

# MEMORANDUM

|                 |  |            |            |
|-----------------|--|------------|------------|
| <b>Date:</b>    | July 31, 2023  | <b>TG:</b> | 1.22131.02 |
| <b>To:</b>      | Travis Denham, PE, City of Chelan  |            |            |
| <b>From:</b>    | Jon Pascal, PE, Transpo Group<br>John Lewis, Transpo Group                 |            |            |
| <b>cc:</b>      | Angi Waligorski, PE, RH2   |            |            |
| <b>Subject:</b> | On-Call Engineering Services Task 1, Woodin Avenue Bridge Traffic Analysis |            |            |

This memorandum summarizes the traffic analysis conducted to evaluate one-way versus two-way vehicle operations along the Woodin Avenue Bridge.

## Purpose

The purpose of the analysis is to estimate the level of traffic that would be expected to utilize the Woodin Avenue Bridge if it were opened to two-way directional vehicle traffic. The analysis includes an evaluation of the traffic operational benefits or impacts of two-way operations in the immediate vicinity of the bridge using intersection level of service (LOS) and average vehicle delay measures. Overall, the study provides insights into the traffic patterns, volumes, and operational impacts of opening the Woodin Avenue Bridge to two-way vehicle traffic, helping to inform decision-making regarding the bridge's operation. Other impacts or considerations in changing the bridge back to two-way operations have not been included in the scope of work.

## Study Area

The study primarily focused on the Woodin Avenue corridor from US 97A to Columbia Street, but included other important corridors through downtown Chelan. Several key intersections were identified within the study area that could be impacted with two-way bridge operations. The study intersections were included in the evaluation to determine the potential change in travel patterns and average vehicle delay with two-way bridge operations. The intersections are listed below and shown in Figure 1.

1. Columbia St & Johnson Ave
2. Sanders St & Johnson Ave
3. Columbia St & Woodin Ave
4. Sanders St & Woodin Ave
5. Woodin Ave & Webster Ave (US 97A)

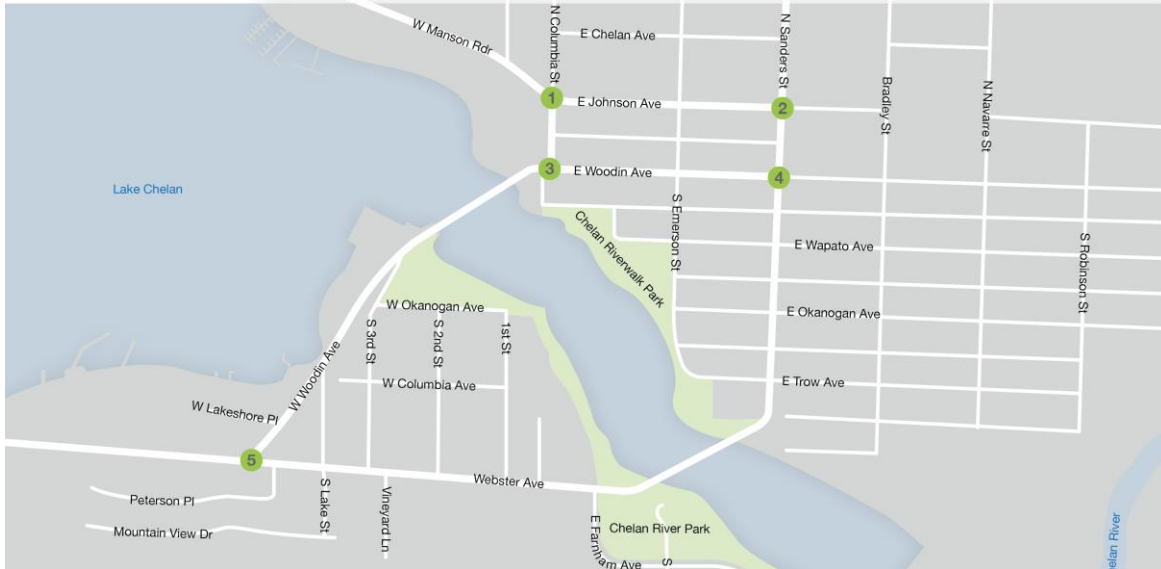
## Existing Traffic Volumes

Existing traffic volumes from recent studies by the City and WSDOT were provided for the analysis. No additional data collection was included as part of the scope of work. The traffic data included average daily traffic counts (ADTs) and intersection peak hour turning movements at major intersections within the study area. Table 1 lists the recent traffic count data that was available for the analysis. The traffic data reflected average summer conditions.

The traffic counts are from different years and from different times of the year. Only counts taken after 2019 when the Woodin Avenue bridge was operating one-way eastbound were considered for the existing condition.

**Table 1. Intersection Traffic Count Locations**

| No. | Intersection                   | Count Dates |        |        |        |
|-----|--------------------------------|-------------|--------|--------|--------|
| 1   | Columbia St & Johnson Ave      | 9/2017      | 6/2022 | 8/2022 |        |
| 2   | Sanders St & Johnson Ave       | 9/2017      | 5/2022 |        |        |
| 3   | Columbia St & Woodin Ave       | 3/2015      | 8/2022 |        |        |
| 4   | Sanders St & Woodin Ave        | 7/2017      | 5/2019 | 6/2022 | 8/2022 |
| 5   | Woodin Ave & Webster Ave (97A) | 9/2017      | 6/2022 |        |        |

**Figure 1. Study Area and Key Intersections**

### ***Selection of the Peak Hour***

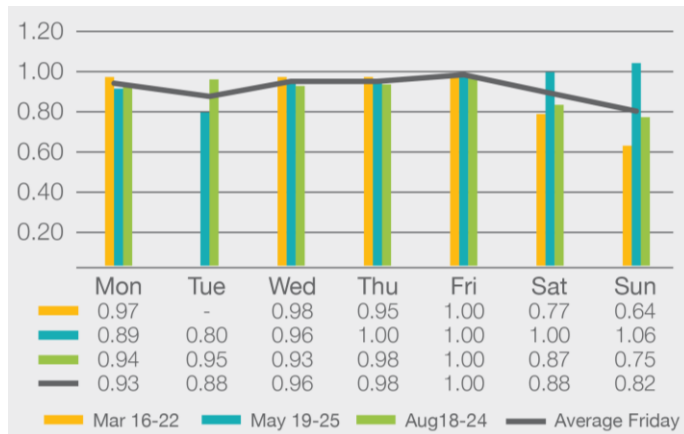
The intersection traffic data indicates that the highest volumes of traffic are generally observed between 3:15 PM and 5:00 PM, with three out of five locations reaching their peak between 4:00 and 5:00 PM. Consequently, on a typical weekday during the summer, the Chelan downtown area experiences its peak traffic hour in the afternoon, specifically between 4:00 and 5:00 PM. Evaluating the summer afternoon peak hour represents the time of day and year when traffic volumes are at their highest. To ensure consistent analysis, the intersection turning movement counts were chosen for the timeframe from 4:00 to 5:00 PM.

It is important to note that traffic counts were not available for every day of the week. Weekend days were deliberately excluded to avoid potential distortions caused by different travel patterns during weekends, which could either inflate or decrease traffic volumes, and had significant variability depending on the season.

### ***Daily Adjustment Factors***

To accommodate for fluctuations in traffic patterns during different days of the week, daily adjustment factors were developed to normalize the traffic data to a typical Friday afternoon. The selection of Friday afternoon as the benchmark day was based on the analysis of the traffic data, which indicated that Fridays experienced the highest levels of PM peak hour traffic. The adjustment

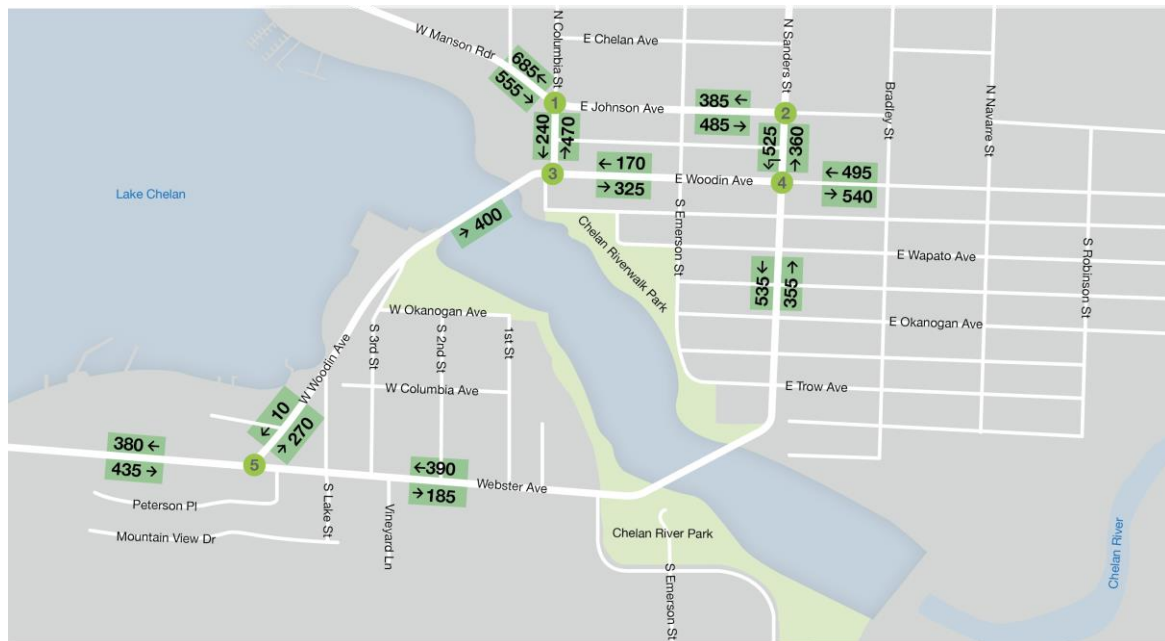
factors were derived from the traffic count data obtained from US 97A at Washington Street. A visual representation of the data and the specific adjustment factors used are shown in Figure 2.



**Figure 2. Daily Adjustment Factors**

### Friday PM Peak Hour Traffic Volumes

The most recent counts at each location were adjusted to account for day of week and used to develop PM peak hour volumes representing a typical Friday in the summer. Figure 3 shows the PM peak hour directional roadway volumes along the key study corridors. The final adjusted intersection turning movement counts that represent the Friday afternoon PM peak hour are included in Appendix A. The data will be used to compare two-directional Woodin Avenue Bridge volumes against to understand the magnitude of potential shifts in vehicle traffic.

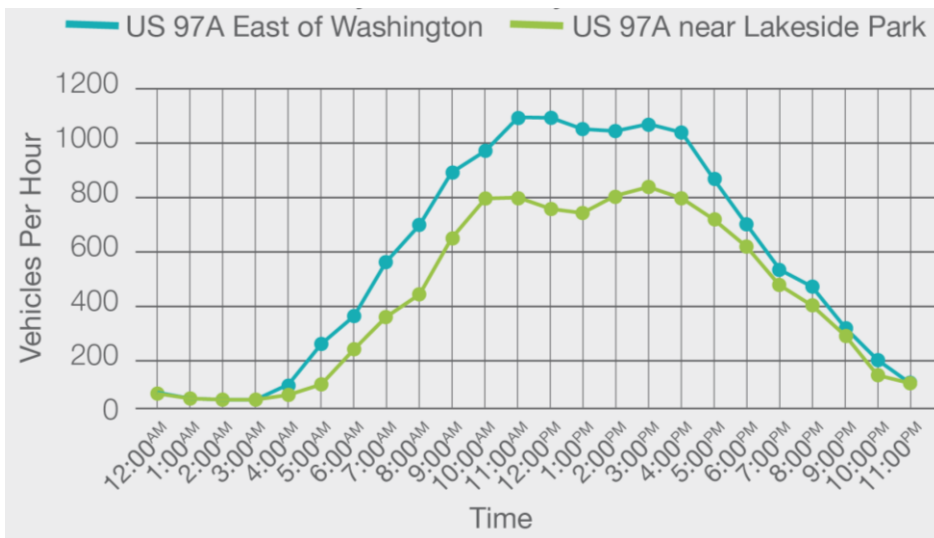


**Figure 3. PM Peak Hour Roadway Volumes for a Typical Summer Friday**

### Average Daily Traffic Volumes

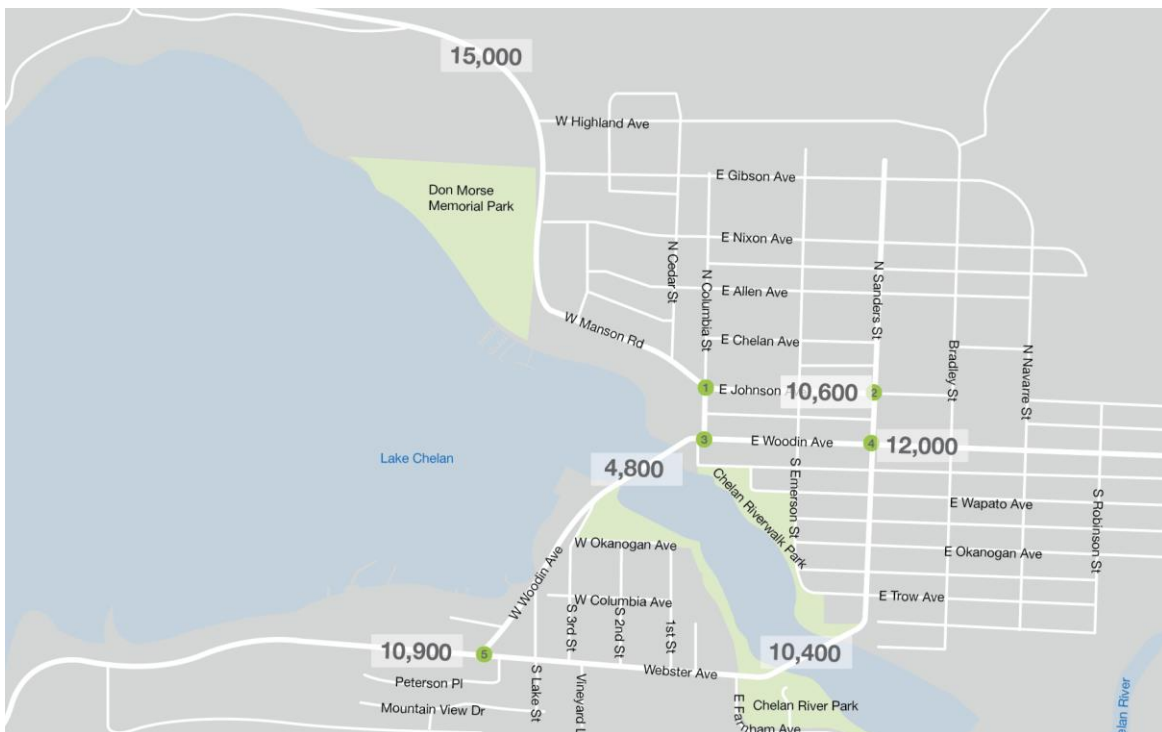
Average Daily Traffic (ADT) volume counts were provided at several locations around the City of Chelan. However, only 2 locations were considered relevant to the details of the study. The locations

were on US 97A just east of Washington Street and on US 97A east of Lake Shore Road west of downtown Chelan. Figure 4 illustrates how daily volumes fluctuate throughout the day for each location.



**Figure 4. Hourly Variation of Traffic Volumes by Location**

To provide a more complete picture of daily traffic patterns in and around the city, ADT traffic volume coefficients were estimated by comparing the daily traffic volumes to the PM peak hour traffic volumes. Using the calculated coefficients, the PM peak hour counts at the study intersections were factored up to average daily volumes based on the time-of-day information from the 24-hour counts. Figure 5 illustrates the average daily volumes for each location.



**Figure 5. Average Daily Traffic for a Typical Summer Friday**

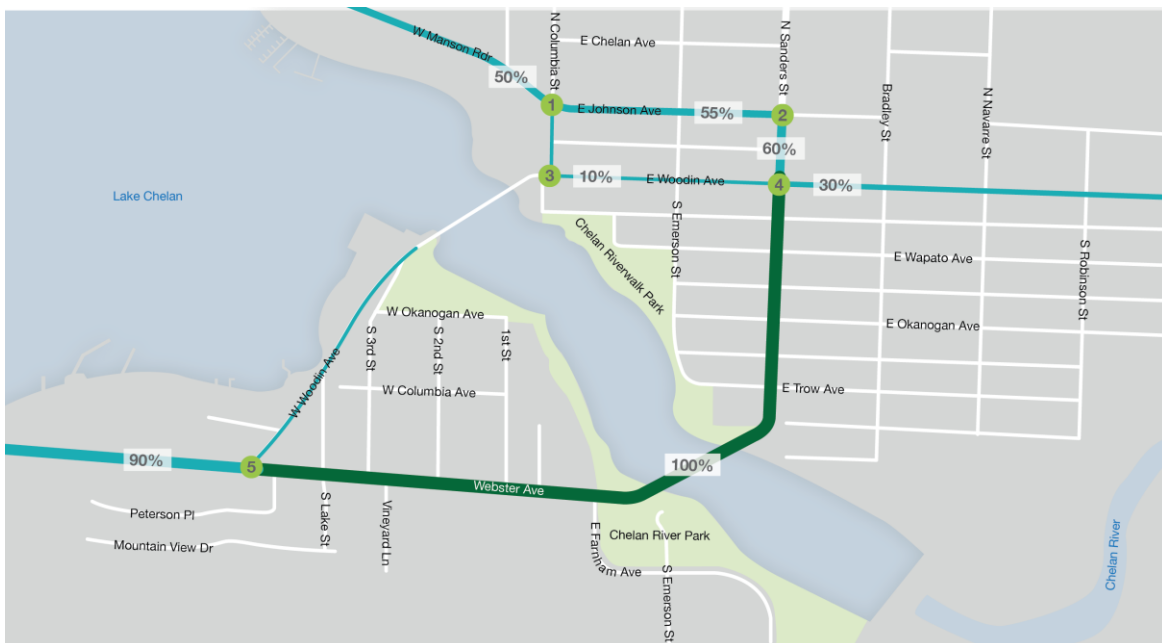
Based on the daily traffic volumes, SR 150 corridor consistently experiences the highest vehicle counts among all other state highway locations. Following closely is the area located slightly east of Washington Street along US 97A, which records the second-highest daily traffic volume. These two locations serve as major routes for traffic entering and leaving downtown Chelan from the north and east directions. Among all the daily count locations, the Woodin Avenue Bridge and the Dan Gordon Bridge registered the lowest daily traffic volumes. These specific locations primarily facilitate travel to and from the south shore of the lake. The volumes indicate about half of the total eastbound traffic uses the Woodin Avenue Bridge under the current one-way operation.

## Regional Traffic Patterns

The City of Chelan is located at the intersection of two state highways (SR 150 & US 97A). Prior to the closure of the westbound direction across the Woodin Avenue Bridge, many of the vehicle trips traveling south on SR 150 utilized the bridge to travel through the City of Chelan and beyond. To estimate the traffic volumes that would shift to the bridge under two-way operations, existing trip patterns for the Dan Gordon Bridge (US 97A) were obtained using the Replica data platform as shown in Figure 6.

Replica is a database that is based on a composite of data sources including mobile location data, consumer/resident data, built environment data, economic activity data, and ground truth data. The data is used to support a nationwide activity-based model that provides outputs such as estimated travel patterns and traffic volumes. The modeled outputs are calibrated against aggregated control groups (i.e., observed counts, or “ground truth”) for quality and reporting purposes. The benefit of the Replica data is that it is based on data across multiple days, months, and years to account for fluctuations in time of day or time of year.

The travel pattern data revealed that approximately 50% of westbound bridge traffic originates from SR 150 near Columbia Street, indicating the amount of traffic that may shift to the Woodin Avenue bridge if it was opened to two-way operations. Additionally, it was estimated that other bridge traffic originates from the western area of the Central Business District and would be expected to transition to the Woodin Avenue Bridge if it were opened to two-way travel.



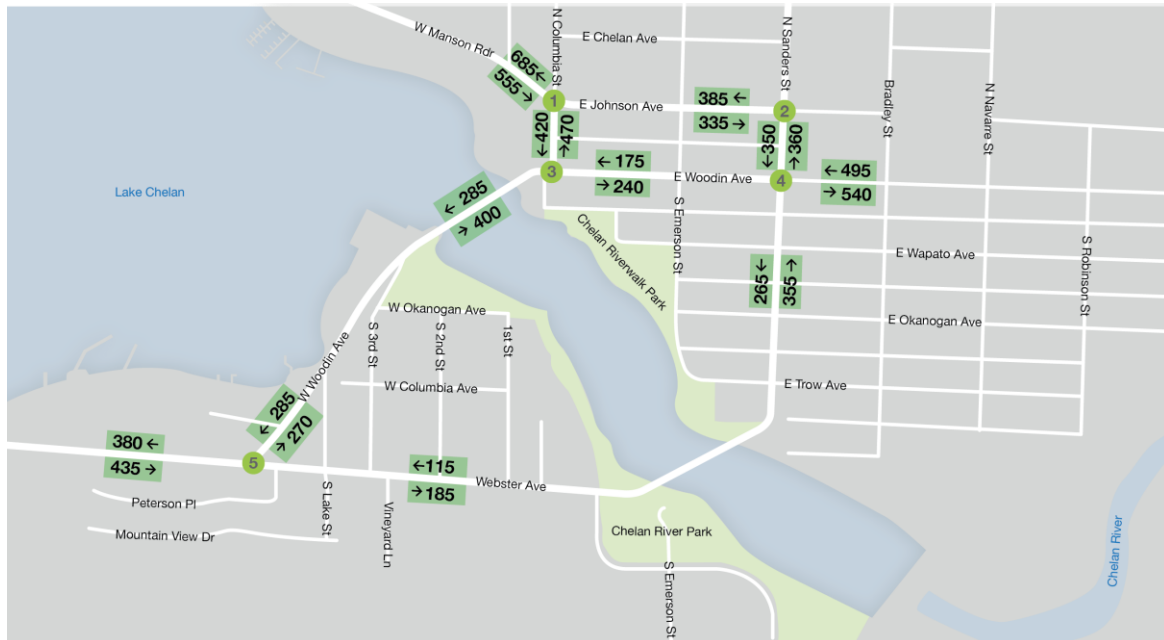
**Figure 6. Travel Patterns at Dan Gordon Bridge**

## Two-way Woodin Avenue Bridge Operations

Using the existing traffic count data along with the estimates in regional travel patterns, analysis was conducted to estimate the shifts in traffic if the Woodin Avenue Bridge were re-opened for two-way vehicle travel.

### Shifts in PM Peak Hour Traffic

The PM peak hour traffic volumes were adjusted to reflect the trip distribution assumptions shown in Figure 6. The resulting change in PM peak hour traffic volumes are shown in Figure 7. The detailed intersection turning movements are available in Appendix B.



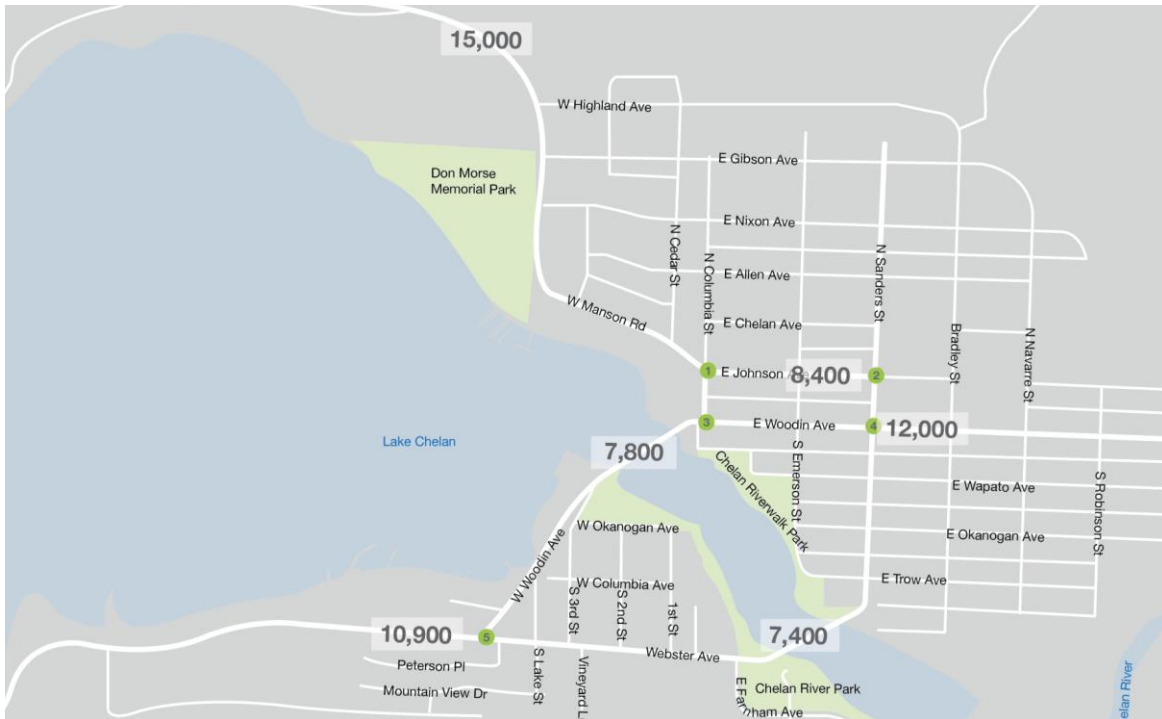
**Figure 7. PM Peak Hour Roadway Volumes with 2-Way Woodin Avenue Bridge**

With two-way bridge operations along Woodin Avenue, traffic volumes increase across the bridge and along the Columbia Street corridor. Traffic volumes decrease along Johnson Avenue and Sanders Street corridors.

### Shifts in Daily Traffic

Similar to the PM peak hour traffic volumes, the daily traffic volumes were adjusted based on the same trip distribution assumptions shown in Figure 6. The daily traffic volumes assuming a 2-way Woodin Avenue Bridge are shown in Figure 8.





**Figure 8. Daily Traffic Volumes with 2-Way Woodin Avenue Bridge**

### ***Change in Traffic Operations and Delay***

Traffic operations analysis was conducted for five key intersections for both the existing condition, where a one-way Woodin Avenue Bridge is in operation, and after rerouting the traffic volumes to estimate two-way bridge operations. The purpose of the operations analysis is to understand the change in intersection level of service or vehicle delay between the two scenarios.

### **Overview of Intersection Level of Service**

The operational characteristics of an intersection are determined by calculating the intersection level of service (LOS). The LOS analysis was completed based on procedures identified in the *Highway Capacity Manual (HCM)* using *Synchro 11* software. The most recent version of HCM 6th Edition was used to evaluate the intersections.

At signalized intersections, LOS is measured in average control delay per vehicle and is typically reported using the intersection delay. At unsignalized side-street, stop-controlled intersections, LOS is measured by the average delay on the worst movement of the intersection. Traffic operations and average vehicle delay for an intersection can be described qualitatively with a range of levels of service (LOS A through LOS F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays.

### **Intersection Level of Service Results**

The results of the intersection LOS analysis, that accounts for the existing and rerouted traffic volumes, are summarized in Table 2. The operations analysis was conducted using the PM peak hour volumes depicting summer Friday conditions, which has been shown to serve the highest number of vehicles typically.

In the scenario with the existing one-way bridge operations, all intersections function at LOS C or better. Likewise, in the analysis conducted for the two-way bridge scenario, similar operations are

expected with slightly less delay estimated for the two-way operation at all intersections, with the exception of Columbia Street / Woodin Avenue, which would fall to an LOS C with the additional traffic. It was assumed that the Columbia Street/Woodin Avenue maintained its all-way stop traffic control configuration.

**Table 2. Intersection Level of Service**

| Intersection                             | 2023 One-Way Bridge |                    |                 | 2023 Two-Way Bridge |       |    |
|--|---------------------|--------------------|-----------------|---------------------|-------|----|
|  | LOS <sup>1</sup>    | Delay <sup>2</sup> | WM <sup>3</sup> | LOS                 | Delay | WM |
| <b><u>Summer Friday PM Peak Hour</u></b> |                     |                    |                 |                     |       |    |
| Columbia St / Johnson Ave                | B                   | 14                 |                 | B                   | 13    |    |
| Sanders St / Johnson Ave                 | B                   | 14                 |                 | B                   | 13    |    |
| Columbia St / Woodin Ave                 | B                   | 14                 |                 | C                   | 20    |    |
| Sanders St / Woodin Ave                  | C                   | 23                 |                 | C                   | 21    |    |
| Woodin Ave / Webster Ave                 | B                   | 14                 | SB              | B                   | 11    | SB |

1. Level of service, based on HCM 6th Edition methodology.

2. Average delay in seconds per vehicle.

3. Worst movement reported for unsignalized side-street stop-controlled intersections.

While individual movements at intersections, such as at the Columbia Street / Johnson Avenue intersection may improve slightly under two-way operations, the change to two-way operations along the Woodin Avenue Bridge is expected to have little impact on the overall intersection LOS and average vehicle delay when looking at each study intersection.



## Appendix A – Existing Intersection Traffic Volumes – PM Peak Hour

| North-South Street<br>East-West Street |                   | 6<br>2022 | Columbia St<br>Johnson Ave |       |     |     | 6   | Columbia St<br>Johnson Ave |       |     |     |
|--|-------------------|-----------|----------------------------|-------|-----|-----|-----|----------------------------|-------|-----|-----|
| Count Date:                            |                   | N         |                            | 159   |     | 146 |     |                            | 160   |     | 145 |
| Count Source:                          | Existing          | 686       | 53                         | 36    | 70  |     | 685 | 55                         | 35    | 70  |     |
|  | EB WB NB SB Total |           | 9                          |       |     | 55  | 382 | 10                         |       |     | 55  |
| %HV                                    | 0% 0% 0% 0%       |           | 351                        | 1,561 |     | 311 |     | 350                        | 1,555 |     | 310 |
| PHF                                    | 0.98              | 554       | 194                        |       |     | 16  | 555 | 195                        |       |     | 15  |
|  | Peak Hour Used:   |           | 322                        | 82    | 62  |     | 483 |                            | 320   | 80  | 60  |
|  | From 1600 To 1700 |           | 246                        |       | 466 |     |     | 245                        |       | 460 |     |
| North-South Street<br>East-West Street |                   | 3<br>2022 | Sanders<br>Johnson Ave     |       |     |     | 3   | Sanders<br>Johnson Ave     |       |     |     |
| Count Date:                            |                   | N         |                            | 130   |     | 85  |     |                            | 130   |     | 85  |
| Count Source:                          | Existing          | 385       | 20                         | 105   | 5   |     | 385 | 20                         | 105   | 5   |     |
|  | EB WB NB SB Total |           | 30                         |       |     | 5   | 85  | 30                         |       |     | 5   |
| %HV                                    | 1% 1% 1% 0%       |           | 20                         | 1,065 |     | 65  |     | 20                         | 1,065 |     | 65  |
| PHF                                    | 0.92              | 485       | 435                        |       |     | 15  | 485 | 435                        |       |     | 15  |
|  | Peak Hour Used:   |           | 300                        | 50    | 15  |     | 40  |                            | 300   | 50  | 15  |
|  | From 1600 To 1700 |           | 555                        |       | 365 |     |     | 555                        |       | 365 |     |
| North-South Street<br>East-West Street |                   | 2022      | Columbia St<br>Woodin Ave  |       |     |     | 0   | Columbia St<br>Woodin Ave  |       |     |     |
| Count Date:                            |                   | N         |                            | 238   |     | 470 |     |                            | 240   |     | 470 |
| Count Source:                          | Existing          | 12        | 1                          |       | 237 |     | 15  | 5                          |       | 235 |     |
|  | EB WB NB SB Total |           | 312                        |       |     | 158 | 169 | 310                        |       |     | 160 |
| %HV                                    | 2% 1% 2% 0%       |           | 88                         | 807   |     | 11  |     | 90                         | 810   |     | 10  |
| PHF                                    | 0.86              | 400       |                            |       |     |     | 400 |                            |       |     |     |
|  | Peak Hour Used:   |           |                            |       |     |     | 325 |                            |       |     |     |
|  | From 1600 To 1700 |           | 0                          |       | 0   |     |     | 0                          |       | 0   |     |
| North-South Street<br>East-West Street |                   | 5<br>2022 | Sanders<br>Woodin Ave      |       |     |     | 5   | Sanders<br>Woodin Ave      |       |     |     |
| Count Date:                            |                   | N         |                            | 526   |     | 362 |     |                            | 525   |     | 360 |
| Count Source:                          | Existing          | 176       | 37                         | 241   | 248 |     | 175 | 35                         | 240   | 250 |     |
|  | EB WB NB SB Total |           | 25                         |       |     | 202 | 498 | 25                         |       |     | 200 |
| %HV                                    | 1% 0% 0% 0%       |           | 112                        | 1,614 |     | 101 |     | 110                        | 1,610 |     | 100 |
| PHF                                    | 0.98              | 238       | 101                        |       |     | 195 | 235 | 100                        |       |     | 195 |
|  | Peak Hour Used:   |           | 38                         | 135   | 179 |     | 539 |                            | 40    | 135 | 180 |
|  | From 1600 To 1700 |           | 537                        |       | 352 |     |     | 535                        |       | 355 |     |

| North-South Street<br>East-West Street |      |    |          |    |      |  | 3<br>2022<br>Woodin Ave<br>Webster Ave |    |       |   |     |     | 3<br>Woodin Ave<br>Webster Ave |     |     |    |     |     |     |     |     |
|--|------|----|----------|----|------|--|--|----|-------|---|-----|-----|--------------------------------|-----|-----|----|-----|-----|-----|-----|-----|
| Count Date:                            |      |    | Existing |    |      |  | N                                      |    | 6     |   |     | 271 |                                |     |     | 10 |     |     | 270 |     |     |
| Count Source:                          |      |    |          |    |      |  | 379                                    |    | 4     |   | 2   |     |                                | 380 |     |    | 5   |     | 5   |     |     |
|  | EB   | WB |          |    |      |  | NB                                     | SB | Total |   | 254 |     |                                | 17  | 392 |    | 255 |     |     | 15  | 390 |
| %HV                                    | 2%   | 1% |          |    |      |  | 0%                                     | 0% |       |   | 178 |     | 830                            | 375 |     |    | 180 |     | 835 | 375 |     |
| PHF                                    | 0.93 |    |          |    |      |  | 432                                    |    |       |   |     |     | 435                            |     |     |    |     |     |     |     |     |
| Peak Hour Used:                        |      |    |          |    |      |  |  |    |       |   |     | 180 |                                |     |     |    |     | 185 |     |     |     |
| From                                   | 1600 |    |          | To | 1700 |  | 0                                      |    |       | 0 |     |     | 0                              |     |     | 0  |     |     |     |     |     |

## Appendix B – Re-routed Intersection Traffic Volumes – PM Peak Hour

| North-South Street<br>East-West Street |    |                 |  |    |  |      | 8<br>2022 | Columbia St<br>Johnson Ave |     |     |     |     |     | 8   | Columbia St<br>Johnson Ave |     |     |     |     |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
|--|----|-----------------|--|----|--|------|-----------|----------------------------|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|----|----|-------|-----|-----|-----|--|-------|--|-----|-----|-----|-----|-----|-------|-----|-----|-----|
| Count Date:                            |    | Re-Routed       |  |    |  |      | ↑         | N                          |     | 159 |     |     | 146 |     |                            |     | 160 |     |     | 145 |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Source:                          |    |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 686 |    |    | 53    | 46  | 60  |     |  | 685   |  |     | 55  | 45  | 60  |     |       |     |     |     |
|  | EB |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | WB  | NB | SB | Total |     |     | 9   |  |       |  | 55  |     |     |     | 55  | 385   |     |     |     |
| %HV                                    | 0% |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 0%  | 0% | 0% |       |     |     | 215 |  | 1,566 |  | 311 |     |     | 215 |     | 1,560 |     | 310 |     |
| PHF                                    |    | 0.98            |  |    |  |      | 554       |                            | 330 |     |     |     | 21  |     | 555                        | 330 |     |     |     | 20  |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
|  |    | Peak Hour Used: |  |    |  |      |           |                            |     | 322 | 82  | 62  |     | 337 |                            |     | 320 | 80  | 60  |     | 335 |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| From                                   |    | 1600            |  | To |  | 1700 |           |                            | 397 |     |     | 466 |     |     |                            | 395 |     |     | 460 |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| North-South Street<br>East-West Street |    |                 |  |    |  |      | 5<br>2022 | Sanders<br>Johnson Ave     |     |     |     |     |     | 5   | Sanders<br>Johnson Ave     |     |     |     |     |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Date:                            |    | Re-routed       |  |    |  |      | ↑         | N                          |     | 130 |     |     | 85  |     |                            |     | 130 |     |     | 85  |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Source:                          |    |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 385 |    |    | 20    | 105 | 5   |     |  | 385   |  |     | 20  | 105 | 5   |     |       |     |     |     |
|  | EB |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | WB  | NB | SB | Total |     |     | 30  |  |       |  | 5   |     | 30  |     |     |       | 5   | 85  |     |
| %HV                                    | 1% |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 1%  | 1% | 0% |       |     |     | 20  |  | 913   |  | 65  |     | 20  |     | 915 |       | 65  |     |     |
| PHF                                    |    | 0.92            |  |    |  |      | 333       |                            | 283 |     |     |     | 15  |     | 335                        | 285 |     |     |     | 15  |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
|  |    | Peak Hour Used: |  |    |  |      |           |                            |     | 300 | 50  | 15  |     | 40  |                            |     | 300 | 50  | 15  |     | 40  |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| From                                   |    | 1600            |  | To |  | 1700 |           |                            | 403 |     |     | 365 |     |     |                            | 405 |     |     | 365 |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| North-South Street<br>East-West Street |    |                 |  |    |  |      | 2<br>2022 | Columbia St<br>Woodin Ave  |     |     |     |     |     | 2   | Columbia St<br>Woodin Ave  |     |     |     |     |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Date:                            |    | Re-Routed       |  |    |  |      | ↑         | N                          |     | 423 |     |     | 470 |     |                            |     | 420 |     |     | 470 |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Source:                          |    |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 287 |    |    | 271   | 0   | 152 |     |  | 285   |  |     | 270 | 0   | 150 |     |       |     |     |     |
|  | EB |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | WB  | NB | SB | Total |     |     | 312 |  |       |  | 158 |     | 310 |     |     |       | 160 | 175 |     |
| %HV                                    | 2% |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 1%  | 2% | 0% |       |     |     | 88  |  | 997   |  | 16  |     | 90  |     | 995 |       | 15  |     |     |
| PHF                                    |    | 0.86            |  |    |  |      | 400       |                            | 0   |     |     |     | 0   |     | 400                        | 0   |     |     | 0   |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
|  |    | Peak Hour Used: |  |    |  |      |           |                            |     | 0   | 0   | 0   |     | 240 |                            |     | 0   | 0   | 0   |     | 240 |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| From                                   |    | 1600            |  | To |  | 1700 |           |                            | 0   |     |     | 0   |     |     |                            | 0   |     |     | 0   |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| North-South Street<br>East-West Street |    |                 |  |    |  |      | 7<br>2022 | Street A<br>Street B       |     |     |     |     |     | 7   | Street A<br>Street B       |     |     |     |     |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Date:                            |    | Re-routed       |  |    |  |      | ↑         | N                          |     | 348 |     |     | 362 |     |                            |     | 350 |     |     | 360 |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| Count Source:                          |    |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 176 |    |    | 37    | 63  | 248 |     |  | 175   |  |     | 35  | 65  | 250 |     |       |     |     |     |
|  | EB |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | WB  | NB | SB | Total |     |     | 25  |  |       |  | 202 | 498 |     | 25  |     |       |     | 200 | 495 |
| %HV                                    | 1% |                 |  |    |  |      |           |                            |     |     |     |     |     |     |                            |     |     |     |     |     |     | 0%  | 0% | 0% |       |     |     | 112 |  | 1,339 |  | 101 |     |     | 110 |     | 1,340 |     | 100 |     |
| PHF                                    |    | 0.98            |  |    |  |      | 141       |                            | 4   |     |     |     | 195 |     | 140                        | 5   |     |     |     | 195 |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
|  |    | Peak Hour Used: |  |    |  |      |           |                            |     | 38  | 135 | 179 |     | 539 |                            |     | 40  | 135 | 180 |     | 540 |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |
| From                                   |    | 1600            |  | To |  | 1700 |           |                            | 262 |     |     | 352 |     |     |                            | 265 |     |     | 355 |     |     |     |    |    |       |     |     |     |  |       |  |     |     |     |     |     |       |     |     |     |

| North-South Street<br>East-West Street |      |           |    |    |    |      | 5    | Woodin Ave<br>Webster Ave |     |       |   |     |     |     | 5 | Woodin Ave<br>Webster Ave |    |     |   |     |     |  |
|--|------|-----------|----|----|----|------|------|---------------------------|-----|-------|---|-----|-----|-----|---|---------------------------|----|-----|---|-----|-----|--|
| Count Date:                            |      | Re-routed |    |    |    |      | 2022 | N                         |     | 281   |   |     | 271 |     |   |                           |    | 285 |   |     | 270 |  |
| Count Source:                          |      |           |    |    |    |      | 379  |                           | 279 | 0     | 2 |     |     | 380 |   | 280                       | 0  | 5   |   |     |     |  |
|  | EB   |           |    |    |    |      | WB   | NB                        | SB  | Total |   |     | 254 |     |   |                           | 17 | 117 |   | 255 |     |  |
| %HV                                    | 2%   | 1%        | 0% | 0% |    |      |      | 178                       |     | 830   |   | 100 |     |     |   | 180                       |    | 835 |   | 100 |     |  |
| PHF                                    | 0.93 |           |    |    |    |      | 432  |                           | 0   |       |   | 0   |     | 435 |   | 0                         |    |     |   | 0   |     |  |
| Peak Hour Used:                        |      |           |    |    |    |      |      |                           |     | 0     | 0 | 0   |     | 180 |   |                           | 0  | 0   | 0 |     | 185 |  |
|  | From | 1600      |    |    | To | 1700 |      |                           | 0   |       |   | 0   |     |     |   | 0                         |    |     | 0 |     |     |  |