

Study Purpose

Felsburg Holt & Ullevig (FHU) conducted a pedestrian signal evaluation for the intersections of 51st Street & Farnam Street and 52nd Street & Chicago Street in the Dundee neighborhood. Both Farnam Street and 52nd Street have a posted speed limit of 30 MPH. The two intersections are controlled with pedestrian “half signals” in which the traffic signal controls the major street and the minor street is controlled with a stop sign. The signals have been identified by the City of Omaha for evaluation to determine if the vehicular and pedestrian volumes are sufficient to satisfy Manual on Uniform Traffic Control Devices (MUTCD) Traffic Signal Warrants (1, 2, 3, 4, and 5).

Data Collection



FHU conducted vehicle counts, peak hour pedestrian counts, and measured gaps at the two signalized crossings utilizing fixed video cameras that were installed

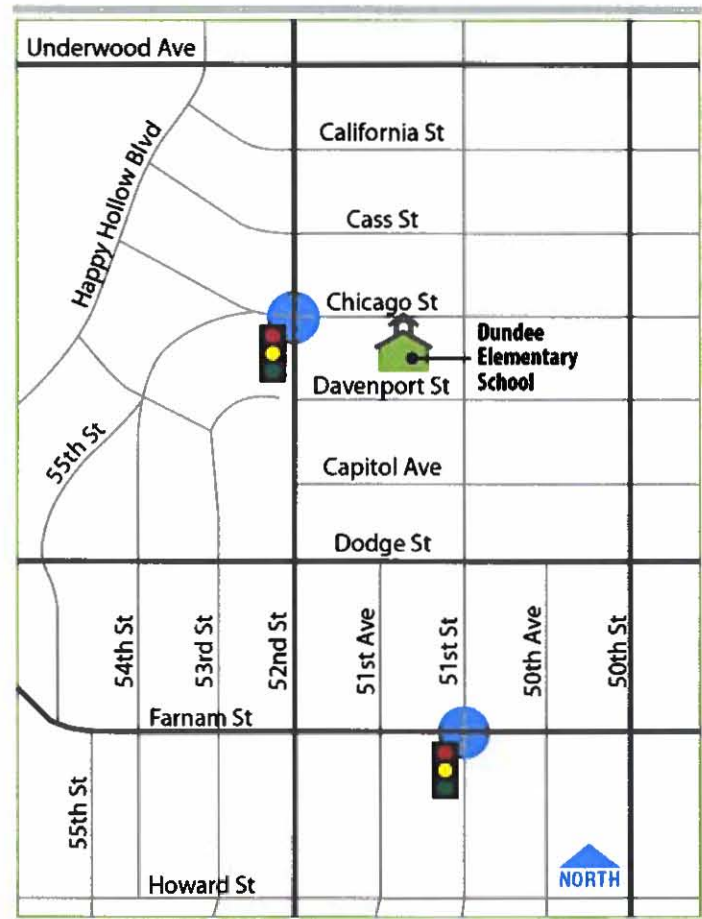
by the City of Omaha. A raw video link was provided to FHU by the City, and FHU recorded video for use to study and count pedestrians and available gaps in the traffic stream.

FHU conducted the counts on “nice” weather days when pedestrian activity was expected to be at its peak. Counts were only conducted when the high temperature was above 60 degrees and there was no precipitation. Data was collected on the following days: November 1, 2017, November 17, 2017, April 12, 2018, May 14-15, 2018 (24-hour counts), and May 22-24, 2018.

Warrant Evaluation Criteria



- A review of **MUTCD Warrant 1** (Eight-Hour Vehicular Volume) or **Warrant 2** (Four-Hour Vehicular Volume) is based upon traffic volumes meeting established thresholds.
- **MUTCD Warrant 3** (Peak Hour) is applicable in unique scenarios where a minor street suffers undue delay when entering a major street, such as an employer shift change or school dismissal.



- **MUTCD Warrant 4** (Pedestrian Volume) was analyzed; total pedestrians crossing per hour would have to exceed 200-300 in order to satisfy Warrant 4.
- For **MUTCD Warrant 5** (School Crossing), the number of adequate gaps and the number of schoolchildren crossing in the peak hour were compared to determine if a signal is warranted at the intersection.

Warrant Evaluation Results

The tables below summarize the results of the MUTCD warrant evaluation.

MUTCD warrants 1, 2, 3 and 4 were NOT satisfied at either of the intersections.

51ST STREET & FARNAM STREET

MUTCD Warrant 5: The number of adequate gaps exceeded the number of minutes in the 3:15 to 3:30 PM time period on two of the four study days, November 17, 2017 and May 15, 2018. However, the number of schoolchildren crossing in the highest hour never exceeded 11 during the study period. There were no instances where both the number of adequate gaps and the pedestrian volume criteria were satisfied.

| WARRANT | Satisfied? (Y/N) | |
|----------------------------------|------------------|--------|
| | Cond A | Cond B |
| Warrant 1 (Eight-Hour Vehicular) | N | N |
| Warrant 2 (Four-Hour Vehicular) | N | |
| Warrant 3 (Peak-Hour Vehicular) | AM | PM |
| | N | N |
| Warrant 4 (Pedestrian Volume) | N | |
| Warrant 5 (School Crossing) | N | |

52ND STREET & CHICAGO STREET

MUTCD Warrant 5: The number of adequate gaps exceeded the number of minutes in the 4:00 to 4:15 PM time period on two of the four study days, May 15, 2018 and May 24, 2018. Additionally, the number of schoolchildren crossing in the highest hour exceeded 20 in the PM peak on November 17, 2017, May 15, 2018, and May 24, 2018. On two of the study days, both the number of adequate gaps and the pedestrian volume criteria were satisfied in the PM peak.

| WARRANT | Satisfied? (Y/N) | |
|----------------------------------|------------------|--------|
| | Cond A | Cond B |
| Warrant 1 (Eight-Hour Vehicular) | N | N |
| Warrant 2 (Four-Hour Vehicular) | N | |
| Warrant 3 (Peak-Hour Vehicular) | AM | PM |
| | N | N |
| Warrant 4 (Pedestrian Volume) | N | |
| Warrant 5 (School Crossing) | Y | |



RECOMMENDATIONS

- Full traffic signalization is **NOT** warranted at either of the study intersections.
- A pedestrian traffic signal is **NOT** warranted at 51st Street & Farnam Street.
- The pedestrian signal at 51st Street & Farnam Street should be **REMOVED**.
- A pedestrian traffic signal **IS** warranted at 52nd Street & Chicago Street. The pedestrian signal at 52nd Street & Chicago Street should **REMAIN**.

Other Considerations

Other signalized crossings of Farnam Street are provided in close proximity to the traffic signal at 51st Street. There are full traffic signals and marked cross walks on Farnam Street at both 50th Street and 52nd Street. Both of these intersections provide safe crossings of Farnam Street in the study area as alternative to the pedestrian crossing at 51st Street & Farnam Street.

School walking routes to and from Dundee Elementary school (and to/from the signalized pedestrian crossings on Dodge Street at 50th Street, 52nd Street, and the underpass at 51st Street) are already established through these locations.

