HIGHWAY 62
CORRIDOR SOLUTIONS

TRANSPORTATION PROBLEM STATEMENT
AND
EXISTING CONDITIONS REPORT

November 8, 2004

EXECUTIVE SUMMARY

The Crater Lake Highway corridor between Interstate 5 and White City has experienced continuing growth for several decades. Improvements to the highway's capacity issues have been ongoing in an attempt to keep up with ever increasing traffic due to growth in the area.

As increased traffic outpaces improvements, the corridor is no longer functioning as required statewide-expressway and statewide classifications. These classifications require that the facility provide for safe and efficient high-speed and high-volume traffic movements. The facility is to provide for interurban travel and connections to ports and major recreation areas with minimal interruptions and provide for long distance intra-urban travel in metropolitan areas.

Analysis of current, year 2004, conditions indicates that deficiencies with capacity and operations exist at the following intersections:

- Vilas Road & Crater Lake Highway
- Cardinal Ave & Crater Lake Highway
- Delta Waters & Crater Lake Highway
- Delta Waters & Crater Lake Avenue
- Webfoot Road & Crater Lake Avenue
- Corey Road & Crater Lake Highway
- Agate Road & Crater Lake Highway
- Coker Butte Road & Crater Lake Highway
- Antelope Road & Crater Lake Highway

An increased number of accidents in the 1980s along the corridor led to the designation of "Safety Corridor" for the section of Crater Lake Highway between Eagle Point and Interstate 5 in 1989. The posting of "Safety Corridor" signs, increased enforcement, and reduction of the posted speed to 45 miles per hour were measures taken to reduce the number of accidents. Following implementation of the Safety Corridor, a reduction in the number of accidents was shown and, as a result, the "Safety Corridor" designation was removed by the Oregon Transportation Commission (OTC) in 2004. The reduced speed limit was retained.

Crash rates on Crater Lake Highway exceed statewide rates for similar facilities between Poplar Drive and Delta Waters Road (milepost 0.89 to 1.89) and Corey Road and Antelope Road (milepost 5.42 to 6.36).

The existing conditions indicate that there is a significant need to make improvements within the corridor. Safety issues, capacity constraints, and delay

to the traveling public are all part of the continuing challenge to find a solution for the corridor.

CRATER LAKE HIGHWAY TRANSPORTATION PROBLEM STATEMENT AND EXISTING CONDITIONS REPORT

Transportation Problem Statement

The portion of Crater Lake Highway evaluated for the Highway 62 Corridor solutions project is from Poplar Drive to Avenue G, located in Jackson County, Oregon. The section of the highway from Delta Waters Road to Poplar Drive is classified as Statewide. The remaining section of highway is classified as a Statewide Expressway.

The 1999 *Oregon Highway Plan* explains that the Statewide Expressways classification is for complete routes or segments of existing two-lane and multi-lane highways and planned multi-lane highways that provide for safe and efficient high speed and high volume traffic movements. Their primary function is to provide for interurban travel and connections to ports and major recreation areas with minimal interruptions. A secondary function is to provide for long distance intra-urban travel in metropolitan areas. In urban areas, speeds are moderate to high. In rural areas, speeds are high. Usually there are no pedestrian facilities, and bikeways may be separated from the roadway. As a subset in this classification, "expressway" refers to the kind and number of accesses allowed on a highway segment.

The problem with the Crater Lake Highway corridor is that it does not provide for safe and efficient high speed and high volume traffic movements, as its classifications requires. The reasons for this include little or no access control in sections, high traffic volumes for more than just peak periods of the day, lower posted speeds, and lower traveling speeds due to congestion. Hourly traffic flows at the automated traffic recorder (ATR) on Crater Lake Highway show that volumes climb steadily during the day and stay high for several hours. This trend shows that we are not dealing with many peaks or high volumes for one select hour of the day, as is most common, but instead are dealing with steadily high traffic volumes with limited ability for recovery.

The increased occurrence of traffic accidents in the 1980s led the State to classify the section of highway from Interstate 5 to Eagle Point, mile points 0.5 to 10.0, as a Safety Corridor. Safety Corridors are stretches of state and local highways with a higher than statewide average of accidents for similar facilities. In September 1989, the actions taken to increase safety included signage, more frequent enforcement, and reduction of the speed limit from 55 MPH to 45 MPH. During the summer of 2004, the Oregon Transportation Commission removed the Safety Corridor designation. This was due to the reduced number of accidents in the corridor. The 45 MPH posted speed limit was retained.

Demands related to continued growth, and reduced speeds on the highway in the following years have reduced the highway's ability to meet the requirements of the Statewide classification. The impact on travel time has been costly for commerce and individuals. Increasing traffic volumes and congestion along Crater Lake Highway are an ongoing concern. Currently, in the north Medford area over 42,000 cars and trucks use Crater Lake Highway daily, an amount that is nearly equal to the traffic volume on I-5 in this area.

Congestion in the area is adversely affecting the performance of several intersections throughout the corridor. Intersections in the southern portions of the corridor are exceeding State standards of operation, with lengthy delays occurring more frequently and lasting for longer periods.

A history of crash and congestion issues, in addition to the highway no longer meeting the prescribed mobility standards, led to the initial Highway 62 Corridor Solutions project in 1998. The need to evaluate the crash and congestion issues along the corridor and identify potential solutions was the purpose of the project.

The corridor project had gained substantial information and analyzed multiple alternatives to move towards making a final decision for a solution when funding issues stopped work on the project in the fall of 2001. With work on the corridor project stopped, the issues continued to intensify, and today the need for a solution is even more of a priority for region, statewide, and interstate users of the highway.

1.0 EXISTING CONDITIONS

1.1 Safety

The Oregon Department of Transportation Crash Analysis and Reporting Unit crash listings for the section of Crater Lake Highway from MP 0.87 to MP 7.17 in White City identify a total number of 456 reported crashes for the years 2000 through 2003. These include 0 fatalities, 215 reported injuries, and 241 reporting only property damage. The analysis was extended north of what may be the project limits to allow consideration of the highway's overall performance.

The crash data was analyzed using ODOT's Safety Priority Index System (SPIS). The SPIS is a method for identifying potential safety problems on state highways and is recognized as an effective problem identification tool for evaluating state highways for segments with higher crash histories. Attachment A identifies the corridor by SPIS areas, type and severity of accidents and intersections within each SPIS area. Table 1 compares the ORE 62 crash rate to the statewide average rate for similar facilities. Table 1.2 shows the severity of crashes within the corridor.

Table 1: Crash Rates for Crater Lake Highway (ORE 62)

Corridor Segment	Milepost	Statewide Crash Rate	ORE 62 Crash Rate	Exceeds Statewide Rate
Poplar Drive to Delta Waters Road	0.87 to 1.89	2.71	2.98	Yes
Delta Waters Road to Cardinal Avenue	1.90 to 2.30	2.71	1.16	No
Cardinal Avenue to Coker Butte Road	2.31 to 3.50	2.71	0.18	No
Coker Butte Road to Vilas Road	3.51 to 4.0	2.71	2.38	No
Vilas Road to Corey Road	4.01 to 5.41	2.71	0.44	No
Corey Road to Highway 140	5.42 to 6.03	0.80	1.25	Yes
Highway 140 to Antelope Road	6.04 to 6.36	0.80	2.60	Yes
Antelope Road to Avenue G	6.37 to 7.17	0.80	0.54	No

Table 1.2: Severity of Crashes for Crater Lake Highway (ORE 62)

Corridor Segment	Milepost	Number of Reported Crashes Yr 2000-2002	Property Damage (PDO)	Injury (INJ)
Poplar Drive to Delta Waters Road	0.87 to 1.89	145	59%	41%
Delta Waters Road to Cardinal Avenue	1.90 to 2.30	30	40%	60%
Cardinal Avenue to Coker Butte Road	2.31 to 3.50	20	50%	50%
Coker Butte Road to Vilas Road	3.51 to 4.0	63	52%	48%
Vilas Road to Corey Road	4.01 to 5.41	32	59%	41%
Corey Road to Highway 140	5.42 to 6.03	43	53%	47%
Highway 140 to Antelope Road	6.04 to 6.36	41	49%	51%
Antelope Road to Avenue G	6.37 to 7.17	22	32%	68%

1.2 Study Area

Intersection locations and lane configurations are shown in Figures 1-1, 1-2, 2-1, and 2-2. In addition to the Crater Lake Highway corridor, three intersections along Table Rock Road and five along Crater Lake Avenue were analyzed due to interest in the future of those parallel facilities.

2.0 EXISTING 2004 PERFORMANCE MEASURES

Table 2 summarizes performance measures for study area intersections under existing conditions. Refer to figures 3-1 and 3-2 for existing intersection volumes.

Table 2: Existing 2004 Performance Analysis

Intersection	Mobility Standard	V/C Ratio	LOS / Delay	Within Standard
Signalized				
Poplar Drive & Crater Lake Highway	V/C = 0.85	0.84	----	Yes
Delta Waters & Crater Lake Highway	V/C = 0.80	1.08	----	No
Delta Waters & Crater Lake Avenue	LOS D	----	LOS E	No
Cardinal Avenue & Crater Lake Highway	V/C = 0.80	0.92	----	No
Vilas Road & Crater Lake Highway	V/C = 0.80	0.86	----	No
Highway 140 & Crater Lake Highway	V/C = 0.80	0.83	----	No
Antelope Road & Crater Lake Highway	V/C = 0.80	0.90	----	No
Avenue G & Crater Lake Highway	V/C = 0.80	0.71	----	Yes
Antelope Road & Table Rock Road	LOS D	----	LOS C	Yes
Vilas Road & Table Rock Road	LOS D	----	LOS C	Yes
Biddle Road & Table Rock Road	LOS D	----	LOS B	Yes
Unsignalized				
Webfoot Road & Crater Lake Highway	V/C = 0.80	0.69 (SBL)	----	Yes
Webfoot Road & Crater Lake Avenue	V/C = 0.80	0.66 (EB approach)	----	Yes
Vilas Road & Crater Lake Avenue	V/C = 0.80	0.48 (NB approach)	----	Yes
Corey Road & Crater Lake Highway	V/C = 0.80	1.75 (WBL)	----	No
Corey Road & Crater Lake Avenue	V/C = 0.80	0.24 (NB approach)	----	Yes
Agate Road & Crater Lake Highway	V/C = 0.80	0.94 (EBR)	----	No
Coker Butte Road & Crater Lake Highway	V/C = 0.80	2.40 (WBL)	----	No
Coker Butte Road & Crater Lake Avenue	V/C = 0.80	0.41 (NB approach)	----	Yes
* SBL = southbound left, NB = northbound, WBL = westbound left, EBR = eastbound right, EB = eastbound				

3.0 TRAFFIC SIGNAL WARRANTS

3.1 Coker Butte Road and Crater Lake Highway

The critical v/c ratio at the unsignalized intersection of Coker Butte Road and Crater Lake Highway is 2.58 for the westbound left turn movement under existing 2004 conditions. In the future Coker Butte Road on the east side of Crater Lake Highway will be re-aligned and signalized with Coker Butte Road on the west side of Crater Lake Highway. A preliminary signal warrant analysis was prepared to determine whether a signal is currently warranted. Results showed that preliminary signal warrants are not met for either case under existing conditions. Refer to Table 3 for details.

Table 3: Existing 2004 Warrant Analysis for Coker Butte Road

Intersection					
Coker Butte Road & Crater Lake Highway	**Street**	**# of Lanes**	**Warrant**	**Approach**	**Warrant Met**
Case A	Major	2	7,400	33,000	No
	Minor	1	1,850	500	No
Case B	Major	2	11,100	33,000	No
	Minor	1	950	500	No

3.2 Corey Road and Crater Lake Highway

The critical v/c ratio at the unsignalized intersection of Corey Road & Crater Lake Highway is 2.47 for the westbound left turn movement under existing 2004 conditions. A preliminary signal warrant analysis was prepared to determine whether a signal is currently warranted. Results showed that preliminary signal warrants are not met for either case under existing conditions. Refer to Table3.1 for details.

Table 3.1: Existing 2004 Warrant Analysis for Corey Road

Intersection					
Corey Road & Crater Lake Highway	**Street**	**# of Lanes**	**Warrant**	**Approach**	**Warrant Met**
Case A	Major	2	7,400	33,500	No
	Minor	1	1,850	150	No
Case B	Major	2	11,100	33,500	No
	Minor	1	950	150	No

A high volume to capacity (v/c) ratio for a critical movement at an unsignalized intersection may lead to drivers taking unsafe gaps in traffic, which in turn can lead to safety problems such as increased accidents.

4.0 SUMMARY AND CONCLUSIONS

The Crater Lake Highway Corridor between Interstate 5 and White City has experienced continuing growth for several decades. Improvements to the highway's capacity issues have been ongoing in an attempt to keep up with increasing traffic due to growth in the area. The conditions today indicate that there is a significant need to make improvements within the corridor to meet mobility standards for the highway classifications. Safety issues and delay to the traveling public culminate in what seems an overall coordinated effort for a solution to the existing condition of the highway.

An existing analysis of Crater Lake Highway (Poplar Drive to Avenue G) and Crater Lake Avenue (Delta Waters Road to Corey Road) provided the following information:

Intersections operating within mobility standards include:

- Poplar Drive & Crater Lake Highway
- Highway 140 & Crater Lake Highway
- Avenue G & Crater Lake Highway
- Webfoot Road & Crater Lake Highway
- Vilas Road & Crater Lake Avenue
- Corey Road & Crater Lake Avenue
- Coker Butte Road & Crater Lake Avenue

Intersections exceeding mobility standards include:

- Vilas Road & Crater Lake Highway
- Cardinal Avenue & Crater Lake Highway
- Delta Waters & Crater Lake Highway
- Delta Waters & Crater Lake Avenue
- Webfoot & Crater Lake Avenue
- Corey Road & Crater Lake Highway
- Agate Road & Crater Lake Highway
- Coker Butte Road & Crater Lake Highway
- Antelope Road & Crater Lake Highway

Crash rates on Crater Lake Highway exceed statewide averages for similar facilities between Poplar Drive and Delta Waters Road (milepost 0.89 to 1.89) and Corey Road and Antelope Road (milepost 5.42 to 6.36). Remaining segments along Crater Lake Highway have crash rates below statewide averages for similar facilities.

The current North Medford Interchange project is the first step in improving travel in the corridor. The next step involves creating a long range plan for the corridor needs.

Figure 1-1: Vicinity Map (Southern Area)

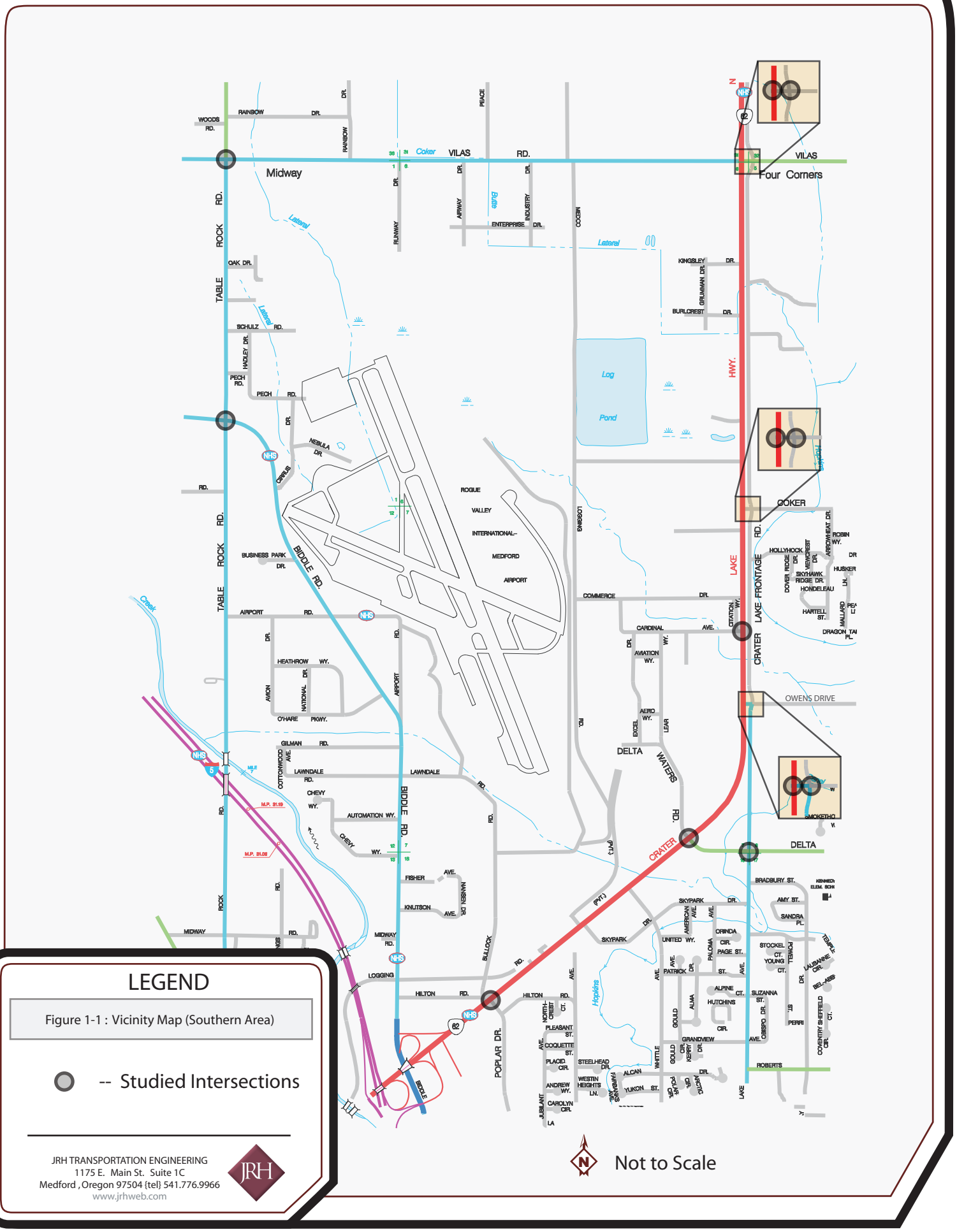

Figure 1-2: Vicinity Map (Northern Area)

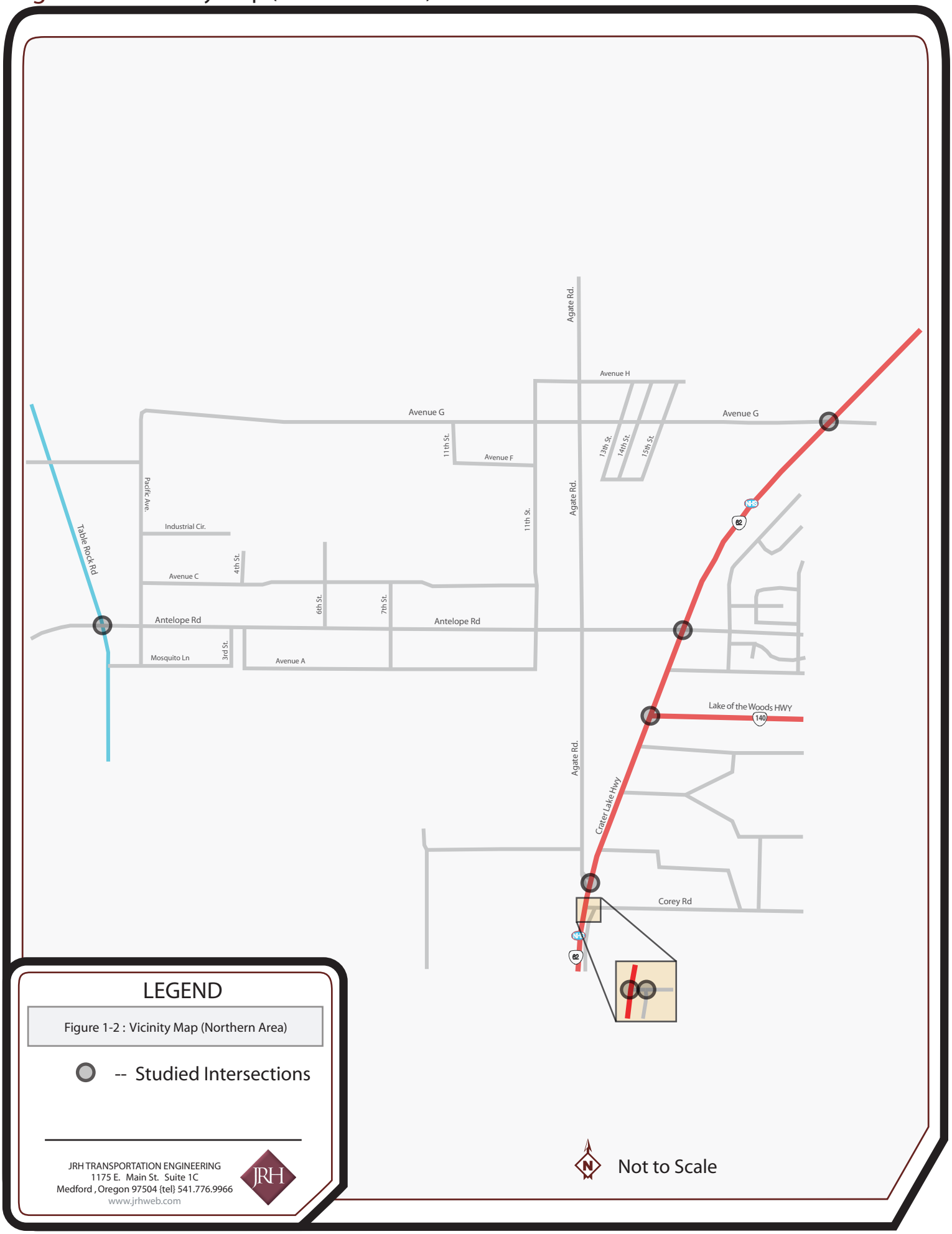

Figure 2-1: Lane Configurations (Southern Area)

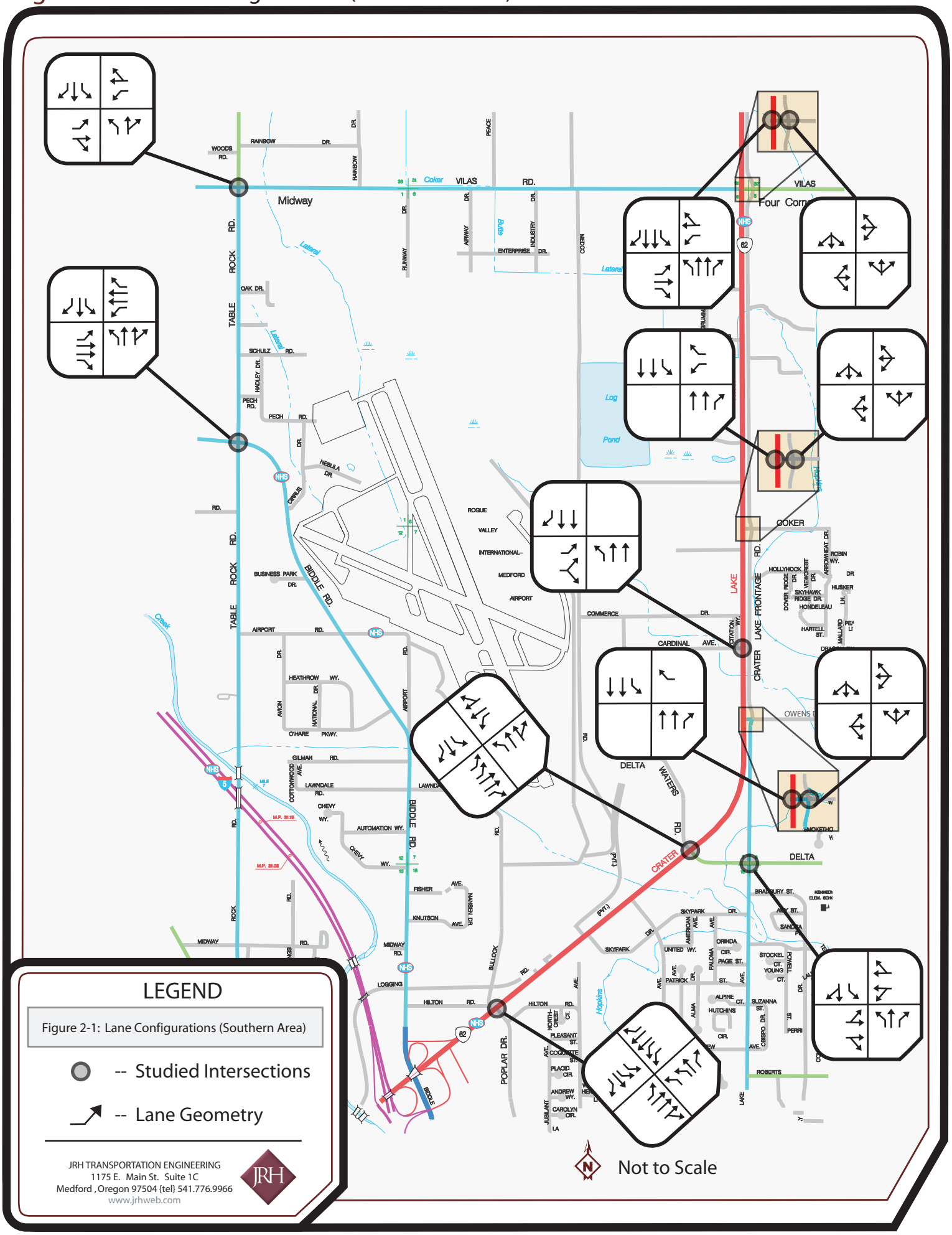

Figure 2-2: Lane Configurations (Northern Area)

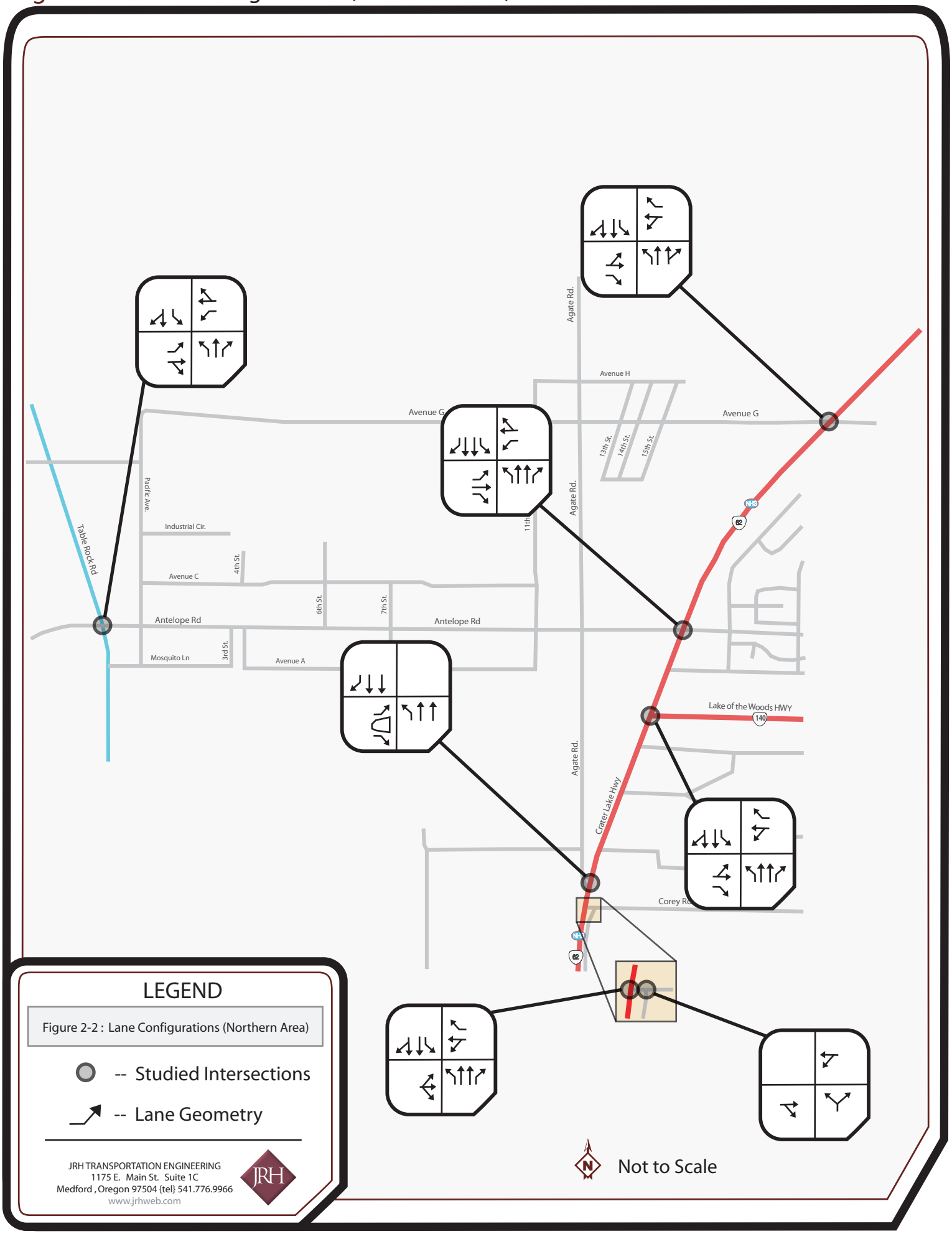

Figure 3-1: Existing Traffic Volumes (Southern Area)

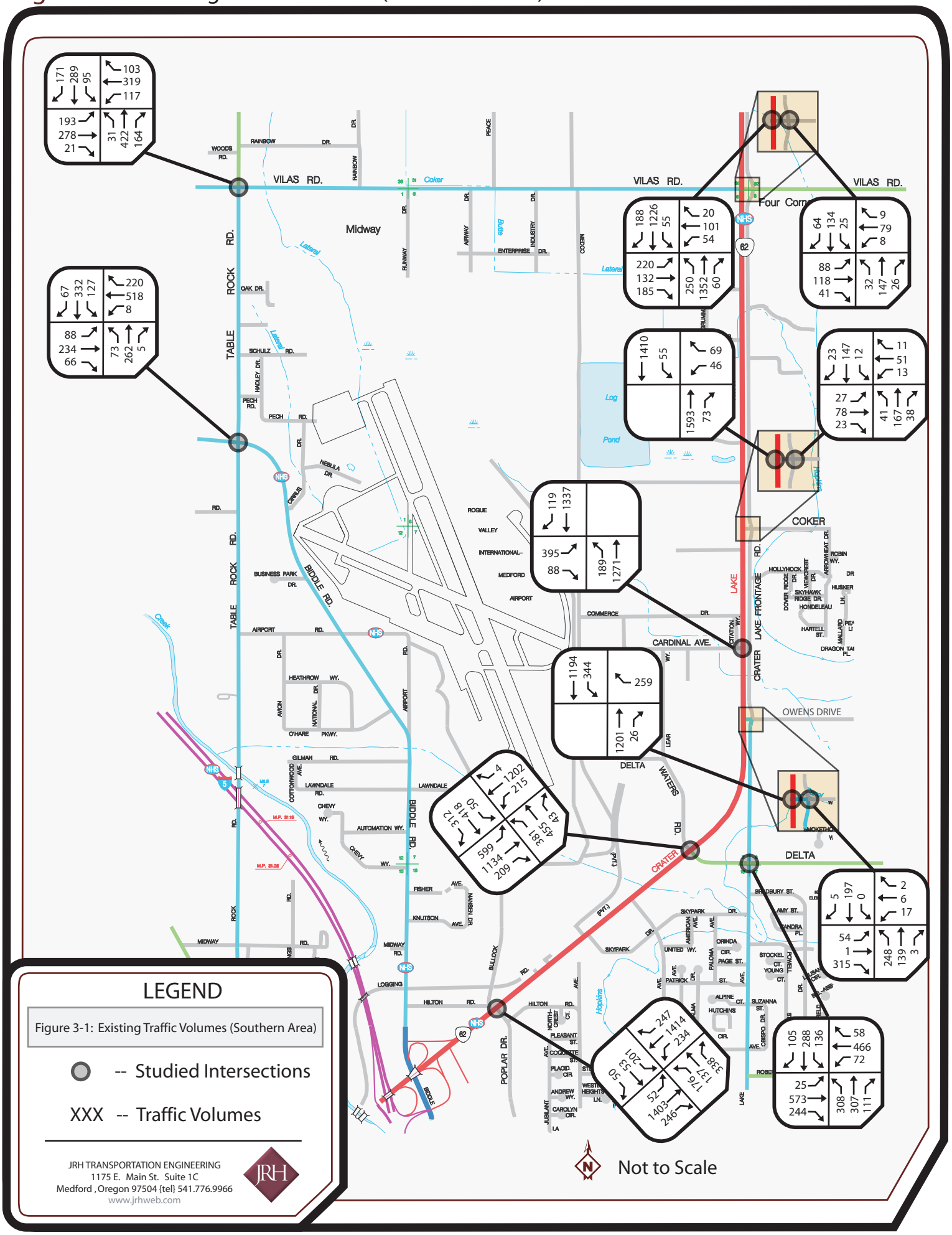
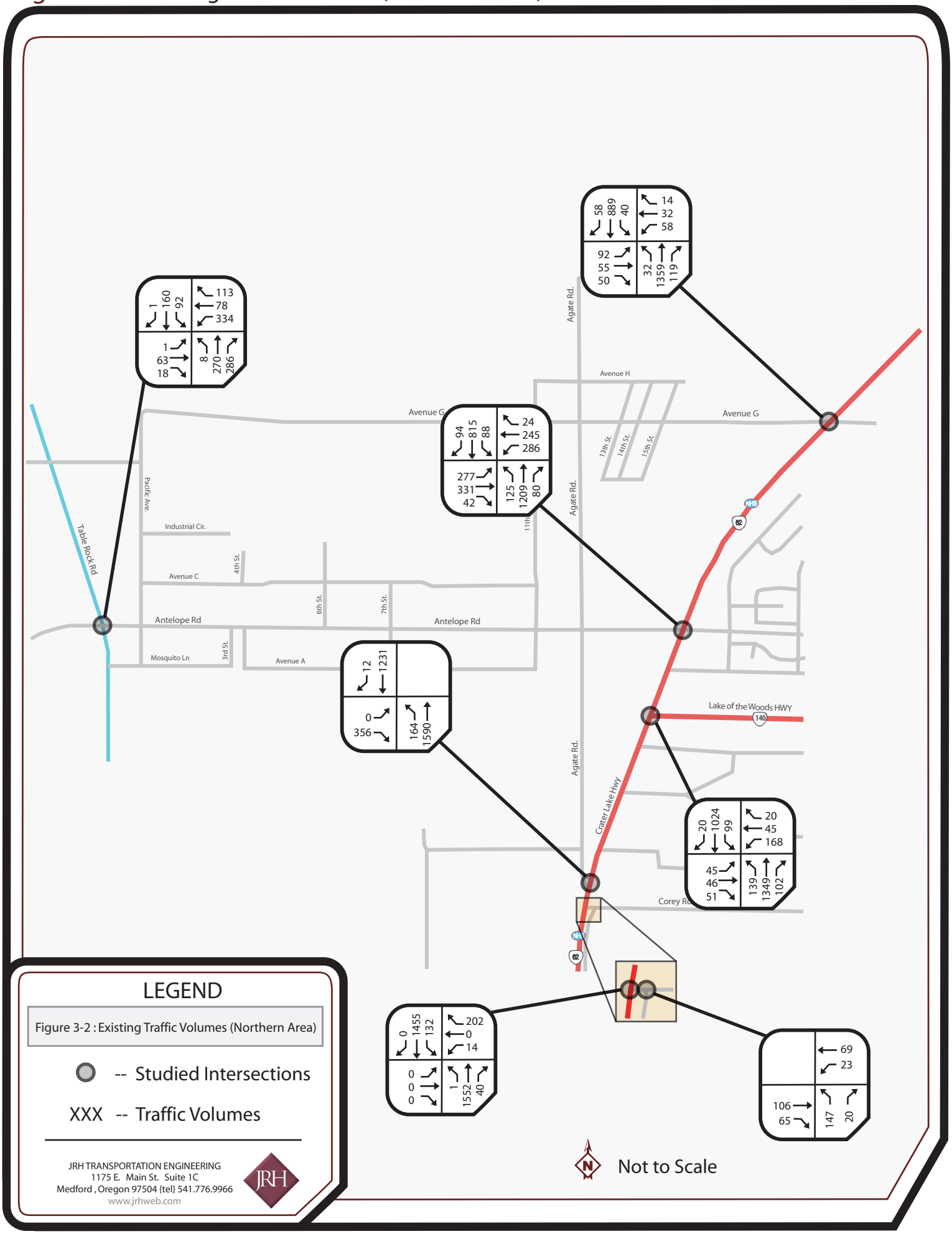
Figure 3-2: Existing Traffic Volumes (Northern Area)