



# INFORMATION REPORT

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	June 17, 2020
<b>SUBJECT/REPORT NO:</b>	Red Hill Valley Parkway Corridor Analysis (PW20036) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
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<b>SIGNATURE:</b>	

## COUNCIL DIRECTION

Not applicable.

## INFORMATION

CIMA Canada Inc. (CIMA+) was retained by the City of Hamilton to prepare a Red Hill Valley Parkway (RHVP) Analysis report (hereafter referred to as “the report”) that focused on the following subject areas:

1. The impacts to traffic due to the 2019 RHVP road closure on the adjacent road networks;
2. An assessment of the changes in speeds as a result of the various enhancements implemented on the RHVP in 2019; and
3. An assessment of the changes in collisions as a result of the various safety enhancements implemented on the RHVP in 2019.

The report was finalized on April 28, 2020 and is attached to Report PW20036 as Appendix “A”. This information update serves as a summary of the report’s contents and findings.

Impact Assessment of RHVP Closures:

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Between May and August 2019, the RHVP was closed in various stages to accommodate the resurfacing of the parkway. The closure staging was as follows:

1. RHVP Northbound Closed;
2. RHVP Southbound Closed; and
3. Mud Street / Upper RHVP on-ramp closed

The assessment by CIMA+ reviewed traffic volume data, and travel time data collected on key routes during each closure stage as well as during and after the summer break (in August and September respectively, after construction). The data was collected both by the City (volume data) and was obtained by third-party (TomTom travel time data) and was assessed for the a.m. and p.m. peak travel periods.

The results of the analysis in the report outline that traffic volumes and travel times increased along Mud Street (main east/west route), Upper/Lower Centennial Parkway (main north/south route), Stone Church Road and Rymal Road. This indicates that most of the traffic was following the signed detour routes and/or was taking the most logical alternative routes.

The report outlines that there were also increases in volume and/or travel time along other roads including: Highway 403, Kenilworth Access, Wilson Street, King Street West, Mountain Brow Boulevard, Upper James Street, Queenston Road, Woodward Avenue, Parkdale Avenue and Barton Street.

#### Analysis of Traffic Speed Along the RHVP:

Traffic operating speeds (both weekday and weekend) were assessed by averaging city collected speed data within a 12-hour interval (9 a.m. – 9 p.m.) and were compared against the following scenarios:

- Before speed limit change in February 2019;
- After speed limit change (combined with the educational campaign) but before the start of Police enforcement (February 16 to March 25, 2019);
- After the start of additional Police enforcement (March 26, 2019 to date); and
- After resurfacing of RHVP was completed (August 2019 to date), including all the implemented educational, enforcement and engineering enhancements.

The report utilizes the 85<sup>th</sup> percentile speed (hereafter referred to as the “operating speed”) which is a standard in the traffic engineering industry and as defined as the speed 85 percent of vehicles are travelling at or below.

The report outlines that on weekdays there was an immediate reduction in the operating speed of approximately 10 km/h after the speed limit reduction from 90 km/h to 80 km/h, although it is noted that the speed is still higher than the posted speed limit.

Additional enforcement also provided a decrease in speed during most time periods with the most dramatic change in the afternoon weekday peak period. The engineering enhancement (resurfacing, delineation etc.) of the RHVP did not have a major impact on weekday speeds.

The key difference between weekday and weekend speeds was that a slightly higher overall operating speed was identified after the resurfacing on weekends.

Collision Assessment:

Several Engineering, enforcement and educational enhancements were implemented along the RHVP in 2019 including:

- Educational Campaigns (Jan 2019 – ongoing)
  - Speeding is speeding;
  - Distracted Driving; and
  - Slow Down, Move Over
- Portable message signage (Jan 2019)
  - Advising of queueing on the RHVP;
  - Promoting educational messaging; and
  - Advising of roadway activities (i.e. construction/closures)
- Posted Speed limit reduction from 90 km/h to 80 km/h between Greenhill Avenue and Barton Street (Feb 2019)
- Increased Police enforcement/presence (April 2019 – April 2020)
- Resurfacing and physical safety enhancements
  - 10 km of new guide rail and end treatment improvements;
  - Bright durable lane markings;
  - Reflective markers along curves and straightaways on posts, barriers and guiderails; and
  - Increased number of “Slippery When Wet” signs

CIMA+ reviewed the impact of the above-mentioned enhancements, utilizing Police recorded collisions from January 2013 to December 2019.

As these enhancements were implemented during 2019, the after period represents a very short time period (August to December 2019 would represent the “after” data, post the enhancements and resurfacing although some are ongoing). Although the report’s results show a downward trend in the number of collisions, a definitive conclusion cannot be drawn based on the data, and ongoing evaluation will be required to confirm this trend continues into the future.

The report outlines a reduction in the total collisions in 2019 vs. the average of the previous six years of approximately 43%. It should be noted that these numbers would be impacted by the closure of the RHVP.

In the fourth quarter (Q4), between October-December (once the RHVP was fully opened, post resurfacing) the report outlines a reduction in total collisions of approximately 53% when comparing Q4 in 2019 to the average number of collisions in Q4 from previous years.

When specifically looking at collisions that resulted in an injury, the reductions are in line with total collision assessment (43% over the year and 53% in Q4).

Specifically, in the section of the RHVP between Barton Street East and Greenhill Avenue an increase in total collisions was identified after the speed limit change and increased enforcement but was not found to be statistically significant.

The downward trend continued when specifically looking at wet surface related collisions. The proportion of collisions that occurred in 2019 that involved wet surface was 29% in Q4 2019 (after resurfacing) compared to an average of 67% in the past six years. Further, in Q4 of 2019, there were substantially lower numbers of wet road collisions compared to the Q4 average of previous six years (five versus an average of 25).

Lighting conditions were also assessed, specifically looking at collisions occurring during non-daylight hours in 2019 vs. the prior six years. No specific trend was identified in the report (either increasing or decreasing).

The reduction in collisions in 2019 was found to be statistically significant when comparing before and after data, but again it should be noted that the after period only consisted of Q4 of 2019, and therefore a definitive conclusion cannot be drawn based on the data, and additional monitoring will be undertaken by staff to verify the downward trends.

## **APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to Report PW20036 - Red Hill Valley Parkway Analysis CIMA + Report