

Appendix B

Technical Documentation

B-1: Technical Modeling Details

B-2: Policies to Support the Plan

**B-3: Regional Municipality of Halton Best Planning Estimates of
Population, Occupied Dwelling Units and Employment, 2011–2031**

Appendix B-1

Technical Modeling Details

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1. Introduction

Appendix B summarizes the Halton Hills Transportation Master Plan technical modelling details carried out for the Town of Halton Hills including 2006 model review, existing travel conditions, future land use, future travel conditions and alternative network analysis resulting in the recommended transportation network.

2. 2006 Model Review

Halcrow obtained and reviewed the Region of Halton's EMME model. It is a four-stage multi-modal PM peak period transportation model that was developed in 2004 and was calibrated to 2006 conditions. The project data provided included Halton model documentation, the model calibration report with the appendix, zone boundary files, 2006 and 2031 trip tables as well as the 2006 and 2031 auto and transit networks.

The information provided is detailed below.

- **PMPK_Halton-ver4-0331_2004.pdf:** A working document and user guide for the Halton PM Peak Model prepared by Peter Dalton March 31, 2004
- **2) Calibration Update Feb 2010 - For distribution-final.pdf:** A technical memo from AECOM regarding the Halton TMP model update and calibration (February 24, 2010)
- **3) Appendix A.pdf:** A map of regional screenlines for Halton based on the technical memo provided by AECOM
- **4) Halton2001TZ.zip:** Halton 2001 Traffic Zone shapefile
- **5) Halton Model – 2006&2031.zip:**
 - a) 2006 Halton Base Network (Transit Assignment Only)
 - b) 2031 Halton Base Network (Auto and Transit Assignment)
 - 2021 municipal road improvements constructed
 - HPBATS constructed

3. 2006 Land Use

The population and employment data used in this model is consistent with the Sustainable Halton Best Planning Estimates and was provided by the Region. **Table 1** summarizes the population and employment figures within the Region of Halton Hills used to generate the 2006 PM peak hour auto assignment.

Table 1 2006 Population and Employment

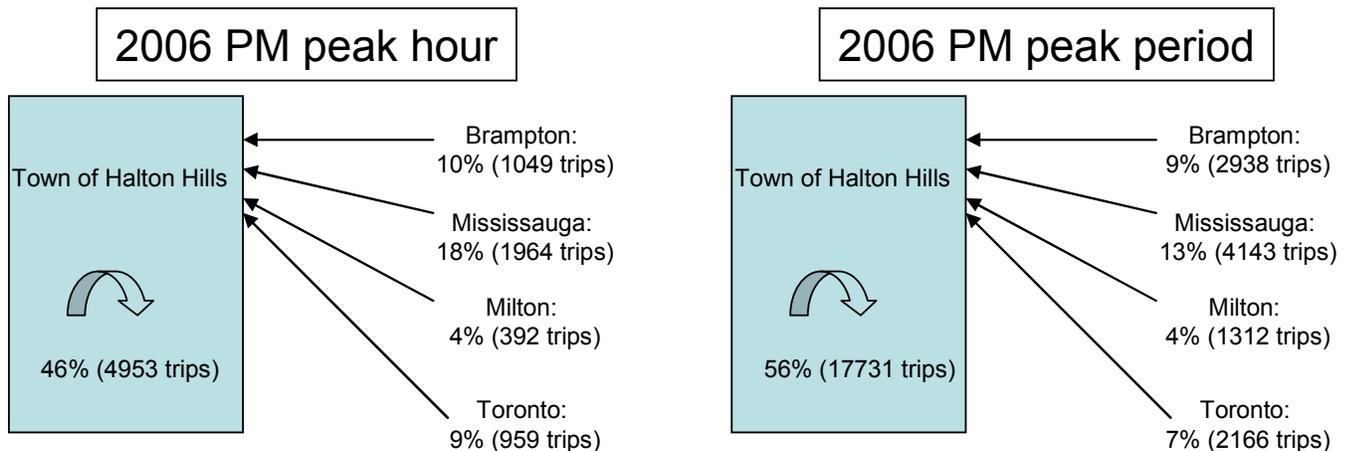
	2006	
	Population	Employment
Rest of Esquesing	8,818	3,428
Acton	8,981	2,355
Glen Williams	1,856	513
Stewarttown	524	203
Norval	200	335
Georgetown	37,070	12,019
Total Town of Halton Hills	57,449	18,853
Milton	56,397	23,762
Oakville	172,813	81,146
Burlington	168,637	80,708
Total Region of Halton	455,296	204,469

4. Existing PM Peak Travel Characteristics

A detailed review of the PM peak period travel characteristics in the Halton Hills area was conducted utilizing 2006 TTS data. According to the model manual, the PM peak period is 3:30-6:29 PM, with the representative PM peak hour of 4:30-5:29 PM. However, the PM peak period in the 2006 TTS tabulation provided is 3:00-6:00 PM to be consistent with generalized peak period references. **Table 2** summarizes the Town of Halton Hills destination trips by modes and origins for both the PM Peak Hour and PM Peak Period. Approximately 56% of the total person trips in the PM peak period generated by Halton Hills stay within Halton Hills, and 33% of total person trips destined to Halton Hills are from Brampton (9%), Mississauga (13%), Milton (4%), and Toronto (7%). The 2006 PM Peak Hour indicates slightly less traffic (46%) originating within and destined to Halton Hills, with approximately 41% of the total person trips destined to Halton Hills being from Brampton (10%), Mississauga (18%), Milton (4%), and Toronto (9%), as presented in **Figure 1**.

Table 2 Town of Halton Hills Destination Trips by Mode and Origin

Town of Halton Hills destined trips 2006 (TTS)	PM Peak Hour		PM Peak Period		PHF
	Trips	%	Trips	%	
Total person destined trips, all modes	10,730		31,776		33.77%
auto person trips	10,299	95.98%	26,539	83.52%	
transit trips	268	2.60%	653	2.46%	
Trips from Town of Halton Hills (all modes)	4,953	46.16%	17,731	55.85%	
Trips from Mississauga (all modes)	1,964	18.30%	4,143	13.05%	
Trips from Brampton (all modes)	1,049	9.78%	2,938	9.25%	
Trips from Milton (all modes)	392	3.65%	1,312	4.13%	
Trips from Toronto (all modes)	959	8.94%	2,166	6.82%	
Trips from Oakville (all modes)	324	3.02%	741	2.33%	
Trips from Burlington (all modes)	76	0.71%	332	1.05%	
Trips from Caledon (all modes)	95	0.89%	164	0.52%	
Trips from Hamilton (all modes)	154	1.44%	291	0.92%	
Trips from Durham Region (all modes)	34	0.32%	50	0.16%	
Trips from York Region (all modes)	241	2.25%	563	1.77%	
Trips from other municipalities (all modes)	489	4.56%	1,315	4.14%	
Total person trips to Town of Halton Hills (all modes)	10,730	100.00%	31,746	100.00%	
Total auto modal split for trips from outside HH		95.36%		92.25%	

Figure 1 2006 PM Peak Travel Destined to Halton Hills


5. 2006 Model Assumptions

Halcrow, in conjunction with the Town of Halton Hills, conducted a review of the speed, capacity, and number of lanes assumptions in 2006 PM Base network provided by the Region. These assumptions are illustrated in **Figure 2**.

Upon review of these assumptions, the 2006 PM Base network was revised to provide more consistent number of lanes, speed, capacity assumptions, and centroid connections within Halton Region as is shown in **Figure 3**. In general, Halcrow incorporated the following capacity assumptions:

- Freeways: 1,800 vehicles/lane
- Highways and Major Arterials: 950 vehicles/lane
- HOV and Commercial Multi-Purpose Arterials: 850 vehicles/lane
- Residential Multi-Purpose Arterials: 750 vehicles/lane
- Local/Rural Collectors: 400 vehicles/lane

Figure 2 2006 Original PM Peak Hour Number of Lanes, Speed, and Capacity Assumptions

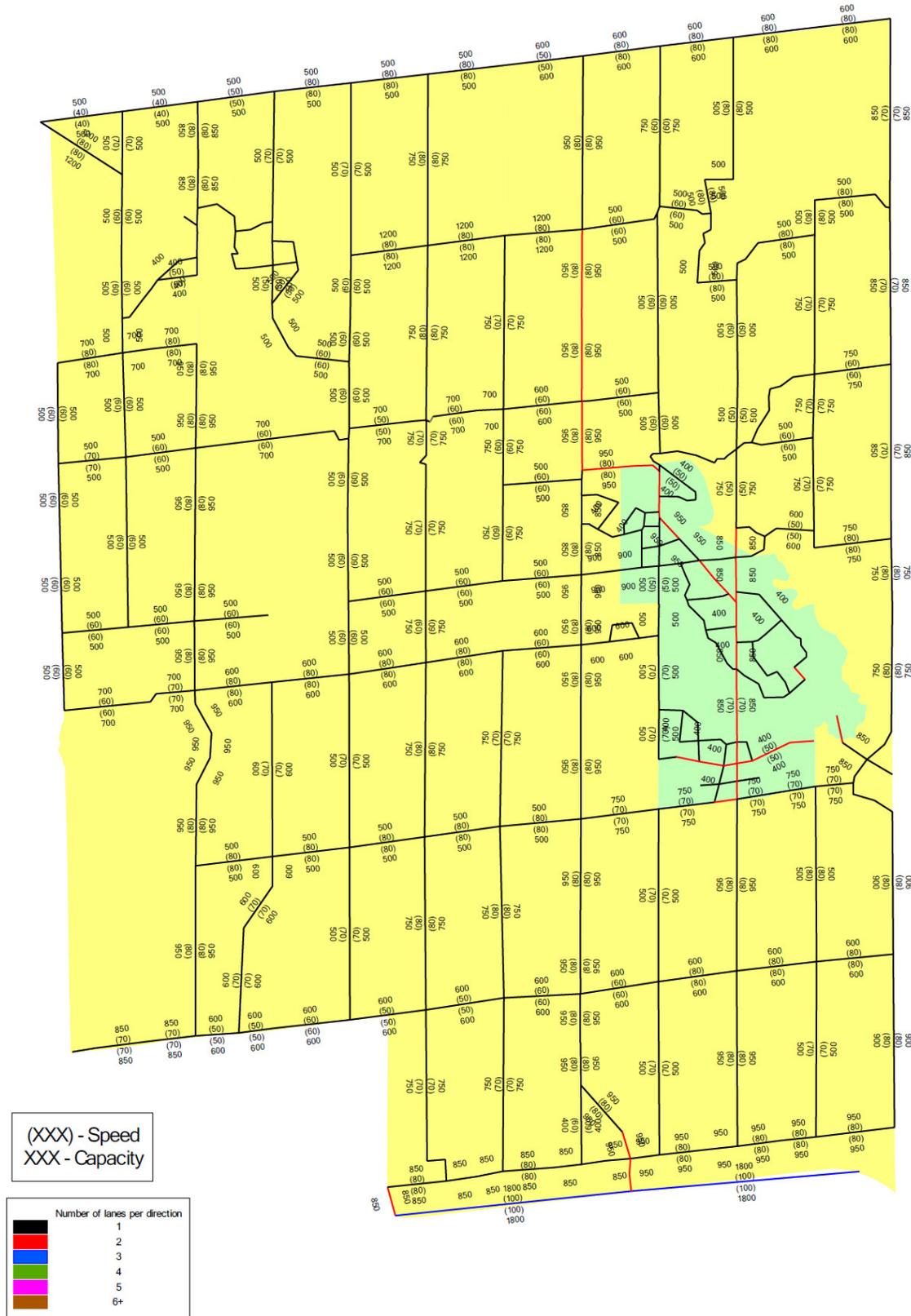
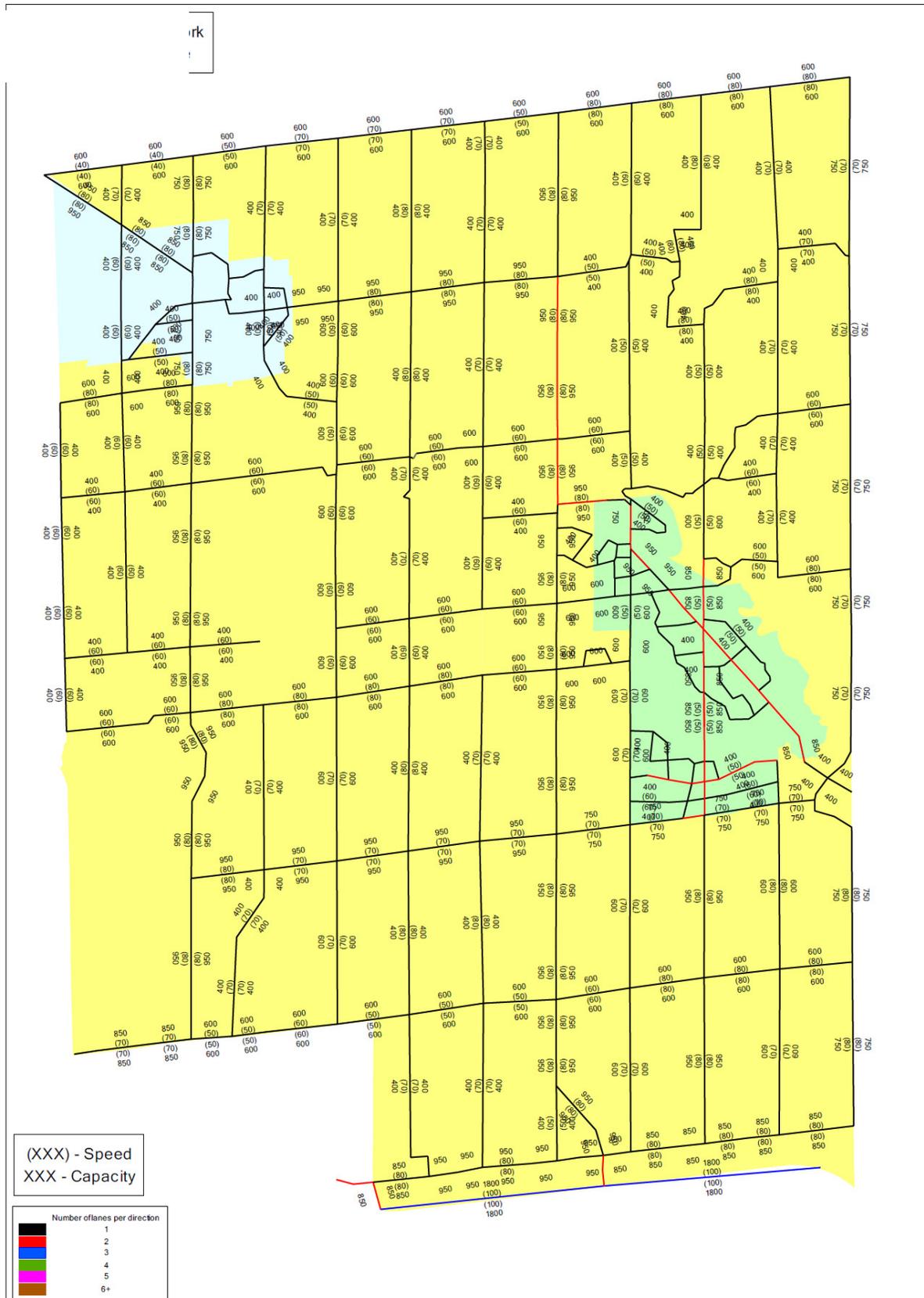


Figure 3 2006 Updated Number of Lanes, Speed, and Capacity Assumptions



6. Model Validation

The 2006 Updated PM Base network was reviewed and compared on a screenline basis against cordon counts. The cordon count program includes cordon counts for a number of screenlines in the Region of Halton. The following screenlines cover the major urban areas in the Town (Acton and Georgetown) as well as the urban boundary of the Town, as such they are selected for the analysis, and are illustrated in **Figure 4**:

- S-A1: Acton South
- S-A2: Acton West
- S-A3: Acton North
- S-A4: Acton East
- S-G1: Georgetown South
- S-G2: Georgetown West
- S-G3: Georgetown North
- S-G4: Georgetown East
- S-C2: Halton Central North (North of Highway 401)

The cordon count program includes 2006 and 2009 counts. While the 2009 counts are more up to date, 2006 counts were selected because the model was calibrated to 2006 conditions, based on 2006 TTS survey. Representative peak hour traffic counts during the PM peak period (3:30-6:30pm) were selected for the purpose of the analysis.

The screenline analysis indicates:

- Simulated auto trips leaving Acton (the peak direction in the PM) when compared to the counts are within 1%.
- Simulated auto trips entering Georgetown (the peak direction in the PM) when compared to the counts are within 10%.
- Simulated auto trips for the Halton Central area north of Highway 401 when compared to the counts are within 2%.
 - The model overestimates auto trips leaving Georgetown by 29%.
 - The model underestimates auto trips entering Acton by 7%.

Based on these screenline comparison analysis, it is concluded that the model simulates reasonable estimates within Acton, Georgetown, and Halton Central. The screenline results are tabulated in **Table 3**.

Figure 4 2006 Halton Hills Screenline Locations

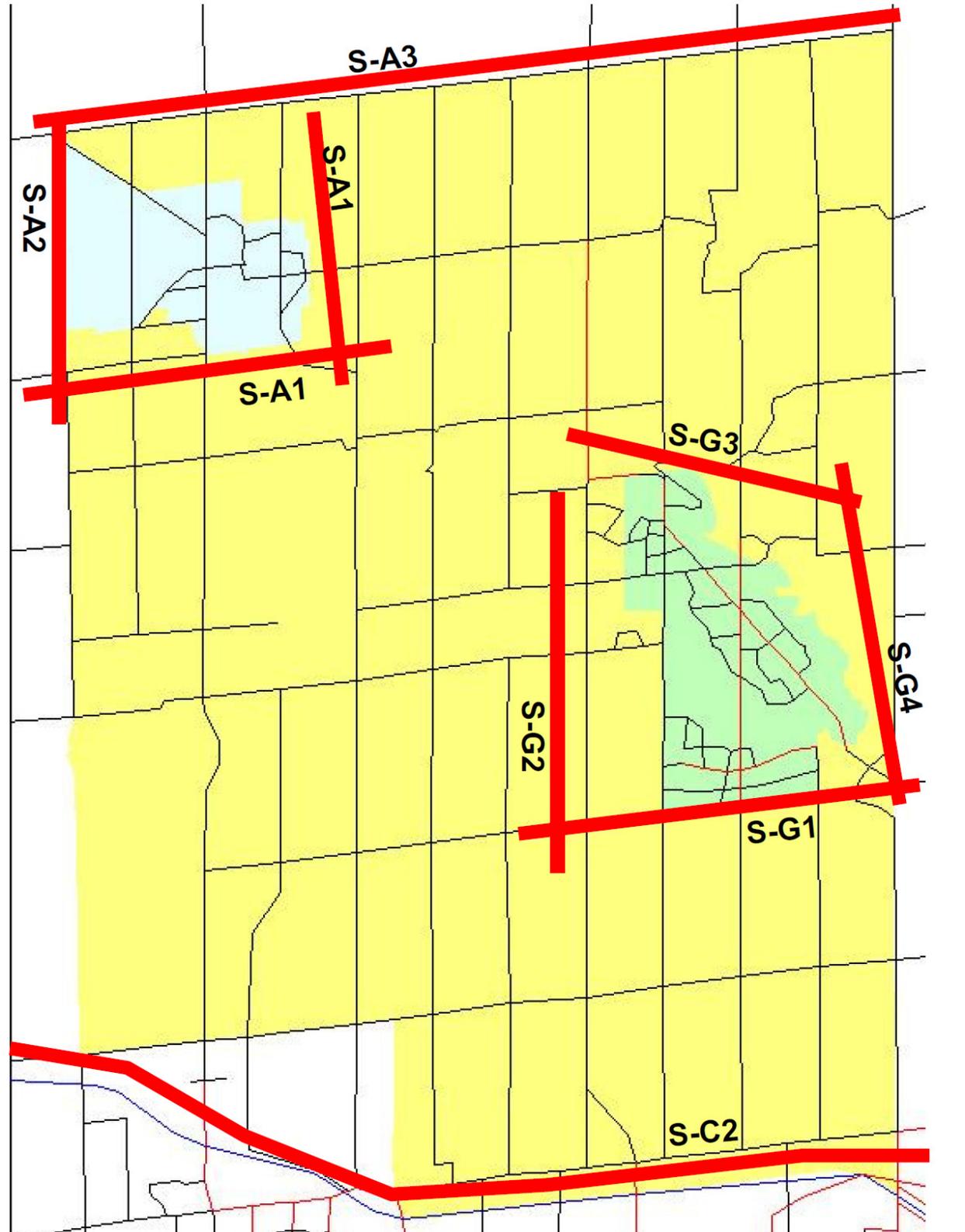


Table 3 2006 PM Peak Hour Screenline Results

SL	Acton Outbound	Observed	Simulated
S-A4	East	493	257
S-A3	North	1,171	1,234
S-A1	South	236	536
S-A2	West	486	326
Total		2,386	2,353
		% Difference	-1%

SL	Acton Inbound	Observed	Simulated
S-A4	East	676	363
S-A3	North	512	677
S-A1	South	661	737
S-A2	West	366	280
Total		2,215	2,057
		% Difference	-7%

SL	Georgetown Inbound	Observed	Simulated
S-G4	East	1,736	1,485
S-G3	North	662	1,058
S-G1	South	2,777	2,513
S-G2	West	260	946
Total		5,435	6,002
		% Difference	10%

SL	Georgetown Outbound	Observed	Simulated
S-G4	East	998	1,173
S-G3	North	1,292	1,422
S-G1	South	1,064	1,174
S-G2	West	318	985
Total		3,672	4,754
		% Difference	29%

SL	Halton Central (N of Hwy 401)	Observed	Simulated
S-C1	North	2,133	2,187
S-C1	South	1,580	1,611
Total		3,713	3,798
		% Difference	2%

7. 2006 Truck Assignment

The Town of Halton Hills currently experiences significant truck traffic associated with local aggregate quarries as well as aggregate quarries located north and west of Halton Region. The community and safety issues associated with haul trucks that travel on roadways located in urban areas requires continued improvements to the Regional Road transportation network including a high priority for alternate / bypass routes to encourage truck travel on arterial roadways at the periphery of the urban areas as opposed to travelling through established communities like Acton and Norval.

To account for this, Halcrow developed 18 additional truck zones in the vicinity of these quarries and assigned a truck matrix based on 2006 truck counts. The truck assignment is applied as a post assignment allocation. **Figure 5** illustrates the assigned truck estimates along with the locations of the additional truck zones.

8. 2006 Transportation Issues

The assigned updated 2006 model total vehicle network was used to identify the existing transportation issues where travel demand exceeds the prevailing roadway capacities. The volume to capacity ratio analysis served as a measure to indicate roadway section level of congestion (see **Figure 6**.) If the volume to capacity ratio exceeds 90%, the facility is deemed to have “significant levels of congestion” (shown in red). If the volume to capacity ratio exceeds 80% but does not exceed 90%, the facility is said to have “moderate levels of the congestion” (shown in yellow). All facilities where the volume to capacity ratio does not exceed 80% are shown in green. A review of the 2006 PM peak hour total vehicle assignment indicates that:

- Areas within Acton and Norval, and along Highway 401, Steeles Avenue, and Regional Road 25 experience significant levels of congestion.
- Moderate levels of congestion are seen on Trafalgar Road, 15 Sideroad, 5 Sideroad, Steeles Avenue, and Maple Avenue northeast of Georgetown.

Figure 6 highlights the areas of congestion identified when the updated 2006 PM auto network is used to assess the volume to capacity relationship.

9. 2006 Select Link Analysis on Winston Churchill Boulevard

To address specific travel patterns along Winston Churchill Boulevard south of 32 Sideroad (northbound), an EMME traffic assignment using the updated 2006 PM auto network was undertaken with the resulting origin and destination information was analysed. The purpose of this request was to identify where the trips using this facility are originating from and where they are destined to.

In 2006, less than 20 (9%) of the auto trips in the PM peak hour utilizing Winston Churchill Boulevard are originating and destined to Halton Hills. The majority of auto trips in 2006 are originating from Mississauga (33%), Oakville (26%), and Brampton (14%) and are destined to Wellington (51%) and Caledon (35%) with some trips travelling as far as Dufferin County (4%). The key origins and destinations of auto trips using Winston Churchill Boulevard NB in 2006 for the PM peak hour are shown in **Figure 7**.

Figure 6 2006 PM Peak Hour Total Vehicles Transportation Issues

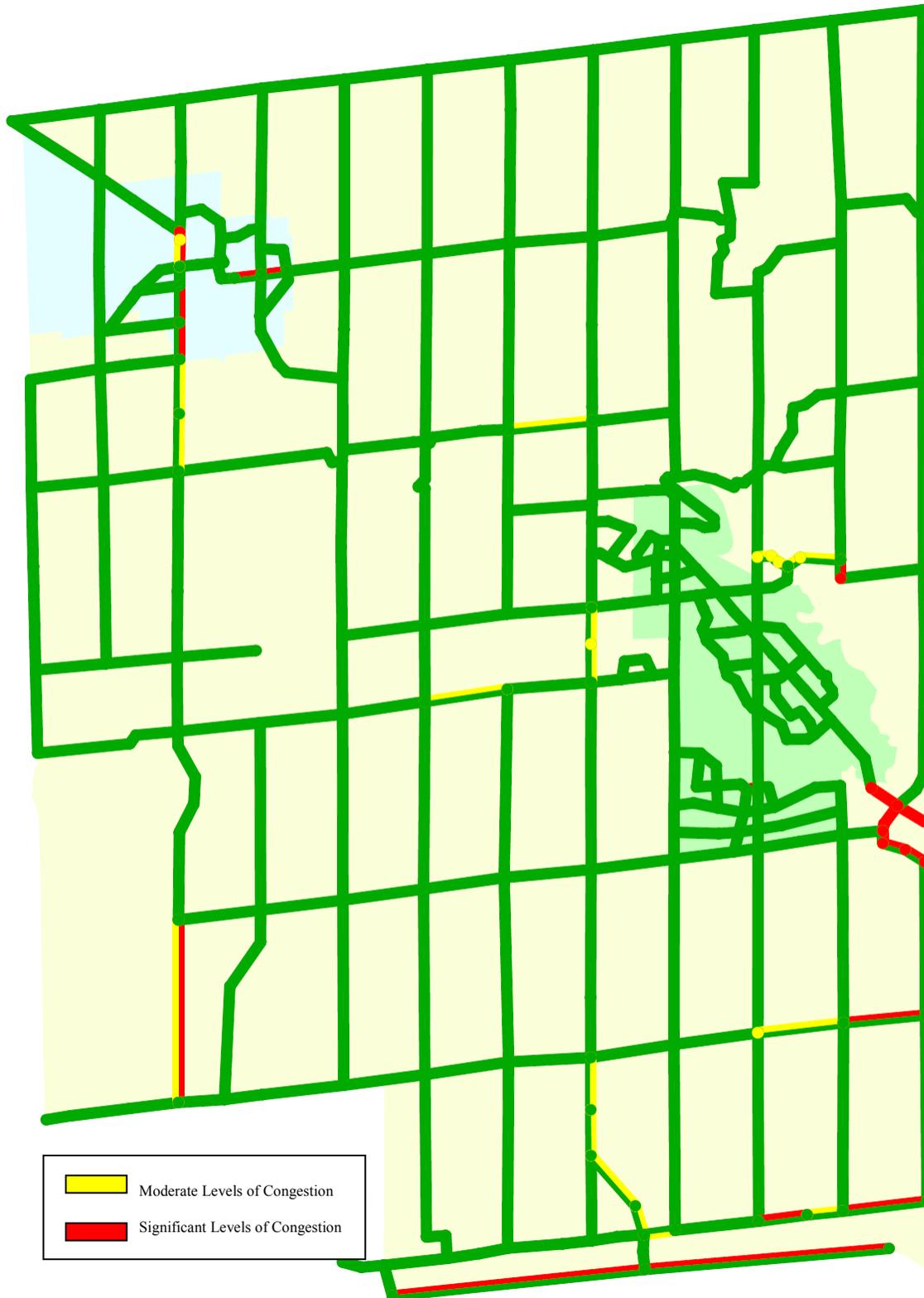
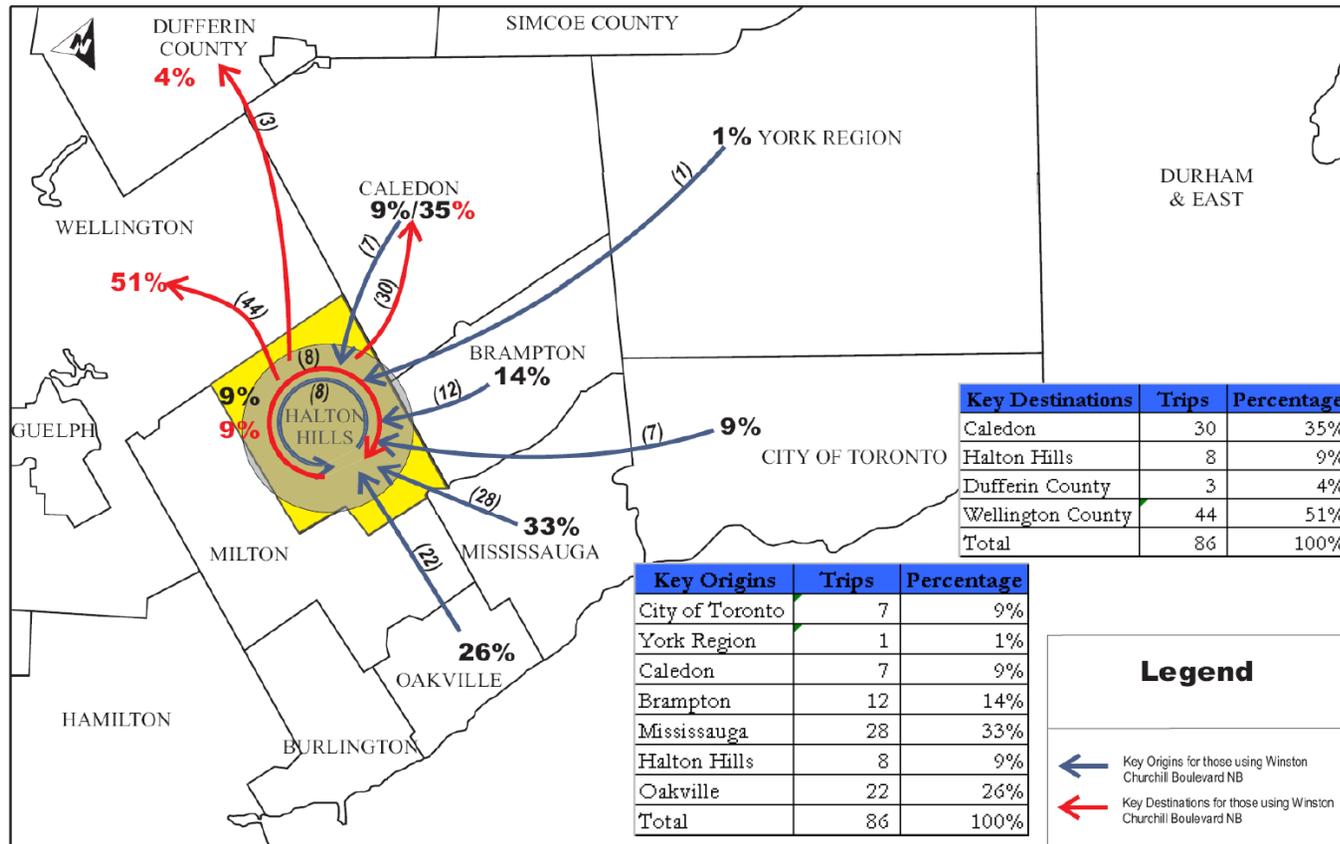


Figure 7 2006 PM Peak Hour Auto Travel Characteristics on Winston Churchill Boulevard NB South of 32nd Street

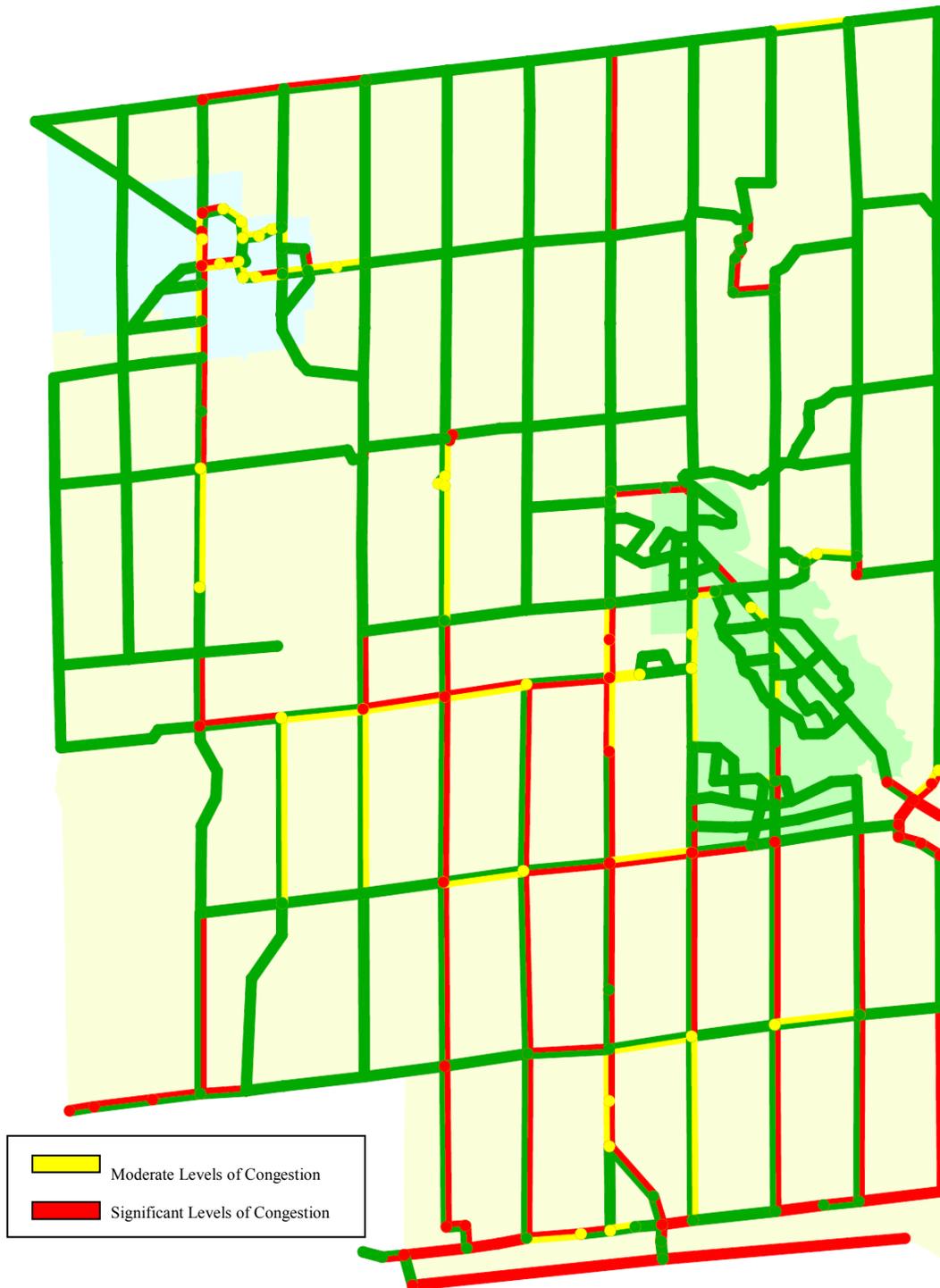
Future (2006) p.m. Peak Hour Total Travel Patterns for Winston Churchill Boulevard NB



10. 2006 “Do Nothing”

An analysis was conducted assuming no improvements were made to the 2006 transportation network to understand the potential transportation capacity deficiency issues in 2031. **Figure 8** indicates that, the existing Halton Hills roadway network will not be able to accommodate the 2031 forecasted total vehicle demand as the majority of the facilities are experiencing significant levels of congestion, particularly in the northbound direction.

Figure 8 2006 Transportation Network with estimated future (2031 PM peak hour) demand



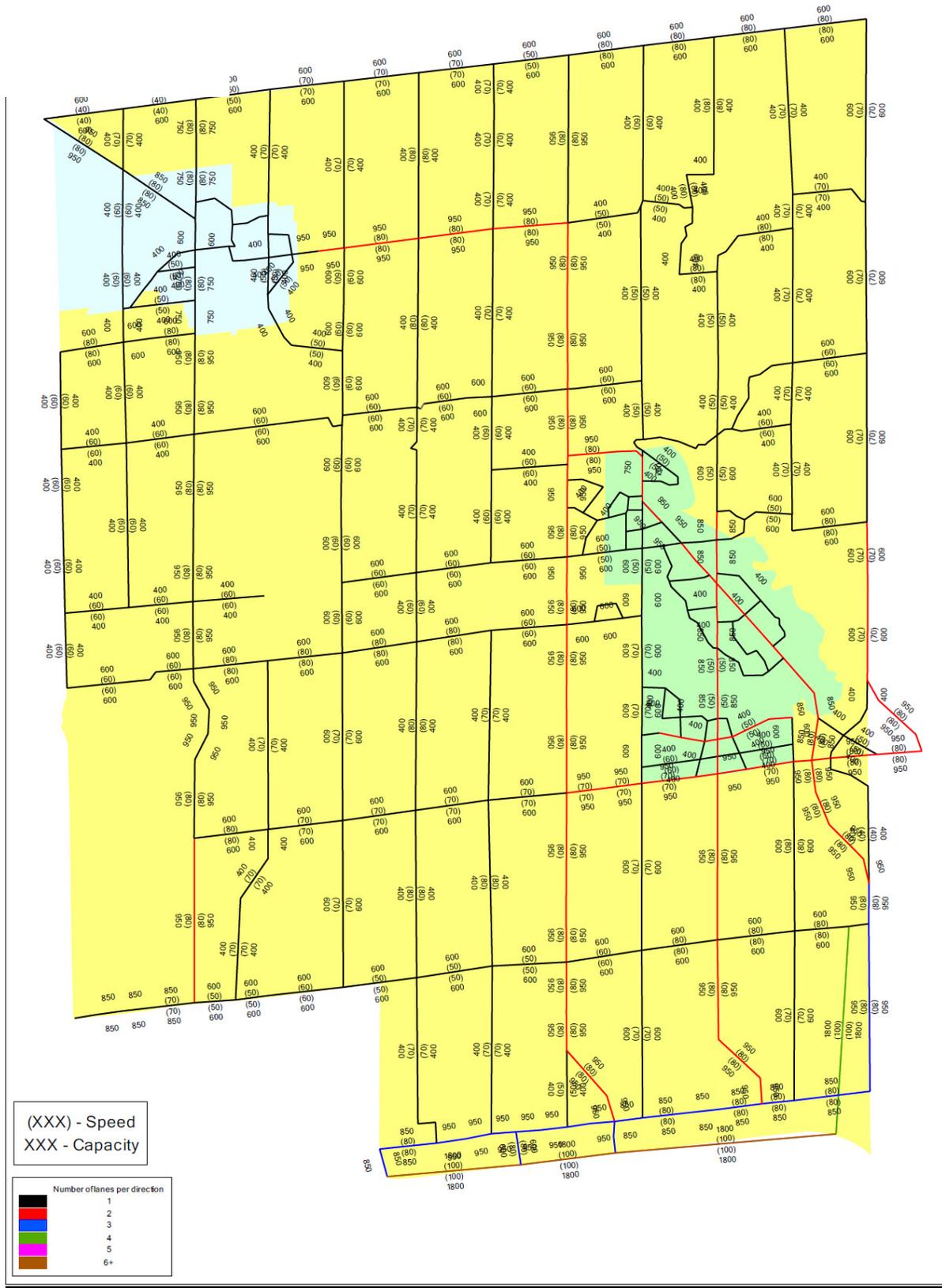
11. 2031 Network Review

Halcrow undertook a detailed network review, in conjunction with the Town of Halton Hills, of the number of lanes, speed, capacity assumptions, and centroid connections of the future horizon year network within the Halton Hills area as shown in **Figure 9**. Key future year improvements that were included are shown in **Table 4**.

Table 4 - 2031 Auto Network Improvements

On	From	To	Improvement (2-way)
Hwy 7	East Acton	Trafalgar Rd	2-4 Lanes
Hwy 7	Trafalgar Rd	Main St (Georgetown)	2-4 Lane
Trafalgar Rd	Hwy 7	N. of Steeles Ave	2-4 Lanes
Sideroad 10	Trafalgar Rd	Halton Hills City Boundary	2-4 Lanes
Ninth Line	Sideroad 10	N. of Steeles Ave	2-4 Lanes
Ninth Line	N. of Steeles Ave	Steeles Ave	Realign
Steeles Ave	James Snow Pkwy	Winston Churchill Blvd	2-6 Lanes
James Snow Pkwy	Sideroad 5	Hwy 401	New 6 Lane
Norval Bypass	Hwy 7	Winston Churchill Blvd	New 4 Lane
Winston Churchill Blvd	Norval Bypass	Steeles Avenue	2-6 Lanes
Winston Churchill Blvd	Steeles Ave	Hwy 401	4-6 Lanes
Winston Churchill Blvd Bypass	Hwy 7	Winston Churchill Blvd	New 4 Lane
	Hwy 401		6-12 Lanes
	Brampton N-S Arterial Freeway		New 8 Lanes
	5 ½ Sideroad		New 6 Lane

Figure 9 2031 Revised Number of Lanes, Speed, and Capacity Assumptions



12. 2031 PM Peak Travel Characteristics

The Region of Halton provided a 2031 Origin/Destination (total auto and transit) trip table within the EMME databank. **Table 5** summarizes the Town of Halton Hills destination trips by modes and origins for both the PM Peak Hour and PM Peak Period in 2031.

Table 5 2031 PM Peak Travel Characteristics

Town of Halton Hills destined trips 2031 (EMME)	PM Peak Hour		PM Peak Period	
	Trips	%	Trips	%
Total person destined trips, all modes	21,226		62,859	
auto person trips	20,377	96.00%	52,055	82.00%
transit trips	849	4.00%	2,004	4.00%
Trips from Town of Halton Hills (all modes)	10,401	49.00%	35,116	55.86%
Trips from Mississauga (all modes)	1,672	7.88%	4,284	6.82%
Trips from Brampton (all modes)	1,680	7.92%	4,306	6.85%
Trips from Milton (all modes)	2,875	13.54%	7,367	11.72%
Trips from Toronto (all modes)	1,564	7.37%	4,008	6.38%
Trips from Oakville (all modes)	542	2.55%	1,388	2.21%
Trips from Burlington (all modes)	297	1.40%	760	1.21%
Trips from Caledon (all modes)	271	1.28%	695	1.11%
Trips from Hamilton (all modes)	46	0.22%	117	0.19%
Trips from Durham Region (all modes)	75	0.35%	191	0.30%
Trips from York Region (all modes)	410	1.93%	1,050	1.67%
Trips from other municipalities (all modes)	1,396	6.58%	3,577	5.69%
Total person trips to Town of Halton Hills (all modes)	21,226	100.00%	62,859	100.00%
Total auto modal split for trips from outside HH		96.00%		92.78%

derived from applying the PHF to EMME peak period trips

estimated by total auto and transit trips and modal split estimated from 2006 TTS

miscellaneous modal split trips added to intra-Halton Hills trips

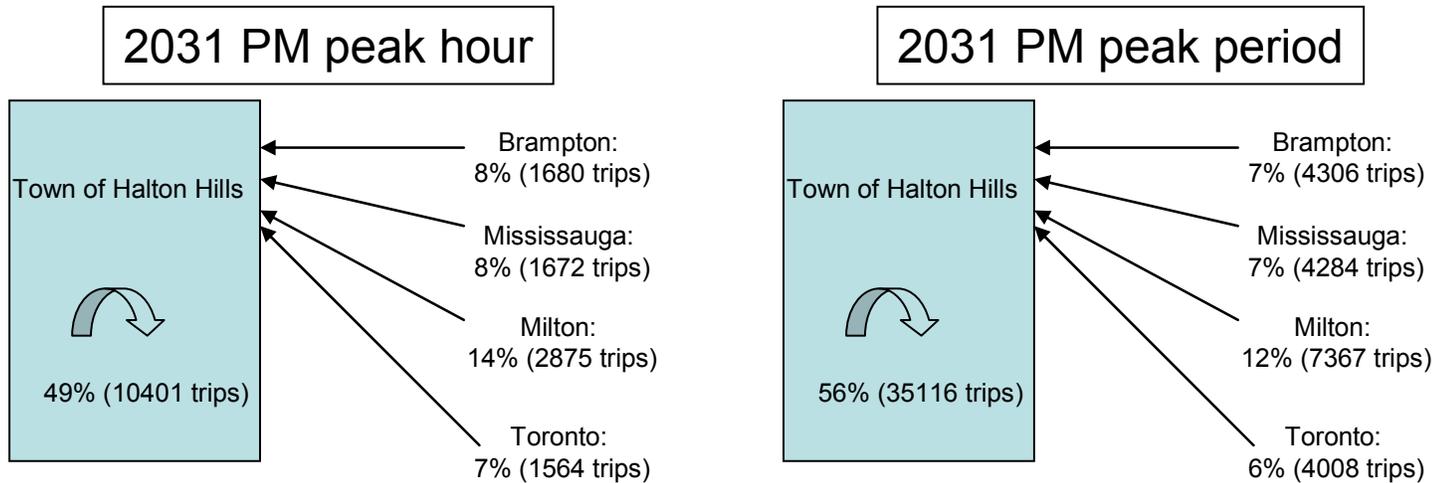
assumed modal split and proportion of trips within Town of Halton Hills, from TTS

It is noted that the EMME matrix comprises of auto and transit trips only and does not include other modes such as walk, school bus, cycling, etc. As such, the total trips within Halton Hills by all modes are adjusted by applying an assumed auto and transit modal split (lavender). These trips are expected to be short-distance, intrazonal trips. With this adjustment, the proportion of trips that remained in the Town of Halton Hills in 2031 peak period condition is similar to the 2006 PM peak period condition. The EMME matrix provided relates to the PM peak period time frame. For this comparison, the trips were converted to PM peak hour by applying the peak hour factor derived by the 2006 TTS results (yellow). The auto person and transit modal split is assumed to be 96% and 4%, as per 2006 PM peak hour TTS results (green).

According to the 2031 PM peak period estimates, approximately 56% of the total person trips generated by Halton Hills originate and are destined within Halton Hills, with 32% of total person trips destined to Halton Hills originating from Brampton (7%), Mississauga (7%), Milton (12%), and Toronto (6%).

The 2006 PM Peak Hour indicates slightly less traffic (49%) originating within or destined to Halton Hills, with approximately 37% of the total person trips destined to Halton Hills are from Brampton (8%), Mississauga (8%), Milton (14%), and Toronto (7%), as presented in **Figure 10**.

Figure 10 2031 PM Peak Travel Destined to Halton Hills



The growth in destined trips to the Town of Halton Hills from 2006 to 2031 is 102% (31,776 peak period trips vs 62,859 peak period trips).

Subsequent to obtaining the EMME databanks, the Region of Halton provided a revised peak hour auto trip table that was developed assuming 20% enhanced transit in Halton Region. The original auto trip table was converted to peak hour in order to compare the origin/destination results to the revised enhanced transit auto trip table. **Table 6** highlights the difference between the original auto trip table and the revised trip table.

Table 6 Original 2031 Auto Trip Table vs Revised 2031 Auto Trip Table pm peak hour

Town of Halton Hills destined trips 2031 (EMME)	Original		Updated		% Diff between Original and Updated
Trips from Town of Halton Hills	8,887	50.6%	8,304	59.1%	-6.6%
Trips from Mississauga	1,434	8.2%	684	4.9%	-52.3%
Trips from Brampton	1,454	8.3%	780	5.6%	-46.4%
Trips from Milton	2,488	14.2%	2,134	15.2%	-14.2%
Trips from Toronto	691	3.9%	463	3.3%	-33.0%
Trips from Oakville	469	2.7%	143	1.0%	-69.5%
Trips from Burlington	257	1.5%	34	0.2%	-86.8%
Trips from Caledon	235	1.3%	119	0.8%	-49.3%
Trips from Hamilton	40	0.2%	7	0.0%	-82.3%
Trips from Durham Region	65	0.4%	49	0.3%	-24.0%
Trips from York Region	353	2.0%	329	2.3%	-6.9%
Trips from other municipalities	1,208	6.9%	1,000	7.1%	-17.2%
Total person trips to Town of Halton Hills	17,579	100.0%	14,046	100.0%	-20.1%

As can be seen in **Table 6**, the enhanced transit network reduced the auto trips destined to the Town of Halton Hills by 20%, with the majority of the reduction occurring by trips originating from Mississauga, Brampton, and Halton Hills.

13. 2031 Land Use

The Population and Employment forecasts used to generate the 2031 PM peak hour trip tables are summarized in Table 7.

Table 7 2031 Land Use Forecast

	2031	
	Population	Employment
Rest of Esquesing	24,885	24,484
Acton	15,133	4,954
Glen Williams	1,859	61
Stewarttown	771	140
Norval	2,218	300
Georgetown	49,226	12,128
Total Town of Halton Hills	94,092	42,067
Milton	231,940	114,835
Oakville	257,241	127,202
Burlington	196,722	105,905
Total Region of Halton	779,995	390,009

14. 2031 Transportation Base Case Analysis

Halcrow developed a 2031 truck matrix by growing the 2006 truck matrix by 1% per year. Additionally, trucks assigned to the 2031 auto network were constrained to certain haul routes. As in 2006, the truck assignment is applied as a post assignment allocation. A summary of the Base Case 2031 pm peak hour vehicle assignment is presented in **Figure 11**. The resulting levels of congestion anticipated with this 2031 transportation network are presented in **Figure 12**.

Figure 11 Base Case 2031 PM Peak Hour Total Vehicle Assignment

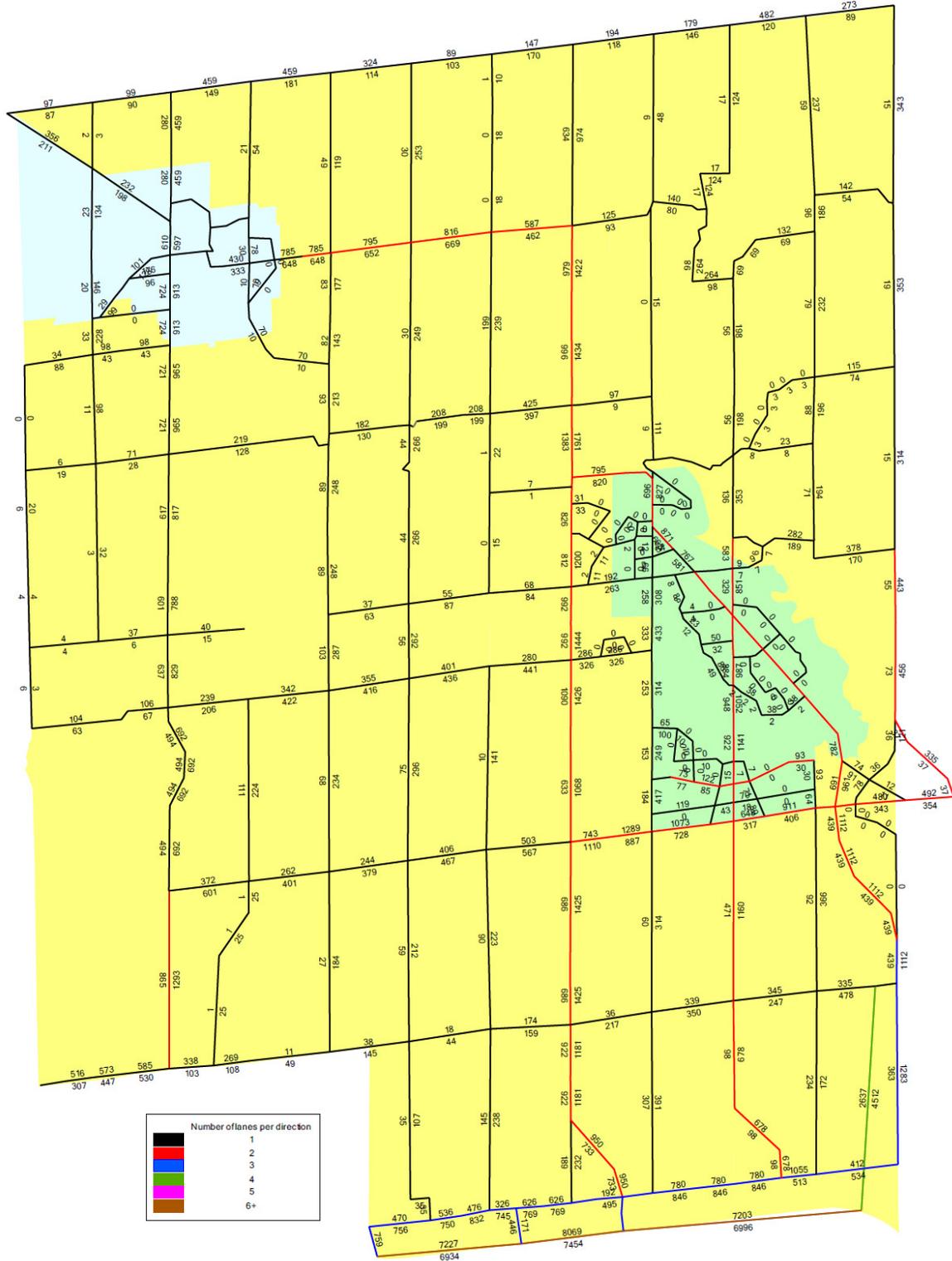
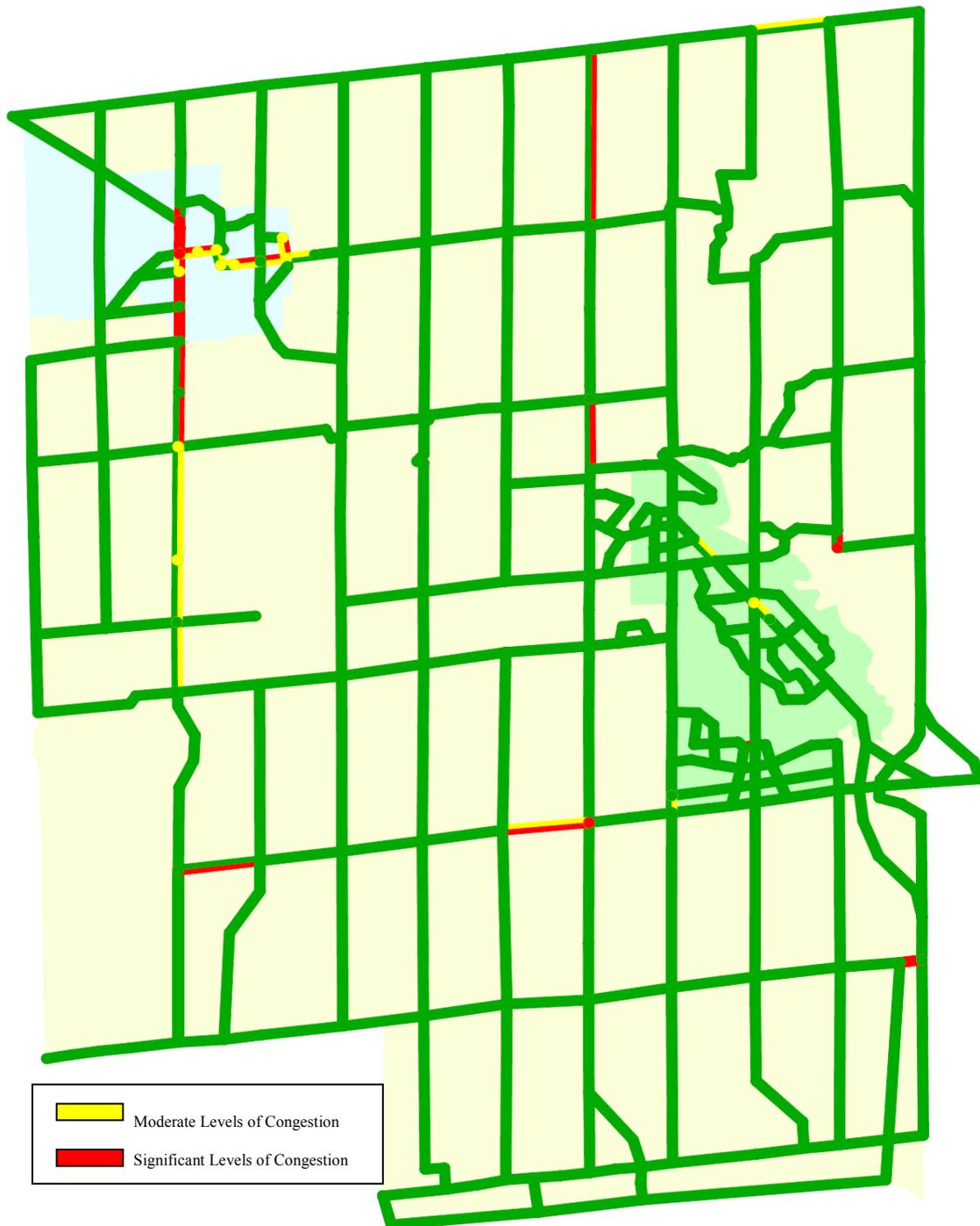


Figure 12 Base Case 2031 PM Peak Hour Transportation System Congestion



15. North Acton Alternative Network Analysis

An alternative route located north of Acton was proposed to divert traffic away from downtown Acton. For this alternative, the 2031 Base Case Network was updated with the North Acton Alternative Route and the auto and post truck assignment undertaken.

A summary of the North Acton Alternative Route 2031 pm peak hour vehicle assignment is summarized in Figure 13 with the corresponding transportation system congestion present in **Figure 14**. The North Acton Alternate route in conjunction with the 2031 Base Case generally provides a good network level of service except for Regional Road 25 through Acton and on Trafalgar Road north of Georgetown.

Figure 13 2031 PM Peak Hour North Acton Alternate Route Total Vehicle Assignment

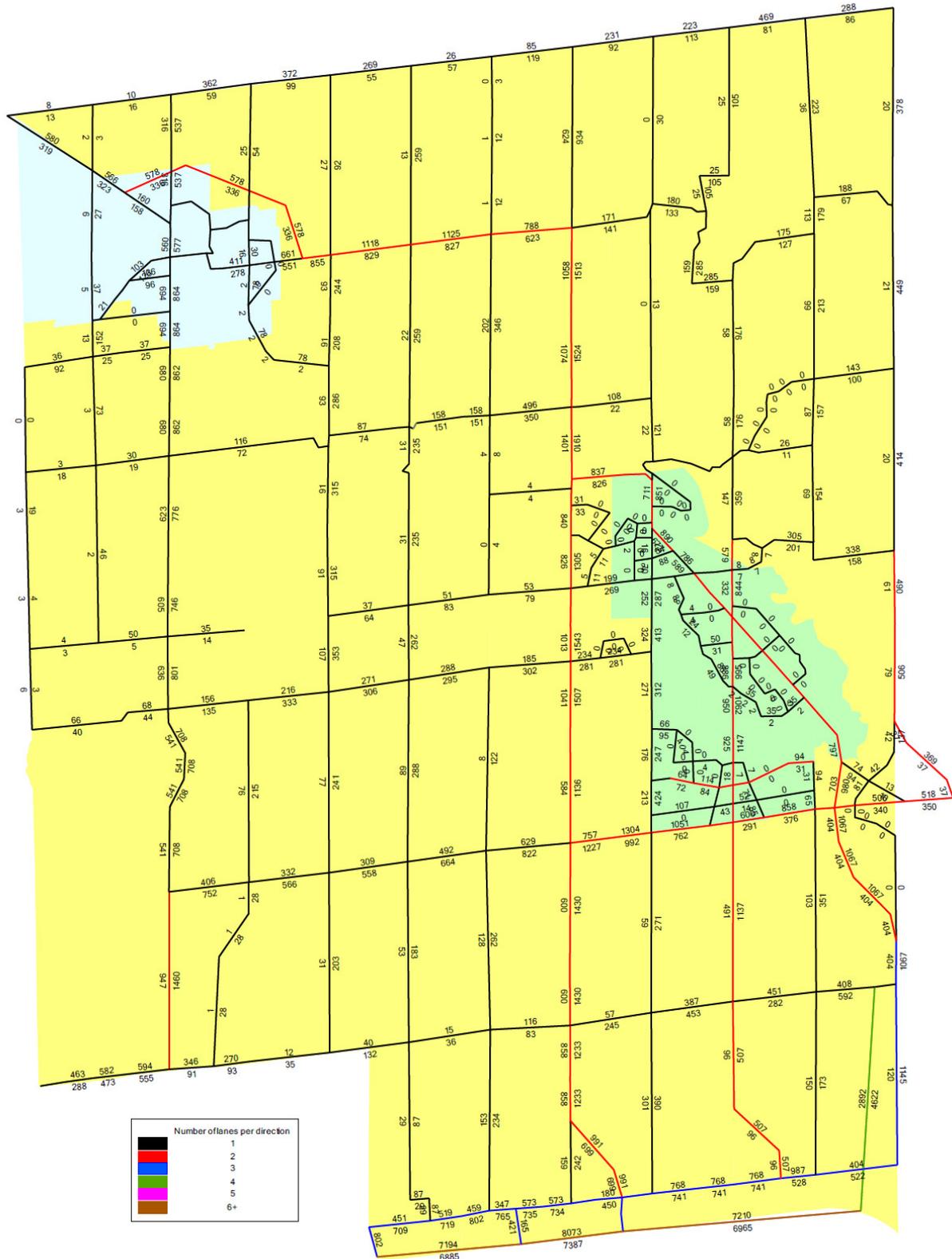
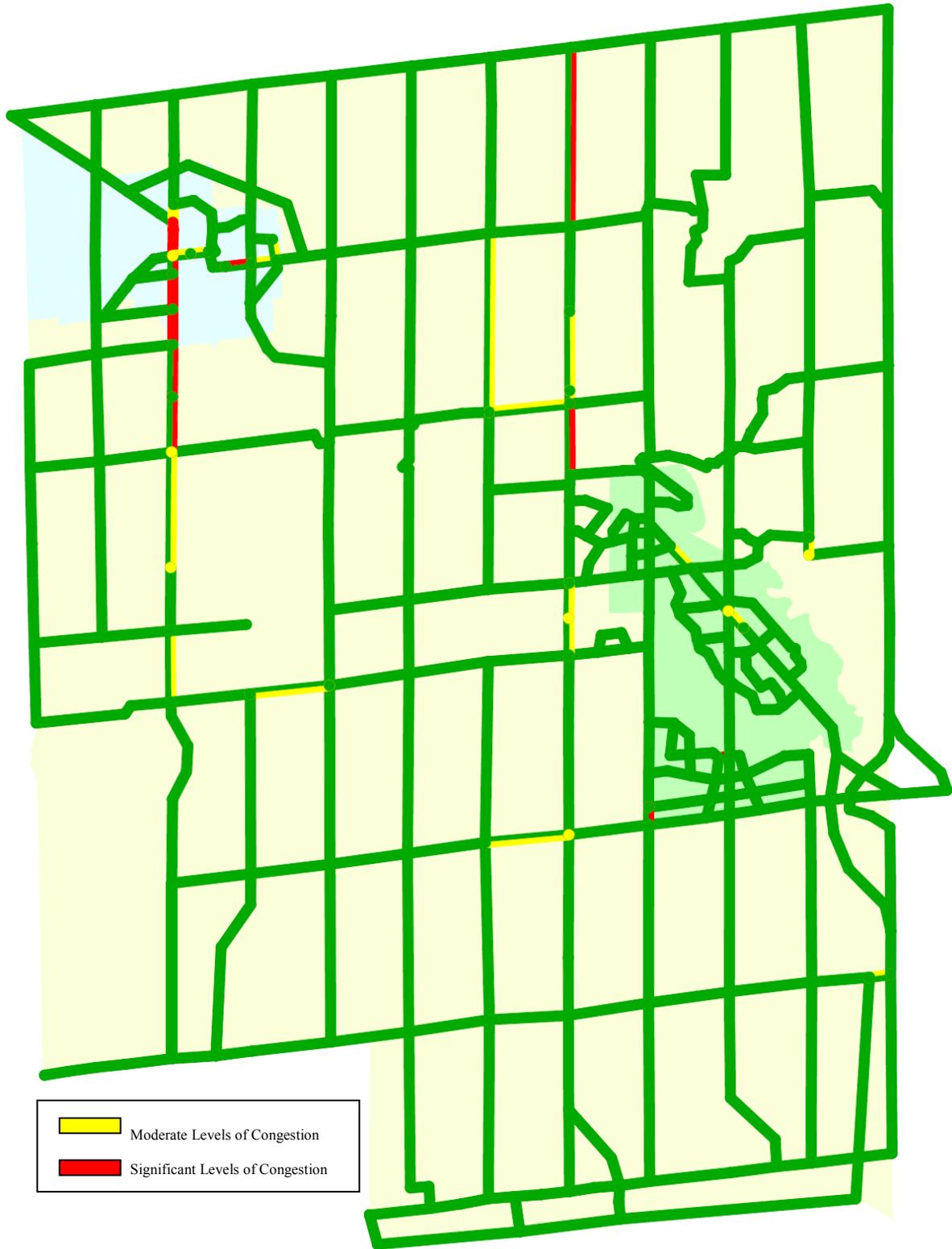


Figure 14 2031 PM Peak Hour North Acton Alternate Route Transportation System Congestion



16. South Acton Alternative Network Results

A South Acton alternative route was proposed as a possible way to divert traffic from downtown Acton. The facilities that provide the South Acton Alternative network additional capacity are identified in **Table 8**.

Table 8 2031 South Acton Alternative facilities with capacity enhancements

On	From	To	Improvement
32 Sideroad	Highway 7	4 th Line	600-950
25 Sideroad	Crawsons Line	Dublin Line	700-950
10 Sideroad	Regional Road 25	Trafalgar Road	600-950
5 Sideroad	Regional Road 25	Winston Churchill Boulevard	600-950
Winston Churchill Boulevard	32 Sideroad	Norval Bypass	600-950

A summary of the 2031 pm peak hour vehicle assignment associated with the South Acton Alternate network is present in **Figure 15**. The transportation system congestion resulting from the South Acton Alternative route analysis is summarized in **Figure 16**. The network alternative indicates significant congestion in the Acton urban area and on the Trafalgar Road corridor north of Georgetown.

Figure 15 2031 PM Peak Hour South Acton Alternate Route Total Vehicle Assignment

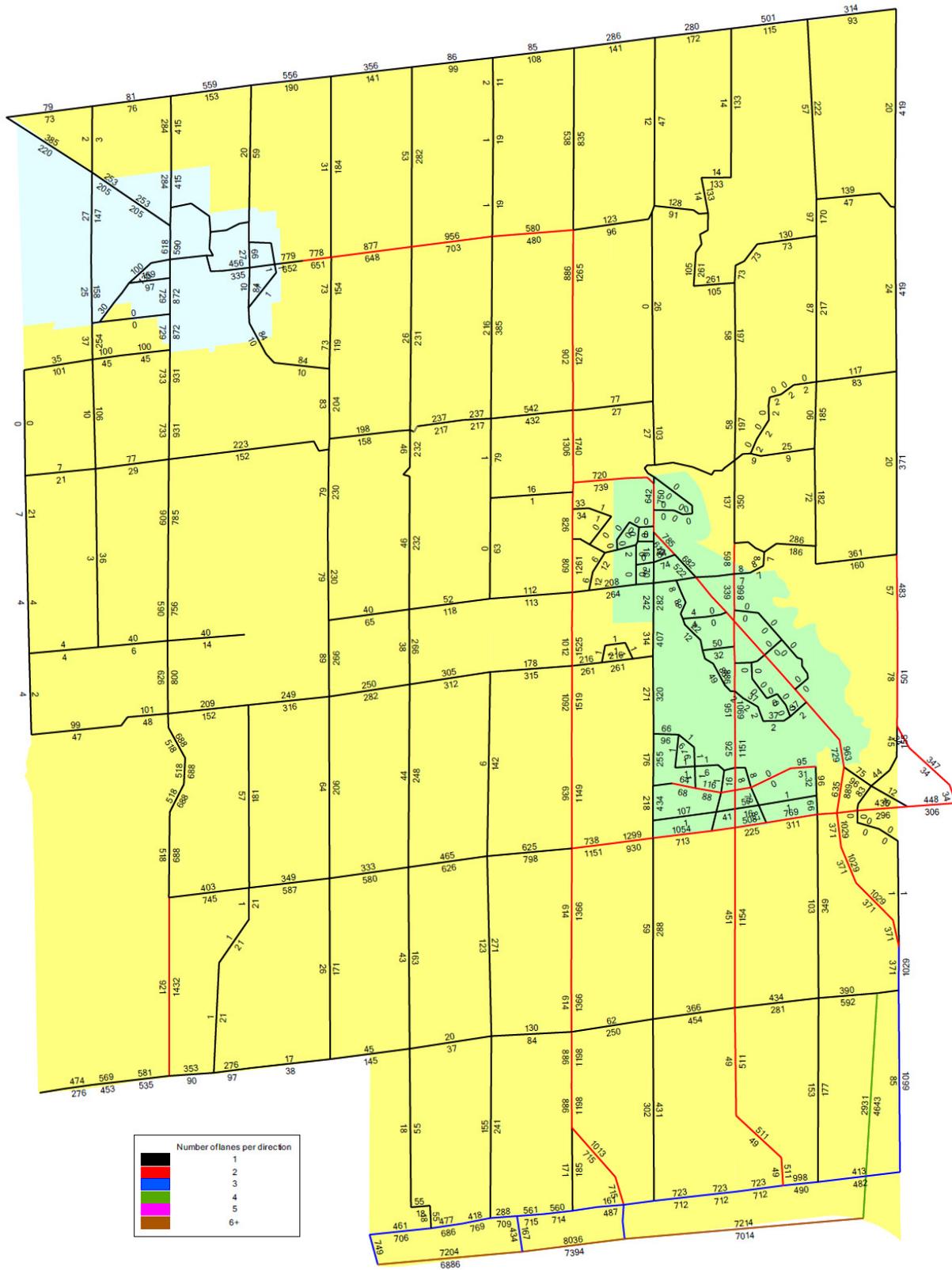
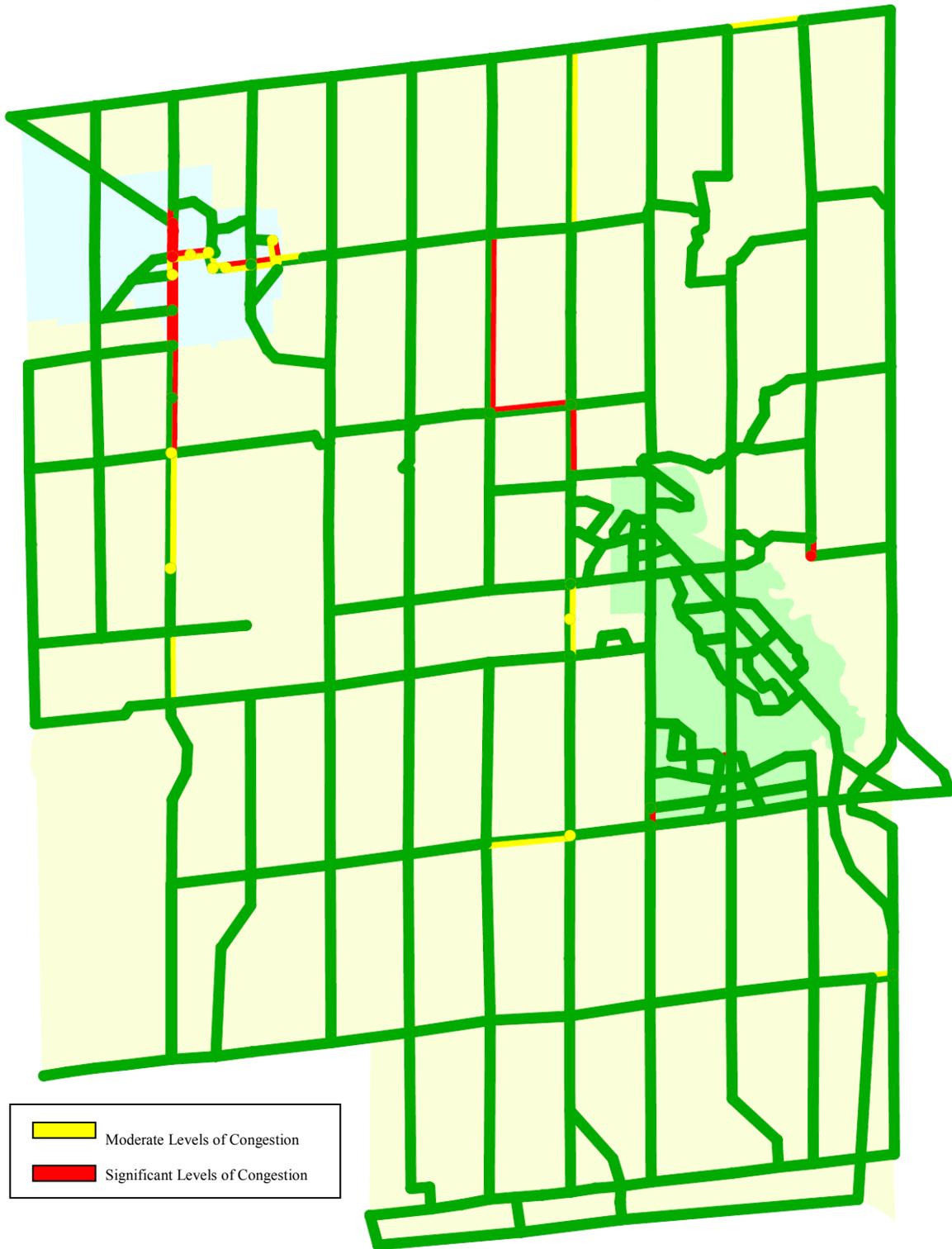


Figure 16 2031 PM Peak Hour South Acton Alternate Route Transportation System Congestion

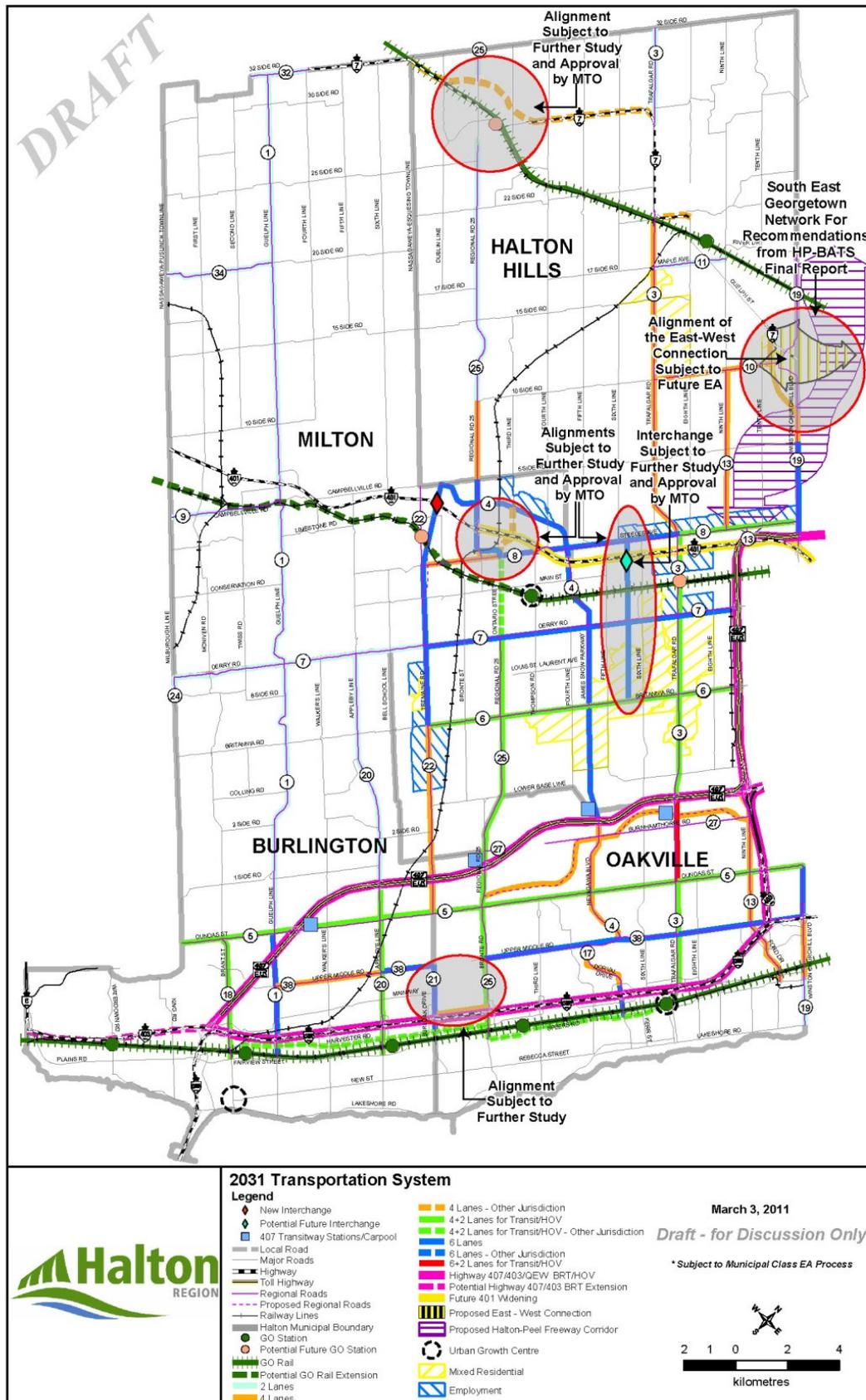


17. Recommended Halton Hills Transportation Network

Based on the 2031 pm peak hour alternate network analyses, the recommended transportation network includes the following road improvements indentified in the Region of Halton Transportation Master Plan noted below and presented in **Figure 17**.

- Acton - Highway 7 Alternate Alignments north of existing Highway 7 (Subject to future EA Study);
- Widening of Hwy 7 to 4 lanes from easterly limit of Highway 7 Alternate Alignment to Trafalgar Road;
- Widening of Regional Road 25 to 4 lanes from 10 Side Road to 5 Side Road;
- Widening of Trafalgar Road (RR 3) to 4 lanes from Highway 7 to Steeles Avenue;
- Widening of Trafalgar Road (RR 3) to 6 lanes (4 GPL and 2 HOV) from Steeles Avenue southerly;
- Widening of Highway 7 to 4 lanes from Trafalgar Road to Main Street (Georgetown);
- Widening of 10 Side Road to 4 lanes from Trafalgar Road to realigned Winston Churchill Boulevard (Norval Bypass);
- Norval North – South Alternate Alignment (4 lanes) from Guelph Street to south of 10 Side Road as part of Winston Churchill Boulevard realignment (Subject to future EA Study);
- Widening of Ninth Line to 4 lanes from 10 Side Road to Steeles Avenue;
- Widening of Winston Churchill Boulevard to 6 lanes from 5 Side Road to 407 ETR;
- Widening of Steeles Avenue to 6 lanes (4 GPL, 2 HOV) from Trafalgar Road easterly;
- Widening of Steeles Avenue to 6 lanes from Trafalgar Road to James Snow Parkway;
- Norval East-West Alternate Alignment (Subject to future EA study);
- HP-BATS corridor from north of Highway 7 connecting with Highway 401 and the 407 ETR (Subject to future EA study);
- Widening of Highway 401 to 12 lanes from James Snow Parkway to the 407 ETR; and,
- Construction of a 6 lane arterial road located between Fifth Line and Sixth Line in Milton with an interchange at Highway 401 (Subject to future EA Study).

Figure 17 2031 Road Improvements



In addition to the road improvements previously noted, the following recommended changes to road jurisdiction and road classification are proposed in order to route the inter-regional and truck traffic to the periphery of the urban centres of Acton and Georgetown.

- ♦ **32 Side Road – Major Arterial**
 - Highway 7 to Trafalgar Road
 - Transfer roadway to Halton Region jurisdiction
 - Trafalgar Road to Winston Churchill Boulevard
 - Transfer roadway to Region of Halton / County of Wellington jurisdiction

- ♦ **Winston Churchill Boulevard - Major Arterial**
 - 32 Side Road to Norval East – West Alternative Route
 - Transfer roadway to Halton Region jurisdiction

- ♦ **10 Side Road - Major Arterial**
 - RR 25 to Trafalgar Road
 - Transfer roadway to Halton Region jurisdiction

- ♦ **5 Side Road – Major Arterial**
 - RR 25 to Winston Churchill Boulevard
 - Transfer roadway to Halton region jurisdiction

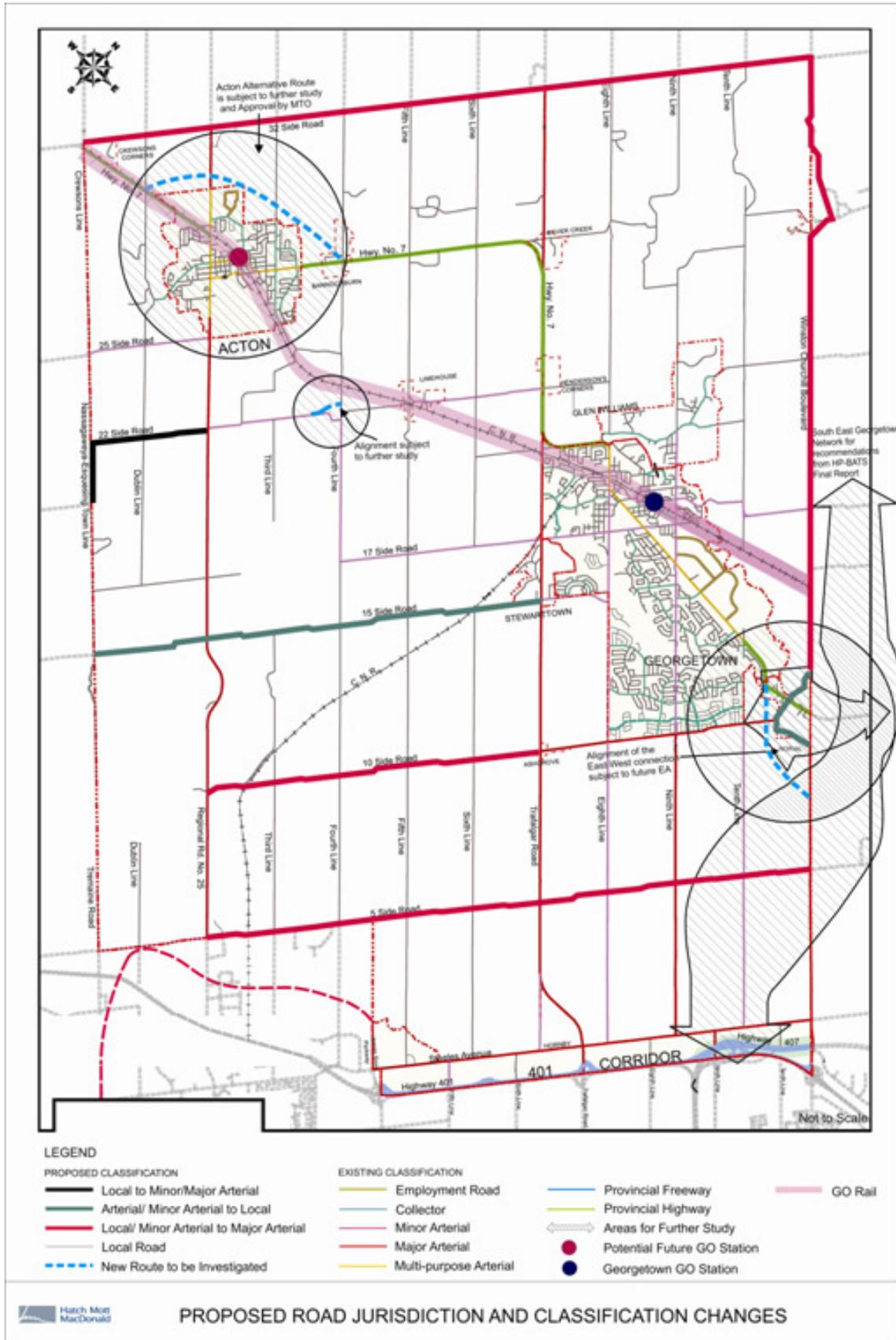
- ♦ **15 Side Road – Rural Collector**
 - Nassagaweya – Esquesing Town Line to Trafalgar Road
 - Maintain under Halton Hills jurisdiction

- ♦ **22 Side road – Minor Arterial**
 - Nassagaweya – Esquesing Town Line to RR 25
 - Maintain under Halton Hills jurisdiction

- ♦ **Nassagaweya – Esquesing Town Line – Minor Arterial**
 - 22 Side Road to 20 Side Road (Milton)
 - Maintain under Halton Hills jurisdiction

A summary of the recommended Halton Hills Transportation Master Plan road jurisdiction and road classification changes is presented in **Figure 18**.

Figure 18 2031 Recommended Road Jurisdiction and Classification Changes



Appendix B-2

Policies to Support the Plan

POLICY

TITLE: Roundabouts
NUMBER: xxx-xxx
CATEGORY: Infrastructure Services
DATE: xxxx

REFERENCES AND RELATED DOCUMENTS:

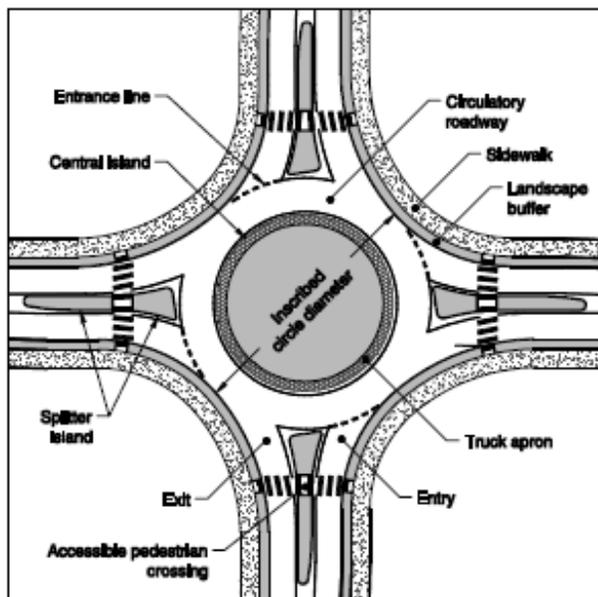
- Transportation Master Plan
- Traffic Control Policy
- Traffic Calming Policy
- Ontario Traffic Manual
- TAC/CITE publication *Canadian Guide to Neighbourhood Traffic Calming*
- TAC publication *Geometric Design Guide for Canadian Roads*
- NCHRP 672 publication *Roundabouts: An Informational Guide, Second Edition*

PURPOSE:

To provide guidance on the use of roundabouts and criteria for the evaluation of proposed locations for roundabout installation.

DEFINITIONS:

- **Roundabout:** A circular intersection varying in size depending on traffic volumes and roadway geometry. As shown in the illustration below, the key elements of a roundabout include a raised central island placed at the center of an intersection, raised splitter islands located at each entry to the intersection, counter clockwise circulation, and yield control at all approaches to the intersection. A roundabout may have a single or multiple circulating lanes of traffic.



Basic Elements of a Roundabout
 (Source: NCHRP 672 – *Roundabouts: An Informational Guide, Second Edition, p. 6-9*)

SCOPE/STAFF PRIMARILY AFFECTED:

- This policy affects all road users in Halton Hills.
- This policy affects all departments within the Town of Halton Hills and is managed through the Infrastructure Services Department.

POLICY:

The Town of Halton Hills will consider the use of roundabouts for intersection traffic control:

- In existing developed areas where a traffic control change is warranted, capital improvements are being considered, or safety or capacity issues have been identified.
- In new development areas where a new intersection is planned on:
 - An arterial and/or collector road that warrants or may warrant a future traffic signal or all-way stop, and
 - A local road where traffic calming or development staging is required.

CRITERIA:

Roundabouts are a preferred type of traffic control at intersections:

- With historical safety problems;
- With relatively balanced traffic flows on intersecting road legs;
- With unusual layouts such as offsets, high skew angles or more than four legs;
- With a high percentage of turning movements;
- Where widening one or more approaches may be difficult or costly, like overpasses or underpasses;
- With excessive speeds or where traffic calming is desired;
- Where the speed environment of the road changes (i.e. between urban and rural areas, or between residential and commercial land uses);
- That are gateways or entries to a neighbourhood, commercial development or urban area;
- That are freeway ramp terminals, for both safety and efficiency reasons;
- With existing two-way stop-control and high side-street delays (particularly intersections that do not meet signal warrants); and
- Where U-turns need to be accommodated.

Roundabouts may be difficult to implement at intersections:

- With insufficient property or difficult grades;

- In close proximity to a signalized intersection, where queues may spill back into the roundabout;
- Near a railway crossing, where queues may spill back across the railway tracks;
- Within a coordinated traffic control system, where roundabouts can disrupt traffic platoons;
- With heavy bicycle volumes; and
- Where there is a significant volume of pedestrians, especially individuals with disabilities.

A screening assessment will be conducted to confirm whether the installation of a roundabout is feasible and desirable. The criteria to be assessed in the screening include:

1. Safety: Is there an angle and / or turning movement collision history that could be mitigated with a roundabout? Are there access management benefits?
2. Delays or Queues: Are there high delays or long vehicle queues being experienced that could be mitigated with a roundabout? Will a roundabout provide a reasonable level of service?
3. Traffic Flows: Are existing or forecast traffic flows relatively balanced between approaches? Is there a high percentage of turning movements?
4. Property: Is there sufficient property for a roundabout, or is additional road allowance required? How difficult would it be to acquire additional land, if required?
5. Intersection Geometry: Does the intersection have an offset, high skew angle, or more than four legs? Can Intersection Sight Distance be provided? Can a roundabout accommodate the design vehicle and emergency service vehicles?
6. Nearby Features: Is the location near a structure? Is it near a signalized intersection where queues may spill back into the roundabout? Is it located near a railway crossing, where queues may block the railway tracks? Are any driveways impacted because of splitter islands?
7. Land Use Context: Is there a land use transition where a roundabout could notify motorists of a change in the road environment? Can they be used at either end of a commercial corridor to accommodate U-turns, allowing access driveways to be right turns only?
8. Traffic Calming: Are there high traffic speeds being experienced, or likely, due to the design of the road and the surrounding land uses that could be mitigated with a roundabout?
9. Vulnerable Road Users: Does the intersection have a high volume of cyclists and / or pedestrians? Are there large numbers of visually or mobility impaired pedestrians?

10. Technical Considerations: Are there any steep grades, unusual drainage, possible difficulties with meeting sight distance requirements, etc. that may preclude a roundabout? Is there any constructability or construction staging issues?
11. Environmental Considerations: Would a roundabout resolve or create adverse natural, social or cultural environment impacts?
12. Financial: What is the capital cost of construction? How do maintenance costs compare to other forms of traffic control?

PROCEDURES:

If a roundabout is selected as the preferred alternative, then the Infrastructure Services Department will solicit comments from other departments on the location and design of the roundabout concept. Although roundabouts are not specifically subject to the Municipal Class Environmental Assessment (EA) process, stakeholders will be contacted and the public advised of any roundabouts planned as part of a capital project. Public Information Centres (PIC) may be held to allow for public input.

Locations on existing Town roads recommended for roundabout installation can be scheduled as future capital projects with associated funding prioritized through the annual budget process.

Locations within development plans that merit roundabout installation will be constructed by the developer when the road is built.

The design of roundabouts will be carried out in accordance with the Town's engineering standards. The TAC *Geometric Design Guide for Canadian Roads* (Section 2.3.12) and NCHRP 672 *Roundabouts: An Informational Guide, Second Edition* (Section 6) will be consulted as required for geometric elements.

POLICY REVIEW:

- The policy will be monitored and changes recommended as required. The policy will also be reviewed upon the update of the Transportation Master Plan.

POLICY

TITLE: Traffic Calming
NUMBER: xxx-xxx
CATEGORY: Infrastructure Services
DATE: xxxx

REFERENCES AND RELATED DOCUMENTS:

- Transportation Master Plan
 - Traffic Control Policy
 - Ontario Traffic Manual
 - TAC/CITE publication *Canadian Guide to Neighbourhood Traffic Calming*
 - TAC publication *Geometric Design Guide for Canadian Roads*
-

PURPOSE:

To provide guidance on the use of traffic calming measures and establish a transparent and efficient process to evaluate requests for the installation of traffic calming in residential communities.

DEFINITIONS:

- **Traffic Calming:** The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.
- **Individual:** A resident or business owner who pays property taxes to the Town of Halton Hills, directly or indirectly.
- **Group:** Two or more individuals who share a common purpose.
- **Community Organization:** Duly constituted group, club, association or society.

SCOPE/STAFF PRIMARILY AFFECTED:

- This policy affects all road users and residential communities in Halton Hills.
- This policy affects all departments within the Town of Halton Hills and is managed through the Infrastructure Services Department.

POLICY:

The Town of Halton Hills will consider the implementation of traffic calming measures on local and collector roads in existing residential communities that meet the criteria of this policy, subject to funding availability and community support.

APPLICABILITY:

Traffic calming measures are typically applied on local roads in residential neighbourhoods, where residents have raised concerns about speeding, vehicular traffic and/or pedestrian safety. In some instances, traffic calming may be warranted on collector roads. Traffic calming is not recommended for arterial roads and collector roads with a primary function of carrying a high volume of traffic, except in the most extreme cases.

Traffic calming measures can be divided into two groups, non-intrusive and intrusive. Non-intrusive traffic calming refers to installations that do not require modifications to the roadway, such as signs and pavement markings. Intrusive traffic calming involves physical changes to the road, such as chicanes and speed bumps.

The following table provides information on traffic calming measure applicability and potential benefits.

TRAFFIC CALMING MEASURE APPLICABILITY AND BENEFITS

Measure		Potential Benefits			
		Speed Reduction	Volume Reduction	Conflict Reduction	Environment
Vertical Deflection	Raised Crosswalk	●	○	●	●
	Raised Intersection	●	○	●	●
	Rumble Strip	○	○	○	○
	Sidewalk Extension	●	○	●	○
	Speed Hump	●	●	●	●
	Textured Crosswalk	○	○	●	●
	Speed Cushion	●	●	●	●
Horizontal Deflection	Chicane – One-Lane	●	●	●	●
	Chicane – Two-Lane	●	○	●	●
	Curb Extension	●	○	○	●
	Curb Radius Reduction	●	○	○	●
	On-Street Parking	●	○	○	●
	Raised Median Island	●	○	●	○
	Traffic Circle	●	○	●	●
Obstruction	Directional Closure	○	●	●	●
	Diverter	○	●	●	●
	Full Closure	○	●	●	●
	Intersection Channelization	○	●	●	●
	Raised Median Island Through Intersection	○	●	●	●

	Right-in/Right-out Island	○	●	●	●
Signing*	Maximum Speed	●	○	○	○
	Right/Left Turn Prohibited	○	●	●	●
	One-Way	○	●	●	●
	Stop	○	●	●	○
	Through Traffic Prohibited	○	●	●	●
	Traffic-Calmed Neighbourhood	○	○	○	●
	Yield	○	○	●	○
Legend and Notes:					
● = Substantial Benefits, ● = Minor Benefits, ○ = No Benefits					
* The primary purpose of signing is to regulate traffic movements or provide reinforcement to physical measures, not to calm traffic.					

Source: Canadian Guide to Neighbourhood Traffic Calming, TAC, 1999

The **Guide to Traffic Calming Measures** contained in Appendix 'A' provides further insight into the applicability of different traffic calming measures.

PROCEDURES:

The **Process for the Installation of Traffic Calming Measures** is illustrated in Appendix 'B' and described in the following sections:

Process Initiation

An Individual, Group or Community Organization submits a concern regarding speeding, cut-through traffic, increased vehicle collisions or decreased pedestrian safety occurring within a neighbourhood. Town staff will advise the proponent if traffic calming is applicable to the road in question based on its classification.

Screening Assessment

A screening assessment will be conducted to confirm whether the installation of traffic calming measures is feasible and desirable on the subject road.

The initial step in the screening process is to determine whether traffic calming measures are appropriate for the concerns raised. This preliminary assessment will identify previous traffic issues in the area, the frequency of complaints and any traffic initiatives taken in the area in the past five years. The concern will be evaluated based on existing traffic data, such as Turning Movement Counts (TMC), Automatic Traffic Recordings (ATR), Spot Speed Radar Studies (SSRS), Origin/Destination Studies (O-D) and Motor Vehicle Accident (MVA) history, etc. If the data is more than three years old, Town staff will initiate the necessary traffic data collection to properly assess the scope of the issue.

The traffic data will then be assessed against the Warrant Criterion in the table below to determine if the location meets minimum recommended thresholds for the installation of traffic calming measures.

Warrant Criterion for Traffic Calming Installation

Road Classification	Condition 1 – Through Traffic	Condition 2 – Speed and Volume				Minimum Volume (AADT) (veh/day)
		Speed (85th Percentile) (km/h)				
		Posted Limit				
		40	50	60		
Local Street	Infiltrating traffic exceeds 30%	>54	>65	>79	1,500	
Collector Street*	Infiltrating traffic exceeds 30%	>54	>65	>79	3,000	

Note: * Two-Lane Residential Collector Streets only

For a street to be considered for implementation of physical traffic calming measures, both Conditions 1 (Through Traffic) and 2 (Speed and Volume) of the above Warrant Criterion must be fully satisfied. Strict adherence to the Warrant Criterion is required to ensure that the integrity and consistency of the process is maintained, measures are not installed in inappropriate locations and false community expectations are not created.

Resident-Initiated Petition

Once Town staff has determined whether the road meets the Warrant Criterion for traffic calming, the resident would be required to circulate a petition to all affected households. A petition will ensure there is adequate community support for the installation of traffic calming measures and will help to identify any potential issues with implementation. A lack of community support may lead to public discontent for traffic calming and result in a subsequent petition from the community to remove the measures.

The petition will require a minimum 67 percent (67% or two thirds majority) of affected households to be in support of the traffic calming plans before implementation is recommended. Each dwelling will be allowed a single vote and special considerations will be given to medium and high-density buildings. The weighting factor of a medium or high-density building will be based on its street frontage. Each situation will be evaluated on its own merits.

The Town will provide the **Guide to Traffic Calming Measures** and other pamphlets, and direct individuals to the traffic calming information on the Town’s official website to further educate and inform potentially affected stakeholders.

Study Area Review

Upon receiving a petition with the necessary community support, the Town will initiate a comprehensive review of the study area signage, pavement markings, and horizontal and vertical profile of the road. A significant emphasis will be placed on roads in adjacent neighbourhoods, since addressing a problem in one community may result in transfer of the problem to the neighbouring community. Town staff will modify the study area if the review shows a potential for negative impacts affecting adjacent streets.

Implementation Stage 1 – Non-Intrusive Traffic Calming Measures

Initially, the identified traffic issues will be addressed through the application of Non-Intrusive Traffic Calming Measures, such as, Community Road Watch Program, Radar Message Board (RMB), traffic enforcement, signage, pavement markings, education and marketing for a period of six months. Upon completion of this initial period, further traffic data collection will be conducted to identify the effectiveness of the Non-Intrusive Traffic Calming Measures.

Residents of the affected neighbourhood will be asked to collect speed data through the Radar Message Board (RMB) and observe the drivers' behaviour. This step in the process provides residents the opportunity to better understand the problem based on statistical data and on-site observations. The speed data collected by the residents will be analyzed and compared to the SSRS conducted by Town staff.

If the Non-Intrusive Traffic Calming Measures provide the desired results, staff will contact the resident(s) making the initial inquiry and conclude the process.

Implementation Stage 2 – Intrusive Traffic Calming Measures

Step 1 – Establishment of a Neighbourhood Traffic Advisory Committee (NTAC)

Staff will work with the neighbourhood to formally establish a Neighbourhood Traffic Advisory Committee (NTAC) to better confirm public support for traffic calming measures and understand the issue(s) affecting the local community.

At this step, staff will also notify the required stakeholders, since traffic calming measures will affect emergency response agencies. The agencies to be involved include the Halton Hills Fire Department, Halton Regional Police Service, and Halton Emergency Medical Service (EMS). If there is a school in the affected area, the representatives from the school will be asked to participate in the traffic calming process. Members of Council will be informed and invited to participate, as well.

Step 2 – Identification of the Preferred Traffic Calming Plan and Public Consultation

In addition to publicizing available traffic calming measures and identification of issues affecting the neighbourhood, staff will initiate a walkabout. The neighbourhood walkabout will help all the parties involved in the process to visualize preferred alternatives and provide additional on-site input.

The Town will present the preferred Traffic Calming Plan (TCP) during a stakeholders meeting. The focus of the meeting will be to address any concerns that may arise from the implementation of intrusive traffic calming measures. The Town will work closely with all of the emergency response agencies to minimize negative impacts, primarily, decreased response time.

Although traffic calming is not specifically subject to the Municipal Class Environmental Assessment (EA) process, stakeholders will be contacted and the public advised of any plans as part of this process.

Step 3 – Implementation of Traffic Calming Plan

Once the TCP is endorsed by the NTAC (minimum 67% support), the Town will complete detailed design and circulate the plan to the utility companies, other potentially affected agencies and departments for comments. Town staff will prepare a report to Council for approval. Design of traffic calming will be carried out in accordance with the Town’s engineering standards. The CITE/TAC *Canadian Guide to Neighbourhood Traffic Calming* and TAC *Geometric Design Guide for Canadian Roads* will be consulted as required.

Once a TCP is approved by Council, it will be added to the capital works program (subject to a further report). Competing priorities will be prioritized based on the Ranking System contained in the following table.

RANKING SYSTEM FOR TRAFFIC CALMING PROJECTS (maximum 100 points)

Criteria	Local Street	Collector Street
Speed (0 to 30 points)	5 points for each 2 km/h that the 85 th percentile speed is above the Condition 2 Warrant Criterion threshold for speed of traffic.	3 points for each 2km/h that the 85 th percentile speed is above the Condition 2 Warrant Criterion threshold for speed of traffic.
Volume (0 to 30 points)	1 point for every 100 vehicles as per recorded A.A.D.T. above the Condition 2 Warrant Criterion threshold for volume of traffic.	1 point for every 200 vehicles as per recorded A.A.D.T. above the Condition 2 Warrant Criterion threshold for volume of traffic.

<p>Collisions (0 to 30 points)</p> <p>Note: Preventable collisions are those that are considered preventable through the use of traffic calming measures.</p>	<p>10 points for 1 preventable collision as per police records in the past 3 years; or 30 points for 2 or more preventable collisions recorded in the past 3 years.</p>	
<p>Pedestrian Traffic Generators (0 to 10 points)</p>	<p>5 points for each pedestrian generator (i.e. school, park, retirement home, recreation centre, etc.)</p>	

Monitoring, Evaluation and Follow-up

During the year following the installation, the Town will monitor the effectiveness of the traffic calming measures installed as part of the TCP. Staff will conduct further traffic studies and prepare an information report to Council commenting on before and after traffic conditions, any resulting impacts and future recommendations. NTAC members and stakeholders involved in the process will be notified and given the opportunity to participate in the review.

If the monitoring demonstrates that the TCP is not achieving the desired effect, or if an Individual, Group or Community Organization is dissatisfied with the installation, the Town may consider removal of the measures. Appropriate follow-up traffic studies would be carried out to confirm the technical basis for removal prior to consideration.

If removal is contemplated, staff will prepare a report to Council seeking authorization to poll affected residents of the proposal to remove the traffic calming measures. The poll will require a minimum 67 percent (67% or two thirds majority) of affected households to be in support before removal is recommended. Similar to installation, each dwelling will be allowed a single vote and special considerations will be given to medium and high-density buildings. The weighting factor of a medium or high-density building will be based on its street frontage. Each situation will be evaluated on its own merits. Staff will prepare a subsequent report to Council to inform of the poll results. If removal is recommended, staff would proceed to schedule the work as funding permits.

POLICY REVIEW:

- The policy will be monitored and changes recommended as required. The policy will also be reviewed upon the update of the Transportation Master Plan.

APPENDIX 'A'

*Town of Halton Hills
Guide to Traffic Calming
Measures*



December 2005
Updated November 2011

1. BACKGROUND

Traffic calming has its origin in the Dutch “Woonerf” schemes of the 1970’s. The original “Woonerf” schemes introduced the concept of shared space between vehicle and pedestrian. Streets were reconstructed so as to tip the balance in favour of the residential function of the street and to reduce the domination of motor vehicle.

2. PURPOSE

Traffic calming is fundamentally concerned with reducing the adverse impact of motor vehicles on build-up areas. Primarily, it involves slowing the speed or reducing the volume of vehicular traffic on neighbourhood streets to increase safety and livability in the neighbourhood.

3. TRAFFIC CALMING OBJECTIVES

The objectives are as follows:

- Increase the driver’s awareness of the street functions and thereby reduce vehicular speed.
- Discourage non-local traffic from traveling through a neighbourhood on local and collector residential streets, thereby reducing traffic volume.
- Reduce conflicts between various street users, including motorists, cyclists, pedestrian and others.
- Aesthetically enhance the neighbourhood environment with landscaping and design.
- Establish a method of priorities required to ensure neighbourhoods are treated equitably and to ensure that limited staff and monetary resources are allocated where they are needed most.
- Encourage public involvement in the traffic calming activities.

4. TRAFFIC CALMING MEASURES

Traffic calming can be applied in the form of less and more intrusive measures. Less intrusive measures usually are included in initial design of roadway, and include things such as the placement of trees, medians, narrower lane widths, on-street parking, streets with boulevards separating sidewalks, highly visible pedestrian crossing and intersection design. In addition, signage and pavement markings constitute less intrusive traffic calming measures. Signs indicating speed limit, school crossings and no exit can be used where appropriate to slow traffic. Finally, through educational programs and targeted enforcement, less intrusive measures can provide outcome of lower speeds in residential neighbourhoods and raise awareness of existing problems.

More intrusive measures can be categorized into four approaches:

- 1) Vertical Deflection Measures
- 2) Horizontal Deflection Measures
- 3) Horizontal Narrowing Measures
- 4) Traffic Volume Reduction Measures

4.1 Vertical Deflection Measures

Vertical deflection measures use variations in pavement height and alternative paving materials to contribute to a driver’s discomfort at higher travel speeds. The purpose of the deflection is to reduce speeds along a street within a neighbourhood or at a specific location in order that other users, such as pedestrians, are presented with a roadway feature that better meets their needs. Some common vertical measures include:

- Raised Crosswalks
- Raised Intersections

- Speed Humps
- Speed Tables

4.2 Horizontal Deflection Measures

Horizontal deflection measures use raised islands and curb extensions to deflect the driver's path away from straight line along roadways and through intersections. The intention of the deflection is to reduce the vehicular speed through a corridor in order that others in the area are not impacted by speeding traffic. Some common horizontal deflection measures include:

- Curb Extensions
- Chicanes
- Traffic Circles
- Roundabouts
- Realigned Intersections

4.3 Horizontal Narrowing Measures

Horizontal narrowing measures use raised island and/or curb extensions to narrow the street, making the area more "pedestrian friendly". The intention of the narrowing is to increase the driver's awareness of pedestrian activity, and reduce their speed through an intersection or mid-block pedestrian crossing. Some common horizontal narrowing measures include:

- Neckdowns
- Chokers
- Center Island

4.4 Volume Control Measures

Volume control measures include physical diverter, street closures, and median barriers, which restrict vehicles from turning at specific locations. Their main purpose is to divert and ultimately reduce traffic volumes from residential streets. Volume control measures typically move traffic volumes and the associated negative impacts from one street to an adjacent street, and therefore, should be considered only under special circumstances. Some volume control measures include:

- Full Street Closures
- Half Closures
- Diagonal Diversions
- Median Barriers

5. EFFECT ON EMERGENCY VEHICLES RESPONSE TIMES

Any traffic calming measure that might be effective because it physically controls traffic generally has a negative impact on several classes of emergency vehicles to varying degrees. Emergency response services, as well as, the Town's residents place a high value on response times in time of emergency. Installation of most physical traffic calming measures can, and will in most cases, increase response time. In case of fire trucks and ambulances, these vehicles must come to almost a complete stop when they encounter a bump, dip or sharp curve.

6. NOISE IMPACT

The noise impact to adjacent residents resulting from vehicles braking, or going over and around traffic calming measures, such as speed humps, can have a major impact on the acceptability of these measures by residents living closest to them.

7. PARKING

It is often necessary to prohibit on-street parking in the immediate vicinity of the traffic calming measures in order to accommodate the realigned vehicle path.

8. INCREASED MAINTENANCE COST

Street maintenance costs will increase in two areas. Landscaping associated with such measures as traffic circles, and neckdowns will require regular maintenance. Measures such as speed humps will have to be reinstalled each time a residential street is overlaid.

9. CONCLUSION

In order for traffic calming to work on local residential roads, neighbourhood support and participation is absolutely necessary. More intrusive traffic calming measures should be used only when other less intrusive measures do not serve their function.

Traffic Calming Measures Available for Consideration

Measure	Description	Illustration
VERTICAL DEFLECTION MEASURES		
Raised Crosswalk	Raised Crosswalks elevate the level of a pedestrian crossing. Pedestrians are more visible to approaching motorists. They are often constructed with brick or textured materials on the ramps to increase visibility for approaching motorists. The walking surface is typically asphalt.	
Raised Intersection	Raised Intersections are flat raised areas covering an entire intersection, with ramps on all approaches. They often have brick or other textured materials on the ramp section. They usually raise the intersection to the level of the sidewalk. As a result, the crosswalks are more visible to motorists.	

Measure	Description	Illustration
Speed Hump	Speed Humps are raised pavement areas placed across the road. They are generally 3 to 4.5 metres long measured in the direction of travel, and are typically 10 centimetres high. Speed humps are very distinct from the shorter "speed bumps" found in many parking lots.	
Speed Table	Speed Tables are flat-topped speed humps often constructed with brick or other textured materials on the flat section. They are typically long enough for the entire wheelbase of a passenger car to rest on the flat section, and allow for higher design speeds than speed humps. The brick or other textured materials improve the appearance of speed tables, draw attention to them, and may enhance safety and speed-reduction.	
Speed Cushion		
HORIZONTAL DEFLECTION MEASURES		
Curb Extensions	Curb Extensions extend the sidewalk or curb line out into the parking lane, which reduces the effective street width. Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street.	

Measure	Description	Illustration
Chicane	<p>Chicanes are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Alternating on-street parking from one side of the street to the other can also create chicanes. Each parking bay can be created either by striping the roadway or by installing raised, landscaping islands at the ends of each parking bay.</p>	
Traffic Circle	<p>Traffic Circles are raised islands, placed in intersections, around which traffic circulates. They are good for calming intersections, especially within neighborhoods, where large vehicular traffic is not a major concern but speeds, volumes, and safety are problems.</p>	
Roundabout	<p>Roundabouts require traffic to circulate counterclockwise around a center island. Roundabouts are used on higher volume streets to allocate right-of-way between conflicting movements, where traffic circles are used on low volume roads. Roundabouts are effective at intersections with a history of accidents, and where queues need to be minimized.</p>	
Realigned Intersections	<p>Realigned Intersections change road alignments at T-intersections from straight approaches into curving streets that meet at right-angles. A former "straight-through" movement along the top of the T-intersection becomes a turning movement.</p>	

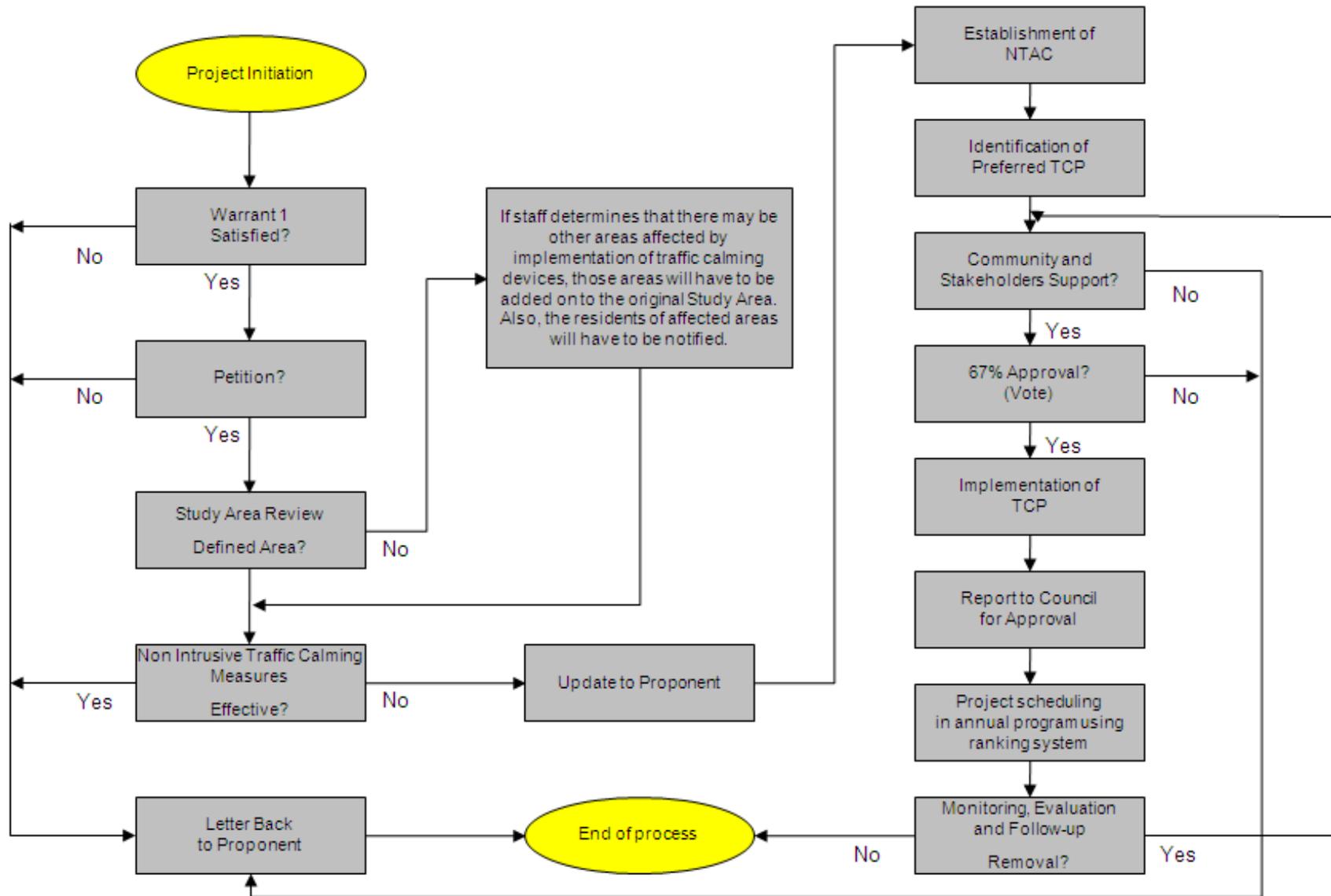
Measure	Description	Illustration
HORIZONTAL NARROWING MEASURES		
Neckdown	<p>Neckdowns are curb extensions at intersections that reduce the roadway width from curb to curb. They effectively make an intersection more pedestrian friendly by shortening crossing distances and drawing attention to drivers. The curb radii at the corners are also tightened, reducing the speed of vehicles turning at the intersection.</p> <p>Neckdowns are good at intersections with high pedestrian activity.</p>	
Choker	<p>Chokers are curb extensions at midblock locations that narrow a street. Two-lane chokers leave the street cross-section with two lanes that are narrower than the normal cross-section. One-lane chokers narrow the width to allow travel in only one direction at a time. They are good for areas with substantial speed problems and no on-street parking shortage.</p>	
Center Island	<p>Center Island narrowing is a raised island located along the centerline of a street that narrows the travel lanes at that location. Placed at the entrance to a neighbourhood, and combined with textured pavement or landscaping, they create an attractive gateway to a neighbourhood. Center islands work well on wide streets where pedestrians need to cross.</p>	

Measure	Description	Illustration
VOLUME CONTROL MEASURES		
Full Street Closure	Full street closures are barriers placed across a street to completely close the street to through traffic. Only the sidewalk is open.	
Half Street Closure	Half closures are barriers that block travel in one direction for a short distance on two-way streets.	
Diagonal Diverter	Diagonal Diverters are barriers placed diagonally across an intersection, blocking through movements and creating two separate, L-shaped streets. Like half closures, diagonal diverters are often staggered to create circuitous routes through the neighborhood as a whole, discouraging non-local traffic while maintaining access for local residents.	
Median Barrier	Median Barriers are islands located along the centerline of a street and continuing through an intersection so as to block through movement at a cross street. They are ideal at intersections where left turns to and/or from the side street are unsafe.	

Sources:

TAC/ITE *Canadian Guide to Neighbourhood Traffic Calming*, December 1998
www.trafficcalming.org

APPENDIX 'B' – PROCESS FOR THE INSTALLATION OF TRAFFIC CALMING MEASURES



Appendix B-3
Regional Municipality of Halton Best
Planning Estimates of Population,
Occupied Dwelling Units and
Employment, 2011-2031
June 2011

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Introduction

This Research Paper on the Best Planning Estimates of population, occupied dwelling units and employment for the period 2011-2031 is produced by the Planning Services Division of Halton Region's Legislative and Planning Services Department in consultation with the staff from other Regional departments and the Local Municipalities in Halton. It is completely remodelled based on minimum requirements from Regional Official Plan Amendment #37 (ROPA 37) and #38 (ROPA 38) and the Growth Plan for Greater Golden Horseshoe (2006). This version updates the 2007 estimates.

The Best Planning Estimates is a planning tool used to identify where and when development is expected to take place across the Region. The Best Planning Estimates represent good long term planning. This tool will assist the Region and the Local Municipalities in planning complete healthy communities including; the establishment of the supply of housing, type of housing and jobs across the Region. The Best Planning Estimates, also, provide direction in determining the timely provision of both hard infrastructure (roads, water and wastewater) and community infrastructure (schools, community recreation etc).

Intended Use

The Best Planning Estimates are meant to be used where working numbers of future population, occupied dwelling units or employment within Halton are needed for planning purposes. The intent of producing these estimates is to provide a consistent set of land use data and forecasts to be commonly used by both public and private agencies, or individuals interested in such data for business or personal purposes.

These estimates are called Best Planning Estimates because they were prepared on a best effort basis by Regional and Local Municipal staff based on their collective knowledge and understanding of demographic and economic

trends in Halton. By definition, they are estimates, not policy numbers committed to by Regional or Local Municipal Councils. The application of these estimates by any user in an undertaking, private or public, should be at the discretion of the user, guided by the nature, purpose and scope of that particular undertaking. If clarification or assistance is needed in interpreting these estimates, please contact the Planning Policy Section of the Region as listed under Section 7.

Attempts have been made to achieve as high a degree of consistency as possible between Official Plan or policy numbers and the Best Planning Estimates. As the purpose of the Best Planning Estimates is to reflect the latest trends and information sources, they will be updated from time to time and should not be construed as replacing Official Plan or policy numbers. The official status of the Best Planning Estimates and how they are to be used in municipal projects and undertakings are determined through resolutions of Regional or Local Council.

Notes on This Update

Since the publication of the April 2007 estimates, the following events have caused the need for an update:

- The Region has completed the multi-year Sustainable Halton process to conform to the *Growth Plan for the Greater Golden Horseshoe (2006)*, the *Greenbelt Plan (2005)*, the *Provincial Policy Statement (2005)*, and other Provincial policies and initiatives. The Sustainable Halton process helped develop Halton's growth management strategy to 2031.
- Schedule 3 of the *Growth Plan for the Greater Golden Horseshoe (2006)* allocates a total of 780,000 people and 390,000 jobs to Halton Region by 2031, to which Halton Region must conform.
- The *Growth Plan for the Greater Golden Horseshoe (2006)* requires that three designated *Urban Growth Centres* in Halton - Downtown Burlington,

Downtown Milton and Midtown Oakville - are planned to achieve a gross density of 200 residents and jobs combined per hectare by 2031.

- The *Growth Plan for the Greater Golden Horseshoe (2006)* requires that the entire designated Greenfield Areas, except protected areas, are planned to achieve a minimum density target that is not less than 50 residents and jobs combined per hectare.
- The *Growth Plan for the Greater Golden Horseshoe (2006)* requires that, by the year of 2015 and for each year thereafter, a minimum of 40 percent of all residential development occurring annually in Halton will be within the built-up area. To facilitate the implementation of the minimum intensification requirement of the Growth Plan, the Province of Ontario has identified the 2006 built-up urban areas across the Greater Golden Horseshoe.
- As a result of the Sustainable Halton process, ROPA 37 “An Amendment to Incorporate the Basic Requirements of the Places to Grow Plan” and ROPA 38 “An Amendment to Incorporate the Results of Sustainable Halton, Official Plan Review Directions and Other Matters” were adopted by Regional Council on June 3 and December 16 respectively, 2009.
- Throughout the Sustainable Halton and Regional Official Plan Amendment processes, the Region and Local Municipalities conducted additional research on intensification opportunities and the supply of residential and employment lands, including a comprehensive review of persons per dwelling unit and employment density. This provided improved information on the ability of each Local Municipality in accommodating future population and employment growth.
- ROPA 38 contains policies regarding affordable housing targets that would affect the supply of medium and high density dwelling units to 2031.
- ROPA 38 contains policies regarding mobility hubs and major transit station

areas that would influence where and when intensification is to take place.

Assumptions and Methodology

Unlike previous versions of the Best Planning Estimates, which focused on forecasting how the number of persons per unit by housing type change over time, this update relied on a version of Persons per Units forecast that was already available and consistent to the land budget analysis prepared for ROPA 38. Much of the effort was made to achieve the total population and employment forecasts for Halton by the *Growth Plan for the Greater Golden Horseshoe (2006)*, as well as the intensification and minimum density targets for the Designated Greenfield Area and *Urban Growth Centres* when considering “when”, “where” and “what” development is to take place.

Planning staff, in consultation with staff from other Regional departments and Local Municipalities, assessed all areas within the Urban Area envelope and their “developability” by deducting all protected areas, such as areas within the Regional Natural Heritage System, as well as assessing their suitability for low, medium or high density dwelling units in the residential areas, and industrial, commercial or institutional use in employment areas as designated by ROPA 38. This analysis considered intensification areas as identified in Local Municipal intensification studies, and made a best effort to meet Local Municipal growth visions. When the 2006 and 2031 population and employment numbers, as suggested in Table 1 of ROPA 38, were loaded into the model, adjustments were made based on calculations to meet the requirements and policy directions as explained in “*Notes on this Update*”.

Work on the Best Planning Estimates was able to commence after Regional Council endorsed the preferred growth option and ROPA 38 on December 16, 2009. Since ROPA 38 is still pending Provincial approval and may further be subject to an appeal to the Ontario Municipal Board, this version of the Best Planning Estimates assumes that ROPA 38, as adopted by Regional Council, will be approved by the Province and the Ontario Municipal Board.

Definitions

To ensure that the Best Planning Estimates are used and interpreted properly, the following definitions are adopted:

- Population data and forecasts are consistent with the official Census figures as reported by Statistics Canada – they are not adjusted for undercounting. It should be noted that the un-adjusted counts, sometimes referred to as “Census population”, are the official population counts and are never updated to include the under-count.
- The population, occupied dwelling units and employment estimates presented in this document represent the figure for May 1 of that year, which aligns with Census Day (roughly mid-year).
- Low density housing means single detached and semi-detached housing units.
- Medium density housing means townhouses and duplexes.
- High density housing means apartment units.
- Employment estimates are jobs located within Halton (not the employed labour force residing in Halton) and include jobs with no fixed locations such as construction sites and mobile servicing units.
- Built Boundary refers to the limits of the developed urban area as defined by the Minister of Public Infrastructure Renewal in accordance with Policy 2.2.3.5 in the *Growth Plan for the Greater Golden Horseshoe (2006)*.
- Density Targets refers to the density target for *Urban Growth Centres* as defined in Policies 2.2.4.5 and 2.2.4.6 of the *Growth Plan for the Greater Golden Horseshoe (2006)*, and the density target for Designated Greenfield Areas as defined in Policies 2.2.7.2, 2.2.7.3 and 2.2.7.5 of the *Growth Plan*

for the Greater Golden Horseshoe (2006).

- Designated Greenfield Areas refers to ROPA 38 Urban Areas outside the *Built Boundary*.
- Intensification Target refers to the intensification target as established in Policies 2.2.3.1, 2.2.3.2, 2.2.3.3, and 2.2.3.4 of the *Growth Plan for the Greater Golden Horseshoe (2006)*.
- *Urban Growth Centre* refers to either Downtown Burlington, Downtown Milton, or Midtown Oakville in Halton Region as set out in the Schedule 4 and pursuant to Policies 2.2.4.2 and 2.2.4.3 of the *Growth Plan for the Greater Golden Horseshoe (2006)*.

Future Updates

These Best Planning Estimates forecast population and employment growth to the year 2031 based on ROPA 38 as adopted by Regional Council on December 16, 2009. Since ROPA 38 is still pending Provincial approval and may still be subject to appeal, the Region's Planning Services Division may further update these Best Planning Estimates when final approval is received from the Province or the Ontario Municipal Board.

If any user of these Best Planning Estimates is aware of other sources of forecasts or relevant information, the Planning Policy Section would appreciate being apprised of these sources to assist in future reviews and updates of the Estimates.

Any update of the Best Planning Estimates will be published in a future Research Paper presented for endorsement by Regional Council. For enquiries on the estimates themselves and related matters, please contact:

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or visit the Region's website at: <http://www.halton.ca>

TABLE 1 POPULATION

<i>Year</i>	<i>Halton</i>	<i>Oakville</i>	<i>Burlington</i>	<i>Milton</i>	<i>Halton Hills</i>
2006	438,891	165,529	164,446	53,938	54,978
2011	493,045	174,780	173,761	88,438	56,066
2016	556,210	198,205	175,438	124,645	57,922
2021	624,094	221,826	178,847	161,750	61,672
2026	688,894	234,121	182,034	195,735	77,003
2031	752,537	246,400	186,169	228,084	91,885

TABLE 2 OCCUPIED DWELLING UNITS

<i>Year</i>	<i>Halton</i>	<i>Oakville</i>	<i>Burlington</i>	<i>Milton</i>	<i>Halton Hills</i>
2006	156,882	56,585	63,268	18,451	18,578
2011	178,232	60,970	68,574	29,355	19,332
2016	205,461	71,359	71,618	41,963	20,521
2021	234,454	81,580	74,880	55,711	22,284
2026	262,450	88,109	77,687	68,375	28,279
2031	288,556	93,549	80,572	80,293	34,141

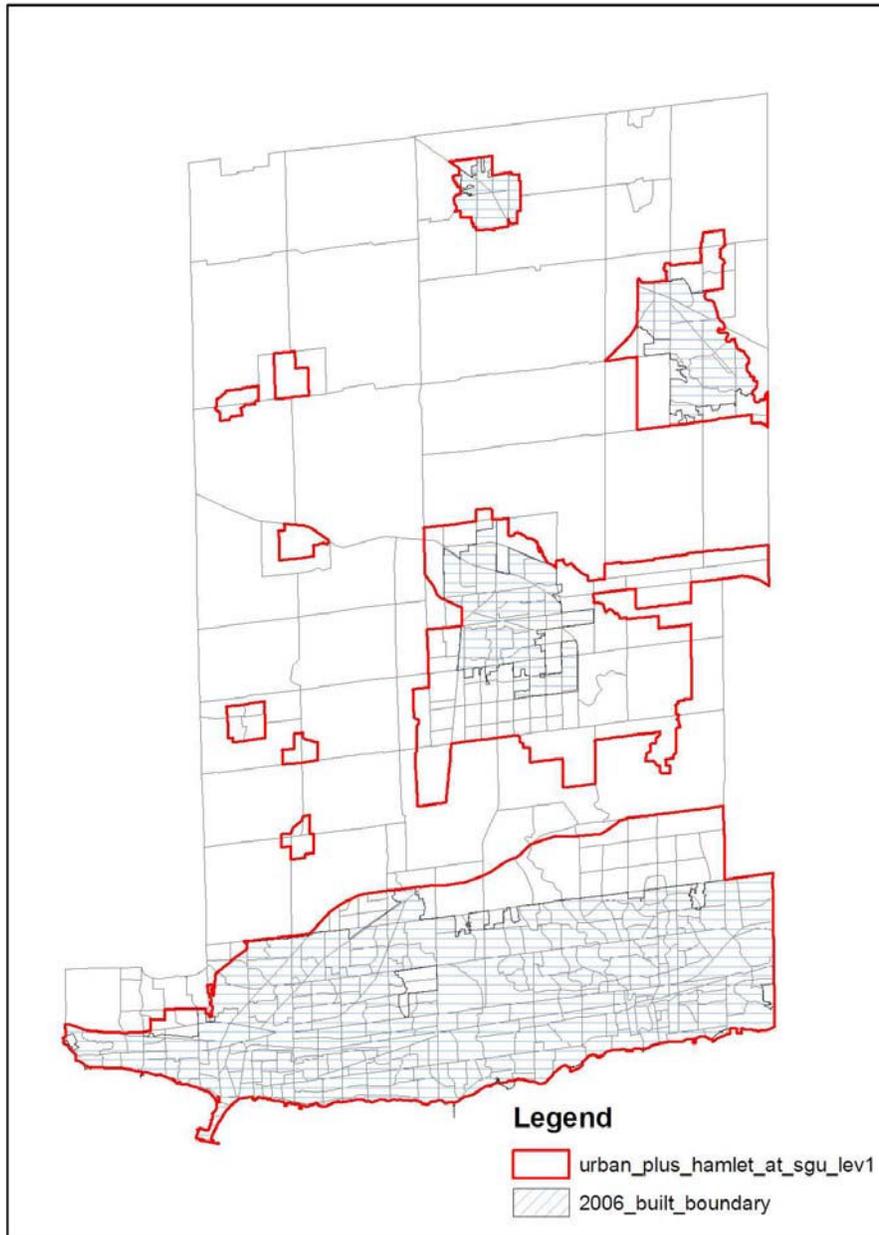
TABLE 3 EMPLOYMENT

<i>Year</i>	<i>Halton</i>	<i>Oakville</i>	<i>Burlington</i>	<i>Milton</i>	<i>Halton Hills</i>
2006	216,403	82,089	87,854	27,232	19,228
2011	250,932	90,969	95,656	44,452	19,856
2016	288,493	106,485	98,710	62,553	20,744
2021	327,683	120,795	102,846	81,106	22,936
2026	355,710	122,578	104,145	96,631	32,356
2031	390,000	128,359	105,349	114,330	41,962

TABLE 4 EMPLOYMENT TO POPULATION RATIOS

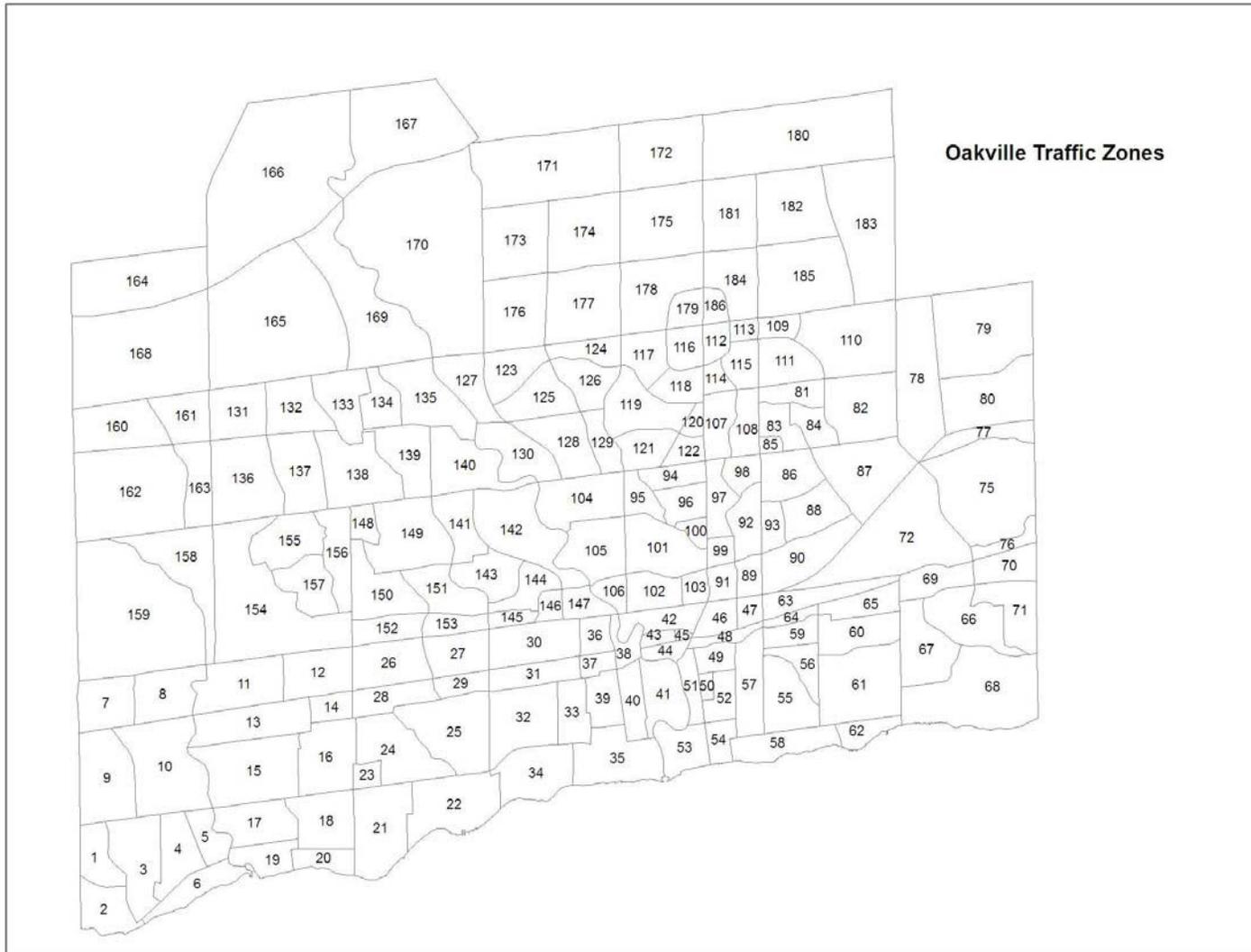
<i>Year</i>	<i>Halton</i>	<i>Oakville</i>	<i>Burlington</i>	<i>Milton</i>	<i>Halton Hills</i>
2006	49.31%	49.59%	53.42%	50.49%	34.97%
2011	50.89%	52.05%	55.05%	50.26%	35.42%
2016	51.87%	53.72%	56.27%	50.19%	35.81%
2021	52.51%	54.46%	57.51%	50.14%	37.19%
2026	51.63%	52.36%	57.21%	49.37%	42.02%
2031	51.82%	52.09%	56.59%	50.13%	45.67%

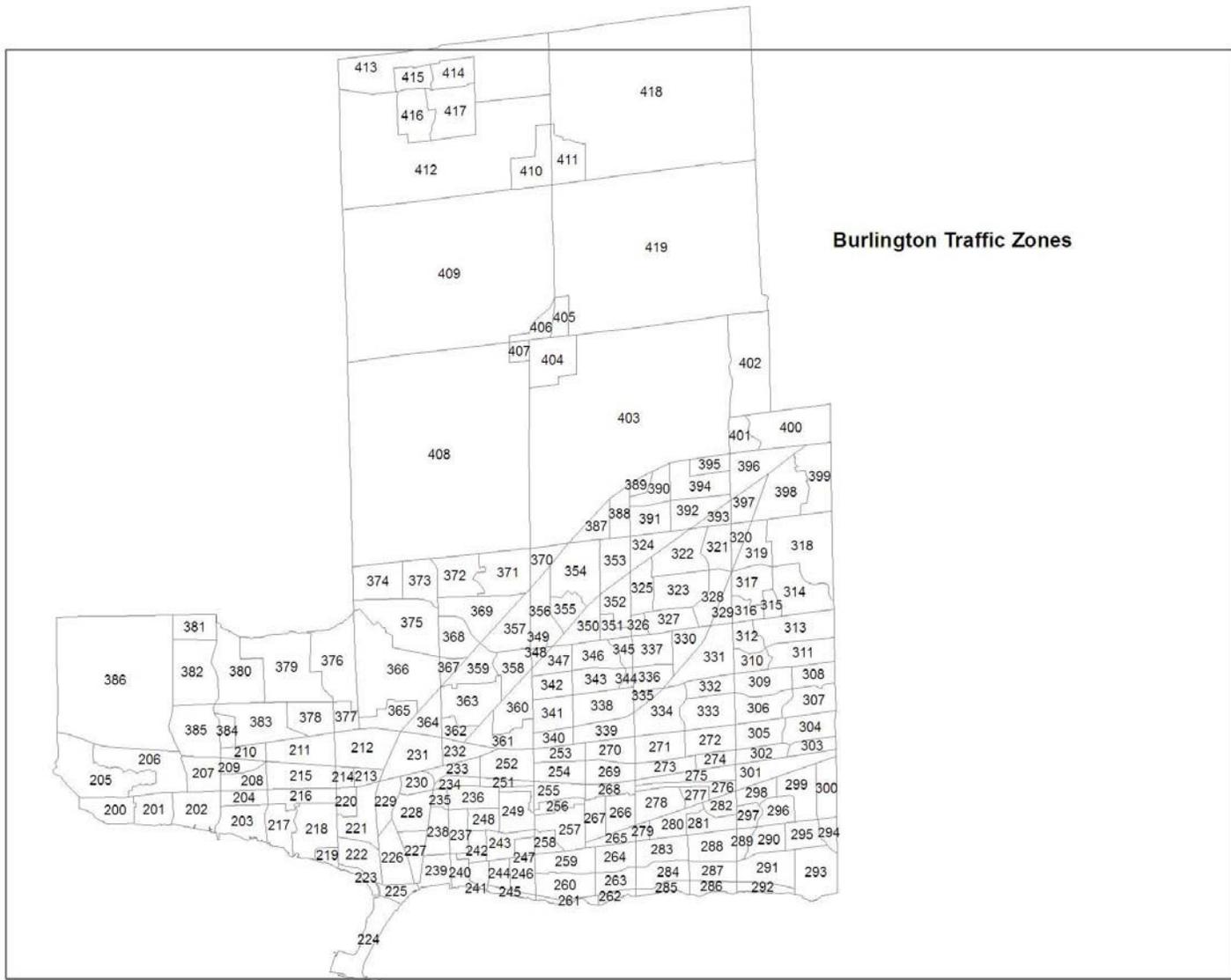
Appendix A 2006 Built Boundary and ROPA 38 Urban Areas and Hamlets



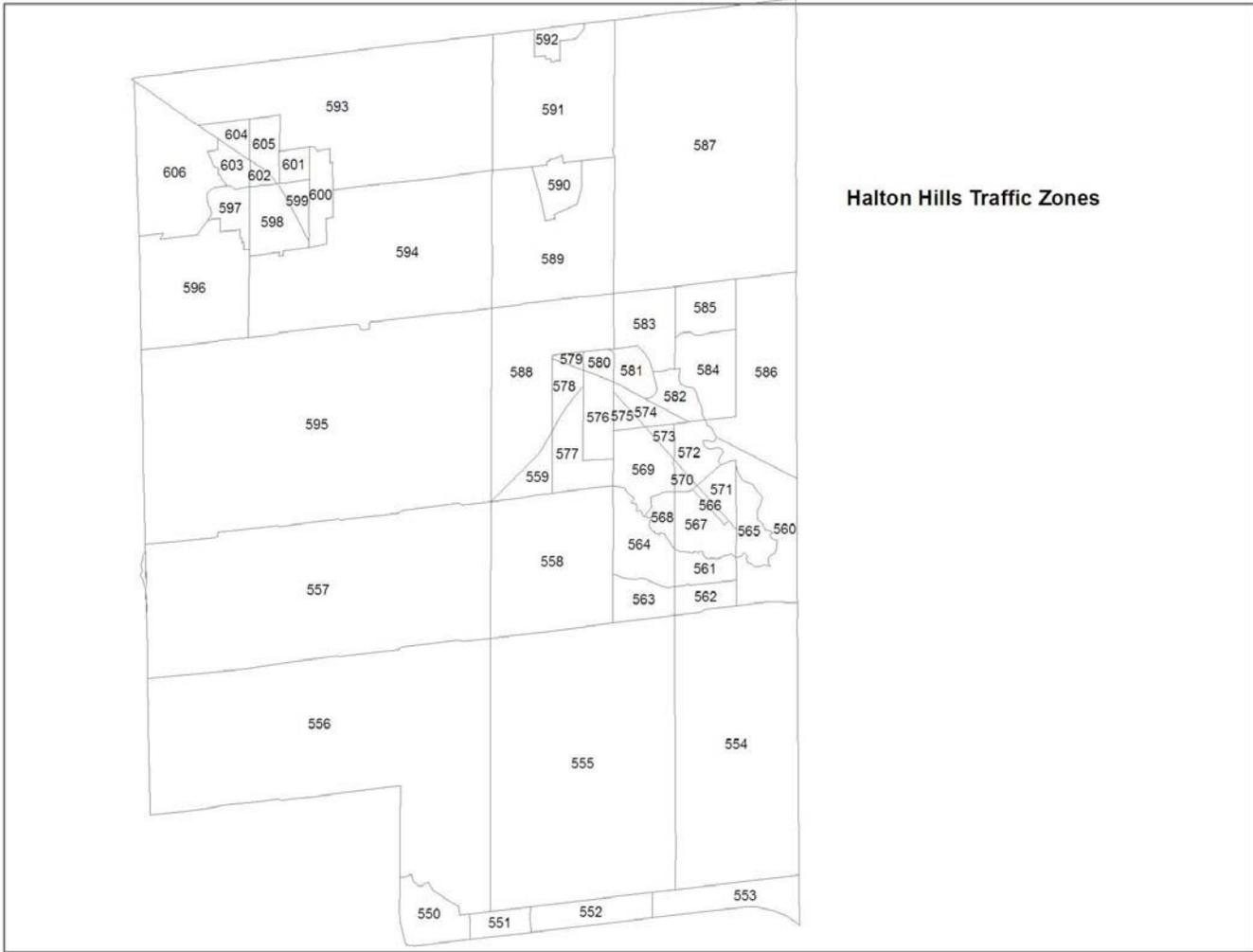
Appendix B

Traffic Zone Level Dwelling Units and Employment in 5-Year Increments by Local Municipality









Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	1	670	679	685	686	687	701	366	426	426	427	428	448
Oakville	2	256	269	278	279	280	301	155	191	190	190	191	200
Oakville	3	245	264	277	278	280	307	160	173	183	187	189	196
Oakville	4	570	585	594	596	597	618	254	254	253	254	255	266
Oakville	5	197	202	206	206	207	216	88	88	88	87	88	91
Oakville	6	315	435	516	647	759	774	138	138	138	138	139	145
Oakville	7	0	0	0	0	0	0	1,000	2,038	2,470	2,470	2,475	2,542
Oakville	8	0	0	0	0	0	0	0	0	958	958	958	958
Oakville	9	0	0	0	0	0	0	0	0	805	805	812	1,372
Oakville	10	0	0	0	0	0	0	0	677	761	1,493	1,540	1,619
Oakville	11	0	0	0	0	0	0	2,150	2,150	2,150	2,157	2,164	2,263
Oakville	12	0	0	0	0	0	0	1,852	1,852	1,852	1,852	1,857	1,933
Oakville	13	0	0	0	0	0	0	2,258	2,258	2,258	2,264	2,272	2,366
Oakville	14	0	0	0	0	0	0	936	936	936	936	936	958
Oakville	15	983	1,018	1,042	1,044	1,047	1,101	436	436	436	437	438	458
Oakville	16	687	712	729	733	735	773	310	310	310	310	311	312
Oakville	17	491	517	537	555	570	598	218	218	218	219	219	229
Oakville	18	639	660	676	676	678	712	282	282	282	283	284	297
Oakville	19	710	1,133	1,410	1,886	2,297	2,314	516	524	658	669	675	751
Oakville	20	1,151	1,164	1,174	1,182	1,188	1,200	388	389	389	392	394	411
Oakville	21	491	521	540	541	544	588	219	220	218	219	219	229
Oakville	22	344	371	392	393	395	440	154	154	153	153	154	154
Oakville	23	115	120	123	123	123	131	658	658	661	665	669	698
Oakville	24	746	771	790	793	795	834	331	331	331	331	333	334
Oakville	25	786	818	842	845	848	899	351	351	351	351	353	361
Oakville	26	0	0	0	0	0	0	1,762	1,762	1,762	1,764	1,765	1,800
Oakville	27	0	0	0	0	0	0	1,353	1,353	1,353	1,353	1,354	1,416
Oakville	28	0	0	0	0	0	0	1,095	1,095	1,095	1,098	1,102	1,152
Oakville	29	0	0	0	0	0	0	579	579	579	581	583	610
Oakville	30	0	0	0	0	0	0	2,531	2,531	2,629	2,662	2,670	2,745
Oakville	31	0	0	0	0	0	0	1,063	1,063	1,063	1,066	1,069	1,118

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	32	816	842	861	863	867	910	362	362	363	362	365	380
Oakville	33	413	425	434	435	436	456	160	159	159	159	160	167
Oakville	34	260	282	298	300	302	338	116	116	115	116	116	122
Oakville	35	882	902	1,055	1,296	1,503	1,553	296	299	307	310	313	341
Oakville	36	0	0	0	0	0	0	601	601	601	602	605	632
Oakville	37	0	0	40	108	168	173	236	236	236	236	236	236
Oakville	38	216	216	254	319	375	379	273	273	274	276	277	291
Oakville	39	646	652	704	782	849	870	277	277	299	326	329	361
Oakville	40	846	849	959	1,146	1,304	1,331	405	405	421	448	451	484
Oakville	41	902	916	926	927	929	951	272	273	272	273	274	287
Oakville	42	0	0	441	1,196	1,850	2,132	1,163	1,335	1,844	2,411	2,632	3,055
Oakville	43	8	48	182	411	610	806	823	823	1,022	1,179	1,248	1,369
Oakville	44	302	358	415	512	597	802	109	109	133	155	167	187
Oakville	45	0	0	47	129	199	470	593	593	684	711	730	769
Oakville	46	0	0	397	1,075	1,663	1,916	738	1,021	1,516	2,050	2,238	2,599
Oakville	47	0	0	0	0	0	0	391	396	401	404	404	407
Oakville	48	0	101	205	382	535	601	0	0	0	0	0	0
Oakville	49	305	310	315	316	316	328	114	114	113	113	114	118
Oakville	50	97	99	101	101	101	105	1,463	1,465	1,471	1,482	1,487	1,554
Oakville	51	110	115	119	120	120	129	50	50	50	50	50	50
Oakville	52	295	304	309	311	312	324	132	132	130	132	131	131
Oakville	53	693	732	774	834	888	924	1,299	1,328	1,444	1,498	1,503	1,572
Oakville	54	357	368	378	391	402	414	1,186	1,186	1,264	1,318	1,323	1,383
Oakville	55	319	339	352	355	356	387	142	142	142	142	142	142
Oakville	56	118	123	128	129	130	140	56	56	56	56	56	56
Oakville	57	615	631	644	645	647	674	206	206	205	206	207	206
Oakville	58	419	435	447	448	450	480	164	164	164	164	164	164
Oakville	59	158	162	167	168	170	179	63	63	63	63	63	63
Oakville	60	393	403	413	416	416	438	178	178	178	178	178	178
Oakville	61	778	800	824	827	830	874	356	356	356	356	360	374
Oakville	62	66	89	173	252	304	324	42	42	42	42	42	42

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	63	0	0	0	0	0	0	1,187	1,187	1,187	1,187	1,190	1,228
Oakville	64	0	0	0	0	0	0	295	295	295	296	297	311
Oakville	65	0	0	0	0	0	0	978	978	978	982	984	1,030
Oakville	66	649	649	649	649	649	650	267	267	292	296	300	312
Oakville	67	514	528	542	544	546	571	234	234	234	235	237	249
Oakville	68	715	745	775	781	785	843	328	328	328	328	328	328
Oakville	69	0	0	0	0	0	0	1,305	1,321	1,356	1,372	1,373	1,400
Oakville	70	0	0	0	0	0	0	1,011	1,011	1,011	1,013	1,016	1,062
Oakville	71	0	0	0	0	0	0	1,529	1,529	1,529	1,535	1,539	1,610
Oakville	72	0	0	0	0	0	0	4,616	4,674	4,674	4,674	4,674	4,743
Oakville	75	2,032	2,043	2,054	2,065	2,076	2,087	816	816	891	908	913	938
Oakville	76	0	0	0	0	0	0	500	502	502	502	504	526
Oakville	77	0	0	0	0	0	0	894	918	918	918	918	932
Oakville	78	0	0	0	0	0	0	0	0	1,636	1,645	1,650	1,726
Oakville	79	0	0	0	0	0	0	4,288	4,288	4,625	4,886	4,895	4,895
Oakville	80	0	0	0	0	0	0	3,505	3,605	4,170	4,726	4,735	4,883
Oakville	81	201	210	217	218	218	232	90	91	90	90	91	91
Oakville	82	412	425	434	435	436	457	179	179	179	179	179	179
Oakville	83	336	345	351	352	353	367	154	154	154	154	154	154
Oakville	84	430	439	445	446	447	461	182	182	182	182	182	182
Oakville	85	0	1	1	1	1	2	0	0	0	0	0	0
Oakville	86	454	470	481	482	483	509	182	182	182	182	182	182
Oakville	87	295	301	303	303	303	311	134	134	134	134	134	134
Oakville	88	573	587	597	599	600	623	254	254	254	254	254	254
Oakville	89	0	0	0	0	0	0	530	530	530	532	534	558
Oakville	90	0	0	0	0	0	0	1,937	1,937	1,937	1,943	1,949	2,039
Oakville	91	0	0	0	0	0	0	526	526	526	528	529	554
Oakville	92	257	267	274	276	277	294	114	114	114	114	114	114
Oakville	93	519	525	530	530	531	540	176	176	176	176	176	176

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	94	334	342	346	347	348	360	144	144	144	144	144	144
Oakville	95	98	104	108	108	109	118	76	76	76	76	76	76
Oakville	96	0	3	4	4	4	7	1,108	1,108	1,113	1,121	1,125	1,176
Oakville	97	790	798	805	806	807	821	213	213	213	213	213	213
Oakville	98	344	350	355	356	357	367	154	154	154	154	154	154
Oakville	99	265	268	271	271	271	277	1,287	1,287	1,288	1,297	1,302	1,360
Oakville	100	694	697	698	698	699	703	163	165	167	167	168	176
Oakville	101	1,200	1,225	1,241	1,244	1,246	1,283	1,473	1,473	1,473	1,481	1,483	1,525
Oakville	102	304	317	326	327	328	345	110	110	110	113	113	118
Oakville	103	0	0	0	0	0	0	440	440	440	442	443	463
Oakville	104	1,052	1,073	1,088	1,090	1,092	1,125	439	439	439	446	448	468
Oakville	105	719	736	748	750	752	779	298	298	298	298	299	305
Oakville	106	118	121	123	124	124	130	54	54	54	54	54	54
Oakville	107	435	446	454	454	455	472	190	191	190	190	189	198
Oakville	108	310	318	325	326	326	340	138	138	138	138	138	138
Oakville	109	215	220	225	225	225	235	138	138	138	138	138	138
Oakville	110	620	663	772	863	928	977	408	461	512	513	514	538
Oakville	111	323	348	406	454	488	517	255	289	290	291	292	305
Oakville	112	0	0	0	0	0	0	678	678	678	678	680	712
Oakville	113	432	437	439	440	440	446	156	156	156	156	156	156
Oakville	114	118	120	120	120	120	121	43	43	43	43	44	46
Oakville	115	329	337	344	345	345	359	164	184	184	184	185	194
Oakville	116	300	336	561	947	1,280	1,424	692	751	903	904	907	948
Oakville	117	554	672	856	1,443	2,057	2,311	496	495	610	756	757	773
Oakville	118	750	929	1,178	1,676	2,089	2,299	673	673	673	711	712	727
Oakville	119	646	665	680	681	683	714	241	241	241	241	242	251
Oakville	120	20	23	25	25	26	32	9	9	9	9	9	9
Oakville	121	462	473	481	482	483	501	196	196	196	196	197	196
Oakville	122	224	229	233	234	234	243	100	100	100	100	100	100
Oakville	123	621	633	644	646	646	668	268	268	269	270	270	283
Oakville	124	374	384	390	391	392	408	156	156	156	156	156	156

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	125	777	793	804	806	807	832	358	358	358	358	358	358
Oakville	126	393	407	417	418	420	442	172	172	172	172	172	172
Oakville	127	177	184	189	190	190	202	72	72	72	72	72	72
Oakville	128	687	704	717	718	720	747	322	322	322	322	322	322
Oakville	129	521	529	535	535	536	549	232	232	232	232	232	232
Oakville	130	193	198	201	201	202	210	78	78	78	78	78	78
Oakville	131	0	191	561	764	983	1,101	0	106	238	323	325	338
Oakville	132	415	485	758	884	948	988	326	394	395	395	397	414
Oakville	133	555	575	587	589	591	619	335	335	335	336	336	343
Oakville	134	350	362	369	371	372	390	154	154	154	154	154	154
Oakville	135	595	611	622	623	624	649	258	258	258	258	258	258
Oakville	136	1,072	1,103	1,124	1,126	1,129	1,176	501	501	539	554	557	582
Oakville	137	887	905	919	920	921	951	336	383	391	390	392	485
Oakville	138	1,011	1,037	1,056	1,058	1,059	1,100	507	507	545	560	563	588
Oakville	139	885	901	915	915	917	944	386	386	386	386	388	405
Oakville	140	686	704	716	718	718	746	340	340	340	340	340	340
Oakville	141	514	527	536	538	539	559	221	221	221	221	221	221
Oakville	142	532	554	572	574	576	613	208	207	223	229	229	239
Oakville	143	532	544	553	555	555	575	225	225	225	229	229	239
Oakville	144	773	783	790	791	792	809	220	220	238	245	246	253
Oakville	145	0	0	0	0	0	0	559	566	590	602	604	632
Oakville	146	0	5	8	8	9	17	548	548	550	554	556	582
Oakville	147	0	6	11	10	11	21	548	548	550	554	556	582
Oakville	148	0	6	10	10	11	20	298	298	299	301	302	316
Oakville	149	857	884	903	905	907	948	336	354	355	355	357	372
Oakville	150	963	979	992	993	996	1,022	358	358	358	367	368	378
Oakville	151	533	547	557	558	559	581	240	240	240	240	240	291
Oakville	152	0	0	0	0	0	0	221	969	969	969	969	1,010
Oakville	153	0	0	0	0	0	0	1,029	1,042	1,090	1,112	1,114	1,168
Oakville	154	0	0	0	0	0	0	146	667	994	1,086	1,119	1,463
Oakville	155	533	548	559	559	561	583	243	254	308	316	317	332

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Oakville	156	641	656	669	670	671	694	255	255	253	254	255	268
Oakville	157	533	544	553	554	555	573	243	258	267	268	268	279
Oakville	158	0	0	0	0	0	0	0	0	0	0	0	0
Oakville	159	0	0	0	0	0	0	0	0	0	0	0	0
Oakville	160	0	17	87	155	200	214	0	80	88	88	90	92
Oakville	161	340	493	786	954	1,100	1,163	149	168	229	479	482	546
Oakville	162	470	490	504	515	522	545	226	346	346	347	347	362
Oakville	163	473	488	493	494	495	513	304	314	314	314	314	422
Oakville	164	7	7	7	7	7	7	0	0	0	0	0	0
Oakville	165	29	31	31	31	31	31	0	0	3,976	4,827	4,831	4,831
Oakville	166	13	13	13	13	13	13	0	0	0	0	0	0
Oakville	167	14	14	14	14	14	14	0	0	0	0	0	0
Oakville	168	10	10	10	10	10	10	0	0	2,167	4,177	4,184	4,184
Oakville	169	0	0	313	800	800	800	0	0	0	816	816	892
Oakville	170	32	41	190	697	707	1,221	0	290	290	546	546	546
Oakville	171	15	15	14	15	15	15	0	0	0	964	1,464	1,669
Oakville	172	5	5	5	5	5	5	0	0	0	1,163	1,334	1,463
Oakville	173	5	167	167	656	656	656	0	0	0	78	156	197
Oakville	174	10	10	10	10	233	307	0	0	0	56	134	209
Oakville	175	10	10	10	10	227	315	0	0	0	426	426	426
Oakville	176	8	372	1,719	1,719	1,719	1,719	0	699	699	699	699	699
Oakville	177	24	178	1,756	1,777	1,777	1,777	0	798	798	798	798	798
Oakville	178	1	506	1,360	1,455	1,473	1,473	39	932	932	932	960	960
Oakville	179	5	219	263	341	417	417	56	1,137	1,138	1,139	1,139	1,139
Oakville	180	5	10	10	22	22	22	0	0	0	1,616	1,617	1,617
Oakville	181	5	5	5	5	457	494	0	0	0	839	839	839
Oakville	182	5	13	13	13	198	365	0	0	0	0	87	127
Oakville	183	1	3	2	271	437	539	0	0	0	600	600	700
Oakville	184	32	32	802	1,370	1,401	1,401	0	9	684	917	917	917
Oakville	185	4	8	500	2,174	2,176	2,208	0	442	639	855	855	863
Oakville	186	0	0	0	271	399	399	0	189	821	1,053	1,053	1,053

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	200	196	206	221	242	249	269	89	90	91	91	91	91
Burlington	201	299	306	318	334	340	356	19	20	20	20	21	21
Burlington	202	792	804	822	846	854	877	502	521	535	540	545	546
Burlington	203	220	228	243	264	271	292	83	104	107	120	122	123
Burlington	204	189	196	207	222	227	240	118	124	128	128	131	131
Burlington	205	97	99	104	107	107	107	393	601	637	731	751	752
Burlington	206	453	459	470	481	485	494	384	387	388	389	390	390
Burlington	207	16	17	20	23	24	27	1,171	1,176	1,180	1,180	1,183	1,183
Burlington	208	228	235	244	253	256	263	541	547	552	553	555	555
Burlington	209	0	0	0	0	0	0	0	4	7	8	9	10
Burlington	210	0	0	0	0	0	0	19	59	91	109	115	139
Burlington	211	0	0	0	0	0	0	116	212	285	329	343	400
Burlington	212	0	0	0	0	0	0	743	749	755	753	758	759
Burlington	213	0	0	0	0	0	0	1,018	1,024	1,029	1,030	1,032	1,032
Burlington	214	80	81	82	85	85	86	303	304	305	305	305	305
Burlington	215	444	452	460	469	474	482	783	789	794	796	797	797
Burlington	216	375	385	402	423	430	450	554	560	565	565	569	570
Burlington	217	313	321	337	358	365	385	42	57	67	70	76	77
Burlington	218	173	184	205	237	248	280	66	81	92	95	101	102
Burlington	219	52	54	59	65	67	73	8	11	13	14	15	15
Burlington	220	1,077	1,086	1,098	1,109	1,115	1,126	236	243	248	249	252	252
Burlington	221	403	429	461	495	509	542	149	172	188	193	201	203
Burlington	222	404	424	447	474	484	509	93	110	123	126	133	134
Burlington	223	74	75	80	86	89	93	40	42	44	45	46	46
Burlington	224	31	35	43	54	58	69	1,837	1,844	1,850	1,851	1,854	1,855
Burlington	225	0	0	0	0	0	0	393	625	649	836	841	843
Burlington	226	1,177	1,246	1,283	1,331	1,474	1,520	109	387	431	623	641	646
Burlington	227	1,887	1,988	2,028	2,063	2,275	2,311	203	660	693	1,043	1,070	1,079
Burlington	228	1,069	1,093	1,124	1,155	1,167	1,196	186	202	215	219	226	227
Burlington	229	0	0	0	0	0	0	2,298	2,307	2,314	2,317	2,319	2,320
Burlington	230	0	0	0	0	0	0	873	878	882	883	885	886

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	231	507	537	576	620	639	680	847	872	891	896	906	908
Burlington	232	79	80	82	83	84	85	817	822	826	827	830	830
Burlington	233	1	2	3	5	6	8	537	540	542	542	544	545
Burlington	234	0	3	8	16	19	27	438	445	450	451	453	454
Burlington	235	54	63	69	77	93	102	388	418	440	442	445	446
Burlington	236	881	906	933	959	986	1,011	228	261	287	288	294	295
Burlington	237	269	348	375	403	569	593	564	919	982	1,216	1,238	1,244
Burlington	238	881	996	1,042	1,092	1,332	1,381	525	1,033	1,187	1,459	1,491	1,501
Burlington	239	963	1,150	1,221	1,288	1,677	1,742	869	1,696	1,942	2,188	2,437	2,452
Burlington	240	594	765	825	883	1,250	1,309	1,293	2,071	2,242	2,723	2,768	2,781
Burlington	241	965	1,018	1,041	1,064	1,176	1,198	15	253	432	453	467	471
Burlington	242	354	368	378	392	416	430	49	89	119	122	125	125
Burlington	243	153	159	173	189	194	211	73	83	90	93	95	96
Burlington	244	228	233	240	252	256	267	47	56	63	64	68	68
Burlington	245	190	202	209	216	240	249	0	43	76	79	82	83
Burlington	246	989	1,005	1,027	1,046	1,055	1,074	111	119	125	128	130	130
Burlington	247	190	192	197	204	206	211	229	232	234	235	236	236
Burlington	248	353	366	382	398	404	420	0	0	0	0	0	0
Burlington	249	861	883	910	939	951	979	37	51	61	66	69	69
Burlington	250	0	3	5	6	7	8	636	640	643	643	645	645
Burlington	251	0	2	7	14	16	24	1,041	1,046	1,050	1,051	1,053	1,053
Burlington	252	409	418	429	440	444	455	697	704	710	711	714	714
Burlington	253	0	14	30	48	55	72	1,134	1,146	1,155	1,157	1,161	1,162
Burlington	254	0	18	41	64	74	97	689	704	716	719	725	726
Burlington	255	0	13	31	49	58	76	2,371	2,384	2,394	2,397	2,401	2,402
Burlington	256	912	920	929	939	944	953	74	81	86	87	89	90
Burlington	257	523	551	589	626	641	675	235	258	276	280	289	290
Burlington	258	1,019	1,029	1,040	1,052	1,056	1,068	221	228	233	234	237	237
Burlington	259	351	373	401	429	442	471	203	222	236	240	247	249
Burlington	260	361	372	392	419	428	455	171	193	209	213	221	222
Burlington	261	48	50	54	60	62	68	39	41	43	44	45	45

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	262	46	48	52	57	58	63	0	0	0	0	0	0
Burlington	263	280	286	297	313	318	333	37	38	40	40	40	40
Burlington	264	342	348	359	376	382	400	37	39	40	40	41	41
Burlington	265	334	344	356	368	374	384	149	157	162	164	167	167
Burlington	266	430	436	447	465	471	490	106	120	131	134	140	141
Burlington	267	462	477	497	517	525	543	38	48	57	59	63	64
Burlington	268	96	105	119	132	137	148	1,335	1,343	1,349	1,351	1,354	1,355
Burlington	269	0	0	0	0	0	0	1,531	1,545	1,555	1,558	1,563	1,564
Burlington	270	1	1	1	1	1	1	2,278	2,291	2,300	2,303	2,308	2,309
Burlington	271	0	0	0	0	0	0	1,860	1,876	1,888	1,892	1,898	1,900
Burlington	272	0	0	0	0	0	0	830	845	857	860	866	868
Burlington	273	0	0	0	0	0	0	453	464	472	474	479	479
Burlington	274	0	0	0	0	0	0	713	720	726	728	731	731
Burlington	275	0	0	0	0	0	0	1,215	1,228	1,238	1,240	1,246	1,247
Burlington	276	410	424	440	457	463	480	774	779	783	784	786	786
Burlington	277	237	241	247	255	258	266	0	0	0	0	0	0
Burlington	278	611	635	666	697	709	737	211	228	241	244	251	252
Burlington	279	255	259	264	270	272	278	354	358	360	361	362	363
Burlington	280	274	289	309	329	337	355	178	191	200	202	207	208
Burlington	281	361	377	397	418	427	445	123	130	135	135	139	139
Burlington	282	313	317	325	338	342	353	0	0	0	0	0	0
Burlington	283	367	374	387	408	415	437	110	123	132	136	139	140
Burlington	284	323	330	344	365	372	392	65	79	89	92	98	99
Burlington	285	47	49	55	64	66	74	35	39	41	42	43	44
Burlington	286	96	100	106	115	118	127	9	14	17	18	19	20
Burlington	287	283	289	302	318	324	340	0	0	0	0	0	0
Burlington	288	425	435	455	479	487	513	122	134	142	143	148	149
Burlington	289	149	155	163	172	175	183	120	124	126	127	128	128
Burlington	290	336	342	356	372	377	394	53	63	70	73	75	75
Burlington	291	707	726	754	789	800	834	185	209	228	232	241	243
Burlington	292	967	971	978	986	989	998	12	16	19	21	21	22

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	293	1,187	1,221	1,264	1,309	1,329	1,374	466	496	519	525	536	538
Burlington	294	296	305	315	325	330	340	7	11	14	15	16	16
Burlington	295	385	391	401	418	424	441	39	41	42	42	42	42
Burlington	296	490	506	527	547	556	575	117	127	133	137	139	139
Burlington	297	940	947	957	967	972	982	556	559	562	563	564	564
Burlington	298	337	342	352	364	368	381	44	50	55	57	58	59
Burlington	299	707	718	738	765	774	800	190	209	223	227	234	236
Burlington	300	782	802	826	852	863	888	45	56	63	67	69	70
Burlington	301	138	152	171	189	198	217	804	815	824	826	831	832
Burlington	302	0	0	0	0	0	0	636	639	641	640	643	643
Burlington	303	0	0	0	0	0	0	674	676	678	678	680	680
Burlington	304	1	1	1	1	1	1	1,508	1,524	1,536	1,539	1,545	1,546
Burlington	305	0	0	0	0	0	0	1,713	1,729	1,741	1,744	1,750	1,752
Burlington	306	0	0	0	0	0	0	1,354	1,399	1,433	1,450	1,460	1,481
Burlington	307	0	0	0	0	0	0	1,898	1,914	1,925	1,928	1,935	1,936
Burlington	308	0	0	0	0	0	0	732	743	752	754	759	760
Burlington	309	0	0	0	0	0	0	435	521	562	599	612	646
Burlington	310	526	538	553	568	574	588	43	50	55	57	59	59
Burlington	311	2	121	128	138	146	155	47	120	176	209	220	264
Burlington	312	665	678	694	710	716	732	15	25	33	35	39	40
Burlington	313	0	0	0	0	0	0	101	340	373	623	657	794
Burlington	314	1,072	1,092	1,110	1,118	1,124	1,130	0	17	28	34	38	39
Burlington	315	270	275	280	282	283	284	0	0	0	0	0	0
Burlington	316	408	415	425	434	437	445	0	4	7	9	9	10
Burlington	317	664	677	690	696	699	703	0	10	17	20	22	23
Burlington	318	517	527	537	541	544	546	37	45	50	53	55	55
Burlington	319	804	817	828	833	837	841	46	57	64	68	70	71
Burlington	320	0	0	0	0	0	0	113	118	122	123	126	126
Burlington	321	461	479	504	527	535	558	74	83	90	93	95	96
Burlington	322	588	617	653	691	707	744	81	103	120	124	133	135
Burlington	323	686	712	745	781	795	830	35	49	59	64	68	68

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	324	445	656	696	732	745	777	487	595	631	657	668	696
Burlington	325	467	483	505	525	534	553	184	189	194	193	196	197
Burlington	326	252	256	262	268	270	275	92	95	97	98	98	98
Burlington	327	456	472	492	514	523	544	99	108	114	117	119	119
Burlington	328	171	177	188	205	211	229	158	170	180	182	187	188
Burlington	329	0	3	9	19	23	33	1,565	1,570	1,573	1,575	1,576	1,576
Burlington	330	0	0	0	0	0	0	400	401	403	403	403	404
Burlington	331	0	7	21	43	51	74	2,178	2,207	2,228	2,234	2,245	2,247
Burlington	332	0	0	0	0	0	0	843	854	862	864	868	869
Burlington	333	0	0	0	0	0	0	1,812	1,831	1,845	1,849	1,856	1,858
Burlington	334	0	0	0	0	0	0	1,854	1,878	1,896	1,900	1,910	1,912
Burlington	335	0	0	0	0	0	0	490	494	497	498	499	500
Burlington	336	490	490	490	492	492	492	90	90	91	91	91	91
Burlington	337	823	839	859	881	890	910	123	137	148	150	156	157
Burlington	338	0	0	0	0	0	0	1,950	1,976	1,996	2,001	2,010	2,012
Burlington	339	0	0	0	0	0	0	1,095	1,109	1,120	1,123	1,129	1,130
Burlington	340	0	0	0	0	0	0	1,567	1,568	1,569	1,569	1,570	1,570
Burlington	341	0	0	0	0	0	0	2,030	2,045	2,056	2,059	2,064	2,066
Burlington	342	487	503	522	543	552	572	82	92	100	103	105	106
Burlington	343	599	608	624	644	651	672	119	136	148	151	157	159
Burlington	344	93	96	99	103	104	107	0	0	0	0	0	0
Burlington	345	490	497	507	516	519	527	131	137	141	142	144	145
Burlington	346	480	499	523	548	558	583	318	335	347	350	356	358
Burlington	347	437	442	452	467	473	489	70	83	92	95	99	100
Burlington	348	0	0	0	0	0	0	334	337	339	339	340	341
Burlington	349	0	0	0	0	0	0	555	557	558	559	559	559
Burlington	350	474	491	513	535	544	567	217	230	240	242	248	249
Burlington	351	376	383	393	402	405	413	306	310	313	315	316	316
Burlington	352	667	686	709	733	744	769	171	175	179	178	182	182
Burlington	353	757	777	803	830	842	869	391	405	414	418	421	422
Burlington	354	778	817	866	918	940	991	53	79	97	105	110	112

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	355	472	487	506	526	534	554	185	198	208	211	216	217
Burlington	356	630	654	684	716	730	761	216	234	248	252	259	261
Burlington	357	431	459	494	532	548	584	205	224	236	243	246	247
Burlington	358	373	380	393	414	422	443	210	227	240	244	250	251
Burlington	359	362	383	410	438	450	477	237	256	270	273	280	282
Burlington	360	758	784	816	850	865	899	442	465	482	486	495	496
Burlington	361	30	51	77	105	117	144	699	718	731	735	742	743
Burlington	362	11	11	12	12	12	12	959	961	962	962	963	963
Burlington	363	942	978	1,022	1,070	1,089	1,136	231	255	271	279	283	284
Burlington	364	0	0	0	0	0	0	2,475	2,484	2,491	2,494	2,496	2,496
Burlington	365	74	86	102	116	124	138	2,073	2,120	2,172	2,190	2,196	2,197
Burlington	366	1,428	1,487	1,565	1,651	1,685	1,769	277	320	344	360	378	383
Burlington	367	326	332	341	350	353	361	64	67	70	71	72	72
Burlington	368	604	626	654	684	696	724	395	415	429	433	439	441
Burlington	369	964	1,000	1,047	1,094	1,114	1,160	55	68	78	80	84	85
Burlington	370	315	327	343	361	368	385	177	184	189	191	193	193
Burlington	371	1,198	1,235	1,281	1,329	1,350	1,398	205	229	246	254	259	260
Burlington	372	700	729	765	804	821	858	118	144	158	168	175	179
Burlington	373	234	242	251	259	262	269	2	3	3	4	4	4
Burlington	374	0	0	0	0	0	0	3	5	7	7	7	8
Burlington	375	530	570	621	673	697	749	159	171	179	182	184	184
Burlington	376	6	7	8	8	9	9	1	2	2	3	3	3
Burlington	377	0	0	0	0	0	0	332	347	358	364	367	373
Burlington	378	0	0	0	0	0	0	499	686	726	896	925	1,032
Burlington	379	4	10	15	20	20	20	1	2	3	4	4	4
Burlington	380	48	50	52	54	54	54	0	0	0	0	0	0
Burlington	381	40	41	42	43	43	43	0	0	0	0	0	0
Burlington	382	18	178	312	435	442	450	0	0	0	0	0	0
Burlington	383	1	144	152	164	173	184	602	689	697	969	978	1,020
Burlington	384	1	1	2	2	2	2	0	0	0	0	0	0
Burlington	385	60	220	353	475	483	491	35	40	45	47	49	49

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	386	158	160	161	162	162	163	68	78	91	93	98	108
Burlington	387	0	0	0	0	0	0	528	613	639	704	715	760
Burlington	388	0	137	145	156	163	175	0	48	67	107	114	143
Burlington	389	0	0	0	0	0	0	0	39	61	77	82	103
Burlington	390	67	129	133	138	142	147	5	47	72	89	95	118
Burlington	391	251	677	704	737	762	798	185	335	378	520	543	633
Burlington	392	35	776	862	944	972	1,036	0	119	167	274	289	365
Burlington	393	0	1	2	2	1	0	755	760	763	764	766	767
Burlington	394	0	225	250	277	285	304	0	50	63	112	120	150
Burlington	395	0	184	207	230	236	251	3	59	102	128	136	169
Burlington	396	0	0	0	0	0	0	97	166	186	251	262	303
Burlington	397	0	0	0	0	0	0	610	617	622	623	626	626
Burlington	398	0	0	0	0	0	0	1,607	1,618	1,625	1,629	1,632	1,633
Burlington	399	2	292	309	333	352	374	286	462	492	681	707	814
Burlington	400	7	7	7	7	7	7	4	9	12	14	14	14
Burlington	401	0	0	0	0	0	0	1	2	3	3	3	3
Burlington	402	13	13	13	13	13	13	6	12	12	12	12	12
Burlington	403	71	71	71	71	71	71	27	64	66	68	70	72
Burlington	404	26	29	31	33	33	33	4	17	24	27	27	28
Burlington	405	8	9	10	11	12	12	0	0	0	0	0	0
Burlington	406	22	24	25	26	26	26	3	11	16	17	17	18
Burlington	407	9	10	10	11	11	11	15	19	22	22	23	23
Burlington	408	207	207	207	207	207	207	50	89	98	104	105	107
Burlington	409	167	167	167	167	167	167	175	224	229	243	251	254
Burlington	410	37	39	41	43	43	43	6	20	27	30	31	31
Burlington	411	24	26	28	29	30	30	0	0	0	0	0	0
Burlington	412	151	151	151	151	151	151	8	20	28	31	31	32
Burlington	413	36	36	36	36	36	36	7	18	25	28	29	29
Burlington	414	33	35	38	39	40	40	19	35	44	47	48	48
Burlington	415	38	39	40	41	41	41	0	0	0	0	0	0
Burlington	416	63	65	67	69	69	69	6	21	29	32	32	33

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Burlington	417	91	91	91	91	91	91	5	40	60	67	69	70
Burlington	418	72	72	72	72	72	72	45	45	45	45	45	45
Burlington	419	116	116	116	116	116	116	18	20	20	23	23	23
Milton	430	6	7	7	7	1,097	2,091	40	40	40	40	3,259	3,659
Milton	431	88	92	91	92	70	70	224	225	226	226	226	5,422
Milton	432	49	56	57	58	2,060	5,624	177	183	186	186	186	2,904
Milton	433	143	158	160	167	1,488	3,666	9	13	13	13	576	1,760
Milton	434	15	17	17	17	2,408	3,337	43	45	53	55	1,166	1,566
Milton	435	45	52	53	54	2,929	4,108	94	99	99	99	1,663	2,463
Milton	436	21	21	21	21	13	13	82	88	89	89	2,026	4,826
Milton	437	9	10	0	0	0	0	105	342	1,459	2,846	2,957	3,157
Milton	438	7	8	0	0	0	0	36	411	2,222	3,437	3,597	3,954
Milton	439	1	1	0	0	0	0	54	514	2,446	2,627	2,713	2,860
Milton	440	5	5	0	0	0	0	116	249	932	3,478	3,563	3,811
Milton	441	0	0	0	0	0	0	1,054	1,207	1,220	1,226	1,229	1,233
Milton	442	7	7	0	0	0	0	1,425	2,395	2,899	3,718	3,780	4,002
Milton	443	2	2	0	0	0	0	946	2,273	2,515	2,987	3,092	3,286
Milton	444	0	0	0	0	0	0	1,370	2,394	2,746	2,829	2,875	3,079
Milton	445	1	1	0	0	0	0	570	2,252	2,712	2,955	3,051	3,147
Milton	446	4	4	0	0	0	0	4	1,071	1,435	1,561	1,596	1,596
Milton	447	18	18	0	0	0	0	147	3,101	4,316	4,569	4,688	4,688
Milton	448	1	1	0	0	0	0	1,318	1,712	2,141	2,242	2,248	2,305
Milton	449	66	67	67	67	60	60	53	53	53	53	2,500	2,810
Milton	450	0	0	0	0	0	0	1,596	2,338	2,750	2,991	3,110	3,286
Milton	451	0	0	0	0	0	0	2,625	2,705	2,926	2,938	2,947	3,065
Milton	452	0	0	0	0	0	0	1,500	1,685	2,040	2,201	2,258	2,368
Milton	453	33	33	1	1	1	1	2,218	2,906	3,607	3,942	3,966	4,093
Milton	454	13	13	0	0	0	0	696	731	773	780	784	881
Milton	455	0	0	0	0	0	0	766	862	1,046	1,158	1,181	1,340
Milton	456	146	148	160	185	199	210	244	245	278	282	284	284
Milton	457	562	561	594	614	617	632	692	795	1,184	1,791	1,809	1,944

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Milton	458	1,149	1,148	1,222	1,265	1,270	1,303	79	118	169	243	251	259
Milton	459	711	711	765	813	823	852	188	212	282	342	379	381
Milton	460	7	7	14	433	1,016	1,083	504	599	960	1,481	1,660	1,827
Milton	461	693	693	696	704	831	944	456	573	786	1,141	1,249	1,305
Milton	462	291	291	368	404	440	454	396	475	642	859	1,020	1,069
Milton	463	1,186	1,203	1,253	1,335	1,338	1,382	695	753	942	1,125	1,237	1,251
Milton	464	342	342	342	352	352	352	338	641	755	939	1,008	1,042
Milton	465	420	426	470	522	522	522	134	136	153	156	156	156
Milton	466	182	182	188	188	188	188	64	67	78	84	84	84
Milton	467	198	204	281	373	382	408	438	439	490	508	509	511
Milton	468	0	0	0	0	0	0	186	205	270	284	284	284
Milton	469	496	506	535	569	574	608	30	33	43	51	51	51
Milton	470	773	773	798	845	854	899	184	214	274	341	379	380
Milton	471	307	306	327	449	533	584	1,070	1,219	1,611	2,183	3,161	3,217
Milton	472	0	12	91	612	968	1,295	870	1,110	1,547	2,442	2,615	2,808
Milton	473	0	45	91	700	1,523	2,933	167	294	488	935	954	981
Milton	474	383	388	448	462	487	498	370	645	824	1,130	1,131	1,131
Milton	475	399	400	438	451	476	486	0	39	84	153	153	153
Milton	476	454	456	503	541	570	584	0	267	651	1,255	1,304	1,304
Milton	477	91	298	558	879	998	1,150	415	626	1,081	1,876	1,888	1,891
Milton	478	528	528	534	626	691	709	0	40	97	172	192	192
Milton	479	603	626	691	724	738	748	75	111	150	224	224	224
Milton	480	0	324	364	393	393	393	0	38	68	106	115	115
Milton	481	629	630	697	762	820	831	32	72	119	195	199	199
Milton	482	1	352	456	483	488	493	2	39	69	120	130	129
Milton	483	779	894	1,026	1,181	1,193	1,216	2	47	86	152	161	161
Milton	484	1,037	1,159	1,359	1,568	1,613	1,726	56	84	126	201	209	209
Milton	485	50	414	477	493	498	502	4	41	72	119	129	128
Milton	486	822	825	866	894	919	935	1	43	98	180	184	184
Milton	487	749	751	787	830	853	891	36	79	137	242	243	243
Milton	488	942	942	1,008	1,079	1,104	1,113	0	40	83	152	155	155

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Milton	489	81	81	94	1,682	1,685	1,701	8	16	15	270	299	299
Milton	490	3	3	3	1,228	1,228	1,228	0	0	0	152	165	165
Milton	491	3	3	3	698	698	698	0	0	0	0	0	0
Milton	492	1	1	1	754	754	754	0	0	0	179	219	219
Milton	493	1	1	1	972	972	972	0	0	0	238	307	385
Milton	494	1	1	1	1,084	1,084	1,084	0	0	0	206	251	291
Milton	495	2	2	2	748	748	748	0	0	0	42	45	45
Milton	496	5	5	537	690	690	690	0	0	73	89	93	93
Milton	497	0	0	604	963	963	963	0	0	8	19	22	21
Milton	498	5	341	474	509	540	548	4	60	106	180	195	195
Milton	499	296	684	825	861	874	912	3	328	657	988	1,061	1,061
Milton	500	625	672	773	827	848	895	249	259	280	287	291	291
Milton	501	19	500	507	524	524	525	61	146	191	294	333	363
Milton	502	4	210	244	281	304	314	40	40	43	45	45	45
Milton	503	0	219	236	293	300	314	512	591	693	861	980	1,012
Milton	504	5	148	885	991	991	991	6	361	428	556	671	675
Milton	505	1	133	509	585	666	684	0	0	78	130	195	195
Milton	506	3	3	461	1,131	1,131	1,131	0	0	117	191	230	250
Milton	507	1	1	416	733	733	733	0	0	68	92	143	163
Milton	508	0	0	701	701	701	701	0	0	117	185	213	243
Milton	509	5	6	996	996	996	996	0	0	103	212	232	332
Milton	510	3	3	807	1,033	1,194	1,357	0	0	511	1,152	1,386	1,517
Milton	511	1	1	718	1,037	1,037	1,037	0	0	89	125	136	136
Milton	512	0	0	1,606	1,606	1,606	1,606	0	0	123	174	199	229
Milton	513	0	189	756	900	912	918	54	114	140	164	174	174
Milton	514	1	144	371	568	648	720	18	381	443	601	722	774
Milton	515	3	2,270	2,459	2,551	2,575	2,576	19	383	696	915	1,087	1,087
Milton	516	0	1,135	1,627	1,784	1,787	1,787	4	42	72	104	122	122
Milton	517	9	1,385	1,523	1,610	1,610	1,610	0	0	0	0	0	0
Milton	518	13	1,096	1,486	1,607	1,607	1,607	8	48	74	102	119	119
Milton	519	7	7	7	7	7	7	9	9	11	12	12	12

Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Milton	520	11	11	12	12	12	12	17	18	20	20	20	20
Milton	521	124	1,149	1,535	1,542	1,542	1,542	56	150	374	374	414	444
Milton	522	53	53	55	58	58	58	22	22	22	22	22	22
Milton	523	91	91	95	100	100	100	23	23	23	23	23	23
Milton	524	120	125	130	137	137	137	24	24	24	24	25	25
Milton	525	127	130	137	144	144	144	134	189	222	227	234	252
Milton	526	244	252	260	276	276	276	241	258	276	287	323	324
Milton	527	102	105	110	116	116	116	83	89	104	110	111	111
Milton	528	22	22	22	22	22	22	30	32	37	41	41	41
Milton	529	107	107	110	110	110	110	45	45	45	45	45	45
Milton	530	146	146	151	157	157	164	165	170	172	186	200	208
Milton	531	153	161	169	174	174	181	203	219	252	263	269	274
Milton	532	211	230	236	248	251	261	50	50	50	50	50	50
Milton	533	158	174	179	194	199	200	47	49	53	54	54	55
Milton	534	67	71	73	78	82	82	56	57	58	59	60	61
Milton	535	152	164	170	178	183	185	45	46	47	48	49	50
Halton Hills	550	10	10	10	10	0	0	809	887	949	1,615	2,262	3,527
Halton Hills	551	0	0	0	0	0	0	9	96	146	250	700	1,053
Halton Hills	552	12	11	11	11	0	0	257	285	559	925	2,038	3,216
Halton Hills	553	14	14	10	10	0	0	299	299	390	853	2,210	3,086
Halton Hills	554	148	148	155	159	159	159	107	111	111	111	1,799	4,007
Halton Hills	555	292	293	294	294	294	294	180	186	186	186	2,432	4,480
Halton Hills	556	200	200	200	200	200	200	187	195	196	196	198	204
Halton Hills	557	155	155	155	155	155	155	28	28	28	28	28	28
Halton Hills	558	64	64	64	64	3,872	6,651	94	96	96	96	1,237	1,768
Halton Hills	559	146	146	146	146	163	182	44	46	46	46	101	140
Halton Hills	560	114	116	123	127	135	1,041	97	98	98	98	134	244
Halton Hills	561	791	791	791	813	822	832	247	251	257	257	259	282
Halton Hills	562	86	170	555	1,041	1,041	1,041	164	166	166	166	170	181
Halton Hills	563	603	775	903	1,287	1,385	1,480	0	0	0	0	0	6
Halton Hills	564	1,590	1,595	1,735	1,739	1,780	1,805	147	153	153	153	158	189

Halton Hills	565	117	161	166	176	211	217	375	384	384	384	387	407
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Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Halton Hills	566	0	0	0	0	0	0	550	555	579	579	585	606
Halton Hills	567	1,374	1,416	1,594	1,598	1,652	1,668	163	168	168	168	170	175
Halton Hills	568	347	349	355	359	364	370	172	179	179	179	180	184
Halton Hills	569	1,326	1,329	1,346	1,351	1,364	1,372	692	715	726	726	731	754
Halton Hills	570	54	56	62	67	72	78	1,117	1,127	1,127	1,127	1,132	1,161
Halton Hills	571	177	177	177	178	178	178	1,702	1,725	1,735	1,745	1,805	1,903
Halton Hills	572	39	39	38	42	47	47	2,820	2,839	2,861	2,972	3,033	3,145
Halton Hills	573	244	282	284	300	306	703	508	581	611	811	916	1,046
Halton Hills	574	811	816	839	880	988	1,020	354	359	359	361	365	377
Halton Hills	575	593	593	593	669	869	1,021	521	533	533	533	533	569
Halton Hills	576	910	919	923	951	954	955	439	444	444	444	449	464
Halton Hills	577	585	647	727	827	971	1,073	1,215	1,220	1,220	1,220	1,231	1,261
Halton Hills	578	445	450	455	465	560	605	202	207	208	208	208	213
Halton Hills	579	107	111	115	126	134	138	180	183	183	183	186	196
Halton Hills	580	308	382	383	383	391	391	199	200	200	200	204	211
Halton Hills	581	539	539	539	540	545	550	175	180	180	181	183	191
Halton Hills	582	879	993	1,139	1,316	1,623	2,357	490	497	508	508	510	530
Halton Hills	583	235	258	265	299	316	319	11	11	11	11	11	13
Halton Hills	584	39	90	110	130	131	131	10	10	10	10	10	10
Halton Hills	585	144	144	144	147	149	159	34	34	34	34	36	36
Halton Hills	586	40	40	40	40	40	40	80	83	83	83	83	84
Halton Hills	587	256	262	265	265	265	265	41	42	42	42	42	45
Halton Hills	588	112	112	112	113	117	120	127	130	130	130	131	131
Halton Hills	589	94	94	94	94	94	94	136	143	143	143	143	143
Halton Hills	590	73	73	73	73	73	73	2	2	2	2	2	3
Halton Hills	591	65	65	65	65	65	65	23	24	24	24	25	25
Halton Hills	592	64	64	64	64	64	64	12	13	13	13	13	15
Halton Hills	593	271	271	271	271	271	271	129	135	135	135	135	135
Halton Hills	594	149	149	149	149	149	149	218	222	222	222	222	222
Halton Hills	595	291	291	291	291	291	291	132	133	133	133	133	133

Halton Hills	596	67	67	67	67	67	67	76	78	78	78	79	79
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Municipality	TZ	06 UNITS	11 UNITS	16 UNITS	21 UNITS	26 UNITS	31 UNITS	06 JOBS	11 JOBS	16 JOBS	21 JOBS	26 JOBS	31 JOBS
Halton Hills	597	775	776	788	851	899	911	287	302	302	301	302	314
Halton Hills	598	414	414	414	477	1,132	1,459	404	410	502	547	628	702
Halton Hills	599	482	482	482	521	541	555	467	483	491	491	494	510
Halton Hills	600	719	719	719	731	874	948	614	647	647	647	652	697
Halton Hills	601	412	412	412	421	437	440	189	199	199	199	200	213
Halton Hills	602	143	144	148	169	174	177	399	419	419	419	420	436
Halton Hills	603	315	315	315	347	375	395	158	161	165	165	165	171
Halton Hills	604	21	22	22	24	24	24	286	286	373	506	707	767
Halton Hills	605	245	249	251	318	420	467	838	884	987	1,079	1,176	1,261
Halton Hills	606	72	72	72	73	73	73	12	12	13	13	13	13

