EXHIBIT: B2

Presented To:	Operations Committee
Presented:	Monday, Apr 16, 2012
Report Date	Wednesday, Apr 04, 2012
Type:	Managers' Reports

Request for Decision

Elm Street - On-Street Parking

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Apr 4, 12

Division Review
David Shelsted, MBA, P.Eng.
Director of Roads & Transportation Services
Digitally Signed Apr 4, 12

Recommended by the Department
Greg Clausen, P.Eng.
General Manager of Infrastructure Services
Digitally Signed Apr 4, 12

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Apr 5, 12

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 Ste. Anne Road extension and other road network improvements to reduce traffic volumes on Elm Street, and;

That bicycle routes through the downtown be planned based on recommendations contained in the Downtown Sudbury Master Plan and the Transportation Study Report that is currently being prepared, all in accordance with the report from the General Manager of Infrastructure Services dated April 2, 2012.

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”.

As a result of the request, staff prepared a report dated June 11, 2011 that was presented to the Traffic Committee on June 17, 2011 (**see Appendix ‘A’**). The report reviewed the impact of permitting parking along both sides of Elm Street from Lorne Street to Paris Street. Due to capacity problems at the signalized intersections and diversion of through traffic to residential areas, staff recommended that on-street parking not be permitted. Subsequently, the Committee agreed to a motion by Councillor Landry-Altmann to defer this item until such a time as the Downtown Master Plan has been completed. The Committee also agreed to a request by Councillor Caldarelli for a report with an option to consider on-street parking on one (1) side of Elm Street from Lorne Street to Paris Street.

As the issue of on-street parking along Elm Street is linked to the Downtown Master Plan, staff asked that IBI Group review the possibility of providing parking along one (1) side of Elm Street. IBI Group prepared the City’s Strategic Parking Plan in 2010, and the Transportation Position Paper prepared in support of the Downtown Master Plan. In both of these documents, on-street parking on both sides of Elm Street is not recommended owing to the traffic congestion that would likely occur.

In a memorandum dated July 22, 2011, IBI Group submitted the results of their updated review (**see Appendix 'B'**). Their analysis is based on traffic counts taken by the City in July 2011. As indicated by IBI Group, the typical nominal capacity of a single lane of traffic on a roadway in a downtown area is 600 vehicles per hour. Overall, traffic volumes are lower on Elm Street west of Lisgar Street then they are west of Elgin Street. Therefore, IBI Group recommended that the "least risk" option from a transportation perspective is to conduct a pilot project that would consist of allowing parking on the south side of Elm Street (eastbound lane), between Elgin Street and Lisgar Street during the summer months. The summer was chosen for the pilot project as traffic volumes are generally lower. This recommendation is consistent with a recommendation contained in the Draft Downtown Sudbury Master Plan that was presented to the Planning Committee on January 23, 2012.

Additional Analysis and Recommendation

As indicated by IBI Group, the theoretical capacity of a single lane of traffic on a downtown street is approximately 600 vehicles per hour (VPH). The counts taken in July 2011 indicate that eastbound volumes west of Lisgar Street are near or exceed 600 VPH for most of the afternoon.

The analysis conducted by IBI Group looked at the roadway in general, and not at the affected intersections. The previous intersection analysis contained in the staff report dated June 1, 2011 indicated that with only one (1) lane, the intersection of Elm Street and Durham Street will experience capacity problems in the eastbound direction unless drivers choose to take alternate routes to avoid Elm Street.

Also, the analysis prepared by IBI Group did not consider the impacts of trains at the at-grade rail crossing located west of Elgin Street. It is acknowledged that permitting parking east of the tracks, on the downstream side, will have less of an impact on traffic operations than if it was on the upstream (west) side. However, it will still take much longer for vehicle queues to dissipate and for operations to return to normal after the train has passed with only a single lane for traffic on the downstream side.

Based on a review of traffic operations, staff recommends that the existing parking restrictions remain in place, and that parking not be permitted along the south side of Elm Street between Elgin Street and Lisgar Street. Should Council decide to implement on-street parking along Elm Street as recommended in the Downtown Sudbury Master Plan, it should be implemented as a pilot project. The pilot project would occur during the summer months (June 1st to August 31st) on the south side of Elm Street between Elgin Street and Lisgar Streets. It is estimated that approximately 18 parking spaces can be created in this area. These 18 parking spaces represent a 0.5 percent increase in available parking downtown. It is also recommended that the maximum time limit for parking be set at a maximum of two (2) hours. This should ensure a turnover of the parking spaces, and is consistent with maximum time allowed at parking metres. It is estimated that the cost of installing the required parking control signs for the pilot project is $2,500.

If the pilot project is approved for implementation, staff will review the impact of the pilot project on traffic operations and safety, and report back to the Operations Committee in the fall 2012.

Sudbury

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

Request for Decision
Elm Street - Lorne Street to Paris Street, Sudbury, On-Street Parking

show/hide decisions

Decisions

Report dated May 27, 2011 was received from the General Manager of Infrastructure Services regarding Elm Street - Lorne Street to Paris Street, Sudbury, On-Street Parking.

The Committee agreed to a motion by Councillor Landry-Altmann to defer this item until such a time as the Downtown Master Plan has been completed.

The Committee also agreed to a request by Councillor Caldarelli for a report with an option for considering on -street parking parking on one side of Elm Street from Lorne Street to Paris Street and peak hour lane exchange.

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".

Signed By

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

Division Review
Robert Falcioni, P.Eng.
Director of Roads and Transportation Services
Digitally Signed Jun 1, 11

Recommended by the Department
Greg Clausen, P.Eng.
General Manager of Infrastructure Services
Digitally Signed Jun 1, 11

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jun 1, 11

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 diverted traffic	V/C	0.73	0.85	0.41	0.42
	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.

Supporting Documents

1. Exhibit A - Elm Street-Lorne Street to Paris Street (pdf)
2. Exhibit B - Elm Street-Change in 2009 PM Peak Volumes with Parking on Both Sides (pdf)
3. Exhibit C - Elm Street-Change in 2009 PM Peak Volumes with Parking on Both Sides and Ste (pdf)

IBI Group
5th Floor – 230 Richmond Street West
Toronto ON M5V 1V6 Canada
tel 416 596 1930
fax 416 596 0644

Memorandum

To/Attention	Jason Ferrigan	**Date**	July 22, 2011
From	Brian Hollingworth	**Project No**	28852
cc	Dave Kivi, David Kalviainen, David Shelsted, Ross Burnett	**Steno**	tpw
Subject	**Elm Street On-Street Parking**		

Background

Over the past several years, there has been a growing discussion on the merits of permitting on-street parking on Elm Street within Downtown Sudbury. Specifically, businesses along Elm Street feel that on-street parking would increase their attractiveness to a broader customer base.

The feasibility of on-street parking on Elm Street was first examined in 2010 as part of the Strategic Parking Plan for the City of Greater Sudbury. In that City-wide parking plan, it was recommended that as a general policy, on-street parking be maximized. In addition to addressing the high demand for on-street parking, it was noted that "*increased capacity of on-street parking means that parking supply increases without using more land or major construction.*" However, with respect to Elm Street, on-street parking was not recommended owing to the traffic congestion that would likely occur with only one lane in each direction. It was also noted that if an alternative route through the Downtown for Highway 55 is created via College Street and Ste. Anne Road, Elm Street would become a candidate for on-street parking.

Downtown Master Plan Recommendations

Through the Downtown Master Plan exercise, the desire for increased on-street parking was re-emphasized by a number of stakeholders, including businesses on Elm Street. The **Draft** Downtown Sudbury Mobility and Infrastructure Study (which was prepared by IBI Group as part of the overall Master Plan) included a recommendation to "provide on-street parking wherever possible with simple pricing structures that are responsive to parking demand." With regard to Elm Street, the mobility study noted that "*on-street parking could be permitted on one or both sides of the street as a pilot project. This would become permanent when the Ste Anne Road/College Street connection is completed. Initially the parking could be free to avoid the need for new meters.*"

Analysis

Given that both the City-wide Parking Plan and the Downtown Master Plan acknowledge the desire to provide on-street parking on Elm Street, but caution about the potential traffic impacts and need for a diversion route, the City requested that additional analysis of the options and impacts be undertaken. The analysis presented herein supplements the analysis undertaken by City staff and documented in the report to council on June 1, 2011.

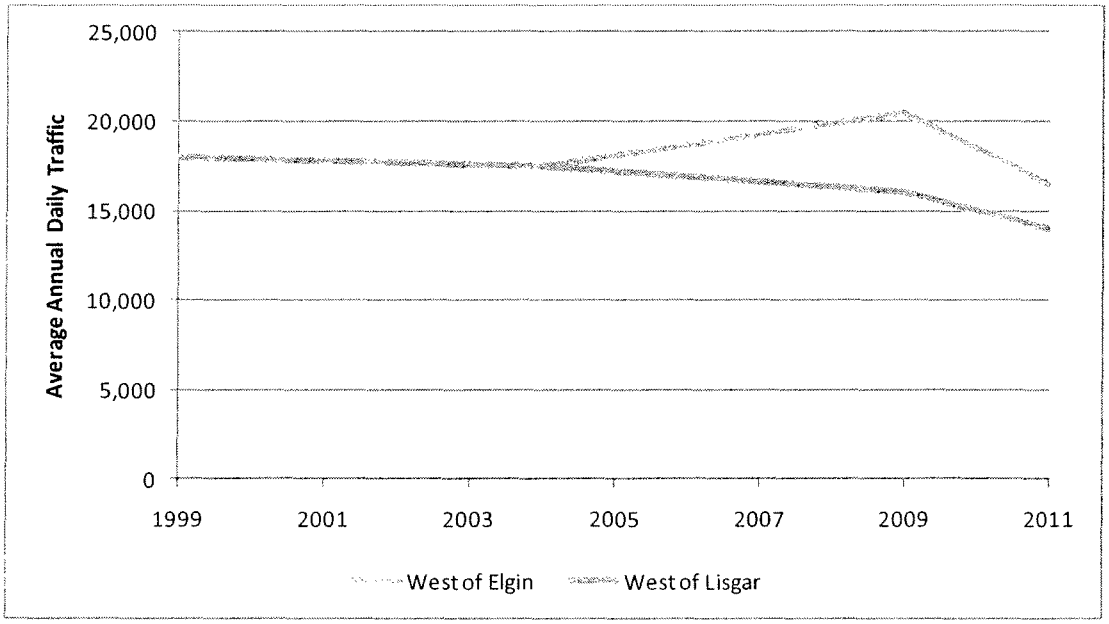
Jason Ferrigan

Historic Traffic Levels

The historic traffic levels along Elm St are shown in Exhibit 1. It shows that traffic levels west of the intersection with Lisgar have been steadily declining over the past 12 years, and are now 22% lower than in 1999. Traffic levels west of Elgin are 9% lower than 12 years ago, although traffic levels were highest in 2009.

It is reasonable to expect that traffic levels have stabilized and that the most recent counts from 2011 are representative of near term future conditions.

Exhibit 1: Historic AADT Levels



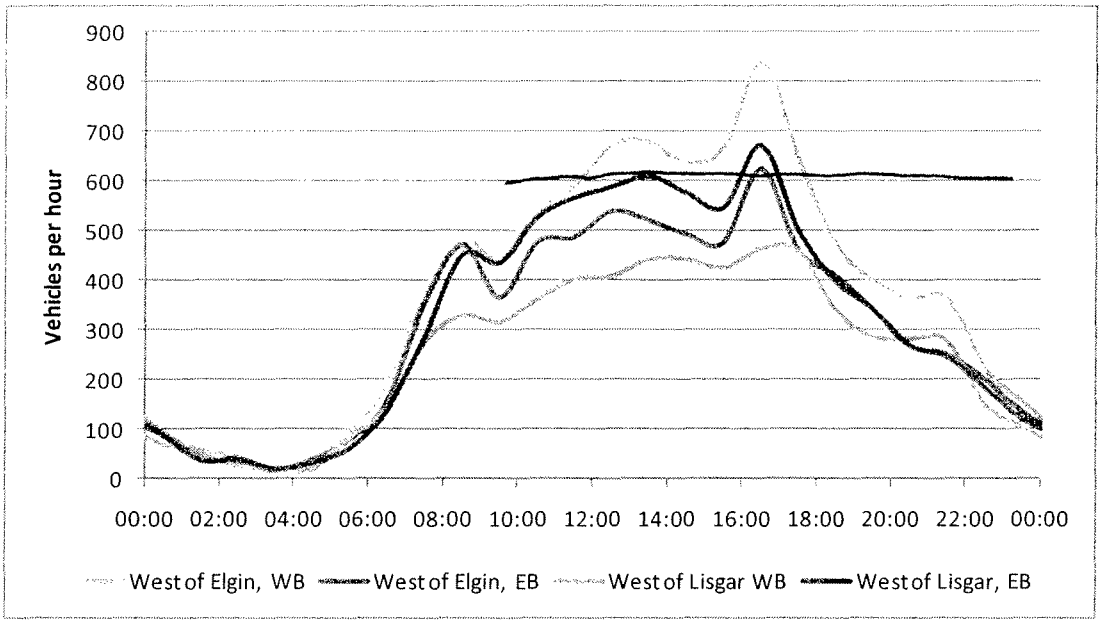
Temporal Distribution

The hourly traffic volumes by time of day at the two locations on Elm St are shown in Exhibit 2Exhibit . They show that volumes are generally highest in the PM peak period, and that volumes during the day are generally higher than in the AM peak period. The exhibit also shows that westbound traffic volumes on Elm St west of Elgin are above 600 vehicles per hour (the typical nominal capacity of a single lane in a downtown area) from noon until 18:00. However, eastbound traffic volumes west of Elgin and west of Lisgar rise significantly above 600 vehicles per hour for only a single hour in the day.

EXHIBIT: B2

Jason Ferrigan

Exhibit 2: Traffic Volumes by Time of Day



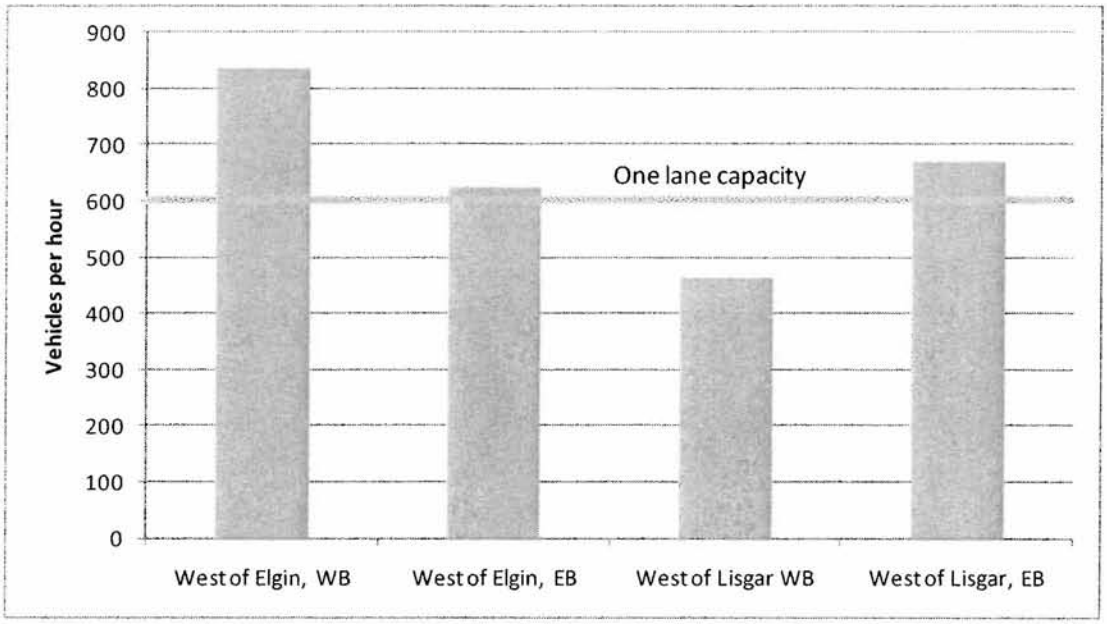
Volumes in Relation to Capacity

Traffic volumes in the busiest hour at the two locations are shown in Exhibit 2. The horizontal orange line (at 600 vehicles per hour) indicates the typical maximum capacity of a single lane in a downtown urban environment. The exhibit shows that current volumes on Elm Street west of Elgin exceed the capacity of a single lane, especially westbound. Similarly, the eastbound volumes on Elm St west of Lisgar also exceed the capacity of a single lane. Accordingly, it is reasonable to expect that if lanes are reduced by allowing on-street parking, there will be some congestion and/or need for traffic diversion.

It should be noted that this simple analysis does not account for the impacts of trains at the at-grade crossing west of Elgin Street, an issue that has been raised by City staff.

Jason Ferrigan

Exhibit 3: Elm St Peak Hour Volumes



Identification of Alternatives

If parking is to be provided on Elm Street, there are several potential options including:

- Allowing parking on both sides of the street
- Allowing parking only during the off-peak hours
- Allowing parking on one-side of the street
- Allowing parking only on a portion of the street.

Any of the above could be implemented as a pilot project to test the impacts on traffic.

Recommended Alternative

As a pilot project, it is recommended that a "least-risk" option (from a traffic perspective) be pursued. This would consist of allowing parking on the south side of Elm Street (eastbound lane). Parking would be limited to the sections between Elgin Street and Lisgar Street. Staff estimate that this would provide for approximately 18 on-street spaces.

As a pilot project, the parking would be free such that the cost of installing metres is avoided. Time limits would need to be set to limit parking to 1 hr or 2 hrs to ensure it is not simply used by employees.

The rationale for this alternative is as follows:

- Traffic volumes are lower in the eastbound direction
- Avoids issues with queuing due to train crossings
- Rainbow Centre on the north side has on-site parking

Jason Ferrigan

Consistency with Previous Recommendations

As noted previously the Strategic Parking Plan, which has been presented to Council, did not recommend on Elm Street until the College St/Ste. Anne Road connection was completed. This recommendation was based on the proposal to provide on-street parking on both sides of the street on a permanent basis. A pilot project was not considered at that time.

Conversely, the Downtown Master Plan is supportive of allowing on-street parking on Elm Street, but under a different set of conditions; namely:

- That on-street parking be provided as a pilot project to test the impacts on traffic level of service. Ideally the pilot would occur during the summer when volumes are lower.
- That parking is permitted only on the south side between Elgin and Lisgar

It is also noted that since the Strategic Parking Plan was completed, there have been additional calls for on-street parking by businesses on Elm Street, expressed during consultations for the Downtown Master Plan. In addition, largely guided by the Downtown Master Plan consultation activities, there is also a growing Vision for the downtown to become more walkable and vibrant environment with a reduced emphasis on vehicle movement. An increase in parking activity and congestion levels is not inconsistent with that Vision.