

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

05 SLO 227 R13.25 CALC AJD DATE 2-14-2006
 DIST CO RTE PM CHK _____ DATE _____
 Major St: South Street (Rte 117) Critical Approach Speed 45 MPH
 Minor St: King Street Critical Approach Speed _____

Critical speed of major street traffic > 64 km/h (40 mph)..... }
 or } **RURAL (R)**
 In built up area of isolated community of < 10,000 population.....
 URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES NO
 * 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R	0800	1100	1200	1300	1400	1500	1600	1700	1800
	1		2 or More		0900	1200	1300	1400	1500	1600	1700	1800	Hour
Both Approaches Major Street	500 (400)	350	600 (480)	420	1007	1021	1220	1140	1157	1235	1184	1346	
Highest Approaches Minor Street	150 (120)	105	200 (160)	140	47	27	34	35	61	27	37	38	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES NO
 * 80% SATISFIED YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R	0800	1100	1200	1300	1400	1500	1600	1700	1800
	1		2 or More		0900	1200	1300	1400	1500	1600	1700	1800	Hour
Both Approaches Major Street	750 (600)	525	900 (720)	630	1007	1021	1220	1140	1157	1235	1184	1346	
Highest Approaches Minor Street	75 (60)	53	100 (80)	70	47	27	34	35	61	27	37	38	

Combination of Conditions A & B SATISFIED YES NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80% *	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

* For Urban Only

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* YES NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	One	2 or More	1200	1400	1500	1700
			1300	1500	1600	1800
Both Approaches - Major Street		2	1220	1157	1235	1346
Highest Approaches - Minor Street	1		34	61	27	38

*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES NO

PART A

SATISFIED YES NO

(All parts 1, 2, and 3 below must be satisfied)

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes No
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes No

PART B

SATISFIED YES NO

APPROACH LANES	One	2 or More	1400
			1500
Both Approaches - Major Street		2 <input checked="" type="checkbox"/>	1157
Highest Approaches - Minor Street	1		61

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

WARRANT 4 - Pedestrian Volume
(All Parts Must Be Satisfied)

SATISFIED YES NO

	0800 0900	1400 1500	1500 1600	1700 1800
Hours --->				
Pedestrian Volume	6	5	7	5
Adequate Crossing Gaps				

Any hour > 190 Yes No
 OR 4 hours > 100 Yes No
 AND < 60 gap/hr Yes No

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft)

----- Yes No

AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street.

----- Yes No

WARRANT 5 - School Crossing
(All Parts Must Be Satisfied)

SATISFIED YES NO

Not Applicable

Part A

Gap/Minutes and # of Children

Each of Two Hours --->			
Gaps vs Minutes	Minutes Children Using Crossing		
	Number of Adequate Gaps		
School Age Pedestrians Crossing Street			

Gaps < Minutes SATISFIED YES NO

Children > 20/hr SATISFIED YES NO

Part B

Distance to Nearest Controlled Crossing

Is Nearest Controlled Crossing More Than 180 m (600 ft) away?

SATISFIED YES NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N _____, S _____, E 1700', W _____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 7 - Crash Experience
(All Parts Must Be Satisfied)**

SATISFIED YES NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	OR Warrant 2 - Interruption of Continuous Traffic		
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input checked="" type="checkbox"/> <input type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input checked="" type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More	2		<input type="checkbox"/> <input checked="" type="checkbox"/>

**WARRANT 8 - Roadway Network
(All Parts Must Be Satisfied)**

SATISFIED YES NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES		✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>1415</u> Veh/Hr		✓	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun _____ Veh/Hr			
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.	
Hwy. System Serving as Principal Network for Through Traffic		✓		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		✓		
Appears as Major Route on an Official Plan		✓		
Any Major Route Characteristics Met, Both Streets				<input type="checkbox"/> <input checked="" type="checkbox"/>

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-102. Traffic Count Worksheet

