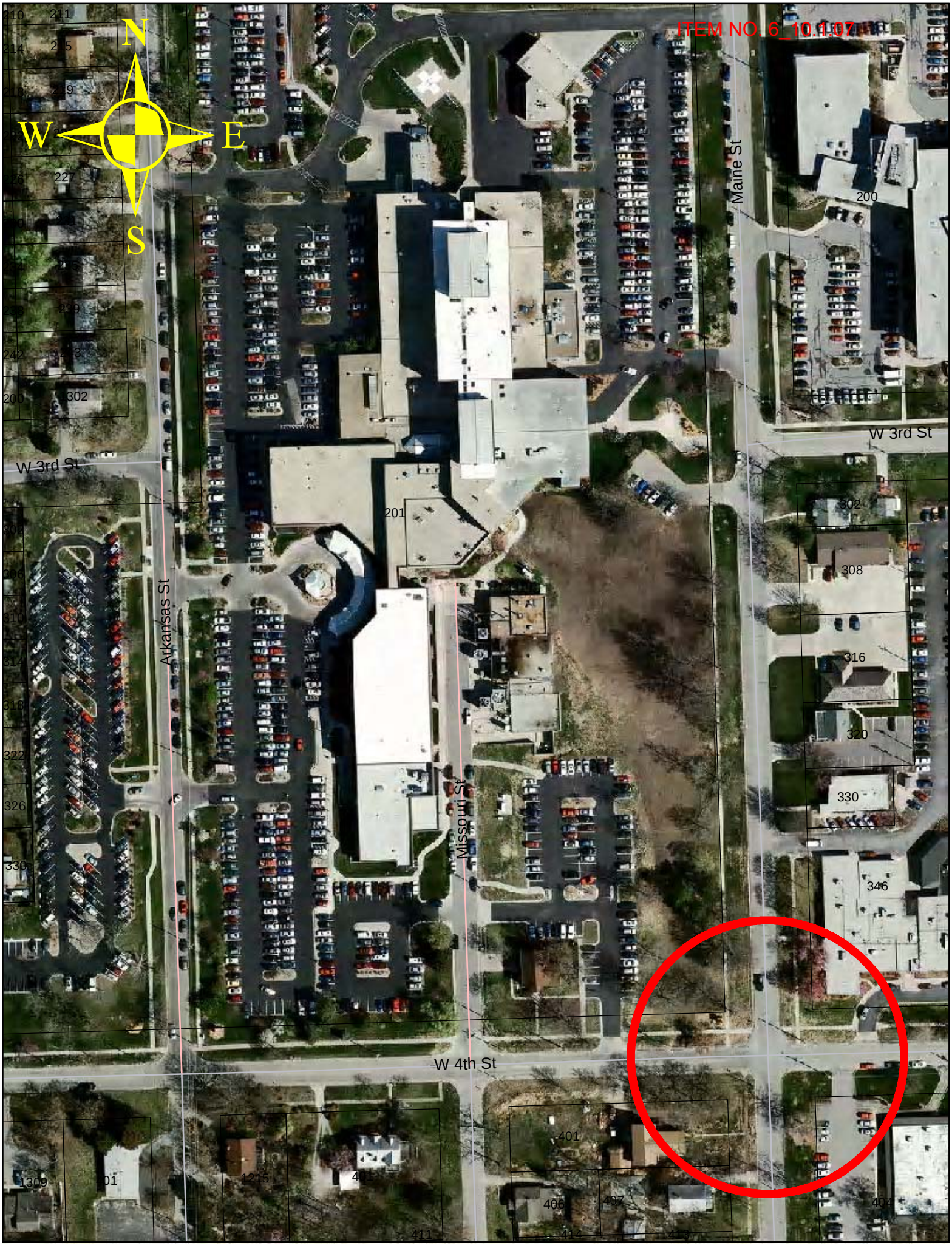

ITEM NO. 6_10.9.07
N
W
E
S
Maine St
W 3rd St
W 3rd St
Arkansas St
Missouri St
W 4th St
200
201
302
308
316
320
330
346
401
404
406
407
411
414
1215
1309

## Section 2B.07 Multiway Stop Applications

Support:

Multiway stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multiway stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multiway stop control is used where the volume of traffic on the intersecting roads is approximately equal.

The restrictions on the use of STOP signs described in Section 2B.05 also apply to multiway stop applications.

Guidance:

The decision to install multiway stop control should be based on an engineering study.

The following criteria should be considered in the engineering study for a multiway STOP sign installation:

A. Where traffic control signals are justified, the multiway stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.
B. A crash problem, as indicated by 5 or more reported crashes in a 12-month period that are susceptible to correction by a multiway stop installation. Such crashes include right- and left-turn collisions as well as right-angle collisions.
C. Minimum volumes:
    1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day, and
    2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour, but
    3. If the 85th-percentile approach speed of the major-street traffic exceeds 65 km/h or exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the above values.
D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Option:

Other criteria that may be considered in an engineering study include:

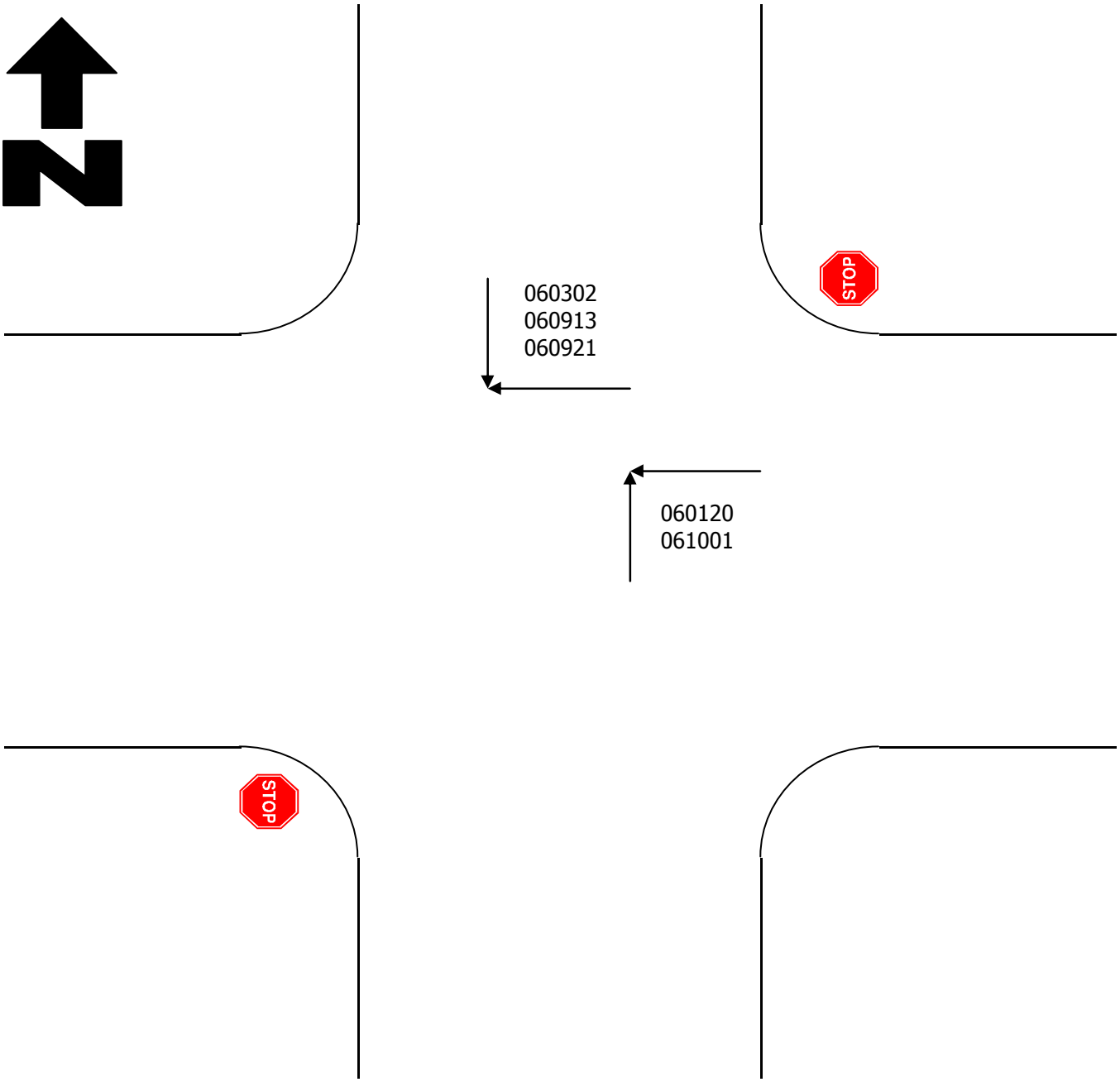
A. The need to control left-turn conflicts;
B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to reasonably safely negotiate the intersection unless conflicting cross traffic is also required to stop; and
D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection.

ITEM NO. 6_10.1.07

**City of Lawrence, Kansas**
Traffic Engineering Division
**Crash Diagram**

Location: **4th Street & Maine Street**

Date: **2006**




Notes: _____

9/20/2007

City of Lawrence, Kansas
Traffic Engineering Division

ALL WAY **Stop Warrant Worksheet**

Date: September 2007 Location: 4th Street & Maine Street

| Time Period | Maine Street | | | | | | | 4th Street | | | | | | | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NBLL | NB | NBRL | SBLL | SB | SBRL | Total | EBLL | EB | EBRL | WBLL | WB | WBRL | Total | |
| 12-01 | | 5 | | | 10 | | 15 | | 7 | | | 2 | | 9 | 24 |
| 01-02 | | 7 | | | 11 | | 18 | | 2 | | | 1 | | 3 | 21 |
| 02-03 | | 6 | | | 6 | | 12 | | 3 | | | 1 | | 4 | 16 |
| 03-04 | | 6 | | | 4 | | 10 | | 3 | | | 1 | | 4 | 14 |
| 04-05 | | 9 | | | 3 | | 12 | | 0 | | | 3 | | 3 | 15 |
| 05-06 | | 41 | | | 6 | | 47 | | 5 | | | 0 | | 5 | 52 |
| 06-07 | | 147 | | | 27 | | 174 | | 41 | | | 9 | | 50 | 224 |
| 07-08 | | 206 | | | 57 | | 263 | | 137 | | | 39 | | 176 | 439 |
| 08-09 | | 231 | | | 94 | | 325 | | 121 | | | 16 | | 137 | 462 |
| 09-10 | | 221 | | | 107 | | 328 | | 105 | | | 35 | | 140 | 468 |
| 10-11 | | 178 | | | 129 | | 307 | | 122 | | | 28 | | 150 | 457 |
| 11-12 | | 176 | | | 177 | | 353 | | 120 | | | 29 | | 149 | 502 |
| 12-01 | | 247 | | | 173 | | 420 | | 77 | | | 25 | | 102 | 522 |
| 01-02 | | 259 | | | 128 | | 387 | | 124 | | | 31 | | 155 | 542 |
| 02-03 | | 205 | | | 154 | | 359 | | 146 | | | 29 | | 175 | 534 |
| 03-04 | | 214 | | | 228 | | 442 | | 181 | | | 43 | | 224 | 666 |
| 04-05 | | 154 | | | 190 | | 344 | | 127 | | | 37 | | 164 | 508 |
| 05-06 | | 146 | | | 155 | | 301 | | 143 | | | 60 | | 203 | 504 |
| 06-07 | | 106 | | | 80 | | 186 | | 81 | | | 32 | | 113 | 299 |
| 07-08 | | 65 | | | 82 | | 147 | | 53 | | | 16 | | 69 | 216 |
| 08-09 | | 52 | | | 60 | | 112 | | 36 | | | 10 | | 46 | 158 |
| 09-10 | | 44 | | | 34 | | 78 | | 30 | | | 9 | | 39 | 117 |
| 10-11 | | 26 | | | 22 | | 48 | | 18 | | | 2 | | 20 | 68 |
| 11-12 | | 18 | | | 21 | | 39 | | 10 | | | 3 | | 13 | 52 |
| Totals | 0 | 2769 | 0 | 0 | 1958 | 0 | 4727 | 0 | 1692 | 0 | 0 | 461 | 0 | 2153 | 6880 |

The Manual on Uniform Traffic Control Devices (MUTCD) requies an average of **300** vehicles per hour entering the intersection from the main street for each of 8 hours of a day, and an average of **200** entering from the minor street during the same 8 hours.

Average entering volume on main street for 8 highest hours = **367**

Average minor street volume for same 8 hours = **164**

9/21/2007