



Hamilton

CITY OF HAMILTON

**PUBLIC WORKS DEPARTMENT
Engineering Services Division**

TO: Chair and Members Public Works Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: March 18, 2013	
SUBJECT/REPORT NO: PV Labs - Collection of Traffic Data (PW13018) - (City Wide)	
SUBMITTED BY: Gerry Davis, CMA General Manager Public Works Department	PREPARED BY: Gary Moore (905) 546-2424, Extension 2382
SIGNATURE:	

RECOMMENDATION

- (a) That the General Manager of Public Works be authorized to negotiate and enter into a contract with PV Labs for the provision of intelligent imaging technology using aerial gathered photo-digital based traffic data for the City of Hamilton for a period not to exceed five years;
- (b) That the value is not to exceed \$200,000 per year and that the expenditures are charged to the Traffic Counts Program.

EXECUTIVE SUMMARY

PV Labs is a Hamilton firm located in McMaster Innovation Park who develops world class and leading innovations in camera and related technology. In 2012 a pilot project was under taken with PV Labs to gather digital traffic related data with a plane mounted camera and provide real time traffic analysis for the area flown. PV Labs have developed both the proprietary camera and the computer technology that allows this to be done. It is not available anywhere else in the world at this time. The advantage of this technology over traditional on-the-ground traffic monitoring is that the movement, of every vehicle, on every street is recorded and stored for analysis in real time. This provides the ability to identify the volume, travel pattern, speed and vehicle classification of the traffic for every street and the turning volumes at every intersection within the prescribed area. Traditional traffic counts and intersection monitors would simply

**SUBJECT: PV Labs - Collection of Traffic Data
(PW13018) - (City Wide) - Page 2 of 4**

sample an area and extrapolate to give a characterization of the area in question. This captures not only the actual traffic data for the area of interest but the surrounding area is also available which can put the results into a context which may have implications on the conclusions of the study.

As a result of the success of the pilot and the further development of the technology, staff are recommending a wider spread application to gather City traffic data. It is further recommended that the priority for this subsequent data gathering be in support of the North End Neighbourhood Traffic Master Plan Initiative and the B-Line Corridor. This will yield complete comprehensive traffic data for both pre-condition monitoring as well as a base for any required predictive modelling.

This will bring a comprehensive program forward to gather City wide neighbourhood traffic data for use by Traffic, Corridor Management, Planning and Economic Development and general City use, by this method, on an on-going basis.

Alternatives for Consideration - See Page 3

FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial: \$200,000 is available in the traffic program for this data collection each year.

Staffing: N/A

Legal: N/A

HISTORICAL BACKGROUND

PV Labs (Intelligent Imaging Technology) were the recipients of the 2011 Scientific and Engineering Academy Award.

In 2012, the City of Hamilton partnered with PV Labs in a pilot project to develop a new innovative way of tracking and recording vehicular traffic data using wide area motion imagery.

A high resolution camera was attached to a plane and recorded an approximate 4 km aerial image within the City of Hamilton. The collected data allowed for a large geographic area to be reviewed at one time. The Pilot was successful in projecting the technology but also in identifying needs and strengths for go forward application.

This new technology will allow the City to better quantify potential impacts and needs for major studies such as the light rail transit, north end neighbourhood and many other pedestrian and cycling initiatives.

Since the initial pilot project was undertaken, a new 4 times higher resolution camera has been developed which now allows for greater identification of pedestrians, cyclists and vehicle classifications.

POLICY IMPLICATIONS/LEGISLATED REQUIREMENTS

The adoption of this new technology is consistent with the Corporate Strategic Plan for reasons identified in the section below “Alignment to the 2012-2015 Strategic Plan”.

RELEVANT CONSULTATION

Traffic Operations and Engineering, Transportation and Strategic Planning staff strongly support this new technology.

ANALYSIS / RATIONALE FOR RECOMMENDATION

The contract with PV Labs (Intelligent Imaging Technology) will provide traffic data and information service that complements efficiency and accuracy challenges of current traffic data collection methods.

ALTERNATIVES FOR CONSIDERATION

We can continue to undertake traditional on-ground traffic counts on an as needed basis. This is usually project specific and is subject to planning and weather constraints. This would only gather information on a one time basis and as needed.

Comprehensive wide spread data collection by traditional traffic information gathering requires a larger time frame and significant personnel resources to complete. This usually requires significant planning and resources to document and analyse.

ALIGNMENT TO THE 2012 - 2015 STRATEGIC PLAN

Strategic Priority #1

A Prosperous & Healthy Community

WE enhance our image, economy and well-being by demonstrating that Hamilton is a great place to live, work, play and learn.

Strategic Objective

- 1.1 Continue to grow the non-residential tax base.
- 1.2 Continue to prioritize capital infrastructure projects to support managed growth and optimize community benefit.
- 1.3 Promote economic opportunities with a focus on Hamilton's downtown core, all downtown areas and waterfronts.
- 1.4 Improve the City's transportation system to support multi-modal mobility and encourage inter-regional connections.
- 1.5 Support the development and implementation of neighbourhood and City wide strategies that will improve the health and well-being of residents.
- 1.6 Enhance Overall Sustainability (financial, economic, social and environmental).

Strategic Priority #2

Valued & Sustainable Services

WE deliver high quality services that meet citizen needs and expectations, in a cost effective and responsible manner.

Strategic Objective

- 2.1 Implement processes to improve services, leverage technology and validate cost effectiveness and efficiencies across the Corporation.
- 2.2 Improve the City's approach to engaging and informing citizens and stakeholders.
- 2.3 Enhance customer service satisfaction.

This initiative partners with a local industry, developing world class leading innovation, that will allow the City to provide more effective and efficient answers to the public and Council, which provides decision support in neighbourhood, business and safety related issues.

APPENDICES / SCHEDULES

None