




# INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	November 27, 2020
<b>SUBJECT/REPORT NO:</b>	Ward by Ward Conditional Assessment of Roads (PW20075) (City Wide) <b>(Outstanding Business List Item)</b>
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Erika Waite (905) 546-2424 Ext. 6397
<b>SUBMITTED BY:</b>	Gord McGuire Director, Engineering Services Public Works Department
<b>SIGNATURE:</b>	

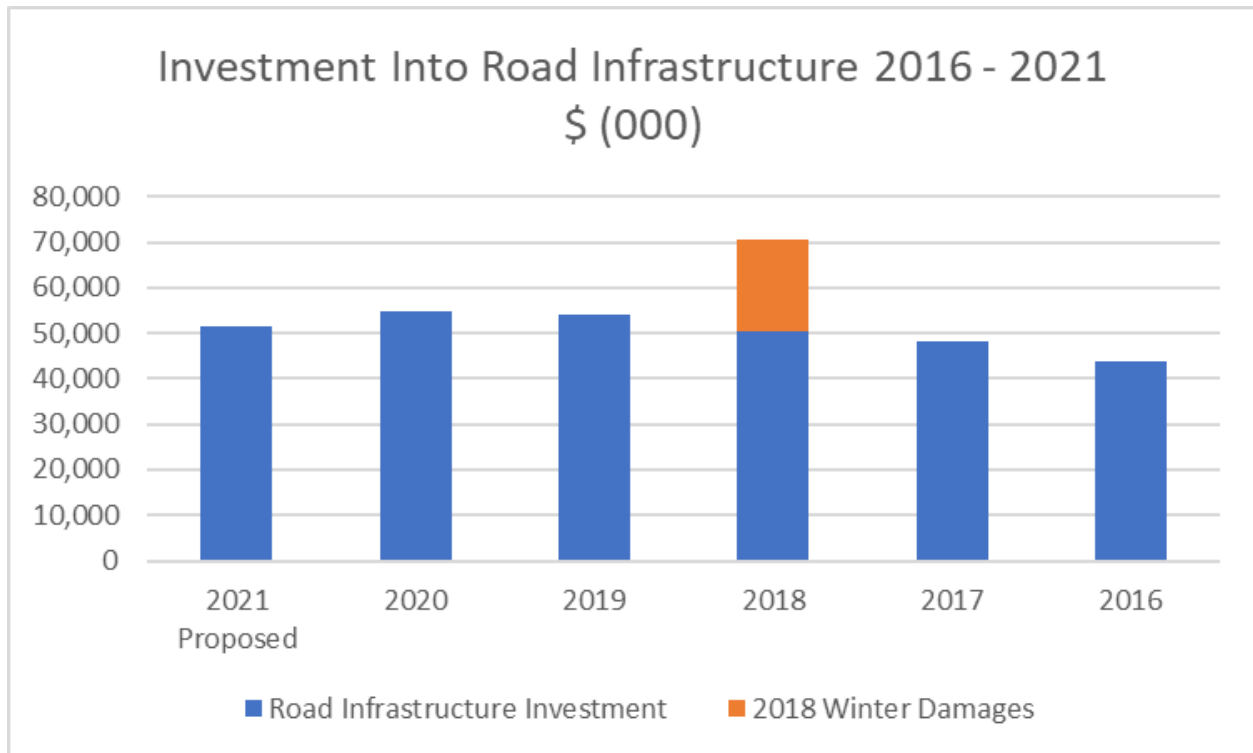
## COUNCIL DIRECTION

Public Works Committee at its meeting of November 29, 2019 approved the following:  
“Staff was directed to report back to the GIC Capital Budget process (December 9, 2019) with a Ward by Ward account of the conditional assessment of roads.”

## INFORMATION

This report is to provide information on the overall road network condition as expressed as a technical level of service. In 2019 the road network was inspected via a contractor to determine an Overall Condition Index (OCI). This data was processed, reviewed and uploaded to City systems in Q2 of 2020. When comparing 2019 pavement inspection results to 2015 pavement inspection results, a slight increase in OCI was observed, from 59 in 2015 to 63 in 2019 using the segment weighted process.

This increase is in part due to the 2017/2018 Winter Damages Council-approved (PW18020) proactive reinvestment of \$20M towards road rehabilitation projects and the 2019 Red Hill Valley Parkway rehabilitation attributing 50 lane kilometres of improved roadway condition for \$14M in reinvestment within the 2019 roads block.



In 2016 there was a review of the State of the Infrastructure (SOTI) road network review based on the data available at that time. That study identified that to meet a technical level of service defined as an OCI of 62 the City was advised to invest approximately \$52M annually (valued in 2016 dollars).

Over the last 10 years the City has invested approximately \$55M (inclusive of the 2018 winter damages injection), or an average of \$52M without the winter damage funding; fundamentally meeting the 2016 projected investment level; fundamentally achieving the 2016 projected technical level of service of an OCI above 62 given the investment level.

The investment rate above provides the City a level of service of 63 as expressed as an average OCI weighted by road network segments, and as represented by condition in the table below.

**Average OCI Values by Functional Class  
(weighted by segments)**

Functional Class		2015	2019
<b>Expressway</b>	LINC	74	*70
	RHVP	76	**90
	<b>Expressway Network</b>	<b>75</b>	<b>80</b>
<b>Urban</b>	Arterial Major	61	66
	Arterial Minor	59	63
	Collector	57	60
	Local	56	62
	<b>Urban Network</b>	<b>57</b>	<b>62</b>
<b>Rural</b>	Arterial	64	67
	Collector	64	66
	Local	60	65
	<b>Rural Network</b>	<b>62</b>	<b>66</b>
<b>Overall Network</b>		<b>59</b>	<b>63</b>

\* 2019 pavement inspection of the LINC was conducted prior to 2019 maintenance improvements

\*\* 2019 pavement inspection of the RHVP was conducted after 2019 RHVP capital resurfacing project

There is an industry-wide understanding that OCI values will have some variance between inspection years and methods of presenting the values. In some cases, variances of +/- 5% may be observed. There are a variety of reasons for this, such as different inspection equipment or data-capture methods used by different pavement inspection consultants, improvements in technology, or maintenance activities.

There is no industry standard for reporting average OCI across municipalities. Average OCI can be reported as a segmental average, by weighted-length, by weighted lane-length (also referred to as weighted lane-kilometres), weighted area, etc.

Previous SOTI road reports reported average OCI values based on weighted lane-kilometres. With the investment rate stated above, resulting average OCI per road classification can also be expressed by weighted lane-kilometres, as per the table below. Methods of reporting OCI values are being reviewed in order to select the method with the highest levels of consistency and accuracy.

**Average OCI Values by Functional Class  
(weighted by lane-kilometres)**

Functional Class		2015	2019
<b>Expressway</b>	LINC	77	*70
	RHVP	77	**94
	<b>Expressway Network</b>	<b>77</b>	<b>81</b>
<b>Urban</b>	Arterial Major	63	67
	Arterial Minor	61	63
	Collector	58	62
	Local	59	62
	<b>Urban Network</b>	<b>60</b>	<b>64</b>
<b>Rural</b>	Arterial	67	68
	Collector	66	69
	Local	66	67
	<b>Rural Network</b>	<b>67</b>	<b>69</b>
<b>Overall Network</b>		<b>62</b>	<b>66</b>

\* 2019 pavement inspection of the LINC was conducted prior to 2019 maintenance improvements

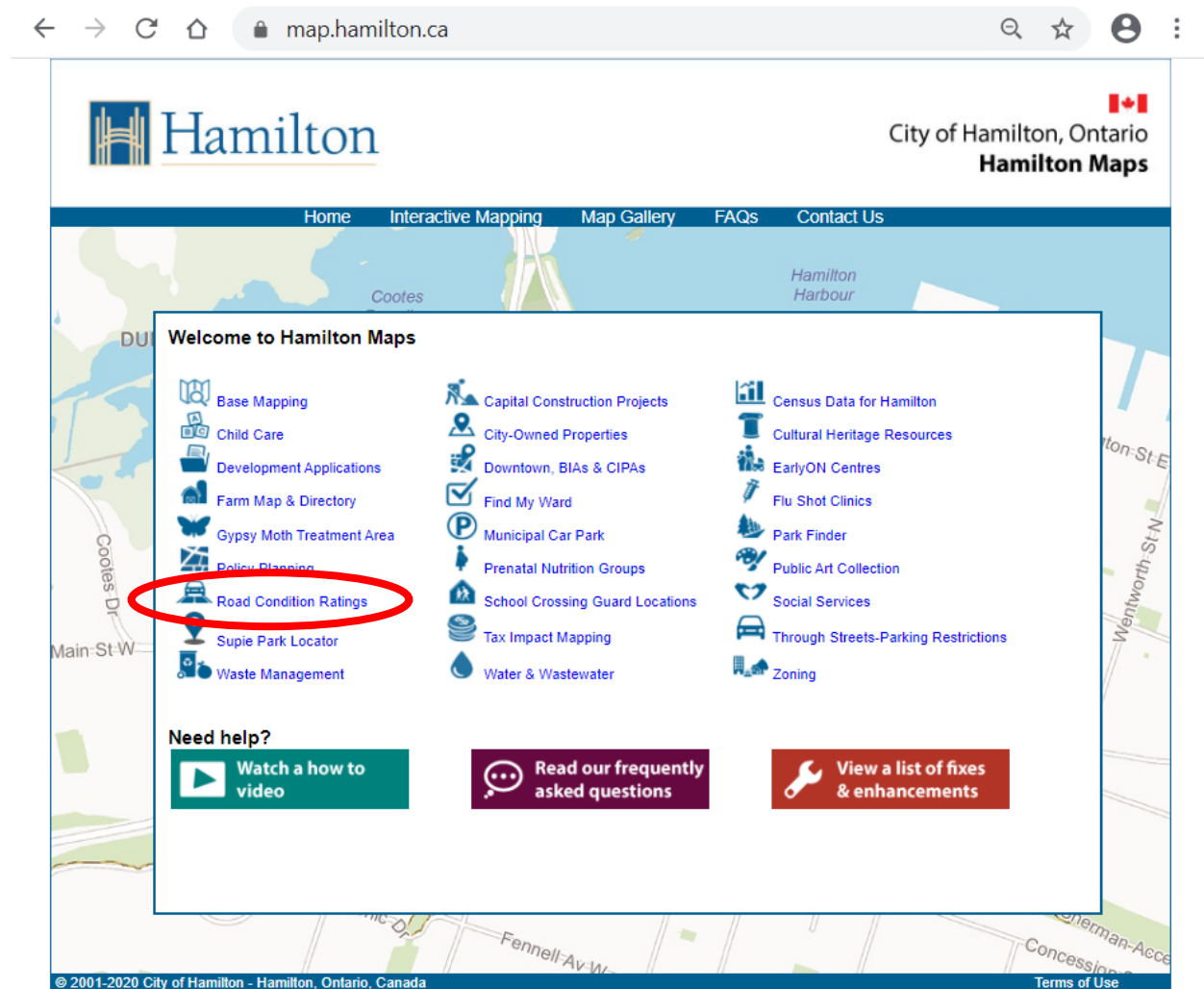
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Pavement inspection data contributes to City of Hamilton Strategic Initiatives such as SOTI reports and the development of the AMP (Asset Management Plan), which is a requirement of the Province of Ontario's Asset Management Planning for Municipal Infrastructure Regulation, under the Infrastructure for Jobs & Prosperity Act, O. Reg. 588/77. These reports will assist in the decision-making process for the development of the future capital roads program.

The Road Condition Ratings dashboard, available on the City of Hamilton's website at <http://map.hamilton.ca/> under the [Road Condition Ratings](#) link, has been updated based on 2019 pavement condition inspection data. Below is a direct link to the dashboard.

<https://spatialolutions.maps.arcgis.com/apps/MapSeries/index.html?appid=75000b09fc15402e993e780adcd074cc>

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The dashboard contains a tab called “City Wide” which can be selected to view road condition ratings throughout the City. It also contains 15 individual “Ward” tabs to view the road condition ratings within specific Wards. There is a “Tutorial” tab, which explains the overall operation and functionality of the dashboard. Lastly, there is a “Summary and Stats” tab, which summarizes various analyses performed on pavement conditions, road programming, funding, road network metrics, etc. This same tab also highlights some recent and upcoming key Strategic Initiatives such as the 2017/2018 Winter Damages re-investment, SOTI and AMP.

**APPENDICES AND SCHEDULES ATTACHED**

N/A