

Warrants Evaluation Worksheet

Major Street : _____
 Minor Street : _____

Speed Limit: _____ MPH
 Speed Limit: _____ MPH

Traffic Volume Data : Traffic Count: _____
 Date, Week Day
 Projected Traffic: _____
 Design Year

WARRANT 1 - Eight-Hour Vehicular Volume CONDITION A - Minimum Vehicular Flow

WARRANT 1, CONDITION A MET (100%) ? YES NO
WARRANT 1, CONDITION A MET (80%) ? YES NO
WARRANT 1, CONDITION A MET (70%) ? YES NO

APPROACH LANES		MINIMUM REQUIREMENTS (Veh/Hr)						HOUR											
		Both Approaches (Major Street)			Highest Approach (Minor Street)														
Major Street	Minor Street	100%	80%	70%	100%	80%	70%												
1	1	500	400	350	150	120	105												
2 or more	1	600	480	420	150	120	105												
2 or more	2 or more	600	480	420	200	160	140												
1	2 or more	500	400	350	200	160	140												

WARRANT 1 - Eight-Hour Vehicular Volume CONDITION B - Interruption of Continuous Traffic

WARRANT 1, CONDITION B MET (100%) ? YES NO
WARRANT 1, CONDITION B MET (80%) ? YES NO
WARRANT 1, CONDITION B MET (70%) ? YES NO

APPROACH LANES		MINIMUM REQUIREMENTS (Veh/Hr)						HOUR											
		Both Approaches (Major St.)			Highest Approach (Minor St.)														
Major Street	Minor Street	100%	80%	70%	100%	80%	70%	/ / / / / / / / / /											
1	1	750	600	525	75	60	53												
2 or more	1	900	720	630	75	60	53												
2 or more	2 or more	900	720	630	100	80	70												
1	2 or more	750	600	525	100	80	70												

WARRANT 2 - Four-Hour Vehicular Volume

WARRANT 2 MET (100%) ?* YES NO

APPROACH LANES	MINIMUM REQUIREMENTS (Veh/Hr)			HOUR								
	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes									
Both Approaches (Major Street)												
Highest Approaches (Minor Street)												

*Refer to Figure 4C-1 or Figure 4C-2 to determine if this warrant is met.

WARRANT 3 - Peak Hour Delay

WARRANT 3 MET (100%) ? YES NO

REQUIREMENT	FULFILLED
The total stopped time delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach; or	
The volume on the same minor street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; or	
The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.	Yes <input type="checkbox"/> No <input type="checkbox"/>
The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach	Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 4 - Pedestrian Volume

WARRANT 4 MET (100%) ? YES NO

REQUIREMENT	FULFILLED
The pedestrian volume crossing the major street is 100 or more for each of any four hours or is 190 or more during any one hour; and	Yes <input type="checkbox"/> No <input type="checkbox"/>
There are fewer than 60 gaps per hour in the major street traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic; and	Yes <input type="checkbox"/> No <input type="checkbox"/>
The nearest traffic signal along the major street is greater than 300 feet; and	Yes <input type="checkbox"/> No <input type="checkbox"/>
The new traffic signal will not seriously disrupt progressive traffic flow on the major street.	Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 5 - School Crossing

WARRANT 5 MET (100%) ? YES NO

REQUIREMENT	FULFILLED
The frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less then the number of minutes in the same period and there are a minimum of 20 students during the highest crossing hour.	Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 6 - Coordinated Signal System

WARRANT 6 MET (100%) ? YES NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 1000 feet	N____m, S____m, E____m, W____m.	Yes <input type="checkbox"/> No <input type="checkbox"/>
On a one-way street or street which has predominately unidirectional traffic, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning, or		
On a two-way street, adjacent signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 7 - Crash Experience

WARRANT 7 MET (100%) ? YES NO

REQUIREMENTS	FULFILLED
For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Warrant 1, Condition A, or the vph in both of the 80 percent columns of Warrant 1, Condition B, exists on the major street and the higher volume minor street approach, respectively, to the intersection, or the volume of pedestrian traffic is less than 80 percent of the requirements specified in the Pedestrian Volume Warrant. These major and minor street volumes shall not be required to be on the same approach during each of the 8 hours; and	Yes <input type="checkbox"/> No <input type="checkbox"/>
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce crash frequency; and	Yes <input type="checkbox"/> No <input type="checkbox"/>
Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash.	Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 8 - Roadway Network

WARRANT 8 MET (100%) ? YES NO

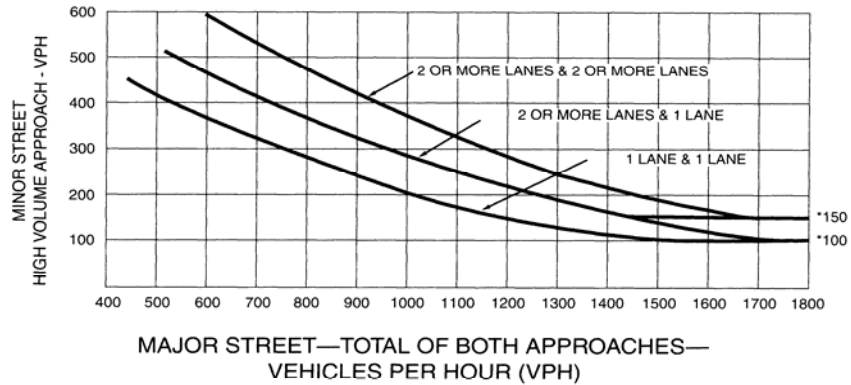
MINIMUM VOLUME REQUIREMENT	ENTERING VOLUMES - ALL APPROACHES		FULFILLED
1000 VEH/HR	During typical weekday peak hour _____ Veh/Hr, or During each of any 5 hrs. of a Sat. and/or Sun. _____ Veh/Hr.		Yes <input type="checkbox"/> No <input type="checkbox"/>
Characteristics of major routes		Major St.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Street or highway system serving as principal network for through traffic flow, or			
Rural or suburban highway outside, entering, or traversing a city, or			
Appears as major route on an official plan			
Any major route characteristics met, both streets			Yes <input type="checkbox"/> No <input type="checkbox"/>

WARRANT 3 - Peak Hour Delay

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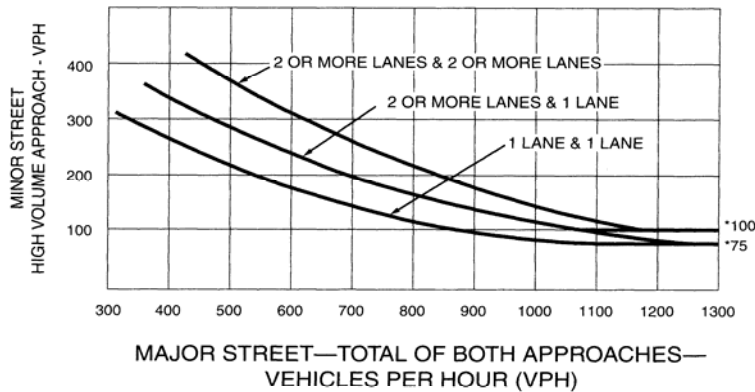
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Figure 4C-3. Warrant 3, Peak Hour



*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 for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*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 for a minor-street approach with one lane.

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