### TRAFFIC SIGNAL WARRANT SUMMARY

City: ___________________________  
County: ___________________________  
Engineer: ___________________________  
Date: ___________________________

Major Street: ___________________________  
Lanes: ________  
Critical Approach Speed: ________  
Minor Street: ___________________________  
Lanes: ________

#### Volume Level Criteria
1. Is the critical speed of major street traffic > 70 km/h (40 mph)? □ Yes □ No
2. Is the intersection in a built-up area of isolated community of <10,000 population? □ Yes □ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level □ 70% □ 100%

### WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.  
Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied.

#### Condition A - Minimum Vehicular Volume

<table>
<thead>
<tr>
<th>(volumes in veh/hr)</th>
<th>Minimum Requirements (80% Shown in Brackets)</th>
<th>Eight Highest Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach Lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume Level</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Both Approaches</td>
<td>500 (400)</td>
<td></td>
</tr>
<tr>
<td>on Major Street</td>
<td>350 (280)</td>
<td></td>
</tr>
<tr>
<td>600 (480)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>420 (336)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Approach</td>
<td>150 (120)</td>
<td></td>
</tr>
<tr>
<td>on Minor Street</td>
<td>105 (84)</td>
<td></td>
</tr>
<tr>
<td>200 (160)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140 (112)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours for either the 100% or 70% conditions.  
Condition is 80% satisfied if parenthetical volumes are met for eight hours.

#### Condition B - Interruption of Continuous Traffic

Condition B is intended for application where the traffic volume is excessive delay: □ Yes □ No

<table>
<thead>
<tr>
<th>(volumes in veh/hr)</th>
<th>Minimum Requirements (80% Shown in Brackets)</th>
<th>Eight Highest Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach Lanes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume Level</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Both Approaches</td>
<td>750 (600)</td>
<td></td>
</tr>
<tr>
<td>on Major Street</td>
<td>525 (420)</td>
<td></td>
</tr>
<tr>
<td>900 (720)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>630 (504)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Approach</td>
<td>75 (60)</td>
<td></td>
</tr>
<tr>
<td>on Minor Street</td>
<td>53 (42)</td>
<td></td>
</tr>
<tr>
<td>100 (80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 (56)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Record 8 highest hours and the corresponding volumes in boxes provided. Condition is 100% satisfied if the minimum volumes are met for eight hours for either the 100% or 70% conditions.  
Condition is 80% satisfied if parenthetical volumes are met for eight hours.

### WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Delay is not excessive.

### WARRANT 3 - PEAK HOUR

This signal warrant shall be applied only in unusual cases. Such cases include manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Not Applicable: □
TRAFFIC SIGNAL WARRANT SUMMARY

City: 
County: 
Engineer: 
Date: 

Major Street: 
Lanes: 
Critical Approach Speed: 

Minor Street: 
Lanes: 

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph)?
   Yes  No
2. Is the intersection in a built-up area of isolated community of <10,000 population?
   Yes  No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level
70%  100%

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

Plot four volume combinations on the applicable figure below.

**FIGURE 4C-1: Criteria for "100%" Volume Level**

<table>
<thead>
<tr>
<th>Four Hours</th>
<th>Major Street</th>
<th>Minor Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Volumes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

**FIGURE 4C-2: Criteria for "70%" Volume Level**

* Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.
TRAFFIC SIGNAL WARRANT SUMMARY

City: ___________________________  Engineer: ___________________________
County: _________________________  Date: ___________________________
Major Street: _____________________  Lanes: _______  Critical Approach Speed: _______
Minor Street: _____________________  Lanes: _______

Volume Level Criteria
1. Is the critical speed of major street traffic > 70 km/h (40 mph)?  
   □ Yes  □ No
2. Is the intersection in a built-up area of isolated community of <10,000 population?  
   □ Yes  □ No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level  
   □ 70%  □ 100%

WARRANT 3 - PEAK HOUR

If all three criteria are fulfilled or the plotted point lies above the appropriate line, 
then the warrant is satisfied.

Unusual condition justifying use of warrant:

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Criteria
1. Delay on Minor Approach *(vehicle-hours)*
   - Approach Lanes 1 2
   - Delay Criteria 4.0 5.0
   - Delay
   - Fulfilled?: □ Yes □ No

2. Volume on Minor Approach *(vehicles per hour)*
   - Approach Lanes 1 2
   - Volume Criteria 100 150
   - Volume
   - Fulfilled?: □ Yes □ No

3. Total Entering Volume *(vehicles per hour)*
   - No. of Approaches 3 4
   - Volume Criteria 650 800
   - Volume
   - Fulfilled?: □ Yes □ No

Plot volume combination on the applicable figure below.

FIGURE 4C-3: Criteria for "100%" Volume Level

FIGURE 4C-4: Criteria for "70%" Volume Level

* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.
TRAFFIC SIGNAL WARRANT SUMMARY

City: ___________________________ Engineer: ___________________________
County: ___________________________ Date: ___________________________
Major Street: ___________________________ Lanes: ___ Critical Approach Speed: ___
Minor Street: ___________________________ Lanes: ___

WARRANT 4 - PEDESTRIAN VOLUME

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if condition 1 or 2 is fulfilled and condition 3 is fulfilled.

### Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Hour</th>
<th>Pedestrian Volume</th>
<th>Pedestrian Gaps</th>
<th>Fulfilled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pedestrian volume crossing the major street is 100 ped/hr or more for each of any four hours and there are less than 60 gaps per hour in the major street traffic stream of adequate length.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Pedestrian volume crossing the major street is 190 ped/hr or more for any one hour and there are less than 60 gaps per hour in the major street traffic stream of adequate length.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The nearest traffic signal along the major street is located more than 90 m (300 ft) away, or the nearest signal is within 90 m (300 ft) but the proposed traffic signal will not restrict the progressive movement of traffic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

### Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Students:</th>
<th>Hour:</th>
<th>Min:</th>
<th>Gaps:</th>
<th>Fulfilled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There are a minimum of 20 students crossing the major street during the highest crossing hour.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the crossing than the number of minutes in the same period.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The nearest traffic signal along the major street is located more than 90 m (300 ft) away, or the nearest signal is within 90 m (300 ft) but the proposed traffic signal will not restrict the progressive movement of traffic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft).

### Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Fulfilled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.</td>
<td></td>
</tr>
<tr>
<td>2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.</td>
<td></td>
</tr>
</tbody>
</table>
TRAFFIC SIGNAL WARRANT SUMMARY

City: ___________________________ Engineer: ___________________________
County: _________________________ Date: ___________________________
Major Street: ___________________ Lanes: _______ Critical Approach Speed: _______
Minor Street: ___________________ Lanes: _______

WARRANT 7 - CRASH EXPERIENCE
Applicable: □ Yes □ No
Satisfied: □ Yes □ No
Record hours where criteria are fulfilled, the corresponding volume, and other
information in the boxes provided. The warrant is satisfied if all three of the criteria
are fulfilled.

 Criteria | Hour | Volume | Met? | Fulfilled? |
----------|------|--------|------|-----------|
1. One of the warrants to the right is met. | Warrant 1, Condition A (80% satisfied) | | | |
| Warrant 1, Condition B (80% satisfied) | | | | |
| Warrant 4, Pedestrian Volume at 80% of volume requirements: | | | | |
| 80 ped/hr for four (4) hours or 152 ped/hr for one (1) hour | | | | |
2. Adequate trial of other remedial measure has failed to reduce crash frequency. | Measure tried: | | | |
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-mo. period. | Number of crashes per 12 months: |

WARRANT 8 - ROADWAY NETWORK
Applicable: □ Yes □ No
Satisfied: □ Yes □ No
Record hours where criteria are fulfilled, and the corresponding volume or other
information in the boxes provided. The warrant is satisfied if at least one of the criteria
is fulfilled and if all intersecting routes have one or more of the characteristics listed.

 Criteria | Met? | Fulfilled? |
----------|------|-----------|
1. Both of the criteria to the right are met. | | |
| a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour. | | |
| b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3. | Warrant: 1 2 3 | |
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.) | | |

Characteristics of Major Routes

<table>
<thead>
<tr>
<th>Met?</th>
<th>Fulfilled?</th>
</tr>
</thead>
</table>
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow. | Major Street: |
| Minor Street: |
2. Rural or suburban highway outside of, entering, or traversing a city. | Major Street: |
| Minor Street: |
3. Appears as a major route on an official plan. | Major Street: |
| Minor Street: |

CONCLUSIONS
Warrants Satisfied: _______ _______ _______ _______ _______
Remarks: ____________________________

Based on MUTCD 2003
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