

Response Matrix for Burnside Letter dated June 26, 2015

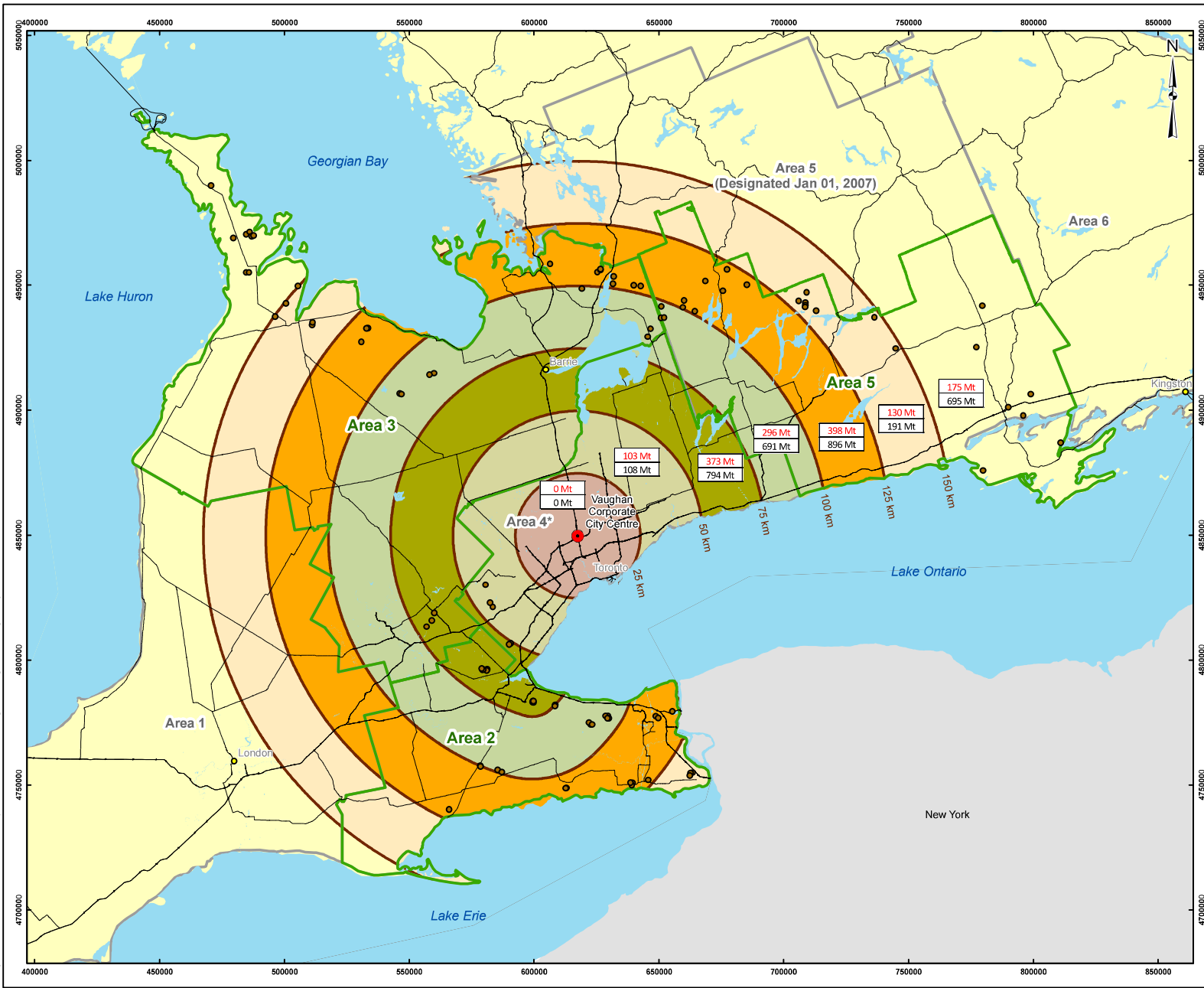
Response Date July 23, 2015

Agency	#	Comment	Response	Action Item
Burnside Haul Route Study Comments	1	<p>Coordination with Previous Traffic Impact Study - The HRS does not reference the previous study work (i.e., Revised Traffic Impact Study (TIS), December 2013 and Response Letter, April 17, 2014). The April 17, 2014 response letter confirms the need for a left turn lane on Highway 7 at both 6th Line and at 5th Line, running continuous between the two intersections, however, the TIS has not been updated to include this recommendation. The conclusions / recommendations of these previous studies will impact the haul route. It is recommended that an updated TIS be provided, once the haul route details are confirmed.</p>	<p>Cole to amend TIS once haul route details are confirmed.</p>	<p>Cole</p>
Burnside Haul Route Study Comments	2	<p>Forecast Truck Generation - The forecast truck traffic is based on an average load of 33 tonnes. Insufficient information is provided in the TIS to confirm the veracity of this assumption. However, the follow-up letter from James Dick Construction Limited (JDCL) (June 26, 2015) now provides additional information on the applicant's fleet of gravel trucks and the haulage requirements associated with the aggregate product from the Eramosa Quarry. This supplementary information supports the assumptions made in the HRS and TIS with respect to truck generation. It is recommended that the HRS be revised to include this supplementary data.</p>	<p>Cole to amend HRS to include fleet average payload information as submitted by JDCL to H. Centen of Burnside dated June 26, 2015</p>	<p>Cole</p>
Burnside Haul Route Study Comments	3	<p>Coordination of Operations Between Guelph Quarry and Eramosa Quarry - A follow-up email (March 15, 2015) from James Dick Construction Limited (JDCL) indicates that the existing Guelph Quarry will continue to service eastern markets using the Hanlon Expressway to access Highway 401. This appears to be contrary to the HRS, which suggests that the proposed Eramosa Quarry will supplant the supply from the Guelph Quarry, which has the benefit of removing the existing Guelph Quarry traffic through Rockwood and Acton. In the Hatch Mott MacDonald study (March 3, 2015, Town of Halton Hills), it was noted that no existing Guelph Quarry trucks were observed to be travelling through Rockwood in observations made in February 2015. The CRC submission also indicates that there is very little JDCL traffic presently travelling through Rockwood. The JDCL letter (June 26, 2015) clarifies that the loads shipped through Rockwood, from the Guelph Quarry, are being supplanted by the new quarry, however no quantification is provided to confirm if this represents any significant reduction in existing truck traffic (i.e. net increases in truck traffic on the haul routes due to the proposed Eramosa Quarry). The HRS should quantify the existing and proposed haul routes / truck volumes for the existing Guelph Quarry and any impacts on the analysis of the operations of the proposed Eramosa Quarry haul routes.</p>	<p>Loads shipped from the Gueph Quarry that are destined directly for the GTA market now and in future will use the Hanlon Expressway and the 401 corridor. Loads from the Guelph Quarry which are shipped to Acton and Georgetown currently move across Highway 7 through Guelph, Rockwood and Acton to service these markets. In the event the Hidden Quarry is approved, loads to Acton and Georgetown would ship from the Hidden Quarry through Acton and Georgetown, as appropriate, to service local jobs along Provincial Highway 7. As such, loads from the Hidden Quarry would supplant loads currently shipped from the Guelph Quarry. This of course has the benefit of removing Guelph Quarry traffic from Guelph and Rockwood. As a matter of conservatism, Cole Engineering did not account for any load supplantation in any of their calculations. For clarity, in the event the Hidden Quarry were to be approved, it would not replace the Guelph Quarry, it would merely displace loads currently shipped to a market more efficiently served by the Hidden Quarry. As importantly, the presence or absence of the Hidden Quarry will not impact on aggregate consumption or the location of new development that uses aggregate in its construction. Those job sites in Acton and Georgetown recieve aggregate products today, the difference being that they may be shipped in from distant sources. As such, there is no "new" traffic being generated by the Hidden Quarry, only a new source. Truck traffic from Halton pits and quarries has been in steady decline over the past decade. The Town of Halton Hills and the Region of Halton have seen a significant decline in the local production of aggregate products. According to TOARC statistics, the Region of Halton production has declined from 15.8 million tonnes in 2001 to a low of 6.8 million tonnes in 2013. Similarly Burlington and Halton Hills (statistics combined to ensure confidentiality) have together seen a precipitous drop from 7.0 million tonnes to 2.1million tonnes over the same period.</p>	<p>JDCL- Provide TOARC Statistics fro Halton to Burnside</p>

Burnside Haul Route Study Comments	4	<p>Potential Reduction in Provincial Truck Travel - Insufficient information is provided in the HRS to confirm if the assumptions made are reasonable, with respect to the forecast reductions in the kilometres of truck traffic provincially, resulting from the Eramosa Quarry being closer to market than alternate aggregate sources.</p>	<p>Cole has provided a list of the closest competing quarries to the market area to be served by the Hidden Quarry. The Bolton concrete plant has been used as a proxy for the centroid of the marketplace serviced by the Hidden Quarry that can be generally defined as the west central GTA with a focus on the northerly development fringe. The use of proxy locations to define a market area is reasonable and was the approach taken in The State of the Aggregate Resource in Ontario Paper Five dealing with analysis of high quality stone reserves. In that case the Vaughan Corporate City Centre was used as a market proxy. James Dick tends to be more Caledon and Peel centric and as such we shift the proxy location to Bolton as we believe it better describes our market area. Because there is such a large deficit in GTA consumption vs. GTA production of stone reserves, it is unlikely that any material from the few remaining GTA quarries would be replaced by material shipped from Hidden Quarry. Material from Hidden Quarry would supplant material coming into the GTA from more distant quarries listed by Cole. A figure has been prepared based Figure 3 entitled "Remaining Reserves in Relation to the Vaughan Corporate City Centre" from the <u>State of the Aggregate Resource in Ontario Report Paper 5</u> on the indicating the locations of these competing quarries relative to the market area and the Hidden Quarry. The Bolton Concrete Plant and the general Market Area for the Hidden Quarry is also shown.</p>	JDCL- Provide SAROS Paper 5 Figure 3 and a modified figure to Burnside.
Burnside Haul Route Study Comments	5	<p>Safety Issue At Intersection of Main Street / Mill Street (Highway 7, Acton) - The turning constraints / safety issues at the intersection of Main Street / Mill Street (Highway 7, Acton) have not been quantified. Turning templates should be provided for the heavy vehicles, along with confirmation of how many heavy vehicles are currently making this turn, including the contribution that is attributable from the Guelph Quarry. Insufficient information has been provided to conclude that the forecast trips from the Eramosa Quarry (i.e., 20 trips per day) can be safely accommodated for this turning movement. The Hatch Mott MacDonald study (March 3, 2015, Town of Halton Hills), reports observing trucks routinely mounting the curb to negotiate this turn, as well as significant pedestrian volumes in this area. The HRS should more fully address this potential safety issue.</p>	<p>An AutoTURN assessment will be undertaken to determine the impact of a truck movement and whether it can be appropriately accommodated within the intersection.</p>	Cole
Burnside Haul Route Study Comments	6	<p>Safety Impacts of Increased Truck Percentages on Haul Routes - The HRS suggests that increasing the heavy traffic on Regional Road 25 (south of Acton) from 7% of the AADT to 8% of the AADT is not significant, considering the very small percentage increase in potential collisions that this may promote. However, Burnside's calculations indicate that the percentage of heavy vehicles is forecast to grow by about 17% on this road, and that this percentage may be a more appropriate indicator of collision potential and/or severity.</p> <p>The Hatch Mott MacDonald study (March 3, 2015, Town of Halton Hills), estimates that about 40% of all of the truck traffic entering Acton from the north travels east on Mill Street, with the remainder going south on Regional Road 25 (Main Street). It was suggested that this travel pattern may be an attempt to avoid a truck inspection station on Highway 401 in this area. The HMM report estimates that the Eramosa Quarry traffic may increase the heavy truck traffic by 9 to 12% through Acton (i.e., based on the trip generation forecast in the HRS). The HMM report provides additional analysis of collisions on the total Highway 7 connecting link in Acton, and notes that approximately 7% of the collisions in the 2008 to 2010 time period involved heavy trucks. It was noted that previous safety review, in this area, have shown that 80% of the heavy vehicles inspected had to be taken out of service.</p> <p>Based on our review of this additional data, we conclude that the safety analysis in the HRS is incomplete and should be expanded to include the full length of the Regional Road 25 corridor, as well as the other haul routes that are being considered. In this respect, further review is also required for the potential use of Regional Road 1 (Guelph Line), which may be a preferred route to accommodate some of the forecast traffic from the quarry.</p>	<p>The Cole HRS is forecast using peak month truck traffic forecasts and is comparing it to an Annual Average Daily Traffic (AADT) count. While there may be a peak increase of 17% increase in truck traffic during the summer (which still increases the overall proportion of trucks from 7% to 8% on Regional Road 25), during the winter months, the study also forecasts an increase in 10 truck trips along Regional Road 25, or an increase of 1.4%.</p> <p>Also, the truck distribution observed by HMM is for all trucks, whereby we are forecasting the truck trips for a very specific group of trucks, which are not expected to behave in a similar manner.</p> <p>Information from TOARC (The Ontario Aggregate Resource Corporation), also shows a decrease in aggregate production within Halton Region and Halton Hills since 2001, so the truck traffic associated to the Eramosa Quarry, will also be supplanting trips from other quarries in the area.</p>	Provide TOARC Aggregate Production Statistics to Burnside

Burnside Haul Route Study Comments	7	<p>Forecast Peak Period Truck Traffic - Based on a review of the aggregate shipping data for the proxy site (i.e., Erin Pit), the HMM report indicates that, for a single day in August 2011, the records show a peak daily truck trip rate that is 52% higher (i.e., 348 two-way trips) than the rate forecast in the HRS, and a peak hour truck trip rate (i.e., 46 two-way trips) that is 77% higher than the rate forecast in the HRS. We note that the rates reported in the HRS are averages for the peak periods (i.e., which include Saturday production, which is significantly lower than the weekday production). Therefore, it is expected that there will be short term peak conditions that exceed the average forecasts in the HRS. It is reasonable to use these average peaks when determining impacts associated with increased Annual Average Daily Traffic (AADT). However, the use of average peak conditions may not be appropriate for intersection analysis purposes, if higher short term peak conditions occur frequently. The HRS should provide representative shipping data from the Erin Pit, to confirm whether the peak period truck traffic is under-estimated in the HRS.</p>	<p>The peak day shipping data is an outlier and should not be considered as a measure for design, which occurred on 1 day out of 365 days for a year. Even shopping centers are not designed to accommodate the Christmas Shopping Season, which is very short in duration.</p> <p>While we agree that there may be days in which traffic generated by the Eramosa Quarry may exceed the traffic forecast by the HRS, we anticipate (that since this "average" volume is derived from the peak month, we expect the remaining 11.5 months of the year to operate with less truck traffic from the Eramosa Quarry and represents a 96 percentile design standard, which is much higher than the typical 85th percentile design standard.</p>	Intersection analysis being provided as in response to Comment 5.
Burnside Haul Route Study Comments	8	<p>Need For Additional Environmental Review - The HRS does not complete an assessment of the physical constraints, land use conflicts or pedestrian crossing conflicts, concluding that the small increase in truck traffic does not warrant these assessments. Considering the need for further review of the truck volumes / movements and haul route safety issues, as identified in our other peer review comments, the need for a more holistic environmental review cannot be confirmed at this time. Once updated information is provided, further comment will be provided to confirm whether the potential truck increases warrant such additional consideration.</p>	<p>The Haul Route TOR outlines a Stage 1 and Stage 2 approach, in which the need for the Phase 2 Study needs to be justified. The Cole HRS did incorporate parts of the Stage 2 Study. Further analysis can be undertaken in areas which are deemed to require additional investigation.</p>	
Burnside Haul Route Study Comments	9	<p>Consideration of Alternate Haul Routes - The HRS does not consider alternative haul routes, beyond the Highway 7 and Regional Road 25 routes. Guelph Line should be further investigated for its ability to take additional truck traffic from the Eramosa Quarry. Further justification should be provided on the distribution of truck traffic, considering the existing, and potential, routes. Planning initiatives should be identified in the HRS, including the longer term potential for a bypass around Acton and around Georgetown, as well as for the potential network implications of MTO's ongoing GTA West Transportation Corridor study. The impact on the planned improvements to Wellington Road 50 should be identified, and considered for their potential to divert additional truck traffic around Acton.</p>	<p>The Hidden Quarry will not change the rate of consumption nor the location of consumption of aggregate products. The destination markets for quarried products are construction sites and concrete and asphalt plants serving this development. The GTA, Georgetown and Acton currently consume large volumes of aggregate in the construction and maintenance of roads, infrastructure, homes and businesses. Every load shipped from the Hidden Quarry to these markets will supplant a load that would have been delivered from a competing pit or quarry. As such there is not really any "new" traffic generated by the Hidden Quarry, only a new origin to replace depleted quarries. Hidden Quarry is much closer than many competitors and as such will reduce overall traffic. Guelph Line has been considered as a haul route and will be used to service local markets that are to the south of the proposed Hidden Quarry. Transportation to markets to the east, being Toronto, Peel and Halton, are better served using Provincial Highway 7 and Regional Road 25, rather than the Guelph Line route for several considerations. Firstly, the distance is approximately 9 km shorter on a round trip basis than the Guelph Line route. Secondly, the Guelph Line route uses a section of the Eramosa-Milton Townline (Regional Road 32) that has seasonal truck restrictions on it where truck use is not permitted a certain times of the year. Thirdly, while the Hwy 7/25 route requires only two turning movements to access Hwy 401, the Guelph Line route requires five turning movements to access Hwy 401. For these reasons, the Hwy7/25 route is the preferred option, however, the Guelph Line route remains an option should Hwy 7/25 become more congested in future or in the event of road blockage or construction activities. The Hwy 7 bypass of Acton is not currently a project in the approvals process at the MTO and is identified in the Halton Transportation Master Plan figure 7.2 as "Alignment Subject to Further Study and Approval of the MTO". As such it is premature to include it in any discussion of existing haul roads. Similarly, the GTA West corridor, while in the Environmental Assessment Process, is located far to the east of the Acton and will not provide a viable truck route around Acton. Wellington County Road 50 improvements will facilitate deliveries to the north, however, this route is not a viable route to the 401 as it lies in the opposite direction.</p>	
Burnside Haul Route Study Comments	10	<p>Truck Queuing At The Quarry Site Access - Neither the HRS, or the revised TIS, has provided details of the queuing space that will be provided on-site for trucks waiting to be loaded. However the follow-up letter from JDCL (June 26, 2015) has confirmed that there will be space for on-site queuing of dozens of trucks, once the gates are opened. When the gates are closed, there will be sufficient space for a single truck to queue off of the roadway. Policies/enforcement are proposed to ensure that offsite queuing issues do not develop. Burnside recommends that these operational details be incorporated into the revised HRS and development agreement for this project.</p>	<p>Cole to include truck queuing policies into the revised HRS.</p>	<p>Cole - Include Truck queuing policies in HRS.</p>

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LEGEND

- Vaughan Corporate City Centre
- Aggregate Site
- Highway
- Study Area Boundary
- Waterbody
- C.P.C.A. Boundary

Distance From Vaughan Corporate City Centre

	Overall Reserves (million tonnes)	'High Quality' Reserves (million tonnes)
0 - 25 km	0	0
25 - 50 km	108	103
50 - 75 km	794	373
75 - 100 km	691	296
100 - 125 km	896	398
125 - 150 km	191	130
> 150 km	695	175
Total	3,375	1,473

175 Mt — 'High Quality' Reserves (million tonnes)
695 Mt — Total Reserves (million tonnes)

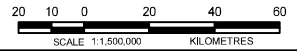
NOTE

* Reserves Of Quarries Located In Area 4 Were Included In Calculations At The Request Of The MNR

Distance From Vaughan City Centre is approximate road distance.

REFERENCE

Base Data - MNR NRVIS, obtained 2009, CANMAP v2008.4
 Produced by Golder Associates Ltd under licence from Ontario Ministry of Natural Resources, © Queens Printer 2009
 Projection: UTM Datum: NAD 83 Coordinate System: UTM 17



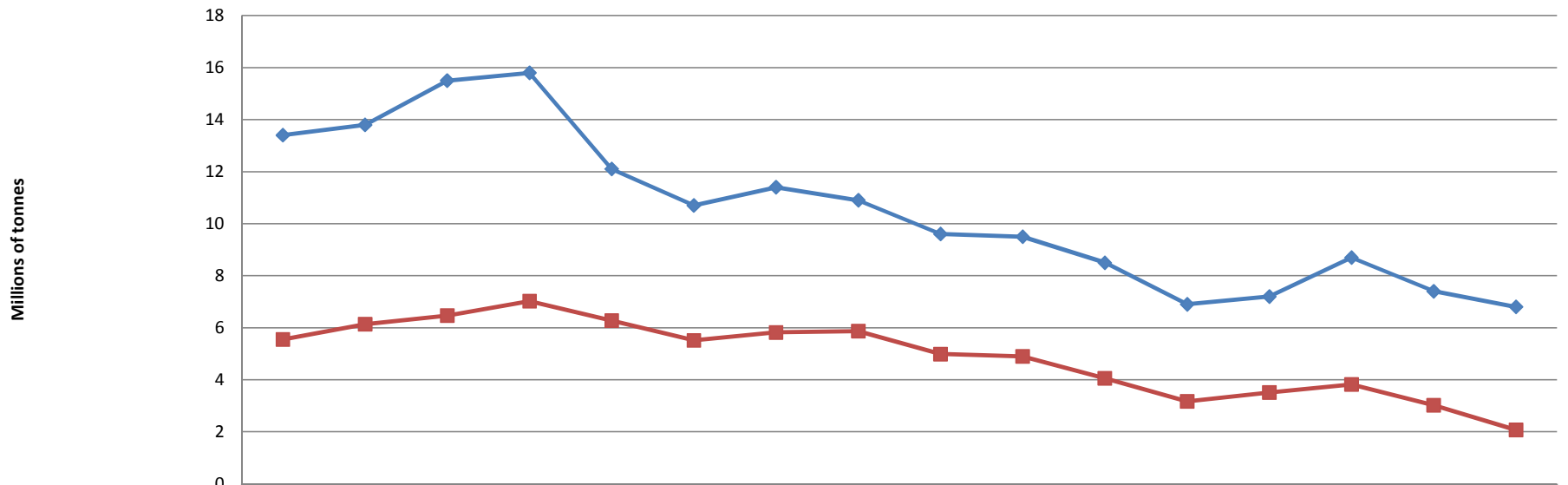
PROJECT
 STATE OF THE AGGREGATE RESOURCE IN ONTARIO STUDY (SAROS) - PAPER FIVE

TITLE
 REMAINING RESERVES IN RELATION TO VAUGHAN CORPORATE CITY CENTRE

<p>Golder Associates Mississauga, Ontario</p>	PROJECT NO. 09-112-0064	SCALE AS SHOWN	REV. 0.0
	DESIGN PP 30 Oct 2009		
	GIS PP 23 Nov 2009		
	CHECK DH 23 Nov 2009		
	REVIEW WC 23 Nov 2009		

FIGURE 3

Halton Region Annual Aggregate Production in millions tonnes reported by TOARC



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
◆ Halton Region	13.4	13.8	15.5	15.8	12.1	10.7	11.4	10.9	9.6	9.5	8.5	6.9	7.2	8.7	7.4	6.8
■ Halton Hills/Burlington	5.54	6.14	6.47	7.02	6.27	5.51	5.82	5.87	4.99	4.90	4.06	3.17	3.51	3.82	3.02	2.07

Transportation Savings at Hidden Quarry

Quarry	Distance to JDCL Bolton Ready Mix*	Difference from Test Case km	2-ways km	Average Additional km
Closest Amabel Quarries Outside GTA West	Georgian Duntroon	90.1	35.7	71.4
	MAQ	91.0	36.6	73.2
	Lafarge Dundas	94.2	39.8	79.6
Remaining Quarries in GTA West	Nelson Burlington	76.2	21.8	43.6
	Dufferin Milton	43.5	-10.9	-21.8
	Dufferin Acton	42.5	-11.9	-23.8
Test Case	JDCL Hidden Quarry	54.4	0	0

Bolton Ready Mix Plant was used because it is a real operation in the epicentre of the market that **Hidden** will serve (Halton, York and Peel) with close proximity to North Brampton, Caledon Whitebelt, Vaughan and the new GTA West Corridor.

All distances calculated with Google Maps door to door

Given the fact that average GTA west consumption is running on average at approximately 17 MT/Yr (Clayton Page 8)

Given that GTA current production (8MT/Yr) and licensed supplies are inadequate to meet demand

Therefore **Hidden Quarry** production will displace only Outside GTA production, however 5% is shown from GTA quarries for conservatism.

Displaced Source	Weighting	Av. Additional km	Saved km per load
Quarries Outside GTA	0.95	74.7	71.0
Quarries in GTA	0.05	-0.7	0.0
			71.0 Total Km saved per truck load

Hidden Production Level	Trucks/Annum	Km saved per truckload	Total Annual km saved
700000	21212	71.0	1,505,282.83

Hidden Quarry GHG Savings Calculation

Tonnes	T/Truck	Trucks/Annum	Km/Yr	L/Km	L/Year	CO2 Equiv	Greenhouse Gas Savings
700,000.00	33.00	21,212.12	1,585,252.53	0.51	808,478.79	2.73	2,207,147.09 kg 2,207.15 tonnes

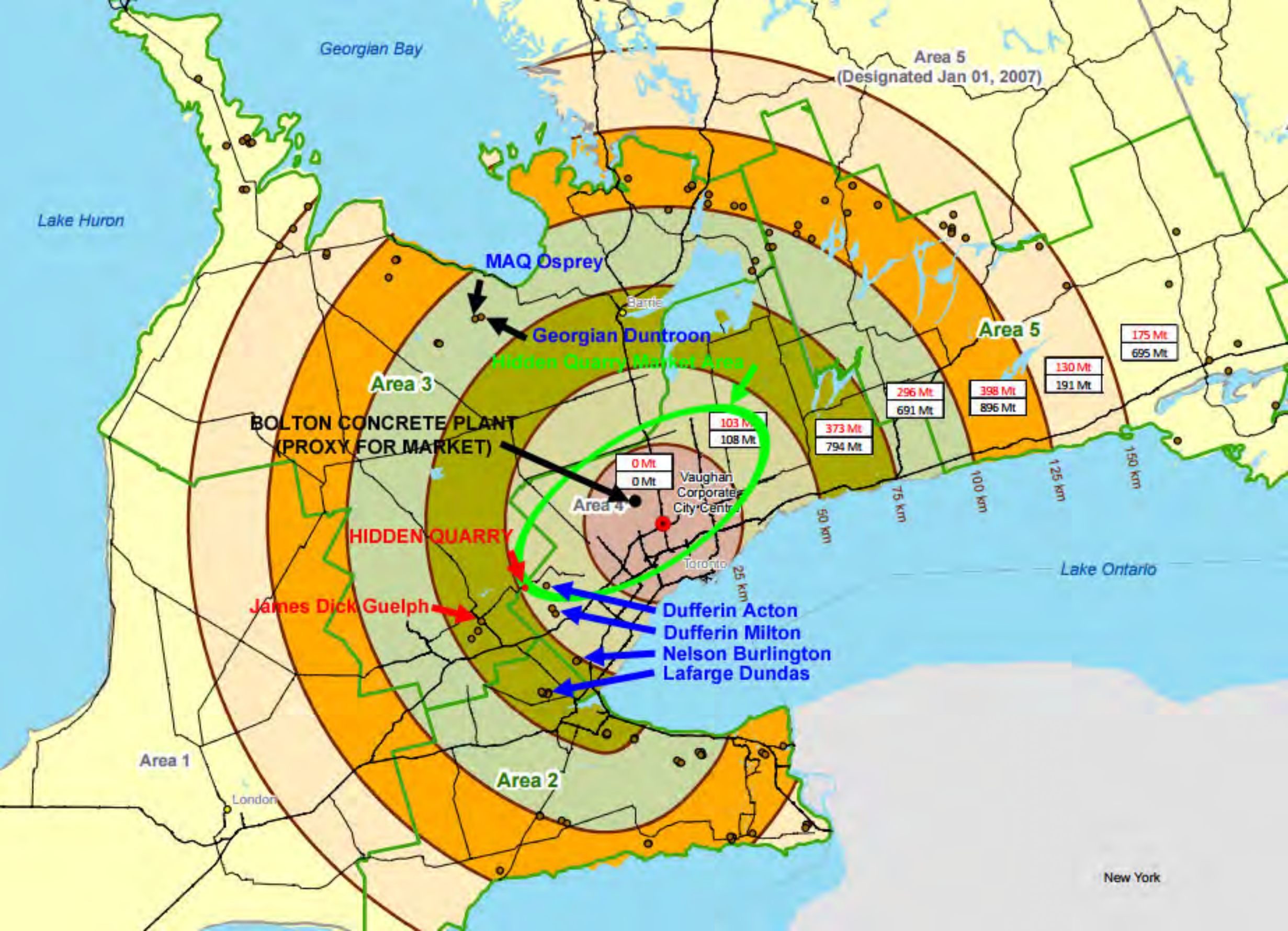


Figure 7.2 – 2031 Transportation System

