Intersection Traffic Control

Operations Committee Presentation
February 13, 2012

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Types of Traffic Control

1. Uncontrolled Intersections
2. Yield Signs
3. Stop Signs
4. All-Way Stops
5. Traffic Control Signals
6. Roundabouts

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Uncontrolled Intersections

- Have no stop or yield signs
- <u>Right of Way Rule applies:</u>

"Driver on the left shall yield right of way to the driver on the right"

- Not very common in urban areas

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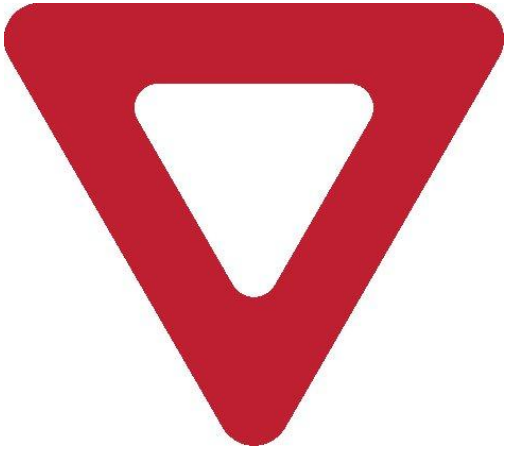
Yield Signs



- Used where a minor road intersects with a major road, and
- Sight lines are good and stopping is not always required
- Yield signs are also used on channelized right turn lanes and on each approach to a roundabout

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Stop Signs

- Clearly assigns right-of-way at an intersection
- Used where yield signs are not appropriate and traffic signals are not required
- Requires that drivers come to a complete stop and yield to any traffic in or approaching the intersection.

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All-Way Stops

- Used to alternate right-of-way at busy intersections having similar traffic volumes and operating conditions
- Used at locations having high collision frequency that may be corrected with an all-way stop
- Can be used as an interim measure where traffic control signals are warranted but cannot be implemented right away
- As a means of providing a transition period to accustom drivers to a change in right-of-way from one direction to another

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When Should All-Way Stops Not Be Used

- As a speed control device
- Solely to protect pedestrians, especially school aged children
- Where traffic would be required to stop on grades
- At offset intersections or intersections with poor geometry
- On multi-lane approaches
- Higher speed roadways >60km/h
- Where visibility of the sign is hampered by curves
- Within 250 metres of traffic signals or another stop sign

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Facts About All-Way Stop Control

Speed

- **Not effective as a speed control device**
  - Drivers only slow down near the intersection
  - Mid-block speeds often increase after an all-way stop

Traffic Volume

- Not effective in reducing traffic volume

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Facts About All-Way Stop Control

Safety

- **Can reduce some types of collisions if they are prevalent, such as angle or turning type**
- **Unwarranted stop signs can decrease safety due to disrespect and non-compliance**
  - Especially young children as they expect drivers to obey the law
  - Can increase some types of collisions such as rear-end

Environment

- **All-way stops result in noise and air pollution and increased fuel consumption**

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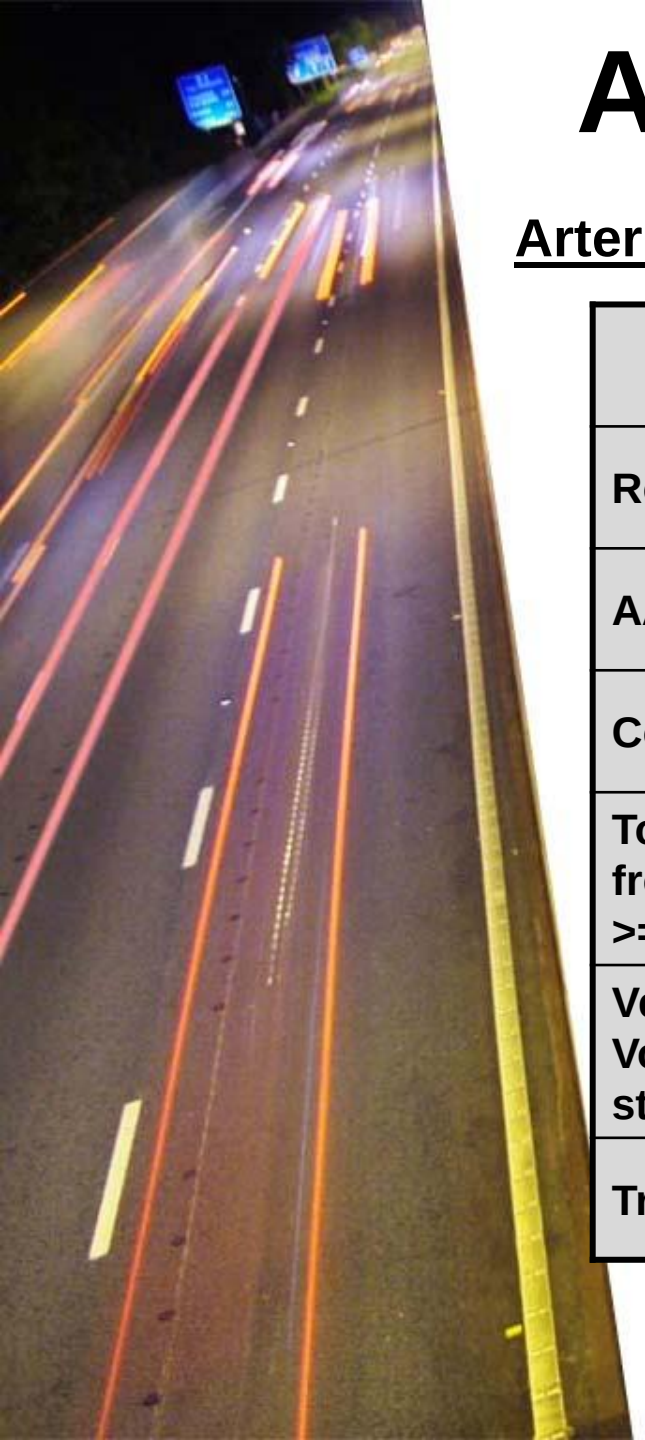
All-Way Stop Warrants

Why are Warrants Important?

- Based on engineering principals
- Allows for consistent analysis of all intersections

City of Greater Sudbury Warrants:

- Policy approved in 2008
- Lowers minimum traffic volume and collision thresholds contained in provincial criteria
- Developed based on survey of 12 municipalities



All-Way Stop Warrant

Arterial/Major Collector & Minor Collector Roadways

	OTM Warrant	CGS Warrant	
Roadway Type	Arterial and Major Roads	Arterial/Major Collector	Minor Collector
AADT	Not defined	>5000	1000-5000
Count Period (Hours)	8	7	4
Total vehicle volume from all approaches is >=	500	500	350
Vehicle & Pedestrian Volume from side street is >=	200	200	140
Traffic Split	70/30	70/30	70/30

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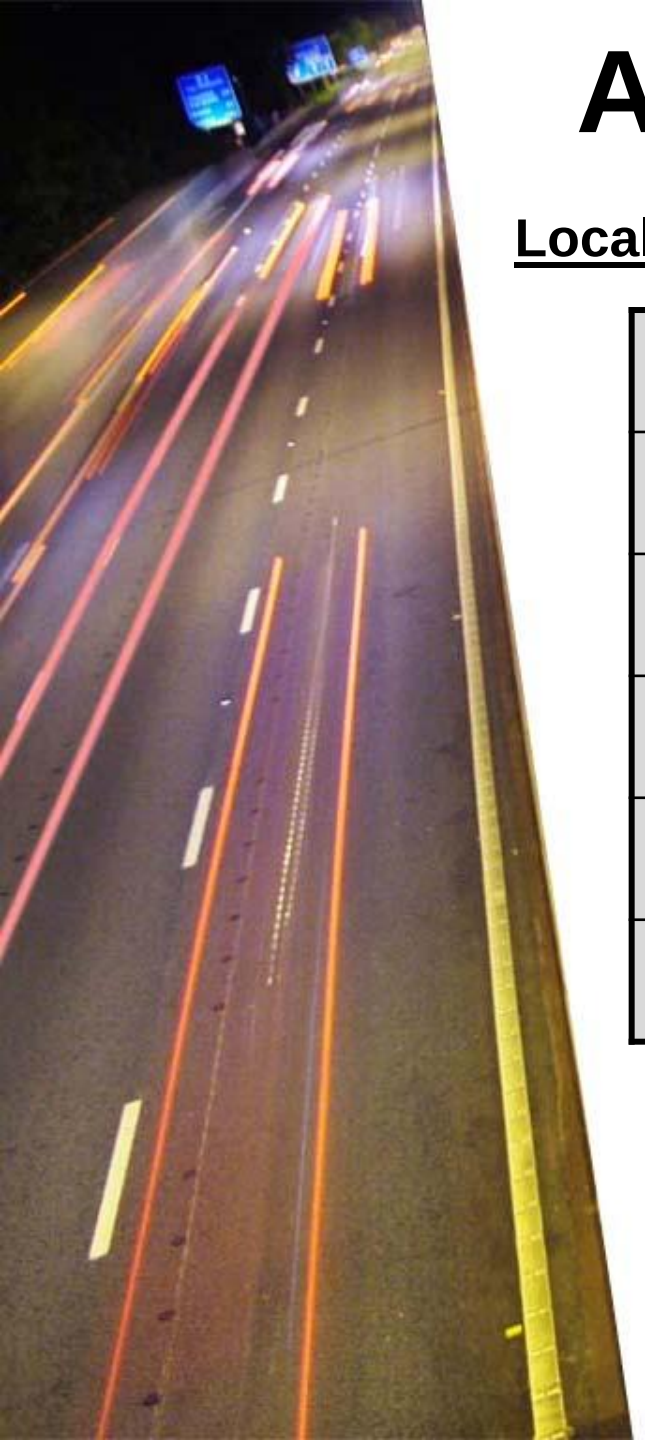

All-Way Stop Warrant

Local Roadways

	OTM Warrant	CGS Warrant
Roadway Type	Minor Roads	Local
AADT	Not defined	<1000
Count Period (Hours)	1	4
Total vehicle volume from all approaches is >=	350	250
Traffic Split	75/25 – 3-way control 65/35 – 4-way control	70/30

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All-Way Stop Warrant

Collision Warrant

Roadway Type		# of Collision/year
OTM Warrant		4
CGS Warrant	Arterial/Major Collector	4
	Minor Collector	3
	Local	2

Questions?

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