



PUBLIC WORKS COMMITTEE REPORT 21-004

1:30 p.m.
Monday, March 22, 2021
Council Chambers
Hamilton City Hall
71 Main Street West

Present: Councillors A. VanderBeek (Chair), N. Nann (Vice-Chair), C. Collins, J.P. Danko, J. Farr, L. Ferguson, T. Jackson, S. Merulla, E. Pauls, and M. Pearson

**Absent with
Regrets:** Councillor T. Whitehead – Personal

THE PUBLIC WORKS COMMITTEE PRESENTS REPORT 21-004 AND RESPECTFULLY RECOMMENDS:

1. **Bill 148, *Doored But Not Ignored Act, 2019* (Hamilton Cycling Committee - Citizen Committee Report) (Item 7.2)**
 - (a) That Council formally endorse Bill 148, *Doored But Not Ignored Act, 2019*; and,
 - (b) That the Public Works Committee forward to the Police Services Board the Hamilton Cycling Committee's recommendation that Hamilton Police Services bring their practices of data collection and reporting in line with the regulations outlined in Bill 148 in relation to clause 165(1) of the *Highway Traffic Act*, notwithstanding the outcome of Bill 148, *Doored But Not Ignored Act, 2019*.

2. **Consent Items (Item 7)**
 - (a) That Consent Items 7.3 to 7.6 be received, as presented:
 - (i) **2020 Annual Drinking Water Report (PW21009) (City Wide) (Item 7.3)**
 - (ii) **Annual Wastewater Treatment Bypass Report - 2020 (PW21010) (City Wide) (Item 7.4)**

- (iii) Annual Watermain Break Report - 2020 (PW21011) (City Wide) (Item 7.5)
- (iv) Temporary “Road Official” Role (PW21013) (City Wide) (Item 7.6)

3. Intersection Control List (PW21001(a)) (Ward 9) (Item 7.7)

That the appropriate By-law be presented to Council to provide traffic control as follows:

Intersection		Stop Control Direction		Class	Comments / Petition	Ward
Street 1	Street 2	Existing	Requested			
Section “F” Stoney Creek						
(a)	Mud Street East	Third Road East	NB/SB	EB/WB	C	Sightline issues, converting to All-way 9

Legend

No Control Existing (New Subdivision) - **NC**

Intersection Class: **A** - Local/Local **B** - Local/Collector **C** - Collector/Collector

4. Proposed Permanent Closure and Sale of a Portion of Public Unassumed Alley Abutting 1044 Cannon Street East, Hamilton (PW21012) (Ward 3) (Item 8.2)

- (a) That the application of the owner of 1044 Cannon Street East, Hamilton, to permanently close and purchase a portion of the unassumed alleyway abutting the South and East side of 1044 Cannon Street East, Hamilton, (“Subject Lands”), as shown on Appendix "A", attached to Public Works Committee Report 21-004, be approved, subject to the following conditions:
 - (i) That the applicant makes an application to the Ontario Superior Court of Justice, under Section 88 of the Registry Act, for an order to permanently close the Subject Lands, if required by the City, subject to:
 - (1) The General Manager of Public Works, or designate, signing the appropriate documentation to obtain any required court order; and,
 - (2) The documentation regarding any required application to the Ontario Superior Court of Justice being prepared by the applicant, to the satisfaction of the City Solicitor;

- (ii) That the applicant be fully responsible for the deposit of a reference plan in the proper land registry office, and that said plan be prepared by an Ontario Land Surveyor, to the satisfaction of the Manager, Geomatics and Corridor Management Section, and that the applicant also deposit a reproducible copy of said plan with the Manager, Geomatics and Corridor Management Section;
- (iii) That, subject to any required application to the Ontario Superior Court of Justice to permanently close the Subject Lands being approved:
 - (1) The City Solicitor be authorized and directed to prepare all necessary by-laws to permanently close and sell the alleyway, for enactment by Council;
 - (2) That the City Solicitor be authorized to amend and waive such terms as they consider reasonable to give effect to this authorization and direction;
 - (3) The Real Estate Section of the Planning and Economic Development Department be authorized and directed to enter into any requisite easement agreements, right of way agreements, and/or other agreements deemed necessary to affect the orderly disposition of the Subject Lands and to proceed to sell the Subject Lands to the owners of 1044 Cannon Street East, Hamilton, as described in Report PW21012, in accordance with the City of Hamilton Sale of Land Policy By-law 14-204;
 - (4) The City Solicitor be authorized to complete the transfer of the Subject Lands to the owners of 1044 Cannon Street East, Hamilton, pursuant to an Agreement of Purchase and Sale or Offer to Purchase as negotiated by the Real Estate Section of the Planning and Economic Development Department;
 - (5) The City Solicitor be authorized and directed to register a certified copy of the by-laws permanently closing and selling the alleyway in the proper land registry office;
 - (6) The Public Works Department publish any required notice of the City's intention to pass the by-laws and/or permanently sell the closed alleyway pursuant to City of Hamilton Sale of Land Policy By-law 14-204.

5. Enhancements to City Hall Forecourt Update (PW20064(a)) (Item 9.1)

- (a) That Option #1 originally presented in the "City Hall Forecourt Security Study" authored by OMC Landscape Architecture (as outlined in Appendix

“B” attached to Public Works Committee Report 21-004 and presented to the Public Works Committee on October 5, 2020 in Report PW20064, be approved to an upset limit of \$682,000 (inclusive of contingencies at a Class D estimate);

- (b) That the Energy, Fleet & Facilities Management Division use existing Capital Budget WIPs through appropriation from Capital Project #3722141805 to fund the work to an upset limit of \$680,000 (inclusive of contingencies at a Class D estimate); and,
- (c) That the “Vehicular Impact on Concrete Planter Analysis Report – February 2021” authored by Kalos Engineering Inc. (as outlined in Appendix “C” attached to Public Works Committee Report 21-004 be received.

6. Standardization of Fleet Equipment and Parts and Single Source Suppliers (PW09074(e)) (City Wide) (Item 10.1)

- (a) That the standardization of the products, services, manufacturers and suppliers identified in Appendix “D” attached to Public Works Committee Report 21-004 – Standardized Products and Suppliers, be approved pursuant to Procurement Policy #14 – Standardization;
- (b) That the single source of original equipment suppliers and distributors with territorial rights in Appendix “E” attached to Public Works Committee Report 21-004 – Single Source Suppliers, be approved pursuant to Procurement Policy #11- Non-competitive Procurements;
- (c) That the General Manager of Public Works, or their designate, be authorized to negotiate and enter into any agreements and execute the completion of associated documents for the items outlined in Appendix “D” and Appendix “E” attached to Public Works Committee Report 21-004, in a form satisfactory to the City Solicitor; and,
- (d) That the General Manager of Public Works, or their designate, be authorized to amend any Contracts executed and any ancillary documents as required in the event that a manufacturer or supplier identified in Appendix “D” and Appendix “E” attached to Public Works Committee Report 21-004 undergoes a name change.

7. Installation of Speed Cushions on Brigade Drive and Delancey Boulevard, Hamilton (Ward 7) (Item 11.1)

WHEREAS, residents are requesting the installation of traffic calming measures along Brigade Drive and Delancey Boulevard to address roadway safety concerns as a result of speeding and cut through traffic;

THEREFORE, BE IT RESOLVED:

- (a) That staff be authorized and directed to install up to five speed cushions on Brigade Drive, Hamilton, at a cost not to exceed \$35,000, to be funded from the Ward 7 Capital Infrastructure Reserve #108057;
- (b) That staff be authorized and directed to install up to three speed cushions on Delancey Boulevard, Hamilton, at a cost not to exceed \$21,000, to be funded from the Ward 7 Capital Infrastructure Reserve #108057; and,
- (c) That the Mayor and City Clerk be authorized and directed to execute any required agreement(s) and ancillary documents, with such terms and conditions in a form satisfactory to the City Solicitor.

8. Private Tree Giveaway (Ward 8) (Item 11.2)

WHEREAS, the City of Hamilton has declared a climate emergency;

WHEREAS, increasing the urban tree canopy by providing trees for planting on private property has many environmental benefits to the residents of Ward 8 and the wider City; and,

WHEREAS, private tree giveaways are not currently funded under existing tree planting programs;

THEREFORE, BE IT RESOLVED:

- (a) That the supply and distribution of approximately 200 small native trees, at a cost of \$2,715, be funded from the Special Capital Re-Investment Reserve Account; and,
- (b) That the Mayor and City Clerk be authorized and directed to execute any required agreement(s) and ancillary documents, with such terms and conditions in a form satisfactory to the City Solicitor.

9. Captain Cornelius Park Stair Improvements (Ward 8) (Item 11.3)

WHEREAS, Captain Cornelius Park, 150 Mountbatten Drive, Hamilton is an active community park in Ward 8, with pathways that promote active transportation through the community;

WHEREAS, access to this Park includes stairs from Rolston Avenue to the Westview School, a Hamilton Wentworth District School Board property; and,

WHEREAS, these stairs promote connectivity to both the park and school, and the installation of a new railing on the existing stairs would support resident use;

THEREFORE, BE IT RESOLVED:

- (a) That \$45,000 be allocated from the Ward 8 Capital Re-Investment Reserve #108058 to implement the installation of a new railing to the existing

concrete stairs located at Captain Cornelius Park, along Rolston Avenue;
and,

- (b) That the Mayor and City Clerk be authorized and directed to execute any required agreement(s) and ancillary documents, with such terms and conditions in a form satisfactory to the City Solicitor.

10. Safety Improvements at the Intersection of Upper Gage Avenue and Mohawk Road East, Hamilton (Wards 6 and 7) (Item 11.4)

WHEREAS, there is a large senior population that utilize the signalized intersection of Upper Gage Avenue and Mohawk Road East; and,

WHEREAS, there are ongoing safety concerns from the area residents related to driver behaviour at this intersection;

THEREFORE, BE IT RESOLVED:

That Transportation Operations and Maintenance staff be directed to undertake an evaluation of the intersection of Upper Gage Avenue and Mohawk Road East, Hamilton, to consider safety enhancements that could include community safety zone designation, speed limit reduction, additional warning signs and traffic signal enhancements, in consultation with the Ward 6 and 7 Councillors.

11. Installation of Traffic Calming Measures at Various Locations throughout Ward 6 (Item 11.5)

WHEREAS, residents are requesting the installation of speed cushions on various roadways throughout Ward 6, via petitions and neighbourhood engagement, to address roadway safety concerns as a result of speeding and cut-through traffic;

THEREFORE, BE IT RESOLVED:

- (a) That Transportation Operations and Maintenance staff be authorized and directed to install traffic calming measures on the following roadways as part of the 2021 Traffic Calming program:
 - (i) Anson Avenue from Upper Ottawa Street to Carson Drive, Hamilton (6 speed cushions);
 - (ii) Kingslea Drive from Beacon Avenue to Broker Drive, Hamilton (4 speed cushions);
 - (iii) East 45th Street from Mohawk Road to Tenth Avenue, Hamilton (3 speed cushions);
 - (iv) Templemead Drive from Tudor Place to Ingrid Court, Hamilton (4 speed cushions);

- (v) Queen Victoria Drive, Hamilton (9 speed cushions);
 - (vi) Royal Vista Drive from Upper Gage Avenue and Templemead Drive, Hamilton (2 speed cushions);
 - (vii) Quaker Crescent, Hamilton (6 speed cushions);
 - (viii) Everest Street from Templemead Drive and Upper Ottawa Street, Hamilton (2 speed cushions);
- (b) That all costs associated with the installation of traffic calming measures at the identified locations throughout Ward 6 at a total cost not to exceed \$259,200 (including cost contingency), be funded from the Ward 6 Capital Reinvestment Discretionary Account in the amount of \$100,000 and Ward 6 Capital Reinvestment Reserve (108056) in the amount of \$159,200; and,
- (c) That the Mayor and City Clerk be authorized and directed to execute any required agreement(s) and ancillary documents, with such terms and conditions in a form satisfactory to the City Solicitor.

FOR INFORMATION:

(a) CHANGES TO THE AGENDA (Item 2)

The Committee Clerk advised of the following changes to the agenda:

6. DELEGATION REQUESTS (Item 6)

- 6.4 Garth Nelson, The Stone Centre Inc., respecting Item 10.2 - Cemeteries Business Plan (PW21015) and Report PW21005 - City of Hamilton's Cemeteries By-law Update (for today's meeting)
- 6.5 Gary Foster, Ontario Monument Builders Association, respecting Item 10.2 - Cemeteries Business Plan (PW21015) and Report PW21005 - City of Hamilton's Cemeteries By-law Update (for today's meeting)

10. DISCUSSION ITEMS (Item 5)

- 10.2 Cemeteries Business Plan (PW21015) (City Wide) (Outstanding Business List) **(REVISED)**

Report PW21015 was revised to correct the business name of one of the memorial dealers listed in the report.

CHANGE TO THE ORDER OF ITEMS

The delegations respecting Item 10.2 - Cemeteries Business Plan (PW21015) were reordered as follows:

- (1) Gary Foster, Ontario Monument Builders Association (Added Item 6.5)
- (2) Garth Nelson, The Stone Centre Inc. (Added Item 6.4)
- (3) Warren Haley, Sharp Monuments (Item 6.3)
- (4) Marty Langlois, Mountain Memorials and Woodland Memorials (Item 6.2)

The agenda for the March 22, 2021 Public Works Committee meeting was approved, as amended.

(b) DECLARATIONS OF INTEREST (Item 3)

There were no declarations of interest.

(c) APPROVAL OF MINUTES OF THE PREVIOUS MEETING (Item 4)

(i) February 19, 2021 (Item 4.1)

The Minutes of the February 19, 2021 meeting of the Public Works Committee were approved, as presented.

(d) DELEGATION REQUESTS (Item 6)

(a) The following delegation requests were approved:

- (i) **Krista Jamieson respecting a Request for Snow Removal in City-Owned Alleyways (for a future meeting) (Item 6.1)**
- (ii) **Marty Langlois, Mountain Memorials and Woodland Memorials, respecting Item 10.2 - Cemeteries Business Plan (PW21015) (for today's meeting) (Item 6.2)**
- (iii) **Warren Haley, Sharp Monuments, respecting Item 10.2 - Cemeteries Business Plan (PW21015) (for today's meeting) (Item 6.3)**
- (iv) **Garth Nelson, The Stone Centre Inc., respecting Item 10.2 - Cemeteries Business Plan (PW21015) and Report PW21005 - City of Hamilton's Cemeteries By-law Update (for today's meeting) (Added Item 6.4)**
- (v) **Gary Foster, Ontario Monument Builders Association, respecting Item 10.2 - Cemeteries Business Plan (PW21015) and Report PW21005 - City of Hamilton's Cemeteries By-law Update (for today's meeting) (Added Item 6.5)**

For further disposition respecting Items 6.2 – 6.5, refer to Items (f)(iii) and (h)(i).

(e) CONSENT ITEMS (Item 7)

(i) Various Advisory Committee Minutes (Item 7.1)

The following Advisory Committee Minutes, were received:

- (i) Waste Management Advisory Committee Meeting Minutes - September 28, 2020 (Item 7.1(a))
- (ii) Waste Management Advisory Committee Meeting Minutes - December 2, 2020 (Item 7.1(b))
- (iii) Keep Hamilton Clean and Green Committee Meeting Minutes - November 17, 2020 (Item 7.1(c))
- (iv) Keep Hamilton Clean and Green Committee Meeting Notes - January 19, 2021 (Item 7.1(d))
- (v) Hamilton Cycling Committee Meeting Minutes - December 2, 2020 (Item 7.1(e))
- (vi) Hamilton Cycling Committee Meeting Minutes - January 6, 2021 (Item 7.1(f))
- (vii) Hamilton Cycling Committee Meeting Minutes - February 3, 2021 (Item 7.1(g))

Councillor VanderBeek assumed the Chair.

(f) PUBLIC HEARINGS / WRITTEN DELEGATIONS / VIRTUAL DELEGATIONS (Item 8)

(i) Robert Cook, Ontario Waste Management Association, respecting an Endorsement of the City of St. Catharines' resolution on Development Approval Requirements for Landfills (Bill 197) (approved on February 19, 2021) (Item 8.1)

Robert Cook, Ontario Waste Management Association, addressed the Committee respecting an Endorsement of the City of St. Catharines' resolution on Development Approval Requirements for Landfills (Bill 197), with the aid of a presentation and handout.

Robert Cook, Ontario Waste Management Association, was granted additional time to address the Committee, beyond the permitted 5 minutes, to continue with the presentation.

The delegation and handout from Robert Cook, Ontario Waste Management Association, respecting an Endorsement of the City of St.

Catharines' resolution on Development Approval Requirements for Landfills (Bill 197), was received.

(ii) Proposed Permanent Closure and Sale of a Portion of Public Unassumed Alley Abutting 1044 Cannon Street East, Hamilton (PW21012) (Ward 3) (Item 8.2)

Councillor VanderBeek advised that notice of the Proposed Permanent Closure and Sale of a Portion of Public Unassumed Alley Abutting 1044 Cannon Street East, Hamilton (PW21012) (Ward 3) was given as required under the City's By-law #14-204 – the Sale of Land Policy By-law.

No members of the public were registered as Delegations.

The public meeting was closed.

For further disposition of this matter, refer to Item 4.

(iii) Delegations respecting Item 10.2 - Cemeteries Business Plan (PW21015) (REVISED) (Added Items 8.3 – 8.6)

The presentations from the following delegates, respecting Item 10.2 - Cemeteries Business Plan (PW21015) (REVISED), were received:

- (i) Gary Foster, Ontario Monument Builders Association (Added Item 8.3)
- (ii) Garth Nelson, The Stone Centre Inc. (Added Item 8.4)
- (iii) Warren Haley, Sharp Monuments (Added Item 8.5)
- (iv) Marty Langlois, Mountain Memorials and Woodland Memorials (Added Item 8.6)

For further disposition of this matter, refer to Item (h)(i).

REVISED Report PW21015, respecting the Cemeteries Business Plan, was considered immediately.

For further disposition of this matter, refer to Item (h)(i).

(g) STAFF PRESENTATIONS (Item 9)

(i) Enhancements to City Hall Forecourt Update (PW20064(a)) (Item 9.1)

Marianne Mokrycke, OMC Landscape Architecture, and Terry Hoffman, Zerobit1, addressed Committee respecting Report PW20064(a), Enhancements to City Hall Forecourt Update, with the aid of a presentation.

The presentation, respecting Report PW20064(a), Enhancements to City Hall Forecourt Update, was received.

For further disposition of this matter, refer to Item 5.

(h) DISCUSSION ITEMS (Item 10)

(i) Cemeteries Business Plan (PW21015) (City Wide) (REVISED) (Item 10.2)

The following Motion was DEFEATED:

The Environmental Services Division, Parks and Cemeteries Section be permitted to offer the sale of monuments and markers to interment rights holders within its 69 Cemeteries.

(i) GENERAL INFORMATION / OTHER BUSINESS (Item 13)

(i) Amendments to the Outstanding Business List (Item 13.1)

The following amendments to the Public Works Committee's Outstanding Business List, were approved:

(a) Items Requiring a New Due Date:

- (i) Redevelopment / Reuse of the former King George School Site, at 77 Gage Avenue North
Item on OBL: V
Current Due Date: June 14, 2021
Proposed New Due Date: September 20, 2021
- (ii) Operations and Maintenance of the Central Composting Facility
Item on OBL: AV
Current Due Date: March 22, 2021
Proposed New Due Date: April 19, 2021
- (iii) Pilot HSR Bus Stop Implementation at the Southwest Corner of Rymal Road East and Derby Street (Ward 6)
Item on OBL: AAA
Current Due Date: March 22, 2021
Proposed New Due Date: May 31, 2021
- (iv) Ward 1 Multi-Modal Connections Review
Item on OBL: ABD
Current Due Date: April 9, 2021
Proposed New Due Date: July 7, 2021

(v) COVID-19 Recovery Phase Mobility Plan
Item on OBL: ABE
Current Due Date: March 22, 2021
Proposed New Due Date: May 3, 2021

(vi) Stormwater Gap Evaluation
Item on OBL: ABM
Current Due Date: March 22, 2021
Proposed New Due Date: May 3, 2021

(vii) Regulation of E-Scooters
Item on OBL: ABN
Current Due Date: March 22, 2021
Proposed New Due Date: April 19, 2021

(b) Item Considered Complete and Needing to be Removed:

(i) Proposed City Hall Forecourt Security Enhancements
Addressed as Item 4 on today's agenda – Report
PW20064(a)
Item on OBL: ABI

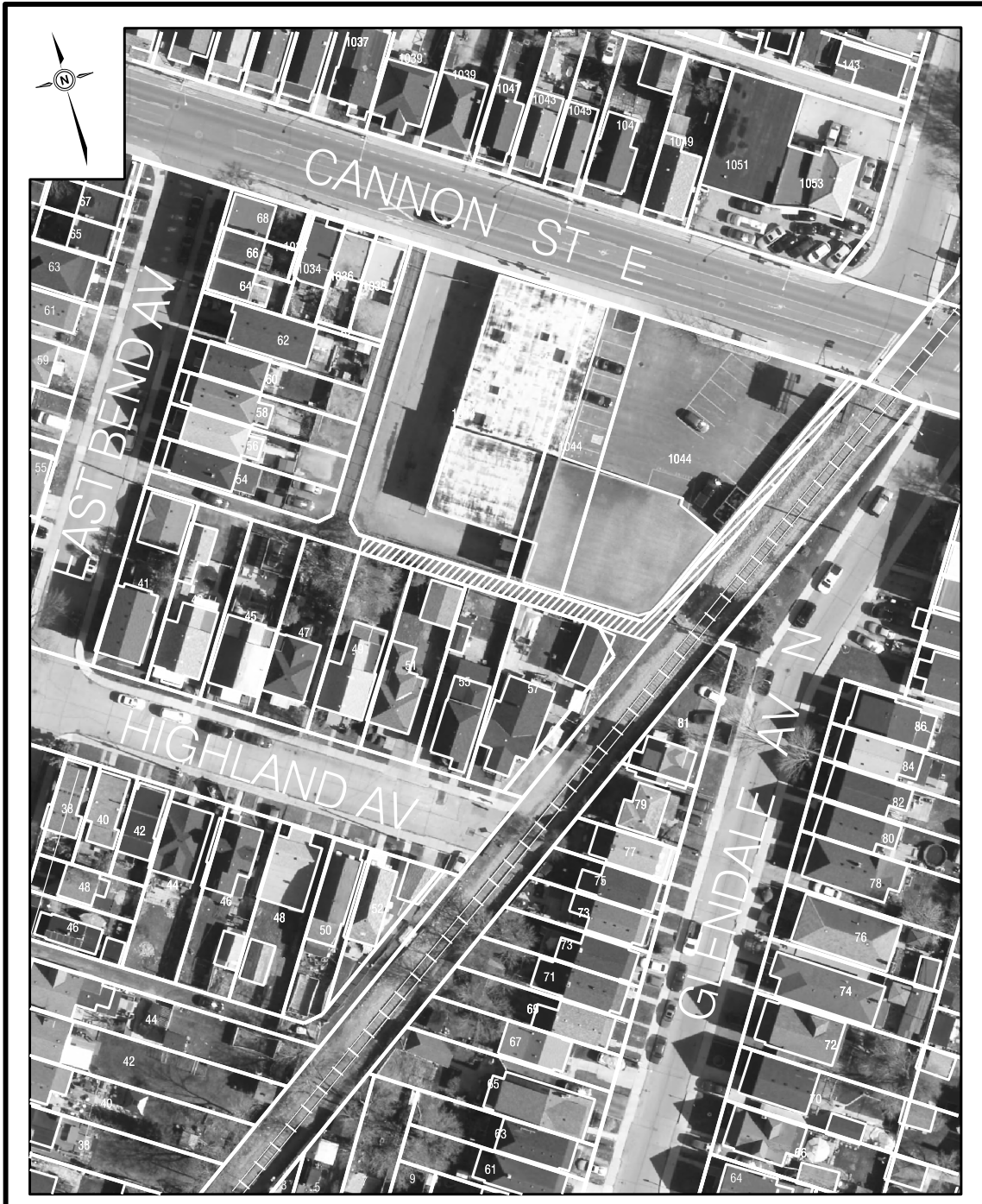
(j) ADJOURNMENT (Item 15)

There being no further business, the Public Works Committee adjourned at 4:38 p.m.

Respectfully submitted,

Councillor A. VanderBeek
Chair, Public Works Committee

Alicia Davenport
Legislative Coordinator
Office of the City Clerk



PROPOSED CLOSURE OF PORTION OF UNASSUMED ALLEY AT 1044 CANNON STREET EAST

Geomatics & Corridor Management Section
Public Works Department

LEGEND

 **Lands to be Closed**



City of Hamilton, Public Works

Energy, Fleet and Facilities Management
CITY HALL FORECOURT SECURITY STUDY



OMC
LANDSCAPE
ARCHITECTURE

OMC Landscape Architecture
270 Sherman Ave. N, Suite 315-MILL
www.omcla.ca | 905.681.7604



ZEROBIT
SECURITY PLANNERS

September 2020

TABLE OF CONTENTS

01 INTRODUCTION	1
02 PURPOSE OF THE STUDY	2
03 VULNERABILITIES	3
04 DESIGN CRITERIA	5
05 HERITAGE ISSUES	6
06 PROPOSED DESIGN SOLUTIONS	8
07 FUTURE CONSIDERATIONS	21
08 COSTING	22
09 SECURITY REVIEW & DETAILS	23
10 FIGURES	24
11 APPENDICES	25

01 INTRODUCTION

Urban design criteria have historically considered the possibility of vehicles losing control and endangering pedestrian space. Due to events worldwide, and now in Canada, it is necessary to consider also the possibility of vehicles intentionally entering pedestrian space for the purpose of causing injury or fatality.

It is essential that the public realm remains safe and accessible for all members of society. Pedestrian safety and comfort are guiding principles in the field of urban design. Ideally this is accomplished through separation and delineation of pedestrian vs. vehicular space, or other design measures when the spaces are shared. The design of public space must be a balance between management of risk and openness and accessibility.

It is important that this need for openness and accessibility be balanced with safety and security, while respecting culture, heritage and aesthetics.



02 PURPOSE OF THE STUDY



Figure 1: City Hall site

This study was initiated due to safety concerns with respect to citizens using the City Hall forecourt area for public events and gatherings. The forecourt is a gathering space with proximity to Main Street. It has been observed that the area closest to the sidewalk has become a popular space for protest groups with placards.

The purpose of the study was to examine vulnerabilities with respect to the City Hall property, and to explore design solutions toward improvements to safety and security.

The focus of this study is specific to hostile vehicle mitigation

The security report provided by Zerobit Security Planning which forms part of this document provides details with respect to criteria for vehicle impact, security trends and risk assessment.

03 VULNERABILITIES

Zerobit Security Planning identified three major areas of vulnerability at the City Hall property:

1. The intersection of Bay Street and Main Street West
2. The Main Street West frontage
3. The pedestrian space on the east side of City Hall

They are illustrated in Figure 1.

The consultant team was asked to explore design solutions which would assist in addressing these vulnerabilities.

Security specialists are generally in agreement that safety measures in public places should not be readily apparent. Security measures should be invisible since the presence of such obvious security elements as heavy gates, concrete blocks or barbed wire create a sense of insecurity, can instill fear, and are detrimental to the goal of providing openness in the public realm.

Common methods of improving site security include grading, berms or deep swales, strategically placed walls, planters, site furniture, security rated gates, raising features such as hydraulic bollards and gates, and large constructed elements that meet standards for vehicle impact.

Not all of these measures are suitable for the City Hall site.

Many of the features which make the City Hall forecourt a welcoming and easily accessible space for residents, staff and visitors, potentially make it vulnerable to hostile vehicle impact. Stairs are sufficiently shallow that a large vehicle can ascend to the upper level, stair openings are generally wide enough to accommodate a vehicle, and grade changes near Main Street are for the most part, fairly minimal.

A drop curb ramp at Main Street facilitates vehicular penetration when it is not blocked with a concrete planter. The presence of adjacent wide roadways, particularly Main Street, also increases vulnerability. Bay Street and Main Street West provide space for vehicle manoeuvring, and the opportunity to increase speed.

Vehicles may easily enter the wide pedestrian corridor on the east side of the City Hall building from the parking area.

03 VULNERABILITIES

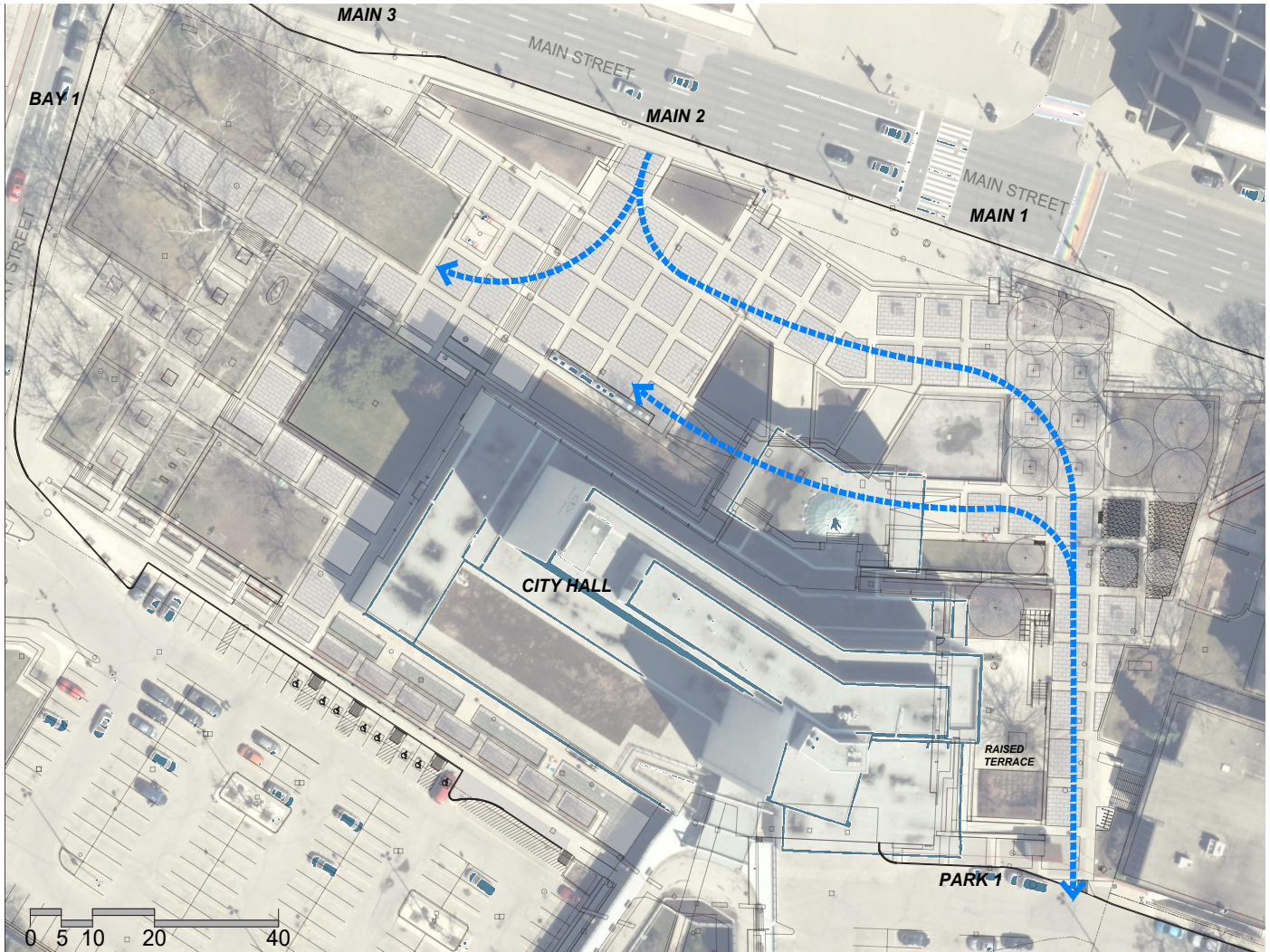


Figure 2: Illustration of areas of vulnerability and path of travel for maintenance vehicles

04 DESIGN CRITERIA

The study commenced with a series of site reviews by the consultant team: OMC Landscape Architecture, Zerobit Security Planning and ATA Architects.

The following City of Hamilton departments were consulted as part of the process: Facilities Management, Corporate Security, Landscape Architectural Services, Heritage, Public Art, Parks Operations, and Horticulture.

It was deemed to be essential that proposed safety measures be of high quality, inobtrusive, and in keeping with the aesthetics of the City Hall building and forecourt areas.

It was important that the City Hall property continue to be easily traversed by pedestrians, and security measures be invisible to the greatest extent possible.

The City's Horticulture and Parks Operations departments maintain in-ground and portable planters, as well providing other site maintenance services throughout the City Hall grounds.

It is necessary to their operations that materials and equipment can be moved around the site efficiently.

Horticulture and Parks Operations staff provided advice with respect to their access requirements and maintenance vehicle movement at the front of the City Hall building. This information assisted in informing solutions for safety enhancements.

The incorporation of public art in the form of large outdoor sculptures installed on plinths (constructed to PAS68 crash test criteria) was initially proposed as a solution. Two locations were proposed – the pedestrian corridor located at Park 1 and the space between stairs located at Main 3 (see figure 1).

In consultation with Public Art staff it was determined that these locations were not suitable locations for public art.

Site furnishings or other elements were vetted for suitability in consideration of form, scale and materials.



05 HERITAGE ISSUES



Figure 3: Opening day at City Hall



Figure 4: Mayor Lloyd D. Jackson,

- **Irregular, v-shaped rectilinear plan**
- Flat roof and roofline
- **Ramps and stairs approaching the front entrance**
- Glass curtain walls
- All marble cladding
- **Council chambers together with twelve marble-clad stilts, glass curtain wall, metal balustrade, geodesic dome skylight and Italian glass mosaic tiles on the underside of the Chamber.**
- Spandrels with Italian glass mosaic tiles between the first and second stories
- Front entrance with glass doors transoms and surrounds, and "IN" and "OUT" inlaid on the terrazzo floors in front of the doors.

ATA Architects reviewed the "Reasons for Designation" which was Appendix A of report PD05036. With regard to the City Hall site, the report states that "the entire civic complex has value as a cultural heritage landscape."

The building and site have numerous historical associations with respect to the development of municipal administration in Hamilton, the 1950's renewal movement, the evolution of City Hall architecture and the numerous notable individuals of local, provincial, and national significance who have attended functions and events at Hamilton City Hall.

Architecturally, on the North (front façade), the elements to the left were noted as character contributing elements that contribute to the heritage value of the site.



05 HERITAGE ISSUES



Figure 5: Stanley Roscoe, City Hall Architect

The three elements highlighted on the previous page directly relate to the approach taken by Architect Stanley Roscoe to create an open and welcoming environment to City Hall for the residents of Hamilton and all visitors. The "V-Shaped" plan was designed to embrace the visitor.

The building as noted in the reason for designation, has elements that are composed of steel, aluminum, marble, Italian glass mosaic tiles, wood, and concrete. The approach taken from a historical perspective and to conserve the cultural heritage

value of the site was to minimize the visual impact of security elements on both the site and the building. The City Hall forecourt has an open and welcoming character that should be visually maintained without being overpowered by security measures.

The selection of devices to be recommended for implementation focused on strategies to address the security function while minimizing size, mass, and materials that would be incompatible with materials employed on the City Hall façade and its other three elevations.

06 PROPOSED DESIGN SOLUTIONS



Figure 6: PAS68 rated street furniture, not suitable due to materials, form and scale



Figure 7: PAS68 rated street furniture, suitable materials, form and scale.

Of the various elements considered, bollards were found to be the most visually compatible, as they do not block views of the building or site. Stainless steel is the recommended material for the following reasons:

- The quality of the material is compatible with those of the building
- It is durable and requires less maintenance
- The silver or light grey colour is compatible with the colour of the concrete forecourt and public sidewalk areas
- The reflective nature of the material minimizes its scale and presence, visually blending into its surroundings.

The selection of devices to be recommended for implementation focused on strategies to address the security function while minimizing size, mass, and materials that would be incompatible with materials employed on the city hall façade and its other three elevations.

Site furnishings such as benches and planters were reviewed for suitability with respect to the aesthetic characteristics of the City Hall site. As an example, the planter and curved bench shown in Figure 2 are capable of stopping trucks to a PAS68 rating, however, their scale and materials eliminated them from the list of possible solutions. There were few crash tested furniture products that were suitable; therefore they were eliminated as perimeter barriers. Figure 3 illustrates a crash-rated litter container/bollard which could be considered.

06 PROPOSED DESIGN SOLUTIONS

Main 1



Figure 8: Main 1 existing

Main 1 is the largest stair opening on the property. It is vulnerable not only to vehicles entering from Main Street, but also vehicles that may attempt to travel from north to south (against traffic) through Summer's Lane. It was important that the view of the City Hall entrance was not blocked from this location, or the lower forecourt cluttered with site furniture which might impede free pedestrian movement.

It was generally agreed by the design team that a minimal solution which was as unobtrusive and

cost-effective as possible would be the best solution for the street frontages. Two concepts were developed for Main 1 – both utilizing crash rated bollards in stainless steel with simple contemporary styling. It was felt that the bollards would provide the least visual distraction while allowing free movement of pedestrians from the crosswalk into the City Hall forecourt.



OMC
LANDSCAPE
ARCHITECTURE

OMC Landscape Architecture
270 Sherman Ave. N, Suite 315-MILL
www.omcla.ca | 905.681.7604

06 PROPOSED DESIGN SOLUTIONS

Main 1



Figure 9: Main 1, Option 1



Figure 10: Main 1, Option 2

06 PROPOSED DESIGN SOLUTIONS

Main 1

Option 1 places removable bollards at the back of sidewalk. Removable bollards would be required for this option as this is the location where a crane is placed on an annual basis when the Christmas tree is installed.

Option 2 places bollards approximately 1.5m from the bottom stair tread, with customized railings at the stairs added at intervals.

Main 2



Figure 11: Main 2, Existing

06 PROPOSED DESIGN SOLUTIONS

Main 2



Figure 12: Main 2, Option 1



Figure 13: Main 2, Option 2

Main 2 is an opening located approximately midway across the property frontage. It is located between large in-ground built-in permanent planters. The permanent planters were evaluated by Zerobit and determined to be a sufficient deterrent to hostile vehicles, therefore no modifications were proposed. The Main 2 opening is connected to Main Street by a drop curb ramp at the edge of the roadway. This is an access point for municipal service vehicles, however, it has also been used by members of the public to drive onto the upper forecourt and into pedestrian space.

It is proposed that this opening be separated from the City Hall forecourt with rated removable bollards.

Option 1 would see removable bollards positioned at the back of sidewalk, ensuring that unauthorized vehicles would not be encouraged to pull up onto the sidewalk to attempt to access the ramp. This was found to be favourable in that maintenance trucks could temporarily park either on the sidewalk or in the south driving lane in order to leave the vehicle to move the bollards.

06 PROPOSED DESIGN SOLUTIONS

Main 2



Figure 14: Main 2, with movable planters

Option 2 suggests removable bollards aligned toward the rear of the permanent planter, thereby allowing maintenance staff to park the vehicle temporarily on the ramp, while accessing the removable bollards. During discussions with staff, it was felt that this would be disadvantageous since unauthorized vehicles could potentially see this as an opportunity to utilize the ramp as an illegal parking or loading space.

Should removable bollards be found to be unmanageable for Horticulture and Parks Operations staff, consideration should be given to permanently closing this opening by either an in-ground planter or non-removable bollards.

The access is currently blocked by three movable concrete planters located at the back of sidewalk.

06 PROPOSED DESIGN SOLUTIONS

Main 3



Figure 15: Main 3

Main 3 is the triangular pedestrian space located east of the Memorial to Injured Workers and west of the existing built in planter. There are two sets of stairs at this location – a south stair facing Main Street and an east stair facing Bay Street.

Two solutions were proposed for this area: Main 3 Option 1 was the continuation of bollards at the base of each stair.

Main 3 Option 2 considered the placement of public art on a large plinth, constructed to PAS68 standards, located strategically in the centre of the space between stair openings. Option 2 was not accepted by Public Art staff who indicated that this option was not ideal as there is an existing memorial sculpture garden immediately to the

south of this space at the upper level, and the Day of Mourning Monument to the east of this space closer to the intersection of Bay and Main.

The addition of crash-tested site furnishings, including light poles is another consideration for the Main Street frontage.

During discussions with staff, it was suggested that site furnishings be placed in strategic areas along Main Street in the shoreline area of the street. The shoreline is the area between the curb and the contrasting strip of urban braille which delineates the pedestrian path of travel. The shoreline is the area when light poles, fire hydrants, trees, and site furnishings are ideally located.



06 PROPOSED DESIGN SOLUTIONS

Streetscape considerations



Figure 16: Shoreline at Main Street frontage

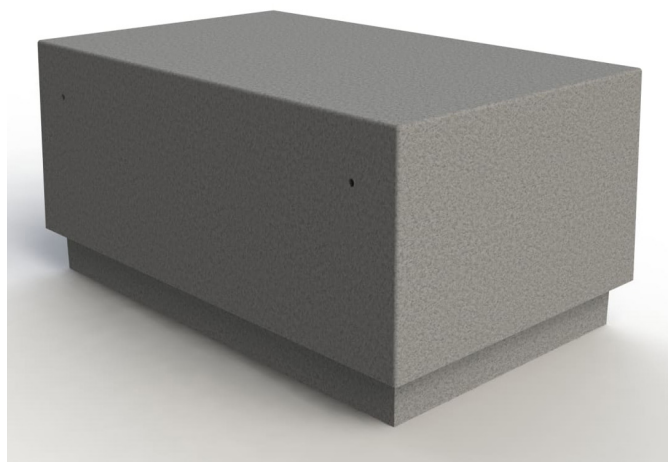


Figure 17: Rhinoblock seat 1200 X 600 X 456mm height

Simple crash-tested benches are available such as that illustrated below, with a dimension of 1200 X 600 X 456mm height which could potentially serve this purpose with a minimum of visual disruption and are generally in keeping with the aesthetics of the City Hall site.

They would not meet AODA guidelines for bench supports.



06 PROPOSED DESIGN SOLUTIONS

Bay 1



Figure 18: View of Bay 1 existing

06 PROPOSED DESIGN SOLUTIONS

Bay 1



Figure 19: View of Bay 1 proposed

Bay 1 The main area of vulnerability at this location is a stair which faces Bay Street, located approximately 18 metres from the municipal sidewalk at Bay and Main.

Due to limited space at this location and the need for pedestrian access to the ramp and stairs, one option is proposed at this location – permanent rated bollards.



06 PROPOSED DESIGN SOLUTIONS

Park 1

Park 1 is located at the parking lot south of the City Hall. It is an area where hostile vehicles could potentially gain access with sufficient speed while attempting to enter the pedestrian corridor east of the raised terrace adjacent to the City Hall building.

A number of options were evaluated for this location. They included crash-rated swing or sliding gates, removable bollards, site furniture, crash rated planters and public art installations on plinth.



Figure 20: Crash Gate

Crash rated gates and barrier arms were found to be visually intrusive, and capable of impeding pedestrian circulation. Horticulture and Parks Operations staff advised that the inclusion of public art in the corridor would impact the movement of service and maintenance vehicles.

Public art staff advised that the pedestrian corridor was not an ideal location for public art.



Figure 21: Crash gates and crash bars did not meet criteria for pedestrian movement, heritage or aesthetic considerations

It was determined that the best solution for this location would be a combination of permanent and removable bollards.

Horticulture and Parks Operations staff indicated that the design of the bollards would need to consider winter conditions re: snow and ice build-up with respect to locking mechanisms.

06 PROPOSED DESIGN SOLUTIONS

Park 1



Figure 22: View of Park 1 existing



Figure 23: View of Park 1 proposed

06 PROPOSED DESIGN SOLUTIONS

Park 1



Figure 24: View of Park 1 existing



Figure 25: View of Park 1 proposed

07 FUTURE CONSIDERATIONS

All hostile vehicle mitigation measures must be carefully planned at the detailed design stage. It should be understood that many of PAS68 rated elements involve the installation of below ground reinforcement, which could potentially be impacted by the presence of underground utilities and services. This is true of the City Hall site as well as the shoreline areas along Main Street and Bay Street.

Maintenance procedures may need to be modified, based on the type of bollard that is chosen since some products could require the use of machinery, or one or two persons for their removal and replacement.

08 COSTING

A Class D cost estimate forms part of this report,
and is located in Appendices.

09 SECURITY REVIEW AND DETAILS

Risk Management Report on Hostile Vehicle Borne Attacks in Crowded Public Spaces forms part of this report and is located in Appendices.



10 FIGURES

List of Figures

- Figure 1 *City Hall site*
Figure 2 *Illustration of areas of vulnerability and path of travel for maintenance vehicles*
Figure 3 *Opening Day at City Hall*
Figure 4 *Mayor Lloyd D. Jackson, Groundbreaking*
Figure 5 *Stanley Rosco, City Hall Architect*
- Figure 6 *PAS68 rated street furniture, not suitable due to materials, form and scale*
Figure 7 *PAS68 rated street furniture, suitable materials, form and scale*
- Figure 8 *Main 1 existing*
Figure 9 *Main 1 Option 1*
Figure 10 *Main 1 Option 2*
Figure 11 *Main 2 Existing*
Figure 12 *Main 2 Option 1*
Figure 13 *Main 2 Option 2*
Figure 14 *Main 3 Option 1*
Figure 15 *Main 3*
Figure 16 *Shoreline at Main Street frontage*
- Figure 17 *Rhinoblock seat 1200 X 600 X 456mm height*
Figure 18 *View of Bay 1 existing*
Figure 19 *View of Bay 1 proposed*
Figure 20 *Crash gate*
Figure 21 *Crash bar. Crash gates and bars did not meet criteria for pedestrian movement, heritage or aesthetic considerations.*
- Figure 22 *View of Park 1 existing*
Figure 23 *View of Park 1 proposed*
Figure 24 *View of Park 1 existing*
Figure 25 *View of Park 1 proposed*



11 APPENDICES

APPENDIX "A": RISK MANAGEMENT REPORT ON CITY HALL FORECOURT HOSTILE VEHICLE BORNE ATTACK

APPENDIX "B": HATE CRIME ARTICLES

APPENDIX "C": IMPACT TEST SPECIFICATIONS FOR VEHICLE SECURITY BARRIER SYSTEMS

APPENDIX "D": CLASS 'D' ESTIMATE HAMILTON CITY HALL PLAZA UPGRADE

APPENDIX "A"

CITY OF HAMILTON

RISK MANAGEMENT REPORT ON CITY HALL FORECOURT

HOSTILE VEHICLE BORNE ATTACK



APPENDIX "A"

Classification: Sensitive and Confidential

CITY OF HAMILTON, RISK MANAGEMENT REPORT ON CITY HALL FORECOURT HOSTILE VEHICLE BORNE ATTACK



Hamilton

March 2020

Author:
Terry Hoffman, CPP, CBCP, CPTED



Table of Contents

1.0	Introduction	4
2.0	The Solution	7
3.0	How Security is Transforming Public Space	8
4.0	Security Design Concepts	8
4.1	Historic Building	9
4.2	Crime Prevention through Environmental Design.....	9
5.0	Risk Assessment	11
5.1	Asset Identification and Classification	12
5.2	Threat Profile	13
5.3	Assessment of Probability of Occurrence.....	14
5.4	Assessment of Impact	15
6.0	Integrating Security Concepts into Public Spaces	15
7.0	PAS 68 Vehicle Impact Testing	16
8.0	Performance Classification	17
9.0	Vehicle Attack Case Studies	18
9.1	Table 1 Monday April 23, 2018 North York Van Attack	18
9.2	Table 2 Tuesday, October 31, 2017 Hudson River Bicycle Path Vehicle Attack.....	19
9.3	Table 3 Saturday September 30, 2017 Edmonton U-Haul Attack.....	21
9.4	Table 4 Saturday August 12, 2017 Charlottesville, Virginia Car Attack	22
9.5	Table 5 Thursday, May 18, 2017 Times Square Car Crash	23
9.6	Table 6 Monday November 28, 2016 Ohio State University Attack.....	25
9.7	Table 7 Monday, October 20, 2014 Saint Jean sur Richelieu, PQ Car Attack	26
9.8	Table 8 Friday, March 3, 2006 University of North Carolina at Chapel Hill Attack.....	27
9.9	Other Vehicle Attacks	29

NOTICE

This information is intended for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential or subject to copyright. Unauthorized use, disclosure, distribution, or copying of this report by anyone other than the intended recipient is prohibited strictly. No representations or warranties are either expressed or implied, with respect to the adequacy of this report or recommendations. In no way shall Zerobit1 Security Planning Consultants Inc. and OMC Landscape Architecture Ltd, its employees and contractors, be liable for special, direct, indirect or consequential damages resulting from any defect in this documentation, or decisions resulting from its use.

-Page Intentionally Left Blank-

1.0 Introduction

Public safety has always been a fundamentally important premise of crowded public spaces, and the design management of perimeter physical security measures. A crowded space is defined as a location or environment to which members of the public have access that may be considered as a potential target to a terror attack by virtue of its own crowd density. A crowded space includes public spaces such as parks and squares. In each case a crowded space will not necessarily be crowded at all times. Crowded densities may vary during the day and night and may be temporary as in the case of an open-air event, celebration or protest.

The following assessment combined with Appendix "A" and "B" deals with the City of Hamilton, City Hall and potential enhancement of the current exterior public space security measures. This assessment will provide recommendations that will, if implemented, increase the level of prevention and risk mitigation in a crowded public space resulting from an intentional vehicle borne attack. The attacks fuelled by humanly motivated threats such as mental illness, workplace violence, criminal activity, terrorism, hate and bias crimes and other malevolent acts directed to inflict harm against the real property and people assets of City of Hamilton public space.

There are two strong business reasons why the City of Hamilton should consider the security and safety of the City Hall's public space. They are:

Legal Obligations – In the event of a safety or security incident within the public space, your security plans and program are likely to come under scrutiny. Health and Safety at work regulations put the responsibility on the owner, or occupier of the premises, to provide a duty of care for staff and visitors. The same scenario exists in security and assets protection. It is up to the owner/occupier to seek out and implement security accepted and expected best practices and to ensure risk avoidance best practices around safety and security operations in crowded public spaces and act upon them.

Loss of Reputation – A negative event, experience and/or statement against the City's preparedness and support of security in public space and public safety, could be detrimental to the public impression surrounding the safety and security of City Hall and the overall community.

The assessment process included a physical review of the City Hall public gathering area and City square including security-related systems, protective service procedures and historical incident data. This process provided valuable insights for threats, vulnerabilities and remedies related to the protection of people in crowded public spaces. Potential security threats, in and around Hamilton City Hall public space, cover a fairly wide range of acts carried out by individuals acting alone or in groups, whether loosely or highly organized. Individuals or groups that commit acts of vehicle borne attacks have varying motivations and frequently employ characteristic methods related to their motivations. When angry individuals vent their wrath on people and property, the potential for harm in the extent and duration of their emotion could be significant. While we normally think of anger as momentary, it can also ferment over years, eventually erupting in violent rage. Workplace violence and mental illness are the leading causes of high-value losses to organizations and government despite the fact it is so foreseeable.

Researchers, urban planners and security experts support that public space design improvements are one of the best ways to ward off the growing threat of a terror attack that use a motor vehicle as weapon.

Criminals commit crimes against people, property, information and an enterprise's reputation with the intent to gain advantage, do harm or both. Terrorism results from violent, long term stewing rage directed toward a government, nation, a political system and individuals, a building, or an icon that represents something important to the terrorist.

Terrorists rarely act alone, and instead are almost always part of a group of similarly angry individuals. Terrorists will focus on a single purpose and are patient. They are willing to learn, plan and sacrifice themselves for a greater cause at any costs, whether the intended target are individuals who symbolize the cause of their rage or a building and its occupants.

It is a fact that there is a higher incidence of mental issues in lone wolf terrorists compared to terrorists in traditional cell structured groups, although the correlation is not recognized currently as a cause of the terrorist acts.

Hate crimes are offences committed against a person, group or property, which is motivated, in whole or in part, by an individuals hate, bias or prejudice towards an identifiable group based on real or perceived race, national or ethnic origin, language, colour, religion, sex, age, mental or physical disability, sexual orientation or any other similar factor. Incidents involve intimidation, distribution of prejudicial material.

Juristat-Statistics Canada recently released a report on April 30, 2019 entitled "Police-reported hate crime in Canada, 2017" written by Amelia Armstrong, The Canadian Centre for Justice Statistics. This report has been the subject of discussion by concerned groups, including Hamilton City Council, and has also been cited in numerous news reports. The information publicized suggests that Hamilton has the second-highest rate of Canadian Cities for hate crimes.

Interest groups, some private and others publicly funded, suggest there is a crisis for discrimination, racism, hatred and imminent potential for violence and serious crimes against property; concluding the report shows a trend that must receive immediate attention and drastic action to prevent what they see is an inevitable increase in hate motivated serious crimes. The argument by some stakeholders suggests that, based on their anecdotal experience, it is highly probable that hate crimes are being under-reported. These sources suggest the actual increase in hate crimes could be as much as 50%.

It is important to accurately note that what the Juristat report demonstrates is an increase in reporting of hate crimes to police, not necessarily an increase in hate crimes. Other sources that contradict the popular view that Hamilton is a hotbed of hatred while accepting that more can be done includes the quote in the Hamilton Spectator report dated July 26, 2019 by Emerald Bensadoun (The Canadian Press), "The statistics show that hate is an ongoing challenge in our city, Eisenberger said. "An increase in reported hate crimes can be a direct result of increased outreach by our police services or greater public awareness and encouragement of reporting hate."

Another source, apparently contradicting the high rate of hate crimes, is published on the Internet under Microsoft News; "Hate bias incidents decline in Hamilton according to latest police statistics" by Ken Mann, dated March 6, 2019; "Hamilton Police are reporting a modest decrease in incidents with hate/bias overtones. An annual report, presented to the city's Police Services board, says there were five hate crimes in Hamilton last year which matches the number from 2017. Detective Paul Corrigan stated the number of incidents with hate/bias overtones, which police suspect but cannot prove were motivated by prejudices, dropped to 125 from 136. In explaining the difference, Corrigan says that if somebody is assaulted because of their religion or ethnicity, that is a race crime. He adds that graffiti on a building that includes a racial slur is not a hate crime since we can't prove the motivation."

The two important considerations in assessing statistical reports are the reliability and validity of the information presented. Reliability in statistics and psychometrics is the overall consistency of a measure. A measure is said to have a high reliability if it produces similar results under consistent conditions. Validity is the extent that the instrument measures what it was designed to measure. Often when statistics from two or more different organizations, or instruments, are compared, they will present information leading to vastly different reasonable conclusions, as may be the case here.

The consultants searched local Hamilton news using the term "hate crimes" and selected about twenty-six news articles (Appendix "A") to obtain perspective regarding important details of the current social climate and concerns regarding the potential for possible violence or serious property damage. We have also considered the need for balance and caution in respecting freedom of speech and the right to peaceful assembly as guaranteed by the Charter, for all citizens, as well as the priority of protecting the reputation of the city and its representatives. It is important to note that there are only a few independent local news and media agencies providing information to the public, locally, and specific to Hamilton with most of the resources owned by TORSTAR. As a result, any conclusions based solely on local news reports may result in an inaccurate conclusion due to potential bias in the reporting.

While carefully considering these unique circumstances as detailed above, it is apparent that there is disagreement, and a divide, in the community with two active and vocal sides seeking public attention and sympathy, persuading and influencing opinion while behaving in ways that provoke, contrary to the public interest and create the potential for a serious sentinel event. The continued confrontational actions and aggression displayed by people on both sides of the issues should be addressed and managed to mitigate the potential for a problem.

We recognize that the decision on how best to proceed is the prerogative of city council in consultation with the stakeholders. The community resource that is most appropriate with authority to handle public order issues is the Hamilton Police Service. There is a fine line between achieving the objectives of public order, avoiding actions that could push one side or the other to radical (criminal) action or being viewed as heavy handed and violating the charter rights of citizens.

The new bylaw requested by police, and passed by council, may assist in controlling persons and groups that are protesting or counter-protesting using tactics that may result in provocation and a violent reaction from the opposed group. The bylaw provides for authority to remove such persons; however, it remains to be seen if enforcement of the bylaw will be the subject of a charter challenge.

Considering the foregoing information in the report above, and the on-going disputes related to the extreme right and left aligned protesters including the emotions and volatility that have already manifested, there is a high potential for either group to commit a serious crime. This presents a high level of risk for the city creating a duty to deploy risk mitigation techniques and to monitor, and manage, the various activities occurring on city property. Most recent hostile vehicle borne attacks in Canada and North America have led to a re-evaluation of security in many crowded public space locations.

Vehicles are an effective weapon because they require no special skill or training to operate and are both easy to get and ubiquitous. Seeing a vehicle drive down a street or within a public square does not set off any alarm bells for bystanders. This has led to a growing trend where cities are looking to urban planners and security experts to provide ways to separate public spaces physically where cars cannot travel into those areas designated for public gathering and pedestrians.

The following assessment focuses, specifically, on the challenges of increasing the level of security and protection at the City of Hamilton, City Hall and crowded public spaces. Urban security challenges, such as knife attacks and shootings, are numerous and not in scope of this assessment.

2.0 The Solution

To limit the occurrence and impact of a vehicle attack against crowds in public locations, urban designers and security experts have primarily put in place measures that reduce vehicular access to public spaces, as well as seek to maximize the "standoff" distance between the road and "target" locations. Most common amongst such initiated security controls have been barrier methods of protective security, notably crash-rated security barriers, steel bollards, or simple temporary concrete blocks, all of which are intended to limit access by a vehicle seeking to attack a crowded public space. This barrier approach to securing public realm is seen by many as disproportionate as it impacts the livability, walkability, character and accessibility of public space significantly. For some, such hyper-security risks, and their security measures, create "sterile" public space where the general public fear to gather.

Protective security, in the sense, does not provide feelings of safety and security and indeed can have opposite effect and be viewed as an architecture of paranoia. Until recently, security techniques that have traditionally been applied to public space have largely been based on guard and policing style approaches that seek to secure access to risky locations through robust physical security interventions. Such approaches are similar to commonly understood planning techniques such as "Crime Prevention through Environmental Design" (CPTED).

CPTED concepts are implemented by use of security barriers and enhanced surveillance to seek to make spaces safe through the manipulation of the built environment in ways that reduce the attractiveness and physical access to possible targets. In practice and faced with an escalating threat of urban acts of terror, this has meant the deployment and use of security barriers, benches, planters and bollards.

3.0 How Security is Transforming Public Space

We now live in an era where the safety of the public is a requirement in crowded public spaces. The circumstances and situations are always changing as, notably, terror groups are increasingly targeting crowded places that cannot be altered without radically changing how we address and experience our Cities' public spaces. In 2016 vehicle attacks, in public spaces, accounted for the largest number of terrorism casualties in the West resulting in 601 deaths. The primary terrorist threat continues to be individuals and groups inspired by violent ideologies.

In the western world, including Canada, terror groups who represent threats and attacks are unsophisticated and deploy low resource tactics such as vehicle ramming to achieve mass casualties and obtain publicity. Not only has the use of vehicles to attack in crowded places become the chosen tactic, it also requires little in the way of skills and resources to achieve high impact results, through mass injury or death. This method is favored to obtain significant publicity and reaction for little in the way of investment or pre-planning.

There are vital aspects that the City of Hamilton needs to consider in their design plans to help avert this growing trend of vehicle borne attacks. An important consideration is that the design should be as un-intrusive as possible. The design process requires innovative thinking to be applied. The evolving theme is that security features should, where appropriate, be as unobtrusive as possible. In some applications, this has led to security features that increasingly are integrated within the streetscape. In response, the challenges a number of cities have now advanced strategic oversight on how city operators of public space can mitigate the risks of the latest is the movement of vehicle borne attacks against crowded locations. This has been done through embedding security into landscape design plans in ways that reflect upon, and mitigate, threat vectors into effective, protective security measures that are considered at the earliest opportunity within a design process, and which are proportionate with the level of risk faced. The anticipated need for security design highlights that this task requires an integrated input by stakeholders who design, manage and secure the use of public spaces and who work together to protect the public from such vehicle borne attacks.

4.0 Security Design Concepts

Concerns surrounding security in the build environment have grown because of the increase in vehicle borne terror like attacks over the last decade in Canada, USA and Europe. In addition, court decision on premise liability have increased the demand for enhanced security significantly. As crime, sabotage, mental illness, terror and other acts of violence increase against people, architects, urban planners and security experts are being called upon to address the challenges. The primary components of an effective security design, in the protection of people in crowded spaces, are detection and deterrence concepts to thwart malicious threats before they can be carried out.

The concepts drive value through design by combining performance with costs and aesthetics. The design is also required to address the needs of people with impaired mobility that find it difficult to walk even relatively short distances. The introduction of resting places with seating helps to ensure that the environment remains inclusive.

4.1 Historic Building

The City Hall is recognized as an Historic Building so the designs must consider the impact on character and on the historic fabric, including ground surfaces. The design impact must involve both visual and physical features. Throughout the design process we have taken into consideration the Historic classification and have coordinated with the appropriate stakeholders.

4.2 Crime Prevention through Environmental Design

Crime Prevention through Environmental Design (CPTED, pronounced sep-ted) is an environmental-behaviour theory and methodology based on the proposition that enlightened architecture and site design deters criminal behaviour and reduces the fear of crime. CPTED offers a comprehensive basis for approaching and developing security solutions. It is based on the notion that effective design and use of the built environment can reduce predatory stranger-to-stranger crime while supporting all intended building functions and improving quality of life for users. CPTED theory draws on both social and physical sciences. Oscar Newman's 1971 work defensible space as well as ¹Tim Crowes efforts in the early 1990s developed CPTED theory by integrating behavioural psychology, the sociology of human behavior and architectural design to create safer environments.

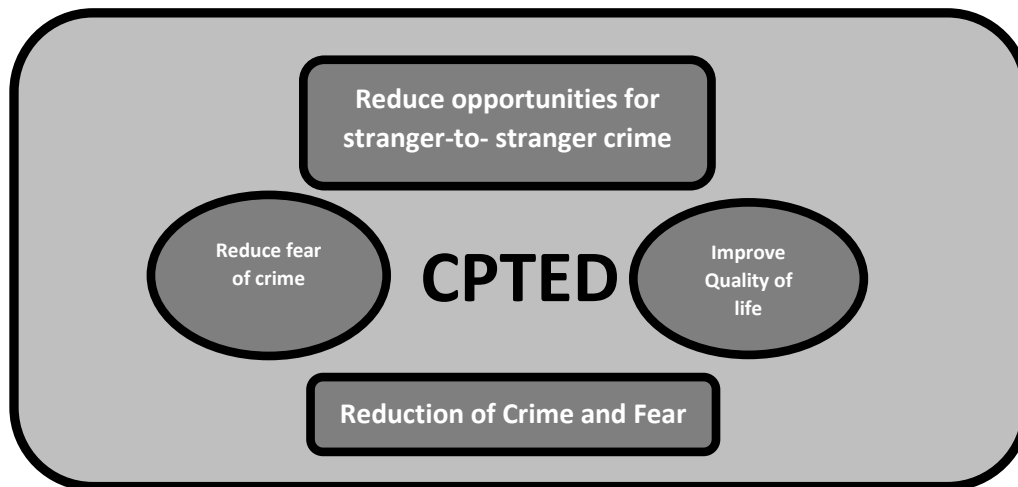


Figure 1 Goals and Objectives for Proper Design and use of Built Environment

¹ Timothy Crowe-Crime Prevention through Environmental Design; Applications of Architectural Design and Space Management Concepts. (Butterworth-Heinmann 2000)

The CPTED process employs three types of security concepts to achieve the objective of creating physical space that considers the needs of legitimate users, the normal and expected (or intended) functions for the space and the predictable behaviour of illegitimate users and intruders. They are as follows:

Mechanical concepts - known as target hardening mechanical concepts and measures emphasize hardware and technological systems, such as locks, fencing and gating, key control systems, closed circuit television (CCTV) and other security technologies. Mechanical measures should not be relied on as a sole means of creating a secure environment. Mechanical concepts should be used in conjunction with organizational and natural measures.

Organizational Concepts – these concepts rely on people (individuals and vested groups) to provide surveillance and access control functions in the spaces they occupy. Organizational measures may use security guards, designated guardians and others with the ability to observe, report and intervene in undesirable or illegitimate actions.

Natural Concepts – These concepts employ physical and spatial features such as site architectural elements to ensure that a setting is designed to deter crime while supporting the intended use of the space. Natural measures are also used to reduce conflicts between user and useage. Examples of natural features include landscaping, outdoor seating and plants, fences, gates, walls and stairs. In the City of Hamilton’s case we need to study and deploy natural concepts to mitigate attack with consideration of maximum speed angles of attack, approach routes and traffic calming techniques.

Security zoning provides the tools that can be used in conjunction with the other two CPTED concepts and strategies to incorporate security measures into a building and its exterior perimeter design. Security layering defines the defensive elements of a facility in three primary elements: the site and its perimeter, the building envelope and the building interior, each of which can be visualized as a series of concentric rings and zones. Each layer contains spaces that go from public to semipublic to private. Combinations of various physical, technological and operational security measures can be applied to these primary lines of defense as well as the areas between them.

The site perimeter provides the first and greatest opportunity for achieving a secure site and success in risk avoidance when dealing with threats of vehicle borne attacks. Our site security analysis considers the site perimeter and grounds of City Hall and its elements that serve as the first level of security defensive planning. There is no “one size fits” all solution. Our three design solutions will prevent access to, or close proximity of vehicles to the public space with measures that reduce speed of vehicles approaching the site or its defences. We will employ urban design principles which will include a sustainable and attractive environment, site character creating an identity and where access to the public is clearly identified.

5.0 Risk Assessment

Hostile vehicle borne threats range from vandalism to sophisticated or aggressive attacks by determined criminals and terrorists. Identification of potential attack methods by use of a risk assessment, and the site assessment, helps to identify the most appropriate passive and active mitigation techniques to be used. The site risk assessment will review the potential maximum speeds and angles of attack that can be achieved by a vehicle borne attacker. Decisions on counter-terror measures will consider the risk of attack to which City Hall Forecourt is exposed. Assessing the risk enables specification of proportionate security measures tailored to the city public square crowded space as no single control measure fits all applications.

The assessment methodology used for this assessment has been developed by ASIS International, "General Security Threat Risk Assessment Guideline" www.asisonline.org. The qualitative threat risk assessment methodology conforms to industry guidelines and best practices. The assessment will include the security practitioner's subjective industry experience in identification and characterization of assets, threats and overall risk profile and exposure. A threat assessment will be conducted to identify adversaries and specific perils that could affect the City of Hamilton, City Hall Forecourt "crowded public space". A vulnerability assessment will then be conducted. Once these stages are complete, the level of risk is formulated with respect to exposure to each asset. A comprehensive set of recommendations are then offered to assist in mitigating the identified risk and reducing security risk exposure to acceptable levels.

The recommendations consider the use and interaction of multiple physical security and/or procedural countermeasure remedies. The threat risk assessment impact ratings have been assigned to each critical asset (as Very High, High, Medium or Low) through a process of determining asset severity/sensitivity, or nature of harm, that may result if the asset was to be lost, devalued or become compromised in some way. The security assessment determines the most probable threat events to protect against. Throughout the assessment process, we understand that vulnerability is a characteristic, attribute or weakness of any asset, within a system or environment, and which increases the probability of a threat event occurring or the severity of its effects causing harm. The presence of vulnerability does not, in itself, cause harm; vulnerability is merely a condition, or a set of conditions, that could allow an asset to be harmed by an attack or threat. The scope of this assessment is limited to the City Halls exterior forecourt and perimeter crowded spaces. Areas outside of the scope will be considered on a limited basis only (e.g. for characterizing the local threat environment).

5.1 Asset Identification and Classification

An asset is anything from people, property and information owned, possessed or used that has a positive value to the City, both tangible and intangible. Specifically, to stay within scope we have grouped the city’s assets into two distinct asset categories that include: people and reputation.

For the purpose of the threat risk assessment, people and reputation assets are evaluated based on their criticality (i.e. their relative influence on enabling the city to fulfill its business objectives) and/or their impact (i.e. the severity of consequence experienced by the city if those assets were lost, death occurred, injured or became unavailable). Each asset is evaluated on a scale of severity. Assets identified as people, and the result of injury or death. Assets identified as the city’s brand, and subsequently its ability to attract tax-paying residents. Managing this reputation from a public safety viewpoint becomes a critical asset for Hamilton as a matter of municipal government competition.

The two assets/categories have been identified below, along with their evaluated sensitivity/impact, which was devised based on conversations with the project sponsor. The identified assets are typical within a municipal government setting, as demonstrated in the table “Asset Identification and Classification Chart”.

No.	Asset Identification and Classification	Criticality/Impact	Motivation
1.	City Staff, Residents, Visitors/Tourists and Protestors An individual’s life	High	Result of an act of ideological terrorism ² (terror) towards the City, a protesting group or an individual within the City Hall forecourt
2.	City Reputation The reputation of the City of Hamilton to attract residents and economic business growth	High	Unintentional or intentional act of terror, criminal intention, malicious damage, accidental or medical emergency within the City Hall forecourt

² Ideological Terror refers to an individual or small group who terrorize for the purpose of imposing their political ideals on others

5.2 Threat Profile

Threat Event	Motivation	Capabilities	Vulnerability/Tactic
Penetrative Attack	Ideological Terror	Lone adversary or small group using extensive training and preparation	Hostile vehicle negotiates an attack through an incomplete line of defence to use the front or rear of the attack vehicle as a ram to inflict harm/injury/death to people or to breach a target within the City Hall forecourt
Penetrative Attack Deception	Ideological Terror	Lone adversary or small group using extensive training and preparation	Deception technique prey on human weakness by use of a trojan vehicle to conduct a penetrative hostile vehicle attack against persons and/or individual life asset within the City Hall forecourt (use of a vehicle which is a replica but familiar to the site occupants) eg: white City of Hamilton fleet vehicle with fake City of Hamilton vehicle decal

We have assessed that a hostile vehicle borne attack within City of Hamilton, City Hall forecourt is currently a medium probability based on the current Canadian and United States of America incident history. In the overall context of our society at large in the greater Toronto area, provincially and federally there have been recent high-profile attacks using a vehicle. Regardless of the motivations for the attacks, being of political ideology, hate bias, criminally motivated or caused by a mental health crisis there is clearly a recent history of such attacks in our wider community.

The current Federal Public Report on the Terrorist Threat to Canada, states that Canada's current terrorism threat level is **Medium**, meaning that a violent act of terrorism could occur, and has been at this level since October 2014. These facts, combined with the broad history, suggests a higher state of preparedness, threat and vulnerability mitigation measures are advisable despite the lack of localized incident history of a vehicle borne attack.

The unique status of City Hall, being the seat of municipal government and City administration, raises the potential of a threat event. In addition, more aggressive activists or community members may present a greater threat of property damage, injury or reputational damage for the City. Some municipalities in Ontario are beginning to study and implement higher levels of security in the built environment both involving interior and exterior security measures that are more reminiscent of a courthouse than a City Hall. There is some justification to implementing such measures. For example, please see the City of Toronto report and associated bulletins available on line at:

<https://www.toronto.ca/legdocs/mmis/2018/ex/bgrd/backgroundfile-116682.pdf>

The exterior City Hall forecourt and outer perimeter requires careful review and consideration for ways to mitigate the reported threats that could possibly capitalize on its current vulnerability.

5.3 Assessment of Probability of Occurrence

Threat Event	Probability of Occurrence	Assessment of Impact
Penetrative Attack	Medium	High
Penetrative Attack Deception	Medium	High

Probability Definitions	
Low	There have been no reported incidents and there is a low probability that the threat will occur
Medium	There have been reported incidents and indicators of the threat within 3 years and there is some possibility that the threat will occur
High	There have been several reported incidents or indicators of the threat, and the threat will most likely occur
Very High	The threat is imminent

5.4 Assessment of Impact

Impact Assessment Level Definitions	
Low	No personal injury or loss of life impact
Medium	Staff, visitors, residents and protestors may experience some personal injury or casualties/death
High	Staff, visitors, residents and protestors will more than likely experience serious injury and/or casualties/death
Very High	Staff, visitors, residents and protestors will experience significant serious injury and casualties/death

6.0 Integrating Security Concepts into Public Spaces

A full VDA Vector Analysis in accordance with (Appendix “B”) will be required to be completed prior to final consideration of any one of the three proposed designs the City wishes to implement. The vector analysis conforms the rating of each type of barrier and its location in relationship to potential attack speeds to ensure that the appropriate impact level has been considered to ensure barriers are not under or over engineered.

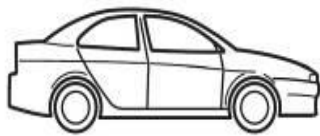
Vehicle security barriers provide the hard stop for penetrative vehicle attacks. They are structural in nature and can be either active or passive. Active measures include hinged and sliding gates, retractable blockers and bollards. Passive measures include bollards and structural barriers such as benches, planters, landscape features, earth works, walls, bike racks, shelters and information display advertising boards. Active and passive barriers typically require structural foundations in order for the barriers to perform to their appropriate impact rating in the event of an attack. Some barriers need to accommodate existing underground utilities’ placements. Regardless of what type of barrier, active or passive, in the context of public safety active barriers are considered to be “machinery. Active barriers have superior maintenance and servicing during their lifetime.

The site design takes into consideration recognized regulations that evaluate impact performance of each passive and active barrier. The Centre for the Protection of National Infrastructure (CPNI) and equivalent USA bodies have published impact testing and installation guidelines entitled PAS 68 “Specification” for Vehicle Barrier and PAS entitled “Guidelines” for the Selection, Installation and Use of vehicle security barriers. PAS 68 given performance ratings are based on the following six categories: Vehicle Impact, Vehicle Mass, Impact Speed, Impact Angle, Penetration and Debris Dispersal. The Standards Publication is attached as Appendix “B”.

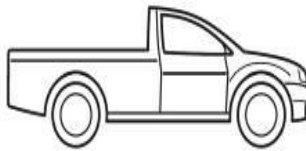
A visual digital vector analysis has been conducted on the subject areas of vulnerability. We considered how negotiable the surrounding landscape is, combined with maximum speed and angles of attack, could be achieved. In addition, we reviewed traffic management profiles of approach vulnerabilities and traffic calming techniques that could be deployed.

7.0 PAS 68 Vehicle Impact Testing

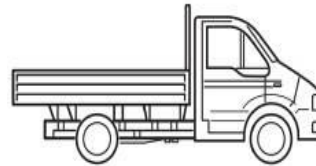
Six vehicle types are used in BSI PAS 68 impact testing



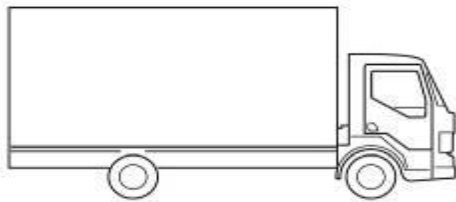
1.5 tonne Car
(M1)



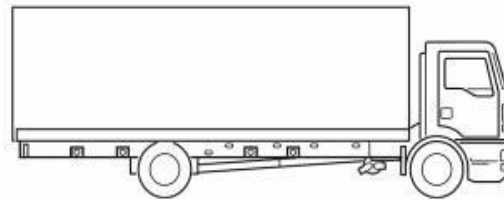
2.5 tonne 4x4 Pickup
(N1G)



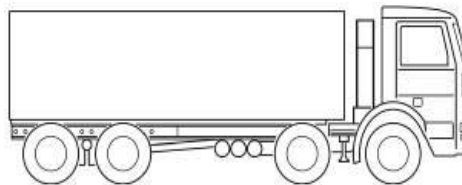
3.5 tonne Flatbed Van
(N1)



7.5 tonne 2 Axle Truck
(N2)



Empty '18 tonne' 2 Axle Truck
(N3)



30 tonne 4 Axle Truck
(N3)

8.0 Performance Classification

The performance class is expressed in terms of a 7-part classification in accordance with the below Table 1.

Table 1 Performance classification – vehicle impact test

	1	2	3	4	5	6	7
	VSB system type	V	Inertial test vehicle mass kg	Test speed km/h	Impact angle °	Vehicle penetration m	Dispersion of major debris m
<i>Example:</i>	PAS 68:2013 Fixed bollard	V	4- or 5-digit vehicle mass and test vehicle classification	2-digit or 3-digit impact speed	Any angle between 0° and 90° in 5° intervals	To 1 decimal place where X.X is the penetration	To 1 decimal place where Y.Y is the dispersion distance

Performance classes example a **PAS 68:2013 FIXED BOLLARD V/1500(M1)/48/90:1.7/5.2** denotes:

1. Fixed bollard
2. Tested using the vehicle impact method
3. Capable of withstanding an impact by a 1500Kg car
4. Impact speed 48 km/h
5. Impacted at 90-degree angle to the front face of the bollard
6. Vehicle penetration was 1.7 m beyond the original position
7. Major debris landed no more than 5.2 m beyond the original position of the rear face of the bollard

9.0 Vehicle Attack Case Studies

The following selected vehicle attacks from Canada and the United States of America are listed in tables following a consistent format for comparison and assessing the potential for such attacks in other venues or facilities that are characterized as Soft Targets in Crowded Places. Three of the selected cases occurred in Canada. The cases are entered chronologically from latest to earliest.

9.1 Table 1 Monday April 23, 2018 North York Van Attack

Perpetrator	Alek Minassian (25 years of age)	
Note: Cited as the “Deadliest vehicle ramming attack in Canadian History”		
What stopped the attack	Van damaged causing driver to stop and exit vehicle where he was confronted by police who arrested him after he threatened and taunted police to kill him	
Motive	Ideological: Incel Movement (Involuntary Celibate uprising). The subject stated he wanted to incite an uprising related to Incel ideology so that men would be killed and women would develop relationships with men identifying with Incel.	
Modus Operandi	Subject rented a van and drove to the centre core of the city of Toronto, driving south on Yonge Street until an opportunity and targets were identified. Subject drove onto the sidewalk and drove with speed toward pedestrians striking them with the vehicle. Some accounts indicate the subject specifically targeted women and attacked some women accompanied by men, running over whoever was in his way. The police state there is no evidence to indicate that women were targeted specifically.	
Number of casualties	Killed: 10 victims (8 women, 2 men)	Injured: 14 victims
Final Disposition of Offender	Arrested and incarcerated while jurisprudence takes its course	
TAPI (Terrorist Attack Pre-Incident Indicators)	Subject self-radicalized and engaged radical social media including Incel related forums such as ³ 4chan. Post attack media reported on-going mental health, socialization and behavioral difficulties were noted by neighbors and previous classmates that were of concern to the family, however these concerns were not addressed as a matter of community safety.	

³ 4chan is an 'imageboard' — an online discussion forum where users are encouraged to post images

	It is a fact that there is a higher incidence of mental issues in a lone wolf terrorist compared to terrorists in traditional cell structured groups, although the correlation is not recognized currently as a cause of the terrorist acts.
Security Counter-Measures	None in place – attack not anticipated
Recommended Counter-Measures	<p>Social media monitoring and enhanced security posture standards/implementation when appropriate.</p> <p>Design of pedestrian safe streetscapes, including vehicle barriers, exit/escape areas for pedestrians, authorized/emergency vehicle access measures required for the pedestrian zone.</p> <p>Police/security presence in areas that are soft targets, crowded places.</p> <p>Counter-surveillance, terrorism, active attacker and situational awareness training and practices for people in high profile occupations: federal, provincial and municipal service.</p> <p>Active attacker prevention and intervention training for security personnel, including equipping guards with legal and available means to reasonably stop an attack in progress, if able.</p> <p>Behavioral indicators training for security personnel.</p> <p>Standing orders/action plans to mitigate attacks and facilitate ending an attack immediately.</p>

9.2 Table 2 Tuesday, October 31, 2017 Hudson River Bicycle Path Vehicle Attack

Perpetrator	Sayfullo Habibullaevic Saipov, formerly of Uzbekistan, 29 years of age
Note	Sources cited this as the 15 th vehicle attack by Muslim extremists in Europe and North America since 2014, killing 142 people
What stopped the attack	Police lethal force
Motive	<p>Ideology/terrorism: The subject told investigators he was inspired by ISIS videos to use a truck in the attack "to inflict maximum damage against civilians."</p> <p>Inspired by ISIS/ISIL</p>

Modus Operandi	Used a pickup truck rented in New Jersey to enter onto a bicycle path and run over numerous civilians	
Number of casualties	Killed: 8 Victims	Injured: 11 Victims (4 Additional victims injured on the school bus)
Final Disposition of Offender	The subject collided with a school bus while fleeing, was shot by police and arrested. He is currently serving a prison sentence in a federal penitentiary.	
TAPI (Terrorist Attack Pre-Incident Indicators)	<p>Working as a truck driver, starting in 2015 the subject received numerous citations for driving offences. In one of the first cases, he did not elect to a court defense or pay the fine, a warrant was issued and he was arrested, posting a bond. The many infractions, and his actions/omissions related to the traffic laws system, may have indicated an anti-authoritarian mindset or ideology (non-recognition of western laws and justice).</p> <p>Sources state the subject was described by an associate as “a little aggressive.”</p> <p>The subject lived behind, and attended, a mosque that was the subject of NYPD surveillance (investigating possible radical ties).</p>	
Security Counter-Measures	Transportation initiatives after two vehicle accidents on the path resulted in fatalities on the bike path in 2006 recommending barriers were ignored.	
Recommended Counter-Measures	Use barriers to segregate pedestrian and vehicle zones, including bollards and/or staggered gates/concrete barricades to mitigate vehicles driving on pedestrian paths/boulevards.	

9.3 Table 3 Saturday September 30, 2017 Edmonton U-Haul Attack

Perpetrator	Abdulahi Sharif (30 years of age) a Somali national and refugee.	
What stopped the attack	After the 2 nd attack the police rammed and forced the subject's vehicle off the road then arrested him.	
Motive	Reasonably assumed to be political ideology/terrorism	
Modus Operandi	Subject used a car to run down, and then stab an Edmonton police officer before escaping. Later during the police pursuit, he struck an additional four pedestrians. ISIS flag was displayed in the attacker's vehicle.	
Number of casualties	Killed: None	Injured: Five
Final Disposition of Offender	Arrested and incarcerated awaiting jurisprudence (convicted pending sentencing December 2019).	
TAPI (Terrorist Attack Pre-Incident Indicators)	He was reported by a colleague to the Police after he expressed his hatred for Shia Muslims and "Polytheists" and expressed support for ISIS. The RCMP and Edmonton police investigated him in 2015 for extremism, and he was deemed "not a threat".	
Security Counter-Measures	Interviewed/investigated by police who concluded he was not a threat.	
Recommended Counter-Measures	Standards providing guidance for police to monitor activities and behaviors of subjects reported as possible extremists for a set period of time (minimum and maximum). Enhanced event security standards and protocols at venues identified as soft target crowded spaces including additional pedestrian zone segregation and enhanced formal surveillance (security/police) on the perimeter. All police/security personnel must have advanced awareness, threat recognition and intervention training and capability as noted under recommended counter measures in the Alek Minassian attack synopsis as noted above.	
Notes: Prior to entering Canada under a refugee claim, the subject had been detained by United States Immigration and Customs Enforcement ("ICE") and held in custody four months pending deportation to Somalia. He was released through the US Courts system on an "Order of Supervision" where/when authorities lost track of him.		

9.4 Table 4 Saturday August 12, 2017 Charlottesville, Virginia Car Attack

Perpetrator	Alex Fields Jr, 20 years of age, white supremacist	
What stopped the attack	The subject fled the area when counter-protestors attacked him in his car, reportedly breaking through the back windshield He was later arrested by a deputy about a mile from the attack site	
Motive	Ideology/domestic extremist philosophy, anger at counter-protestors (some sources class this as domestic terrorism)	
Modus Operandi	The subject, a right-wing white supremacist/extremist, intended disruption and injury to the counter-protest activists who were faced off against the right-wing extremists.	
Number of casualties	Killed: 1 Victim	Injured: 8 Victims critically injured, numerous other minor injury victims (more than fifteen)
Final Disposition of Offender	Arrested, convicted and sentenced to life in penitentiary plus an additional 419 years	
TAPI (Terrorist Attack Pre-Incident Indicators)	<p>The subject showed early signs of extremist and violent behavior, including:</p> <p>Domestic violence directed at his mother</p> <p>Sources indicate the subject suffered mental health issues and was taking medication to control psychosis and anger</p> <p>Drawing swastikas and vocalizing admiration for Adolf Hitler in middle school</p> <p>The subject posted Nazi and white supremacist images and statements on social media</p> <p>Typical indicators of lone wolf terrorism; mental issues, self-radicalization, social rejection, subject engaged with radical social media – There is a documented correlation that mental issues are more prevalent in a lone wolf terrorist compared to traditionally organized terrorist cells.</p>	

	Mental issues are correlated, however contrary to popular belief are not usually the cause of a violent act. The violent act is attributed to the lone wolf's ideology. Some hypotheses suggest that lone wolf views, behaviors and poor socialization skills preclude acceptance by extremists organized in traditional cells.
Security Counter-Measures	Police were deployed to monitor the protest and keep the peace however it is reported the officer deployed nearby the starting place of the attack had been extricated for safety reasons due to violent clashes between the two opposing protest groups.
Recommended Counter-Measures	<p>Public safety planning for organized protests.</p> <p>Public Order/Service unit officers ("riot squad") deployed early at controversial protests and use of standard crowd control/anti-riot measures; crowd control stanchions, segregation of opposing groups, etc.</p> <p>Arrests/detention of instigators and perpetrators when a criminal "threshold event" occurs (assault or property damage, etc.) by a special police unit (riot squad)</p> <p>Security guards with proper crowd control training and defensive equipment deployed inside locked perimeter areas.</p> <p>Traffic control; including street closures and separation of the pedestrian and vehicle zones with temporary, heavy barricades such as Jersey barriers, etc.</p>

9.5 Table 5 Thursday, May 18, 2017 Times Square Car Crash

Perpetrator	Richard Rojas, 28 years of age, resident of The Bronx and a military veteran
What stopped the attack	Specially designed anti-vehicle attack bollards installed in a pattern known as a "redundant defense" to slow down and disable vehicles.
Motive	Some sources indicate the subject was suffering temporary psychosis due to illicit drug use (PCP). The subject made statements while impaired by drugs that he wanted to commit "suicide by cop."
Modus Operandi	Mayor Bill de Blasio said there was "no indication that this was an act of terrorism," but officials said it was unclear what motivated Rojas. (Source USA Today on line)

Number of attackers/assailants	One	
Number of casualties	Killed: 1 Victim	Injured: 22 Victims, 4 critically injured
Final Disposition of Offender	Arrested	
TAPI (Terrorist Attack Pre-Incident Indicators)	<p>Some sources provide that the subject was arrested numerous times for offenses ranging from drunk driving to weapons charges to harassment. He was also arrested in 2012 in Jacksonville, Fla. after he allegedly attacked a cabdriver and said he was going to kill cops, the Post reported.</p> <p>One of his friends said Rojas had developed a drinking problem after his military service, using it as medication for his "dark thoughts and moods."</p> <p>Social media posts described as "demonic" content.</p> <p>According to authorities, and his friends, his mental health issues dated back to his childhood though he never sought psychiatric care, becoming more paranoid and increasing his intake of marijuana and alcohol.</p> <p>The subject was obsessed with Scientology and had accumulated literature on the religion. He recently got back his car after it was repossessed a short time before the incident.</p> <p>A week before the incident, he was arrested and charged with pointing a knife at a notary, whom he accused of stealing his identity.</p> <p>The subject was arrested twice for drunk driving, in 2008 and 2015. Police authorities also said he was arrested a week before the attack when he allegedly pulled a kitchen knife on a visitor at his Bronx home.</p> <p>In April 2015, he was arrested for Driving While Impaired (DWI) in Manhattan</p>	
Security Counter-Measures	Specially designed bollards to segregate the pedestrian and vehicle zones and stop vehicle attacks.	
Recommended Counter-Measures	Installation of security barriers at the starting and finishing points of pedestrian paths to prevent vehicle entry.	

9.6 Table 6 Monday November 28, 2016 Ohio State University Attack

Perpetrator	Abdul Razak Ali Artan, about 18 years of age, Somali citizen naturalized in the USA	
What stopped the attack	Police lethal force	
Motive	<p>The Ohio State University student who carried out a knife attack on campus Monday said in a Facebook post he was "sick and tired" of seeing fellow Muslims "killed and tortured," according to federal law enforcement officials. (source: CNN).</p> <p>Apparent self-radicalization through messages inciting violence from ISIS/ISIL with sources reporting additional radicalization through the radical cleric Anwar al-Awlaki.</p>	
Modus Operandi	<p>Sources indicate an emergency call for a fluorine leak at the campus Watts Hall prompting an evacuation and crowd of students and faculty in the established emergency gathering place.</p> <p>The attacker drove a Honda Civic into the courtyard and ran over several people before crashing into a wall and left the vehicle to attack others with a butcher knife.</p> <p>This M.O. strongly supports the conclusion that the perpetrator pre-meditated the attack with knowledge of emergency response at the venue to draw victims into a crowded area to maximize victims and injuries resulting from the attack.</p>	
Number of casualties	Killed: 1 victim (additionally the subject was killed by police)	Injured: 11 victims
Final Disposition of Offender	Shot and killed by police during the attack when he failed to obey orders to stop.	
TAPI (Terrorist Attack Pre-Incident Indicators)	<p>The subject posted radical messages on social media including righteous indignation and repercussions for western citizens oppressing Muslims.</p> <p>Sources report high levels of concern from federal law enforcement about car ramming and stabbings being encouraged by online extremist propaganda due to the relative ease of committing them compared to bombings.</p> <p>ISIL had been urging its followers to copy a car ramming attack in Nice, France, that killed 86 people.</p>	

Security Counter-Measures	<p>Reactive: colleges across the United States. began revisiting their emergency response plans as a result of the attack.</p> <p>Ohio changed laws allowing, when approved concealed carry of firearms on campuses. Federal initiatives were implemented to train people treating catastrophic injuries before paramedics arrive at the scene.</p>
Recommended Counter-Measures	<p>Social media monitoring. Workplace/facility protocols to address concerns and signs related to potential violence.</p> <p>Train and equip responders on site (police/security) to prevent and respond to active attacks.</p> <p>Select primary, secondary and tertiary gathering places that are protected from vehicles to be used at random during emergencies.</p> <p>Establish emergency response procedures with designated safety/security personnel assessing and searching escape routes and gathering places for other dangers (attackers or bombs).</p> <p>Establish emergency response procedures requiring designated safety/security personnel assessing and searching Incident Command Centres and EOCs for dangers.</p>

9.7 Table 7 Monday, October 20, 2014 Saint Jean sur Richelieu, PQ Car Attack

Perpetrator	<p>Martin Rouleau (A.K.A. Ahmad LeConverti - Ahmad the Converted)</p> <p>Born in Canada, about 25 years of age</p>
What stopped the attack	<p>Initial attack ended when the perpetrator fled resulting in a police pursuit, subject shot dead by police when he ran his car into a ditch, left the vehicle and attacked an officer (or officers) with knives, charging toward them on foot.</p>
Motive	<p>Terrorism (Self Radicalized Lone Wolf) Targeted at Canadian Soldiers. Inspired by ISIS. Subject had failed a Canadian Armed Forces training program in Saint Jean sur Richelieu which may have additionally contributed to a motive stemming from rejection.</p>

Modus Operandi	Subject seen waiting in his car, conducting surveillance up to two hours before the attack. Rammed his car into two soldiers at a retail plaza with a Service Canada office. Called 911 to claim credit for the crime and stated the attack was committed in the name of Allah while fleeing from Police.	
Number of casualties	Killed: 1 Victim (attacker also killed by police)	Injured: 1 Victim
Final Disposition of Offender	Killed by police	
TAPI (Terrorist Attack Pre-Incident Indicators)	Converted to Islam about 2013, radicalized over a period of about 18 months. He began speaking about Jihad about April or May 2014. He posted the logo of the Islamic State of Iraq and Al-Sham on his Twitter page and wrote on Facebook that “disbelievers” were destined for “the fire of hell.” July 2014 – his passport was seized by RCMP as he was trying to “leave the country.” Typical indicators of lone wolf terrorism; mental issues, self-radicalization, social rejection, subject engaged with radical social media inciting terrorist action and violence by whatever means available and against any targets representing western ideals.	
Security Counter-Measures	None implemented other than restricting subject from leaving the country.	
Recommended Counter-Measures	Counter-surveillance, terrorism, active attacker and situational awareness training and practices for people in high profile occupations: federal, provincial and municipal service. Behavioral indicators training for security personnel. Secure parking zones for high profile employees. Security patrols to intervene with suspicious people and circumstances.	

9.8 Table 8 Friday, March 3, 2006 University of North Carolina at Chapel Hill Attack

Name of Event/Reference	University of North Carolina at Chapel Hill	
Location	Date: Friday March 3 2006	Time of Day: Afternoon
Duration of event	Time elapsed before attack ended	
What stopped the attack	The subject pulled over after the attack, called 911 to claim credit for the attack and turned himself in to responding police.	

Motive	Teheri-azar later says is retribution for the killing of Muslims overseas. Sources indicate that in one letter, Taheri-azar wrote, "I was aiming to follow in the footsteps of one of my role models, Mohamed Atta, one of the 911 hijackers, who obtained a doctorate degree." He told investigators he wanted to "avenge the deaths or murders of Muslims around the world." Taheri-azar said in interviews with detectives that day he committed the attack "because people are being killed by the government of the United States" in the Middle East and that it was his "right in religion to avenge their deaths."	
Modus Operandi	Subject drove a rented SUV into an area crowded with students at the University of North Carolina at Chapel Hill	
Number of casualties	Killed: None	Injured: Nine (reported as not serious injuries).
Final Disposition of Offender	Sentenced on two counts of attempted murder in 2008 and is sentenced to 33 years in prison. It is projected he will be released in 2032.	
TAPI (Terrorist Attack Pre-Incident Indicators)	Some associates (students and teachers) described him as quiet, normal and well-adjusted to western ideals while others described him as a brooding loner who rebelled against even the practices of Islam.	
Security Counter-Measures	Security counter-measures were removed for an unknown reason. It has been reported that this soft target crowded place area was normally protected by barricades to separate the pedestrian and vehicle zones but the barricades were removed and not in place at the time of the attack.	
Recommended Counter-Measures	Policy and procedures defining when, who, how and why removal of barricades separating pedestrian and vehicle zones may be temporarily removed in limited quantities/areas, enhanced monitoring during removal and immediate replacement when the condition requiring removal is resolved.	

9.9 Other Vehicle Attacks

The following article, available on the internet (Wikipedia) provides a timeline and synopsis of 44 attacks from around the world either using a vehicle as the primary weapon and/or to facilitate the initial attacks. The article additionally lists 95 vehicle attacks classified as non-terrorist related (including the North York van attack) for which the motivation is alternately criminal, including anger, revenge and intoxication from years 1953 to 2019. There are three additional attacks for which the motive has not been determined.

https://en.wikipedia.org/wiki/Vehicle-ramming_attack

There is the potential of a violent attack perpetrated using a vehicle as the primary weapon motivated by terror ideology, personal violent ideology, anger, hate bias, revenge or psychosis caused by mental issues or intoxication matters. The fact is that there is an established history of vehicle attacks globally, in North America and within Canada. Considering the opinions and conclusions of various experts, the chance of reoccurrence is a foreseeable risk that requires consideration of various reasonable security measures to prevent or mitigate injury, death and property damage. This includes design of safe crowded spaces pedestrian zones, adequately segregated from vehicle zones and vehicle intrusion counter-measures as part of a total security and safety program.

APPENDIX "B"

HATE CRIME ARTICLES

CITY OF HAMILTON RISK MANAGEMENT REPORT ON

CITY HALL FORECOURT HOSTILE VEHICLE BORNE ATTACK

APPENDIX "B"

Classification: Sensitive and Confidential

CITY OF HAMILTON, RISK MANAGEMENT REPORT ON CITY HALL FORECOURT HOSTILE VEHICLE BORNE ATTACK



Hamilton

Author:
Terry Hoffman, CPP, CBCP, CPTED

ZEROBIT¹
SECURITY • PLANNING • CONSULTANTS

 **OMC**
LANDSCAPE
ARCHITECTURE

Appendix "B" Hate Crime News Articles

1. Ancaster home repeatedly vandalized with anti-Semitic graffiti before blaze: Owners' son Mischief 'predicated on hatred for Jews, should hopefully raise some alarms, Brandon Kirsch says.

<https://www.sachem.ca/news-story/9569053-ancaster-home-repeatedly-vandalized-with-anti-semitic-graffiti-before-blaze-owners-son/>

Aug 28, 2019

The owners of a property in Ancaster say it was tagged with anti-Semitic graffiti for more than a year before a suspicious fire broke out there Tuesday. Brandon Kirsch said the spray paint including swastikas started after his mother and bought the Sulphur Springs Road property about a year and a half ago. "It's only when it winds up in the hands of my family that all of a sudden it's getting terrorized," Kirsch said Tuesday from Florida, noting his parents are well known in Hamilton's Jewish community. Firefighters responded to the large wooded property at 820 Sulphur Springs Rd. at about 10:50 a.m. and found "some spot fires," Hamilton Deputy Fire Chief John Verbeek said. "This was the shell of an old abandoned stone house that appears to have been burnt out," Verbeek said. "We have notified the Ontario Fire Marshal's office due to the suspicious nature of the fire." Kirsch said the building — which dates back to the 1800s — has been vandalized nearly every week, and garbage and bottles have been strewn about the property. But he said complaints to the police, including the discovery of a wallet on the land about a month ago, have gone nowhere. Such vandalism, he said, "which is predicated on hatred for Jews, should hopefully raise some alarms." "I would like to see justice. I would like to see these perpetrators apprehended and punished for their crimes," he added. "Because if they don't do anything, then they're basically saying it's OK." Const. Lorraine Edwards, a spokesperson for the Hamilton Police Service, said the homeowners have filed complaints about mischief on the property. Officers responded to the complaints, but a lack of evidence needed to move an investigation forward could have been a limiting factor, Edwards suggested.

2. Hateful racist epithet carved in snow at school named after Hamilton educator and trail-blazing black athlete: Racist graffiti carved in the snow on the grounds of Bernie Custis high school

[Jon Wells The Hamilton Spectator https://www.hamiltonnews.com/news-story/9699969-hateful-racist-epithet-carved-in-snow-at-school-named-after-hamilton-educator-and-trail-blazing-black-athlete/](https://www.hamiltonnews.com/news-story/9699969-hateful-racist-epithet-carved-in-snow-at-school-named-after-hamilton-educator-and-trail-blazing-black-athlete/)

Nov 12, 2019

The grounds of a new Hamilton high school named in memory of a trail-blazing black athlete and educator were defaced with a racist epithet Tuesday. The word was carved in fresh snow in large letters on the property of Bernie Custis Secondary School on King Street East, across from Tim Hortons Field.

Before it was erased in the afternoon the hateful slur was visible through windows of the three-storey school, and even at a distance from the press box in the football stadium. Two student "perpetrators" have been identified by school officials, according to an email to The Spectator from Shawn McKillop, a public-school board spokesperson.

The incident was reported to Hamilton police, who are investigating. Suspensions or expulsion are possible school punishments for the students. A letter about the incident was posted on the Bernie Custis [website](#). The school is [named](#) after the Hamilton Ticats great of the 1950s, considered the first black athlete to play quarterback in professional football — a cerebral position long tainted by racist notions of what colour athlete is best suited to it. Sue Dunlop, the superintendent responsible for the school, said in a statement that "acts of racism are condemned in our schools and this is being treated as an incident of hate. The word was immediately removed as soon as it was reported to the school." [Custis](#), who was born in Philadelphia, was also a local educator, principal, and coach for more than 30 years who championed breaking down racial barriers. In the 1980s he coached McMaster University's football team. He died in 2017 at 88.

The \$32-million school with a capacity for 1,250 students opened in September, built on the former site of Scott Park Secondary School, and is home to students who previously attended Delta and Sir John A. Macdonald high schools.

A Statistics Canada [report](#) three months ago indicated that hate crimes are reported more frequently in Hamilton relative to other Canadian cities. It reported that in 2018 the Hamilton/Burlington/Grimsby area recorded 97 police-reported hate crimes, or a rate of 17.1 incidents per 100,000 population, more than three times the national average.

Hamilton police say [graffiti](#) is the most common form of reported hate crime in the city, such as the Nazi swastika.

3. Hamilton seeks better model for failed anti-racism centre: Review of Hamilton Anti-Racism Resource Centre's brief operations finds levels of prejudice 'astounding'

[Carmela Fragomeni](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9669470-hamilton-seeks-better-model-for-failed-anti-racism-centre/>

Oct 31, 2019

The city is poised to give the failed Hamilton Anti-Racism Resource Centre (HARRC) a fresh start in hopes of making it meaningful, viable and, most importantly, effective. The centre, a three-year pilot project jointly funded by the city, McMaster University and Hamilton Centre for Civic Inclusion, [was temporarily shut down in February](#) to be reassessed. It had opened only 10 months earlier, in April 2018. Its purpose was to gather information on racism-related information to help inform council decisions, and to fill service gaps.

The goal is to eliminate racism in the city. At a public consultation Tuesday night, city staff gave only a partial answer to why it had failed. "Today is not to lay blame for the pause," said Marlene Dei-Amoah, chair of the city's advisory committee against racism. "Today we are seeking input on models we can recommend to council. We really had no model to emulate." She said only when the centre was launched did problems become obvious. "Our pause was an opportunity to address the dilemma of perhaps not serving residents well. We know full well that our community continues to be harmed by racism." Jodi Koch, city diversity director, added that certain details for the pause couldn't be discussed because of personnel and legal implications. But she said the reasons don't lessen the importance of having an anti-racism resource centre or the city's commitment to combat racism. City staff spent hours talking to "literally thousands of people" over the summer to get their input, she said. While operating, HARRC conducted 17 anti-racism seminars, had 46 ethno-racial consultations, and received 75 complaints, mostly in person and the majority about anti-black racism, said McMaster associate professor Ameil Joseph, who did a review of the centre. The majority of complainants went there to receive emotional support, he said, adding "the high levels of anti-black racism are astounding and will require support and resources to respond strategically and systematically." Among the problems he cited was that although the centre opened in April, its website did not go up until October. In the time that HARRC has been down, incidents of racism seem to have exploded in the city. Among the latest was [clashes at a federal election campaign](#) event at Mohawk College featuring People's Party of Canada Leader Maxime Bernier. While some people were there to demonstrate against racism, members of hate groups like the Proud Boys, an Islamophobic and anti-Semitic organization, were spotted at the event. Proud Boys and other anti-immigrant groups like the Soldiers of Odin and "yellow vests" have held [regular rallies outside city hall](#) for more than a year. And in June, white nationalist protesters joined anti-LGBTQ demonstrators in [crashing Pride celebrations at Gage Park](#), resulting in a brawl with counter-protesters.

4. Hate in Hamilton 'breaks your heart,' city manager says: She says Hamilton's business and political leaders need to do more to support people who feel the effects of disempowerment.

Kevin Werner Hamilton Community News

<https://www.hamiltonnews.com/news-story/9670066-hate-in-hamilton-breaks-your-heart-city-manager-says/>

Oct 30, 2019

After five months into her "dream job" as Hamilton city manager, Janette Smith says the most surprising issue she has had to deal with is the rise of hate incidents. "I know other municipalities are going through the same thing, but it just came at me," said Smith in a brief interview after speaking to a sold-out crowd at the Hamilton Chamber of Commerce's annual city manager's breakfast on Tuesday at the Sheraton Hotel. Smith, who worked in Peel Region for 30 years before getting the call from Hamilton in May, says the diversity and inclusion issue is "highly complex" and despite the initial steps taken by council, more needs to be done.

During her presentation, she called on chamber members to boost their own diversity numbers among employees, saying it makes "good sense," as a diverse and inclusive workplace means a more "creative, innovative and engaged" workforce. Smith touched on a long list of issues confronting the city during her presentation and subsequent question-and-answer session with Hamilton Chamber of Commerce president Keanin Loomis, including replacing the city's arena and expanding the convention centre; the \$116-million development over the next decade the city is involved in along piers 6, 7, and 8; how to accommodate the city's projected growth of 780,000 people by 2041; seeking federal government help for infrastructure and affordable housing projects; and her enthusiastic support for the \$1 billion light rail transit project, which she says the community is "ready for." But Smith returned to Hamilton's struggle to confront hate-related incidents that continue to impact the community. Smith told the crowd that she attended the Hamilton-Wentworth Public School Board meeting on Monday as it approved creating a panel to study bullying in the wake of 14-year-old Devan Selvey being fatally stabbed outside Sir Winston Churchill Secondary School on Oct. 7. "We had a young boy murdered in our city," she said. "That is unacceptable. It's a city-wide issue. We are not alone, but we can't ignore it." When Smith walked the streets of Hamilton as the new city manager, people greeted her and looked her in the eye, something that rarely happened during her time living in Peel Region. Statistics Canada figures released earlier this year revealed Hamilton saw an increase in police-reported hate crimes, Canada's highest per capita rate for the last three out of five years. But after talking with people who have felt the brunt of racism and intolerance, she finds it difficult to reconcile the divergent welcoming and hate-filled responses that Hamiltonians have produced. "It breaks your heart," she said. "I wish I could stand up today and tell you I've got the magic solution. I don't." She says Hamilton's business and political leaders need to do more to support people who feel the effects of disempowerment. She encouraged people to "stand up" on behalf of the community and call out acts that impact people negatively. "We have to say, 'not acceptable' when members of our community are experiencing racism (and) have to truly listen and really understand what they are going through." The city will be holding a forum in January to discuss racism in Hamilton as part of the city's anti-hate strategy. The Hamilton Anti-Racism Resource Centre survey results on lived-experiences of racism were released Tuesday. "We all need to listen to them and see how we can lean in and support them," she said.

5. Hamilton approves trespassing bylaw targeting hate groups protesting city hall Councillors debate whether new rules restrict free speech

[Kevin Werner](https://www.hamiltonnews.com) [hamiltonnews.com](https://www.hamiltonnews.com)

<https://www.hamiltonnews.com/news-story/9660308-hamilton-approves-trespassing-bylaw-targeting-hate-groups-protesting-city-hall/>

24, 2019

Hamilton councilors are hoping a new trespassing bylaw will curtail any potential hate-related confrontations or incidents during protests being held on city property, especially at city hall.

City officials, who pointed out Hamilton did not previously have a trespassing bylaw at its facilities, have been attempting to remove or at least stop hate-related incidents at city hall without impacting peoples' right to protest, or prompting a Charter of Rights and Freedom lawsuit. "This is actually not a bad bylaw," said Stoney Creek Councillor Brad Clark. "It will work." The trespassing bylaw works in a similar manner as what is already the policy in place for individuals who are removed from recreation facilities for violent behaviour. The zero tolerance policy, approved in 1998 and revised in 2001 and reviewed in 2005, bans a person for violent conduct, including intimidation, threats, aggressively approaching another person, racial or ethnic slurs, vandalism, attempts to goad or incite violence, or using foul language. The person can appeal the suspension and ask for a private meeting with a senior city official to discuss the ban. The cost of the appeal is \$250, which is non-refundable if the suspension is maintained. The trespassing bylaw, said Clark, is similar in concept to the zero tolerance policy. A person or group of people that are removed or banned from city hall can request a private meeting with a senior official to remove the suspension. If the ban is upheld, the group or person can appeal the decision to the courts. "We made it fair, we made it consistent with the other policies of the city," said Clark. "It doesn't infringe on anyone's charter of rights. They have the right to appeal to the courts. It's really that simple." The trespass bylaw, which was requested by the Hamilton Police Service, prohibits conduct such as contravening a law of Canada, province or municipality, damage or vandalism of city premises, or interfering with the operation or use of city premises. "This helps (police) do their job," said Clark. The trespass notice can be provided to the offender either orally or in writing, and will prohibit entry to a city facility for seven days. The city also has the option of banning a person for more than five years. The trespass bylaw is another initiative council hope will prevent hate-related incidents on city property. In July, council unanimously approved a motion to install enhanced cameras – at a cost of \$100,000 – at city hall to strengthen security within the forecourt area. The cameras will collect data during that could be provided to police for use in court.

6. Hamilton police investigating racist graffiti on James Street South and Claremont Access: Suspect captured on surveillance during separate mischief incident

The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9649281-hamilton-police-investigating-racist-graffiti-on-james-street-south-and-claremont-access/>

Oct 17, 2019

Hamilton police are looking to identify a suspect wanted after four separate mischief incidents on James Street South and the Claremont Access where investigators found racist graffiti. The hate crime unit is investigating the hate-based graffiti. Police were called four times between Oct. 13 and Oct. 15, police said. Investigators found graffiti in multiple areas along the escarpment stairs and in Southam Park. The same graffiti was also found on a mural at James Street South and Beckley Street.

Police believe these incidents are related and that they happened during the overnight hours. In one incident a witness called 911 and gave a suspect description. The suspect was described as a man, Asian, five-foot-ten, 180 to 190 pounds, with a shaved head. He wore a grey sweater, blue or green jacket, and AirPods earbuds. On Sept. 26 police were called to King Street East and Wentworth Street North for mischief. This incident was not hate related, however, police believe the same suspect is responsible. A suspect was captured on surveillance video in September and police have released the image. Anyone with information, including anyone with security cameras that may have captured suspicious activity, are asked to call Acting Det. Sgt. Lisa Chambers at 905-546-3833.

7. Two charged in relation to anti-Semitic graffiti at Beth Jacob Synagogue, four males identified by hate crimes unit, two released, two charged, after Beth Jacob Synagogue was defaced.

[Jeff Mahoney](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9640133-two-charged-in-relation-to-anti-semitic-graffiti-at-beth-jacob-synagogue/>

Oct 11, 2019

Two 19-year-old Hamilton men have been arrested and charged with mischief under \$5,000 as the result of a hate-crime unit investigation into a graffiti incident at Beth Jacob Synagogue. The two are among four 19-year-olds identified in connection with the crime at the Aberdeen Avenue house of worship, located between Locke and Dundurn. They are scheduled to appear in court on Nov. 5 and Nov. 7. Hamilton police detectives arrested the two other 19-year-olds, but they were later unconditionally released. The graffiti was first reported after congregants arrived last Saturday for 9:15 a.m. service and discovered a crudely drawn swastika and the word "Jews" with a line through it in chalk at the parking lot entrance. Similar messages were also found elsewhere around the building. The messages were later scrubbed away. "We are quite relieved that they (the police) worked so fast and that our security footage could help," said Beth Jacob Synagogue Rabbi Hillel Lavery-Yisraeli. "There has been an outpouring of support." The incident comes amid concerns in Hamilton over a spike in [hate acts of various kinds in the city](#).

A recent Statistics Canada report showed Hamilton ranked highest among all 35 of the country's census metropolitan areas (CMA) for police-reported hate crimes last year.

"We are hopeful," said Rabbi Lavery-Yisraeli, "that this sends a message, that people will learn to stop hating. Not just stop expressing hatred but stop hating." After reports of the graffiti surfaced, the synagogue has received support from the community, in many forms, including numerous posts on social media. "Reporting hate crimes and incidents is an important step in stopping the cycle of hatred and preventing others from being victimized," the police said in a statement announcing the arrests.

8. Hamilton pro-diversity advocate receives threatening emails for Bernier protest remarks, Kojo Dampthey 'determined to stand up against these intimidation tactics' in quest for more inclusive city.

[Teviah Moro](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9638853-hamilton-pro-diversity-advocate-receives-threatening-emails-for-bernier-protest-remarks/>

Oct 10, 2019

A Hamilton pro-diversity advocate says he and his organization won't be intimidated by threats directed at him for comments he made during a recent anti-hate protest. Kojo Dampthey received two emails on Oct. 2, two days after he attended a demonstration at Mohawk College targeting an event featuring People's Party of Canada Leader Maxime Bernier and far-right YouTube personality Dave Rubin. One email told Dampthey, who's interim head of the [Hamilton Centre for Civic Inclusion](#), that he "deserve(d) to be attacked" for his "cowardly comments." The other referred to his native Ghana as a "sh---hole overpopulated nation" and threatened to "f---ing come down to your office ...". Dampthey raised the messages and a heated encounter with a local PPC organizer during a news conference outside city hall on Wednesday. It was held to announce a series of HCCI initiatives amid what he described as a rising tide of intolerance. "We're surely determined to stand up against these intimidation tactics and offer a vision of a more inclusive city where no one is left behind." To that end, the HCCI has received a \$127,000 grant from the federal Department of Canadian Heritage to hold an anti-racism conference next year in Hamilton. Another initiative involves a research project to develop an online reporting tool for residents who experience hate crimes. Later Wednesday, Hamilton police spokesperson Jackie Penman said Dampthey's report of threats had been forwarded to the service's hate-crime investigator for follow up.

[Before punches started flying at the Mohawk College event](#), Dampthey told CHCH News he was there to support residents protesting the PPC's immigration policies and messaging. During the protest, an 81-year-old woman trying to attend the party fundraising event meant to focus on free speech was called "Nazi scum." The morning of Oct. 3, Tyrone McAllister, who organized the Bernier event, said he went to the HCCI office on King Street East to file a complaint about the remark. In an audio recording of the meeting provided to The Spectator by HCCI, McAllister is heard accusing Dampthey of painting PPC supporters "in a very broad brush stroke" and placing a "target on their back." Dampthey tells him he didn't use the word "Nazi" nor "white supremacist" to describe the PPC, but the latter argues he was "in solidarity" with those who did. Nearly 20 minutes into the heated exchange, Rohit Prasad, a social work placement student at HCCI, tells McAllister he's being "very aggressive," and needs to tone it down or leave. In a news release Wednesday, HCCI, an agency that works to promote diversity, said McAllister meant "to intimidate" staff and Dampthey. Reached later by phone, the 33-year-old IT worker from Hamilton rejected HCCI's allegation. "Absolutely not." "My purpose there was as a concerned citizen because I had friends calling me, worried that they were getting death threats because they were members of the People's Party," McAllister said. Bernier and his right-wing party have been criticized for extreme views on immigration and accused of promoting xenophobia.

McAllister, a sub-region organizer for the party, said the content of the threatening emails was "absolutely terrible" and didn't know who sent them. He added he wanted to "set the record straight" about the nearly 1,000 attendees of the Bernier forum. "They're not neo-Nazis." However, members of hate groups like the [Proud Boys, an Islamophobic and anti-Semitic organization](#), were spotted among the PPC supporters at the event. Proud Boys and other anti-immigration groups like the Soldiers of Odin and "yellow vests" held regular rallies outside city hall for more than a year before local officials started exploring ways to ban them. [A major catalyst was June 15](#), when white nationalist protesters joined anti-LGBTQ demonstrators in crashing Pride celebrations at Gage Park, resulting in a brawl with counter-protesters. In 2018, the city ranked No. 1 among Canadian metropolitan areas for police-reported hate crimes, according to a Statistics Canada study. Over the weekend, [anti-Semitic graffiti was scrawled at the Beth Jacob Synagogue](#).

9. Hamilton police post video images related to hate crime investigation, Investigators believe the anti-Semitic graffiti was scrawled at Beth Jacob Synagogue around 1:30 p.m. Friday.

The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9636141-hamilton-police-post-video-images-related-to-hate-crime-investigation/>

Oct 09, 2019

Hamilton police are asking for help identifying individuals caught on camera as part of an investigation into anti-Semitic graffiti scrawled in front of Beth Jacob Synagogue. As congregants arrived for Saturday's 9:15 a.m. service, they discovered freshly etched graffiti scribbled in chalk at the entrance of the parking lot. Residents have since covered sidewalks in the area with colourful chalk messages supporting the synagogue on Aberdeen Avenue, between Dundurn and Locke. Hamilton's hate crime unit investigated and determined the crime likely occurred around 10:30 p.m. on Friday. On Tuesday afternoon, police released images from surveillance footage obtained in the area and asked the public to help identify the individuals caught on camera. Police are still seeking camera footage from any area home or business owners that could aid the investigation.

10. Woman in viral video 'disgusted' by attack on free speech at Maxime Bernier event in Hamilton: 81-year-old is speaking out after protesters called her 'Nazi scum' and blocked her from entering Mohawk College.

[Katrina Clarke](#) The Hamilton Spectator

<https://www.thespec.com/news-story/9627017-woman-in-viral-video-disgusted-by-attack-on-free-speech-at-maxime-bernier-event-in-hamilton/>

Oct 03, 2019

Dorothy, 81, tears up when she thinks back to Sunday when protesters yelled "Nazi scum" in her face as she tried to attend a Maxime Bernier event at Mohawk College. She calls it an attack on free speech. "It was disgusting," she said. "I love this country and I love the fact that we have freedom of speech. If we allow that, it's fast leaving us. And that is terrible." Dorothy is the [white-haired woman in a now-viral video](#) that shows her trying to push her walker past protesters to attend the [controversial fundraising event](#) held by Bernier and the People's Party of Canada. Protesters with face coverings blocked her and her husband, Brian, from entering the event and screamed "Nazi scum" at them until police intervened. The Spectator has chosen not to use Dorothy's last name to protect her and her family from harassment. Sitting at her Hamilton kitchen table Wednesday, the mother of five and grandmother of six said the incident still shocks her. "To try and deny a man such as Maxime Bernier to speak, or for me to hear what he has to say, that is criminal," she said. "I felt my rights were interfered with." Dorothy said she is not a Nazi, nor a racist. She attended the event to hear what Bernier had to say. She said she understands some Canadians take issue with the PPC's advocacy of severe immigration cuts and support for interviews with prospective newcomers to ensure their views align with Canadian values, but she personally supports much of his stance on immigration. "I do believe most people who come are good, solid people who've suffered in their own country and they don't want the same thing here," she said. "But then, there are some with values that are different." She said she liked what Bernier said at the event but wants to do more research before deciding how she'll cast her vote. Regardless of whether or not she ends up supporting him, she should be free to hear him out, she said. Dorothy and her husband will be speaking with officers [at the request of the Hamilton Police Service](#) Friday. They don't have immediate plans to push for charges but Dorothy said the incident was "of course" a hate crime. On its website, HPS describes a hate crime as a criminal offence committed against a person or property which is motivated by hate or bias against a race, religion, ethnicity, sexual orientation, disability group, age or gender.

11. Police searching for man who spewed racist comments at woman in Jackson Square: Suspect is described as Caucasian, 23 to 25, five-foot-ten, with a thin build and short brown hair.

The Hamilton Spectator

<https://www.thespec.com/news-story/9624618-police-searching-for-man-who-spewed-racist-comments-at-woman-in-jackson-square/>

Oct 02, 2019

Hamilton police are asking the public to help identify a man wanted for harassing a woman at Jackson Square, including allegedly directing "racially motivated comments" toward her. The harassment is being investigated as a "suspected hate bias" incident, police said. On Sept. 20 around 8:30 a.m. the victim was followed into Jackson Square on King Street West by an unknown man. He allegedly followed her through the mall and hurled racist comments. The suspect is described as Caucasian, 23 to 25, five-foot-ten, with a thin build and short brown hair. He wore a grey crew neck shirt with a square emblem on the front, dark pants and black shoes. The harassment is being investigated by the criminal investigations branch, police said.

The hate crime unit is also involved in the investigation and will determine if a hate crime took place. Anyone with information is asked to call Acting Det. Sgt. Lisa Chambers at 905-546-3833.

12. Margaret Shkimba: Something stinks in Hamilton: The recent remarks made by Police Chief Girt on the Bill Kelly Show are outstandingly out-of-touch with attitudes of the 21st century, and are especially troubling coming from someone in a leadership position.

[Margaret Shkimba](#) Hamilton Spectator (Opinion)

<https://www.thespec.com/opinion-story/9599135-margaret-shkimba-something-stinks-in-hamilton/>

Sep 16, 2019

I don't like to keep writing about the same topic, not because I couldn't go on and on, but because two weeks is a long time between news cycles and relevancy and fatigue are a challenge. I was going to write about the proposed Mountain arena, but what's happening with Hamilton Police Services, City Hall, Pride and now the Sexual Assault Centre of Hamilton (SACHA) is past ridiculous. Too often I open my eyes to the news of another gaffe committed by either the mayor or the chief of police that only serves to further fester bad feelings between the police, Pride organizers and now the VAW community. Gaffe is being kind. The recent remarks made by Police Chief Girt on the Bill Kelly Show are outstandingly out-of-touch with attitudes of the 21st century, and are especially troubling coming from someone in a leadership position. I'm sure Chief Girt is a good man, but he appears to be drowning in this issue. His lack of communication skills and cultural competencies, for a leader, throws into question the selection criteria for the police chief position.

The Police Services Board might want to revisit the significance of those criteria and update them to reflect our evolving society. Decades ago, I marched with my daughters in our first Take Back the Night (TBTN) protest organized by SACHA. SACHA has been behind this event for the past 38 years, in solidarity with TBTN marches all over the world. TBTN is an event that both celebrates the resiliency and strength of women and protests the violence they experience at the hands of men and the systems they run. Their decision to cancel this year's march is a sad comment on the continuing deterioration of police-community relationships in Hamilton, but it's not unexpected. The city's requirement for police to attend a protest where traffic lanes are closed is not an unreasonable request. Who pays for it is problematic? Who pays for the protection the Yellow Vests and Soldiers of Odin are receiving at city hall every Saturday morning? Are they paying for their own protection? Is that why they're still there? But SACHA says the reason for their decision is not the extra cost for the paid-duty police they'd be expected to cover, it was the fear many in their community feel in the presence of the police themselves that sealed the deal. There are many law-abiding members of our communities who are afraid of the police. People who have committed no crime but because of their differences from the white male hetero cis-normal culturally dominant population they feel unsafe in the presence of police. They feel unsafe because of treatment they've received either as "suspects" or in response to being a victim of crime, particularly one rooted in hate: misogyny, homophobia, racism. There are no laws against race, sexuality or gender identity. Not anymore.

Why are we having challenges with the police over these issues? Where does cultural competency — the ability to communicate with others across cultures — sit in the expectations of police professional standards? The #MeToo movement exposed the widespread nature of an insidious rape culture that positions women as tools men use to satisfy their needs. Across all industries, stories spilled out, having been held in for years, about male entitlement to female bodies. About violence kept hidden in the darkness of fear of shame. About women denied, from career advancement to personal safety. There is no question of the need for continued advocacy for VAW programs and services. In truth, much more than a march is needed. The police have not had the best of relationships with the VAW community in Hamilton. The police are a tool of the patriarchal state. That's the party line. How that plays out in reality, borne out by the countless stories, is that police protect the men, they disbelieve the women, and they abuse women themselves. Not all police, but enough for it to be a problem for all police. It only takes one to spoil the bunch, one bad episode at a vulnerable moment, or one ignorant misogynistic, racist, trans/homophobic comment compounded by another for people to lose trust in our "servants and protectors." The police and some at city hall find themselves in an intractable state. They need to take a cold shower over the anarchists' involvement with these protests and really listen to, and act on, the suggestions coming from those involved on how to improve these foundational community relationships.

Margaret Shkimba is a writer who lives in Hamilton.

13. Violent attack on 74-year-old black GO bus driver ruled a hate crime: Rocco Vietri "kept saying he kicked the driver because he was black" in an attack that left the driver with scars and trauma.

[Carmela Fragomeni](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9592454-violent-attack-on-74-year-old-black-go-bus-driver-ruled-a-hate-crime/>

Sep 12, 2019

A 24-year-old man who beat a GO bus driver in an unprovoked, racially motivated, senseless and violent attack has been sentenced to 15 months in jail. Rocco Vietri — who, as court heard, has 17 prior convictions for violent crimes — pleaded guilty Friday, Sept. 6 to [assault causing bodily harm and failing to comply with probation](#). Crown prosecutor Jeff Levy said Vietri boarded the bus on King Street West near Summers Lane around 1 p.m. on July 9 and walked past the driver without paying. When he refused to comply with a request to pay and the driver then contacted his supervisor and police, Vietri started spitting in his face and punching him. At one point, Vietri grabbed the 74-year-old driver, threw him to the ground and kicked him in the head a number of times, court heard. "There was a pool of blood on the sidewalk from where he was assaulted," said Levy. The driver required 20 stitches, and was left with scars on his face and head. He suffers from pain, severe headaches, and dizziness. And the trauma and injuries left him fearful of going out in public and unable to return to work — which as the family breadwinner, has meant a significant loss of income, Levy said. Court heard witnesses told police that Vietri was making racial slurs during the attack "and kept saying he kicked the driver because he was black." "And the accused made no bones about it," said Levy.

"He said it loud enough ... So it seems he was proud of what he was doing. "The accused wasn't satisfied with just spitting in his face, which is bad enough, and disgusting enough. He went on to basically beat him senseless ..." Levy called the assault a hate crime motivated by the fact the driver was black. But he said the assault also impacts all public transit drivers because they are vulnerable to such attacks. Vietri, with 25 prior convictions, including sexual assault on a subway and other violent attacks, "has a horrible (criminal) record for a 24-year-old," Levy said. Court heard Vietri has a Grade 11 education, can't keep a job because he can't handle the duties, and is on Ontario Disability Support Program. Court also heard he has been diagnosed with bipolar depression but doesn't believe he struggles with mental-health issues. He refuses medication, opting instead to take cannabis because he believes it helps him. He is also impulsive — he wanted to go to Toronto but didn't have money, and when told to pay, he lashed out. Court heard he is now taking "baby steps" to get out of the homeless shelter system and into supportive housing. In sentencing, Justice Bernd Zabel also called the attack a hate crime — and "a random, unprovoked and racially motivated crime on a vulnerable victim who was providing a valuable public service." Zabel gave Vietri 15 months in jail. With credit for time already spent in custody, he has 12 months left. Vietri also got three years' probation and is banned from the GO system — buses, trains and facilities — for that period.

14. Complaint filed over Hamilton youth soccer official's Islamophobic social media posts: Pro diversity advocate calls the Facebook posts 'overtly racist.'

[Teviah Moro](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9590427-complaint-filed-over-hamilton-youth-soccer-official-s-islamophobic-social-media-posts/>

Sept 11, 2019

The former leader of a Hamilton youth soccer league is the subject of a complaint over Islamophobic social media posts that has been forwarded to the sport's provincial governing body. Paul Gesse, a celebrated member of the local amateur scene, had been president of the Hamilton and District Multi-Jurisdictional Soccer Club League until his resignation. But Gesse didn't throw in the towel over the complaint, [Tom Walsh, president of the Hamilton and District Soccer Association](#), which oversees the league, said Tuesday. "He resigned because he's been doing it for 30 years and he decided this about three or four months ago. He decided running the league, doing all this stuff was taking time away from his family." Walsh said he couldn't remember when the local association received the complaint but noted it was forwarded to the Ontario Soccer Association, which is the governing body. Gesse, [a local soccer Hall-of-Fame inductee](#), has shared several anti-Muslim and anti-immigrant posts on Facebook this year.

- One in April maintained "People who eat pork are less likely to blow themselves up."
- A post in May claimed Muslim families are "sucking on your welfare state."
- Another in May targeted "Liberal Minister Navdeep Bains, a (sic) Indian born Sikh" for "telling Canadians what they can and cannot do online."
- In September, a doctored image of Liberal Prime Minister Justin Trudeau dressed as Robin Hood was captioned "Muslim Hood steals from Canadian taxpayers and gives to Muslims."

The Ancaster Soccer Club "previously reported its concerns" to the Hamilton and District Soccer Association board, president Stefano Girgenti said in an email Tuesday. "As a result, it would be inappropriate for me to comment at this time." A spokesperson for Ontario Soccer confirmed the organization is looking into the complaint. "At this time, it is under review and being processed. We have no further comment at this time," Ben Rycroft wrote in an email. Gesse didn't respond to requests for comment, nor did members of the local league's board. The Hamilton and District Multi-Jurisdictional Soccer Club League, also known as the Hamilton MJ League, is based in the city but has teams in other nearby communities, as well. The oldest players compete in an Under-18 division while the youngest are in an Under-9 age group, according to its website. [Kojo Dampsey, acting head of the Hamilton Centre for Civic Inclusion](#), said the material on Gesse's timeline is "obviously overtly racist" and hate speech. "All of those things are informing how you interact with people that practise the faith of Islam," he added. "So you can't just devoid yourself from an ideology that you are presenting." [James Turk, chair of the Centre for Free Expression at Ryerson University](#), called the messaging "despicable" but argued it would fall short of the legal definition of hate speech. The posts target an identifiable group and are shared on Facebook, which is a public space, but a court isn't likely to agree they'd lead to a breach of the peace, Turk said.

"There has to be a pretty direct relationship," he said, noting the rhetoric doesn't instruct people to beat up Muslims, which would meet the threshold under Canada's criminal code. "But that doesn't mean you just let it pass. Somebody like that you take on; you may demand that he be fired." Asked what he thought about the subject material, Walsh demurred, reiterating his association received the complaint and passed it on to Ontario Soccer. "Paul has been part of the soccer scene for many, many years," he added. "It is the one and only complaint we've ever received about the gentleman." Dampsey said the content on Gesse's Facebook timeline is not unlike [the rhetoric of anti-immigrant protesters that have held regular rallies outside city hall](#) for more than a year. "This is how hate breeds," he said, adding the city should have banned the protests when the issue was raised last year. This past Saturday, several Sons of Odin, an anti-immigration group, gathered outside city hall, where pro-diversity advocates also rallied as police hovered. In June, extremist Christian preachers, toting anti-LGBTQ placards, and white nationalists crashed Pride celebrations, leading to violence. In July, city officials began exploring ways to prevent "hate incidents" in the forecourt, including a draft bylaw that was panned by some for "criminalizing protest." Last month, Mayor Fred Eisenberger convened the first of what's to be a series of meetings with groups affected by hate crimes aimed at generating ways to counter prejudice.

15. Some vandalism at Ancaster property set ablaze was 'hate-related': Hamilton police: Owners of Sulphur Springs Road land complained about anti-Semitic graffiti for more than a year, says son.

The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9570776-some-vandalism-at-ancaster-property-set-ablaze-was-hate-related-hamilton-police/>

Aug 28, 2019

The Hamilton police arson unit is investigating a suspicious fire in Ancaster, which property owners say came after more than a year of anti-Semitic vandalism. "At this point in the investigation, it is difficult to suggest whether or not this is a specifically targeted incident," police said in a news release Wednesday. When officers and firefighters arrived to the blaze about 10:50 a.m. Tuesday, the only structure on the 57-acre property was four exterior walls of an old home. The Sulphur Springs Road property had been subject to "various types of criminal offences" in the past, including trespassing, mischief and arson, police said. "Some of the past incidents have been classified by Hamilton Police Service as a hate-related offence." [On Tuesday, the owners' son told The Spectator](#) his family, who are Jewish, has become frustrated with police response to their complaints. The old home had been spray-painted with swastikas and anti-Jewish slurs several times since his parents bought the property about a year and a half ago, Brandon Kirsch said. "I would like to see justice. I would like to see these perpetrators apprehended and punished for their crimes," he said. "Because if they (police) don't do anything, then they're basically saying it's OK." On Wednesday, NDP MPP Sandy Shaw (Hamilton West-Ancaster-Dundas) released a statement saying she was "absolutely disgusted" to learn about the anti-Semitic vandalism.

"I am saddened for Ancaster and Hamilton's Jewish community," Shaw said, adding the family and community "deserve justice and peace of mind." Police said the arson unit hopes to determine what caused Tuesday's fire. Anyone with information is asked to call Det. Const. Greg Blunsdon at 905-540-3819.

16. Sanctuary City no defence against hatred: In the face of this criminalization of humanity, the sanctuary movement is about saying that cities can resist, Caitlin Craven and Blake McCall write.

Caitlin Craven and Blake McCall Hamilton Spectator (Opinion)

<https://www.hamiltonnews.com/opinion-story/9563235-sanctuary-city-no-defence-against-hatred/>

Aug 23, 2019

Hamilton, you can't use Sanctuary City as an excuse to not talk about white supremacy. In 2014, Hamilton City Council passed an Access without Fear, or Sanctuary City motion. This was based on the work of a broad coalition of service providers, activists, and community members, including both of us. In the face of revelations about a white supremacist working at city hall, others congregating outside every week, and the city's willful inaction to address the attacks on Pride and statistics on hate crimes, it's become concerning to see people with both good and bad intentions point to Hamilton's (questionable) status as a sanctuary to argue for the kind of "tolerant" city we either are or could be. With these invocations, the politics of sanctuary is being lost and transformed into a symbol of neo-liberal diversity that works to cover up structural white supremacy. At its core, Sanctuary City or Access Without Fear is a resistance movement, and a radical one at that. The movement began in struggles for asylum seekers in San Francisco and spread across the U.S.

In Canada, it has looked like the campaign to get the Toronto District School Board to stop reporting undocumented students, or the campaign in Vancouver to try and stop transit officers from reporting the status of commuters. It's also looked like the city-wide campaigns in Toronto, Hamilton, Victoria, Montreal, and elsewhere. The premise is that borders and state immigration policies are working to criminalize and abjectify (sic) undocumented people or people with precarious immigration status and that is not acceptable. It's not acceptable if we acknowledge that migrants do all kinds of essential work that make our cities run, it's not acceptable if we acknowledge that people have built lives here, that their kids go to schools and are friends with other kids, that they participate in community life, and that they are human with wants, desires, and rights. And it's definitely not acceptable as soon as we scratch the surface and acknowledge the violence of economic and political displacement that force people to leave their homes, many of which Canada is deeply complicit in. In the face of this criminalization of humanity, the sanctuary movement is about saying that cities can resist by insisting on the rights of all residents, regardless of status, to live here and access the same services as anyone else without fear of discrimination, criminalization or deportation. It's a city resisting the politics of states that erect walls and create detention facilities for administrative infractions. It's a city resisting the white supremacy of an immigration system that keeps working class and racialized migrants in perpetual precarity, but feeds off their work in agriculture, child care and services. This politics of radical inclusion and resistance can't be boiled down to liberal ideas of tolerance and diversity. But that unfortunately has happened in Hamilton where the Sanctuary City designation has very little substance behind it. Part of this is certainly because cities in Canada have much less power than their American counterparts, and thus fewer avenues to put resistance into practice. That said, it remains unclear how much the city really put into implementing this policy as we hear on a regular basis about those who have been refused service. For these reasons, it's a problem when sanctuary policies get used to whitewash Hamilton and absolve the city of endemic racism, homophobia, transphobia and so many other sins. I don't think it's an accident that we only really hear about Hamilton's sanctuary status when the city is being called out for its many failures, or when people want to take shots at the U.S. Hamilton is now at the top in Canada for reported hate-crimes (which we all know is an under-reported figure) and continues to be a place where white supremacist violence regularly attacks and polices the bodies of BIPOC/queer folks. It continues to be a place where there is fear to report a hate crime because it might expose your immigration status and it hasn't been made at all clear enough whether that could land you in detention. Please stop citing Sanctuary City as a measure of Hamilton's goodness. Please stop linking sanctuary to liberal celebrations of diversity. Instead, probe deeper into sanctuary as a movement for resistance against borders and white supremacy, and ask where those goals can be realized.

Caitlin Craven and Blake McCall were members of the former Hamilton Sanctuary City Coalition and Justice Across Borders.

17. Hamilton councillors to hold workshop to address hate-related incidents

[Kevin Werner](#) Stoney Creek News

<https://www.hamiltonnews.com/news-story/9560714-hamilton-councillors-to-hold-workshop-to-address-hate-related-incidents/>

Aug 21, 2019

There may be some differences among Hamilton councillors on how to address the hate-related incidents that have prompted the city to create a policy to deal with the various issues. But councillors unanimously agreed recently to have a "restorative practices" workshop for themselves and the city's senior leadership team at a cost of about \$1,500. The one-day event, which will be closed to the public and media, will be overseen by the John Howard Society's Garth Bell and Ruth Greenspan. Restorative practices involve improving and repairing relationships between people and communities. It includes communicating people's feelings and allow people to reflect on how their behaviour has affected others. Ward 4 Coun. Sam Merulla, who has argued the hate-related incidents during Hamilton's Pride celebrations at Gage Park and the weekly Yellow Vest protestors at City Hall are fomented by people from outside the city, wants to eliminate confrontation and encourage discussion with people who hold unpleasant views.

In addition to the incident at Gage Park, the city was embroiled in a controversy that it had employed for over a decade a former member of the Neo-Nazi organization the Heritage Front and Hamilton was recently saddled as having one of the highest rates of reported hate crime in Canada, according to Statistics Canada. Merulla said the society representatives held a presentation to council in the spring where the restorative practices concept was used at Sr. John A. Macdonald School to help with the school's highly charged environment. "The hate crime instances went from a significant amount to bringing it down to almost zero," said Merulla. "They literally changed the environment." The John Howard Society's ideas inspired him to arrange a training session for council. "If you are going to counter that hate in an adversarial manner, things are going to occur," he said. "It will either be suppressed or its going to escalate. Bringing in more heat just makes it hotter." He said restorative practices, as conducted by organizations such as the John Howard Society "actually decreases the heat" and "puts the onus on the individual to rethink their belief system. He said it is a "solution" to resolving conflict and not a "band-aid. "You are eradicating hate," he said.

Ward 3 Coun. Nrinder Nann, while she backed the motion and Merulla's comments, said Hamilton must still look for ways to establish an anti-hate policy, including how to remove protesters with hate-filled messages from city properties. "We can't disconnect it from the grunt work our city is engaged in," she said. Councillors have already agreed to hire a consultant to oversee a consultation process with the public on the city's anti-hate mitigation policies, including increased surveillance at city hall. Stoney Creek Coun. Brad Clark, who joined with Merulla to introduce the motion, said the restorative practices approach will "move forward in a very positive way." Mountain Coun. Tom Jackson said the "overwhelming majority" of Hamiltonians are "law abiding, peace-loving and "want to build on the momentum." He said residents want city officials to "deal with" people who are promoting hate. "I will not allow my community to have any form of stigmatization," he said.

18. How to get to 'No Hate' in the Hammer: Eliminating hate may not be possible but, according to Nicole Smith, there are some strategies that could reduce it.

Nicole Smith Hamilton Spectator (Opinion)

<https://www.hamiltonnews.com/opinion-story/9553607-how-to-get-to-no-hate-in-the-hamer/>

Aug 18, 2019

The Aug. 1 "No Hate in the Hammer" launch was energizing and inspiring, full of concrete recommendations. People like Rabbi Hillel Lavery-Yisraeli opened with personal experiences with racism but went on to address others' issues, such as the needs of women worldwide. I was keen to become a community leader for this initiative. The follow up meeting will be Sept. 6 and the annual Gandhi peace conference Oct. 4 and 5 will be speaking to the same themes and issues that No Hate in the Hammer is addressing. That said, rallying every Saturday (except weeks out of town), I am painfully aware of the dark side of intolerance that wears down spirits. Alt-right proponents say hateful things in offensive terms I will not repeat here.

They call on the U.K. to free jailed fascists or carry signs that appear simply misguided about things like carbon taxes. In other words, they are skilled at dog-whistle politics. Banning hateful speech at city hall may not be easy, as an Aug. 3 article in The Spectator examined. The article also explains what is considered hate crimes (spoiler: the Criminal Code threshold before free speech becomes hate speech is high). It mentions that alt-right ralliers "often seem to know how to 'walk the line' of legal behaviour" (according to Det. Paul Corrigan of the Hamilton police hate-crimes unit). Finally, it outlines approaches which might be helpful to remediate the situation. My reflections on strategies from the article and my personal experience follow:

Massive counter protests overwhelm alt-right groups:

The Aug. 3 article pointed out that when many more people counter protest with only a few alt-right people in attendance, it shows the hateful messages are weak and largely unsupported by the community. On July 13, the "Hamilton For Who?" rally saw hundreds of Hamiltonians celebrating love and inclusion while a tiny knot of alt-right supporters on the other side of Main Street were watched closely by police. The Aug. 10 rally was also big, and the one this past Saturday may have even surpassed it, with a number of new activities, including a choir. Perhaps Hamiltonians have realized the necessity of many counterrally supporters every Saturday.

Increasing surveillance and seeking court injunctions against hate groups:

City council is looking into upgrading surveillance outside city hall to the end of establishing a court injunction against hate groups. More surveillance is not welcome to some Hamiltonians. Also, Evan Balgord of the Canadian Anti-Hate Network points out the city would likely lose a Charter challenge on this. Another concern of mine is that it could simply feed into the tactical approach of the alt-right and their martyr complex, and that they could use it to fuel more outrage.

Rapid restoration of the Hamilton Anti-Racism Resource Centre (HARC):

Hugh Tye, executive director of the Hamilton Community Legal Clinic, states: "For some people, this (HARC) was the only place they felt safe reporting discrimination or harassment. Without that body, how do you reliably track incidents of hatred or act on them?" At the launch of No Hate in the Hammer, there was ardent community support for HARC to be up and running again as soon as possible. Reporting discrimination and harassment is essential, but, for a wide range of reasons, it is not easy for everyone to go to the police to do this. Having a safe place to report in person as well as establishing ready access online for people to share their experiences would be a real game-changer for Hamilton.

Personal intervention:

On July 20, shortly after arriving at the weekly counter protest, I perceived that one of the alt-right ralliers was trying to instigate a physical fight with the father of two small children. When I stepped between them to protect the children, he had the temerity to suggest that I "babysit" the children while he fought their father.

I quickly decided the best course of action was to engage him in a lengthy dialogue away from the family. I hoped to distract him so he would not return to harass them. I was successful. While this may sound high risk, a group of police were standing about 10 metres away observing us closely. Without that backup, having someone take video/pictures is another approach that can work, but always be safe. Can we get to the point where there is literally no hate in our city? Of course not. There will always be an alt-right, especially when their hateful approach is spurred on daily by the megaphones of political leaders like the current U.S. president. However, we can and must do whatever is in our power to speak up for love and inclusion, and to intervene as needed to protect targets of hate.

Nicole Smith lives in Hamilton. She ran in the last municipal election in Ward 2.

19. Anti-hate group says rapid removal of swastika example of how to tackle hate: By reporting the swastika incident on Twitter, the organization is also sending a message to the public: these hate incidents aren't one-offs.

[Katrina Clarke](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9550238-anti-hate-group-says-rapid-removal-of-swastika-example-of-how-to-tackle-hate/>

Aug 15, 2019

With a spotlight on hate in Hamilton, the city's swift removal of a swastika from a southeast Hamilton sidewalk "is an example of how we address hate," says the head of an anti-hate organization. Kojo Damptey, interim executive director of the Hamilton Centre for Civic Inclusion, said a resident contacted his organization Tuesday about a swastika carved into a sidewalk near the intersection of Rymal Road East and Upper Gage Avenue.

The organization then tweeted a photo of the Nazi symbol, tagging Hamilton Police, reporters and city councillors in it. By 2 p.m. Tuesday, police attended the scene to document it, then alerted the city's public works department. By 2 p.m. Wednesday, the Nazi symbol was gone — ground out of the cement. "The rapid response is the type of response we need to address this hatred," Dampney said. "This is an example of how we address hate. We shouldn't wait." By reporting the swastika incident on Twitter, the organization is also sending a message to the public: These hate incidents aren't one-offs. "It's important to make it public because there's always the discourse that it's just a small number of people," he said. "These issues keep on happening." Dampney noted Coun. Tom Jackson responded immediately to an email alerting him of the swastika in his riding. "There's absolutely no place for that demonic, horrible symbol in our community," Jackson said. Jackson said he went to the location of the swastika to see it for himself Tuesday afternoon and then followed up with police to make sure they were on it. "I wanted to get the ball rolling as soon as possible," he said. Police spokesperson Lorraine Edwards said police are documenting the incident as a "hate crime." The file is now classified as "complete, unsolved," she said, noting the etching appeared old — likely there since concrete was poured — and they have no leads.

Alex Purvis, who lives in the area, said it's been there for at least six months. He walks by it daily. He wasn't offended by the marking and said he suspecting troublemaking kids were responsible for it. Ranim Alkurdi, who also lives in the area, said she never noticed the swastika but if she had, she would have reported it. Another neighbour, Christina Winton, said she was impressed by how quickly the city cleaned it up. She wishes they'd fix the broken sidewalk in front of her home that fast, she said. Recent Statistics Canada data show Hamilton had the highest rate of police-reported hate crime in 2018. The report came after a violent hate-fuelled protest at Pride in July that brought the issue of hate in Hamilton to the fore. Dampney's organization is also tracking hate-related activity in the city through its No Hate in the Hammer campaign. Just 24 hours after the swastika report, his organization received a second — a Hamilton resident noticed a swastika on the side of a neighbour's house with "white pride" written under it. The Hamilton Centre for Civic Inclusion is debating how it will alert the public and police of the new report, not wanting to make a private address public, he said. Moving forward, Dampney said he hopes police and the city will continue taking these issues seriously, marking a shift from past responses. "We kept on telling councillors to take action, we kept on driving the point that we need to address this.

20. Anti-LGBTQ+ protester in skirmish outside Hamilton City Hall: Woman with homophobic sign and an anti-Fascist protester spill onto Main Street while grappling with each other.

[Jeff Mahoney](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9534427-anti-lgbtq-protester-in-skirmish-outside-hamilton-city-hall/>

Aug 06, 2019

A skirmish broke out at Saturday's protest in front of Hamilton City Hall. Taking part: A woman holding a sign that read "Homosexuality kills the white race" and a black-clad anti-Fascist protester. The pair grabbed at each other's placard and flag, grappling in the process.

The scuffle spilled for a few seconds onto eastbound traffic on Main Street, forcing motorists to brake or steer around them. Police and other protesters quickly interceded and stopped the confrontation. As the two grabbed at each other's signs, one or two others became embroiled in the melee. One black-clad protester, face partially concealed, suffered a bleeding scratch on the arm. The woman with the sign, reportedly from Toronto, was alone in her opposition to the other protesters — who were pro-diversity and anti-Fascist. She would not speak to The Spectator or give her name. "I do not talk to (an) LGBTQ newspaper," she said. The woman had confronted protesters several times before the skirmish. She would say things like, "You should have blue-eyed babies."

21. Hate in Hamilton: can the city ban hateful protests from city hall? How do you shut down hateful speech on public land that is meant to be safe for all — but also the centre of democratic protest in the city?

[Matthew Van Dongen](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9532625-hate-in-hamilton-can-the-city-ban-hateful-protests-from-city-hall/>

Aug 06, 2019

Javid Mirza briefly tried to reason with the masked man brandishing a "stop immigration, stop sharia law" sign in front of city hall. He recalled maybe 20 people in the forecourt that spring Saturday who wore yellow vests or emblems of the Soldiers of Odin, an anti-immigration group accused of welcoming white nationalists. Some carried signs complaining about Prime Minister Justin Trudeau or the carbon tax — but others took aim at newcomers, with dog-whistle racist messages linking immigration to "terrorists" or "sharia law." "I asked him: do you even know what sharia is?" said Mirza, the president of the Hamilton Mosque board, referring to the ethical and legal principles drawn from the Qu'ran. "I told him, look, this is a secular country. We have a constitution. There is no sharia law," he recalled. "He just told me to f--- off. "The stuff they're allowed to say, it's terrible. As a city, we cannot tolerate it." The encounter sums up the dilemma for a city struggling to balance the right to free speech against calls to protect citizens who feel threatened by hate propaganda broadcast from the literal front steps of city hall. The alt-right demonstration that so frustrated Mirza was one of many at city hall in the months before homophobic activists clashed infamously with counter protesters at Pride celebrations at Gage Park. LGBTQ+ residents and allies have accused the city of effectively emboldening hate-mongers in the lead-up to Pride by ignoring their weekly rallies at city hall. And just last week, the latest statistics revealed Hamilton had the [highest per-capita number of reported hate crimes in the country](#). But how do you legally shut down hateful speech on a patch of public land that is meant to be safe and accessible for all — but also the symbolic centre of democratic protest in Hamilton?

Spoiler: not easily. Police, civil liberties advocates and anti-hate crusaders suggest legal efforts to either ban or eject particular protest groups from city land may be destined to fail.

Drowning them out with overwhelming opposition, as dedicated counterprotesters have managed in recent weeks, is a better bet — especially if city leaders are on board. Racism is not against the law

Canada does have hate laws — in particular, [Criminal Code provisions](#) that make it illegal to promote genocide, incite or "willfully promote" hatred against an identifiable group, for example. But there are also strong constitutional protections for political protest, including the Charter-enshrined freedom to assemble, speak freely and openly. The legal threshold at which free speech turns into hate speech is "extremely high," said James Turk, who heads the Centre for Free Expression at Ryerson University. "The difficulty is 99 per cent of what the average person considers hate speech is not actually illegal," he said. Take those signs Mirza saw linking immigration to terrorism, for example. Or the self-styled preachers at Pride waving banners telling LGBTQ+ residents they will burn in hell.

"Is it hateful? Of course. Is it deeply troubling? Yes. But it is not hate speech under the law," Turk said. "Being a racist is not against the law. There is no law against offensive speech." That leaves police and bureaucrats in a legal quandary. Police cannot arrest or boot protesters from the city hall forecourt for yelling racist slurs or brandishing homophobic signs, said Det. Paul Corrigan, the lead hate-crime investigator for Hamilton police. (Complaints about hateful conduct will still be documented, however, he added.) Further muddying the waters, espousing personal religious beliefs can also be used as a defence to a criminal charge of wilfully promoting hatred. "I know people get upset with us, say we're not enforcing the law. But the Charter is the supreme law of the land," Corrigan said. Police can take action when slurs escalate into threats or violence, he noted. So, a sign that screams hatred against an identifiable group might be legal — but adding the word "kill" could turn that sign into an illegal threat, incitement to violence or genocide. And throwing a punch is still assault, whether it's described as a hate crime or not. This is a sore point for Hamilton's LGBTQ+ residents who question why only one [homophobic protester was arrested in the wake of the violent clash at Pride](#). (By comparison, three LGBTQ+ supporting counterprotesters were arrested in the aftermath.) Police also arrested a "yellow vest" supporter for [allegedly head-butting an LGBTQ+ counterprotester](#) at city hall the week before Pride. But in general, Corrigan said participants in local alt-right rallies often seem to know how to "walk the line" of legal behaviour. Why no ban?

Some residents ask why the city does not simply ban hate groups from municipal property.

That, too, would pose a constitutional quagmire for the city. But municipal lawyers are taking a closer look at what is possible, and under what circumstances, with an eye to developing a council-requested ["hate-incident prevention" policy](#) for city property. Ideally, the city can use the law to find "creative ways" to help protect residents, said Kojo Dampsey, a program manager at the Hamilton Centre for Civic Inclusion. "The government represents us all, and it has the resources, which many individuals do not, to test these issues in court," he said. Dampsey acknowledged the vitriol hurled at residents or waved on signs at city hall doesn't necessarily hit the legal threshold for criminal hate speech. "But what you have to understand is that, for marginalized folk, when they see a sign that literally says they should not exist, these are not just words," he said. "You can't just wait for a physical crime to happen. That's how you get a burnt temple or a burnt mosque." The city's efforts to date have earned mixed reviews.

Outraged residents quickly shouted down a [proposed list of banned protest behaviours](#), for example. The much-mocked list, which included profanity, passing out food and using sidewalk chalk, was panned by civil liberties experts and quickly walked back.

Another idea involves upgrading security cameras outside city hall in the hopes of gathering evidence of hate-related or other crimes. The plan, pitched by Coun. Brad Clark, would be to use that evidence to [request a court injunction](#) against demonstrably hate-inciting groups or individuals. Some residents cheered the idea of a court-imposed ban — but others worry about the prospect of "over-surveillance" in public places. Bureaucratic bans are probably a waste of time, said Evan Balgord, who heads the Canadian Anti-Hate Network that specializes in ferreting out, monitoring and publicly outing hate groups. "If they try to do that, they'll lose a Charter challenge," said Balgord, who has made similar arguments to Toronto's city council.

"If you try to ban them from public spaces, hate groups will just feed on that ... This is an issue that requires moral leadership, not bureaucratic leadership." Balgord suggested "massive" counter protests have been effective elsewhere in making typically smaller numbers of hatemongers feel "emasculated" and "unwelcome." Turk echoed that proposal. "You don't do it by censorship, you do it by exposing how weak their (hateful) message is, how little support it has in the broader community." Grassroots groups in Hamilton have increasingly risen to that challenge — particularly this month, when a "Hamilton for Who?" rally attracted [hundreds of LGBTQ+ allies to city hall](#), dwarfing the gathering of a half-dozen sign-toting "yellow vesters." But that doesn't mean there is no role for the city to play, added Balgord. "Your mayor, your councillors, should be encouraging or even organizing such actions. They should be right in the middle of it," he said. "Politicians and police need to send the right signals, to let these people know they're not welcome. Sometimes, by their actions, it seems like the opposite is happening." Mayor Fred Eisenberger was criticized as relatively "silent" about the threat of hate following the clash of protesters at Pride as well as for his defence of the police response. The Hamilton police board, which he chairs, is now studying whether to sign off on an independent review of Pride policing. That decision could happen later this month. Councillors Maureen Wilson and Nrinder Nann have called for such a review to include an advisory board of citizens, particularly from marginalized groups. For his part, the mayor has released a series of statements condemning hate in the community and tried — amid controversy and fresh criticism — to meet with members of the LGBTQ+ community. What else can the city do?

City staff will report back with more details about the fledgling hate-prevention policy this fall. That could include new "no trespass" rules and specific code of conduct provisions. The city will also try to gather evidence to support a court injunction against any alt-right protesters who engage in violence or demonstrable incitement of hatred. Many LGBTQ+ residents are also anxiously awaiting the [results of a city probe](#) into a municipal IT worker, Marc Lemire, linked to a notorious white supremacist group. Marginalized residents are waiting for "concrete actions," said Hugh Tye, executive director of the Hamilton Community Legal Clinic. He argued that starts with staking out a "crystal-clear stance" that the city will not ignore or condone hate on its doorstep. "We need to speak out against hate, name it and not be shy about where we stand," said Tye, who is seeking council support for a community-wide '[No Hate in the Hammer](#)' campaign that launched Thursday. There are other steps, small and large, that the city could support, he added.

Even if banning informal protests is not possible under the law, Tye argued the city can at least withhold permits for events in parks from groups known to espouse hateful messages. The city could also fast-track efforts to resurrect the Hamilton Anti-Racism Resource Centre, which was [abruptly put on hiatus earlier this year](#) to the dismay of many residents. "For some people, this was the only place they felt safe reporting discrimination or harassment," said Tye. "Without that body, how do you reliably track incidents of hatred or act on them?"

22. Hamilton had highest rate of police-reported hate crimes in 2018: Statistics Canada: 'I think that we are seeing some of the reasons why residents have been clamoring for action,' Kojo Damptey, manager of programs at the Hamilton Centre for Civic Inclusion, said Tuesday.

[Teviah Moro](#) The Hamilton Spectator

<https://www.thespec.com/news-story/9516085-hamilton-had-highest-rate-of-police-reported-hate-crimes-in-2018-statistics-canada/>

Jul 24, 2019 by

Hamilton ranked highest among census metropolitan areas for police-reported hate crimes last year, according to a new Statistics Canada study. The study released Monday noted the Hamilton CMA, which includes Burlington and Grimsby, tallied 97 police-reported hate crimes in 2018.

23. Hamilton anti-hate rally: 'As long as they're still here, we need to be here' Pro-diversity advocates blame the yellow-vest movement for stoking anti-immigrant sentiment.

[Teviah Moro](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9523271-hamilton-anti-hate-rally-as-long-as-they-re-still-here-we-need-to-be-here/>

Jul 27, 2019

Pro-diversity demonstrators waved signs at passing motorists and pedestrians outside city hall Saturday amid concerns about a rise in hate group activity in Hamilton. The rally was an ongoing effort to drown out anti-immigration sentiment expressed by yellow-vest and alt-right protesters who have gathered in the Main Street West square for more than a year. "As long as they're still here, we need to be here," Rae-Lynne Campbell said alongside fellow demonstrators who held signs promoting diversity. The anti-hate rallies come as city officials grapple with the complexities of barring xenophobic messengers from the public square. They also follow violence at June 15 Pride celebrations when extremist preachers waving anti-LGBTQ+ signs were met by counterprotesters in Gage Park. On Saturday, the pro-diversity camp outnumbered a small clutch of yellow-vests huddled in the eastern part of the city hall forecourt. Roughly 12 police officers — some on bicycles — observed, mostly from a distance in the square, the competing demonstrations.

Adam, a pro-diversity demonstrator who didn't want his last name published due to safety concerns, said he once believed ignoring the "handful of crackpots" was the best approach. "But what we didn't see ... was that Hamilton was becoming known as a safe haven for people with those kinds of attitudes," the 37-year-old IT specialist said. [On Monday, Statistics Canada released a study that placed Hamilton in the No. 1 spot among 35 census metropolitan areas](#) when it came to the rate of police-reported hate crimes in 2018.

24. Steeltown or Hatetown? Hamilton tops country in hate crime report. As in previous years, the city outpaced Quebec City and Ottawa when it came to the 1,798 incidents reported to police across Canada last year.

Emerald Bensadoun The Canadian Press

<https://www.hamiltonnews.com/news-story/9521156-steeltown-or-hatetown-hamilton-tops-country-in-hate-crime-reports/>

Jul 26, 2019

Hate crimes were reported relatively more frequently in Hamilton last year than in any other city in the country, according to new data from Statistics Canada. As in previous years, the city outpaced Quebec City and Ottawa when it came to the 1,798 incidents reported to police across Canada last year. Following a 47 per cent surge in 2017, the number of police-reported hate crimes in Canada dipped 13 per cent last year, Statistics Canada reported. Despite the slight decline, the number of hate crimes in 2018 aligns with the upward trend observed since 2014. Hamilton, however, saw no decline last year, climbing 6.6 per cent in 2018 after a 30 per cent jump in 2017. At 17.1 reported incidents per 100,000 population, the Hamilton rate was more than three times the national average of 4.9 per cent per 100,000 people. By contrast, Quebec City had 11 and Ottawa 9.8. Some observers said the Steeltown numbers came as no surprise. "We have been a hot bed for far-right, neo-Nazi organizing," said Matthew Green, executive director for the Hamilton Centre for Civic Inclusion. "What has been accepted as acceptable discourse now includes such a far range of racist, xenophobic, homophobic language that people feel like it's OK for them to say things and do things under the guise of free speech that cross the threshold of hate crimes." The Statistics Canada data, released on Tuesday, show 97 hate incidents were reported to Hamilton police in 2018. Of those, 41 were against the Black community, and another 30 were directed at Jewish people. In 2016, Hamilton saw 70 hate crimes reported, with 26 per cent aimed at the Black population and 27 per cent at Jews. Hamilton Det. Paul Corrigan said the most common form of hate crime was graffiti, most of which involved swastikas, with assaults in second place. Tina Fetner, an associate sociology professor at McMaster University, said Hamilton has high levels of diversity and inequality. She wondered how many of the reports resulted in convictions. Diversity of residents is not reflected in the leadership of the city, Fetner said. At the same time, she said, hatermongers have had free rein. "There's been a tolerance for extreme right and, some would say, hate groups that have been mobilizing around city hall on a weekly basis," Fetner said. "There's been a tolerance for people with white supremacist ties (and) people with anti-LGBTQ histories who have been given a place to perform their activism with no consequences." In a statement, Mayor Fred Eisenberger urged residents to stand up against prejudice, exclusion and discrimination.

"The statistics show that hate is an ongoing challenge in our city," Eisenberger said. "An increase in reported hate crimes can be a direct result of increased outreach by our police services or greater public awareness and encouragement of reporting hate." Corrigan said Hamilton police have been providing officers with sensitivity training, talking about discrimination in schools, and hosting up to 70 events in the community each year.

The fact that people are reporting hate incidents is a good thing, he said. "Being No. 1 is not where we want to be, but it does show that we are reaching out to communities and communities are talking to us," Corrigan said.

Green, however, said most racism and hate crimes remain unreported. He said city leaders had failed to publicly denounce white supremacy, thereby emboldening and legitimizing racism while unintentionally alienating marginalized members of the community. "We are unsurprised that there's a growing boldness and public face to this movement that has been largely underground for the last decade," Green said. "They have re-emerged but they certainly have not just appeared out of the blue." Green, a former city councillor, also said what police call a hate crime is problematic. "We have to take a serious look at the threshold of a hate crime, who gets to decide what that is," he said. "The laws as they stand create too much of an arbitrary decision by law enforcement."

25. Hamilton's landscape of hate: How far-right extremists are finding fertile ground: Don't dismiss it as just a few bad apples on the fringe, anti-discrimination advocates warn.

[Teviah Moro](#) The Hamilton Spectator

<https://www.hamiltonnews.com/news-story/9480306-hamilton-s-landscape-of-hate-how-far-right-extremists-are-finding-fertile-ground/>

Jun 28, 2019

He was 12 when two neo-Nazi thugs followed him and his brother into a downtown Hamilton shopping mall and jumped them. Matthew Green, who is black, shares this Jackson Square incident of more than 20 years ago to show how a pair of goons can do a lot of damage. "It only took two of them to change the way I felt in my own city," [says Green, executive director of the Hamilton Centre for Civic Inclusion and a former city councillor now running federally for the NDP.](#) He also offers this anecdote in the aftermath of a bigoted, violent protest mounted by Christian extremists, with alt-right companions in tow, that targeted Pride celebrants at Gage Park on June 15. Drawing from his own experience at Jackson Square, Green speaks with authority when he laments how the LGBTQ+ teens who were exposed to the hatred will remember it for years to come. "It was a traumatic experience for them. What should have been a celebration has turned into this trauma." Green and other advocates say the Gage Park violence was just another sign that dangerous right-wing extremists have found fertile ground in Hamilton to organize activities. Consider some of the characters who have attended regular alt-right rallies outside city hall for the past several months:

- white nationalist godfather [Paul Fromm, who ran for mayor in the last election](#);
- members of the Canadian Nationalist Party, which states the country "must maintain the demographic status of the current European-descended majority";
- [Proud Boys](#), an Islamophobic and anti-Semitic group whose members call themselves "western chauvinists."

The gatherings coincide with an ongoing municipal investigation into Marc Lemire, a former member of the now-defunct Heritage Front who has worked in the city's IT department for years. Lemire, who's now in his 40s and on leave, has dismissed his dealings with the white supremacist organization as a dalliance of his youth.

[In May, he told The Spectator he rejects the "Heritage Front for what it was; as I have stated consistently for over 11 years."](#)

As a young man, Lemire embraced the early days of the internet to disseminate more efficiently neo-Nazi propaganda, as well as the material of infamous Holocaust denier Ernst Zundel. Before the web, hate groups had to deliver pamphlets to people's doors, which Lemire and Fromm did in a Mountain brow neighbourhood in 2001 to hate-monger amid an Ebola scare at the Concession Street hospital. The reach of the internet has made hate groups more dangerous, [says Evan Balgord, executive director of the Toronto-based Canadian Anti-Hate Network](#). But, vexingly, it's also difficult to hold anyone to account under Canada's current anti-hate laws, Balgord says. The Criminal Code-based process is cumbersome, he says, noting police must take their cases to Crown attorneys, who, in turn, need sign-off from provincial attorneys general. Investigative work can take as many as 18 months, which means only about a half-dozen of the most egregious and sustained hate propagandists are brought to justice in a single year. "So if you're talking about this being an effective legal tool, no, not even a little bit," Balgord says. That's why the network is pushing for the return of a provision under the Canadian Human Rights Act that allowed people to take hate-speech complaints straight to the federal commission. Decisions could result in cease-and-desist orders and fines, with the spectre of contempt-of-court convictions for not obeying.

[But the mechanism was repealed in 2013 under the Harper government after critics argued it strangled free expression and unduly imposed censorship.](#)

Media outlets were among Section 13's detractors, but so was Lemire, who, until recently, maintained a "pro-free-speech" website that included an archive that memorialized Doug Christie, a lawyer who defended Zundel and Nazi-era war criminals. Since the scandal broke earlier this year, Lemire has since taken down [www.freedom.org](#), which he last updated in 2015. Balgord says the Section 13 resource didn't exactly stamp out hate propaganda, but he believes it at least allowed for what he describes as a "lull." "What's going on today really makes it apparent that without it, you've got nothing, and we need something."

[The number of right-wing extremist organizations in Canada has increased considerably in recent years, notes Barbara Perry, an Ontario Tech University professor who specializes in the subject.](#)

Perry, who's also director of the Centre on Hate, Bias and Extremism, says she and her colleagues estimated there were a little more than 100 active groups in 2015. Since then, there has been what she describes as a "very dramatic increase." "I can confirm that there are likely very close to 300 active right-wing extremist groups in Canada," Perry said via email this week.

"They range in size from very small groups of 2-4, up to larger groups in the 100s." The variety includes recent arrivals to Canada, [such as the Soldiers of Odin, which have drawn inspiration from the original Finnish anti-immigrant counterparts.](#) But Perry's list also notes new chapters of longer-standing organizations, [such as Blood & Honour, which the federal government has classified as an illegal terrorist organization.](#) Another, called Combat 18, was also named as an outlaw group in the Canadian Security Intelligence Service's announcement this week. The rise in far-right extremist groups mirrors a spike in police-reported hate crimes in Canada.

- In 2017, they spiked by 47 per cent over 2016, [according to Statistics Canada.](#)
- Ontario saw the sharpest increase at 67 per cent, with reported cases rising to 1,023 in 2017 from 612 the year before. StatsCan says the big jump in this province was driven by more hate crimes against Muslim (207 per cent), black (84 per cent) and Jewish (41 per cent) populations. Ontario saw a 38 per cent rise in hate crimes targeting sexual orientation.
- [The Hamilton census metropolitan area, which includes Grimsby and Burlington, had the second-highest rate of police-reported hate crime in the country at 16 per 100,000 population in 2017.](#) Thunder Bay, where Indigenous people, in particular, have been targeted, had the highest rate at 17.4.
- Statistics Canada noted non-violent crimes, such as graffiti and vandalism to buildings, represented the bulk of the national upward trend. But 2017 was also the year that a gunman shot six people dead at a mosque in Quebec City.

After the terrorist attacks that toppled the Twin Towers in New York City on Sept. 11, 2001, Muslims across North America experienced a rash of hate-fuelled acts. Hamilton was no exception. Arsonists set fire to [the Hindu Samaj Temple on Twenty Road four days after 9/11. The culprits also smashed windows at the Hamilton Mosque on Stone Church Road East that same night.](#)

Of course, since then, there have been other cases of hate-related property crime and mischief, such as swastikas spray-painted on buildings. But societal factors that have fueled the rise in far-right extremist groups in Canada in the past four years aren't easy to nail down. Still, it's difficult not to point to the election of President Donald Trump in the United States as a factor in whatever's going on. Trump was elected on a populist platform that promised to not only "drain the swamp" in Washington, but also crack down on illegal immigration by building a wall at the Mexican border. In Canada, notwithstanding the election of a federal Liberal government in 2015, far-right Conservatives [like Kellie Leitch still managed to find room for a "Canadian values" screening for newcomers and a "barbaric cultural practices" snitch line.](#) And today, shopworn tropes of immigrants stealing "our" jobs, exhausting social services and crowding out "old-stock" Canadians are fertilizing the far-right landscape. [The climate has also given space to Maxime Bernier, who split from the federal Conservatives to found his more radical People's Party](#) of Canada. It remains to be seen just how much of the right-wing electorate Bernier can swing.

The election is Oct. 21. Some of it will be the racist fringe, which already has a proven tendency to gravitate to milder right-wing political parties. Recall how Preston Manning had to weed out such extremist hitchhikers from his Reform Party of Canada in the 1990s. In 1993, Paul Fromm, a former Mississauga high school teacher, told The Canadian Press his ideas were on par with the Reform platform.

"I would not call myself a white supremacist." [This is the part of the extremist's playbook, suggests Ameil Joseph, an assistant professor of social work at McMaster University in Hamilton.](#) And it is nothing new, he says. "We know since the '60s, people like David Duke tried to make mainstream the Ku Klux Klan positions as political ones divorced from the hatred so that they could be implemented. "And we've seen that example flourish. We've seen hate groups wield social media and online environments do this similar kind of proliferation." Alt-right adherents in Canada, for instance, parrot Trumpisms, complaining about "fake news" and adopting slogans like "Make Canada Great Again."

In a video posted online, [septuagenarian John Beattie, who founded the Canadian Nazi Party in the 1960s](#), is seen with two masked young men giving tips on how to suit up with far-right extremist organizations. One of them suggests reaching out to like-minded neighbours, or checking out the Yellow Vest populist movement that rails against immigration, globalism and government corruption. Justin Long, a Yellow Vest mainstay in Hamilton, says he doesn't support any political party. He and his fellow protesters have held rallies in the city hall forecourt on Main Street West for several months, much to the chagrin of local anti-racism advocates, including Green and Joseph.

(Under increasing pressure after the violence at Pride, city council discussed this week ways to keep the far-right radicals out of the public square.) Other than citing "200 years of government corruption," Long declines to go into detail about what drew him to Yellow Vest populist movement, which takes its name from an unrelated working-class uprising in France. But, he insists to reporters gathered to cover a recent city hall rally, that the media has conducted a "smear campaign" against the domestic Yellow Vest movement. Long says he's not anti-immigrant but against lax immigration politics that allow Islamic terrorists to enter Canada unchecked. This claim is made absent of any credible sources and facts.

[On June 15, the Saturday of the Pride violence, some Yellow Vests, but not Long, splintered from their regular city hall rally and headed to Gage Park.](#)

Once there, they filmed a clutch of Christian extremist preachers waving homophobic-themed signs and bellowing diatribes through a megaphone. What followed was captured on video — shot by more than one cellphone and camera. A formation of pink-masked Pride supporters fanned across the grassy east-end park with a big, black fabric screen to block the volatile display from celebrants' view. The preachers — who say they're affiliated with a Toronto-based ministry called Servanthoods — tried to out maneuver the portable barrier. One of the preachers threw a punch, connecting with a "pink bloc" member's face. It spiraled from there with more punches, kicks and shoves. At one point, an alt-right thug, decked out in pseudo-body armour, swings his helmet — not once, but twice — into people's faces. [Chris Vanderweide, 27, was arrested this week at his home in Kitchener and taken to the Hamilton-Wentworth Detention Centre. He faces](#)

[two counts of assault with a weapon](#). But let's get back to Long. It's a week after the homophobic Pride protest, and he's addressing reporters in a southeastern corner of the city hall forecourt. [Police have set up barriers to separate Long's Yellow Vest rally from a much larger one against hate groups](#). He says his Yellow Vest colleagues only went to Pride to "observe," just as he might go to watch a sports event.

Long insists he has "no problem" with Pride festivals, but sticks to his guns about gay people wanting "to destroy the family unit." He's also quick to point out he told Paul Fromm, the longtime white nationalist, not to attend the Saturday rallies after he found out about his politics. As he fields reporters' questions, a posse of Proud Boys — [modelled after the same ones who chanted "Jews will not replace us" during a torchlit "Unite the Right" rally in Charlottesville, Va., in 2017](#) — stands by his side, occasionally interjecting with jabs about "fake news." This, however, doesn't seem to faze Long, who goes on to declare how he "would not disavow" the Canadian Nationalist Party. "If they feel like they want to stand with us in the Yellow Vest protest, then they are more than welcome to." In fact, men wearing Canadian Nationalist Party garb stood shoulder to shoulder with Yellow Vests and extremist preachers at the Pride protest. The party, which isn't registered, notes the organization's goals are to "improve the social and economic conditions of an ethnocentric Canada." "We must maintain the demographic status of the current European-descended majority," the group's website says. Leader Travis Patron has posted videos warning of the "parasitic tribe" that has infiltrated the media, central banking and politics. "And what we need to do perhaps more than anything is remove these people once and for all from our country." [Ottawa-based human rights lawyer Richard Warman](#) has filed a formal criminal complaint with the RCMP about Patron's video and other material he has posted. In the complaint, Warman notes how anti-Semites have referred to Jews as the "parasitic tribe" for a long time. What he finds most alarming is Patron's "once and for all" remark, allegedly a "call to genocide against the Jewish community." The RCMP have since launched a hate crime investigation. With the Yellow Vests battered with bad press, Guy Annable, the movement's Ontario spokesperson, calls up The Spectator to offer a "rational voice to the conversation."

Annable wants to talk about the "antifa," a term that's generically applied to anti-fascist activists, who have been the alt-right's most diligent agitators — on the street and online, dredging up racist, xenophobic and homophobic posts and exchanges. "We are not violent people. We are people who are wearing yellow vests. We don't hide our faces," he says, alluding to how the movement's persistent antagonists wear masks. Annable, who called from Ottawa, says some racists latched onto the movement, but he explains that's because it grew very quickly. He says it went from 18,000 members in early December to 109,000 by the end of that month. The Canadian version of the Yellow Vest movement — which originated in France as a protest over fuel taxes — made headlines in February, when a "United We Roll" convoy of oil and gas workers travelled from Western Canada to Ottawa. [Members of extremist organizations, going along for the weeklong ride, uttered racist and xenophobic remarks](#). But the Canadian movement, Annable insists, is about four things: "Build the pipelines, no carbon taxes, oil to tide water, and remove ourselves from the migration compact." But he goes on. "Taxpayers are pissed off. Normal people are sick of seeing their children degenderized. These Pride parades, that's the latest huge one. You should see the outrage from parents on this on these huge Pride parades and everything else. No, we have a voice, too." So the conversation steers back to the violence at the Hamilton Pride celebration. Yes, he says, the Gage Park situation was bad.

There were some "bad apples on our side, as well." Annable adds he won't defend "what they call 'Helmet Guy.' We don't want that." Neither does Jyssika Russell, who's a member of [Hamilton Queers Against Hate](#). But Russell — like Green, like Joseph — says it's important to not accept the a-few-bad-apples argument, whoever's making it. The damage caused by the extremist fringe that showed up to the park that day is enormous.

"There is absolutely fear," Russell says about the dread the LGBTQ+ people have felt since the violence of June 15. Community events for youths have been cancelled due to security concerns, says Russell, who works with young people. Neither does Jyssika Russell, who's a member of [Hamilton Queers Against Hate](#). But Russell — like Green, like Joseph — says it's important to not accept the a-few-bad-apples argument, whoever's making it. The damage caused by the extremist fringe that showed up to the park that day is enormous. "There is absolutely fear," Russell says about the dread the LGBTQ+ people have felt since the violence of June 15. Community events for youths have been cancelled due to security concerns, says Russell, who works with young people.

APPENDIX "C"

IMPACT TEST SPECIFICATIONS FOR VEHICLE SECURITY BARRIER SYSTEMS

PAS 68:2013



BSI Standards Publication

Impact test specifications for vehicle security barrier systems

bsi.

...making excellence a habit.™

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2013. Published by BSI Standards Limited 2013

ISBN 978 0 580 81108 1

ICS 93.080.30

No copying without BSI permission except as permitted by copyright law.

Publication history

First published, January 2007

Second edition, January 2010

Third (current) edition, August 2013

Amendments issued since publication

Date	Text affected
-------------	----------------------

Contents

Foreword *iii*

Introduction 1

1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Vehicle impact method – classification code	3
5	Vehicle impact assessment	5
6	Design method	19
7	Documentation	21
8	Test preparation	21

Annexes

Annex A (normative) VSB system classification types 23

Annex B (informative) Proforma test report 25

Annex C (normative) Prototypes 26

Bibliography 27

List of figures

Figure 1 – Vehicle classifications – Illustrations 7

Figure 2 – Indicative camera locations (plan view) 10

Figure 3 – Pedestrian intruder test block 11

Figure 4 – Test vehicle impact condition 13

Figure 5 – Foundation movement criteria for VSB systems (excluding bollards) to be recorded 16

Figure 6 – Foundation movement and bollard criteria to be recorded 17

Figure 7 – VSB system datum line 18

List of tables

Table 1 – Performance classification – vehicle impact test 3

Table 2 – Vehicle impact test criteria 4

Table 3 – Vehicle impact method: Test vehicle specification 6

Table 4 – Performance classification – Vehicle impact test 14

Table 5 – Design method: Performance classification 20

Table 6 – Design method: Impact energy values (kJ) 20

Table A.5 – Foundation classification 23

Table A.6 – VSB system activity 23

Table A.7 – VSB system operation (active VSB systems only) 23

Table A.8 – VSB system type 24

Table C.1 – Assessment of modified VSB systems 26

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 28, an inside back cover and a back cover.

Foreword

Publishing information

This Publicly Available Specification (PAS) was sponsored by the UK Government's Centre for the Protection of National Infrastructure (CPNI). Its development was facilitated by BSI Standards Limited and published under license from the British Standards Institution. It came into effect on 31 August 2013.

Acknowledgement is given to the following organizations that were involved in the development of this specification as members of the steering group.

- APT Security Systems
- ATG Access Limited
- Centre for the Protection of National Infrastructure (CPNI)
- Cova Security Gates Limited
- Highway Care Limited
- Hill and Smith Limited
- MIRA Limited
- Perimeter Security Suppliers Association (PSSA)
- Transport Research Laboratory (TRL).

Acknowledgement is also given to the valuable contribution made by those organizations that reviewed the working drafts of PAS 68 and who submitted comments for consideration. The contributions helped to improve the specification and are much appreciated.

Supersession

This PAS supersedes PAS 68:2010, which will be withdrawn on publication of this PAS.

Information about this document

BSI retains ownership and copyright of this PAS. BSI reserves the right to withdraw or amend this PAS on receipt of authoritative advice that it is appropriate to do so. This PAS will be reviewed at intervals not exceeding two years, and any amendments arising from the review will be published as an amended PAS and publicized in *Update Standards*.

This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

The PAS process enables a document to be rapidly developed in order to fulfil an immediate need in industry. A PAS may be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

This new edition of PAS 68 incorporates key technical changes only. It does not represent a full review or revision of the standard.

The following principal changes are as follows.

- Terms and definitions have been updated for clarity and to align with CWA 16221.
- Normative and informative references have been updated.
- Classification codes have been updated.
- Test classification N1G has been changed from a single to a crew cab 4x4 pick up.
- References to "weight" have been altered to "mass".

- Subclause 5.2, test methodology, Clause 7, documentation, and 8.3, impact point, have been updated to align with CWA 16221.
- Annex B, Generic rigid test foundation for a single fixed bollard for vehicle impact tests has been removed and replaced with an annex regarding VSB system classifications (see Annex A).
- Annex C has been removed as the alternative methods of impact testing listed in PAS 68:2010 edition are still being researched and developed.
- List item o) in D.1.1 has been removed as a repetition of D.1.1 l). Annex D is now Annex B.
- Some editorial amendments have been undertaken.

Relationship with other publications

PAS 68 was originally developed with PAS 69 which is guidance for the selection, installation and use of vehicle security barriers (VSBs). An international workshop agreement (IWA) is currently in development for the International Organization for Standardization (ISO) that will cover similar content to PAS 68 and PAS 69. However, both PAS 68 and PAS 69 are well established in the UK and they are being revised to meet immediate industry requirements and developments in the VSB industry since their last publication.

Product testing. Users of this PAS are advised to consider the desirability of third-party testing of product conformity with this PAS. Appropriate conformity attestation arrangements are described in BS EN ISO/IEC 17025. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with *The BSI guide to standardization – Section 2: Rules for the structure, drafting and presentation of British Standards*, subclause 11.3.1, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Particular attention is drawn to the following specific Acts:

- The Road Traffic Act 1991 [1];
- The Data Protection Act 1998 [2].

Introduction

PAS 68 has been prepared to address the needs of organizations who wish to have assurance that vehicle security barrier (VSB) systems will provide the level of impact resistance which is sought.

Many systems are available that are either promoted or considered suitable for use as VSB systems. As their characteristics differ in both function and form, a comparative means of assessing their performance is required.

This Publicly Available Specification identifies impact test methods, tolerances, test vehicle type and vehicle performance criteria that need to be met in order to conform to PAS 68. Design guidance for installing barriers is provided in PAS 69.

Declarations of conformity to PAS 68 are relevant only for the edition of the PAS to which testing was undertaken and with which all requirements were complied.¹⁾

1 Scope

This Publicly Available Specification (PAS) cites a classification system for the performance of vehicle security barriers (VSBs) and their supporting foundations when subjected to a single horizontal impact.

This PAS specifies two test methods of determining the performance classification of VSB systems:

- the vehicle impact method;
- the design method [which includes the use of finite element analysis (FEA) techniques if validated by test data].

This PAS does not cover the performance of a VSB system when subjected to blast or ballistic impact.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 1317-1: 2010, *Road restraint systems – Part 1: Terminology and general criteria for test methods*

BS EN 12390-2, *Testing hardened concrete – Part 2: Making and curing specimens for strength tests*

3 Terms and definitions

For the purposes of this PAS, the following terms and definitions apply.

3.1 ballast

mass securely fixed to the vehicle

3.2 dispersion

distance beyond the VSB system datum line to the location of the furthest item of major debris (see 3.8)

¹⁾ Marking PAS 68:2013 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is solely the claimant's responsibility. Such a declaration is not to be confused with third-party certification of conformity.

- 3.3 fixed bollard**
fixed vertical post/tube embedded into specified foundations and designed to prevent the passage of a vehicle
- 3.4 impact angle**
angle in the horizontal plane between the intended impact face and the approach path of the test vehicle into the test item
- 3.5 impact point**
initial point of contact between the test vehicle and the test item
- 3.6 inertial test vehicle mass**
mass of vehicle including ballast
- 3.7 leading edge of goods vehicle load platform**
forward edge of the upper surface of the load bed intersecting the head-board or the transverse line where the head-board would be fitted
- 3.8 major debris**
single item having a mass of 25 kg or above, which, as a consequence of the impact has been entirely detached from:
- a) the test vehicle; or
 - b) its ballast; or
 - c) the VSB system;
- and that has been projected beyond the original position of the VSB system datum line
- NOTE Inclusion of the dispersion distance of any major debris in a test report assists with the choice of an appropriate VSB system.*
- 3.9 test item**
single or multiple items which when combined with their foundations constitute a VSB system
- 3.10 test system**
operating equipment required for the test and specified foundations
- 3.11 test vehicle**
production model vehicle that is representative of current traffic in the intended country of use, with an unmodified chassis, load bed and frontal structure used in an impact test to evaluate the performance of a VSB system
- NOTE 1 Modifications may be made to the vehicle solely for the purpose of restraining forward movement of ballast, provided that this does not affect the dynamic behaviour of the vehicle.*
- NOTE 2 Further information regarding test vehicles can be found in BS EN 1317-1:2010, 5.2. BS ISO 6813 is a terminology for the collision classification of road vehicles.*
- 3.12 test vehicle impact speed**
speed of the test vehicle measured along its approach path at a point no further than 8 m before the impact point
- 3.13 unladen mass**
mass of test vehicle, excluding ballast but with the manufacturer's standard equipment, quantities of engine oil and coolant, and a minimum amount of fuel
- 3.14 vehicle penetration**
maximum distance between the leading edge of the load platform of a day cab vehicle as marked on the chassis, or the intersection of the base of the windscreen and the "A" pillar of a car or 4x4 pickup, and the original rear face

of the VSB/VSB system datum line, when measured at 90° to the VSB system (e.g. by analyzing film, video and/or instrumentation) during or after the impact

3.15 vehicle security barrier (VSB) system

physical vehicle barrier, operating mechanism, power source and associated controls designed and installed to bring to rest or redirect an impacting vehicle

NOTE See Annex A for details of VSB system element classifications.

3.15.1 active VSB system

VSB which requires operation either by personnel or powered equipment

NOTE For example a manual dropping/lifting-arm barrier or an automated retractable/rising bollard.

3.15.2 passive VSB system

static VSB which is fixed in place or is removable using personnel or plant

NOTE For example a structural wall, a fixed bollard, a removable bollard or a planter.

4 Vehicle impact method – classification code

The VSB system elements shall be defined in accordance with Annex A.

The performance class shall be expressed in terms of a 7-part classification in accordance with Table 1.

The classification code shall include the letter V.

Table 1 Performance classification – vehicle impact test

	1	2	3	4	5	6	7
	VSB system type	V	Inertial test vehicle mass kg	Test speed km/h	Impact angle °	Vehicle penetration m	Dispersion of major debris m
<i>Example:</i>	PAS 68:2013 Fixed bollard	V	4- or 5-digit vehicle mass and test vehicle classification	2-digit or 3-digit impact speed	Any angle between 0° and 90° in 5° intervals	To 1 decimal place where X.X is the penetration	To 1 decimal place where Y.Y is the dispersion distance

Performance classes:

EXAMPLE 1

a) PAS 68:2013 Fixed bollard V/1 500(M1)/48/90:1.7/5.2 denotes:

- 1) a fixed bollard;
- 2) tested using the vehicle impact method;
- 3) capable of withstanding an impact by a 1 500 kg car;
- 4) impact speed of 48 km/h;
- 5) impacted at 90° to the front face of the bollard;
- 6) where the vehicle penetration was 1.7 m beyond the original position of the rear face of the bollard;
- 7) where major debris landed no more than 5.2 m beyond the original position of the rear face of the bollard.

EXAMPLE 2

- b) PAS 68:2013 Anti ram fence V/7 500(N3)/80/45:2.0/3.4 denotes:
- 1) an anti-ram fence;
 - 2) tested using the vehicle impact method;
 - 3) capable of withstanding an impact by a 7 500 kg goods vehicle of N3 classification;
 - 4) impact speed of 80 km/h;
 - 5) impacted at an angle of 45° to the front face of the fence;
 - 6) where the vehicle penetration was 2.0 m beyond the original position of the rear face of the fence;
 - 7) where the major debris landed no more than 3.4 m beyond the original position of the rear face of the fence.

The vehicle mass and impact speed combination shall be selected from one of the combinations specified in Table 2.

Table 2 Vehicle impact test criteria

Test vehicle classification	Test classification	Test speed	Equivalent test speed (nominal)	Impact angle	
	kg-km/h	km/h	(mph)	(°) (±2°)	
Car	M1	1 500-16	16 ±2	0° to 90° in 5° intervals	
		1 500-32	32 ±2		
		1 500-48	48 ±3		
		1 500-64	64 ±3		
		1 500-80	80 ±5		
		1 500-96	96 ±5		
		1 500-112	112 ±5		
4x4 pick-up (crew cab design)	N1G	2 500-16	16 ±2	0° to 90° in 5° intervals	
		2 500-32	32 ±2		
		2 500-48	48 ±3		
		2 500-64	64 ±3		
		2 500-80	80 ±5		
		2 500-96	96 ±5		
		2 500-112	112 ±5		
Day cab vehicles	3 500 kg flat bed (RWD)	N1	3 500-16	16 ±2	0° to 90° in 5° intervals
			3 500-32	32 ±2	
			3 500-48	48 ±3	
			3 500-64	64 ±3	
			3 500-80	80 ±5	
	7 500 kg 2-axle rigid	N2	7 500-16	16 ±2	0° to 90° in 5° intervals
			7 500-32	32 ±2	
			7 500-48	48 ±3	
			7 500-64	64 ±3	

Table 2 Vehicle impact test criteria (continued)

Test vehicle classification		Test classification	Test speed	Equivalent test speed (nominal)	Impact angle
		kg-km/h	km/h	(mph)	(°) (±2°)
Day cab vehicles (continued)	18 000 kg 2-axle N3 rigid	7 500-16	16 ±2	(10)	0° to 90° in 5° intervals
		7 500-32	32 ±2	(20)	
		7 500-48	48 ±3	(30)	
		7 500-64	64 ±3	(40)	
		7 500-80	80 ±5	(50)	
	32 000 kg 4-axle N3 rigid	30 000-16	16 ±2	(10)	0° to 90° in 5° intervals
		30 000-32	32 ±2	(20)	
		30 000-48	48 ±3	(30)	
		30 000-64	64 ±3	(40)	
		30 000-80	80 ±5	(50)	

NOTE 1 Vehicle speeds in km/h have been rounded to the nearest integer value.

NOTE 2 The N2 test vehicle is only acceptable for impact speeds up to and including 64 km/h. This is due to an inability to ensure that the ballast remains fixed to the load bed, without major modifications to the vehicle, at the moment of impact.

NOTE 3 See Figure 1 for vehicle classification illustrations.

5 Vehicle impact assessment

5.1 Performance requirements

When tested using the vehicle impact method the VSB system shall:

- bring to rest; or
- redirect an impacting vehicle on the approach side of the barrier.

Damage to, or movement of the VSB system shall be recorded and reported. The measurement shall record a maximum horizontal opening measured 600 mm above finished ground level.

NOTE 1 A gap of 1.2 m or more measured at 600 mm above finished ground level is deemed to be encroachable by a second vehicle.

If the VSB system consists of bollards (active or passive VSB systems), each bollard shall meet the performance requirements individually.

Movement, lateral and rotational, of any foundation, and/or the bollard, shall be recorded and reported (see also Figure 6).

NOTE 2 If the VSB system is also intended to resist access by pedestrian intruder, then following a vehicle impact, the barrier should be assessed using the test block shown in Figure 3. The test block should be offered to the opening formed in the VSB system by the impact to assess whether or not the full length of the block can pass axially through the opening; the result should be reported in the test report (see 5.2.6 and B.2).

If the manufacturer has specified more than one direction of impact, then the impact test shall be repeated for each specified direction using new test items.

5.2 Test methodology

5.2.1 Principle

The client shall specify the impact criteria of the product, against which they wish it to be tested. A vehicle conforming to one of the specifications outlined in Table 3 shall be impacted at a known speed into the VSB system under test to determine its impact resistance and subsequent classification.

Table 3 Vehicle impact method: Test vehicle specification

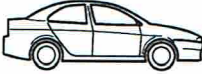
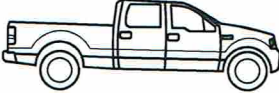
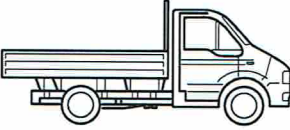
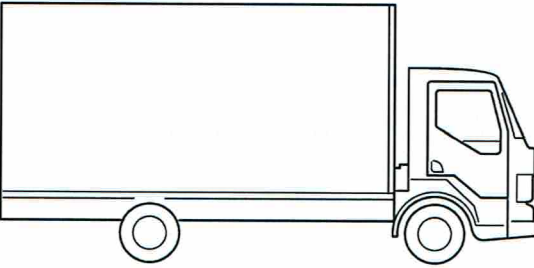
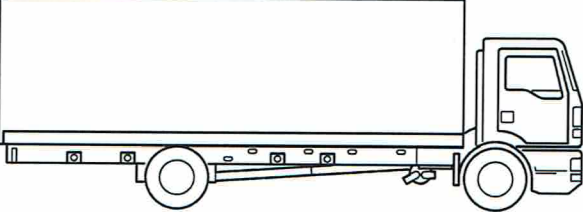
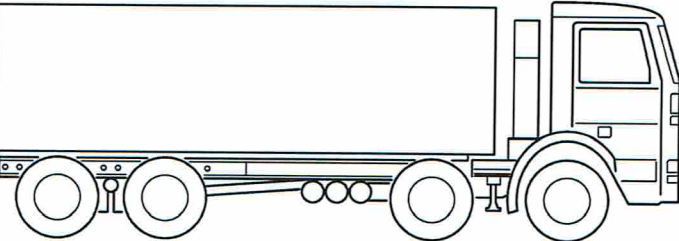
UN ECE international vehicle classification	M1	N1G	N1	N2	N3	N3
Type of test vehicle ^{A)}	Car	4x4 pick-up (crew cab design)	Day cab vehicles			
			3 500 kg flat bed (RWD) ^{B)}	7 500 kg 2-axle rigid	18 000 kg 2-axle rigid	32 000 kg 4-axle rigid (Tipper)
Nominal test vehicle mass (kg)	1 500	2 500	3 500	7 500	7 500	30 000
Minimum unladen mass (kg)	1 234	1 620	1 675	3 575	6 100	10 500
Maximum ballast (kg) ^{C)}	266	880	1 825	3 925	1 400	19 500
Inertial test vehicle mass (kg)	1 500	2 500	3 500	7 500	7 500	30 000
Tolerance (kg)	±50	±50	±100	±150	±150	±600
Overall vehicle length (mm)	4 500	4 900	6 200	7 612	9 557	10 240
Tolerance (mm)	±360	±320	±380	±1 522	±1 911	±500
Wheel base length (between extreme axles) (mm)	2 700	2 900	3 805	4 310	5 907	6 500
Tolerance (mm)	±540	±580	±710	±830	±1 250	±200

^{A)} The types of vehicle are illustrated in Figure 1.

^{B)} RWD = rear wheel drive.

^{C)} The maximum ballast includes measuring and recording equipment, if requested. Such equipment should conform to the requirements of BS EN 1317-1:2010, Clause 6.

Figure 1 Vehicle classifications – Illustrations

Type of test vehicle	UN ECE International vehicle classification	Illustration
Car	M1	
4x4 pick up (crew cab design)	N1G	
Day cab vehicles	N1	
	N2	
	N3	
	N3	

5.2.2 Apparatus and measurement means

NOTE See also Clause 7 regarding documentation and information to be provided for testing purposes.

5.2.2.1 Test vehicle, a production model representative of the current traffic, having characteristics and dimensions within the vehicle specifications given in Table 3. The test vehicle shall be not more than 10 years old for vehicle types M1,

N1G, N1 and N2 and N3 (18 000 kg) and not more than 15 years for vehicle type N3 (32 000 kg).

The condition of the test vehicle shall be road worthy with respect to its:

- a) tyres;
- b) suspension;
- c) wheel alignment;
- d) bodywork;
- e) brakes; and
- f) chassis.

NOTE Attention is drawn to the Road Traffic Act 1991 [1] including its MOT requirements.

5.2.2.2 Winch, or alternative method of delivering the test vehicle to the test item at the specified impact speed. It shall be capable of propelling the test vehicle in a stable manner and in a straight line to a point as close as possible to the test item, at which point it is released to travel freely.

5.2.2.3 Two means of speed measurement, capable of measuring the impact speed along the test vehicle's approach path at not more than 8 m before the impact point and with an accuracy in accordance with Table 2.

NOTE 1 A minimum of two independent methods of speed recording should be used. The determination of impact speed is an essential parameter.

NOTE 2 Suitable methods could include a timing gate, determination of winch cable speed, the use of pressure pads activated by the passage of the vehicle, or the analysis of overhead high-speed film records.

NOTE 3 For guidance on suitable instrumentation see BS AU 164/ISO 3784.

5.2.2.4 A method of measuring the approach angle, capable of measuring the test vehicle approach angle along the test vehicle approach path at not more than 8 m before the impact point and within a tolerance of $\pm 2^\circ$.

NOTE Suitable means could be the analysis of overhead high-speed film records.

5.2.2.5 A means of measuring distance, capable of measuring the maximum dispersion distance to an accuracy of 2%.

5.2.2.6 Photographic equipment, capable of clearly recording:

- a) the behaviour of the test item;
- b) the vehicle motion pre-impact from a minimum of 8 m before the point of impact and post-impact to a minimum of 25 m beyond the point of impact; and
- c) the distribution of major debris at a minimum of 25 m beyond the point of impact.

The period of recording shall commence from when the test vehicle is not less than 8 m before the impact point and shall conclude after the test vehicle and debris have come to rest.

High-speed camera systems shall be operated at a minimum of 200 frames per second and be capable of producing noise-free, correctly exposed²⁾ results in year round outdoor lighting conditions without resorting to the use of electronic gain or non-standard film processing to correct the exposure. The cameras shall be

²⁾ Results are considered to have been correctly exposed when the brightness range of the area of interest has been captured in its entirety. This is achieved through understanding (and utilization) of the camera variables (i.e. aperture, shutter speed, frame rate, sensor/film sensitivity).

fitted with lenses of a flat field type in order to minimize any distortion of the image; these lenses shall be of a (photographic) quality capable of achieving the optimum sensor, or film, resolution of the camera.

NOTE 1 Figure 2 illustrates the indicative camera locations.

NOTE 2 Additional high-speed cameras are recommended, particularly where the test item has specific components that need to be assessed.

The minimum number of high-speed cameras and layout shall be as follows:

- 1) (see Figure 2, item a): one camera, sited at right angles to the path of the test vehicle and in a position to obtain a clear overall pictorial record of the impact and its consequences;
- 2) (see Figure 2, item b1): camera in-line with the test item and with an unobstructed view of its front face to record the test vehicle to test item interaction;
- 3) (see Figure 2, item b2): camera in-line with and facing the test vehicle approach direction;
- 4) (see Figure 2, item c): environmental conditions permitting and in agreement with the client, a minimum of two overhead cameras, located in such a way as to cover the vehicle motion from at least 5 m before the impact point to a distance adequate to record the performance of the test, the penetration of the test vehicle and the dispersion of the major debris up to a distance of 5 m from the rear face datum of the test item;

NOTE 3 Where environmental conditions (such as wind) prevail which could have an effect on the safety of personnel and equipment, it is advisable to carry out the test without use of the overhead high-speed cameras. Where overhead cameras are not used due to prevailing environmental conditions, other methods of measuring the approach angle include global positioning satellite (GPS) may be used.

- 5) (see Figure 2, item b3): one camera, to record the interaction of the test vehicle and the test item, location as agreed by the person carrying out the test and the client.

NOTE 4 In order to minimize distortion, for the overhead photography, a lens with a focal length of 9 mm or longer used with 16 mm cine (or equivalent) should be used.

When cameras are used for determining speed, a time reference shall be recorded by the camera.

NOTE 5 Time references for camera recording can include, for example, distance marks at ground level, timing light, timing drum or timing marks made within the camera's field of view.

5.2.3 Pedestrian intruder access

If the VSB system is also intended to resist access by a pedestrian intruder, then following a vehicle impact, the barrier shall be assessed using the test block shown in Figure 3. The test block shall be offered to the opening formed in the VSB system by the impact to assess whether or not the full length of the block can pass axially through the opening. The result shall be recorded within the test report.

PAS 68:2013

Figure 2 Indicative camera locations (plan view)

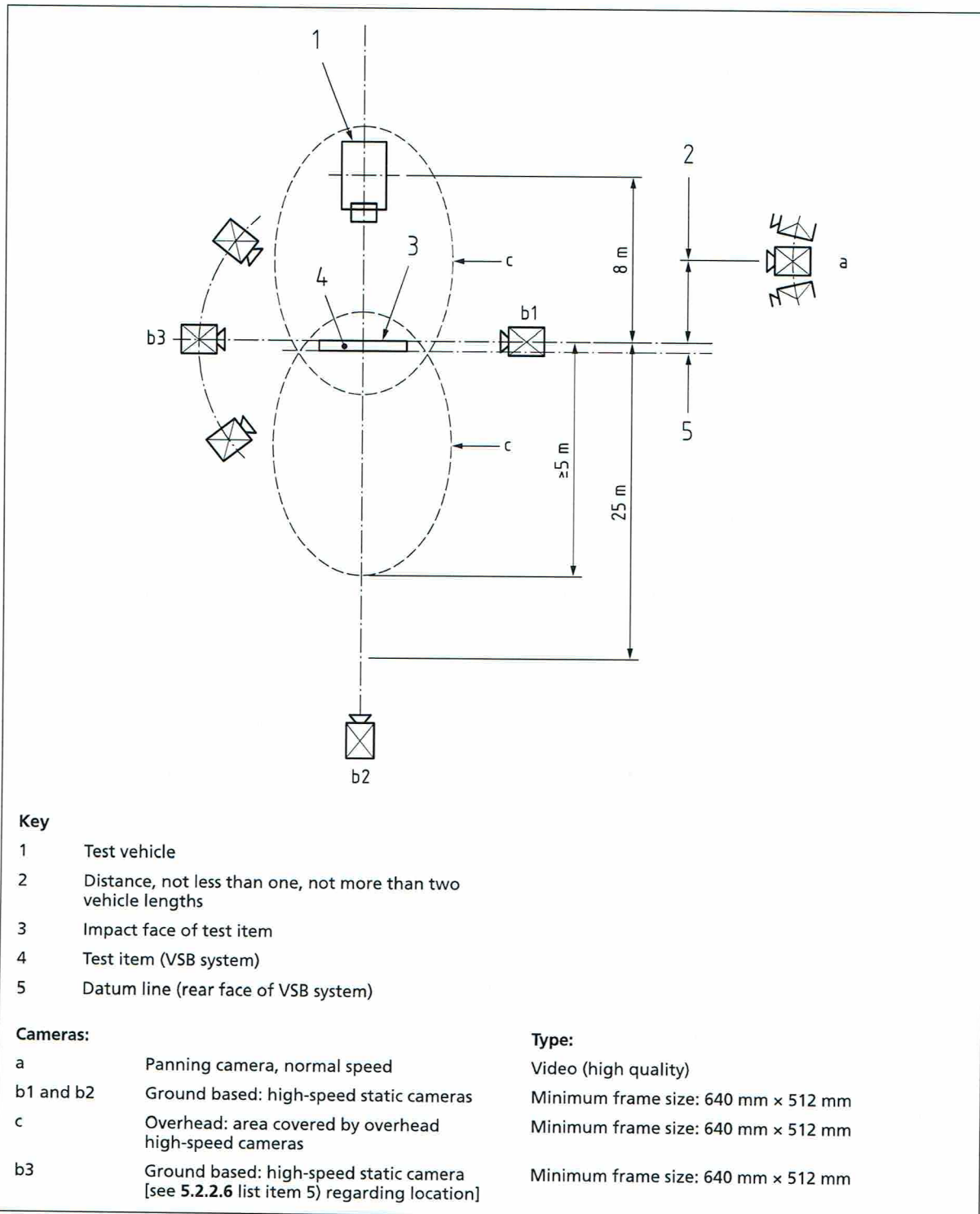
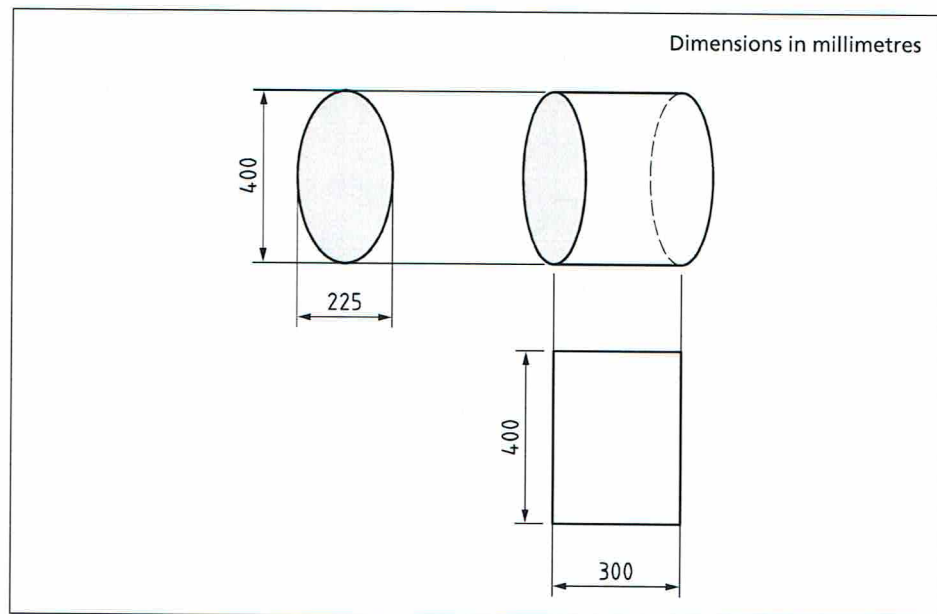


Figure 3 Pedestrian intruder test block



5.2.4 Preparations for testing

5.2.4.1 Test facility

5.2.4.1.1 The test facility shall be flat with a gradient not exceeding 2.5% in any plane. It shall be of sufficient size to enable the test vehicle to be accelerated to the required speed and controlled so that its approach to the test item is stable (negligible roll, pitch and yaw).

5.2.4.1.2 The area around the test item and the foundation to the test item shall have a level surface and shall be clear of standing water (e.g. puddles), ice or snow at the time of the test.

5.2.4.1.3 To enable the test vehicle exit characteristics to be evaluated, the firm surface shall extend not less than 25 m beyond the rear face of the original test item.

5.2.4.1.4 Appropriate measures (e.g. dampening down and/or sweeping the test area) shall be taken in order to minimize dust or water spray generation from the test site and the test vehicle during the impact test so that photographic records are not obscured.

5.2.4.1.5 The test site shall be marked to indicate the rear face of the test item for the determination of the vehicle penetration and dispersion.

NOTE Suitable means of marking include spray painting lines, grids or target markers.

5.2.4.2 Test vehicle

5.2.4.2.1 The tyres shall be inflated to the vehicle/tyre manufacturer's recommended pressures.

5.2.4.2.2 The test vehicle shall be clean and any deposits that might cause dust on impact shall be removed prior to testing, as far as is practicable.

5.2.4.2.3 The test vehicle shall not be restrained by external control of the steering or any other method (for example, by engine power or by braking) during impact or after the impact point whilst the vehicle is within a distance of 25 m of the rear face of the original test item (unless the test vehicle poses a safety or operational risk).

5.2.4.2.4 All ballast shall be evenly distributed and fixed to the test vehicle in such a way as not to exceed the permissible axle loads for the vehicle.

5.2.4.2.5 Where the test vehicle is a car or a 4x4 pick-up, mark the intersection of the base of the windscreen and the "A" pillar with a quartered target marker.

NOTE Figure 4 illustrates test vehicles in the pre-impact condition and the post-impact condition.

5.2.4.2.6 When preparing a goods vehicle for test, the position of the leading edge of the load platform shall be marked with a quartered target marker. This position shall be duplicated with a clear mark on the chassis in case the load platform moves with relation to the chassis (see Figure 4).

NOTE 1 In the case of a goods vehicle, the equivalent longitudinal position (datum) should be marked on the vehicle chassis. Experience has shown that a second mark should be made towards the rear of the chassis and the distance from the datum recorded. This enables the position of the leading edge of the load bed to be determined more readily if the front of the vehicle/chassis is distorted due to the vehicle impact with the VSB system.

NOTE 2 Additional marks might be required in order to provide reference points for measurement purposes.

5.2.4.3 Test item

5.2.4.3.1 Photographs shall be taken to record the preparation and installation of the test item and its foundation.

5.2.4.3.2 For bollards, the test item shall have:

- a) a foundation constructed to drawings, as provided; or
- b) an integrated foundation.

NOTE Where the foundation to the test item is surrounded by natural soil or an infill material, compaction values should be recorded for the soil/backfill.

5.2.4.3.3 The test item shall be installed and located in its foundation or on the test site in accordance with the detailed drawings and installation instructions provided (see Clause 7).

5.2.4.3.4 The test item shall be installed to the specified height above ground in accordance with the detailed drawings and installation instructions provided.

5.2.4.3.5 If the test item is a direction-sensitive product, it shall have a mark visible when installed to indicate the plane designed to receive the impact. The relationship between the mark and the plane of impact shall be identified in the test item drawing.

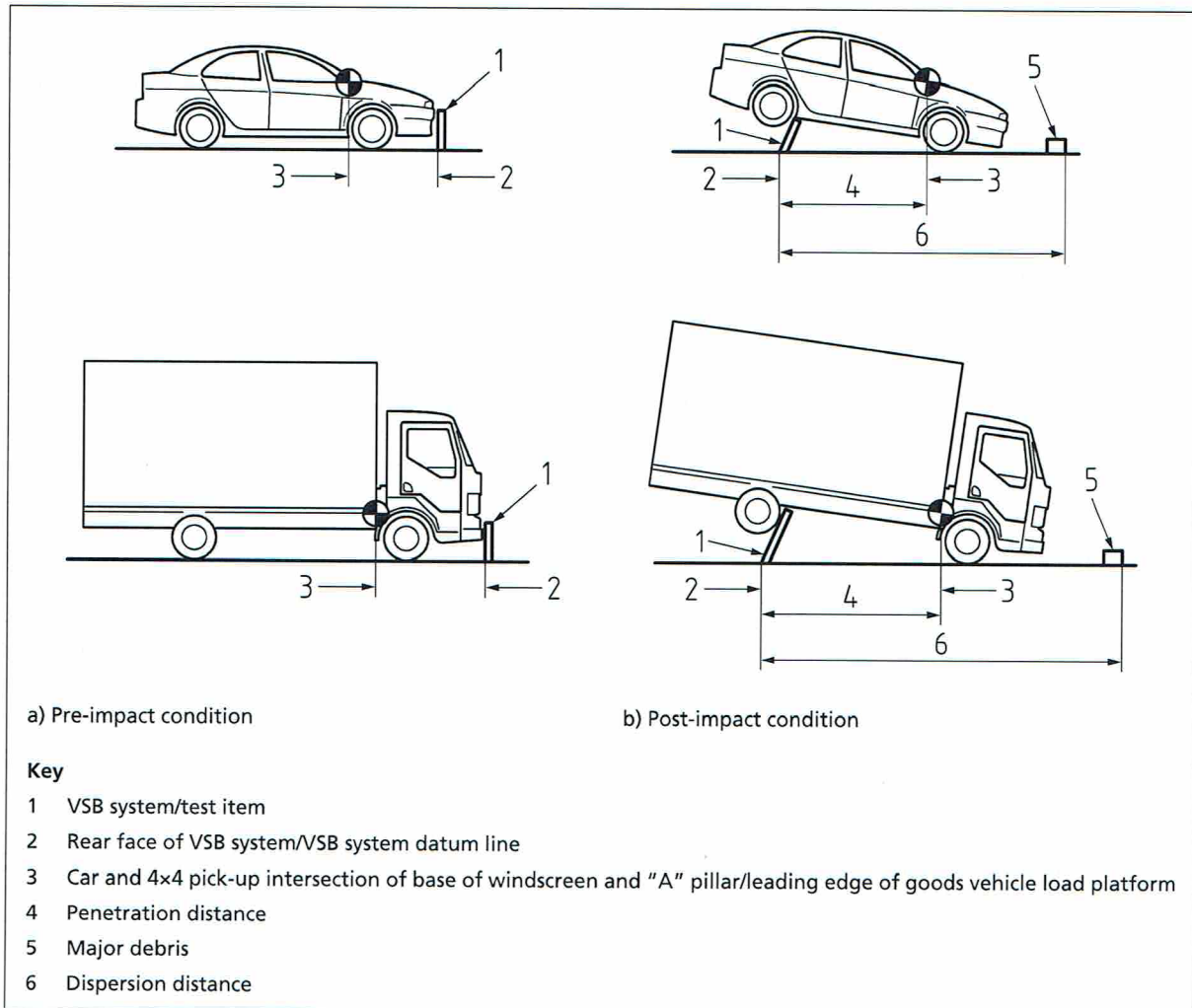
NOTE The alignment of the test item should be detailed in the installation instructions.

5.2.4.4 Occupant severity indices (optional)

If the determination of occupant severity indices is requested, measurement and recording equipment conforming to the requirements of BS EN 1317-1:2010, Clause 6, shall be installed.

NOTE Acceleration severity indices (ASI), Theoretical head impact velocity (THIV) are both examples of occupant severity indices.

Figure 4 Test vehicle impact condition



5.2.5 Test procedure

5.2.5.1 Pre-impact test data

The following pre-impact test data shall be recorded:

- a) where the VSB system is installed in or on cast concrete foundations, information covering the:
 - 1) date foundation was cast;
 - 2) results of test concrete cubes undertaken, in accordance with BS EN 12390-2 and tested at the intervals indicated in Table 4:

Table 4 Performance classification – Vehicle impact test

Time between concrete pour and test day Days	Day sample is tested			
	Day 7	Day 14	Day 28	Test day
0–7				✓
8–14	✓			✓
15–27	✓	✓		✓
≥28	✓	✓	✓	✓

NOTE Samples are tested at intervals after the installation date (i.e. after the concrete has been poured) to determine the concrete strength, for example:

- i) if testing ≥28 days after the concrete is poured, samples are tested on day 7, day 14, day 28 (to allow the curing rate to be monitored), and on the day of the test;
- ii) if the test day is on day 11 after the concrete has been poured, samples are taken on day 7 and day 11 (the day of the test);
- iii) if the test day is on day 5 after the concrete has been poured, a sample is only taken on day 5 (the day of the test).

- b) height, angle of inclination (bollards), location within foundation and installation depth;
 - c) mass of the test vehicle;
 - d) vehicle dimensions;
 - e) location of the centre of gravity of the test vehicle in the test condition, including added ballast, for test vehicles having a test vehicle mass of 1 500 kg and 2 500 kg (see Table 3);
- NOTE 1* Attention is drawn to BS ISO 10392.
- f) location of the centre of gravity of the added ballast for test vehicles having a test vehicle mass of 3 500 kg, 7 500 kg and 30 000 kg (see Table 3);
 - g) still photographs taken at 90° and 45° to each face of the following, as a minimum:
 - 1) construction of foundation and installation of test item;
 - 2) test item;
 - 3) test vehicle;
 - 4) test vehicle at impact point, including an overhead view, where practicable;
 - 5) interior of the test vehicle;
 - h) intended test vehicle impact point (see 5.2.5.2);
 - i) height of contact between the test vehicle and the intended impact point on test item; and
 - j) for an active VSB system, the operating cycle (e.g. rising/dropping/sliding/swinging) of the test item.

NOTE 2 Where applicable, the ground conditions during testing may be included in the test report, if requested.

NOTE 3 Other standards regarding concrete, cement and mortar include: BS 4449, BS 4483, BS EN 934-3, BS 8500-1, BS 8500-2, BS 8666, BS EN 197-1, BS EN 934-2, BS EN 1008, BS EN 12620 and BS EN 13139. See the bibliography for further information.

5.2.5.2 Impact

Subject the test item to a single vehicle impact applied at a point in the client's defined plane of impact to the selected test impact criteria.

5.2.5.3 Impact data

Record the following impact data:

- a) impact speed (km/h), measured using speed measurement equipment (see 5.2.2.3) along the test vehicle approach path no further than 8 m before the impact point;
- b) test vehicle approach angle, measured using approach angle measurement equipment (see 5.2.2.4) along the test vehicle approach path no further than 8 m before the impact point (measured in degrees);

NOTE For guided test vehicles, this may be a static measurement made in advance of the actual test.

- c) actual test vehicle impact point (see 5.2.5.2), relative to the defined point of impact;
- d) photographically (see 5.2.2.6): the behaviour of the test item, the test vehicle motion pre-impact and post-impact up to 25 m beyond the point of impact as well as the distribution of major debris;
- e) height of contact between the vehicle (mid height of bumper) and barrier;
- f) vehicle acceleration data, if requested, for the evaluation of occupant severity indices.

5.2.5.4 Post-impact data

Record the following post-test data:

- a) vehicle penetration (static and dynamic);
- b) dispersion maximum distance of major debris and/or any VSB system components using distance measurement equipment (see 5.2.2.5);
- c) damage to the VSB system, foundation and test vehicle;
- d) movement of the test item/foundation (e.g. linear and/or rotational) and its displacement;
- e) still photographs taken at 90° and 45° to each face of the following, as a minimum:
 - 1) foundation and test item;
 - 2) test item;
 - 3) test vehicle;
 - 4) interior of the test vehicle;
- f) for an active VSB system, the operating cycle (e.g. rising/dropping/sliding/swinging) of the test item with the test vehicle in place;
- g) for an active VSB system, the operating cycle (e.g. rising/dropping/sliding/swinging) of the test item with the test vehicle removed (as necessary);
- h) for bollards, irregularities in the gap between the test item and its foundation;
- i) for bollards, crush/distortion of section;
- j) the movement of the test item foundation (e.g. linear and/or rotational) (as shown in Figure 5);
- k) with the test vehicle removed, determine the damage and deformation of the test item. For a bollard, also record the angle of inclination from a line normal to the surface of the test item foundation as shown in Figure 6;
- l) if requested, evaluate the occupant severity indices.

NOTE For the purposes of recording penetration and dispersion, examples of the datum line (rear-face) of the VSB system are shown in Figure 5.

PAS 68:2013

Figure 5 Foundation movement criteria for VSB systems (excluding bollards) to be recorded

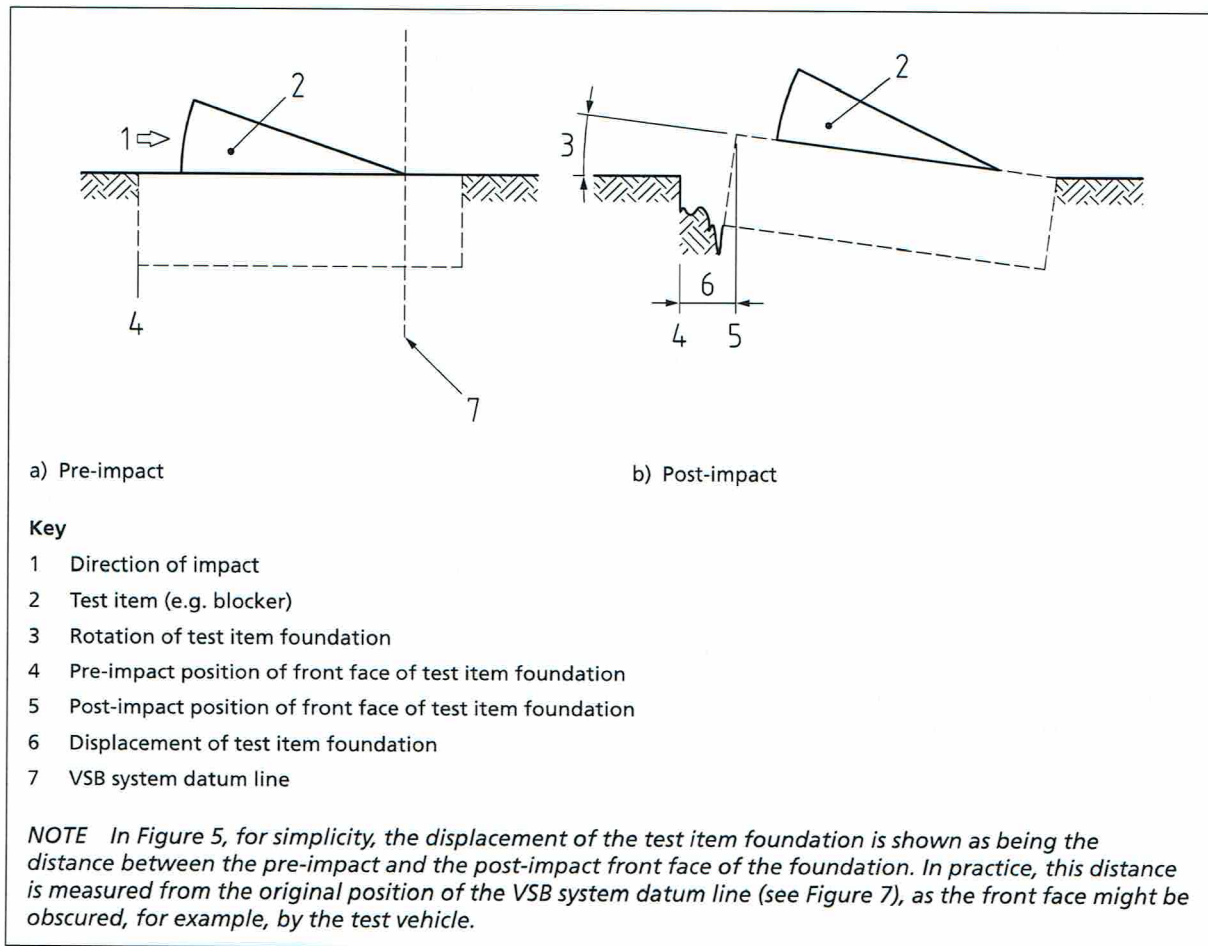


Figure 6 Foundation movement and bollard criteria to be recorded

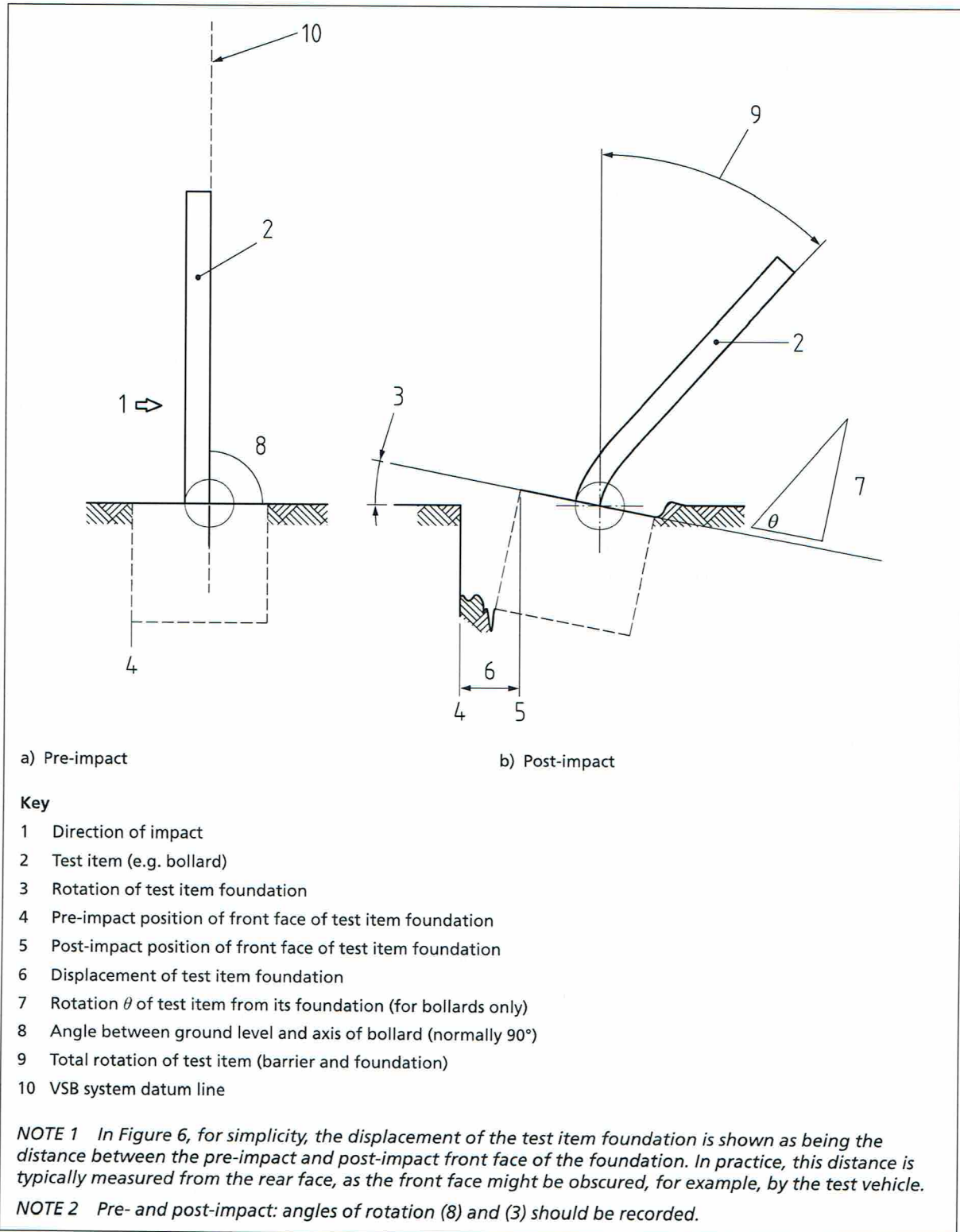
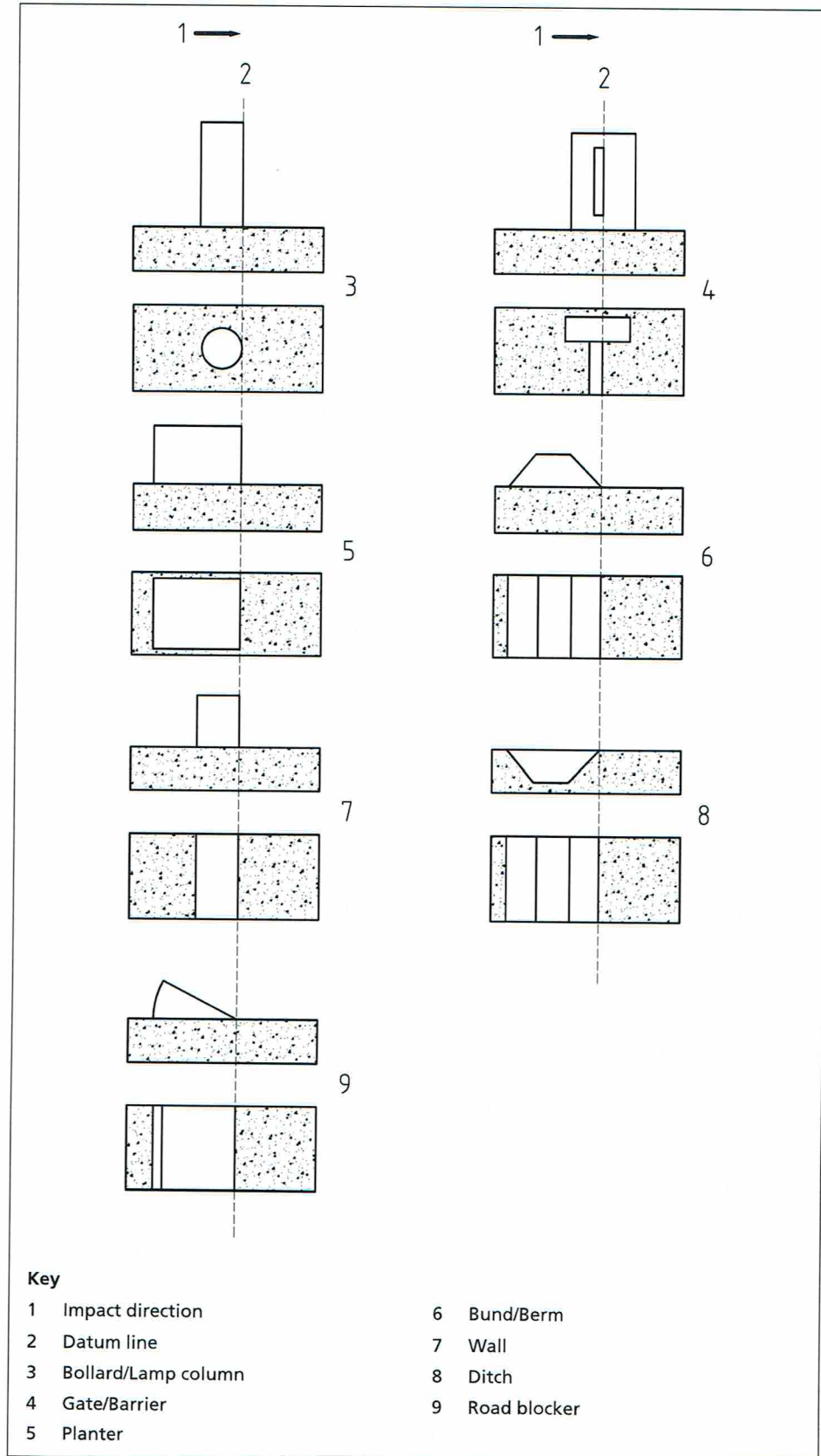


Figure 7 VSB system datum line



5.2.5.5 Post-impact vehicle encroachment data

With reference to a vertical plane from the base of the test item barrier in its pre-impact position, measure the maximum horizontal distortion/displacement at 100 mm intervals taken from finished ground level to 600 mm above finished ground level.

NOTE A gap of 1.2 m within the line of the VSB system(s) measured at 600 mm above finished ground level is deemed to be encroachable by a subsequent vehicle.

5.2.5.6 Post-impact person access data

Where the test item is also intended to resist access by a pedestrian intruder, record the result in accordance with 5.2.3.

5.2.5.7 Further impact tests

Where additional impact angles and/or impact speeds are to be assessed, repeat the impact test (5.2.5) for each specified impact angle [see Table 2] and/or impact speed.

A new test item shall be used for each impact test, unless the test item is determined to be fit for further evaluation.

NOTE The impact points to represent the worst-case scenario and whether the test item is fit for further evaluation should be assessed.

5.2.6 Test report

A test report shall be prepared for each impact.

NOTE See Annex B for test report recommendations.

5.2.7 Modifications to tested and classified products

If the tested product specification is modified in any way, it shall be reassessed according to Annex C.

6 Design method

NOTE The design method is used for variations or modifications in design to a previously classified VSB. Full-scale test data is used for interpolation and finite element analysis (FEA) may form part of this method. Further information on FEA and computer modelling validation can be found in PD CEN/TR 16303-4.

6.1 Performance classification

The VSB system assessed in accordance with the design method shall be classified for performance in accordance with Table 5.

PAS 68:2013

Table 5 Design method: Performance classification

1 VSB system type ^{A)}	2 D	3 Test inertial mass kg	4 Impact speed km/h	5 Impact angle °	6 Impact energy kJ
Blocker	D	7 500	48	45	472

EXAMPLE PAS 68:2013 Blocker D/7 500(N2)/48/45/472:

- 1) Blocker
- 2) Design method
- 3) Delivered by a 7 500 kg (N2) vehicle
- 4) Impact speed: 48 km/h
- 5) Impact angle: 45° to the front face of the blocker
- 6) Theoretically capable of withstanding an impact of 472 kJ (taking into account angle of impact)

A) See Annex A.

6.2 Design criteria

The design impact energy shall be selected from the values given in Table 6 which is derived from vehicle impact criteria.

NOTE This also indicates the impact speed/vehicle mass combinations, which can theoretically be withstood by the VSB system.

Table 6 Design method: Impact energy values (kJ)

UNECE vehicle classification	M1	N1G	N1	N2	N3	N3
Test vehicle impact speed km/h	Test vehicle mass kg					
	1 500	2 500	3 500	7 500	7 500	30 000
16	15	25	35	74	74	296
32	59	99	138	296	296	1 185
48	133	222	311	667	667	2 667
64	237	395	553	1 185	1 185	4 741
80	370	617	864	1 852	1 852	7 407
96	533	889	1 244			
112	726	1 210				

NOTE 1 Vehicle speeds have been rounded to the nearest integer value.

NOTE 2 When designing VSB systems using Table 6, energy values are not transferable between vehicle classifications and selected impact speeds should be either adjacent to each other or not separated by more than one speed.

6.3 Design procedure

Full-scale test impact data shall be used for interpolation in designing a VSB system.

NOTE FEA procedures, validated by full-scale impact test data, may also be used.

6.4 Design data

6.4.1 The calculations demonstrating that the VSB system theoretically meets its claimed performance class shall be provided.

6.4.2 The following minimum information about the VSB system shall be provided:

- a) overall product dimensions;
- b) component thickness including wall thickness of hollow sections;
- c) specifications for all materials used (including fill materials used on the product); and
- d) design of foundation.

7 Documentation

For impact tests, the following information and documentation shall be provided for testing purposes:

- a) contact details of the client undertaking the test;
- b) VSB system manufacturer contact details, if not the client;
- c) whether the VSB system is a prototype or is in production;
- d) model designation of the VSB system;
- e) the test vehicle specification and impact criteria against which the VSB system is to be tested;
- f) which face of the VSB system is designed to resist impact;
- g) general arrangement drawings, installation drawings and installation instructions;
- h) component drawings and foundation designs with dimensions, tolerances and all material specifications and finishes;
- i) factory sub-assembly drawings;
- j) parts list;
- k) components – certificate or material specification, where compliance stated;
- l) maintenance and repair instructions (if applicable);
- m) operating manual (if applicable);
- n) any other relevant information (e.g. information for disposal and/or recycling of the VSB system, details of toxic or dangerous materials in the product and safety issues).

NOTE 1 Attention is drawn to the Data Protection Act 1998 [2].

Where required, the document shall be marked "commercial in confidence" and shall be retained, handled and stored by the test house accordingly.

NOTE 2 For the design method, see Clause 6.

8 Test preparation

NOTE Users of this PAS are advised to consider the desirability of third-party testing of product conformity with this PAS. Appropriate conformity attestation arrangements are described in BS EN ISO/IEC 17025. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association. BS EN ISO/IEC 17025 also provides testing procedures [handling of test item(s), event record requirements and presentation of the test report].

8.1 Conformity between test item(s) and documentation

The documentation provided for testing purposes shall be checked and compared against the test item and confirmed to be accurate (see Clause 7). Any discrepancies shall be recorded and reported to the manufacturer prior to the test.

The manufacturer shall resolve the discrepancy through the provision of corrected drawings and/or test item before proceeding with testing.

A set of corrected drawings identified by an updated version number shall be provided together with a list of dated amendments.

8.2 Test item selection

Prior to testing, the selected test item shall be examined and confirmed to have dimensional conformity to the design drawings.

NOTE See also 8.1.

8.3 Impact point

For impact tests, the designated impact point between the vertical centre-lines of the impact faces of the test vehicle and the VSB system shall be recorded and be achieved within ± 100 mm.

For the vehicle impact test, quartered targets shall be applied to the centre-lines of both the test vehicle and the VSB system so as to be visible from the downstream camera (see 5.2.2.6 and Figure 2).

8.4 Test system operation

During pre- and post-impact, the operation of an active VSB system (e.g. rising, falling, sliding or swinging) shall be demonstrated and the functionality of the system shall be recorded [see 5.2.5.1 and 5.2.5.4].

Annex A (normative) VSB system classification types

A.1 General

VSB systems shall be classified according to the following criteria and in accordance with A.2 to A.5:

- foundation type;
- activity;
- operation (active VSB systems only); and
- VSB system type.

NOTE Further standards regarding VSB systems include: BS EN 1317-2, BS EN 1317-3, BS EN 12899-2 and DD ENV 1317-4. See the bibliography for further information.

A.2 Foundation

The VSB system foundation shall be classified according to Table A.1.

Table A.5 Foundation classification

Classification	Description
A	Freestanding; having no ground fixings
Ap	Surface mounted but also pinned or bolted to the ground
B	Depth ≤ 0.5 m below ground level
C	Depth > 0.5 m below ground level

A.3 Activity

The VSB system activity shall be classified according to Table A.2.

Table A.6 VSB system activity

Classification	Description
Active VSB system	VSB system that can be opened to enable passage to vehicles
Passive VSB system	Static VSB system having no moving parts

A.4 Operation (applicable to active VSB systems only)

The VSB system operation shall be classified according to Table A.3.

Table A.7 VSB system operation (active VSB systems only)

Classification	Description
Retractable	Pivoting in the vertical plane
Rising	Vertical or rotating movement in the vertical plane
Sliding	Horizontal movement in the vertical plane
Swinging	Pivoting in the horizontal plane

A.5 VSB system type

The VSB system type shall be classified according to Table A.4.

Table A.8 **VSB system type**

Classification	Description
VSB system	Structure preventing vehicle passage. Can be permeable (e.g. bollard) or continuous (e.g. wall). Can be active or passive
Ditch	Profiled excavation
Berm	Profiled mound of soil
Fence	Series of linked posts
Wall	Continuous vertical structure
Planter	Passive unit containing plant or trees
Bollard	Passive or active post (typically rising vertically)
Blocker	Active vehicle access control system (typically retracting into the ground)
Gate	Active vehicle access control system (typically rising, swinging or sliding)
Door	Active vehicle access control system in a wall

NOTE Wherever practicable, the detailed dimensions of the different VSB system types should be given as follows:

- *Blocker – height, width (of front face);*
- *Bollard – height, diameter;*
- *Door – aperture height, aperture width;*
- *Fence – height;*
- *Gate – upper and lower height of arm or boom, aperture width;*
- *Planter – height, width (of front face), depth (front to rear face);*
- *Wall – height, depth (front to rear face).*

**Annex B
(informative)****Proforma test report****B.1 Impact test report**

The following should be reported when an impact test report is prepared for PAS 68:

- a) product name;
- b) test number;
- c) test date;
- d) report number and a version number, where applicable;
- e) type of test, i.e. mass, speed, angle;
- f) date of report issued;
- g) author and technical reviewer, including appropriate approval signatures.

B.2 Contents of report

The following should be contained in an impact test report:

- a) introduction;
- b) executive summary;
- c) test item description;
- d) impact results;
- e) system damage;
- f) test vehicle damage;
- g) conclusions and any associated notes;
- h) ground level views from high speed video;
- i) overhead views from high speed video;
- j) post-impact test item and test vehicle damage images;
- k) general comments;
- l) disclaimer(s);
- m) data summary and analysis, where applicable;
- n) occupant severity indices, where applicable;
- o) concrete cube strength tests, where applicable.

Annex C
 (normative) **Prototypes**

The implications of any modifications to an assessed VSB system shall be evaluated and declared in respect of its effect on the performance of the VSB system. If a prototype VSB system meets the requirements of this PAS and subsequently an application is made for its formal approval, then the following conditions shall apply.

- a) If there are no changes to the original product or its associated design drawings, then the VSB system may be approved.
- b) If there are any modifications, the manufacturer shall describe them in respect of drawings and specifications used to define the VSB system in the original assessment. The procedure for the assessment of modified products shall be in accordance with Table C.1.

Table C.1 **Assessment of modified VSB systems**

Category	Change	Description	Action
A	Slight	Modifications requiring no mechanical changes to the VSB system or to its foundations or installation, e.g. changes to the finish of components, such as painting or galvanizing.	Changes shall be described on the drawings and a set of revised drawings with a unique identifier supplied to the party responsible for testing. A statement to the effect that "the modification will have no effect on the tested performance", shall be supplied by the VSB system manufacturer and this together with the drawings shall be recorded and retained by the party responsible for testing.
B	Moderate	Modifications to one or more components where their effects on the performance of the system can be determined by static or dynamic analysis, e.g. FEA procedures or physical testing, change of component material specification.	Component analysis or test shall be undertaken. Results of the analysis or test shall be reported, together with a copy of the original pre-modification results. A uniquely identified revised set of documents (including drawings) shall be supplied to the party responsible for testing for recording and retention.
C	Significant	Modifications in excess of A or B	A re-assessment of the VSB system in accordance with PAS 68 by impact test. All documentation shall clearly identify all modifications to the VSB system and its code, as amended, e.g. Version 2 (see Clause 7).

Bibliography

Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4449, *Steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product – Specification*

BS 4483, *Steel fabric for the reinforcement of concrete – Specification*

BS 8500-1:2006+A1:2012, *Concrete – Complementary British Standard to BS EN 206-1 – Part 1: Method of specifying and guidance for the specifier*

BS 8500-2:2006+A1:2012, *Concrete – Complementary British Standard to BS EN 206-1 – Part 2: Specification for constituent materials and concrete*

BS 8666, *Scheduling, dimensioning, bending and cutting of steel reinforcement for concrete – Specification*

BS AU 164/ISO 3784, *Specification for measurement of impact velocity in collision tests on road vehicles*

BS EN 197-1, *Cement – Part 1: Composition, specifications and conformity criteria for common cements*

BS EN 934-2, *Admixtures for concrete, mortar and grout – Part 2: Concrete admixtures – Definitions, requirements, conformity, marking and labelling*

BS EN 934-3, *Admixtures for concrete, mortar and grout – Admixtures for masonry mortar – Part 3: Definitions, requirements, conformity, marking and labelling*

BS EN 1008, *Mixing water for concrete – Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

BS EN 1317-2, *Road restraint systems – Part 2: Performance classes, impact test acceptance criteria and test methods for safety barriers including vehicle parapets*

BS EN 1317-3, *Road restraint systems – Part 3: Performance classes, impact test acceptance criteria and test methods for crash cushions*

BS EN 12620, *Aggregates for concrete*

BS EN 13139, *Aggregates for mortar*

BS EN 12899-2, *Fixed, vertical road traffic signs – Part 2: Transilluminated traffic bollards (TTB)*

BS EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

BS ISO 6813, *Road vehicles – Collision classification – Terminology*

BS ISO 10392, *Road vehicles – Determination of centre of gravity*

CWA 16221, *Vehicle security barriers – Performance requirements, test methods and guidance on application*

DD ENV 1317-4, *Road restraint systems – Part 4: Performance classes, impact test acceptance criteria and test methods for terminals and transitions of safety barriers*

PAS 69, *Guidance for the selection, installation and use of vehicle security barrier systems*

PD CEN/TR 16303-4, *Road restraint systems – Guidelines for computational mechanics of crash testing against vehicle restraint system – Part 4: Validation procedures*

Other publications

- [1] UNITED KINGDOM. The Road Traffic Act 1991. London: The Stationery Office.
- [2] UNITED KINGDOM. The Data Protection Act 1998. London: The Stationery Office.

Further reading

BS 4-1, *Structural steel sections – Part 1: Specification for hot rolled sections*

BS 5606, *Guide to accuracy in building*

BS 7973:1, *Spacers and chairs for steel reinforcement and their specification – Part 1: Product performance requirements*

BS EN 40 (all parts), *Lighting columns*

BS EN 1090-2, *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*

BS EN 1993-1-2, *Eurocode 3 – Design of steel structures – Part 1-2: General rules – Structural fire design*

BS EN 10025-1, *Hot rolled products of structural steels – Part 1: General technical delivery conditions*

BS EN 12899-1, *Fixed, vertical road traffic signs – Part 1: Fixed signs*

BS EN ISO 8503 (all parts), *Preparation of steel substrates before application of paints and related products – Surface roughness characteristics of blast-cleaned steel substrates*

This page deliberately left blank

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email bsmusales@bsigroup.com.

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Copyright

All the data, software and documentation set out in all British Standards and other BSI publications are the property of and copyrighted by BSI, or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI. Details and advice can be obtained from the Copyright & Licensing Department.

Useful Contacts:

Customer Services

Tel: +44 845 086 9001

Email (orders): orders@bsigroup.com

Email (enquiries): cservices@bsigroup.com

Subscriptions

Tel: +44 845 086 9001

Email: subscriptions@bsigroup.com

Knowledge Centre

Tel: +44 20 8996 7004

Email: knowledgecentre@bsigroup.com

Copyright & Licensing

Tel: +44 20 8996 7070

Email: copyright@bsigroup.com



...making excellence a habit.™

APPENDIX "D"

CLASS 'D' ESTIMATE

HAMILTON CITY HALL PLAZA UPGRADE

**CITY OF HAMILTON
HAMILTON CITY HALL PLAZA UPGRADE
HAMILTON, ONTARIO**

CLASS 'D' ESTIMATE

**February 28, 2020
Updated September 1, 2020**

Hanscomb

TABLE OF CONTENTS

	Page No.
1. Introduction	
1.1 Purpose	1
1.2 Methodology	1
1.3 Specifications	1
1.4 Exclusions	1
2. Documentation	2
3. Cost Considerations	
3.1 Cost Base	3
3.2 Escalation	3
3.3 Contingencies	3
3.4 Unit Rates	3
3.5 Taxes	3
3.6 Statement of Probable Costs	3
3.7 Ongoing Cost Control	4
4. Construction Cost Summary	
4.1 Construction Cost Summary	5
Appendices:	
A Option 1	
B Option 2	

1.0 INTRODUCTION

Page 1

1.1 General

This Class 'D' Estimate report is intended to provide a high level, realistic allocation of direct and indirect construction costs for the proposed redevelopment to the Hamilton City Hall Plaza Upgrade in Hamilton, Ontario with the exception of items listed in 1.4 below.

Accordingly, this Class 'D' Estimate report should only be considered in conjunction within the full context and recommendations of documents provided for this estimate.

1.2 Methodology

From the documentation and information provided, quantities of all major elements were assessed or measured where possible and priced at rates considered competitive for a project of this type under a stipulated sum form of contract in Hamilton, Ontario.

Pricing shown reflects probable construction costs obtainable in the Hamilton, Ontario area on the effective date of this report. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the work.

Costs reported in this estimate provide for all building construction but exclude any related site development work, allowances for Furnishings & Equipment and Professional Fees & Expenses. Separate provision has also been made where appropriate for such things as building demolition, etc.

1.3 Specifications

For building components and systems where specifications and design details are not available, quality standards have been established based on discussions with the design team.

1.4 Exclusions

This Class 'D' Estimate does not provide for the following, if required:

- owner's staff and management expenses
- all costs associated with hazardous or contaminated materials abatement
- land acquisition costs and expenses
- financing and/or fund raising expenses
- professional fees and all other soft costs

2.0 DOCUMENTATION

Page 2

This Class 'D' Estimate has been prepared from the documentation provided. Accordingly, this Class 'D' Estimate report should only be considered in conjunction within the full context and recommendations of documents provided for this estimate.

All of the above documentaton was received from OMC Landscape Architecture and was supplemented with information gathered in meeting(s) and telephone conversations with the design team, as applicable.

Design changes and/or additions made subsequent to this issuance of the documentation noted above have not been incorporated in this report.

3.0 COST CONSIDERATIONS

Page 3

3.1 Cost Base

All costs are estimated on the basis of competitive bids (a minimum of 6 general contractor bids and at least 3 subcontractor bids for each trade) being received in February 2020 from general contractors and all major subcontractors and suppliers based on a stipulated sum form of contract.

Escalation during the construction period is included in the unit rates used in this estimate.

3.2 Escalation

An allowance of 4% per annum has been made for construction cost escalation that may occur between February 2020 and the anticipated bid date for the project. Escalation during the construction period is included in the unit rates used in this estimate.

3.3 Contingencies

An allowance of 10% has been included to cover design and pricing unknowns. This allowance is not intended to cover any program space or quality modifications but rather to provide some flexibility for the designers and cost planners during the remaining design stages.

A separate allowance of 5% has been made to cover construction (post contract) unknowns.

3.4 Unit Rates

The unit rates in the preparation of this Class 'D' Estimate include labour and material, equipment, subcontractor's overheads and profit.

3.5 Taxes

No provision has been made for the Harmonized Sales Tax (HST). It is recommended that the owner make separate provision for the HST in the project budget.

3.6 Statement of Probable Costs

Hanscomb has no control over the cost of labour and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is made on the basis of experience, qualifications and best judgment of the professional consultant familiar with the construction industry. Hanscomb cannot and does not guarantee that proposals, or actual construction costs will not vary from this or subsequent estimates.

3.0 COST CONSIDERATIONS

Page 4

3.7 Ongoing Cost Control

Hanscomb recommends that the Owner and the design team carefully review this Class 'D' Estimate document, including line item description, unit price clarifications, exclusions, inclusions and assumptions, contingencies, escalation and mark-ups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the next design phase.

Requests for modifications of any apparent errors or omissions to this document must be made to Hanscomb within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

It is recommended that a final updated estimate be produced by Hanscomb using Bid Documents to determine overall cost changes which may have occurred since the preparation of this estimate. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. Hanscomb cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

CITY OF HAMILTON
 HAMILTON CITY HALL PLAZA UPGRADE
 CLASS 'D' ESTIMATE



February 28, 2020

4.1 CONSTRUCTION COST ESTIMATE SUMMARY

Page 5

A Option 1			\$325,100
General Requirements	12.0%		\$39,000
Fee	3.0%		\$10,900
Sub-Total Construction Cost - Excluding Allowances	1 Sum	375,000.00	\$375,000
Design & Pricing	10.0%		\$37,500
Escalation (4% per annum)	4.0%		\$16,500
Sub-Total Construction Cost - Including Allowances	1 Sum	429,000.00	\$429,000
Construction Contingency	5.0%		\$21,500
Total Construction Cost	1 Sum	450,500.00	\$450,500

B Option 2			\$341,600
General Requirements	12.0%		\$41,000
Fee	3.0%		\$11,500
Sub-Total Construction Cost - Excluding Allowances	1 Sum	394,100.00	\$394,100
Design & Pricing	10.0%		\$39,400
Escalation (4% per annum)	4.0%		\$17,300
Sub-Total Construction Cost - Including Allowances	1 Sum	450,800.00	\$450,800
Construction Contingency	5.0%		\$22,500
Total Construction Cost	1 Sum	473,300.00	\$473,300

**CITY OF HAMILTON
HAMILTON CITY HALL PLAZA UPGRADE
CLASS 'D' ESTIMATE**

Hanscomb

February 28, 2020

**APPENDIX A
Option 1**

**CITY OF HAMILTON
 HAMILTON CITY HALL PLAZA UPGRADE
 CLASS 'D' ESTIMATE**

Hanscomb

February 28, 2020

Option 1

A - 2

Option 1	1 Sum	429,000.00	\$429,000
1 Existing City Hall Plaza to remain	1 Nil	0.00	\$0
2 Allowance for Vector Designs (as per Security Consultant)	1 Sum	9,000.00	\$9,000
<u>Site Reinstatement</u>			
3 Allowance for misc. site reinstatement	1 Sum	25,000.00	\$25,000
4 Allowance for utility protection	1 Sum	30,000.00	\$30,000
5 Allowance for site protection measures	1 Sum	25,000.00	\$25,000
<u>Electrical Site Services</u>			
6 Misc. electrical works (assume not required)	1 Nil	0.00	\$0
<u>Mechanical Site Services</u>			
7 Misc. mechanical works (assume not required)	1 Nil	0.00	\$0
<u>Site Demolitions</u>			
8 Remove existing unit pavers (assume 50%)	31 m2	50.00	\$1,600
9 Remove existing concrete walkway (assume 50%)	31 m2	35.00	\$1,100
10 Allowance for misc. demolitions and removals	1 Sum	7,500.00	\$7,500
<u>New Bollards</u>			
11 Trench excavation c/w removal from site, assume 1m depth	67 m3	60.00	\$4,000
12 Trench excavation c/w removal from site @ working space, assume 1m depth	40 m3	60.00	\$2,400
13 Backfill c/w granular material, allow	107 m3	45.00	\$4,800
14 Allowance for fill to regrade pathway before reinstallation of new paving, assume 150mm depth	62 m2	40.00	\$2,500
15 New foundations c/w concrete, formwork and reinforcing, allow	62 m	750.00	\$46,500
16 New stainless steel bollards (quote as per Marshalls)	40 No.	3,505.00	\$140,200
17 New removable bollards (quote as per Sureguard Security Products and Ontario Bollards)	3 No.	1,550.00	\$4,700
18 Stainless steel cover @ removable bollard, allow	3 No.	2,800.00	\$8,400
19 New concrete paving to match existing (assume 50%)	31 m2	100.00	\$3,100
20 New unit pavers to match existing (assume 50%)	31 m2	300.00	\$9,300
<i>General Requirements</i>		<i>12.0%</i>	<i>\$39,000</i>
<i>Fee</i>		<i>3.0%</i>	<i>\$10,900</i>
<i>Design & Pricing</i>		<i>10.0%</i>	<i>\$37,500</i>
<i>Escalation (4% per annum)</i>		<i>4.0%</i>	<i>\$16,500</i>

**CITY OF HAMILTON
HAMILTON CITY HALL PLAZA UPGRADE
CLASS 'D' ESTIMATE**

Hanscomb

February 28, 2020

**APPENDIX B
Option 2**

**CITY OF HAMILTON
HAMILTON CITY HALL PLAZA UPGRADE
CLASS 'D' ESTIMATE**

Hanscomb

February 28, 2020

Option 2

B - 2

Option 2	1 Sum	450,800.00	\$450,800
1 Existing City Hall Plaza to remain	1 Nil	0.00	\$0
2 Allowance for Vector Analysis (as per Security Consultant)	1 Sum	9,000.00	\$9,000
<u>Site Reinstatement</u>			
3 Allowance for misc. site reinstatement	1 Sum	30,000.00	\$30,000
4 Allowance for utility protection	1 Sum	30,000.00	\$30,000
5 Allowance for site protection measures	1 Sum	25,000.00	\$25,000
<u>Electrical Site Services</u>			
6 Misc. electrical works	1 Sum	5,000.00	\$5,000
<u>Mechanical Site Services</u>			
7 Misc. mechanical works (assume not required)	1 Nil	0.00	\$0
<u>Site Demolitions</u>			
8 Remove existing unit pavers (assume 25%)	16 m2	50.00	\$800
9 Remove existing concrete walkway (assume 75%)	47 m2	35.00	\$1,600
10 Allowance for misc. demolitions and removals	1 Sum	7,500.00	\$7,500
<u>New Bollards</u>			
11 Trench excavation c/w removal from site, assume 1m depth	62 m3	60.00	\$3,700
12 Trench excavation c/w removal from site @ working space, assume 1m depth	37 m3	60.00	\$2,200
13 Backfill c/w granular material, allow	99 m3	45.00	\$4,500
14 Allowance for fill to regrade pathway before reinstallation of new paving, assume 150mm depth	62 m2	40.00	\$2,500
15 New foundations c/w concrete, formwork and reinforcing, allow	62 m	750.00	\$46,500
16 New stainless steel bollards (quote as per Marshalls)	12 No.	3,505.00	\$42,100
17 New removable bollards (quote as per Sureguard Security Products and Ontario Bollards)	28 No.	1,550.00	\$43,400
18 Stainless steel cover @ removable bollard, allow	28 No.	2,800.00	\$78,400
19 New concrete paving to match existing (assume 75%)	47 m2	100.00	\$4,700
20 New unit pavers to match existing (assume 25%)	16 m2	300.00	\$4,700
<u>New Site Ammenities</u>			
21 New hand/guardrail @ existing stairs, NIC	0 m	1,000.00	\$0
22 New metal security rated swing gate, NIC	0 Nil	65,000.00	\$0
<i>General Requirements</i>	12.0%		\$41,000
<i>Fee</i>	3.0%		\$11,500
<i>Design & Pricing</i>	10.0%		\$39,400
<i>Escalation (4% per annum)</i>	4.0%		\$17,300



**City of Hamilton
City Hall Forecourt
Vehicular Impact on Concrete Planter Analysis
November 2020
Revised: February 2021**



City of Hamilton
City Hall Forecourt
Vehicular Impact on Concrete Planter Analysis
November 2020
February 2021

TABLE OF CONTENTS

	PAGE
GENERAL DESCRIPTION	1
METHODOLOGY	1
CALCULATIONS	2
RECOMMENDATIONS	4

LIST OF TABLES

Table 1: Existing Planter Stopping Distance

Table 2: Stopping distance required by the addition of concrete

LIST OF APPENDICES

Appendix A Limit of Liability

City of Hamilton
City Hall Forecourt
Vehicular Impact on Concrete Planter Analysis
November 2020
Revised February 2021

GENERAL DESCRIPTION

Kalos Engineering Inc. was retained by the City of Hamilton to provide an assessment and analysis of possible impact scenarios on the concrete planters located in the forecourt of the Hamilton City Hall, located at 71 Main Street West in the City of Hamilton. This assignment was under Category 30- Structural Engineering Services - Facilities, Contract No. C12-06-18 and was authorized by Mr. Sam Gargarello, M. Arch., B. Tech., Project Manager and issued Purchase Order 95507.

A typical planter measures out to be approximately 5ft x 5ft and stands 2' 8" high. The wall thickness of the planters is approximately 4" all around the perimeter and is assumed to be the same for the base. The planters are free floating on top of the forecourt surface in order to be rearranged if required.

The impact scenarios considered in this analysis consist of four test vehicles: a sedan, a pick up truck, a flat bed truck, and a transport truck. The planter was analyzed for each vehicle impacting it at velocities of up to 80km/hour in a head on collision.

This report is limited to the feasibility analysis of a single planter resisting impacts from several vehicle types and does not include the arrangement of the planters within the forecourt or multiple planters working in tandem to resist a vehicular impact.

METHODOLOGY

A typical planter was analyzed under the design loading requirements outlined in the BSI Standards Publication "Impact testing specifications for vehicle security barrier systems". The test scenarios which have been analyzed include several vehicle types of varying weights impacting a single planter at speeds ranging from 16km/h to 80km/h. The four test vehicles analyzed include a typical sedan weighing 1,500 kg, a 2,500 kg pickup truck, and a 3,500 kg flat bed truck. A 32,000 kg 4-axle transport truck was initially considered in our primary analysis but given the low probability of such an impact (based on local traffic), The British standard provided us with the weight and amount of kinetic energy that each vehicle would possess at the varying speeds. Seeing as the planters are free floating, the only force resisting their movement is the frictional force produced between the ground and the planter. Assuming the planters remain rigid, meaning they do not fall apart on impact, we apply the concept of conservation of energy to determine how far a planter would slide when exposed to the various impact scenarios. In this case, the driving force is the kinetic energy produced by the vehicle, while the resisting force is friction between the planter and the ground. The amount of work required to bring the vehicle to a complete stop must be equal to the amount of kinetic energy produced by the vehicle. The work produced by the planter is a function of frictional force multiplied by its sliding distance. Seeing as we know the kinetic energy of the vehicle, and the frictional force produced by the planter, we are able to determine the theoretical distance that a rigid planter would move before bringing the vehicle to complete stop.

Seeing as the equation for kinetic energy = $\frac{1}{2} mv^2$, the velocity of the vehicle exponentially effects the magnitude of kinetic energy produced. This directly correlates to the distance the planter will

City of Hamilton
 City Hall Forecourt Planter Analysis
 November 2020
 Revised February 2021

be pushed upon impact, meaning that at higher impact speeds, the planter is required to slide a significantly larger distance in order to bring the vehicle to a full stop.

The impacting force on the planter applies the same concept of conservation of energy. In this case kinetic energy of the vehicle is equal to the crumple distance of the vehicle multiplied by the resultant force produced upon impact. This allows us to determine the applied force on the planter's face which when divided by its surface area yields a uniformly distributed load. Given that the planters reinforcing is unknown and likely only for general crack resistance, it is assumed to provide no additional support. Therefore the moment resistance of unreinforced concrete is what resists any applied force.

CALCULATIONS

The British Standard provides impact energies for several test vehicle sizes at various speeds. The vehicle sizes range from an average sedan to a Flat bed truck and speeds vary from 16km/h to 80km/h. The wall thickness of the planter was assumed to be constant and the remaining volume was assumed to be filled entirely by soil resulting in an estimated weight of 35kN (7800lbs). The planter was assumed to bear on a gritty concrete surface for which a reasonable coefficient of friction of 0.8 was assumed.

Base on the above noted coefficient of friction, the BSI design criteria for several vehicles, as well as the properties of the existing planter, we were able compile the distance that the planter would need to slide in order to bring the test vehicles to a complete stop at speeds of 16, 48, 64, and 80 km/h. **Table 1** below shows the required stopping distance of the existing planters as they currently stand with no factor of safety applied.

	Existing Planter		
	Sedan (1,500 Kg)	Pickup (2,500 Kg)	Flatbed Truck (3,500 Kg)
16 Km/hr Speed at Impact	1m (3ft) push distance until full vehicle stop	1m (3ft) push distance until full vehicle stop	1m (4ft) push distance until full vehicle stop
48 Km/hr Speed at Impact	5m (16ft) push distance until full vehicle stop	8m (26ft) push distance until full vehicle stop	11m (36ft) push distance until full vehicle stop
64 Km/hr Speed at Impact	8m (28ft) push distance until full vehicle stop	14m (46ft) push distance until full vehicle stop	20m (65ft) push distance until full vehicle stop
80 Km/hr Speed at Impact	13m (43ft) push distance until full vehicle stop	22m (72ft) push distance until full vehicle stop	31m (101ft) push distance until full vehicle stop

Table 1: The distance an existing planter would need to move in order to stop a several vehicles at a range of speeds.

City of Hamilton
City Hall Forecourt Planter Analysis
November 2020
Revised February 2021

Once the speed of the vehicles is increased, the distance the planter would move increases considerably. Seeing as kinetic energy is exponentially related to velocity, at a speed of 80Km/hr the sedan would push the planter approximately 13m (43 ft). The stopping distance required by the remaining vehicles is deemed highly infeasible. At this speed the required stopping distance would be approximately 22m (72ft) for the pick up truck, and 31m (100ft) for the flat bed truck.

In addition, for the lightest vehicle moving at a very slow speed (a sedan moving at 16km/hr) with an assumed crumple zone length of 12" the planter would be subjected to a force of 50kN (11,000lbs). This results in an applied force of approximately 4.7 times greater than that which the planter can resist. Therefore, it is highly unlikely the planter would remain intact following an impact and at high speeds may provide little to no support.

Seeing as the results of the primary analysis concluded that the existing planters are not capable of adequately stopping a vehicle without the addition of a factor of safety, the safety factor was omitted. Had the results been reasonable, a safety factor of 2.0 would have been applied in order to ensure protection against unforeseen variables.

In addition to providing an analysis on the feasibility of using the existing planters as crash attenuators, we were also asked to provide a comparison of a couple of options.

The first option includes a potential modification to the existing planters which involves filling 50% of the planters with concrete and the remaining 50% with soil. This would create an increase in weight which directly correlates to an increase in stopping distance of approximately 12.5%. It should be noted that this analysis involves a vehicle hitting the planter perfectly centered and the planter remaining directly in front of the vehicle for the entirety of the stopping distance. In reality, it is possible that the vehicle hits the planter at an irregular angle and pushes it out of the way or environmental factors such as snow, ice, and rain reduce the frictional coefficient between the ground and the planter. all of which could increase the stopping distance required. To adequately account for several factors which may increase the stopping distance, we have applied a factor of safety of 2.0 to the results of this option.

The second option involves introducing an engineered bollard system by others, which would be designed with the intent to bring a vehicle to a complete stop upon impact. The system that was brought forward to us by the city of Hamilton is the PAS 68 25/40 system. This system is designed to meet the BSI impact design criteria which our analysis is based on. The system is designed to withstand an impact from a 2500kg vehicle at speeds of up to 64km/h.

By considering the impact energy that the PAS 68 25/40 system is designed to withstand (which is a function of mass and velocity), we were able to compare similar impact scenarios that the system would cover. This is based on the BSI standards publication which outlines the impact energy for a 2500kg vehicle travelling at 64km/h which is equivalent to 395 kJ.

The stopping distance required by option 1 can be seen below in **table 2**. The highlighted cells of the table indicate scenarios which the PAS 68 25/40 system would be able to withstand based on equal or lesser impact energies of which the system is designed for.

City of Hamilton
 City Hall Forecourt Planter Analysis
 November 2020
 Revised February 2021

Option 1: 50% full with concrete			
	Sedan (1,500 Kg)	Pickup (2,500 Kg)	Flatbed Truck (3,500 Kg)
16 Km/hr Speed at Impact	1m (3ft) push distance until full vehicle stop	2m (5ft) push distance until full vehicle stop	2m (7ft) push distance until full vehicle stop
48 Km/hr Speed at Impact	8m (27ft) push distance until full vehicle stop	14m (46ft) push distance until full vehicle stop	19m (64ft) push distance until full vehicle stop
64 Km/hr Speed at Impact	15m (49ft) push distance until full vehicle stop	25m (81ft) push distance until full vehicle stop	35m (113ft) push distance until full vehicle stop
80 Km/hr Speed at Impact	23m (76ft) push distance until full vehicle stop	39m (127ft) push distance until full vehicle stop	54m (177ft) push distance until full vehicle stop

Table 2: The distance that a planter filled half with concrete and half with soil would need to move in order to stop several vehicle types at a range of speeds. The Highlighted cells indicate scenarios which the PAS 68 25/40 Bollard system should be capable of stopping based on equal or lesser impact energies.

RECOMMENDATIONS

The planters as they currently stand would act very poorly as crash attenuators. For a sedan moving at 80km/hr (which is the most likely impact scenario) a stopping distance of approximately 43 ft is extremely unsafe. Civilians would be required to be at safe distance away from these barriers which would be difficult to ensure and would highly decrease the available area in the forecourt. In addition, the further the sliding distance, the more likely it becomes for the planter to fall apart and produce debris or be pushed out of the way of a vehicle before bringing it to a complete stop.

The Potential solutions that were considered are as follows:

- **Filling a planter halfway with concrete:**
 This would increase the weight of the planter therefore increasing the friction produced between the planter and the ground therefore decreasing the stopping distance of the planter. This method would result in a 12.5% increase in weight which corresponds to a 12.5% decrease in stopping distance.

It is evident in **table 2** that this system would still require large stopping distances in order to completely stop a vehicle. In addition, there are a large number of variables which may affect the required stopping distance; as a result we have applied a factor of safety of 2.0 to the results to achieve a more reliable stopping distance. Moreover, seeing as concrete is an inherently brittle material, it is inevitable that a portion of planter would break off in an impact scenario and this debris may travel well outside of the intended stopping distance.

City of Hamilton
City Hall Forecourt Planter Analysis
November 2020
Revised February 2021

Due to the large stopping distance required as well as high potential for debris to be produced as a result of impact, it is our opinion that this system would not be an adequate solution to safely protect against a vehicular collision.

The potential cost implications of this option would be approximately \$1000 per planter. This would include cost of labor (\$560), cost of materials (\$100), Concrete delivery and misc. materials (\$440). Although the cost implications of such a modification may be appealing compared to a proprietary system, it is evident that this system cannot be heavily relied upon to stop vehicles.

Purchase an engineered bollard system:

This solution would ensure the forecourt is adequately protected from any possible vehicle collisions. The PAS 68 25/40 system would be an adequate system although it should be noted that the Ontario building code requires foundations of structures to bear at a minimum 1200mm (4ft) below grade. This would ensure the footing has adequate protection from frost heave and would considerably extend the life span of the investment.

According to the results of our analysis, it is our opinion that an engineered bollard system, such as PAS 68 25/40 is the most reliable method of protection to safely and effectively withstand the impact of a moving vehicle.

We trust this to be acceptable to you. Please to not hesitate to contact the undersigned if you have any questions.

Respectfully submitted,


Kalos Engineering Inc.

Per: JP Campana, P. Eng.
Principal, Structural Engineer

JPC/TK/ejd

G:\Work\2020\20181 - City of Hamilton - City Hall Forecourt Planter Analysis\Corr\Report\20181




Tony Kalac, B. Eng., EIT
Structural Designer

Limit of Liability

No party other than the Client shall rely on the Consultant's work without the express written consent of the Consultant. The scope of work and related responsibilities are defined in the Conditions of Assignment. Any use which a third party makes of this work, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Decisions made or actions taken as a result of our work shall be the responsibility of the parties directly involved in the decisions or actions. Any third party user of this report specifically denies any right to any claims, whether in contract, tort and/or any other cause of action in law, against the Consultant (including Sub-Consultants, their officers, agents and employees).

The work reflects the Consultant's best judgement in light of the information reviewed by them at the time of preparation. Unless otherwise agreed in writing by Kalos Engineering Inc., it shall not be used to express or imply warranty as to the fitness of the property for a particular purpose. This is not a certification of compliance with past or present regulations. No portion of this report may be used as a separate entity; it is written to be read in its entirety.

This work does not wholly eliminate uncertainty regarding the potential for existing or future costs, hazards or losses in connection with a property. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. Kalos Engineering Inc. can perform further investigation on items of concern if so required.

Only the specific information identified has been reviewed. The Consultant is not obligated to identify mistakes or insufficiencies in the information obtained from the various sources or to verify the accuracy of the information.

Kalos Engineering Inc. is not investigating or providing advice about pollutants, contaminants or hazardous materials. The Client and other users of this report expressly deny any right to any claim, including personal injury claims which may arise out of pollutants, contaminants or hazardous materials, including but not limited to asbestos, mould, mildew or other fungus.

Applicable codes and design standards may have undergone revision since the subject property was designed and constructed. As a result design loads (particularly loading from occupancy, snow, wind, rain and seismic loads) and the specific methods of calculating capacity of the system to resist these loads may have changed significantly. Unless specifically included in our scope, no calculations or evaluations have been completed to verify compliance with current building codes and design standards.

Budget figures are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.

Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

Standardized Products and Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
SWS Warning Lights Inc.	X			SWS Warning Lights are currently in wide spread use in the City's fleet. Units are compatible with existing operation and ongoing standardization will prevent inventory expansion and control costs. Named on Procurement document specifications for new vehicle/equipment purchases. Supplier determined through applicable Procurement Process	\$40,000.00
Grote Industries	X			GROTE back up alarms, trailer plugs, lighting and wiring harnesses are currently in wide spread use in the City's fleet. Units are compatible with existing operation and standardization will prevent inventory expansion and control costs. Named on Procurement document specifications for new vehicle/equipment purchases. Supplier determined through applicable Procurement Process	\$65,000.00
Goodyear Hydraulic Hoses and Fittings	X			The City will procure Goodyear hydraulic hose and fittings when Original Equipment Manufacturer (OEM) and/or unique application hoses are not required for new and existing vehicles and equipment. Benefits for operating departments and Fleet Services maintenance include uniform crimping specifications, reduced training costs and allow Fleet Services to control inventory costs, ensure parts availability and avoid any potential costs of replacing dies for tooling crimping machines to other supplier's requirements. Named on Procurement Documents. Supplier determined through applicable Procurement Process	\$70,000.00
Compuspread	X			Supply of original equipment parts and service for Compuspread electronic spreader control systems. Compuspread electronic spreader control systems are used on the City's sander/salter/plow units to control material application rates and record their usage during winter events. Roadway Maintenance has been using the Compuspread system since the early 2000's. Currently approximately 113 City sander/salter/plow units have the	\$85,000.00

Standardized Products and Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
				Compuspread system installed. These units have provided good quality and are essential to deliver winter control in a cost-effective manner. Historically there have been no major issues with the Compuspread system. The City's Fleet Services Section of the Public Works Department have a process in place for Compuspread repairs and technical training programs for fleet technicians. Fleet carries a significant inventory of Compuspread maintenance and repair items and has established supply contracts to ensure timely repair of existing systems. Named on Procurement document specifications for new vehicle/equipment purchases. Supplier determined through applicable Procurement Process	
The Equipment Specialist (Active Agreement)		X	X	Supply of Sweepers, original equipment parts and service for Tymco DST-6 and DST-4 Regenerative Air Sweeper manufactured by Tymco International Ltd.. Performance claim for controlling particulate matter (PM 10 and PM 2.5) is certified by Environmental Technology Verification (ETV) Canada with a surface removal efficiency of greater than 90%. Of additional benefit to the operators is the City's entire sweeper fleet will remain standardized from one manufacturer reducing the risk of errors and variations in street cleanliness. This continues to simplify operation and maintenance procedures for both the Fleet Services and Roadway Maintenance. To date there have been no other sweeper suppliers that have confirmed their ability to match performance criteria of the Tymco. Previous approvals for the Tymco as a single source include (PW05095c), (PW05095b) and (PW05095a). Parts and service requirements are expected for the estimated service life of this equipment therefore it is anticipated that this will be a requested standardization for the next eight years. Agreement has been established with The Equipment Specialist Inc. which expires on December 31, 2022, for the supply of new units, parts and service.	\$930,000.00

Standardized Products and Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
DiCAN Inc (Active Agreement)	X	X	X	Supply of new back up cameras and AVL accessories, original equipment parts, installation and service for Back up cameras and AVL accessories. Original supplier of this equipment to the majority of the heavy-duty fleet. Trucks cannot be safely operated when this equipment is not operable. We currently have a combined total of approximately 200 units on our fleet of salter/ sander, garbage packers, sweepers and other equipment. DiCAN is the dealer authorized to sell Veilig Safety systems to the Municipal industry here in Ontario. Supply and installation of AVL components and accessories. Named on Procurement document specifications for new vehicle/equipment purchases. Agreement has been established with Dican Inc. which expires on November 20, 2021, for the supply of new units, parts and service.	\$65,000.00
Groeneveld Lubrication Solutions INC. (Active Agreement)	X	X	X	Supply of new Groeneveld Auto Lube System, parts and service. The city has approximately 200 units on the fleet of Plow, Garbage trucks and other equipment. Groeneveld Products is the only distributor in the Hamilton area. Supply of original equipment parts and service. Named on Procurement document specifications for new vehicle/equipment purchases. Agreement has been established with Groeneveld Lubrication Solutions INC. which expires on November 27, 2021, for the supply of new units, parts and service.	\$75,000.00
D&R Electronics Co. Ltd.	X	X	X	Supply of new light sticks, original equipment parts and service for LED light sticks manufactured by D&R Electronics Co. Ltd.. D&R LED light bars are widely used on the City fleet vehicles. Used on Supervisors vehicles and quick stop and go road maintenance units that are too small for a full TC-12 Arrow Board. These lights prevent vehicle collisions by warning and/or directing traffic around a stationary unit. Named on Procurement document specifications for new vehicle/equipment purchases.	\$10,000.00

Standardized Products and Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
DriveWise			X	<p>DriveWise provides fully mobile driver simulator training for CVOR Classification vehicles and customizes training and simulations with specialized Municipal Operations equipment (including snow plows and waste collections vehicles). Other specialized equipment simulator training can be designed based on our specific equipment needs. This organization is the only one we found that has the simulator permanently attached inside a mobile trailer that can be moved from location to location which therefore, has minimal impact to our operations. The instructors are experienced in snow plow and waste collections and can answer questions that arise with employees in these areas. Fleet Compliance Officers received hands-on training in the area of snow plow operation and evaluations from the DriveWise instructors. Fleet Services partnered with DriveWise to customize our Professional Driver Improvement Course to be reflective of the same messaging received during simulator training. This program is fully customizable, and we have tailored it to contain relevant City of Hamilton content to maximize the effectiveness of our program for participants. DriveWise is contracted by many large Municipalities across Ontario. DriveWise simulator training was noted and strongly suggested by the Ministry of Transportation during the City's CVOR improvement strategy interview.</p>	\$90,000.00

Single Source Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
Zamboni Company Ltd.		X	X	Supply of original equipment parts and service only for Zamboni ice resurfacers. Zamboni custom engineers, manufactures and assembles many of the Zamboni Ice Resurfacer components. Proprietary parts and repair knowledge are not available from the aftermarket network therefore single source of these services from Zamboni Company Ltd. is the only source.	\$65,000.00
Brandt Tractor		X	X	Supply of original equipment parts and service for John Deere Industrial Equipment. Brandt Tractor is the Original Equipment Manufacturer (OEM) John Deere Industrial Dealer. Some parts on this equipment are not available from the aftermarket network, therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, the vendor will complete the work avoiding increased cost for secondary transportation and additional downtime. Some service work may require special tooling or specialized training available only from Brandt Tractor under a territorial right agreement.	\$40,000.00
Altruck International Truck Centres		X	X	Supply of original equipment parts and service for International Trucks. Altruck is the Original Equipment Manufacturer (OEM) International Truck Dealer. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or specialized available only within Altruck International Centres under a territorial right agreement.	\$15,000.00

Single Source Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
Viking-Cives Ltd.		X	X	Supply of original equipment parts and service for Viking-Cives snow plow bodies. Original Equipment Manufacturer (OEM) Sander / Plow parts Dealer of Viking-Cives customs engineers, manufactures and assembles sander bodies and plow systems. Proprietary parts are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or training available only within Viking-Cives Ltd.	\$125,000.00
Premier Truck Group (Ford / Sterling & Western Star Trucks)		X	X	Supply of original equipment parts and service for Ford/Sterling/Western Star truck parts. Premier Truck Group has a dedicated territory as a Ford/Sterling/Western Star dealer and supplies Ford/ Sterling/Western Star OEM parts. This vendor is the original equipment supplier for parts and service required for our fleet of approximately 40 Sterling Trucks.	\$50,000.00
Metro Freightliner Trucks		X	X	Supply of original equipment parts for Freightliner trucks. Metro Freightliner has a dedicated territory for parts and warranty service for our fleet of approximately 135 Freightliner Plows, Waste collection Packers, Sweepers, Aerials and other service body truck cab and chassis. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source.	\$185,000.00
G.C. Duke Equipment		X	X	Supply of original equipment parts and service for various mowers, lawn maintenance equipment and vehicles originally sourced from G.C. Duke Equipment are in use at city golf courses and parks throughout the city. There are a number of manufacturer specific parts that can only be purchased through the dealer. Some service work may require special tooling or training available only from the	\$130,000.00

Single Source Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
				dealer. This dealer holds the entire Province of Ontario as a protected territory.	
Turfcare		X	X	Supply of original equipment parts and service for Toro mowers and utility vehicles. Toro mowers and utility vehicles are in use throughout the city. Supply of parts and service is restricted to protected territory supplied only by Turfcare in Ontario and Quebec.	\$30,000.00
Joe Johnson Equipment		X	X	Supply of original equipment parts and service for Vactor Vacuum Truck and Labrie Garbage Packers Bodies. Where Vactor and Labrie body parts and unique service requirements are needed. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or specialized available only from Joe Johnson Equipment under a territorial right agreement.	\$50,000.00
Vermeer		X	X	Supply of original equipment parts and service for Vermeer Wood Chippers. Vermeer wood chippers are in use throughout the City fleet and periodically require manufacturer's specific parts. There are a number of manufacturer specific parts that can only be purchased through the dealer. Some service work may require special tooling or training available only from Vermeer Ontario	\$25,000.00
Amaco Equipment		X	X	Supply of original equipment parts and service of Falcon hotbox road repair equipment. Amaco Equipment is the authorized dealer of Falcon Asphalt Hot Box equipment, parts and service.	\$60,000.00
Baker Parts Inc.		X	X	Supply of parts, new and rebuilt Emco Wheaton POSI/LOCK® dispensing nozzles. Baker Parts is the exclusive Canadian dealer for Emco Wheaton automatic Refueling and POSI/LOCK® Blue urea dispensing systems. Our two locations capable of fueling HSR buses are	\$15,000.00

Single Source Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
				equipped with Emco Wheaton POSI/LOCK® dispensing nozzles.	
Bobcat of Hamilton		X	X	Supply of original equipment parts and service for Bobcat equipment. The City currently owns approximately 8 Bobcat brand vehicles in use with various sections throughout the city. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or specialized available only from Bobcat of Hamilton under a territorial rights agreement.	\$25,000.00
Cervus Equipment		X	X	Supply of original equipment parts and service for Peterbilt trucks. Cervus is the Original Equipment Manufacturer (OEM) for Peterbilt Trucks. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty. When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or specialized available only from Cervus Equipment under a territorial rights agreement.	\$20,000.00
Strongco Corporation		X	X	Supply of original equipment parts and service for Case Construction and Volvo Construction Equipment. Strongco is the Original Equipment Manufacturer (OEM) dealer of Case Construction, Volvo Construction and Champion Equipment. Some parts on this equipment are not available from the aftermarket network therefore the original equipment supplier is the only source. Warranty work that is sent for repair occasionally results in labour and parts that are subsequently found not to be covered under warranty.	\$20,000.00

Single Source Suppliers					
Vendor Name	Manufacturer	Service	Distributor	Rationale	Estimated Annual Expenditures
				When this occurs and it's in the City's best interest, in consideration of cost and downtime, the vendor will complete the work. Some service work may require special tooling or specialized available only from Strongco Corporation under a territorial rights agreement.	
Work Equipment Ltd. (sales division of Trackless Manufacturing)		X	X	Supply of original equipment parts for Trackless brand sidewalk tractors. There are currently 6 Trackless brand vehicles in the City fleet that require manufacturer's specific parts. These units are predominately municipal purchases; therefore, aftermarket parts distribution is virtually non-existent. Work Equipment Ltd. is the sales arm of Trackless Manufacturing.	\$40,000.00