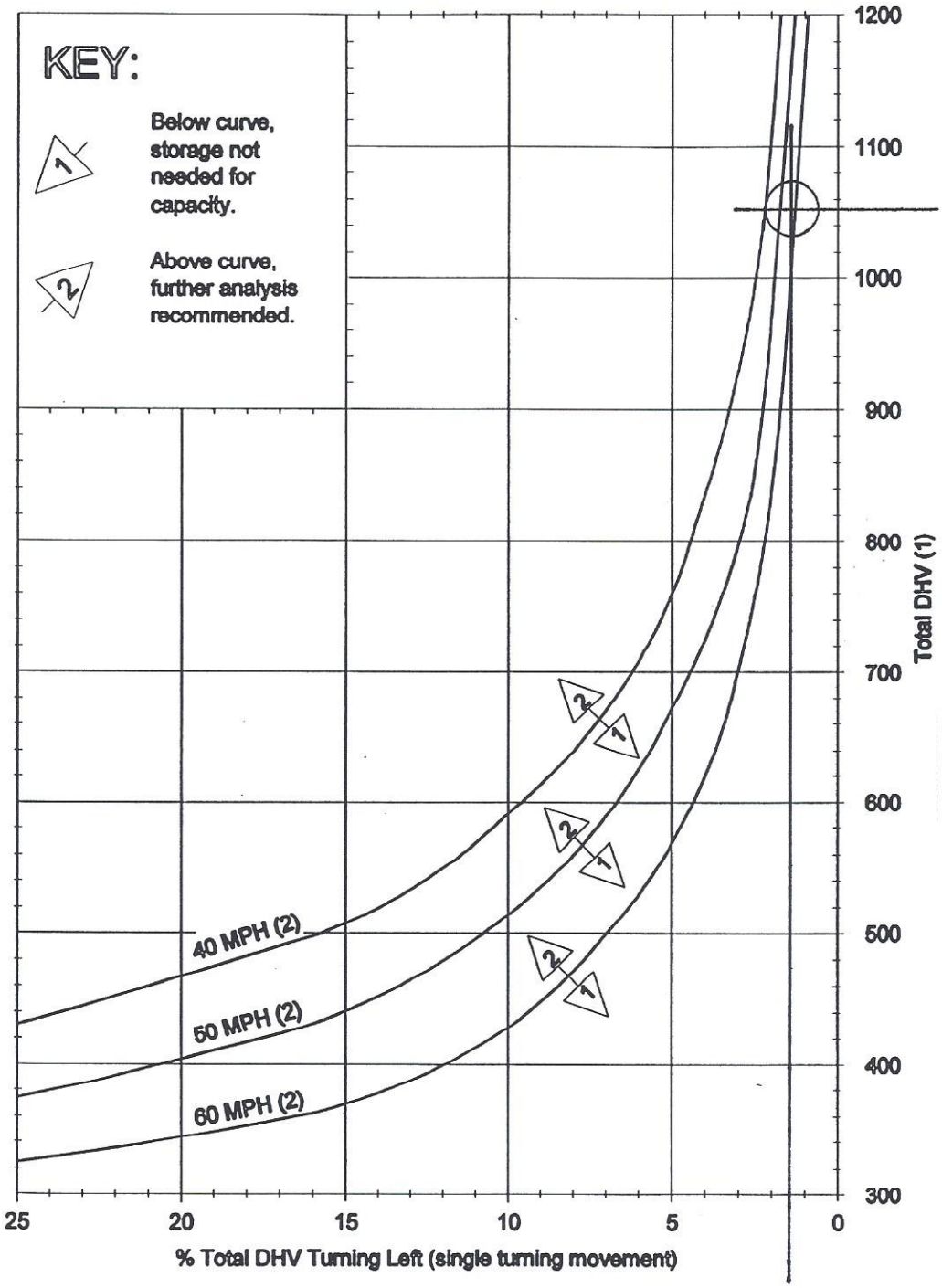



SR-104 & Rock To Go Rd
Day 2 Time Slot 2; 8-10 AM Peak
Total DHV: 969 vph
% Turning Left (WB): 11/969 = 1.1%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

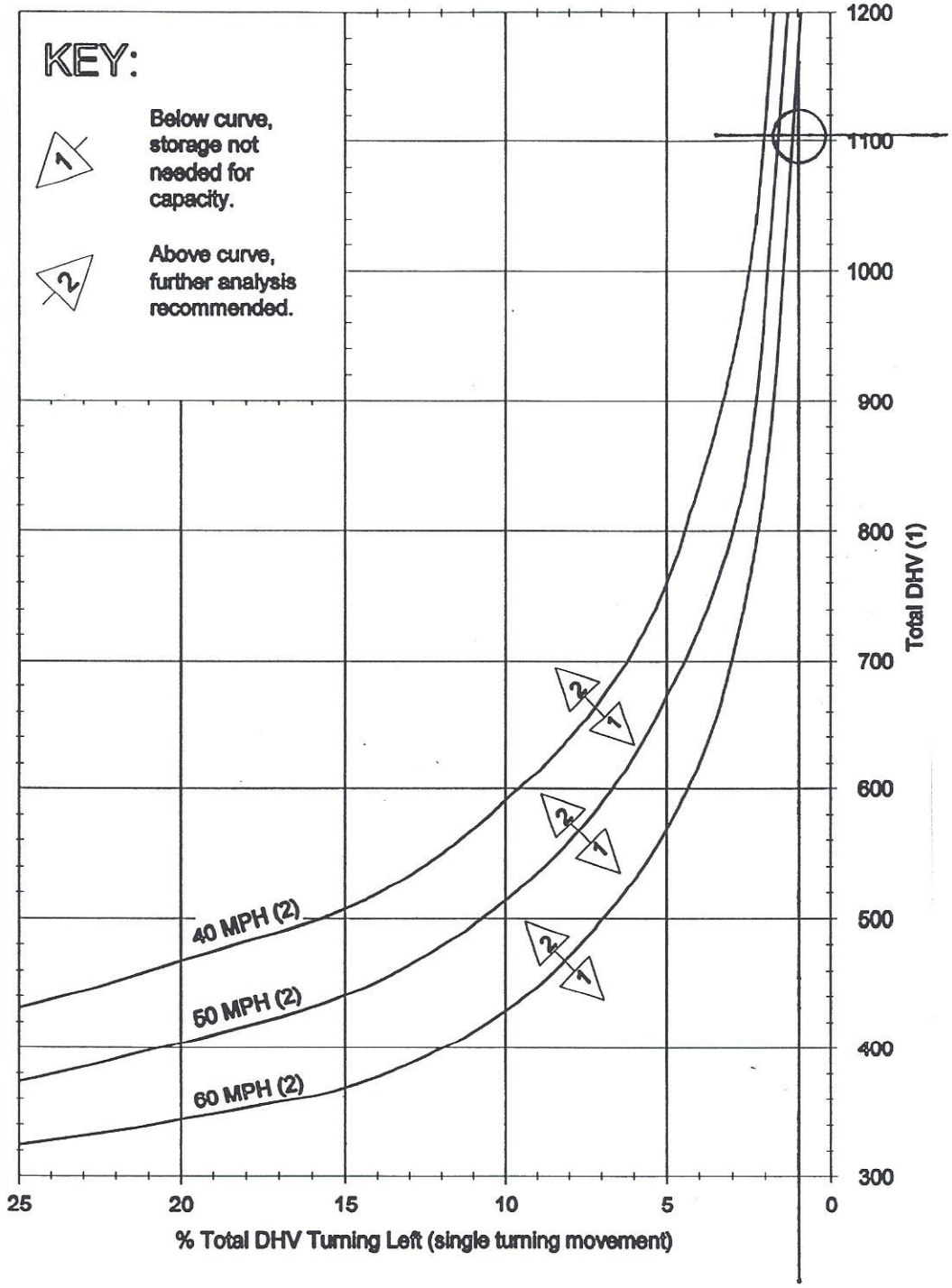



SR-104 & Rock To Go Rd
Day 2 Time Slot 3; 10 AM-12 PM Peak
Total DHV: 1053 vph
% Turning Left (WB): 15/1053 = 1.4%
LEFT TURN LANE IS WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

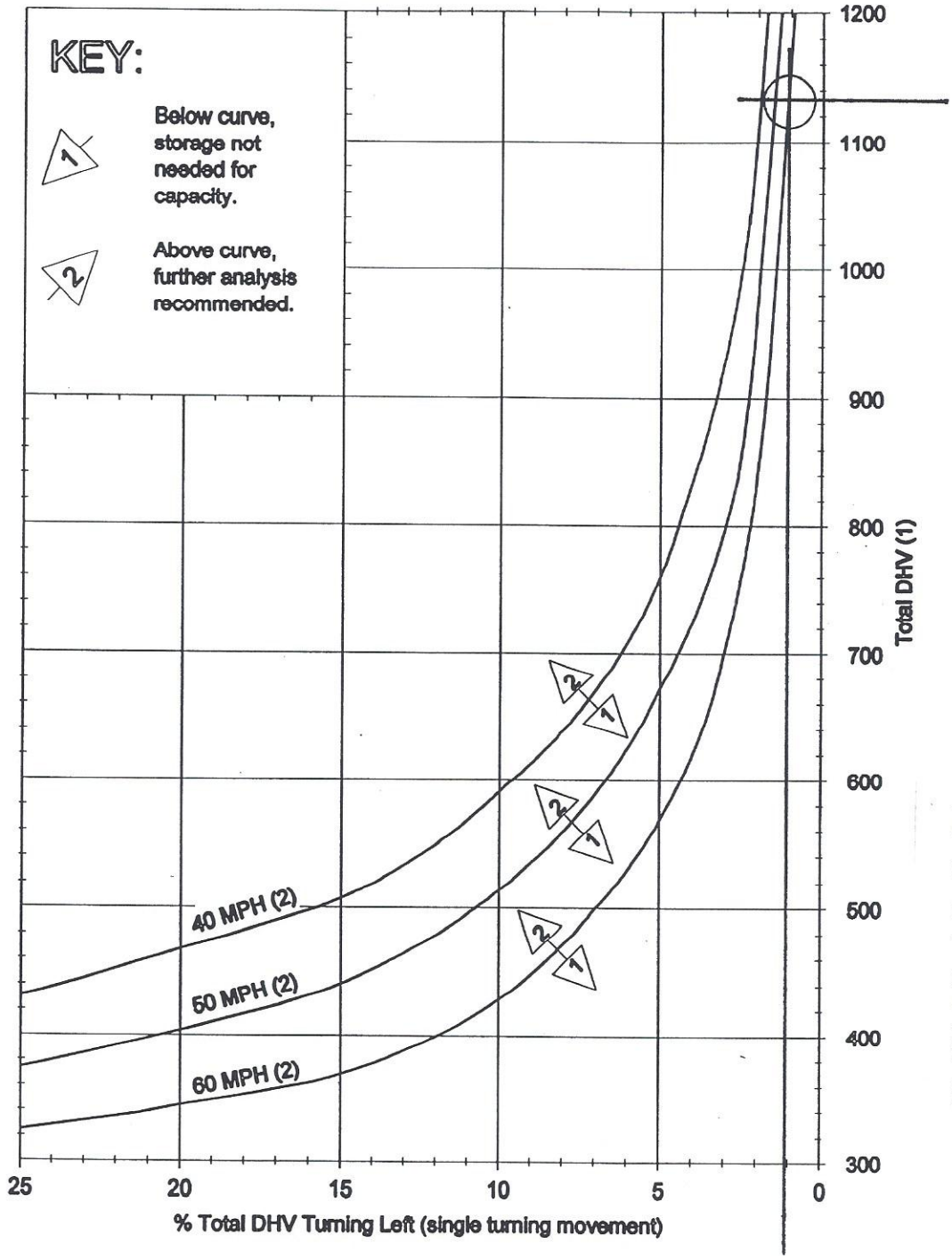



SR-104 & Rock To Go Rd
Day 2 Time Slot 4; 12-2 PM Peak
Total DHV: 1104 vph
% Turning Left (WB): 11/1104 = 1.0%
LEFT TURN LANE NOT WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*

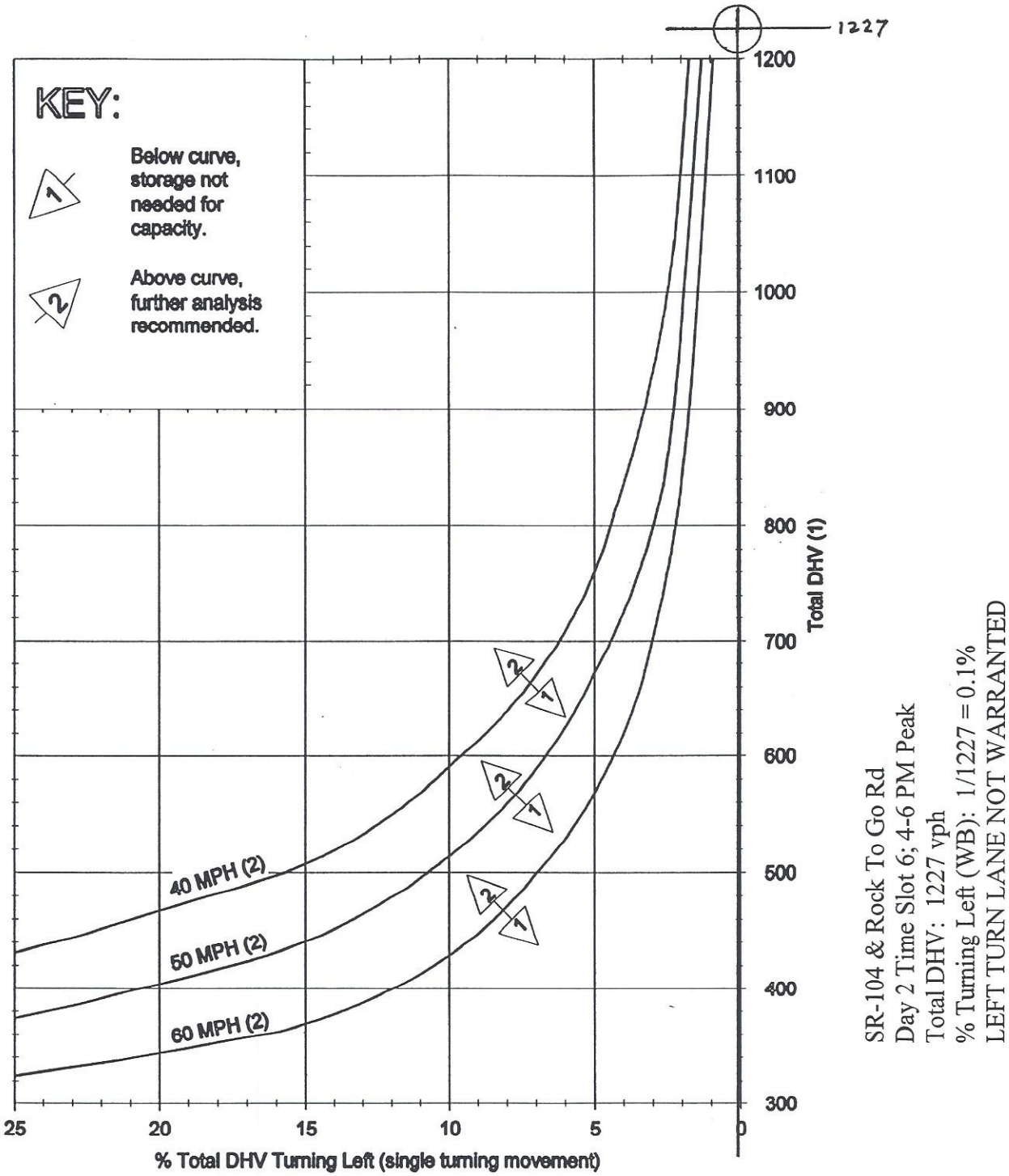



SR-104 & Rock To Go Rd
Day 2 Time Slot 5; 2-4 PM Peak
Total DHV: 1134 vph
% Turning Left (WB): 12/1134 = 1.1%
LEFT TURN LANE IS WARRANTED

(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*




(1) DHV is total volume from both directions.

(2) Speeds are posted speeds.

**Left-Turn Storage Guidelines (Two-Lane, Unsignalized)**
*Figure 910-8a*