Request for Decision

Elm Street - Lorne Street to Paris Street, Sudbury, On-Street Parking

Presented To:	Traffic Committee
Presented:	Friday, Jun 17, 2011
Report Date	Wednesday, Jun 01, 2011
Type:	Managers' Reports

Signed By

Report Prepared By
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Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jun 1, 11

Division Review
Robert Falcioni, P.Eng.
Director of Roads and Transportation Services
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Recommended by the Department
Greg Clausen, P.Eng.
General Manager of Infrastructure Services
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Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
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Recommendation

That on-street parking NOT be permitted on Elm Street between Lorne Street and Paris Street, and;

That the proposed Transportation Study Report review the need and timing for the Ste. Anne Road extension and other road network improvements to reduce traffic volumes on Elm Street, and;

That bicycle routes through downtown be planned based on recommendations contained in the Downtown Sudbury Master Plan that is currently being prepared and the proposed Transportation Study Report, all in accordance with the report from the General Manager of Infrastructure Services dated June 1, 2011.

Background:

At the Traffic Committee meeting held on March 21, 2011, the Committee directed staff “to prepare a report regarding the proposal to allow on-street parking on Elm Street as proposed by the Downtown Village Development Corporation and Downtown Sudbury BIA including bicycle lanes".

Elm Street between Lorne Street and Paris Street is designated as a secondary arterial roadway and forms part of a major east/west link in the City’s road network **(see Exhibit ‘A’)**. At one time, Elm Street was also a major link in the provincial highway system providing a connection between Highway 17 East and West. In 1990, daily traffic volumes on Elm Street were 22,000, east of Durham Street. With construction of the Brady Street extension, and Highway 17 By-Pass in the 1990’s, daily traffic volumes have been reduced to 20,500, east of Lorne Street, and 16,000, east of Durham Street. Traffic counts indicate that hourly traffic volumes are fairly consistent between 8:00 a.m. and 6:00 p.m. During the afternoon peak hour, traffic volumes range from 1,500 to 2,000 along Elm Street through downtown.

Between Lorne Street and Lisgar Street, Elm Street is constructed with four (4) lanes of traffic, and wide sidewalks on both sides. The road has an asphalt surface width of approximately 42 feet which results in lane widths of 10 to 11 feet which are narrow for an arterial roadway. As there are no left turn lanes within

this section of Elm Street, left turn prohibitions are in place at Elgin Street, Durham Street, and Frood Road, at certain times of the day. The intersection of Elm Street and Lisgar Street is widened to provide a westbound left turn lane.

In 2001 a report was presented to Council that recommended that on-street parking **not** be allowed on Elm Street due to the reduced Level of Service (LOS) as a result of the congestion of the corridor.

CAPACITY ANALYSIS

Existing Conditions

Based on existing turning movement counts at the signalized intersections from Lorne Street to Paris Street, staff has undertaken a capacity analysis for the afternoon peak hour for this section of Elm Street. The results of the capacity analysis are shown on Table 'A' below. As indicated, the major movements at the intersections are currently operating at a reasonable Level of Service (LOS) of 'B' to 'D'. The westbound through movement on Elm Street at Elgin Street is currently nearing capacity. Currently, average operating speed from Lorne Street to Paris Street is calculated at 19 km/h.

Scenario # 1 – Parking on Both Sides, No Diversion of Traffic

Staff completed a second analysis assuming that parking was permitted along both sides of Elm Street, between Lorne Street and Lisgar Street. The results of the analysis show that serious congestion will occur along Elm Street with Level of Service ranging from 'E' to 'F'. Average travel speed though the study area is estimated to be 11 km/h after parking is allowed.

Table A

SUMMARY OF INTERSECTION CAPACITY ANALYSIS
PM PEAK HOUR

Scenario	Parameters	Elm @ Elgin		Elm @ Durham	
		EBT	WBT	EBT	WBT
Existing	V/C	0.67	0.84	0.35	0.57
	Approach Delay	23.8	42.5	21.6	10.5
	LOS	C	D	C	B
	Maximum Queue Length	67	109	62	20
Parking on Both Sides with no diverted traffic	V/C	0.91	1.55	0.66	0.93
	Approach Delay	56.3	386.2	55.9	431.8
	LOS	**E**	**F**	**E**	**F**
	Maximum Queue Length	141	288	103	179
Parking on Both Sides with	V/C	0.73	0.85	0.41	0.42

diverted traffic

Approach Delay	26.2	56.2	24.3	8.4
LOS	C	**E**	C	A
Maximum Queue Length	93	132	76.5	19

Level of Service (LOS)	Delay per Vehicle (Seconds)
A	≤ 10
B	>10 and ≤ 20
C	>20 and ≤ 35
D	>35 and ≤55
E	>55 and ≤80
F	>80

The reduction of the Level of Service (LOS) is consistent with the analysis of the 2001 Council Report for on-street parking on Elm Street.

Scenario # 2 – Parking on Both Sides, With Diverted Traffic

Due to the high level of congestion and delay on Elm Street, created by the on-street parking, many drivers will choose to divert to alternate routes and by-pass the downtown all together. In order to determine the number of trips that may be diverted from Elm Street, and the alternate routes that would be taken, the City's Transportation Model was utilized. The Transportation Model was developed in support of the City's 2006 Official Plan, and is based on household surveys, and census tract information.

Exhibit 'B' shows the change in hourly traffic volumes on the road network after parking is permitted along both sides of Elm Street. As shown on the Exhibit, traffic volumes are significantly reduced on Elm Street in the westbound direction by 300 to 480 vehicles per hour (vph). Eastbound traffic is also reduced by 150 to 195 vph. While the reduced traffic volumes provide a benefit to capacity on Elm Street, the diverted traffic will adversely impact a number of other corridors in the City. Some of the routes that will be impacted include:

- Beech Street and Frood Road
- Brady Street, Douglas Street and Lorne Street south of Douglas Street
- College Street, Evergreen Lane/Davidson Street and Ste. Anne Road
- MacKenzie Street and Kathleen Street
- LaSalle Boulevard

While some of these roadways such as Brady Street are designated as arterial roads and are intended to carry commuter traffic from other areas of the City, many are not. Frood Road, College Street, MacKenzie Street, Kathleen Street and others are designated as collector roads with residential development on both sides. They are not intended to be used as cut through routes for drivers avoiding congestion along the City's major arterial roadways. It is estimated that 3,000 to 5,000 vehicle trips per day may be diverted away from Elm Street to these other roads.

The Transportation model indicates that capacity problems and congestion will occur on College Street as

well as parts of Elm Street and Brady Street if parking was permitted.

A more detailed capacity analysis was completed for the signalized intersections on Elm Street, with the volumes adjusted. Due to on-street parking, the results confirm that capacity problems will still occur if parking is permitted. Level of service for eastbound traffic on Elm Street will fall to “D” and “E”.

Based on the capacity problems that will be created, and diversion of traffic through residential areas, staff does not recommend that parking be permitted on Elm Street.

Parking Details

Based on as-built drawings, and a site review, it is estimated that approximately 44 parking spaces could be provided on Elm Street. Parking has not been included east of Lisgar Street due to the mid-block uncontrolled pedestrian crossing. Parking has also not been included on the north side of Elm Street, west of the CPR tracks, and adjacent to the planter boxes in front of the Rainbow Centre. Parking within close proximity to the signalized intersections (15 to 18 metres) is not permitted to provide very short right hand turn lanes, and allow for the turning movements of large trucks, fire trucks and busses.

There are currently a total of 3,490 public and private parking spaces within the downtown. The additional parking spaces on Elm Street would represent a 1.3 percent increase in total parking spaces.

Implementation of parking on Elm Street will require the installation of approximately 24 parking meters, or seven (7) to eight (8) pay and display machines. In addition, approximately 36 parking signs on 18 supports will be required.

Trains

Canadian Pacific Railway currently has a three (3) track, at grade, crossing of Elm Street, located west of Frood Road. This railway crossing currently causes substantial delays to traffic on Elm Street and intersecting streets. Reducing Elm Street to one (1) lane will result in greatly increased delays and create much longer traffic queues. The effects of the congestion will remain long after the train has cleared the crossing.

Ste. Anne Road Extension

The 2005 Transportation Study indicates that the westerly extension of Ste. Anne Road to College Street will provide relief to Elm Street between Lorne Street and Frood Road. Moderate traffic reductions will also occur on Elm Street from Frood Road to Paris Street. The attached **Exhibit ‘C’** shows the change in traffic volumes that will result if Ste. Anne Road were extended and parking was permitted on both sides of Elm Street.

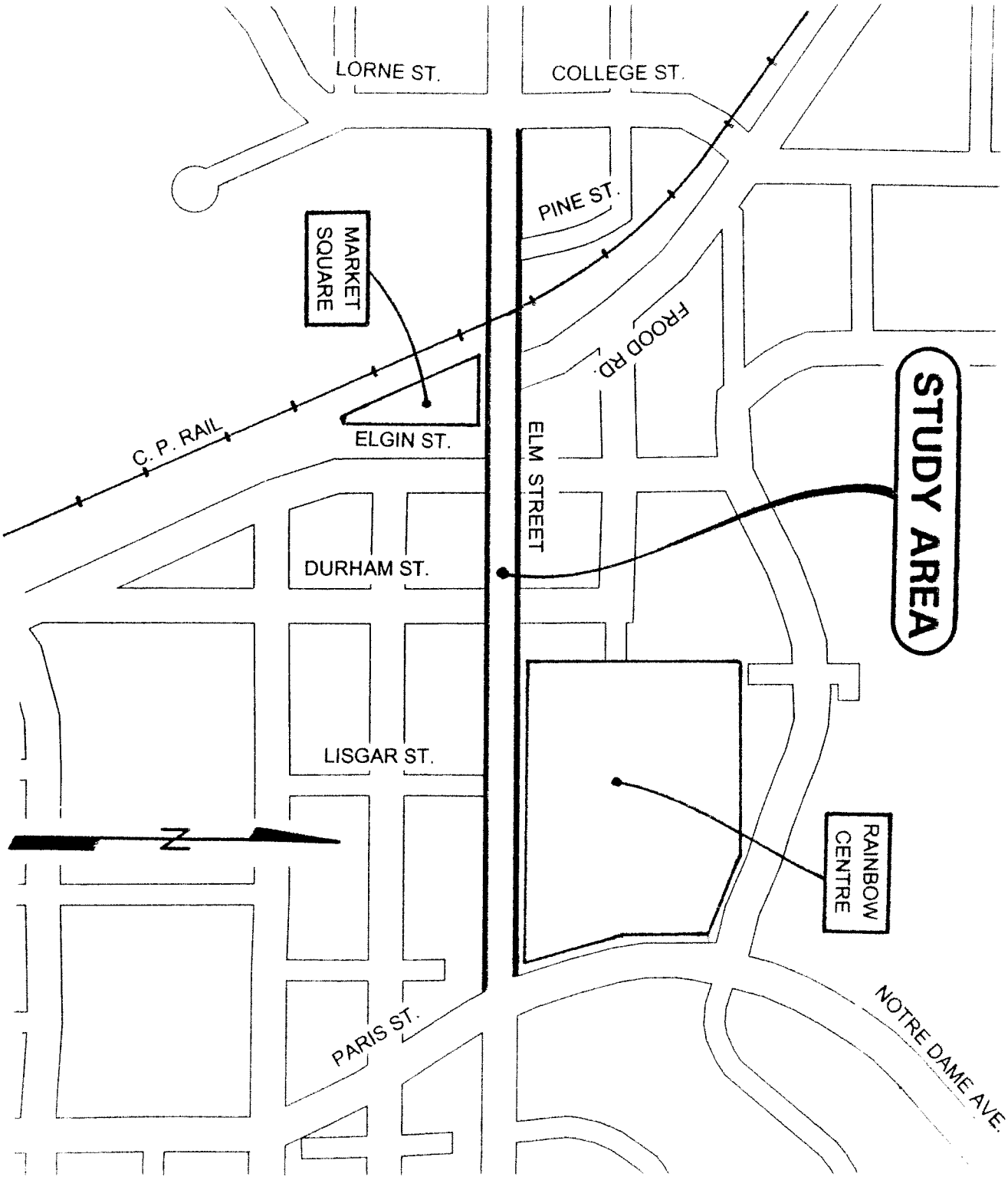
The 2005 Transportation Study recommended that the City “undertake detailed feasibility/operational studies for this improvement to address area growth or other localized operational deficiencies”.

There continues to be a desire to reduce traffic volumes on Elm Street through downtown to allow for on-street parking, and other right-of-way beautification initiatives. Therefore, staff recommends that the proposed Transportation Study Report review the need and timing for the Ste. Anne Road extension, and other road network improvements that may be required to reduce traffic volumes on Elm Street.

Bicycle Lanes

Due to the narrow cross-section and high traffic volumes on Elm Street, bicycle lanes are not recommended. The Downtown Sudbury Master Plan is currently reviewing bicycle routes and related infrastructure for downtown. Preliminary findings of the study indicate that bicycle lanes/paths be provided on the Ste. Anne Road/Frood Road/Elgin Street corridors to facilitate travel through the downtown. The proposed Transportation Study Report will also undertake a review of bicycle facilities in the City that will build on supporting documents such as the Sustainable Mobility Plan, and Bicycle Technical Master Plan. It is recommended that bicycle facilities through downtown Sudbury be planned based on the recommendations contained in the Downtown Sudbury Master Plan and proposed Transportation Study Report.

EXHIBIT: A



Sudbury

ELM STREET
LORNE STREET to PARIS STREET
ON - STREET PARKING

NOT TO SCALE		2011-05-17

EXHIBIT: B

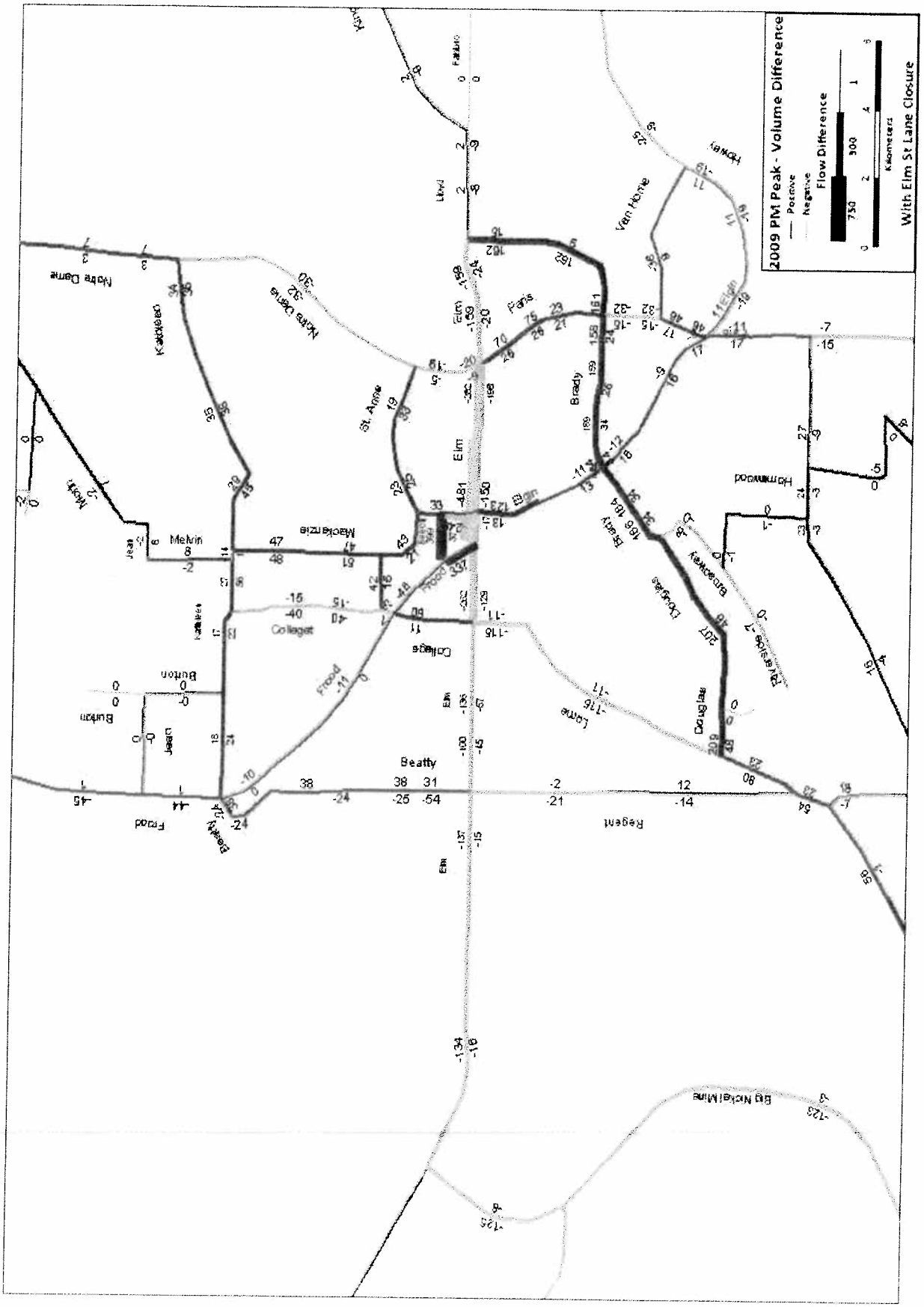


Exhibit B – Change in 2009 PM Peak Volumes with Parking on Both Sides

EXHIBIT: C

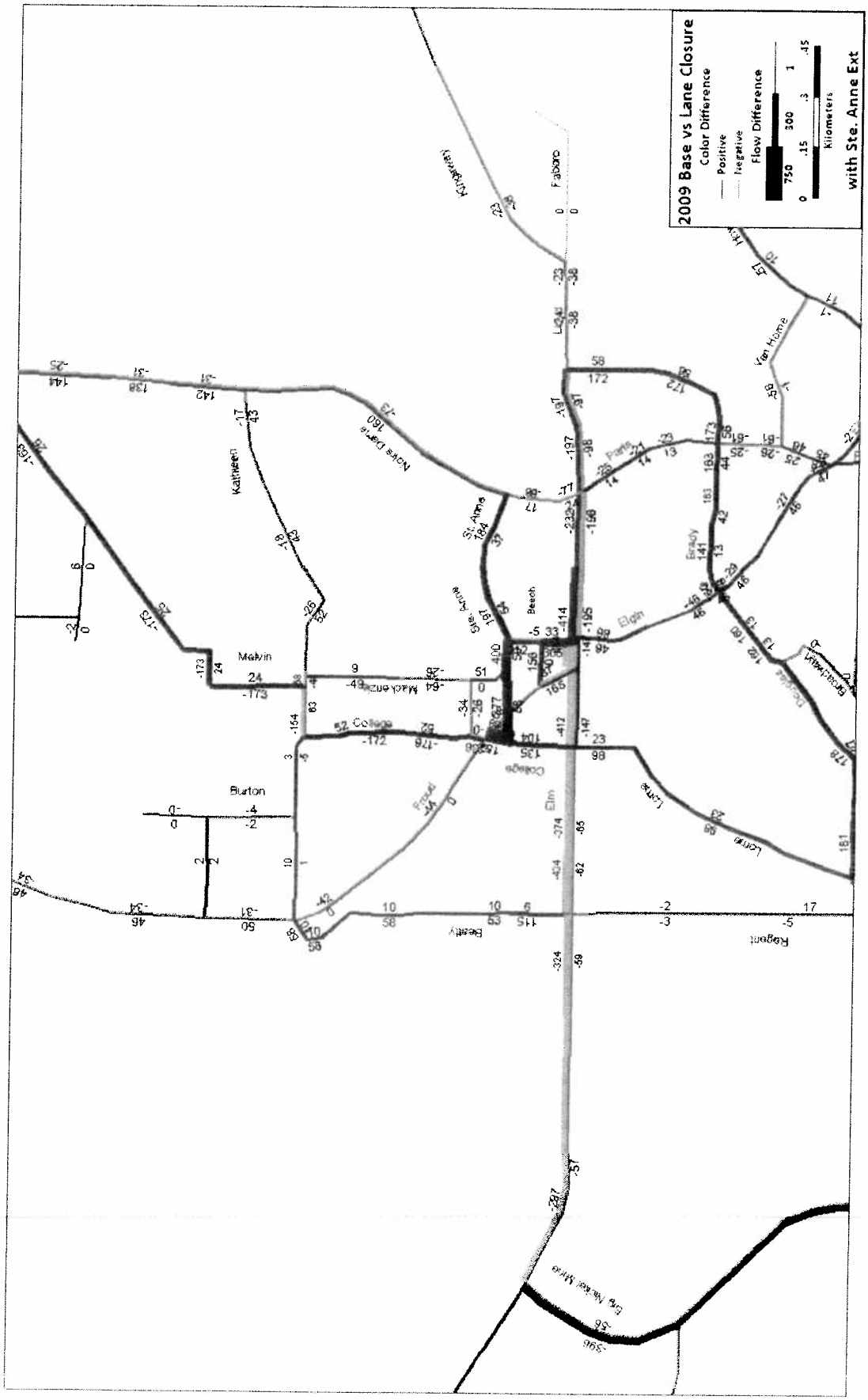


Exhibit C – Change in 2009 PM Peak Volumes with Parking on Both Sides and Ste. Anne Extension