



## Request for Decision

**All Way Stop Control - 1) Bouchard Street at Marcel Street, Sudbury and 2) Balsam Street at Garrow Road and Power Street, Copper Cliff**

Presented To: Traffic Committee

Presented: Monday, Mar 21, 2011

Report Date Thursday, Mar 10, 2011

Type: Managers' Reports

## Recommendation

That the intersection of Balsam Street at Garrow Road at Power Street be controlled by an all-way-stop, and;

That a by-law be passed by City Council to amend Traffic and Parking By-Law 2010-1 in the City of Greater Sudbury to implement the recommended change all in accordance with the report from the General Manager of Infrastructure Services dated March 10, 2011.

## Background

### 1) Bouchard Street at Marcel Street

On August 4<sup>th</sup>, 2010, Councillor Cimino requested that a turning movement count be conducted to determine if an all-way stop would be warranted at the intersection of Bouchard Street and Marcel Street.

Bouchard Street at Marcel Street is a cross intersection located west of Regent Street ( **see Exhibit "A"**). There is also a playground located in the southeast corner of the intersection. Currently this intersection is controlled with "stop" signs facing northbound and southbound traffic on Marcel Street. This portion of Bouchard Street was also part of the Traffic Calming Pilot Project, and had a median island installed on the east leg of this intersection.

Applying the data from the turning movement count that was conducted on August 25<sup>th</sup>, 2010 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from the side street meets approximately 75 percent of the volume requirements. The traffic volume split is 80 percent on Bouchard Street and 20 percent on Marcel Street. This is outside the ratio of 70/30 needed to warrant an "all-way" stop ( **see Exhibit "B"**).

Comparing the 2010 turning movement count to a previous count conduct in 2007, indicates that volumes at this intersection may be artificially high due to the ongoing construction on Regent Street. Southbound traffic

### Signed By

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#### Division Review

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Doug Nadorozny  
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from Marcel Street has increased by 27 percent (222 in 2007 vs. 282 in 2010) while northbound traffic from Marcel Street has more than doubled (363 in 2007 vs. 738 in 2010).

A review of the City's collision information from 2008 to 2010 revealed that there were no collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Major Collector roadway, the Collision Warrant requires a minimum of four (4) collisions per year over a three (3) year period.

Councillor Cimino also expressed concerns about the safety of pedestrians while crossing Bouchard Street at this intersection. The existing median island on the east leg of this intersection was recommended by the IBI Group as part of the Traffic Calming Pilot Project in order to "provide a pedestrian refuge that supports a two-stage crossing for times when traffic volumes make crossing difficult". During the seven (7) hour count, we recorded a total of five (5) pedestrians crossing Bouchard Street at this intersection (four (4) crossing the east leg and one (1) crossing the west leg).

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Bouchard Street and Marcel Street. Staff will arrange to recount this intersection once construction is completed on Regent Street to ensure that traffic volumes on Marcel Street do not remain high.

## 2) Balsam Street at Garrow Road at Power Street

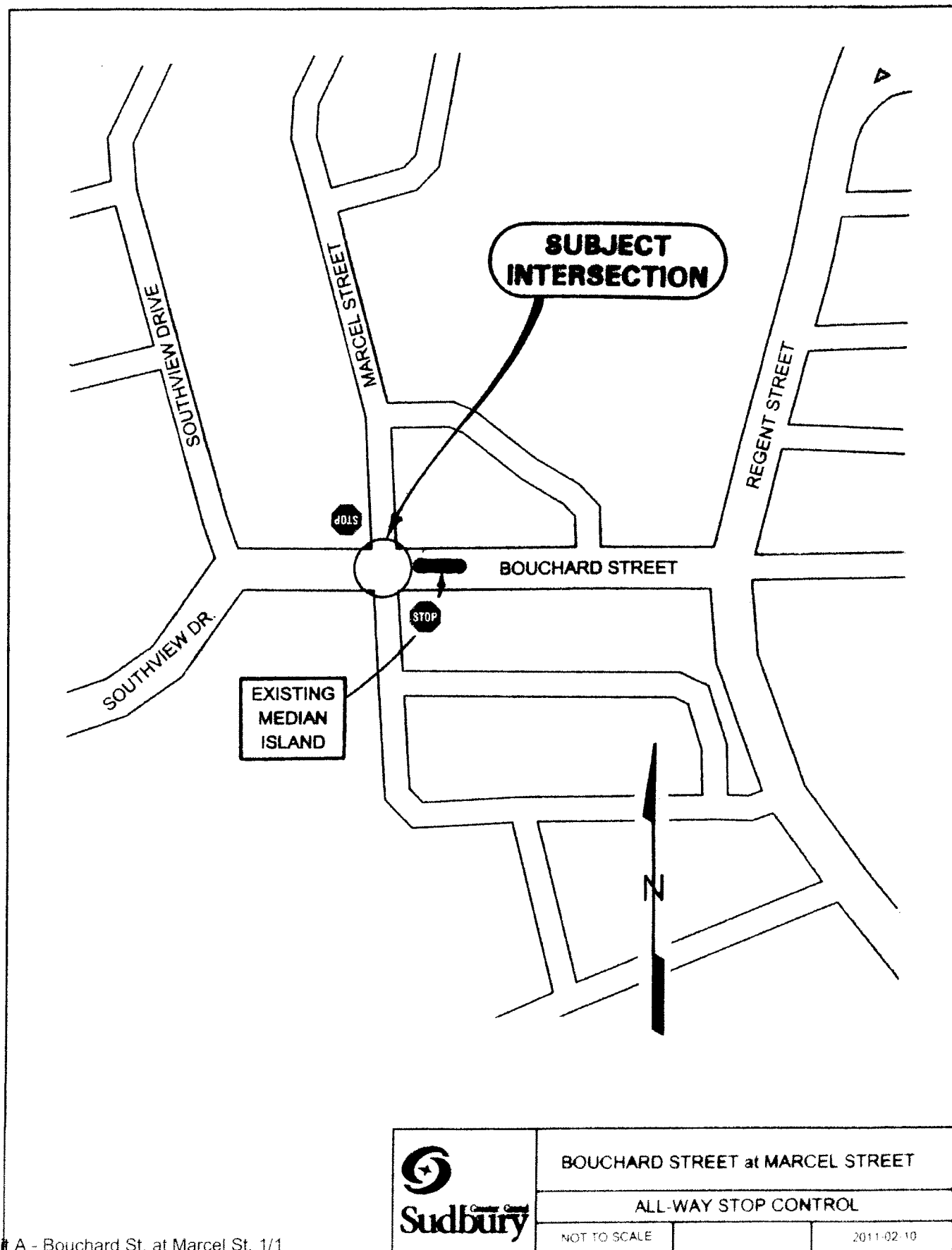
Councillor Barbeau requested that a turning movement count be conducted to determine if an all-way stop is warranted at the intersection of Balsam Street at Garrow Road/Power Street.

Balsam Street at Garrow Road/Power Street is a cross intersection located in Copper Cliff (**see Exhibit "C"**). The Copper Cliff Library is located on the northwest corner of the intersection and the McClelland Arena and R.G. Dow Pool are located northeast of the intersection. Currently this intersection is controlled with "stop" signs facing northeast bound traffic on Power Street and southwest bound traffic on Garrow Road.

Applying the data from the turning movement count that was conducted on May 25<sup>th</sup>, 2010 to the City's new Minimum Volume Warrant indicates that the traffic volume at this intersection meets the minimum vehicle volume requirements ( **see Exhibit "D"**). A review of the City's collision information from 2008 to 2010 revealed that there were three (3) collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Minor Collector roadway, the Collision Warrant requires a minimum of three (3) collisions per year over a three (3) year period.

Since the traffic volume meets the minimum vehicle volume warrant, staff recommends installing an all-way stop at the intersection of Balsam Street at Garrow Road/Power Street. Also, staff recommends that physical changes be made to the intersection to better define the approaches and to improve safety for pedestrians. These changes will be funded from the 2011 Capital Roads budget.

# EXHIBIT: A





# EXHIBIT: B

## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	<u>Bouchard Street at Marcel Street</u>	Date:	<u>March 3, 2011</u>
Date of TM Count:	<u>August 25, 2010</u>	Analyst:	<u>JR</u>
Type of Intersection:	<u>Cross</u>		
Roadway Type	<u>Arterial/Major Collector</u>		
AADT of Main Road:	<u>10500</u>		

### All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>63.3</u>	%
Warrant #2	Collision History	<u>0.0</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

**All-Way Stop Warranted?** **No** Y/N

Warrant #1 - Minimum Vehicle Volume					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	780	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	146	73.2%
Traffic Split	70/30	70/30	70/30	81 / 19	63.3%

Warrant #2 - Collision History					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%
Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.				<span style="border: 1px solid black; padding: 2px;"><b>No</b></span>	Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

**SUBJECT INTERSECTION**

SERPENTINE ST.

COPPER CLIFF LIBRARY

MARKET ST.

BALSAM ST.

GARROW RD.

McCLELLAND ARENA

VETERANS RD.

R. G. DOW POOL

GODFREY DRIVE

POWER STREET

**COPPER CLIFF**

**BALSAM STREET at GARROW ROAD at POWER STREET**

**ALL-WAY STOP CONTROL**

**Sudbury**

NOT TO SCALE

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C - Balsam St. at Garrow Rd. at Power St. 1/1



# EXHIBIT: D

## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	<u>Balsam Street at Power Street</u>	Date:	<u>March 3, 2011</u>
Date of TM Count:	<u>May 25, 2010</u>	Analyst:	<u>JR</u>
Type of Intersection:	<u>Cross</u>		
Roadway Type	<u>Minor Collector</u>		
AADT of Main Road:	<u>3998</u>		

### All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>100.0</u>	%
Warrant #2	Collision History	<u>33.3</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

**All-Way Stop Warranted?** Yes Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	461	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	185	100.0%
Traffic Split	70/30	70/30	70/30	62 / 38	100.0%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	1	33.3%

<b>Warrant #3</b>	<b>Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.</b>	<u>No</u>	Y/N
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\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.