

**REPORT NO. 121 of the
ENVIRONMENT, TRANSPORTATION & PUBLIC SAFETY
STANDING COMMITTEE
of its meeting held March 20, 2013**

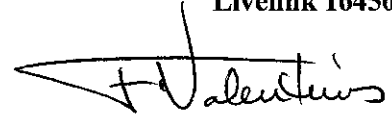
Present: Councillor J. Gignac
Councillor A. Halberstadt
Councillor R. Jones,
Councillor H. Payne
Councillor F. Valentinis, Chair


That the following recommendations of the Environment, Transportation and Public Safety Standing Committee **BE APPROVED:**

- Moved by Councillor Gignac, seconded by Councillor Jones,
- A. **THAT** That the report from the City Engineer *Howard Avenue & Irvine Avenue: Restrict Westbound Left Turns* **BE RECEIVED** for information, and
- B. That Traffic By-Law 9148 **BE AMENDED** as listed and attached in Appendix "B" of this report, and
- C. That the City Solicitor **PREPARE** the necessary documents to amend the by-law. Carried.

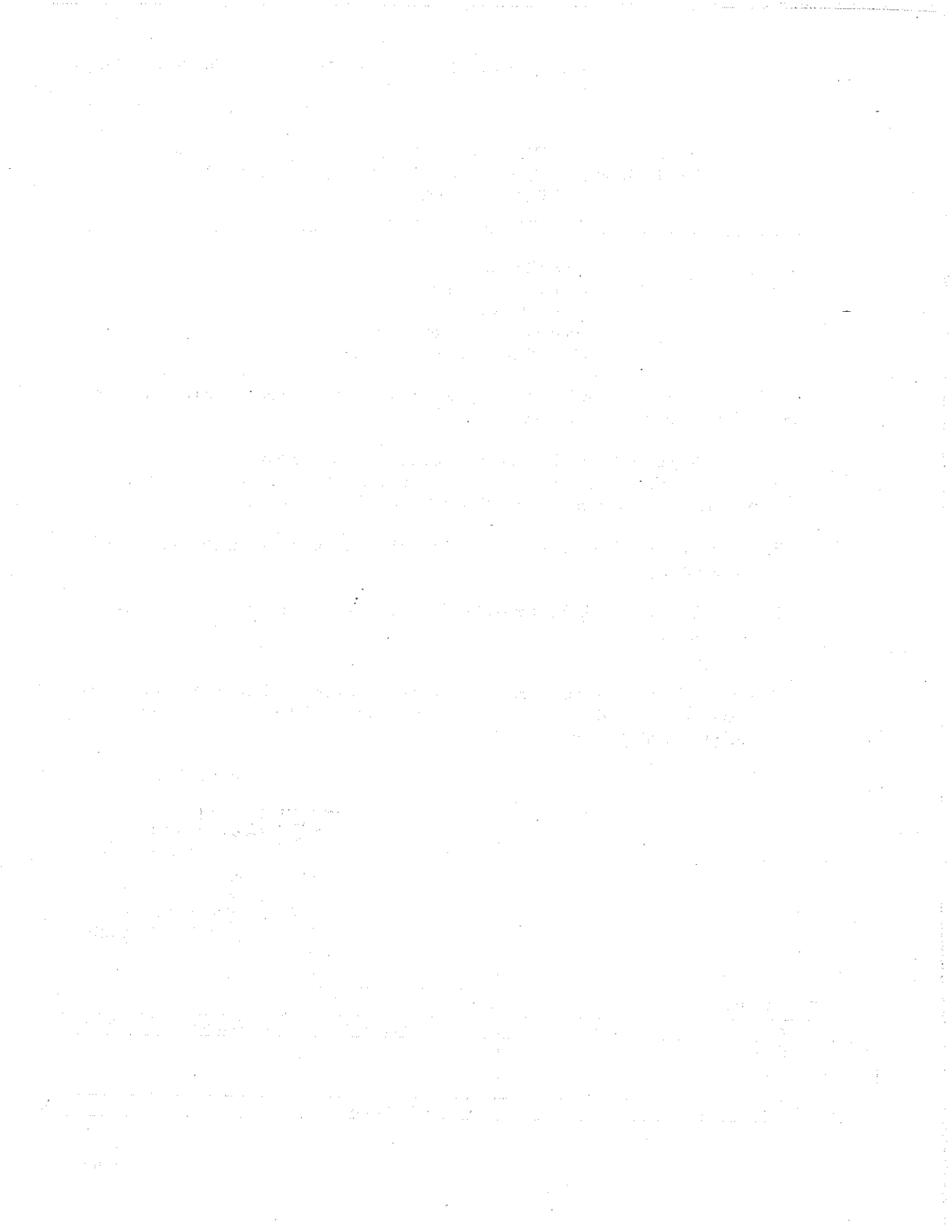
Clerk's Note: The report authored by the Policy Analyst dated March 4, 2013 entitled "Howard Avenue & Irvine Avenue: Restrict Westbound Left Turns" is attached as background information.

Livelink 16450, ST2013


CHAIRPERSON


DEPUTY CLERK

NOTIFICATION:				
Name	Address	Email Address	Telephone	FAX
Chief Fredericks, Windsor Police Service				
Douglas House		dhouse51@icloud.com		



THE CORPORATION OF THE CITY OF WINDSOR
Environment, Transportation & Public Safety Standing Committee –
Admin Report – Environment Transportation

**MISSION STATEMENT:**

"The City of Windsor, with the involvement of its citizens, will deliver effective and responsive municipal services, and will mobilize innovative community partnerships"

LiveLink REPORT #: 16450 ST2013	Report Date: March 4, 2013 (PW#3523-03/07/13)
Author's Name: Jeff Hagan	Date to Committee: March 20, 2013
Author's Phone: 519 255-6247 ext. 6003	Classification #:
Author's E-mail: jhagan@city.windsor.on.ca	

To: Environment, Transportation and Public Safety Standing Committee

Subject: Howard Avenue & Irvine Avenue: Restrict Westbound Left Turns

1. RECOMMENDATION: City Wide: _____ Ward(s): 3, 4

- A. That the report from the City Engineer *Howard Avenue & Irvine Avenue: Restrict Westbound Left Turns* **BE RECEIVED** for information, and
- B. That Traffic By-Law 9148 **BE AMENDED** as listed and attached in Appendix "B" of this report, and
- C. That the City Solicitor **PREPARE** the necessary documents to amend the by-law.

EXECUTIVE SUMMARY:

N/A

2. BACKGROUND:

In February 2013, a resident expressed concerns about collisions at the Howard Avenue / Irvine Avenue intersection. In response, a safety review of the intersection was carried out. The review examined the geometrics and collision history of the intersection.

The intersection and the surrounding area are shown in Figure 1. Additional details are shown on the map provided in Appendix "A".

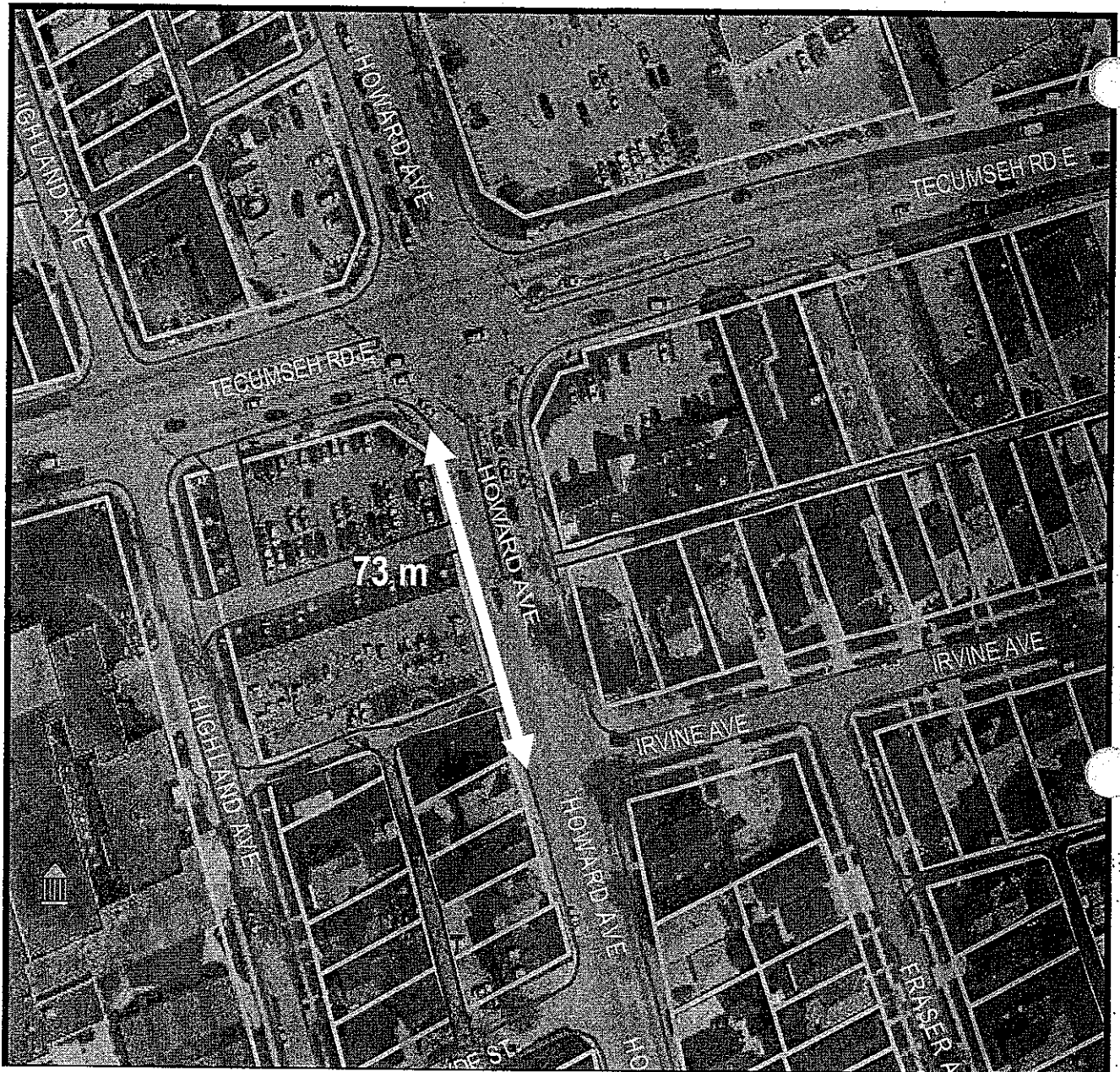


Figure 1: Area Context – Howard Avenue and Irvine Avenue Intersection

3. DISCUSSION:

Intersection Geometrics & Queues

The Transportation Association of Canada *Geometric Design Guide* recommends a typical minimum intersection spacing of 200 m for arterial roads such as Howard Avenue. Under existing conditions, 73 m is provided from Irvine Avenue to the northbound stop bar at Tecumseh Road.

Northbound queues for the signal at Tecumseh Road and Howard Avenue often spill back beyond Irvine Avenue, creating conflicts and sight distance restrictions for turning vehicles.

Collision History

Five years of collision data (August 1, 2007 to August 1, 2012) were reviewed. Over this period, eight reported collisions occurred at the intersection of Howard Avenue and Irvine Avenue. A summary is provided below:

Movement Associated with Collision	Number of Collisions by Severity (5 Year Collision History)				Annual Average (collisions per year)
	Property Damage Only	Non-Fatal Injury	Fatality	Total	
Westbound Left Turn	3	2	0	5	1.0
Northbound Through	0	1	0	1	0.2
Southbound Through	1	0	0	1	0.2
Southbound Left Turn	1	0	0	1	0.2
Total – All Movements	5	3	0	8	1.6

As shown above, five of the eight total collisions (63%) and two of the three injury collisions (67%) in the review period were associated with the westbound left turn movement. All other intersection movements had no more than one collision in the five years examined.

Additionally, a detailed review of the collision reports for these collisions suggests that a significant number of the collisions associated with the westbound left turn movement involved view obstructions (either for westbound or northbound vehicles) associated with the northbound queues for the downstream traffic signal at the Tecumseh Road / Howard Avenue intersection.

Based on this review, it is concluded that the collision history at this intersection shows a pattern of collisions that can be addressed by mitigation measures.

Traffic Volumes & Collision Rates

A turning movement count (TMC) was conducted at the Howard Avenue / Irvine Avenue intersection for the weekday AM and PM peak hours on Wednesday, February 13, 2013. During the observation period, a total of 9 vehicles were observed making the westbound left turn movement (AM: 3 vehicles, PM: 6 vehicles). The total daily volume for the westbound left turn movement is estimated as 72 vehicles based on the relationship between the peak hour volumes

observed on Howard Avenue during the TMC and the most recent annual average daily traffic (AADT) count available for Howard Avenue.

Based on the AADT and TMC data as well as the five-year collision history, the collision rate for the Howard Avenue / Irvine Avenue intersection overall is 0.18 collisions per million vehicles entering, and the collision rate for the westbound left turn movement specifically is 38.05 collisions per million vehicles turning. While the collision rate for the intersection overall is low relative to other similar intersections, the collision rate for the westbound left turn movement is relatively high.

Proposed Solution

Based on the safety review of the Howard Avenue / Irvine Avenue intersection, the following goals were identified for a mitigation strategy:

- Eliminate conflicts between westbound left turning vehicles and northbound through vehicles on Howard Avenue, and
- Provide a separation between westbound left turning vehicles and the northbound queue for the Tecumseh Road / Howard Avenue intersection.

To accomplish these goals in a cost-effective manner, it is proposed that Traffic By-Law 9148 be amended to prohibit westbound left turns at the Howard Avenue / Irvine Avenue intersection and "no left turn" signs be erected at the intersection. A proposed by-law amendment is provided in Appendix "B" and a proposed signing plan is provided as Appendix "A".

With westbound left turns prohibited at the Howard Avenue/Irvine Avenue intersection, neighbourhood residents will still be able to access Howard Avenue southbound by way of the signalized intersection at Logan Avenue.

As noted previously, the current westbound left turn volume at the Howard Avenue/Irvine Avenue intersection is very low, estimated as less than 100 vehicles per day. With this traffic diverted, the increase in traffic volume for the westbound left turn movement at the Howard Avenue/Logan Avenue intersection (on the order of 3 vehicles per hour in the weekday AM peak hour and 6 vehicles per hour in the weekday PM peak hour) would have negligible effects on intersection traffic operations and delay per vehicle.

4. RISK ANALYSIS:

If the recommendations of this report are implemented, the effect would be a shift of westbound to southbound Howard Avenue traffic from one location (Irvine Avenue) to another (Logan Avenue). For there to be a net benefit in terms of safety and risk, a higher level of safety should be provided at the new location than was provided at the old location.

To determine the overall impact of the recommendations on safety for road users, the number of collisions per year before the implementation of the recommendations was compared to an estimate of the number of collisions after.

The table below summarizes the estimated net change in collisions that are expected to occur with the prohibition of westbound left turns at Irvine Avenue/Howard Avenue and the associated increase in westbound left turns at Logan Avenue/Howard Avenue as these vehicles alter their route used to access Howard Avenue southbound:

Diverted volume <i>(72 vehicles per day x 365 days per year)</i>	26,280 vehicles/year
Expected change in collisions at: Howard Avenue / Irvine Avenue	- 1.00 collisions/year
Expected change in collisions at: Howard Avenue / Logan Avenue <i>(collision rate for westbound left turn @ Howard/Logan: 1.00 collisions per million vehicles based on 5 year collision history and estimated daily volumes)</i>	+ 0.03 collisions/year
EXPECTED NET CHANGE IN COLLISIONS	-0.97 collisions/year

Based on this net reduction in the number of collisions, an overall increase in safety and decrease in risk for road users is anticipated as a result of the recommended changes.

5. FINANCIAL MATTERS:

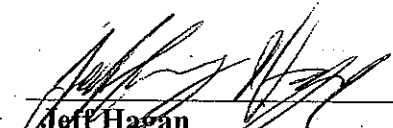
The total estimated cost for the recommended signs and associated hardware as shown in the signing plan (Appendix "A") is approximately \$500. The cost for all signage will be absorbed as a regular operating expense from the Traffic Signs operating budget in Department ID 0162310.

6. CONSULTATIONS:

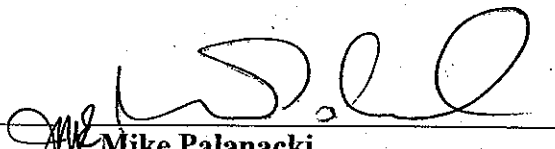
Barry Horrobin and Staff Sergeant John Richards, Windsor Police Service
 John Wolf, Manager of Traffic Operations
 Cindy Etmanski, Financial Planning Administrator – PW Operations

7. CONCLUSION:

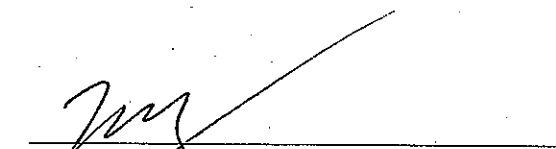
Administration recommends that westbound left turns be prohibited at the intersection of Howard Avenue and Irvine Avenue by signs and by-law amendments as described in the report.




Jeff Hagan
Policy Analyst



Mike Palanacki
Executive Director of Operations



Mario Sonogo
City Engineer and Corporate Leader
Environmental Protection and
Transportation



Helga Reidel
Chief Administrative Officer

JH

APPENDICES:

- A) Area Map and Signing Plan
- B) Table of Amendments to Traffic By-Law 9148

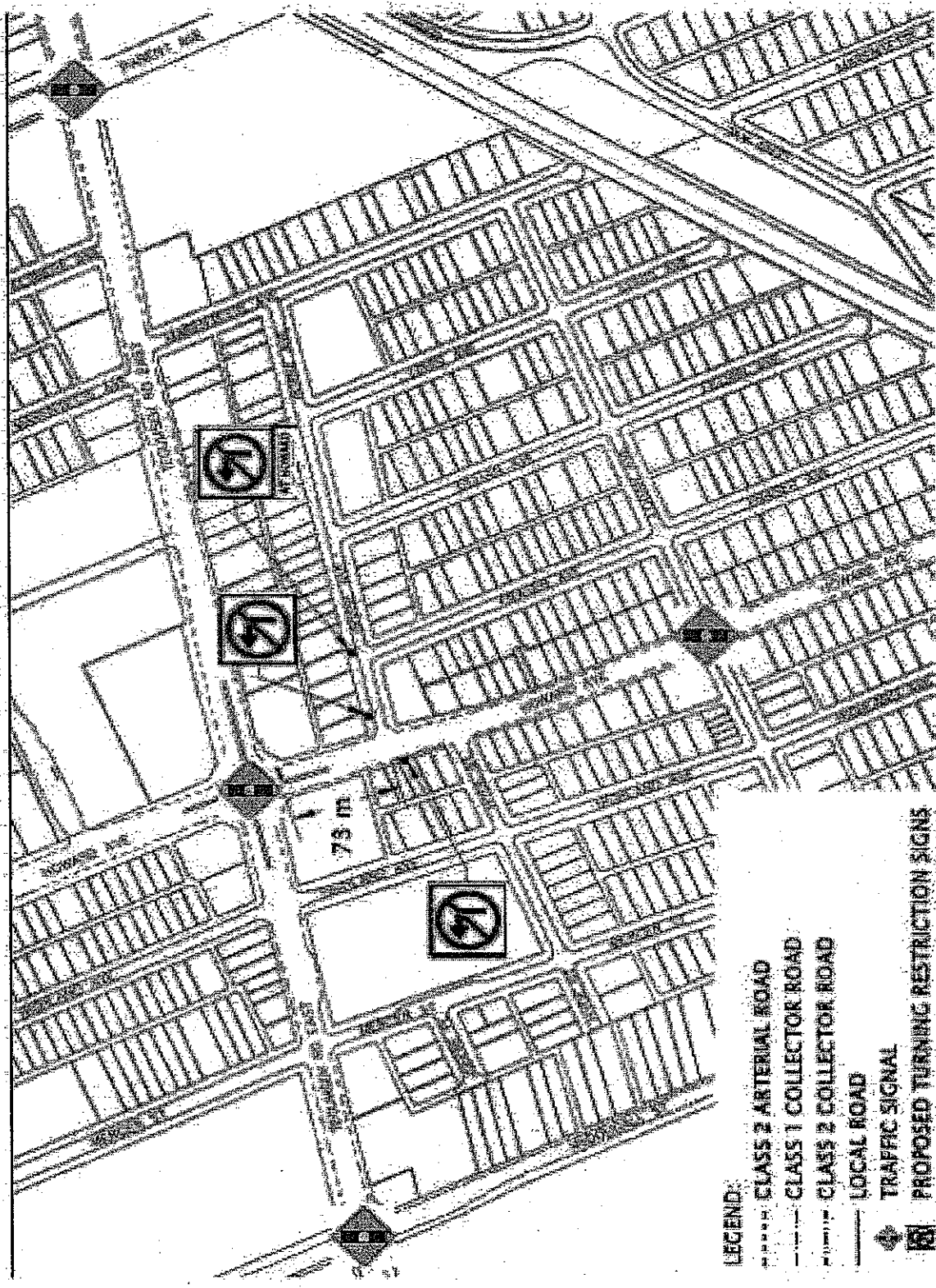
DEPARTMENTS/OTHERS CONSULTED:

Name: John Wolf, Manager of Traffic Operations
 Phone #: 519 255-6247 ext. 6844

Name: Roberto Peticca, Supervisor of Signs & Markings
 Phone #: 519 255-6247 ext. 6791

NOTIFICATION :				
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Councillor Halberstadt		ahalberstadt@city.windsor.on.ca		
George Wilkki, City Solicitor		gwilkki@city.windsor.on.ca		
Chief Fredericks, Windsor Police Service				
John Wolf, Manager of Traffic Operations		jwolf@city.windsor.on.ca		
Area residents (notice only)				

APPENDIX A
AREA MAP AND SIGNING PLAN



- LEGEND:
- CLASS 2 ARTERIAL ROAD
 - CLASS 1 COLLECTOR ROAD
 - CLASS 2 COLLECTOR ROAD
 - LOCAL ROAD
 - TRAFFIC SIGNAL
 - PROPOSED TURNING RESTRICTION SIGNS

AMENDMENTS TO PARKING BY-LAW 9148							
ITEM	REGULATION	STREET	DIRECTION OF TRAFFIC	INTERSECTING STREET	TYPE OF RESTRICTION	PERIOD OF PROHIBITIONS	REASON
1	Schedule 'F' Prohibited Turns ADD	Irvine Avenue	Westbound	Howard Avenue	Left turns	At all times	As per Standing Committee Report PW#3523