



**CITY OF HAMILTON**

**PUBLIC WORKS DEPARTMENT**  
**Environment & Sustainable Infrastructure Division**

<b>TO:</b> Mayor and Members General Issues Committee	<b>WARD(S) AFFECTED:</b> CITY WIDE
<b>COMMITTEE DATE:</b> March 21, 2012	
<b>SUBJECT/REPORT NO:</b> ACPD Audible Signals (PW08077a) - (City Wide) (Outstanding Business List Item)	
<b>SUBMITTED BY:</b> Gerry Davis, CMA General Manager Public Works Department	<b>PREPARED BY:</b> Ron Gallo (905) 546-2424, Extension 6160
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That, in accordance with Purchasing Policy #14 - Policy for Standardization, the Polara Navigator or similar replacement model from Polara Inc., be designated as the sole source corporate standard for accessible pedestrian signal units for the City of Hamilton, through to the end of 2016;
- (b) That the General Manager of Public Works or his/her Authorized Designate be authorized and directed to negotiate procurement of necessary hardware and execute all formal documents as per (a) above in a form acceptable to the City Solicitor;
- (c) That \$150,000 be utilized annually to equip new and reconstructed traffic signals with Accessible Pedestrian Signal systems, funded through the capital cost of the individual projects;
- (d) That the item entitled "ACPD Audible Signals" be identified as completed and removed from the Outstanding Business List.

**EXECUTIVE SUMMARY**

On December 14, 2010, the City's Advisory Committee for Persons with Disabilities forwarded a recommendation (GIC 10-007) which was subsequently approved by Council. The recommendation contained two parts:

- “(a) That ACPD recommend to council that Traffic Engineering, Public Works prepare an implementation plan that details the financial and human resources needed for a replacement and installation plan including replacement criteria for accessible pedestrian signals and that the implementation of these signals be completed by 2025 to meet the goals of the AODA, 2005;
- (b) ACPD recommend to Council that, if Traffic Engineering, Public Works are unable to complete the retrofits and new installs of accessible pedestrian signals by the year 2025 with current budget conditions, they will also develop a strategy to identify new sources of funding to accelerate the process to meet the target date of 2025.”

The ACPD recommendations, above, follow ongoing development of the APS program. In 2008, staff presented a report (PW08077) to the Public Works Committee on the subject of accessible pedestrian signals. The 2008 report made several recommendations as follows:

- (a) That the 2008 Transportation Association of Canada (TAC) standard for Accessible Pedestrian Signals (APS) be endorsed as the City's standard;
- (b) That all new full and intersection pedestrian signals installed in the City of Hamilton be equipped with accessible pedestrian signals;
- (c) That at all signalized intersections impacted by major reconstruction in the City of Hamilton, accessible pedestrian signals be added, with the cost of the accessible pedestrian signals in reconstruction projects to be included in the overall reconstruction project cost;
- (d) That the City commence a retrofit program to install accessible pedestrian signals at all existing signalized intersection locations, with the program to be based on available capital funding and with locations to be chosen in consultation with the City's Advisory Committee for Persons with Disabilities and agencies serving people with visual or visual and hearing disabilities;
- (e) That the program to introduce new accessible pedestrian signals be contingent on the availability of mobility training for users of the signals, with such mobility training to be supplied by organizations external to the City of Hamilton.

Due to ongoing issues with selection of suitable hardware, as preferred by user groups, as well as identifying an orientation and mobility training process, the implementation was delayed based on the original plan as outlined in 2008. Both of these matters have now been resolved, allowing staff to proceed with initiating the APS program.

This report identifies those resources, both, financial and staffing in order to meet the timeframe recommended by ACPD, and recommends that the request be considered in the context of the full 2012 capital budget. This report also recommends standardizing

on one type of Accessible Pedestrian Signals (APS) unit, based on an evaluation that found the unit to be significantly better than the others tested. Implementation according to the 2008 Council approved recommendations can be initiated upon endorsement of this report.

**Alternatives for Consideration - See Page 7**

### **FINANCIAL / STAFFING / LEGAL IMPLICATIONS**

**Financial:** Implementing APS systems as part of new and reconstructed traffic signals has an added financial impact of approximately \$15,000 per location. It can be expected that between six and ten traffic signals will be affected annually, resulting in an increased cost of up to \$150,000 annually.

A full retrofit program as requested by ACPD to outfit all existing 530, plus all future, traffic signals by 2025, and to maintain the program, would have significant cost implications exceeding \$40 million. There currently is no funding source for the proposed retrofit program.

The report from ACPD requested that, should there not be sufficient funds available to undertake a complete program, that staff be directed to develop a strategy to identify “new sources of funding” to accelerate the process to meet the target date. Staff have consulted with both Asset Management within Public Works and with the Finance Department with regard to this request. There are no new forms of capital funding available at this time and nothing has been identified as forthcoming from the Provincial Government. As such, accessible pedestrian signal capital funding would have to be prioritized and funded along with traditional programs such as road reconstruction.

**Staffing:** Based solely on an annual program of six to ten new traffic signals with APS enhancement, it is probable that implementation can be managed with existing staffing resources. A full retrofit program would necessitate additional staffing and physical works to carry out design, management, installation and operation of the project, estimated to be in the magnitude of twenty times the cost of equipping new signals only.

**Legal:** At present, while the Accessibility for Ontarians with Disabilities Act (AODA) is approved Provincial legislation, the appendix to that Act pertaining to the built environment, which includes sidewalks, wheelchair ramps and accessible pedestrian signals among many other features, is still under consideration. The draft Built Environment Standard recommends that the Transportation Association of Canada (TAC) standard for APS, which is already the City-approved standard, become the Ontario standard. As well, while the committee for the Built Environment Standard has developed a proposal requiring full implementation of all aspects by 2025, there was concern and comment expressed by the committee about the feasibility of this timeline. Therefore, the final version of the Built Environment Standard will be important in dictating both the technical requirements and time frame. At this time, there is no established time frame, by the Provincial Government, for legislative approval of the standard.

Details on the above outlines are provided in the “Analysis/Rationale for Recommendations”.

## **HISTORICAL BACKGROUND**

The City's Advisory Committee for Persons with Disabilities (ACPD) has been a strong proponent of the installation of Audible Pedestrian Signals and accessible pedestrian signals (APS). The City has supported this intent and currently has an older style of audible pedestrian signals at some or all legs of 17 locations in Hamilton. The term "accessible pedestrian signal" implies a system provided at a signalized location which provides persons with visual and/or visual and hearing disabilities with information to assist them in crossing the street. The term accessible pedestrian signal implies a comprehensive system with multiple elements such as locator tones, indicators that the button has been pushed, braille messages etc. This is a much more sophisticated device than the current audible pedestrian signal, which is simple sound device connected to the "Walk" signal.

In 2008, staff presented a report (PW08077) to the Public Works Committee on the subject of accessible pedestrian signals. The key report recommendations included the following:

- That the 2008 Transportation Association of Canada (TAC) standard for Accessible Pedestrian Signals (APS) be endorsed as the City's standard
- That all new and reconstructed signalized locations in the City of Hamilton be equipped with APS
- That the cost of the APS in new and reconstruction projects to be included in the overall project cost
- That the City commence a retrofit program to install APS at all existing signalized intersection locations, with the program to be based on available capital funding and with locations to be chosen in consultation with the City's Advisory Committee for Persons with Disabilities
- That the program to introduce new accessible pedestrian signals be contingent on the availability of mobility training for users of the signals

Commencement of implementation was delayed, primarily, due to the process of hardware selection and the lack of mobility training program.

In anticipation of implementation of the new standard, staff has been incorporating a number of the features into signal designs since 2009. This includes the presence of proper sidewalk ramps, placement of signal poles where they are easily reached and meeting maximum setback criteria.

On December 14, 2010, the ACPD put forward a recommendation which was subsequently passed by Council (GIC report 10-007), requesting staff to consider what resources, both staffing and financial, would be required in order to fully equip the entire city with newer, more complex, accessible pedestrian signal devices by the year 2025.

This report is in response to the direction from Council.

## **POLICY IMPLICATIONS**

Specific activity 7.7.7 of the City's Strategic Plan states: "Partner with the ACPD to implement the Accessibility Plan (e.g. Audible signals, urban braille, AODA initiatives, barrier-free design guidelines, accessibility transportation)". Accessible signals are the successor to audible signals and universal implementation of APS would support this goal.

"Innovate Now", the Public Works business plan, recognizes a core value of "Equal access to services by all citizens". One of the plan's 17 priorities is under Communities, and states: "Services adapted to differences in communities." Accessible signals support this goal.

Purchasing Policy #14 – Policy for Standardization, states that standardization is a management decision-making process that examines a specific common need or requirement and then selects a Good and/or Service that best fills that need to become the standard. Where the establishment of a standard will result in a sole source purchase, that purchase shall also be approved by the Procurement Manager and Council.

## **RELEVANT CONSULTATION**

In preparation for this report, staff carried out research and held discussions with a number of agencies as follows;

- Customer Service, Access & Equity Division, Access and Equity Section - current state of the AODA, methods of training, hardware features, demonstration;
- Canadian National Institute for the Blind (CNIB) - methods of training, hardware features, demonstration;
- Seniors Advisory Committee members – hardware features, demonstration;
- Transportation, Energy & Facilities Division, Traffic Operations Section maintenance staff – hardware features, demonstration;
- Accessibility Directorate of Ontario - Built Environment Standard;
- City of Toronto - cost of and staffing required for implementation of an accessible pedestrian signal program;
- Environment & Sustainable Infrastructure Division, Asset Management Section - capital budget implications and financial plan;
- Financial Services Division, Procurement Section - sole source purchasing proposal, demonstration;
- Consultants and staff support for the Walkability Master Plan - accessible signal program;
- Suppliers – accessible traffic signal equipment specifications and availability.

**ANALYSIS / RATIONALE FOR RECOMMENDATION**

Selection of Hardware

One of the key elements of the program which has taken some time to resolve is the choice of hardware. The Transportation Association of Canada (TAC) standard of 2008 is now Council-approved as the City's standard for APS, which is consistent with most municipalities across Canada. Once the TAC standard was approved, various manufacturers developed hardware to meet the standard. There are four known manufacturers of accessible pedestrian signal equipment which meet the TAC standard. In order to better understand and evaluate the hardware, staff set up a demonstration with units from all four manufacturers. Engineering staff, Operations staff, members of the Advisory Committee for Persons with Disabilities, members of the Seniors Advisory Committee and members of the CNIB attended this demonstration and review. The results were scored objectively against set criteria. The unit from Polara, Inc. scored highest overall, and was also the preferred unit of the CNIB, Seniors Advisory Committee and ACPD representatives attending the demonstration. This unit is also in other Canadian municipalities, notably Toronto, in this area of the country. As such, it is recommended that the City of Hamilton standardize on the Polara unit for the next five years, as it is the preferable unit from the perspective of the user as well as from a maintenance and operability perspective.

Orientation and Mobility Training

Another key element which was delaying original implementation of APS was a decision on the agency or group to be responsible for mobility training. Staff do not have the expertise to conduct training with persons with visual disabilities. With the change in style of operation from the old audible pedestrian signal units to the new accessible units, additional training is required. With the assistance of the CNIB and the Access and Equity Office, there is now a plan which will use a combination of CNIB and other resources to deliver the training. Staff are now comfortable that a process will be put in place which will ensure that when new intersections are equipped that the appropriate information is made available to the users.

Cost Analysis

There are three financial components to employing a new traffic signal accessibility standard. Initially there is the capital cost to add APS to new signal installations and to update all existing 530 traffic signal locations, as well as all future signals, by adding accessible pedestrian signal equipment and updating the physical plant. Second, there is increased ongoing routine maintenance to keep the equipment in satisfactory operating condition. Third, the accessible signal hardware has a limited lifespan so that by the end of 2025, some of the equipment which was installed initially will already have been completely replaced.

The estimated average installation cost for a new accessible pedestrian signal location is \$64,000 in current dollars. A replacement unit for an intersection which had previously been upgraded would be approximately \$15,000. Maintenance is assumed at an approximate average failure rate of 5%. Over the period 2012-2025, the total program cost, capital and operating, would be about \$40.4 million, or \$3.11 million per year.

These costs would be refined based on actual experience, once the program was underway.

Additional staffing resources will also be required to carry out the program as recommended by the ACPD report. Cities with major accessible pedestrian signal implementation plans were contacted for advice. The City of Toronto installs approximately 25 locations per year. To do so, Toronto has the equivalent of three fulltime employees engaged in a combination of design, contract management, material procurement, etc. In order to achieve the 2025 completion goal, Hamilton would have to install approximately 40 units per year. Despite the greater workload in terms of installed numbers and breadth of responsibility, we feel that the equivalent of three full-time staff could manage the installations, maintenance and long term replacements in Hamilton. These staff would be shared between Traffic Engineering and Traffic Operations. Staffing costs are included in the above costing estimates.

### Recommendations

Based on the 2008 report, staff proposed, and Council concurred, to add APS to all new traffic signals, as well as all signals revised under major reconstruction projects, with the added costs to be included in the overall capital costs of those projects. This program could result in adopting the new APS standard at six to ten locations annually. The Built Environment Sub-Committee of ACPD will be identifying priority locations to be retrofitted with APS. As an alternative, funding for upgrading the new signals can be diverted to these locations, however, it does not reflect best value for this program and would significantly reduce the number of APS locations.

The 2008 report also recommended a retrofit program, subject to funding. Additional staff, for project management, signal design and installation/maintenance, would be required for a retrofit program. The Toronto experience in terms of staffing requirements for retrofits supports that conclusion. There currently is no available funding identified to proceed with a retrofit program. As such, unless the capital program described above is approved for 2012 or subsequent years, staff will continue to work with the ACPD in terms of identifying and retrofitting only a small number of key locations.

## **ALTERNATIVES FOR CONSIDERATION**

Council could revise its previous approval and direct that APS not be delivered at new signals. However, this would not be in keeping with the spirit of the AODA and our corporate strategic plan.

Council could direct that the program requested by the ACPD be approved immediately and direct a source of funding.

Council could consider a less costly, scaled down, version of the retrofit program, however, it would still require additional staffing resources and funding.

**CORPORATE STRATEGIC PLAN**

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

***Skilled, Innovative & Respectful Organization***

- ◆ APS provide a specific focus on the need of visually and/or visually/hearing impaired citizens to cross the road at signalized intersections. This supports goals within the City’s Strategic Plan and Public Works’ business plan, “Innovate Now”.

***Growing Our Economy***

- ◆ Accommodating the mobility needs of visually and/or visually/hearing impaired citizens creates opportunities to connect employers with a new pool of prospective employees.

***Social Development***

- ◆ APS provide visually and/or visually/hearing impaired citizens with the opportunity to participate in all aspects of community life without barriers or stigma.

***Healthy Community***

- ◆ Retro-fit and new construction using APS provides a built environment that meets the needs of all citizens and promotes walkability.

**APPENDICES / SCHEDULES**

None