

**OVERVIEW DOCUMENT #5:  
THE RHVP (2008 TO 2012) AND CITY ROAD/SAFETY  
INITIATIVES (2008 TO 2018)**

## TABLE OF CONTENTS

A.	INTRODUCTION .....	3
B.	RHVP FLOODING (2009-2010) .....	4
C.	SELECTED CITY ROAD PROGRAM INITIATIVES AND SAFETY INITIATIVES (2008-2018) .....	7
1.	<i>Traffic Safety Status Reports</i> .....	7
2.	<i>Hamilton Strategic Road Safety Program</i> .....	10
3.	<i>Public Works Asset Management Plan and State of the Infrastructure Report</i> .....	12
4.	<i>2010 Transportation Master Plan Implementation (TMPI) Update</i> .....	20
5.	<i>Amendments to the Municipal Act, 2001</i> .....	23
6.	<i>Policy for Sidewalk and Roadway Lighting and the Implementation Plan</i> .....	24
D.	CITY PAVEMENT-RELATED ACTIVITIES (2011-2012) .....	24
1.	<i>Pavement and Materials Technology Review</i> .....	24
2.	<i>LINC Resurfacing</i> .....	28
3.	<i>Correspondence regarding Friction Testing and High Friction layer (non-RHVP)</i> .....	30
E.	PUBLIC COMPLAINTS RE RHVP (2008-2010) .....	31
(a)	Late 2008 to 2009 .....	31
(b)	2010 .....	37
F.	DOUBLE FATALITY (2012) .....	42
G.	APPENDIX A: INDIVIDUALS REFERENCED IN OVERVIEW DOCUMENT #5 .....	44

**A. Introduction**

1. Overview Document #5 will address the operation of the RHVP from 2008 to 2012. It will also describe select road and/or safety initiatives implemented by the City of Hamilton between 2008 and 2018. These City road/safety initiatives are not specific and/or exclusive to the RHVP. Overview Document #5 will largely be organized in chronological order, but some events will be grouped together, slightly out of chronological order, where doing so promotes clarity and ease of understanding.
2. Commission Counsel has endeavoured to confirm the names, organization, and position(s) held by the individuals referenced in this Overview Document. This information is provided in the body text where each individual is first referenced. A complete list of the individuals and their respective information can be found at Appendix A of Overview Document #5.<sup>1</sup>
3. The facts contained in Overview Document #5 have not been tested for their truth. Commission Counsel and the participants may call evidence from witnesses at the Inquiry that casts doubt on the truthfulness or accuracy of the content of the documents underlying this Overview Document. The participants will also be able to make submissions regarding what, if any, weight should be given to any of these documents.

---

<sup>1</sup> Where more than one position is held by an individual within the time frame covered in this Overview Document, the information in the body text will reflect the position held at the time of first reference. For a complete list of all positions held by all individuals referenced in Overview Document #5, please see Appendix A.

**B. RHVP Flooding (2009-2010)**

4. On July 26, 2009, the RHVP experienced a significant flooding event as a result of the heavy rainfall.<sup>2</sup> Ron Scheckenberger (Vice-President, Philips Engineering) and Aaron Farrell (Associate, Philips Engineering) prepared a memorandum, addressed to Gary Moore (Director, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) and Jennifer DiDomenico (Manager, Policy & Programs, Support Services, Operations & Waste Management Division, Public Works, Hamilton), dated August 19, 2009, in which they concluded that the July 26, 2009 rain amounts “clearly exceed[ed] the 100 year storm event design condition for the drainage infrastructure” of the RHVP.<sup>3</sup>

5. On July 8 and 9, 2010, the City experienced a heavy rainfall. In an email to Mayor Fred Eisenberger (Mayor of Hamilton) and members of City Council, Gerry Davis (General Manager, Public Works, Hamilton) stated that a stormwater retention pond along the RHVP had overflowed, “causing flooding of the roadway in this area” and “[t]he flooding of the Red Hill Valley Parkway is not a result of any engineering/design issues, nor is it related to the creek.”<sup>4</sup>

6. On July 13, 2010, in response to an email from Councillor Chad Collins (Ward 5, Hamilton) to Mr. Moore, in which he forwarded an email from a constituent about the

---

<sup>2</sup> See for example [HAM0039460\\_0001](#); [HAM0000330\\_0001](#); [HAM0021607\\_0001](#) (expenses); and [HAM0039497\\_0001](#)

<sup>3</sup> [HAM0021668\\_0001](#) at image 5

<sup>4</sup> [HAM0021965\\_0001](#)

flooding and speeding on the RHVP and asked Mr. Moore to comment on the “technical aspect of flowing within the creek”, Ms. DiDomenico stated:

In Gary's absence I can provide the following in response to [the constituent's] email:

The Red Hill Valley Parkway has been operating as was intended. The roadway and stormwater management system are designed properly and in accordance with engineering standards. The culverts and catch basins are being maintained as often as possible, however, the sheer intensity and volume of these rainstorms have caused the flooding of the roadway in expected areas. The system is designed to keep as much of the watershed runoff in the Valley and out of the abutting residential areas (and basements).

The City continues to monitor the changing weather patterns and will assess the response of our infrastructure to these types of events.

In the meantime, we will be looking at putting in signage along the roadway as a possible means to better inform travellers.<sup>5</sup>

7. At the Committee of the Whole meeting on August 11, 2010, the report of which was received and approved by City Council on August 12, 2010, Mr. Davis presented an update to the Committee on the RHVP and the recent rain events.<sup>6</sup> Councillor Maria Pearson (Ward 10, Hamilton) put forward a suggestion that staff look into signage for the Red Hill Valley Parkway and LINC to alert drivers that, in the event of a severe storm event, the roads may be closed due to flooding.<sup>7</sup>

8. On November 22, 2010, Mr. Moore emailed Geoff Lupton (Director, Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division, Public Works, Hamilton), Bryan Shynal (Director, Operations, Operations & Waste Management Division, Public Works, Hamilton), Beth Goodger (Senior Director, Operations & Waste Management Division, Public Works, Hamilton), Geoff Rae (Senior Director, Environment & Sustainable Infrastructure Division, Public Works, Hamilton), Mr. Davis, Gary Kirchknopf

---

<sup>5</sup> [HAM0032891\\_0001](#)

<sup>6</sup> [HAM0040221\\_0001](#) attaching [HAM0040222\\_0001](#) at image 45

<sup>7</sup> [HAM0040222\\_0001](#) at image 45

(Senior Project Manager, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton), Hart Solomon (Manager, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton), and Martin White (Superintendent, Traffic Field Operations; Energy, Traffic Operations & Facilities; Transportation, Energy & Facilities Division; Public Works, Hamilton) regarding Councillor Pearson's suggestion, and stated:

We (ESI) have reservations about posting such signs and basically admitting there may be a flooding problem and perhaps some liability issues. You can erect signs but who is managing the calls and to where? It is your call, but the original suggestion from the Councillor was to look at the possibility not just go ahead and do it??<sup>8</sup>

9. On December 13, 2010, Mr. Rae provided an Information Update to Mayor Bob Bratina (Mayor of Hamilton) and members of Council:

At the August 10th 2010 Committee of the Whole meeting, staff were directed to consider signage for the Red Hill Valley Parkway and the Lincoln Alexander Parkway, advising that these roads may be closed due to flooding in the event of a severe storm and further providing a telephone number for the public reporting of flooding conditions.

A staff working group lead by the Hamilton Police Service, involving Road Operations and Traffic Engineering, had already been formed to update the emergency response plan for flooding and other events on the Red Hill Valley Parkway. The plan includes altered police involvement and a series of signed detour routes for use in the event of roadway flooding or for more common events such as road closures due to serious motor vehicle collisions.

The working group discussed the Committee of the Whole suggestion in the context of the updated emergency response plan. While appreciative of the intent, there is already a high degree of public awareness of 911 protocols. Given an underlying confidence in existing weather forecast monitoring and police and roads patrol activities, it was felt that the current awareness of road conditions is sufficient without further engagement of the public and the associated risks involved.<sup>9</sup>

---

<sup>8</sup> [HAM0003906\\_0001](#) at image 1

<sup>9</sup> [HAM0040442\\_0001](#) at image 1

## **C. Selected City Road Program Initiatives and Safety Initiatives (2008-2018)**

### **1. Traffic Safety Status Reports**

10. The City's Public Works Department, Traffic Engineering Section, published Traffic Safety Status Reports for the periods of 2005-2007,<sup>10</sup> 2007,<sup>11</sup> 2008-2010,<sup>12</sup> 2009,<sup>13</sup> and 2010.<sup>14</sup> Mr. Solomon was the Project Manager for these reports. Mr. Kirchknopf, Rob Galloway (Traffic Technologist, Signals & Systems, Traffic Engineering & Operations, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) and Linda Juchniewicz (Collision Analyst, Community Traffic, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) contributed.

11. The Traffic Safety Status Report was a summary of statistics associated with traffic collisions that occurred in the City of Hamilton, published in two volumes. Volume 1 was published annually and contained the summary of data specific to each year, including overall frequencies and trends, plus location-specific data. Volume 1 reports contained details of collisions over time and by location. Volume 2 was published every three years and contains information on drivers and vulnerable road users.<sup>15</sup>

12. In 2007, the scope of the reports was summarized as:

The City of Hamilton is situated in southern Ontario at the westerly end of Lake Ontario. [...] The roadway system contains the full spectrum of road types: multi-lane, one-way and

---

<sup>10</sup> [HAM0039009\\_0001](#)

<sup>11</sup> [HAM0039010\\_0001](#). This report includes data from the Lincoln Alexander Expressway at image 25

<sup>12</sup> [HAM0040051\\_0001](#); [CIM0007990](#)

<sup>13</sup> [HAM0003846\\_0001](#) attaching [HAM0003847\\_0001](#)

<sup>14</sup> [HAM0040776\\_0001](#) attaching [HAM0040777\\_0001](#); and [HAM0004252\\_0001](#). The Traffic Safety Status Report was not produced after 2010, as noted in [HAM0043666\\_0001](#) at image 38.

<sup>15</sup> See for example [HAM0040442\\_0001](#); and [HAM0040051\\_0001](#) at images 3-4

two-way arterials; residential local and collector streets; medium and high-speed rural two-lane roads and a 90km/h limited access freeway system.

Traffic collisions are a primary cause of accidental deaths, injuries and associated property losses. The intention of this report is to provide factual information to those agencies and persons concerned with the safety of the roadway transportation system within the City of Hamilton.

Traffic collisions frequently involve complex interactions between human behaviour, vehicle characteristics and environmental conditions. The factor or factors responsible for causing a collision are not always the most obvious nor are they always readily apparent. Caution should be exercised in drawing conclusions from the statistics presented in this report and conclusions should be drawn only with appropriate qualifications and supportive information.

The information presented in this report is based upon motor vehicle collisions investigated by the Hamilton Police Service. Citizen – reported collisions (“self-reported”) are not included in the statistics. The geographic area includes all roads within the Hamilton municipal boundaries, excluding collisions occurring on the following roads: Queen Elizabeth Way (mainline); Highway 6; Highway 8 from Highway 5 northerly; Highway 5 between Highway 6 and Highway 8/52; Highway 403; on-ramps and off-ramps to Highway 403. Collisions occurring on service roads to the Queen Elizabeth Way are included. Only collisions on city streets/roads or sidewalks are recorded—private property collisions are not included.<sup>16</sup>

### 13. The Traffic Safety Status Report referenced the City’s network screening program.

The 2007 Traffic Safety Status Report stated:

#### General

Locations that have high numbers or rates of collision occurrence receive regular attention by Public Works staff and by the Hamilton Police Service. Countermeasures are regularly implemented for existing facilities and incorporated into the design of new facilities. However, physical alterations are not effective in preventing many traffic collisions, which are the direct result of driver or pedestrian error.

#### Network Screening Program

The Network Screening Project (Traffic Engineering & Operations, Public Works, Hamilton) consists of the application of risk analysis methodology to carry out a comprehensive review of the entire road network in the City of Hamilton. Twelve (12) types of road groups are analyzed:

- Traffic Signals (at intersections)
- IPS – Intersection Pedestrian Signals
- Mid-Block Traffic Signals
- All-Way Stop Controlled intersections
- Two-Way Stop Controlled intersections
- Yield Controlled intersections
- Intersections with No Traffic Control □

---

<sup>16</sup> [HAM0039010\\_0001](#) at image 4



- Urban Roadway Sections, between intersections (curbed cross-sections)
- Rural Roadway Sections, between intersections(uncurbed-sections)
- Lincoln M. Alexander Expressway (Linc) Sections
- Lincoln M. Alexander Expressway (Linc) On-Ramps
- Lincoln M. Alexander Expressway (Linc) Off-Ramps

These groups are then analyzed and prioritized, both by group and on overall basis.

#### Calculation of Risk and Overrepresentation

Traditionally, collision screening processes determined candidate locations by calculating collision rates considering collision frequency and traffic volume.

A major change that has been implemented in the new network screening process for the City of Hamilton is the automated calculation of overrepresentation trends in the collisions that occurred at each location when compared to its group. By comparing locations to other similar types within the same group, a risk indicator can be calculated. All locations are then grouped and sorted by the indicator. In particular, where collision types were found to be overrepresented, greater potential exists for the application of programs or techniques to reduce the number of collisions. This element formed one component of a test for candidate locations for application of road safety audits.

To further enhance the likelihood of success in achieving collision reduction, the Network Risk indicator and collision type overrepresentation were supplemented with an evaluation of the frequency of collisions at each location. Each site was checked to determine if the number of collisions at the locations exceeded the upper 95% confidence limits for the expected number of collisions for sites in that group of locations. This additional test ensured that there was good “potential” at each site selected to implement successful countermeasures. Exhibit 2.1 displays a ranking of roadway locations which exceeded the expected number of collisions for that group, and further experienced an overrepresentation of causal factors for the years 2003-2007.

Exhibits in this chapter do not necessarily represent priority lists for improvements, as other factors must be taken into account, such as cost-benefit considerations and the ease of deployment of collision countermeasures.<sup>17</sup>

14. In the 2009 and 2010 Traffic Safety Status Reports, one of the twelve roads analyzed was “Lincoln M. Alexander Expressway (Linc/Red Hill Valley Parkway (RHVP)) Sections”.<sup>18</sup> In both 2009 and 2010, the Traffic Safety Status Reports listed “Mud: Mud SB - EB off ramp – RHVP” as an over-represented collision area.<sup>19</sup>

<sup>17</sup> [HAM0039010\\_0001](#) at images 25-26

<sup>18</sup> [HAM0003847\\_0001](#) at image 25; and [HAM0040777\\_0001](#) at images 25-26

<sup>19</sup> [HAM0003847\\_0001](#) at image 27; [HAM0040777\\_0001](#) at image 27

## 2. Hamilton Strategic Road Safety Program

15. On September 17, 2007, the PWC received a report titled “City of Hamilton Strategic Road Safety Program (PW07116)”.<sup>20</sup> This report contained the following recommendations:

(a) That the City of Hamilton Strategic Road Safety Program, as described in Report PW07116, be endorsed;

(b) That staff develop a City of Hamilton Strategic Road Safety Plan, through the Hamilton Strategic Road Safety Committee, with upset project funding in the amount of \$160,000 to be provided from account 55916-461010;

(c) That the program for public safety information, as required and mandated under the contract between the City of Hamilton and Ministry of Transportation, Ontario, be revised to provide an annual expenditure of \$100,000, with the cost for this activity to be charged to account 55401-461010;

(d) That all excess Red Light Camera program fine revenues not required to build, operate or maintain existing or future Red Light Camera sites, be allocated to road safety initiatives, as supported by the Hamilton Strategic Road Safety Program, subject to maintaining a minimum balance of \$100,000 in the red light camera reserve 112203;

(e) That approval be granted to extend the previous contract with Affiliated Computer Systems (ACS) for various maintenance and operation activities associated with the operation of ACS red light camera sites for five additional years from November 2007 through to November 2012, with the cost for this activity to be charged to account 55916-461010;

(f) That the red light camera program operated by Affiliated Computer Systems be revised from two cameras rotating through eight sites to four cameras rotating through eight sites;

(g) That the Mayor and City Clerk be authorized to execute the contract to extend the operation of Affiliated Computer Systems services, with said contract to be to the satisfaction of the General Manager of Public Works and the City Solicitor;

(h) That the Strategic Road Safety Program report undertakings and progress annually in August or September.<sup>21</sup>

16. In April 2009, Hamilton Strategic Road Safety Program released a report titled “Hamilton Strategic Road Safety Action Plan.”<sup>22</sup>

---

<sup>20</sup> [RHV0000694](#) at image 3

<sup>21</sup> [RHV0000693](#)

<sup>22</sup> [HAM0051231\\_0001](#)

17. On August 15, 2014, Council passed PW Report 14-0009, which recommended the re-establishment of the Hamilton Strategic Road Safety Program (as described in PW14090).<sup>23</sup> PW14090 included the following overview of Hamilton Strategic Road Safety Program's history:

The City's Hamilton Strategic Road Safety Program (HSRSP) has been in existence since around the time of amalgamation. In 2007, the City of Hamilton Strategic Road Safety Program Report (PW07116) was approved. Staff were directed to develop a strategic action plan through HSRS Committee. This report also directed that all excess Red Light Camera (RLC) program fine revenues not required to build, operate or maintain existing or future Red Light Camera sites, be allocated to road safety initiatives, as supported by the Hamilton Strategic Road Safety Program, subject to maintaining a minimum balance of \$100,000 in the RLC reserve 112203.

In 2009, the Hamilton Strategic Road Safety Program released a report titled Hamilton Strategic Road Safety Action Plan. The plan focused on two primary areas: Aggressive Driving and Intersections and Vulnerable Users. Secondary areas included: Older Drivers, Hill Sections, Young Drivers, Curved Section, Winter Weather, Impaired Driving, Commercial Vehicles, Improper Restraint Usage, Roadway Departure and Work Zones. Of these programs, several initiatives were established such as an expansion of the Red Light Camera Program and the Active & Safe Routes to School Program. Due to staff turnover and lack of a champion, implementation of the HSRSP the Hamilton Strategic Road Safety Program has been limited. There is a need to review the HSRSP and to identify means to proactively action the items identified in the plan.

In order to re-establish the HSRSP and the committee staff are recommending that Senior Traffic Safety Technologist be hired on a contract basis (three year term) and funded from the Red Light Camera Reserve (112203) with no impact to the municipal tax levy. Staff would report back to Council prior to the completion of the contract term on the cost and benefits realized with this new position.<sup>24</sup>

18. On April 4, 2016, the PWC received a report titled "Hamilton Strategic Road Safety Program Update (PW16027)."<sup>25</sup> This report summarized the results of the Hamilton Road Safety Program as of year-end 2015, including speed limit reductions, school safety zones, and traffic calming projects.<sup>26</sup> This report also set out the Hamilton Strategic Road

<sup>23</sup> [HAM0042232\\_0001](#) at image 7

<sup>24</sup> [HAM0042289\\_0001](#) at image 3

<sup>25</sup> [HAM0043666\\_0001](#) at image 2

<sup>26</sup> [HAM0044774\\_0001](#) at image 3

Safety Program's proposed projects for 2016, including speed monitoring on the LINC and RHVP (as described in Overview Document #7).<sup>27</sup>

19. On June 5, 2017, the PWC recommended that the Hamilton Strategic Road Safety Program for 2017-2018 (as described in PW17045) be approved.<sup>28</sup> PW17045 included a detailed summary of 15 initiatives from 2016. It described these initiatives as being "focused on upgrades to outdated systems, enhanced enforcement, improved walkability and safety around schools, enhanced pavement markings, traffic calming, safety marketing and safety education campaigns, new pedestrian crossovers and neighbourhood liveability initiatives."<sup>29</sup>

20. This report also advised that "many of the same initiatives from 2016 will continue forward as part of the roadway safety program and at new locations within the City of Hamilton" for 2017 and 2018.<sup>30</sup>

21. On June 14, 2017, Council approved this report, and by extension the Hamilton Strategic Road Safety Program for 2017-2018.<sup>31</sup>

### **3. Public Works Asset Management Plan and State of the Infrastructure Report**

22. The City began releasing a report entitled "State of the Infrastructure Report on Public Works Assets" in 2005.<sup>32</sup>

---

<sup>27</sup> [HAM0044774\\_0001](#)

<sup>28</sup> [HAM0045310\\_0001](#)

<sup>29</sup> [HAM0045310\\_0001](#) at image 55 (Appendix F)

<sup>30</sup> [HAM0045310\\_0001](#) at image 55 (Appendix F)

<sup>31</sup> [HAM0005715\\_0001](#)

<sup>32</sup> [HAM0045914\\_0001](#) (2005), [HAM0045915\\_0001](#) (2006) and [HAM0000332\\_0001](#) at image 3

23. In 2009, the State of the Infrastructure Report included sections titled “Project Background and Perspective” and “Goals and Objectives”, which set out the history and objectives of these reports:

#### 1 .1 PROJECT BACKGROUND AND PERSPECTIVE

This report is part of an on-going 'practice improvement' process for the management of the City of Hamilton's public works infrastructure. It is intended to document a review of the current state and / or condition of the infrastructure essential for the delivery of public services provided by the City to its citizens in the form of an infrastructure report card. The asset evaluations rely on a review of the empirical data and related information reflecting the results of infrastructure management practices. In addition input was provided through workshop settings by City managers and staff responsible for the infrastructure in each of the business areas within the Public Works Department.

This is the second formal review of the state of the City's infrastructure with the first taking place in 2005 / 2006 and documented in two separate reports identified as "Life-Cycle State of The Infrastructure Report on Public Works Assets". Based on the fact the City has been actively implementing life-cycle principles into its management practices, often referred to as "asset management", for the past 10 years a review of these practices on an approximate 4 to 5 year cycle has been initiated with this second review. R.V. Anderson Associates Limited was retained by the City in April, 2009 to assist in the development of this second State of the infrastructure report by gathering and documenting the results of this review.

#### 1 .2 GOALS AND OBJECTIVES

The objective is to measure and report the effectiveness of the City's management practices as they impact the physical condition of the infrastructure, the capacity of the infrastructure to service peak demands and the availability of funding to address infrastructure investment needs. In the context of life cycle assessment the state of the infrastructure is measured against its long term ability to sustain the public services they support.

The overall goal is to produce an update to the City's inaugural issue of "The Life-Cycle State of the Infrastructure Report" completed in 2005 and the 2006 complimentary issue that expanded the business areas reported. The principles that guided the development of these initial reports were embedded in the City of Hamilton - Vision 2020 and various best practice documents reporting on infrastructure management processes around the world.

The concept of the 'state of the infrastructure report' (SOTI) is to prepare a document that identifies issues and trends facing the management of public works infrastructure and services on a sustainable basis. The focus of the 2005 and 2006 reports, stated at that time, was to "...prepare a Report Card evaluating the current state of various public works physical assets within the City" and to predict the impact of the management practices of the day on the future condition of the assets. The documentation of this information serves as a communication vehicle amongst stakeholders and decision-makers guiding the

development of strategic, tactical and operational planning activities improving cost effective life cycle management practices.<sup>33</sup>

24. Roads and Traffic received a D- (D = Poor) rating in the 2009 State of the Infrastructure Report.<sup>34</sup>

25. On May 5, 2011, Stantec submitted a report to the City titled “City of Hamilton State of the Infrastructure Review – Road Network and Traffic Systems.” The stated objective of this report was to “review the implications and funding needed to move the Road Network and Traffic System infrastructure as defined within the State of the Infrastructure Report, from the current overall D- grade to B+, as well as move the Structures, including bridges and major culverts infrastructure from the current overall C- grade to B+.”<sup>35</sup>

26. On November 29, 2012, Richard Andoga (Senior Project Manager, Infrastructure Programming, Asset Management, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) responded to an email from Brenda Vader (Clerk-Treasurer, Township of Faraday) regarding asset management plans. He wrote:

The City of Hamilton started building the current asset management plan in 2001 with the creation of the Asset Management Section within Public Works. We have basically use the "seven questions" of asset management as a guide.

What do you have?

What is it worth?

What condition is it in?

What do we need to do to it?

---

<sup>33</sup> [HAM0000332\\_0001](#) at image 34

<sup>34</sup> [HAM0000332\\_0001](#) at image 4

<sup>35</sup> [HAM0040723\\_0001](#) at image 3

When do we need to do it?

How much money do we need?

How do we achieve sustainability?

From the seven questions above, we have completed high level assessment of our assets as identified in our 2005 and 2006 State of the Infrastructure Reports. These reports have also been updated in 2009. Upon completion of these assessments, we have produced detailed assessments along with sustainability plans such as those created for corporate and community facilities, our Redhill Valley Expressway and Lincoln Alexander Parkway. Most recently the 2011 State of the Infrastructure review of our road network and traffic systems was completed.

The documentation can be found under the following link:

[http://www.hamilton.ca/CityDepartments/PublicWorks/Environment\\_Sustainable\\_Infrastructure/Asset+Management/SOTI/](http://www.hamilton.ca/CityDepartments/PublicWorks/Environment_Sustainable_Infrastructure/Asset+Management/SOTI/)

As we continue with our plan, As service levels are currently defined as best practise, there is a need to review service level options by means of discussions with elected official and the public.

Once defining the accepted level of service, and financial requirements, policies and procedures will be developed and incorporated in the overall sustainable asset management plan.

We are interpreting the application form in the same way as noted above, part 3 being the area to define what has been done and what will be done towards the asset management plan.

Confusing ? yes, I tried to keep it brief but we would advise reviewing our completed reports to get a better idea to address the issues. Agreed the Province left it open with regard to expectations, but that can be considered a benefit.

If you should have any questions in this regard, please feel free to contact myself and/or Mr. John Murray, Manager of Asset Management.<sup>36</sup>

27. On April 24, 2014, Pat Parker (Director, Support Services, Operations and Waste Management Division, Public Works, Hamilton) emailed Ms. Goodger, Lisa Zinkewich (Program Manager, Corporate Initiatives, City Manager's Office, Hamilton) and Ms. DiDomenico regarding the relationship between the City's asset management plan ("AMP") and the State of the Infrastructure reports, writing:

I had an opportunity to talk briefly with John Murray today about Asset Management and the SOTI report. The SOTI report, in it's previous form, will no longer be prepared as a

---

<sup>36</sup> [HAM0010564\\_0001](#)

separate document. It will be part of the Asset Management Plan (AMP), required by the Province if municipalities are to receive infrastructure money. The former SOTI will now form the Inventory Section of the AMP, which is kind of what I thought was going to happen.

The AMP went to PW Cttee on Apr. 7. The staff report and the AMP are attached and are filed in the EMP Reference Material. Lisa, you can move them, but if you do, please let us know.

I haven't read these documents yet, but John tells me there's some good info on LOS.

The AMP was prepared by a consulting team, and although Stantec (Andy) was part of the team, CH2M Hill was the lead, so John didn't think there would be a problem for Stantec to do additional work for us. He did also have very good things to say about CH2M Hill.

John will be stopping by to talk further with me about this, but I thought I could at least get you links for the reports.<sup>37</sup>

28. The email attached two documents, staff report PW14-035, prepared by John Murray (Manager, Asset Management, Engineering Services, Public Works, Hamilton), and the City's AMP (Appendix A to PW 14-035).<sup>38</sup>

29. Report PW14-035 included the following in its executive summary:

Under the Province of Ontario's new Municipal Infrastructure Investment Initiative (MIII), municipalities are required to submit a detailed Asset Management Plan (AMP), in order to qualify for future Provincial grant program funding. This requirement became effective as of December 31, 2013. The City of Hamilton Public Works Asset Management Plan, attached as Appendix "A", has been developed to meet these requirements, asset out in the Building Together: Guide to Municipal Asset Management Plans.

Based on this Guide, qualifying Asset Management Plans must be completed for road, bridge, water, wastewater and social housing assets and must include the following sections:

- State of the Local Infrastructure - information on inventory, condition and valuation.
- Desired Levels of Service - how service is linked to infrastructure investment and how service is measured on performance goals and expectations.
- Asset Management Strategy - a set of planned actions based on best practices, risk management and lowest life cycle cost.
- Financing Strategy - Identifies lifecycle investment requirements and appropriate funding strategies.<sup>39</sup>

---

<sup>37</sup> [HAM0042060\\_0001](#)

<sup>38</sup> [HAM0042060\\_0001](#) attaching [HAM0042061\\_0001](#) and [HAM0042062\\_0001](#)

<sup>39</sup> [HAM0042061\\_0001](#) at image 1



30. The AMP included a section regarding asset condition (Section 3.4). The following was noted regarding overall asset rating:

The City of Hamilton has developed two State of the Infrastructure (SOTI) reports for water and wastewater infrastructure, in 2005 and 2009. The methodology for overall condition rating used in these reports relies on three metrics:

- Condition / performance
- Capacity
- Needed versus available funding

The 2013 values reported in this section are the result of workshops conducted with City staff to update the 2009 ratings to reflect any significant changes in any of the aforementioned metrics.<sup>40</sup>

31. Table 28, titled “Table 28 - SOTI Asset Rating - Roads & Bridges” included a rating of the RHVP:<sup>41</sup>

*Table 28 - SOTI Asset Rating - Roads & Bridges*

Asset Type: Roads & Bridges		Rating	Trend
Roads	Lincoln Alexander Pkwy (LINC)	C	↓
	Red Hill Valley Pkwy (RHVP)	C	↓
	Urban Network	D+	↓
	Rural Network	C-	↓
Bridges	Bridges	C	→
	Culverts (> 3m)	C-	→
Combined		C-	↓

32. On June 12, 2014, Mr. Murray emailed Mr. Moore under the subject line” Roads and bridges annual and total deficit”, attaching two documents.<sup>42</sup> Mr. Murray wrote:

As requested attached is the information for the roads and bridge deficit. In addition, you may wish to use the attached graph to visually represent the current deficit.<sup>43</sup>

<sup>40</sup> [HAM0042061\\_0001](#) at image 27

<sup>41</sup> [HAM0042061\\_0001](#) at image 28

<sup>42</sup> [HAM0023793\\_0001](#) attaching [HAM0023794\\_0001](#) and [HAM0023795\\_0001](#)

<sup>43</sup> [HAM0023793\\_0001](#)

33. Mr. Murray attached a document noting the following:

Roads and Bridges Annual Deficit

Hamilton's road network, including bridge structures, has a current replacement value of \$5.211B. Using a life cycle of 40 years for roads and 75 years for bridges, our annual required funding to maintain a state of good repair for all roads and bridges is estimated at approximately \$124M per year. An additional \$10.5M annually is required to maintain other road programs: related Development projects; Road Operations; Traffic Engineering; and road related studies. Therefore, the total annual funding requirement is approximately \$134.5M, or projected out to a 10 year plan would be \$1.3B over the 10 year period.

Corporate finance's 10 year funding projection from 2015 - 2024 for the road network totals \$567.9M. Minus the \$10.5M annually for the other road programs listed above, leaves \$462.9 to be applied directly to the road network and bridge structures. This creates a funding deficient of \$777M over the 10 year term, or \$77M annually.

The condition of our roads in 2012 reached an overall network average of 62 out of a possible score of 100. Based on current funding levels the average condition of our roadways is expected to decline to 56 by the end of 2022. Given the impact of the past winter, the deterioration of the roads is accelerating, therefore reducing service levels and increasing customer demand for improved roadways.

Roads and Bridges Total Backlog

6% of the current road network is in a state of required replacement and, in addition, 35.6% is in a state of required rehabilitation. The total value of all road needs is approximately \$947M. Bridge needs (rehabilitation and replacement) total \$81.6M in order to address 15.3% of City structures. This brings the total road network's backlog of needs to approximately \$1.0B.

The calculation provided does not include growth and/or enhancement projects. Please reference the following graphs taken from the City's Public Works Asset Management Plan.<sup>44</sup>

34. On August 27, 2014, Stantec submitted a report to the City titled "City of Hamilton State of the Infrastructure Report – 2013 Roads Update." The stated objective of this report was to "update the 2010 report that reviewed options to bring the Road Network and Traffic System infrastructure up to a condition grade of B."<sup>45</sup>

<sup>44</sup> [HAM0023795\\_0001](#) at image 1

<sup>45</sup> [HAM0042419\\_0001](#) at image 1 (draft)

35. In late 2016, Stantec submitted a report titled “City of Hamilton 2016 State of the Infrastructure Report & Asset Report Card - Public Works” to the City.<sup>46</sup> Stantec gave the City’s “Road Network” a C grade in this report.<sup>47</sup>

36. On January 27, 2017, Stantec submitted a report titled “City of Hamilton State of the Infrastructure – 2016 Roads Update.” The objectives of this report were described as follows:

This assignment provides an updated condition report on the road network, along with budget and level of service analyses based on the 2015 condition assessment data. The objectives of this assignment were to:

- Demonstrate how historical spending impacted the performance of the network;
- Report the condition of the road network, based on the 2015 condition assessment; and
- Investigate future funding scenarios and impact on the network.<sup>48</sup>

37. Stantec gave both the RHVP and LINC an Overall Condition Index (“OCI”) rating of 77 in 2015 (OCI 61 to 80 = good condition). The report states that: “The City generally uses an OCI of 60 to trigger rehabilitation.”<sup>49</sup>

38. Stantec also provided a prediction model for the City’s roadways in this report. This model predicted that the RHVP would reach its rehabilitation trigger (OCI 60) when it was between 30 to 35 years old. A rehabilitation trigger “identifies when a pavement should be considered for a rehabilitation or resurfacing treatment.”<sup>50</sup>

---

<sup>46</sup> [HAM0052552\\_0001](#) attaching [HAM0052553\\_0001](#) (draft)

<sup>47</sup> [HAM0045368\\_0001](#) at image 16 (final version)

<sup>48</sup> [HAM0005597\\_0001](#) at image 7

<sup>49</sup> [HAM0005597\\_0001](#) at image 23

<sup>50</sup> [HAM0005597\\_0001](#) at image 28

39. Stantec submitted a proposal to the City in April 2018 for a pavement condition and rehabilitation strategy study.<sup>51</sup> The proposal was later expanded at the City's request to include a review of the City's use of condition data in the programming phase of its works.<sup>52</sup>

#### 4. 2010 Transportation Master Plan Implementation (TMPI) Update

40. In 2007, Council approved the Hamilton Transportation Master Plan ("TMP"). The stated purpose of the TMP was to "guide the City's overall transportation planning needs, timing, and budgeting to 2031."<sup>53</sup>

41. In March 2010, City staff were developing a TMP Implementation/Monitoring Program ("TMPI").<sup>54</sup> The stated purpose of the TMPI was as follows:

##### 1.1 Purpose of the Implementation/Monitoring Program

The purpose of this study is to develop a HTMP performance monitoring program for tracking the implementation of the HTMP policies, infrastructure improvements and periodic measurements of progress towards achieving the vision, goals and objectives of the HTMP. The implementation and monitoring program will be City wide. The program will determine whether the HTMP direction remains appropriate or needs adjustment. The outcome will also establish mechanisms for periodically advising Council and the public in the form of reports/ report cards on the status of the HTMP.<sup>55</sup>

42. The TMPI proposed to monitor (among other things) the following road safety indicators by number: road injuries, road fatalities, reported pedestrian collisions, and

<sup>51</sup> [HAM0046795\\_0001](#) attaching [HAM0046796\\_0001](#)

<sup>52</sup> [HAM0027753\\_0001](#); [HAM0027839\\_0001](#); [HAM0027864\\_0001](#) attaching [HAM0027865\\_0001](#); [HAM0013443\\_0001](#) attaching [HAM0013444\\_0001](#); and [HAM0048862\\_0001](#)

<sup>53</sup> [HAM0039942\\_0001](#) at image 3 (Draft Report)

<sup>54</sup> [HAM0039940\\_0001](#) attaching [HAM0039941\\_0001](#) and [HAM0039942\\_0001](#)

<sup>55</sup> [HAM0039942\\_0001](#) at image 4 (Draft Report)

reported cyclist collisions.<sup>56</sup> City staff circulated a summary of the existing data for these indicators (and others) in March 2010.<sup>57</sup>

43. On April 4, 2011, Steve Molloy (Project Manager, Transportation Master Plan Implementation, Strategic Planning, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) emailed Daryl Bender (Project Manager, Alternative Transportation, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) and Leanne Cunliffe (Project Manager, Traffic Planning, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) under the subject line “Data Request - 2010 Transportation Master Plan Implementation (TMPI) Update.”<sup>58</sup> Mr. Molloy wrote:

I am leading this year's edition of the Transportation Master Plan (TMP) Update, to show annually how the City has progressed in implementation since the 2007 approved TMP. Building upon previous years successes, we have added additional data categories to our TMPI monitoring program to help us gain a better understanding of all of the transportation issues affecting the City. Your active participation in the monitoring program is vital. The data you provide is very important and can be used by many City departments for various initiatives. We understand that there may be some data deficiency and not all of our data requests will be satisfied. If you are unable to fill out the data request form due to lack of data or lack resources to complete the form please contact me to discuss possible alternatives.

I have attached three documents to this email for review and completion:

*Doc 1: Overview of TMPI Monitoring Program*

*Doc 2: TMPI Monitoring Program Scope*

*Doc 3: Data Request Forms to be Completed*

44. Later that same day, Ms. Cunliffe forwarded this email to Mr. Solomon. She wrote:

---

<sup>56</sup> [HAM0039942\\_0001](#) at image 7 (Draft Report)

<sup>57</sup> [HAM0039941\\_0001](#)

<sup>58</sup> [HAM0051529\\_0001](#)

Time to update (if we have any updates) the previous TMP data sheets we filled out early in 2010. I have provided copies of the pertinent info to Ron, Gary, Daryl and Linda (for collision info from 2009 and 2010). At this time, unless we can change our work plans, I will indicate that we still cannot provide all the required info in the time indicated on the spreadsheets. Previously we had indicated most projects or programs need longer than a yearly review, or projects will take longer than a year to initiate and complete. Example....we had indicated to review all signalized intersections during peak and off peak times and determine the # operating at LOS C/D would take 10 years.

I have asked to have this data back to me by May 4 so I can put it together and update the data for Steve Molloy.<sup>59</sup>

45. On February 25, 2015, Mr. Molloy and John McGill (Vice President, Transportation, Cole Engineering) provided Council with a presentation on the TMP Five Year Review and Update.<sup>60</sup>

46. On September 22, 2017, John Mater (Associate General Manager, Public Works and Director, Transportation, Public Works, Hamilton) submitted a report titled “Transportation Master Plan Review and Update” to Council.<sup>61</sup>

47. In August 2018, Council endorsed a new TMP, which included a detailed chapter on monitoring.<sup>62</sup>

48. The City published a report titled “Background Report: Road Safety” with the new TMP.<sup>63</sup> This background report included a table that listed examples of the City’s road safety-related programs initiated since 2000:

---

<sup>59</sup> [HAM0051529\\_0001](#) attaching [HAM0051530\\_0001](#), [HAM0051531\\_0001](#) and [HAM0051532\\_0001](#)

<sup>60</sup> [RHV0000697](#) at images 34-35

<sup>61</sup> [HAM0045707\\_0001](#)

<sup>62</sup> [RHV0000630](#) at image 8; [RHV0000875](#) at images 3-4; and [RHV0000695](#)

<sup>63</sup> [RHV0000696](#) at image 3

**Table 1: Examples of Hamilton's Safety Initiatives since 2000**

2000 to 2010	2011 to 2018
Network Screening Program (2000)	Ladder Crosswalk Program (2013)
Active & Sustainable School Transportation (2000)	Hamilton Helmet Initiative (2013)
Red Light Camera Program (2000)	Pedestrian Mobility Plan (2013)
Collision Counter Measure Program (2004)	Hamilton Strategic Road Safety Program – safety of all road users, including vulnerable users (2014)
Hamilton Strategic Road Safety Program (2007)	School Zone Safety Program (2014)
	Dynamic Radar Feedback Sign Program (2014)
	Hamilton Strategic Road Safety Program – reducing default speed limit (2015)
	New Permanent Traffic Calming Program (2016)
	Distracted Driving Campaign (2016)
	Slow Down, Safety Zone Program (2016)
	Pedestrian Crossover Program (Bill 31) (2016-present)
	Vision Zero feasibility exploration
	Automated Speed Enforcement
	Speed Kills Traffic Safety Campaign and Road Safety Pledge (2018)
	Annual Collision Safety Report
	Emergency detour route (EDR) sign installations

## 5. Amendments to the Municipal Act, 2001

49. In 2010, a regulation to the *Municipal Act, 2001* was amended. The amended regulation sets minimum requirements for the patrolling of highways, clearing of snow accumulation, treatment of icy roadways, inspecting luminaries, inspecting signs, and repairing of surface and sidewalk surface discontinuity.<sup>64</sup> In 2010 and 2011, the City considered the application of these minimum requirements to their current processes.<sup>65</sup>

<sup>64</sup> [HAM0039863\\_0001](#)

<sup>65</sup> See for example: [HAM0039862\\_0001](#); [HAM0039864\\_0001](#); [HAM0021865\\_0001](#); [HAM0040149\\_0001](#) attaching [HAM0040150\\_0001](#), [HAM0040151\\_0001](#), [HAM0040152\\_0001](#), [HAM0040153\\_0001](#), [HAM0040154\\_0001](#), [HAM0040155\\_0001](#), [HAM0040156\\_0001](#), [HAM0040157\\_0001](#), [HAM0040158\\_0001](#) and [HAM0040159\\_0001](#); and [HAM0040500\\_0001](#).

## 6. Policy for Sidewalk and Roadway Lighting and the Implementation Plan

50. In March 2011, Mike Field (Project Manager, Street Lighting & Electrical, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) emailed Mr. Solomon a copy of two documents entitled “Policy for Sidewalk and Roadway Lighting” and “Sidewalk and Roadway Lighting Implementation Plan”.<sup>66</sup> In March 2012, Kim Wyskiel (Superintendent of Traffic Services, Traffic Operations; Energy, Traffic Operations & Facilities; Transportation, Energy & Facilities Division; Public Works, Hamilton) emailed Mr. Lupton, forwarding a draft request for tenders for “Contractor Required to Perform Street Lighting Maintenance & Locates” she received from Peter Locs (Project Manager, Street Lighting, Traffic Operations, Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division; Public Works, Hamilton).<sup>67</sup>

### D. City Pavement-Related Activities (2011-2012)

#### 1. Pavement and Materials Technology Review

51. Golder prepared a report entitled “Phase I of Pavement and Materials Technology Review” for the City of Hamilton, Ontario, dated November 2009 to Mr. Moore.<sup>68</sup> The introduction of this report stated:

There was growing concern in the City of Hamilton (the City) with respect to both the quality of newly constructed as well as rehabilitated pavements. The City was also concerned with the long term performance of the pavements. The City of Hamilton was also concerned that the required pavement and materials technology improvements had not been fully implemented in the City and that there was an issue with the quality of materials and construction. [...] Golder Associates Ltd. (Golder) was retained by the City to carry out a review of the City’s current pavement and materials technology. Phase I of the review is

<sup>66</sup> [HAM0051498\\_0001](#) attaching [HAM0051499\\_0001](#) and [HAM0051502\\_0001](#)

<sup>67</sup> [HAM0041042\\_0001](#) attaching [HAM0041043\\_0001](#); and [HAM0041049\\_0001](#)

<sup>68</sup> See [HAM0009674\\_0001](#) entitled “draft” at image 2 and [HAM0000723\\_0001](#) which Dr. Uzarowski emailed to Mr. Moore on December 11, 2015, the PDF title of which stated ‘FINAL’ ([HAM0000722\\_0001](#))



focused on construction quality including Quality Control (QC) and Quality Assurance (QA) procedures as they are considered to have drastic impact on pavement performance.<sup>69</sup>

52. The Phase I report stated that Golder's tasks for Phase I included inspection of visual pavement conditions, review of the City's pavement maintenance, rehabilitation and construction specifications from a QC/QA point of view, site visits to selected construction sites, review of materials testing results from contractors, review of QA testing results, development of recommendations for improvement for construction quality, staff training and assisting staff with implementing recommended changes, and preparing a report.<sup>70</sup>

53. The Phase I report noted that Ludomir Uzarowski (Principal, Pavement and Materials Engineering, Golder) and Imran Bashir (Pavement and Materials Engineer, Golder) made site inspections on new, relatively new and older pavement within the City limits (which did not include the RHVP) and observed major structural distresses and other pavement distresses.<sup>71</sup> The report also summarized Golder's review of QC/QA aspects of the City's Materials and Construction Specifications<sup>72</sup> and of laboratory and field testing results, including mix designs.<sup>73</sup>

54. Dr. Uzarowski's notebooks referenced a meeting with Mr. Moore on September 15, 2009 including notes listing "report for Phase I" and "what to do in Phase II". The note also included the following (among other things):<sup>74</sup>

---

<sup>69</sup> [HAM0000723\\_0001](#) at image 4

<sup>70</sup> [HAM0000723\\_0001](#) at images 4-5

<sup>71</sup> [HAM0000723\\_0001](#) at images 5-7 and 16-17

<sup>72</sup> [HAM0000723\\_0001](#) at images 8-10

<sup>73</sup> [HAM0000723\\_0001](#) at image 10-12

<sup>74</sup> [GOL0007396](#) at image 18

King St	NB	h) problems observed on the RHVP
Barton	SB	– deeps – cracks – ditches – pothole – sealing the sensors
	Mud	
RHV to	Street	
	ramp	

55. In the report, Golder concluded that the City’s current QC/QA system was “ineffective” and “strongly recommended that this system be revised as it requires significant improvements or changes” and made a number of recommendations.<sup>75</sup>

56. Dr. Uzarowski’s notebooks contain an entry dated December 15, 2009 referencing a meeting with Mr. Moore. The note includes the following excerpt:

- 1) Meeting with Gary Moore
  - a) Phase I report
  - b) Phase II
  - d) technical papers – Nagoya
  - e) RHVP
  - f) meeting with municipalities
  - h) pav. preservation<sup>76</sup>

57. On March 11, 2010, Dr. Uzarowski submitted a draft Golder proposal for Phase II of the Pavements and Materials Technology Review to Mr. Moore.<sup>77</sup> In the proposal, Golder recommended the following scope of work for Phase II:

- Meeting with technical staff from the City;
- Revising the current paving and materials specifications to reflect the local conditions and experience;

<sup>75</sup> [HAM0000723\\_0001](#) at image 18

<sup>76</sup> [GOL0007396](#) at image 28

<sup>77</sup> [HAM0000334\\_0001](#) attached to [HAM0000333\\_0001](#)

- A review of granular materials and aggregates used in Hamilton and available in the vicinity;
- A review of asphalt mixes used in Hamilton;
- A review of the availability of paving contractors regarding rehabilitation and preventive treatments;
- A review of the current pavement evaluation and design methodologies;
- Staff training with emphasis on paving and materials specifications and the selection of the right project specifications;
- Assisting the City in implementation of the recommended changes, as necessary, and providing direction and guidance to the City engineering staff; and
- Preparing a report and presenting the recommendations to the designated City technical staff, clearly outlining the benefits of any proposed changes.<sup>78</sup>

58. In respect of the proposed review of asphalt mixes, the draft Phase II proposal proposed “a thorough review of the type of asphalt mixes used by the City and their suitability for the intended application will be carried out...the review will include warm asphalt mixes and, if required, quiet mixes, porous asphalt, rubberized mixes, Stone Mastic Asphalt (SMA) with steel slag and limestone aggregates, as well as the limits of Reclaimed Asphalt Pavement (RAP) in the asphalt mixes.”<sup>79</sup>

59. On the same day, Mr. Moore replied to Dr. Uzarowski’s email and the proposal as follows:

I have reviewed your proposal for phase 2 of the Pavement Technology review. Please consider the estimate you have provided as a upset limit not to be exceeded and the time frame of 16 weeks as acceptable. While training and review of the outcomes with frontline staff may not be scheduled until the winter slowdown (i.e. Jan./Feb 2011), I need the recommendations for changes as soon as possible for implementation in 2010 projects if possible. You are authorized to proceed immediately with this work, a PO will be requested.<sup>80</sup>

---

<sup>78</sup> [HAM0000334\\_0001](#) at image 2 attached to [HAM0000333\\_0001](#)

<sup>79</sup> [HAM0000334\\_0001](#) at image 3

<sup>80</sup> [HAM0000333\\_0001](#)

60. Dr. Uzarowski corresponded with City staff regarding asphalt specifications and staff training in 2011 and 2012.<sup>81</sup>

61. Golder submitted a report in respect of Phase II of the Pavement and Materials Technology Review.<sup>82</sup> The Report addressed various items relating to pavement maintenance, rehabilitation and preservation. It also discusses asphalt mix designs (including SMA mixes based on OPSS.MUNI 1511), and mix design methodology.

62. On May 8, 2012, Dr. Uzarowski submitted a written proposal to add two additional tasks to Phase II of a Pavement and Materials Technology Review, being polished stone value testing of limestone aggregate from two local quarries to be done in the UK, and a literature and practice review and specification development for the use of warm mix asphalt.<sup>83</sup> The Phase II report references both of these tasks.

63. Phase III of the Pavement and Materials Technology Review is discussed in Overview Document #6.

## **2. LINC Resurfacing**

64. The City tendered a contract for the resurfacing of the LINC (PW-11-07 (H)) in early 2011.<sup>84</sup>

---

<sup>81</sup> See for example: [HAM0051945\\_0001](#); [HAM0051809\\_0001](#); and [HAM0051945\\_0001](#) attaching [HAM0051946\\_0001](#)

<sup>82</sup> [HAM0041371\\_0001](#); and [HAM0041390\\_0001](#)

<sup>83</sup> [HAM0000393\\_0001](#); [HAM0000392\\_0001](#); [HAM0000394\\_0001](#); and [HAM0000395\\_0001](#)

<sup>84</sup> [HAM0041035\\_0001](#)

65. Dr. Uzarowski's notebooks contain entries referencing the LINC resurfacing, beginning on December 9, 2010.<sup>85</sup>

66. Golder was awarded the contract for quality assurance testing and inspection for the resurfacing of LINC in 2011, with Dr. Uzarowski as primary contact.<sup>86</sup>

67. On December 6, 2010, Dr. Uzarowski emailed Susan Jacob (Manager, Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) to arrange a meeting to discuss hot mix asphalt technology. Mike Becke (Senior Project Manager, Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) responded and agreed to meet.<sup>87</sup>

68. On December 7, 2010, Bryan Towers (Project Manager, Roads & Maintenance, Operations, Operations & Waste Management Division, Public Works, Hamilton) asked Mr. Becke what asphalt mix was going to be used on the resurfacing. Mr. Becke responded "50mm of SP12.5 FC2 hot mix", subject to discussion with Dr. Uzarowski.<sup>88</sup> Mr. Towers suggested that Mr. Becke should ask about friction/stability numbers compared to other options/mixes.<sup>89</sup>

---

<sup>85</sup> [GOL0007412](#) at image 3

<sup>86</sup> See [HAM0051538\\_0001](#); [HAM0022422\\_0001](#). See also [HAM0051555\\_0001](#) and [HAM0051414\\_0001](#)

<sup>87</sup> [HAM0051408\\_0001](#)

<sup>88</sup> [HAM0051409\\_0001](#)

<sup>89</sup> [HAM0051409\\_0001](#)

69. The resurfacing project proceeded in May 2011.<sup>90</sup> Rankin Construction was pavement contractor.<sup>91</sup> The project included mainline resurfacing from Hwy. 403 to the Mud St. interchange and was completed on July 22, 2011.<sup>92</sup>

**3. Correspondence regarding Friction Testing and High Friction layer (non-RHVP)**

70. On April 7, 2011, Sue Russell (Project Manager, Community Traffic, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) emailed Mr. Moore as follows:

We would like to have friction testing conducted on approximately 5 different roadways. Does friction testing fall under anyone's existing scope of work? If not, can you please direct me to the appropriate roster candidate for this testing.<sup>93</sup>

71. The City did not produce any response to Ms. Russell's email.

72. In 2011, Mr. Solomon prepared information for each project for which he was responsible. One of the projects was entitled "High Friction Pavement Project" for an application of "extremely high friction pavement surfacing material on the Queen Street Hill and on Upper Sherman Avenue at the top of Sherman Cut" and referenced a consultant report from CIMA+.<sup>94</sup> This was assigned to Mr. Kirchknopf on July 29, 2011.<sup>95</sup>

---

<sup>90</sup> [HAM0051584\\_0001](#)

<sup>91</sup> [HAM0022451\\_0001](#); and [HAM0022453\\_0001](#)

<sup>92</sup> [HAM0041522\\_0001](#) at image 1

<sup>93</sup> [HAM0000363\\_0001](#)

<sup>94</sup> [HAM0051757\\_0001](#) at image 1, attached to [HAM0051756\\_0001](#)

<sup>95</sup> [HAM0051762\\_0001](#) attaching [HAM0051763\\_0001](#)

73. On August 23, 2011, Councillor Brian McHattie (Ward 1, Hamilton) emailed Rocco Gizzarelli (Member of the Public) in respect of this project:

Had a response from Traffic on next steps: "We will be implementing high friction surface treatment on the bottom curve of Queen in the area of Amelia. We expect this treatment to be placed on Queen within the next few weeks, however, this is still tentative as we are waiting for the date confirmation from the contractor. Once the contractor has advised when the work will be done, we will let your office know."

Good to see finding from the consultants' report being implemented. They are also following up, seeking police enforcement. that he had received a report from traffic about the implementation of this project and was please to see that the "consultants' report was being implemented."<sup>96</sup>

**E. Public Complaints re RHVP (2008-2010)**

**(a) Late 2008 to 2009**

74. In September 2008, a member of the public emailed Councillor Brad Clark (Ward 9, Hamilton) to suggest the addition of a "Caution - Merging Traffic on Curve Ahead" sign on the RHVP where it meets the LINC, which was forwarded to Mr. Kirchknopf and Chris van Berkel (Project Manager, Community Traffic, Traffic Engineering & Operations, Operations & Maintenance, Public Works, Hamilton). On November 24, 2008, Councillor Clark's assistant followed up, noting that there has been an accident where the member of the public had suggested the sign should be placed. On November 26, 2008, Mr. van Berkel responded that he had reviewed the collision history and there had been no reported collisions involving motorists merging on or off at the subject ramps, except for the recent collision referred to and which we have yet to receive the Police Collision Report.<sup>97</sup>

---

<sup>96</sup> [HAM0032981\\_0001](#)

<sup>97</sup> [HAM0038934\\_0001](#)

75. On November 28, 2008, Mayor Eisenberger's staff forwarded to Mr. Kirchknopf an email he had received from a member of the public. The email stated:

I'm deeply concerned with the safety of other drivers, myself and kids on the Red Hill expressway going around the corner Northbound just after Stonechurch exit before the Greenhill exit. It's very hard to see the lines on the road in the dark and in the rain. I propose the installation of lights in that particular location. I'm not the only one who has noticed and foresee danger in that area in the future. Thanks for your time.<sup>98</sup>

76. On November 30, 2008 a member of the public emailed Councillor Collins, who forwarded the email to Ms. DiDomenico. The email stated:

Having just come off the Linc and RHVP in this snowy weather with icy conditions, I have to point out **a serious safety issue** with the RHVP.

You would have to agree if you drive the Expressway at night that from south to north there is very little/no artificial light as you descend the escarpement. As you round the curb from the Linc to the Parkway there is a very serious issue of visibility in terms of identifying exactly WHERE the road is when the non reflective painted lines on the road are snow covered. There is a 'lovely' ditch and grassy gully between the RHVP and the on-ramp from Mud -- having done that stretch in the past, in addition to having driven the RHVP tonight, I can tell you that I will expect to see cars in that ditch over the winter months as there is little (nothing) other than a narrow rumble strip that tells you that the road curves and that you are now leaving the roadway. [...] Again with little light and lake effect snow falling tonight, even a driver experienced in driving the RHVP has trouble negotiating where those curves are.

May I STRONGLY suggest that before someone is killed, that the City take measures to make (especially) that stretch of road a safer place by marking the edges of the roadway in a more concrete way than just rumble strips? I have seen (on the 407 and in other locations) markers in the form of reflective flags or other reflective poles (see the breakaway poles that mark the RHVP off ramp Toronto-bound with the QEW) planted to show the edge of the roadway or bridge. There MUST be something done to mark where the curves actually are (not just a sign that there are curves) and a way to indicate the edge of the road shoulder.<sup>99</sup>

77. With Mr. Oddi's input, Ms. DiDomenico responded on December 4, 2008:

Further to your email may I provide the following information: the Red Hill Valley Parkway (RHVP) was constructed so as to meet or exceed the current Ontario Ministry of Transportation design standards. The facility has been open for over one year, and to our knowledge, the potential problem outlined in your e-mail below did not occur last winter when we had a considerable amount of snow.

---

<sup>98</sup> [HAM0038953\\_0001](#)

<sup>99</sup> [HAM0032759\\_0001](#); and [HAM0038956\\_0001](#) at images 7-8



The safety of the travelling public is paramount and the RHVP is given top priority when it comes to de-icing and snow removal, Drivers also play a key role and must adjust their driving habits to suit weather conditions.<sup>100</sup>

78. On December 6, 2008, the member of the public responded in a lengthy email that it was her understanding that several accidents and incidences had occurred, that she was offended at the suggestion that it was driver error, and suggested putting in chevrons.

She then said:

These are EASY fix suggestions to marking potentially dangerous sections of a road. If the cost of these simple measures saves even ONE life from being lost, it is money WELL spent. If, as you say, the safety of the travelling public is paramount, then you must agree that you have an obligation to address the concerns raised in my email to Mr. Collins instead of turning a blind eye. I take from your email that the committee, through you, is refusing to even consider my comments, much less take remedial action to rectify the situation. You leave me no choice but to now put you and the City of Hamilton, by way of cc to the Mayor and the City Clerk, on notice that in the event that I or my family are injured or killed as a result of an accident on the RHVP and where the dangers outlined are a contributing factor, I WILL pursue a claim against the City for general, specific and punitive damages sustained and will rely on this email as proof of that notice.<sup>101</sup>

79. On December 8, 2008, Ms. DiDomenico forwarded the email immediately above to Mr. Moore.<sup>102</sup> On December 10, 2008, Ms. DiDomenico forwarded the email immediately above to Mr. Solomon, Mr. Moore, Mr. Kirchknopf and others and stated:

Further to the email below and in follow-up to our discussion back in January (see attached email), the timing may be right to do an analysis of collision data along the RHVP and Linc. Marco has been out there and although we don't believe there's an issue, it might be good to confirm it through the data. [redacted for solicitor-client privileged.]<sup>103</sup>

80. Ms. DiDomenico forwarded this email to Mr. Moore and Marco Oddi (Senior Project Manager, Construction Management, Construction, Engineering Services, Environment

<sup>100</sup> [HAM0038956\\_0001](#) at image 6. See also [HAM0032759\\_0001](#).

<sup>101</sup> [HAM0038956\\_0001](#) at images 4-6

<sup>102</sup> [HAM0032762\\_0001](#)

<sup>103</sup> [HAM0032763\\_0001](#)

& Sustainable Infrastructure Division, Public Works, Hamilton) and stated that Mr. Solomon would look at the curve.<sup>104</sup>

81. On December 12, 2008, in an email to Mr. Solomon, Mr. White, Ron Gallo (Senior Project Manager, Signals and Systems, Traffic Engineering & Operations, Operations & Maintenance, Public Works, Hamilton), Mr. van Berkel and Ms. Juchniewicz, Mr. Kirchknopf assigned Mr. van Berkel to investigate “this request for addition delinestation” (in reference to the November 28, 2009 email forwarded by the Mayor) with Ms. Juchniewicz to provide him with collision data.”<sup>105</sup>

82. On December 15, 2008, Mr. White replied to confirm that the lines on the RHVP were repainted in the early fall.<sup>106</sup>

83. On January 7, 2009, Mr. Gallo emailed Mr. van Berkel and Mr. Locs instructing Mr. Locs to check the collision stats, but unless they demonstrated a possible relation to lighting, no further action was required from his team.<sup>107</sup> Mr. Gallo referenced an email from Mr. Oddi regarding the City’s position on lighting, dated December 5, 2008, that stated:

Full illumination of the Red Hill Valley Parkway (RHVP) and the Lincoln M. Alexander Parkway (LINC) is not warranted at this time. These facilities were opened to traffic in November of 2007 and October of 1997, respectively.

The RHVP and LINC design utilized conventional lighting at the interchange ramp terminals and cross roads in order to reduce the impact on the adjacent residential development. The lighting of only the decision points on the parkway is not uncommon as evident on various sections of Ontario provincial highways. Examples include the QEW from Oakville

---

<sup>104</sup> [HAM0032763\\_0001](#)

<sup>105</sup> [HAM0038956\\_0001](#) at image 4

<sup>106</sup> [HAM0038953\\_0001](#)

<sup>107</sup> [HAM0038956\\_0001](#) at image 3

to Burlington, the QEW from Stoney Creek to St. Catharines, Hwy. 403 from Hamilton to Brantford/Woodstock and Hwy. 401 from Mississauga to London.

I noticed that two of the four luminaires on the southbound RHVP at the Barton St. interchange were not working. I will arrange to have that corrected.<sup>108</sup>

84. On January 8, 2009, Mr. Kirchknopf emailed Mr. Gallo and Mr. van Berkel and stated:

I know you are already investigating a couple of other unrelated issues on the Red Hill Valley Parkway, but can you also assess the lane markings in the area of the Barton Street on & off ramps. Obviously we cannot repaint at this time of the year but we may want to advise Martin's group of the condition so that they can schedule a repaint at the start of the painting program. We should also find out how many times the LINK & RHVP are painted in a season? We may have to bump it up to add another 1 or 2 applications or look into thermo plastic as alternatives (in required sections) if the existing paint we are using is not standing up to the volumes of traffic or conditions in the field?

It appears that Marco responded back to this resident on the street light issue but did not copy the Mayor's office. Can you please advise the Mayor's office (Eddie Lee) that the street light concern has been responded to and that we will monitor the pavement marking conditions and correct as required.<sup>109</sup>

85. On January 9, 2009, Mr. van Berkel responded to the member of the public, in reference to his November 24, 2009 email forwarded by Mayor Eisenberger, with the following:

We are aware of concerns regarding the condition of the pavement markings on the RHVP and will give priority to this roadway once our painting program resumes in the spring. With respect to street lighting, please find attached an edited copy of a response from the Project Manager who worked on the Red Hill Valley Project. I trust these comments are of assistance and we wish to thank you for your interest in this matter of mutual concern. Take care and bye for now.<sup>110</sup>

86. On the same day, Mr. van Berkel emailed Antonino Spoleti (Transportation Technologist, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment and Sustainable Infrastructure Division, Public Works, Hamilton) and Paul McShane (Project Manager, Roads Operations & Maintenance, Roads &

<sup>108</sup> [HAM0038954\\_0001](#). See also [HAM0032760\\_0001](#)

<sup>109</sup> [HAM0038953\\_0001](#) at images 1-2

<sup>110</sup> [HAM0038953\\_0001](#)

Maintenance, Operations, Operations & Waste Management Division, Public Works, Hamilton):

Hi Nino: Can you and Paul arrange to inspect several sections of the RHVP and the Linc where chevrons/delineators etc may be required. I have one particular location which Linda advised there have been 13 collisions since the RHVP opened in November of 2007. Please read the email below to determine where exactly this lady is referring to and advise if delineators/chevrons are required....thanx! I'll drop off the map Linda provided for your perusal. Also attached is a response from Marco Oddi with respect to street lighting on the RHVP.<sup>111</sup>

87. On January 16, 2009, Mr. Locs emailed Mr. van Berkel and Mr. Gallo in respect of the collision history:

Chris, I have reviewed the collision history for this interchange area on the Red Hill Valley.

There are only five incidents, only one happened when it was dark out. The accident which occurred at night, was on the ramp which takes you from Mud to north bound red hill valley. So even this incident may have nothing to do with the complained about portion of road in the email below.

With the data presented to me, there is not a relationship between lighting, or lack of lighting, and accidents occurring in this area.

Please let me know if there's anything else you need on this topic.<sup>112</sup>

88. On February 23, 2009, Mr. Spoletti emailed Mr. van Berkel to confirm that following an inspection, "we will be proceeding with chevron delineation along with speed advisory signs".<sup>113</sup> Mr. Spoletti also advised Mr. van Berkel that there were 30 yellow delineators which had been knocked down in collisions, possibly by snowplows. Mr. van Berkel noted his concern about posts increasing the likelihood of personal injuries. They appear to decide to proceed with the installation of "chevrons on heavy duty u-channel posts".<sup>114</sup>

<sup>111</sup> [HAM0038956\\_0001](#) at image 3

<sup>112</sup> [HAM0038953\\_0001](#) at image 3

<sup>113</sup> [HAM0038956\\_0001](#) at image 2

<sup>114</sup> [HAM0038956\\_0001](#) at image 1

89. In addition to the emails from the members of the public above, Councillor Pearson forwarded Ms. DiDomenico an email from a member the public, sent December 12, 2008, on January 8, 2009, in which the member of the public requested a sign on the RHVP lane that exits onto Barton Street.<sup>115</sup>

***(b) 2010***

90. On January 14, 2010, Councillor Tom Jackson (Ward 6, Hamilton) emailed Mr. Kirchknopf for information about why the Kenilworth Access was closed, in response to an email from a constituent who noted that she had seen a few accidents at the hairpin bend at the Kenilworth Access.<sup>116</sup> Mr. van Berkel confirmed that the closure was the result of an accident and for road maintenance (salting). Ms. Cunliffe forwarded the email chain to Mr. Moore, Sam DiTomaso (Manager, Roads & Maintenance, Operations, Operations & Waste Management, Public Works, Hamilton), copying Mr. Kirchknopf and Mr. van Berkel:

I'm sending you a copy of this email trail as a comment was made to the police during one of these collision cleanups by a City staffer that there could be a problem with the new pavement rather than the maintenance operations. We of course do not yet have the collision reports but on both days the collisions were in the morning on the hairpin turn midway down.....<sup>117</sup>

91. Mr. Moore forwarded Ms. Cunliffe's email to Chris McCafferty (Senior Project Manager, Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton), asking what mix was used on the Kenilworth Access.

---

<sup>115</sup> [HAM0032768\\_0001](#)

<sup>116</sup> [HAM0039700\\_0001](#)

<sup>117</sup> [HAM0039700\\_0001](#)

Mr. McCafferty replied "SURFACE COURSE = SP 12.5 FC2 SURFACE COURSE ASPHALT, CATEGORY "E", PG 64-28".<sup>118</sup>

92. On January 12, 2010, Diana Cameron (Administrative Assistant to the Director of Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works, Hamilton) forwarded an email dated January 11, 2010, from a member of the public to Mr. van Berkel. The email stated that "[w]hen you are driving on the Red Hill Expressway driving up the mountain to connect with the Linc, during inclement weather, it is very hard to see the road (lanes) turning to connect with the Linc. The installation of those reflectors that are put in the road to hi-lite the different lanes, would be a good safety idea." Mr. van Berkel asked Mr. Spoleti to review and respond.<sup>119</sup>

93. On February 1, 2010, Ms. Cameron forwarded an email dated January 28, 2010 from a member of the public to Mr. Kirchknopf and Mr. van Berkel. The email stated that there was improper signage when travelling westbound on Mud Street and that the sightlines were unclear for those travelling northbound down Pritchard Road.<sup>120</sup>

94. On February 1, 2010, a member of the public emailed Mayor Eisenberger and Road Operations & Maintenance's email and noted that "it was difficult it is to see pedestrians coming around the corners at the exits coming off of and getting onto the Expressway at Centennial Parkway", and that:

we have almost been hit a couple times because cars couldn't see around the corners or didn't slow down enough to look. I have very serious concerns about pedestrians getting

---

<sup>118</sup> [HAM0039700\\_0001](#)

<sup>119</sup> [HAM0039686\\_0001](#)

<sup>120</sup> [HAM0003606\\_0001](#)

injured at this location and strongly recommend putting up pedestrian crossing signs before someone gets seriously hurt.<sup>121</sup>

95. On February 3, 2010, Mr. Spoleti directed a student to compile collision information. The student compiled collision information since 2007 for the segment of the RHVP-LINC Transfer, around/between the Dartnall and Stonechurch overpasses/ramps, and noted:

After reviewing all of them, I noticed that 10/27 collisions that were caused primarily by side swipes and improper lane changes. I have highlighted them in yellow on the word document so you can see which ones I am referring to. I excluded highlighting similar collisions that were caused by other factors such ice, snow, impaired driving and fatigue, as these were the primary problems of the collision and not confusing lane markings etc.<sup>122</sup>

96. Mr. Spoleti made a note that he had inquired about the use of illuminated/reflective cats' eyes, which were costly and not standard. He advised the member of the public.<sup>123</sup>

97. Mr. Spoleti also obtained a collision summary of 22 collisions from Ms. Juchniewicz, six of which occurred in dry/dark conditions.<sup>124</sup> On March 11, 2010, Mr. Spoleti wrote to Mr. White and Joe Gueretta (Traffic Services Foreman, Traffic Operations; Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division, Public Works, Hamilton), enclosing a spreadsheet of collisions by impact, lighting conditions, and road surface conditions, and stated:

Martin, I filtered out a few more mva's, but the list below are the ones which drew the red flag. 8 of 22 collisions occurring on the section of RHVP/ LINC between the SB Mud off-ramp to EB Dartnall off-ramp .

Jun. 6, 2008/02:58 - Wet

Apr. 4, 2008/07:39 - Dry

---

<sup>121</sup> [HAM0003607\\_0001](#)

<sup>122</sup> [HAM0039686\\_0001](#)

<sup>123</sup> [HAM0039686\\_0001](#)

<sup>124</sup> [HAM0039686\\_0001](#)

Dec. 28, 2008/20:05 - Wet

Dec. 22, 2008/00:20 - Icy

Apr. 4, 2009/21:38 - Dry

Apr. 29, 2009/20:24 - Dry

Dec. 21, 2008/23:04 - Icy

Dec. 21/2008/21:21 - Loose snow

Enough to warrant some special attention in your opinion?<sup>125</sup>

98. The City did not produce any response to this email.

99. On February 25, 2010, Sergeant Laura Wiltshire (Division 20, HPS) emailed Mr. van Berkel and Mr. Solomon to advise them that there had been a collision in which a vehicle left the roadway and drove down the embankment into the park at King and RHVP.<sup>126</sup>

100. On February 26, 2010, Mr. Solomon emailed Mr. van Berkel and stated that he had spoken to Mr. Moore, and Mr. Moore was satisfied that "it was designed correctly."<sup>127</sup>

101. On April 28, 2010, Mr. Spoleti obtained the collision report and emailed Mr. Solomon and Mr. van Berkel that:

An EB motorist was making a left-turn and was struck by a WB motorist, the EB left turning motorist was spun around and went off the road down the embankment on the north side of King. The report indicated that the vehicle "ran off" the roadway. The motorist suffered minor injuries. A summary of collisions at this location since the RHVP opening indicated that there have been three angle collisions involving either a WB or EB motorist running the red. We have also had three turning type collisions involving EBLT and WB thru motorists. There were no other collisions involving vehicles running off the road."<sup>128</sup>

---

<sup>125</sup> [HAM0039686\\_0001](#)

<sup>126</sup> [HAM0040008\\_0001](#)

<sup>127</sup> [HAM0040008\\_0001](#)

<sup>128</sup> [HAM0040008\\_0001](#)



102. Mr. van Berkel instructed Mr. Spoletti to thank the officers for their input and advise them that "it was designed properly and that we'd continue to monitor this location for similar future collisions with the understanding we'll address it if/when it becomes a "documented" collision problem (cars going down the embankment)."<sup>129</sup>

103. On May 4, 2010, Mr. Solomon emailed Mr. Kirchknopf, Mr. Moore, Mr. White, and Mr. Gallo to advise that in the area of the curve that joins the LINC and the RHVP, the pavement markings seemed to have a "kink" in them and sought aerial photos to view the markings.<sup>130</sup> On May 12, 2010, Mr. Solomon emailed Mr. White, Mr. Spoletti, Mr. Gueretta, Mike Cosentino (Acting Superintendent, Traffic Signs and Markings, Traffic Operations; Energy, Fleet, Facilities & Traffic; Transportation, Energy and Facilities Division, Public Works, Hamilton), and Mr. Kirchknopf in respect of the markings:

We have a neat drawing that shows that there is indeed a "flat spot" where there should be a pure circular curve. However, the appropriate path would place the traffic almost out to the edge of the existing left shoulder, and likely over the edge line rumble strip.

Therefore, an immediate fix through altering the markings to the original intent is not practical without reconstruction. When the recons finally gets that far east, we can fix it properly. Meantime, we're looking at ways of fudging in the lines to improve the situation.<sup>131</sup>

104. Mr. Spoletti responded to Mr. Solomon only on the same day:

Hart, 5 collisions in the area of concern, I have the completed drawing on my desk.<sup>132</sup>

105. On May 18, 2010, Mr. Spoletti emailed Mr. Solomon with a list of details of five collisions. He stated:

There had been 5 collisions, two of which occurred in the area of the "kink". Of these two collisions, one collision involved a motorist who was charged with impaired driving, the

---

<sup>129</sup> [HAM0040008\\_0001](#)

<sup>130</sup> [HAM0040053\\_0001](#); and [HAM0040054\\_0001](#)

<sup>131</sup> [HAM0040053\\_0001](#)

<sup>132</sup> [HAM0040053\\_0001](#)

other collision involved a motorist who lost control along the curve on icy road conditions. I think it would be difficult to attribute any collisions as a result of the noted kink in the road. Let me know what steps we should be taken next, the pavement markings should be modified.”<sup>133</sup>

106. On May 26, 2010, Ms. Juchniewicz emailed Mr. Solomon and Mr. Kirchknopf a spreadsheet entitled “mainline ramps” which listed 32 collisions on the RHVP in 2008, 33 in 2009, 26 collisions on the ramps in 2008, and 29 in 2009.<sup>134</sup>

107. In July 2010, Mr. Solomon emailed Mr. White, Rich Shebib (Traffic Technologist, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment and Sustainable Infrastructure Division, Public Works, Hamilton), Mr. Cosentino and Mr. Spoleti to advise that:

The changes to the markings on the LINC mainline cannot be achieved without pavement shoulder widenings and relocating the edge line rumble strip. The collision history does not justify this cost, plus we do not have time to design it/implement it, even though the error in the layout is clear on the ground and in air photos. So unfortunately, no action.<sup>135</sup>

**F. Double Fatality (2012)**

108. On September 18, 2012, at 11:15 a.m., Darrell Smith (Manager, Road & Maintenance, Operations, Operations & Waste Management Division, Public Works, Hamilton) emailed Mr. Davis, Ms. Goodger, Mr. Parker, and Mr. Shynal under the subject line “Accident - Red Hill.”<sup>136</sup> He wrote that there had been a “serious accident on the Red Hill.”

---

<sup>133</sup> [HAM0040065\\_0001](#)

<sup>134</sup> [HAM0040082\\_0001](#) attaching [HAM0040083\\_0001](#)

<sup>135</sup> [HAM0040184\\_0001](#)

<sup>136</sup> [HAM0008535\\_0001](#)

109. On September 18, 2012, at 11:39 a.m., Mr. Smith responded to his own email. He wrote: "The accident included a double fatality and the reconstruction unit is on scene."<sup>137</sup>

110. A few minutes later, Mr. Shynal responded to Mr. Smith alone. He wrote: "Thanks Darrell... assuming that roadway flooding was not a factor..."<sup>138</sup>

111. Mr. Smith responded to Mr. Shynal. He wrote: "Staff on site have not mentioned any flooding issues."<sup>139</sup>

112. On September 19, 2012, the Spectator published an article titled "Mountain couple die in Red Hill crash: Driver of truck that collided with compact car won't face charges."<sup>140</sup>

The article included the following content:

Speed and a rain-soaked road are the suspected causes of a crash on the Red Hill Valley Parkway that took the lives of a Hamilton Mountain couple.

Believed to be in their 60s or 70s, they were killed Tuesday morning when their small Toyota Echo lurched into the path of a delivery truck owned by VitalAire, a company that provides oxygen services to hospitals and homes.

They were pronounced dead at the scene of the 10 a.m. accident, near the southbound Barton Street East on-ramp. The southbound parkway between the QEW and Queenston Road was closed for more than six hours for cleanup and to allow officers from the Collision Reconstruction Unit to probe the crash.

Names are not being released until members of the couple's extended family are informed of the fatalities.

"Weather may have played a part in it because it was raining at the time," said Detective Constable Steve Ellis of the Collision Reconstruction Unit. "The Toyota vehicle was making its way down the ramp, to go southbound ... and for some reason lost control and bounced over the concrete median and shot across in front of the southbound truck."

"He was going too fast to stay in the lane that he was in, and hit the concrete median and it shot him right across, in front of the truck ... In order for the vehicle to do what it did, it was going too fast for the road conditions."

---

<sup>137</sup> [HAM0008535\\_0001](#)

<sup>138</sup> [HAM0008535\\_0001](#)

<sup>139</sup> [HAM0008535\\_0001](#)

<sup>140</sup> [RHV0000131](#)

**G. Appendix A: Individuals Referenced in Overview Document #5**

Last Name	First Name	Organization	Position(s) <sup>141</sup>
<b>Andoga</b>	Richard	City of Hamilton	<b>Senior Project Manager</b> , Infrastructure Programming, Asset Management, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Bashir</b>	Imran	Golder	Pavement and Materials Engineer
<b>Becke</b>	Michael	City of Hamilton	<b>Senior Project Manager</b> , Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Bender</b>	Daryl	City of Hamilton	<b>Project Manager</b> , Alternative Transportation, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Bratina</b>	Bob	City of Hamilton	Mayor of Hamilton
<b>Cameron</b>	Diana	City of Hamilton	<b>Administrative Assistant to the Director of Engineering</b> , Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Clark</b>	Brad	City of Hamilton	Councillor, Ward 9
<b>Collins</b>	Chad	City of Hamilton	Councillor, Ward 5
<b>Cosentino</b>	Mike	City of Hamilton	<b>Acting Superintendent</b> , Traffic Signs and Markings, Traffic Operations; Energy, Fleet, Facilities & Traffic; Transportation, Energy and Facilities Division, Public Works
<b>Cunliffe</b>	Leanne	City of Hamilton	<b>Project Manager</b> , Traffic Planning, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Davis</b>	Gerry	City of Hamilton	<b>General Manager</b> , Public Works
<b>DiDomenico</b>	Jennifer	City of Hamilton	<b>Manager</b> , Policy & Programs, Support Services, Operations & Waste Management Division, Public Works (until 2012)  <b>Corporate Service Delivery Review Manager</b> , Corporate Assets & Strategic Planning, Public Works (2012 onwards)
<b>DiTomaso</b>	Sam	City of Hamilton	<b>Manager</b> , Roads & Maintenance, Operations, Operations & Waste Management Division, Public Works

<sup>141</sup> Given the length of time covered in Overview Document #5, and the many changes that occurred within the Public Works Department during this time period (as described in Overview Document #2), Appendix A includes only the position(s) held by an individual at the times they are referenced in Overview Document #5. Commission Counsel has created a separate chart that includes the complete list of all positions held by all individuals referenced in Overview Documents #2 - #10, which is included in Overview Document #1 at Appendix A.

Last Name	First Name	Organization	Position(s) <sup>141</sup>
Eisenberger	Fred	City of Hamilton	Mayor of Hamilton
Farrell	Aaron	Philips Engineering	Associate
Field	Mike	City of Hamilton	<b>Project Manager</b> , Street Lighting & Electrical, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
Gallo	Ron	City of Hamilton	<b>Senior Project Manager</b> , Signals and Systems, Traffic Engineering & Operations, Operations & Maintenance, Public Works (until 2009)  <b>Senior Project Manager</b> , Signals and Systems, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (2009 onwards)
Galloway	Rob	City of Hamilton	<b>Traffic Technologist</b> , Signals & Systems, Traffic Engineering & Operations, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (until 2009)  <b>Traffic Technologist</b> , Signals & Systems, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (2009 onwards)
Gizzarelli	Rocco	Member of Public	
Goodger	Beth	City of Hamilton	<b>Senior Director</b> , Operations & Waste Management Division, Public Works (until 2012)  <b>Director</b> , Corporate Initiatives, City Manager's Office (as of 2012)
Gueretta	Joe	City of Hamilton	<b>Traffic Services Foreman</b> , Traffic Operations; Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division, Public Works
Jackson	Tom	City of Hamilton	Councillor, Ward 6
Jacob	Susan	City of Hamilton	<b>Manager</b> , Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
Juchniewicz	Linda	City of Hamilton	<b>Collision Analyst</b> , Community Traffic, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
Kirchknopf	Gary	City of Hamilton	<b>Senior Project Manager</b> , Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works

Last Name	First Name	Organization	Position(s) <sup>141</sup>
<b>Locs</b>	Peter	City of Hamilton	<b>Project Manager</b> , Traffic Electrical Street Lighting, Signals & Systems, Traffic Engineering & Operations, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (2009)  <b>Project Manager</b> , Street Lighting, Traffic Operations, Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division; Public Works (2010 onwards)
<b>Lupton</b>	Geoff	City of Hamilton	<b>Director</b> , Energy, Fleet, Facilities & Traffic; Transportation, Energy & Facilities Division, Public Works
<b>Mater</b>	John	City of Hamilton	<b>Associate General Manager</b> , Public Works and <b>Director, Transportation</b> , Public Works
<b>McCafferty</b>	Chris	City of Hamilton	<b>Senior Project Manager</b> , Design, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>McGill</b>	John	Cole Engineering	Vice President, Transportation
<b>McHattie</b>	Brian	City of Hamilton	Councillor, Ward 1
<b>McShane</b>	Paul	City of Hamilton	<b>Project Manager</b> , Roads Operations & Maintenance, Roads & Maintenance, Operations, Operations & Waste Management Division, Public Works
<b>Molloy</b>	Steve	City of Hamilton	<b>Project Manager</b> , Transportation Master Plan Implementation, Strategic Planning, Environment & Sustainable Infrastructure Division, Public Works (2010-2013)  <b>Project Manager</b> , Transportation Management, Strategic Planning, Corporate Assets & Strategic Planning, Public Works (2013 onwards)
<b>Moore</b>	Gary	City of Hamilton	<b>Manager</b> , Design, Capital Planning & Implementation, Public Works (until 2009)  <b>Director</b> , Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (2009-2012)  <b>Director</b> , Engineering Services, Public Works (2012 onwards)
<b>Murray</b>	John	City of Hamilton	<b>Manager</b> , Asset Management, Engineering Services, Environment & Sustainable Infrastructure Division (until 2012)  <b>Manager</b> , Asset Management, Engineering Services, Public Works (2012 onwards)

Last Name	First Name	Organization	Position(s) <sup>141</sup>
<b>Oddi</b>	Marco	City of Hamilton	<b>Senior Project Manager</b> , Construction Management, Construction, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Parker</b>	Pat	City of Hamilton	<b>Director</b> , Support Services, Operations and Waste Management Division, Public Works (until at least 2012)
<b>Pearson</b>	Maria	City of Hamilton	Councillor, Ward 10
<b>Rae</b>	Geoff	City of Hamilton	<b>Senior Director</b> , Environment & Sustainable Infrastructure Division, Public Works
<b>Russell</b>	Sue	City of Hamilton	<b>Project Manager</b> , Community Traffic, Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works
<b>Scheckenberger</b>	Ron	Philips Engineering	Vice-President
<b>Shebib</b>	Rich	City of Hamilton	<b>Traffic Technologist</b> , Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment and Sustainable Infrastructure Division, Public Works
<b>Shynal</b>	Bryan	City of Hamilton	<b>Director</b> , Operations, Operations & Waste Management Division, Public Works
<b>Smith</b>	Darrell	City of Hamilton	<b>Manager</b> , Roads & Maintenance, Operations, Operations & Waste Management Division, Public Works
<b>Solomon</b>	Hart	City of Hamilton	<b>Manager</b> , Traffic Engineering & Operations, Operations & Maintenance, Public Works (until 2009)  <b>Manager</b> , Traffic Engineering, Engineering Services, Environment & Sustainable Infrastructure Division, Public Works (2009 onwards)
<b>Spoleti</b>	Antonino	City of Hamilton	<b>Transportation Technologist</b> , Traffic Planning & Community Services, Traffic Engineering, Engineering Services, Environment and Sustainable Infrastructure Division, Public Works
<b>Towers</b>	Bryan	City of Hamilton	<b>Project Manager</b> , Roads & Maintenance, Operations, Operations & Waste Management Division, Public Works
<b>Uzarowski</b>	Dr. Ludomir	Golder	Principal, Pavement and Materials Engineering
<b>Vader</b>	Brenda	Township of Faraday	Clerk-Treasurer

Last Name	First Name	Organization	Position(s) <sup>141</sup>
<b>van Berkel</b>	Chris	City of Hamilton	<p><b>Project Manager</b>, Community Traffic, Traffic Engineering &amp; Operations, Operations &amp; Maintenance, Public Works (until 2009)</p> <p><b>Project Manager</b>, Traffic Planning &amp; Community Services, Traffic Engineering, Engineering Services, Environment and Sustainable Infrastructure Division, Public Works (2009 onwards)</p>
<b>White</b>	Martin	City of Hamilton	<p><b>Superintendent</b>, Traffic Field Operations, Traffic, Operations &amp; Maintenance, Public Works (until 2009)</p> <p><b>Superintendent</b>, Traffic Field Operations; Energy, Traffic Operations &amp; Facilities; Transportation, Energy &amp; Facilities Division; Public Works (2009-2010)</p> <p><b>Manager</b>, Traffic Operations; Energy, Fleet, Facilities &amp; Traffic; Transportation, Energy &amp; Facilities Division; Public Works (2010 onwards)</p>
<b>Wiltshire</b>	Laura	HPS	Sergeant, Division 20
<b>Wyskiel</b>	Kim	City of Hamilton	<b>Superintendent of Traffic Services</b> , Traffic Operations; Energy, Traffic Operations & Facilities; Transportation, Energy & Facilities Division; Public Works
<b>Zinkewich</b>	Lisa	City of Hamilton	<b>Program Manager</b> , Corporate Initiatives, City Manager's Office