



STAFF REPORT ACTION REQUIRED

30 km/h Speed Limit on Local Roads in the Toronto and East York Community Council Area

Date:	June 3, 2015
To:	Toronto and East York Community Council
From:	General Manager, Transportation Services
Wards:	Ward 14 (Parkdale-High Park) Ward 18 (Davenport) Ward 19 (Trinity-Spadina) Ward 20 (Trinity-Spadina) Ward 21 (St. Paul's) Ward 22 (St. Paul's) Ward 27 (Toronto Centre-Rosedale) Ward 28 (Toronto Centre-Rosedale) Ward 29 (Toronto-Danforth) Ward 30 (Toronto-Danforth) Ward 31 (Beaches-East York) Ward 32(Beaches-East York)
Reference Number:	P:\2015\Cluster B\TRA\TIM\te15001tim.docx

SUMMARY

The purpose of this report is to respond to a request from the Toronto and East York Community Council on the feasibility of reducing the posted speed limits on all local roads from 40 km/h to 30 km/h in the Toronto and East York District.

This report provides data, information and statistics related to collision frequency, collision outcomes and their locations involving pedestrians and cyclist during the period of 2009 to 2013 in the Toronto and East York Community Council (TEYCC) district. The information presented allows for some high level conclusions to be drawn, specifically that, most severe outcomes (fatalities) involving pedestrians and cyclists in the TEYCC district occur on higher speed Major and Minor Arterial roads.

In addition, information related to the relative merits of reducing speed limits on a broader scale are considered and the associated costs and resource implications, along with the timeframe for the rollout of 30 km/h speeds on the locals roads is discussed in greater depth below.

RECOMMENDATION

The General Manager, Transportation Services recommends that Toronto and East York Community Council:

1. Use the City Council approved 30 km/h Speed Limit Policy as the means by which to consider reducing the speed limit from 40 km/h to 30 km/h on local roads in the Toronto and East York District.

Financial Impact

Should Toronto and East York Community Council request that Transportation Services reduce the speed limit on all local roads from 40 km/h to 30 km/h in the Toronto and East York District, then it is anticipated that additional funding for implementation would be required to cover the cost of signage installation and signal timing adjustments.

Based on 387.1 kilometres of local roads that would have to be signed as 30 km/h, approximately 4,450 signs would have to be installed and each sign installation would cost \$225 for a total cost of \$1,001,250.00, using city forces. In addition, given the wide-spread change in the posted speed limit of all local roads, this would necessitate the re-timing of approximately 310 traffic signals to ensure proper signal clearance times through the signalized intersections. Each signal adjusted would cost \$200 for a total cost of \$62,000.00. The total cost of all works would be approximately \$1.100 million, and given the Division's current operating budget pressures, this additional funding would have to be secured during the 2016 Annual Budget process.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

Toronto and East York Community Council, at its meeting on April 14, 2015, considered a letter (TE55.8) entitled, "30 km/h Speed Limit on Residential Streets in Toronto and East York Community Council Area" from the Chair of the Toronto and East York Community Council, and in so doing,

"The Toronto and East York Community Council requested the Director, Transportation Services, Toronto and East York District to report to the Toronto and East York Community Council, for consideration at a special evening meeting in June 2015, on reducing the speed limits on all local roads from 40 km/h to 30 km/h in the Toronto and East York District."

ISSUE BACKGROUND

Most recently, City Council at its meeting of May 5, 2015, after considering a report from the General Manager, Transportation Services on a Proposed 30 km/h Speed Limit Policy,

approved the new policy for use by City staff, <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PW3.3> . The criteria developed for this policy is meant to ensure that a speed limit reduction to 30 km/h, on a local or collector road, is appropriate and supported by the community.

However, despite the new approved Council policy, the Toronto and East York Community Council, at its meeting on April 14, 2015, directed staff to report back on reducing the speed limits on all local roads from 40 km/h to 30 km/h in the Toronto and East York District. The merit of such a change is discussed further below.

COMMENTS

Motor vehicle speed is a contributing factor in the number of crashes, number of fatalities and severity of injuries that result from road collisions. Research has indicated that reduced speeds not only reduce the likelihood of a collision but also reduce the severity of injuries when collisions occur.

Pedestrian and Cyclist Collision Data Analysis in the Toronto and East York Community Council District

Prior to discussing the merits of reducing the posted speed limit on all local roads from 40km/h to 30km/h in the Toronto and East York Community Council district it would be worthwhile to understand what the pedestrian and cyclist collision trends have been in the Community Council area over the past number of years.

The collision and fatality data, which is examined in greater detail below, is sourced from the Toronto Police Services' accident reports for the period 2009 to 2013. The data presented does not include data related to collisions that have occurred on private property or where the collisions were identified as 'unknown' in the accident reports.

From 2009-2013, the combined frequency of pedestrian and cyclist collisions in the Toronto and East York area has generally fluctuated between 1,200-1,600 events annually. The exception being in 2013 where there was a modest decline in numbers for both pedestrian and cyclists, as shown in Table 1 below.

Table 1: Pedestrian and Cyclist Collisions - Totals 2009 to 2013 *

Type	2009	2010	2011	2012	2013	Total
Pedestrian	685	629	700	679	516	3,209
Cyclists	664	772	821	953	704	3,914
Totals	1,349	1,401	1,521	1,632	1,220	7,123

* - Toronto and East York District

A further examination of the above collision numbers for this period by Road Classification, in Tables 2 and 3 below, show that the majority of collisions involving pedestrians and cyclist, 86.1% and 90.6% respectively (*refer to boxed items in the tables*), occur on Major and Minor Arterial roads. In comparison to Collector and Local roads, the amount of collisions involving pedestrians and cyclists are significantly lower, 13.5% and 9.3% respectively.

Table 2: Pedestrian Collisions by Road Classifications - 2009 to 2013 *

Road Class	2009	2010	2011	2012	2013	Total	% of Grand Total
Major Arterials	446	396	441	409	311	2,003	62.4%
Minor Arterials	161	142	165	160	133	761	23.7%
Collector	33	42	37	49	24	185	5.8%
Local	44	46	52	58	47	247	7.7%
Expressways	1	3	5	3	1	13	0.4%
Laneway	0	0	0	0	0	0	0.0%
Totals	685	629	700	679	516	3,209 **	
% of Grand Total	21.3%	19.6%	21.8%	21.2%	16.1%	100.0%	100.0%

* - TEYCC District; ** - Grand Total

Table 3: Cyclist Collisions by Road Classifications - 2009 to 2013 *

Road Class	2009	2010	2011	2012	2013	Total	% of Grand Total
Major Arterials	432	542	568	622	459	2,623	67.0%
Minor Arterials	158	172	183	231	180	924	23.6%
Collector	37	25	32	48	37	179	4.6%
Local	37	32	38	50	26	183	4.7%
Expressways	0	1	0	2	2	5	0.1%
Laneway	0	0	0	0	0	0	0.0%
Totals	664	772	821	953	704	3,914 **	
% of Grand Total	17.0%	19.7%	21.0%	24.3%	18.0%	100.0%	100.0%

* - TEYCC District; ** - Grand Total

In Tables 4 and 5 below, pedestrian and cyclist collisions by Road Classification, for the 5 year period, point to the fact that a disproportionate number of pedestrian and cyclist fatalities have occurred on Major and Minor Arterial roads. Of the total pedestrian fatalities (44), 88.6% have occurred on the Major and Minor Arterials roads, while 9.1% have occurred on Collector and Local roads. Of the total cyclist fatalities (6), all (100%) have occurred on Major and Minor Arterials roads (*refer to boxed items in the tables*).

Table 4: Pedestrian Collisions by Road Classifications - 2009 to 2013 *

Road Class	Outcome of Collision			Total	% of Grand Total
	Fatal	Personal Injury	Property Damage		
Major Arterials	28 (63.6%)	1,907	68	2,003	62.4%
Minor Arterials	11 (25.0%)	720	30	761	23.7%
Collector	1 (2.3%)	175	9	185	5.8%
Local	3 (6.8%)	234	10	247	7.7%
Expressways	1 (2.3%)	11	1	13	0.4%
Laneway	0 (0%)	0	0	0	0.0%
Totals	44 (100%)	3,047	118	3,209 **	
% of Grand Total	1.4%	95.0%	3.7%	100.0%	100%

* - TEYCC District; ** - Grand Total

Table 5: Cyclist Collisions by Road Classifications - 2009 to 2013 *

Road Class	Outcome of Collision			Total	% of Grand Total
	Fatal	Personal Injury	Property Damage		
Major Arterials	4 (66.7%)	2,237	382	2,623	67.0%
Minor Arterials	2 (33.3%)	795	127	924	23.6%
Collector	0 (0%)	148	31	179	4.6%
Local	0 (0%)	158	25	183	4.7%
Expressways	0 (0%)	5	0	5	0.1%
Laneway	0 (0%)	0	0	0	0.0%
Totals	6 (100%)	3,343	565	3,914 **	
% of Grand Total	0.2%	85.4%	14.4%	100.0%	100%

* - TEYCC District; ** - Grand Total

In Tables 6 and 7 below, a breakdown of pedestrian and cyclist collisions based on posted speed limit over a 5 year period is provided. The number of pedestrian and cyclist collisions, 0.9% and 1.2% respectively (*refer to boxed items in the tables*), are the lowest on those roads with a posted speed limit of 30 km/h, which also have some form of traffic calming measure (typically speed humps). The rate of collisions is also more pronounced on those roads with higher posted speeds (50 and 60 km/h), which are generally the City's Major and Minor Arterial roads.

Table 6: Pedestrian Collisions by Posted Speed Limit - 2009 to 2013 *

Posted Speed Limit	2009	2010	2011	2012	2013	Total	% of Grand Total
30 km/hr	7	6	8	6	2	29	0.9%
40 km/hr	88	106	98	118	94	504	15.7%
50 km/hr	353	289	349	314	250	1,555	48.5%
60 km/hr	231	216	239	232	168	1,086	33.8%
70 km/hr	0	0	0	0	0	0	0.0%
80 km/hr	0	3	1	1	0	5	0.2%
90 km/hr	6	9	5	8	2	30	0.9%
Totals	685	629	700	679	516	3,209 **	
% of Grand Total	21.3%	19.6%	21.8%	21.2%	16.1%	100.0%	100.0%

* - TEYCC District; ** - Grand Total

Table 7: Cyclist Collisions by Posted Speed Limit - 2009 to 2013 *

Posted Speed Limit	2009	2010	2011	2012	2013	Total	% of Grand Total
30 km/hr	6	9	14	9	10	48	1.2%
40 km/hr	112	123	110	147	118	610	15.6%
50 km/hr	328	406	421	477	360	1,992	50.9%
60 km/hr	216	234	271	310	214	1,245	31.8%
70 km/hr	0	0	0	0	0	0	0.0%
80 km/hr	0	0	0	1	0	1	0.0%
90 km/hr	2	0	5	9	2	18	0.5%
Totals	664	772	821	953	704	3,914 **	
% of Grand Total	17.0%	19.7%	21.0%	24.3%	18.0%	100.0%	100.0%

* - TEYCC District; ** - Grand Total

Tables 8 and 9 below, provide a summary breakdown of pedestrian and cyclist collision outcomes based on posted speed limit over a 5 year period. Of the total pedestrian fatalities (44), 91.0% have occurred on roads with posted speed limits of 50 and 60km/h (combined), with zero fatalities having occurred on roads with a posted speed limit of 30km/h. Similarly for cyclist, of the total fatalities (6), 100% have occurred on roads with posted speed limits of 50 and 60km/h, with zero fatalities having occurred on roads with a posted speed limit of 30km/h.

Table 8: Pedestrian Collisions by Posted Speed Limit - 2009 to 2013 *

Posted Speed Limit	Outcome of Collision			Total	% of Grand Total
	Fatal	Personal Injury	Property Damage		
30 km/hr	0 (0%)	28	1	29	0.9%
40 km/hr	2 (4.5%)	475	27	504	15.7%
50 km/hr	20 (45.5%)	1,486	49	1,555	48.5%
60 km/hr	20 (45.5%)	1,025	41	1,086	33.8%
70 km/hr	0 (0%)	0	0	0	0.0%
80 km/hr	0 (0%)	5	0	5	0.2%
90 km/hr	2 (4.5%)	28	0	30	0.9%
Totals	44 (100%)	3,047	118	3,209 **	
% of Grand Total	1.4%	95.0%	3.7%	100.0%	100%

* - TEYCC District; ** - Grand Total

Table 9: Cyclist Collisions by Posted Speed Limit - 2009 to 2013 *

Posted Speed Limit	Outcome of Collision			Total	% of Grand Total
	Fatal	Personal Injury	Property Damage		
30 km/hr	0 (0%)	41	7	48	1.2%
40 km/hr	0 (0%)	526	84	610	15.6%
50 km/hr	4 (66.7%)	1,678	310	1,992	50.9%
60 km/hr	2 (33.3%)	1,081	162	1,245	31.8%
70 km/hr	0 (0%)	0	0	0	0.0%
80 km/hr	0 (0%)	1	0	1	0.0%
90 km/hr	0 (0%)	16	2	18	0.5%
Totals	6 (100%)	3,343	565	3,914 **	
% of Grand Total	0.2%	85.4%	14.4%	100.0%	100%

* - TEYCC District; ** - Grand Total

Merits of Reducing the Speed Limit to 30 km/h on a Local Area Basis

Benefits

- Improved safety for pedestrian and cyclists – severity of injuries and fatalities may be reduced further.
- Improved visibility for motorists - slower speeds also mean that motorists will have better visibility of the road and therefore a greater opportunity to react to unexpected events; allows time to brake and stop in shorter distances.
- Ensures a consistent posted speed limit on local roads, thereby reducing driver confusion.
- A lower speed limit typically makes traffic flow more uniformly by bringing slower drivers closer to the average speed of traffic, resulting in safer conditions.
- May encourage more active transportation thereby resulting in an increase in physical activity (i.e., walking and cycling) and community interaction.

- With the introduction of a lower speed limit on local roads, it could result in a reduction in both fuel consumption and pollutant emissions (i.e., CO₂) by motor vehicles; leading to improved air quality in the community. However, this would be on the assumption that motorists comply with the posted speed limit.
- Noise reduction has usually been associated with lower speeds.

Limitations

- Significant costs to implement speed limit reduction (i.e., signage and resources required).
- Lowering speed limits artificially or arbitrarily low to 30km/h may not be suitable for many local roads. This could lead to motorist frustration, non-compliance and a disregard for the posted speed limit.
- Without due consideration to the physical configuration of the road (e.g., width of pavement) and how the road is being used, this may not result in the desired change in driver behaviour.
- Unsuitable posted speed limits may result in speed differentials between vehicles continuing along the same road, which studies have shown to lead to rear-end collisions.
- Residents may not be supportive of wide-spread reduction in speed limit to 30km/h. The City's new 30km/h Speed Limit Policy would help ensure communities are accepting of such a change.
- Travel times will increase for motorist and transit travelling on local routes.
- Signal timing will need to be adjusted where 30km/h roads intersect with signalized intersections to ensure proper signal clearance times.
- Residents may not see the speed reductions expected and therefore streets may require sustained, visible enforcement to ensure compliance. Increased enforcement may be required to ensure motorist compliance. As Toronto Police resources are limited, they may not be able to manage this increased demand.
- Such a program may require a significant public awareness/education campaign to ensure motorists understand that an area-wide speed reduction is in place.

Implementation of 30km/h on Local Roads in the TEYCC District

In the Toronto and East York Community Council (TEYCC) area, there are 152.1 kilometres of road (i.e., local, collector and minor arterial) which are currently posted with a speed limit of 30km/h. The majority of these roads (145.5 km) have some form of physical traffic calming measure, while the remaining 6.6 kilometres have had the posted speed limit lowered to 30 km/h in the absence of traffic calming. In addition, there are 113.2 kilometres of local roads which are either default or signed as 50 km/h. Should Toronto and East York Community Council wish to have all local roads reduced from 40 km/h to 30 km/h, as has been contemplated, then 387.1 kilometres of road would have to be signed. A summary of the aforementioned totals are included in Tables 10 and 11, below.

Table 10: Road Classification Kilometrage Breakdown by Speed Limit in TEYCC District

Road Class	Speed Limit							Grand Total (km)
	30 km/hr	40 km/hr	50 km/hr	60 km/hr	70 km/hr	80 km/hr	90 km/hr	
Expressway	-	2.9	8.7	1.5	1.1	1.6	38.8	54.6
Major Arterial	-	1.8	87.1	76.0	-	-	-	164.9
Minor Arterial	1.0	66.5	50.3	7.4	-	-	-	125.2
Collector	29.3	66.1	20.4	-	-	-	-	-
Local Roads	121.8	387.1	113.2	-	-	-	-	622.1
Grand Total (km)	152.1	524.3	279.7	84.9	1.1	1.6	38.8	1,082.5

Table 11: Proposed and Existing 30 km/h Roads in the TEYCC District

Speed Limit	Road Class	Total Length (km)
Existing 30 km/h	Local	116.2*
	Collector	29.3 *
	Local	6.6
Proposed 40 to 30 km/h	Local	387.1
Existing 50 km/h	Local	113.2

* - Roads that have traffic calming measures

For greater clarity, maps for each of the Toronto and East York Community Council wards have been appended to this report, as Appendix 1, illustrating where the Proposed and Existing 30 km/h Speed Limit Roads are located.

Budget Requirements

Should Toronto and East York Community Council request that Transportation Services reduce the speed limit on all local roads from 40 km/h to 30 km/h in the Toronto and East York District, then it is anticipated that additional funding for implementation would be required to cover the cost of signage installation and signal timing adjustments.

Based on 387.1 kilometres of local roads that would have to be signed as 30 km/h, approximately 4,450 signs would have to be installed and each sign installation would cost \$225 for a total cost of \$1,001,250.00, using city forces. In addition, given the wide-spread change in the posted speed limit of all local roads, this would necessitate the re-timing of approximately 310 traffic signals to ensure proper signal clearance times through the signalized intersections. Each signal adjusted would cost \$200 for a total cost of \$62,000.00. The total cost of all works would be approximately \$1.100 million, and given the Division's current operating budget pressures, this additional funding would have to be secured during the 2016 Annual Budget process.

Timeframe to Complete Rollout

Given the number of speed limit signs that will have to be installed (4,450), it would take a City crew (2 staff) approximately 515 days to complete all the sign installations. During that period, signal timing adjustments can be completed in parallel. The delivery of all work would, if continued in a sustained manner, would take over two (2) years to complete but more realistically three (3) years; recognizing resource availability and other

operational priorities. Should the request be made to expedite the work, additional temporary staff would have to be hired (2 staff) at an additional \$165,000.00 (cost also includes expenses for safety equipment and vehicle rental).

CONCLUSION

The most elementary method of managing speed is to impose speed limits with the primary purpose to enhance safety by reducing the risks imposed by drivers on pedestrians, cyclist and other motorists. However, for speed limits to be effective, they should be compatible with the design of the road along with due consideration to other road environment factors.

Research has shown that setting speeds arbitrarily low may not achieve the desired results expected by a community. However, the implementation of 30 km/h using the City's approved 30 km/h Speed Limit Policy would help confirm that all relevant factors were considered and clearly justifies a speed limit reduction to 30 km/h. In doing so, there is a greater certainty that the desired outcome, 'lower motorist speeds', is achievable. Therefore, it is recommended that Toronto and East York Community Council use the City Council approved 30 km/h Speed Limit Policy as the means by which to consider reducing the speed limit from 40 km/h to 30 km/h on local roads in the Toronto and East York District.

Alternatively, if implementation of 30 km/h on a broader scale is the desired approach, as has been suggested for the Toronto and East York Community Council district, it may be unrealistic to assume that motorists would automatically reduce their speeds to 30 km/h. It would most likely require additional enforcement resources to achieve speed compliance.

CONTACT

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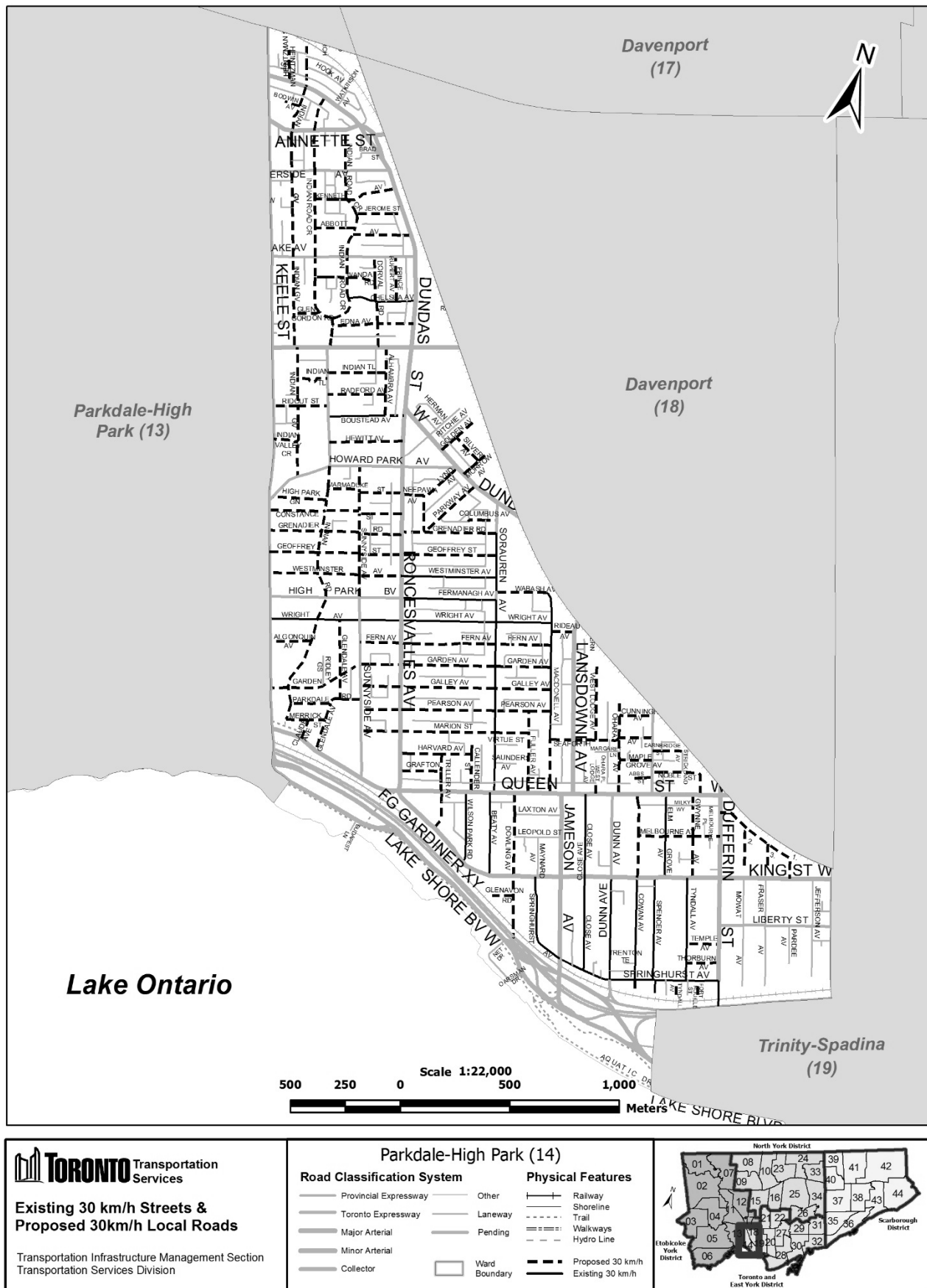
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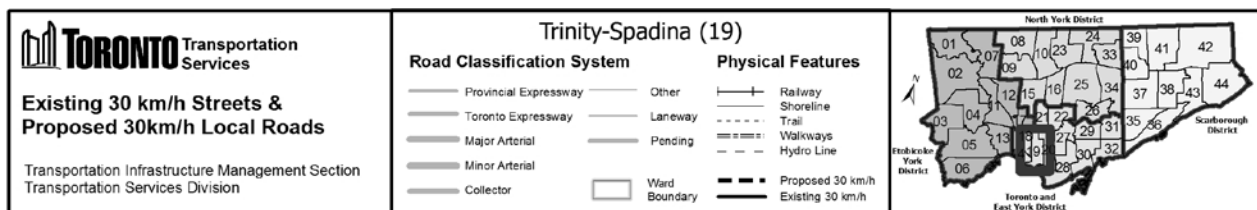
Stephen Buckley
General Manager, Transportation Services

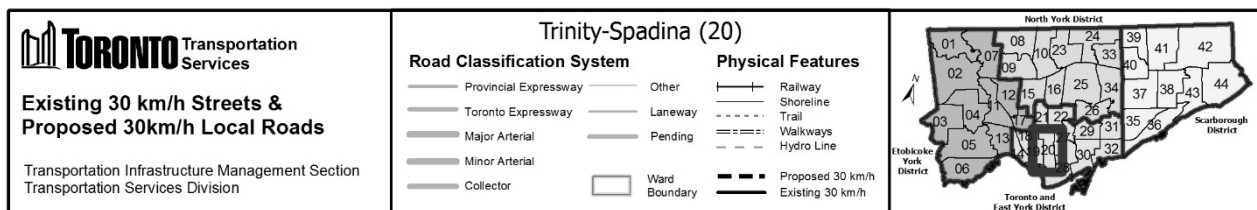
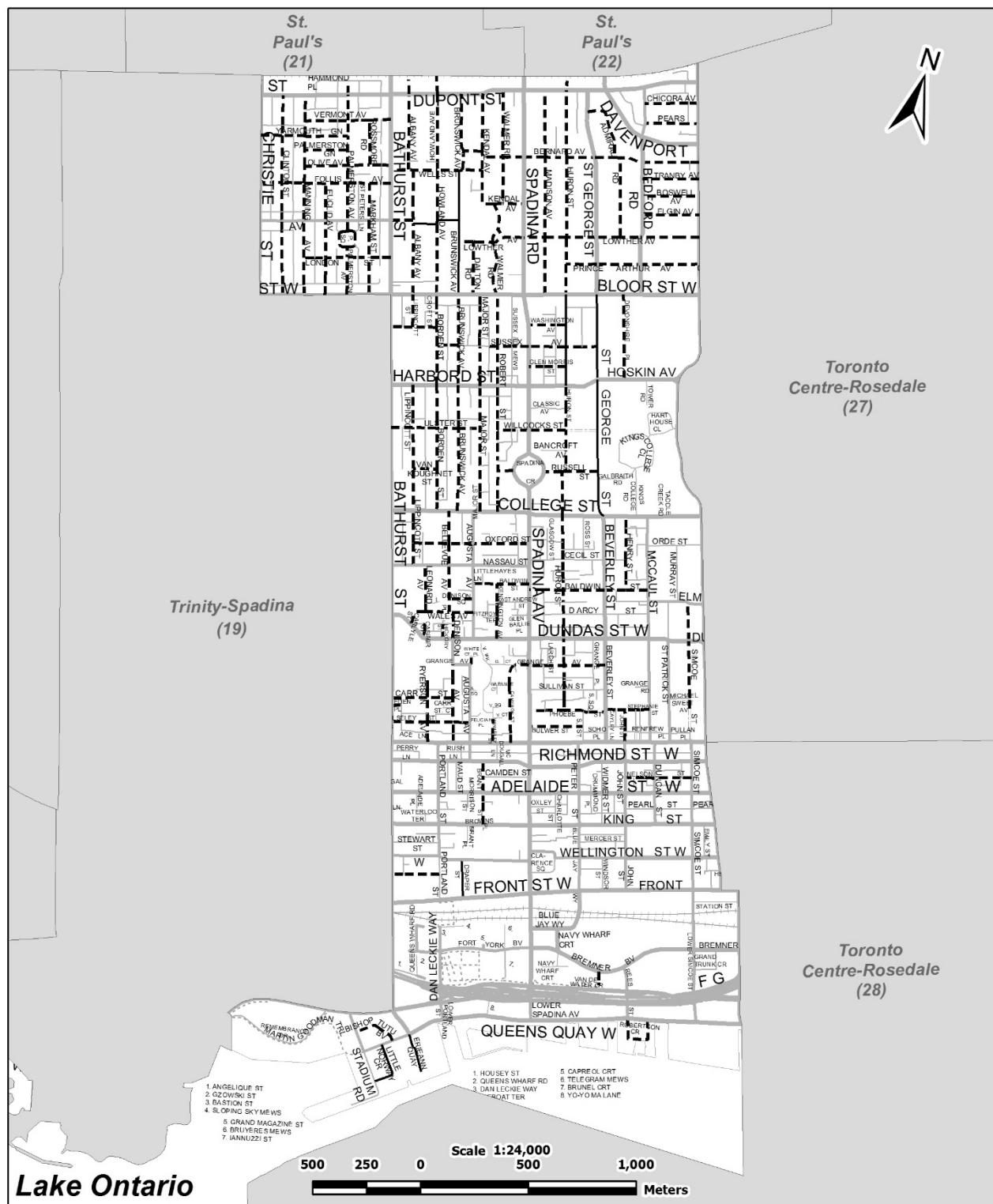
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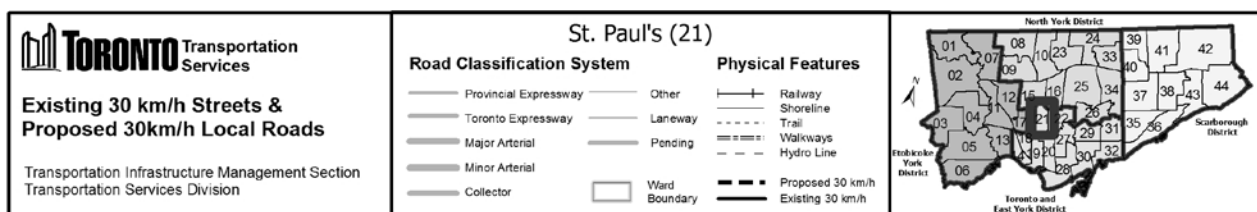
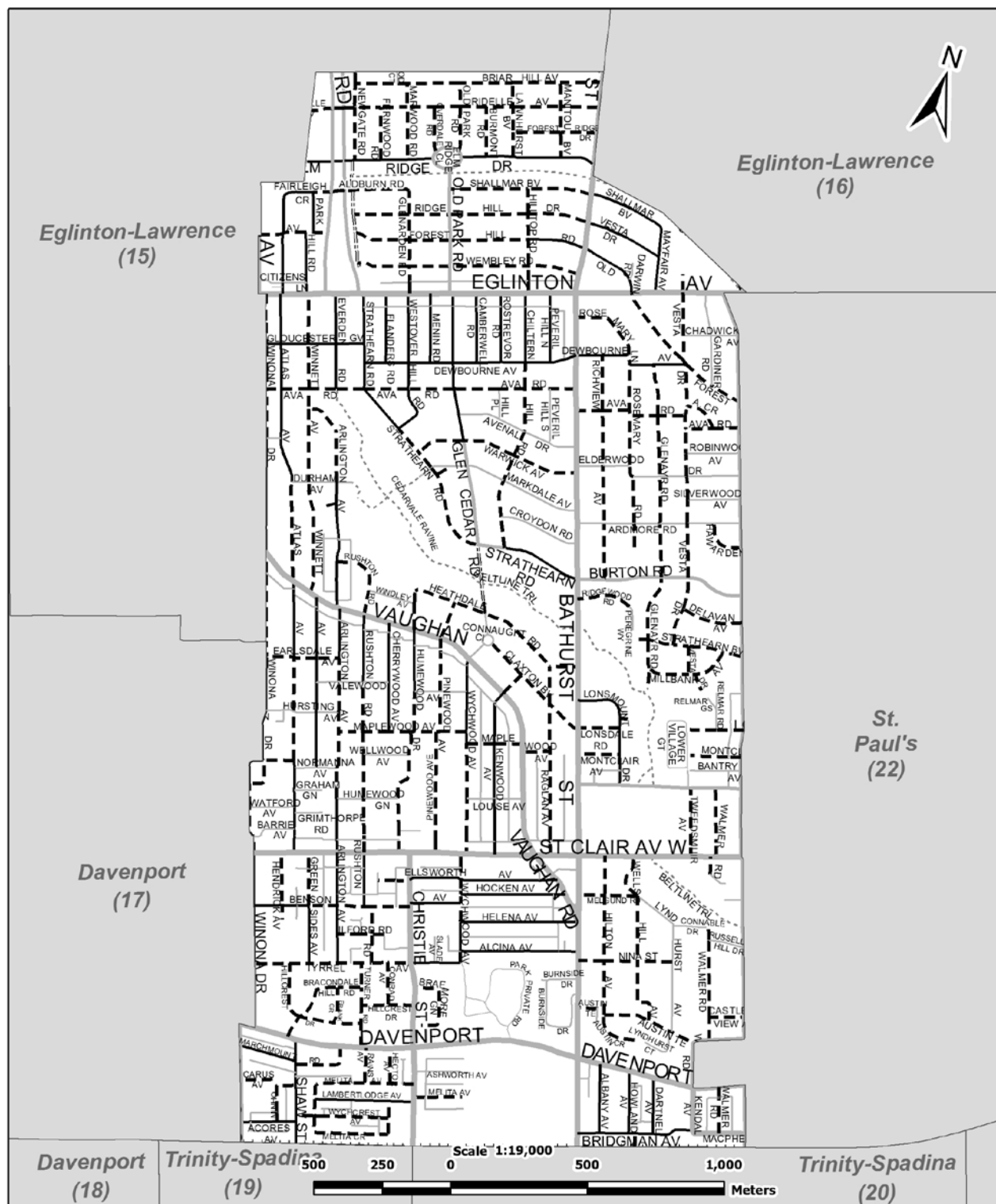
APPENDIX 1 –TEYCC Ward Maps: Proposed and Existing 30 km/h Speed Limit Roads

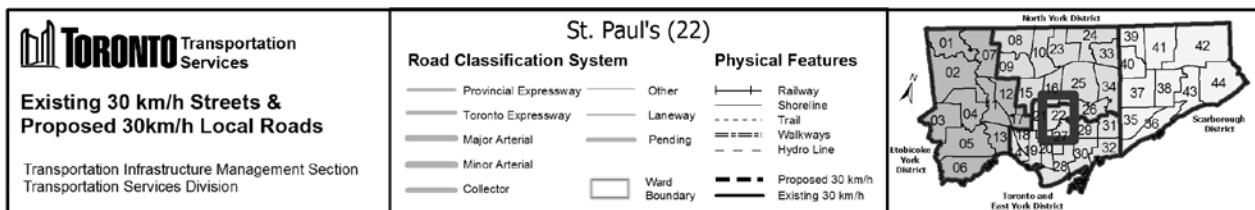
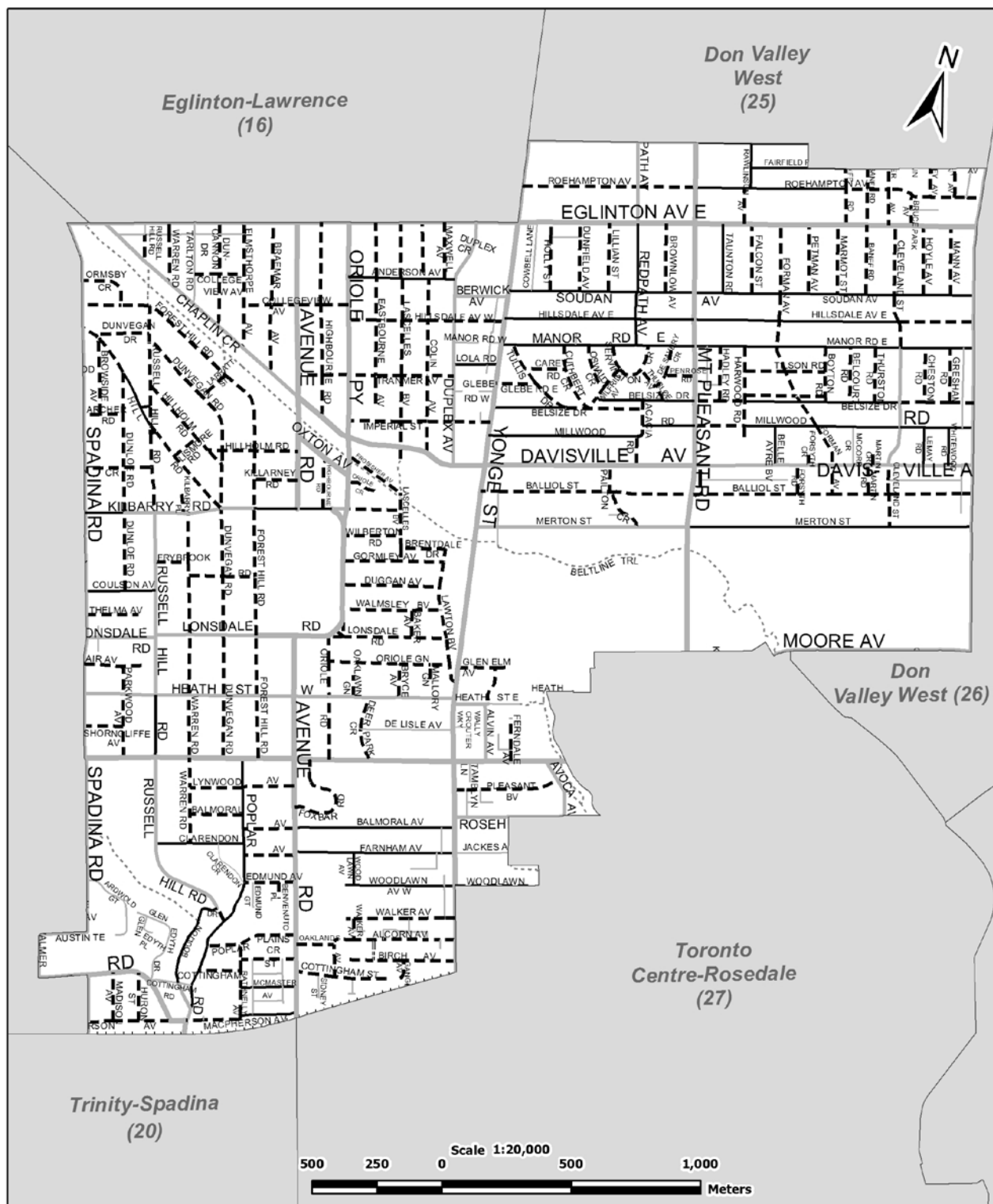
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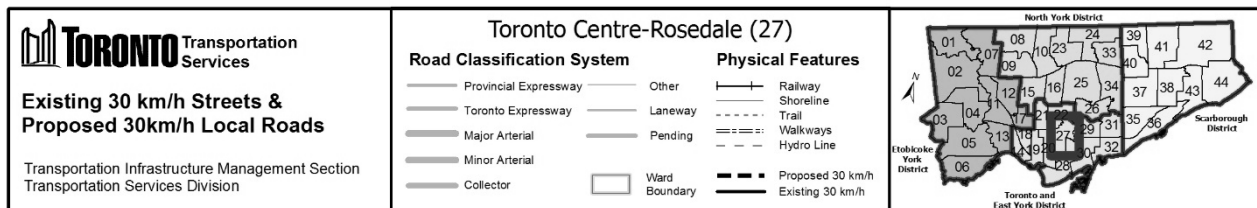
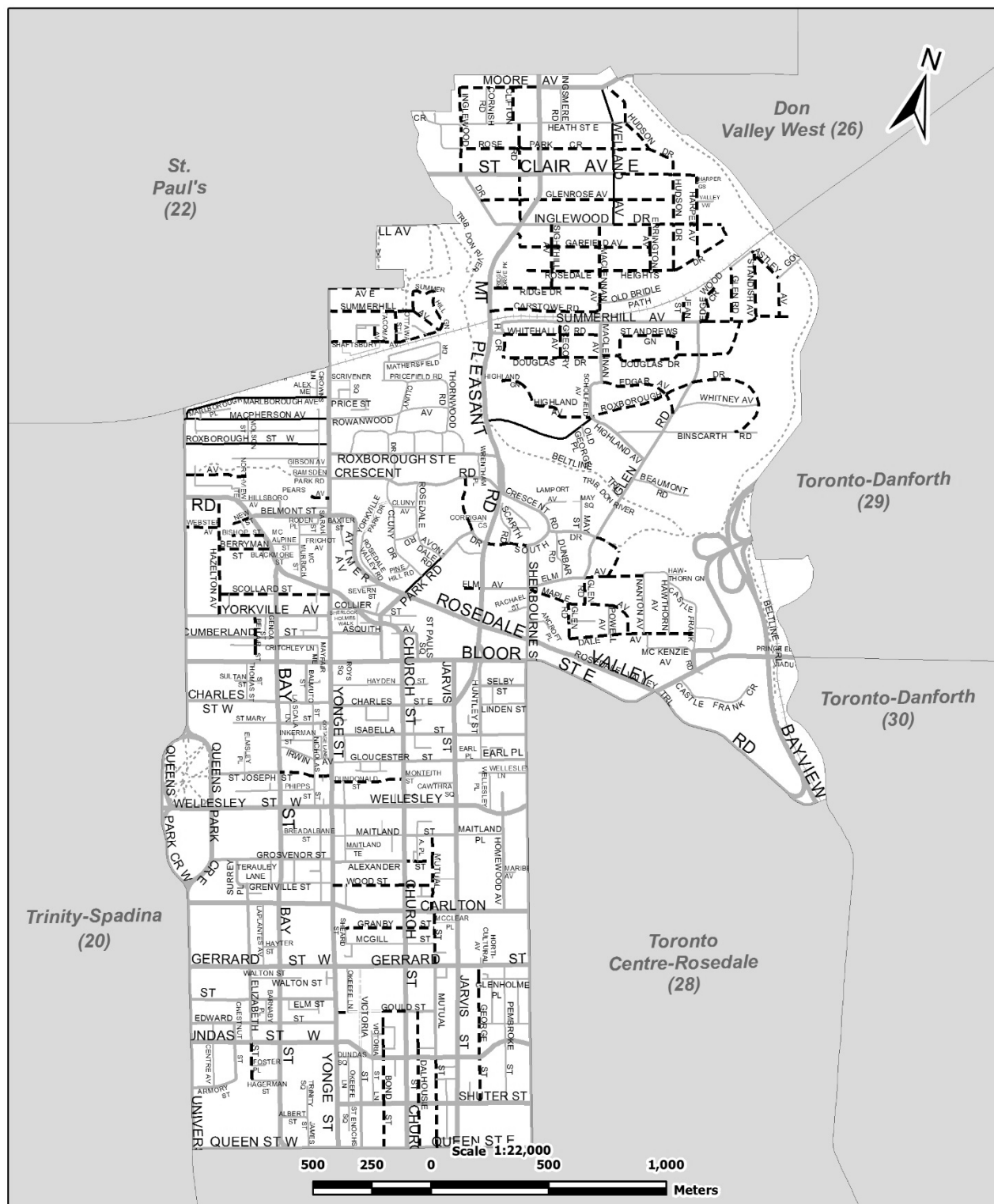


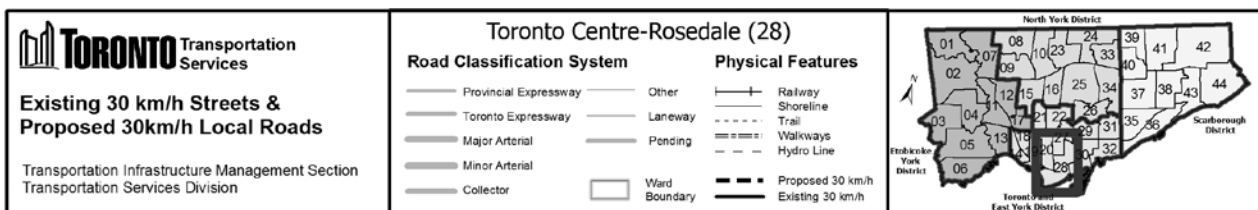


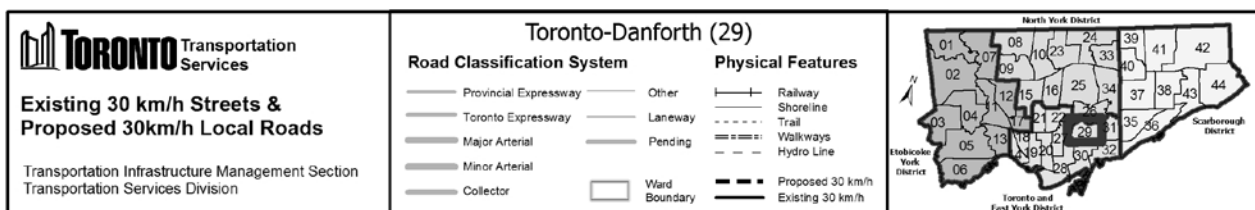


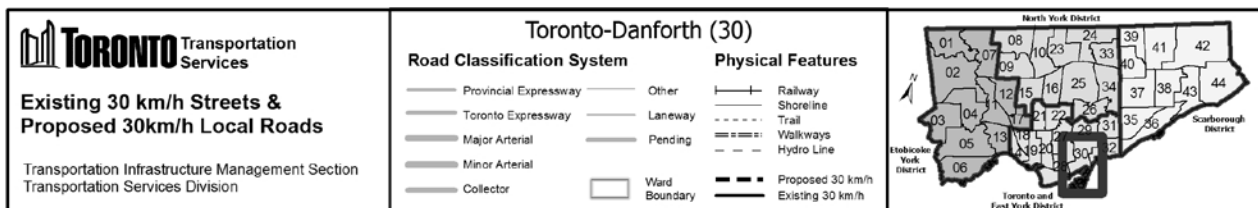


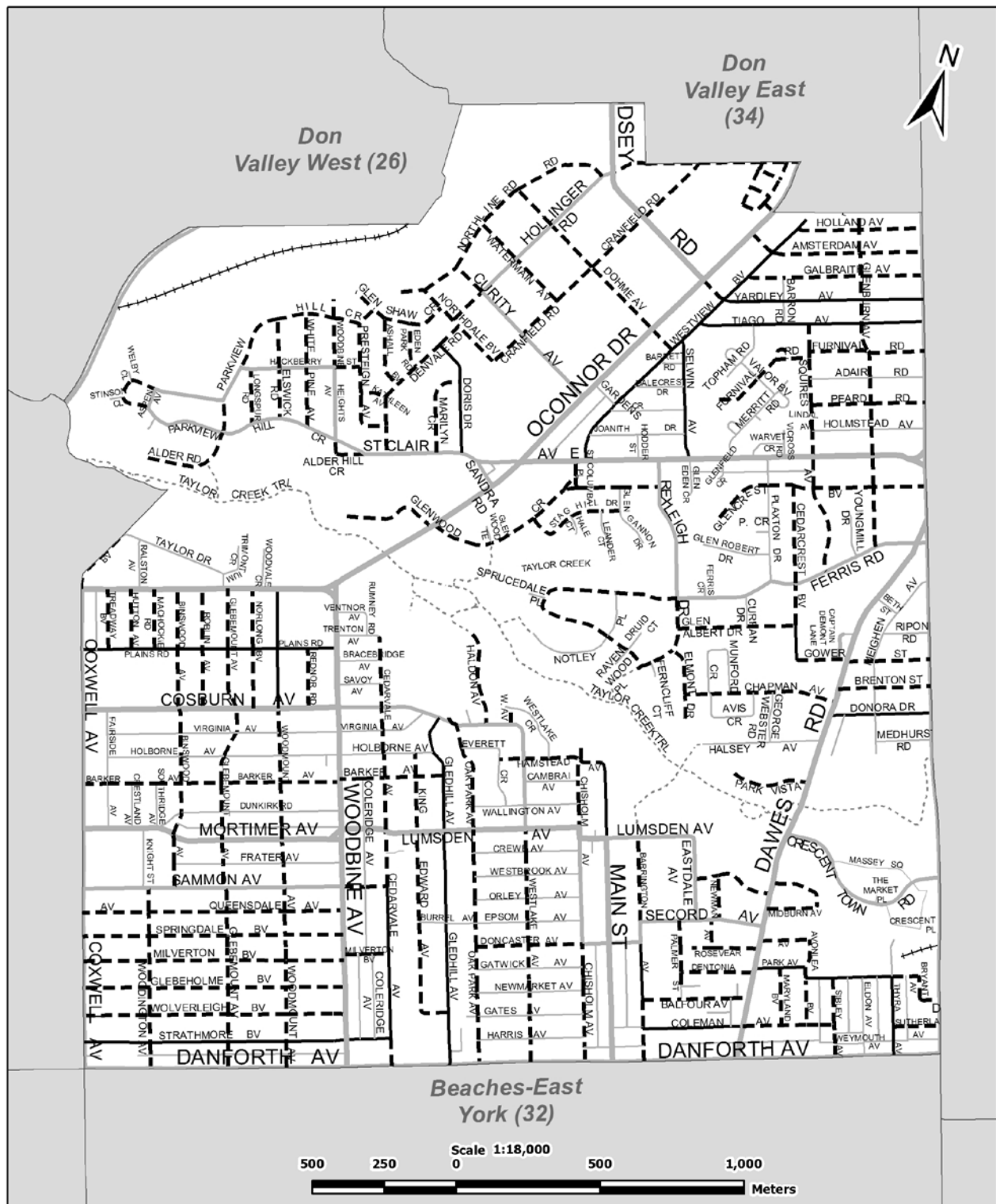












Existing 30 km/h Streets & Proposed 30km/h Local Roads

Transportation Infrastructure Management Section
Transportation Services Division

Beaches-East York (31)

Road Classification System		Physical Features
	Provincial Expressway	Railway
	Toronto Expressway	Shoreline
	Major Arterial	Trail
	Minor Arterial	Walkways
	Collector	Hydro Line
	Other	Proposed 30 km/h
	Laneway	Existing 30 km/h
	Pending	
	Ward Boundary	

North York District

Toronto and East York District

