

COMMITTEE OF THE WHOLE JUNE 16, 2003

COLLISIONS AT SIGNALIZED AND UNSIGNALIZED INTERSECTIONS

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That the following report be received for information;
2. That York Region Police be requested to provide more frequent enforcement of the speed limit at the following intersections:
 - Ansley Grove Road/Chancellor Drive;
 - Martin Grove Road/Woodbridge Avenue;
 - Edgeley Boulevard/Applewood Crescent (North);
 - Clark Avenue/Condo Corp.;
 - Hilda Avenue/Pinewood Drive; and
3. That staff look into the feasibility and costs of installing left turn lanes or a different type of asphalt pavement at the Clark Avenue/Condo Corp. intersection and report to a future Committee of the Whole meeting.

Purpose

This collision summary, the fourth in an annual series, represents a comprehensive review of collision rates at the City's signalized and major unsignalized intersections.

Background - Analysis and Options

Collision Reporting

Collision data was collected or updated at the City's 51 signalized intersections, plus 24 unsignalized intersections selected by staff within the City. The data was based on and limited to the collision reports received from York Region Police, and does not include unreported collisions. A vehicle collision is reportable when any of the following conditions apply:

- Property damage is in excess of \$1,000.00;
- The collision resulted in a personal injury;
- Charges are laid as a result of the collision; or,
- A government vehicle is involved.

It must be recognized that generally collision reports are prepared to document incident, assign fault and identify driver error as opposed to documenting collision factors such as geometric design, traffic control operations, roadside environment or driver behaviour.

Collision Rate Determination

Collision rates are considered a better measure of collision risk than the absolute number of collisions at an intersection. This is primarily due to the fact that a collision rate takes into account the volume of traffic that travels through an intersection each day. For example, 5 collisions in a year at an intersection with 2,000 cars entering it each day is generally more notable than the same number of collisions occurring at an intersection with 15,000 cars entering it each day. Collision rates at intersections are measured in "collisions per million vehicles entering" (collisions/mve), or the average number of collisions for every one million vehicles that pass through the intersection.

$$\text{Collision rate} = \frac{\text{number of collisions/year} \times 1,000,000}{24 \text{ hour entering volume} \times 365 \text{ days}}$$

The 24 hour traffic volume entering an intersection was determined either by use of automatic traffic recorders (ATR's) or from eight hour turning movement counts conducted by staff. In the latter case the daily traffic volume was estimated by doubling the eight hour counts, since the 24 hour volume is typically twice the volume in the peak eight hours of the day.

An intersection is generally considered critical when the collision rate exceeds 1.5 collisions/mve, or where a fatal collision has occurred in the past year. Most jurisdictions therefore use these criteria as a "trigger" for further review.

Collisions at Signalized Intersections

Collisions were reviewed at the City's 51 signalized intersections, listed as follows and illustrated on Attachment No. 1:

Aberdeen Avenue/Chancellor Drive
Aberdeen Avenue/Embassy Drive
Ansley Grove Road/Chancellor Drive
Ansley Grove Road/Belview Avenue/Aberdeen Avenue
Ansley Grove Road/Embassy Drive/Blue Willow Drive
Ansley Grove Road/Windflower Gate/Pinedale Crescent
Atkinson Avenue/Arnold Avenue
Atkinson Avenue/Campbell Avenue/Manor Gate
Atkinson Avenue/Rosedale Heights Drive (North)
Atkinson Avenue/Rosedale Heights/Edmund Seager Drive
Atkinson Avenue/Spring Gate Boulevard
Centre Street/Atkinson Avenue
Clark Avenue/Atkinson Avenue
Clark Avenue/Brownridge Drive/Joseph Aaron Boulevard
Clark Avenue/Charles Street
Clark Avenue/Condo Corporation (West of Yonge Street)
Clark Avenue/Coulters Mill Plaza (East)
Clark Avenue/Dufferin-Clark C.C. Access/Plaza Access
Clark Avenue/Hilda Avenue
Clark Avenue/Judith Avenue/Stonemill Gate
Clark Avenue/New Westminster Drive
Clark Avenue/South Promenade
Clark Avenue/York Hill Boulevard (West)
Clark Avenue/York Hill Boulevard/Springfield Way
Creditstone Road/Langstaff Road
Chrislea Road/Jevlan Drive
Edgeley Boulevard/Applewood Crescent (North)
Hilda Avenue/Crestwood Road
Hilda Avenue/York Hill Boulevard
Kipling Avenue/Woodbridge Avenue
Martin Grove Road/Andrew Park/Auburn Road
Martin Grove Road/Langstaff Road
Martin Grove Road/Roysun Road
Martin Grove Road/Woodbridge Avenue
Martin Grove Road/Woodstream Blvd/Regina Road
McNaughton Road/Cranston Park Drive
McNaughton Road/St. Joan of Arc Avenue
Millway Avenue/Applewood Crescent (North)

Millway Avenue/Pennsylvania Avenue
 New Westminster Drive/Beverly Glen Boulevard
 New Westminster Drive/Brownridge Drive/W. Promenade
 New Westminster Drive/Conley Street
 New Westminster Drive/Mullen Drive/Joseph Aaron Blvd.
 Rivermede Road/Bowes Road
 Rivermede Road/North Rivermede Road
 Rowntree Dairy Road/Strada Drive
 Rowntree Dairy Road/Winges Road/Auto Park Circle
 Whitmore Road/Winges Road/Trowers Road
 Woodbridge Avenue/Clarence Street
 Woodbridge Avenue/Forest Drive/Lewis Drive
 York Hill Boulevard/Chabad Gate

Attachment No. 2 includes a four-year summary of collisions at the City's signalized intersections. Provided below is a summary of collision rates at four of these intersections between January 1 and December 31, 2002, in descending order of collision rate.

<u>Intersection</u>	<u>2002 Collision Rate</u>
Ansley Grove Road/Chancellor Drive	1.12
Martin Grove Road/Woodbridge Avenue	1.11
Edgeley Boulevard/Applewood Crescent (North)	1.01
Clark Avenue/Condo Corp. (West of Yonge Street)	0.96

These locations experienced the highest collisions rates among the City's signalized intersections during 2002, although none were in excess of 1.5 collisions/mve. Staff examined the collision reports to identify any trends in the type of collision, road condition, time of day, vehicle type, driver action and pedestrian/cyclist involvement.

Ansley Grove Road/Chancellor Drive

The signalized Ansley Grove Road/Chancellor Drive intersection is located within a residential area in Woodbridge. There were 7 collisions reported in 2002, compared to 3 in 2001, for a collision rate of 1.12 collisions/mve. Five of the seven were angle collisions, and three involved motorists not signaling their intent to turn. Staff have verified that the signals are appropriately located and sized for this type of intersection, and no complaints have been received about the signal timing. As high speeds are therefore the likely cause, staff will request that York Region Police provide more frequent enforcement of the speed limit in the vicinity.

Martin Grove Road/Woodbridge Avenue

The signalized Martin Grove Road/Woodbridge Avenue intersection is located within a residential area in Woodbridge. There were 5 collisions reported in 2002, compared to 4 in 2001, for a collision rate of 1.11 collisions/mve. Four of the five were angle collisions under clear conditions. Staff have verified that the signals are appropriately located and sized for this type of intersection, and no complaints have been received about the signal timing. As high speeds are the likely cause, staff will request that York Region Police provide more frequent enforcement of the speed limit in the vicinity.

Edgeley Boulevard/Applewood Crescent (North)

The signalized Edgeley Boulevard/Applewood Crescent (North) intersection is located within an industrial area in Concord. There were 4 collisions reported in 2002, compared to 3 in 2001, for a collision rate of 1.01 collisions/mve. All four were angle collisions, three under clear conditions. Again, staff have verified that the signals are appropriately located and sized for this type of

intersection, and no complaints have been received about the signal timing. As high speeds are the likely cause, staff will request that York Region Police provide more frequent enforcement of the speed limit in the vicinity.

Clark Avenue/Condo Corp. (West of Yonge Street)

The signalized Clark Avenue/Condo Corp. intersection is located 200 metres west of Yonge Street in a residential area in Thornhill. There were 10 collisions reported in 2002, compared to 7 in 2001, for a collision rate of 0.96 collisions/mve. Eight of the ten were rear-end collisions, five of which occurred in inclement weather. As there is adequate signage in the area and visibility of the traffic signals, the collisions can be attributed at least in part to high speeds along Clark Avenue. Staff will request that York Region Police provide more frequent enforcement of the speed limit in the vicinity.

Although this intersection does not have a collision rate over 1.5 collisions/mve, the location has experienced a consistent pattern of rear-end collisions over the past number of years. High speeds are a factor in most rear-end collisions; however, in this case it is likely the lack of left turn lanes is also a factor. In response, staff will look into the feasibility and costs of installing left turn lanes at the intersection. Alternatively, a different type of asphalt pavement could be installed at the intersection that is less slippery than normal pavement under wet conditions. This would give motorists more opportunities to stop in inclement weather. A report on the feasibility of these initiatives will be made at a future Committee of the Whole meeting.

The Rowntree Dairy Road/Winges Road/Auto Park Circle intersection, which was reported in 2001 as having a collision rate in 2000 well in excess of 1.5 collisions/mve, was signalized in May 2002. Since that time the number of collisions has decreased substantially. The other four signalized intersections reported on last year (Rivermede Road/Bowes Road, New Westminster Drive/Mullen Drive/Joseph Aaron Boulevard, Rivermede Road/North Rivermede Road and New Westminster Drive/Conley Street) all experienced significantly lower collision rates in 2002 than in 2001.

Collisions at Unsignalized Intersections

Collisions were also reviewed at the following 24 major unsignalized intersections, as illustrated on Attachment No. 3:

Beverly Glen Boulevard/Worth Boulevard
Confederation Parkway/Staffern Drive
Cranston Park Avenue/Cunningham Drive
Creditstone Road/Doughton Road
Creditstone Road/MacIntosh Boulevard
Creditstone Road/Pippin Road
Doughton Road/Maplecrete Road
Edgeley Boulevard/Cidermill Avenue
Edgeley Boulevard/Pennsylvania Avenue
Hilda Avenue/Pinewood Drive
Islington Avenue/Nashville Road
Jevlan Drive/Carlauren Road
Jevlan Drive/Roytec Road
Langstaff Road/Vaughan Mills Road
Martin Grove Road/Forest Drive
Marycroft Avenue/Strada Drive
Melville Avenue/Avro Road
Melville Avenue/Cunningham Drive
Melville Avenue/Springside Road
Millway Avenue/Applewood Crescent (South)

Millway Avenue/Cidermill Avenue
Napa Valley Avenue/Forest Fountain Drive
Sonoma Boulevard/Forest Fountain Drive
Sonoma Boulevard/Monte Carlo Drive

Attachment No. 4 includes a four-year summary of collisions at the City's major unsignalized intersections. Provided below is the collision rate at one of these intersections between January 1 and December 31, 2002. No other location experienced a collision rate higher than 1.0 collisions/mve.

<u>Intersection</u>	<u>2002 Collision Rate</u>
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Hilda Avenue/Pinewood Drive	1.50
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Hilda Avenue/Pinewood Drive

The allway stop controlled Hilda Avenue/Pinewood Drive intersection is located within a residential area in Thornhill. There were 7 collisions reported in 2002, compared to 10 in 2001, for a collision rate of 1.50 collisions/mve. The collisions were of varying types: four were rear-end or sideswipe collisions, three of which occurred in inclement weather. They were likely caused by high speeds and non-compliance at the allway stop at Pinewood Drive.

It has long been recognized that speeds are high along Hilda Avenue and many motorists exhibit poor compliance at the allway stop. In response the Engineering Department will be constructing physical measures at the intersection to slow motorists and increase allway stop compliance as part of the first Traffic Calming Contract in 2003. The measures will consist of two split speed humps on the north (southbound direction only) and south (northbound direction only) approaches of the intersection, and concrete centre medians along Hilda Avenue. The median on the north approach will extend north along the curve on Hilda Avenue to prevent motorists from crossing the centre of the road.

It should be noted that some of collision numbers, and resulting rates, reported on for previous years may have changed as more collision reports for that year are received by the City. The numbers listed in Attachments No. 2 and 4 reflect the latest data received to date by the Engineering Department.

Conclusion

Based on the collision review, none of the City's signalized intersections experienced a collision rate in 2002 higher than 1.5 collisions/mve, a rate that is utilized by a number of jurisdictions as a "trigger" for review. However, the following three signalized intersections experienced a collision rate higher than 1.0 collisions/mve:

- Ansley Grove Road/Chancellor Drive
- Martin Grove Road/Woodbridge Avenue
- Edgeley Boulevard/Applewood Crescent (North).

The Clark Avenue/Condo Corp. intersection experienced a collision rate of 0.96 collisions/mve in 2002; however, due to the number of collisions it continues to experiences it is recommended that staff look into the feasibility and costs of installing left turn lanes or a different type of asphalt pavement at the intersection and report to a future Committee of the Whole meeting.

One major unsignalized intersection experienced a collision rate in 2002 of 1.50 collisions/mve:

- Hilda Avenue/Pinewood Drive.

It is recommended that staff request that York Region Police provide more frequent enforcement of the speed limit in the vicinity of the five intersections mentioned above. Measures will be constructed at the Hilda Avenue/Pinewood Drive intersection in 2003 to increase safety at that location.

Attachments

1. Location Map of Signalized Intersections
2. Summary of Collisions at Signalized Intersections
3. Location Map of Major Unsignalized Intersections
4. Summary of Collisions at Major Unsignalized Intersections

Report prepared by:

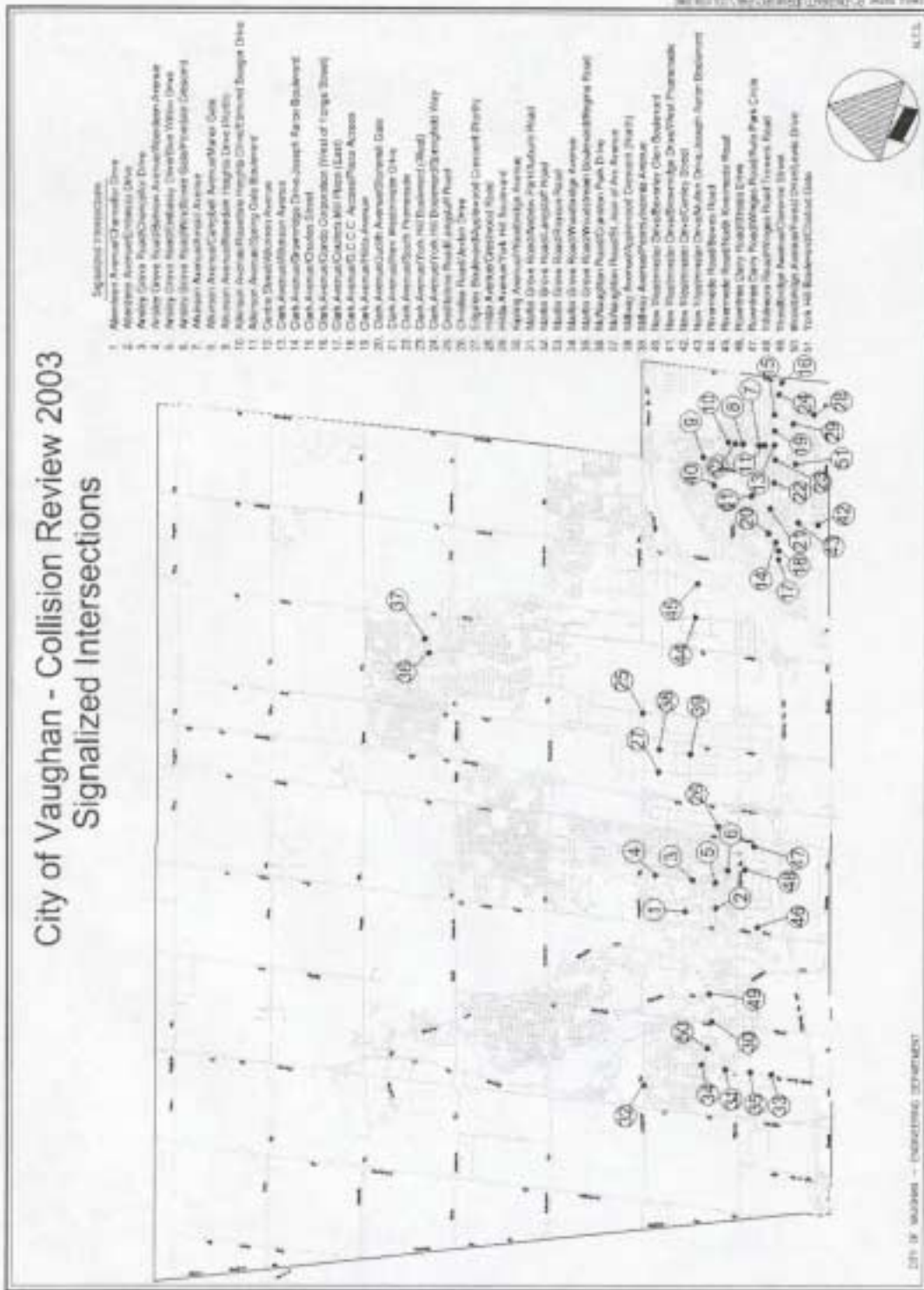
Philip Weber, Transportation Engineer, ext 8264

Respectfully submitted,

Bill Robinson, P. Eng
Commissioner of Engineering and Public Works

ATTACHMENT No. 1

City of Vaughan - Collision Review 2003 Signalized Intersections



ATTACHMENT No.2

City of Vaughan

Collision Review 2002 - Major Signalized Intersections

#	Intersection Location	Block	Activation Date	AADT	Collisions per Year			Collision Rate (collisions/mv)				
					1999	2000	2001	2002	1999	2000	2001	2002
1	Aberdeen Avenue/Chancellor Drive	B37	February-02	11200	4	3	2	4	0.98	0.73	0.49	0.98
2	Aberdeen Avenue/Embassy Drive	B37	February-02	8300	0	1	1	0	0	0.33	0.33	0
3	Ansley Grove Road/Chancellor Drive	B37	February-83	17200	3	3	3	7	0.48	0.48	0.48	1.12
4	Ansley Grove Road/Belview Avenue/Aberdeen Avenue	B37	February-01	15600	0	0	3	2	0	0	0.53	0.35
5	Ansley Grove Road/Embassy Drive/Blue Willow Drive	B37	August-96	14200	3	7	4	3	0.58	1.35	0.77	0.58
6	Ansley Grove Road/Windflower Gate/Pinedale Crescent	B37	March-95	16600	0	2	1	2	0	0.33	0.17	0.33
7	Atkinson Avenue/Arnold Avenue	B1	November-02	14400	3	5	7	2	0.57	0.95	1.33	0.38
8	Atkinson Avenue/Campbell Avenue/Manor Gate	B1	January-01	17300	2	3	4	0	0.32	0.48	0.63	0
9	Atkinson Avenue/Rosedale Heights Drive (North)	B2	November-02	14000	0	1	0	1	0	0.2	0	0.2
10	Atkinson Avenue/Rosedale Heights/Edmund Seeger Drive	B2	January-01	14500	2	2	0	1	0.38	0.38	0	0.19
11	Atkinson Avenue/Spring Gate Boulevard	B1	August-94	16200	2	4	1	1	0.34	0.68	0.17	0.17
12	Centre Street/Atkinson Avenue	B1	August-86	29500	4	4	6	5	0.37	0.37	0.56	0.46
13	Clark Avenue/Atkinson Avenue	B1	August-86	34900	3	11	7	6	0.24	0.86	0.55	0.47
14	Clark Avenue/Brownridge Drive/Joseph Aaron Boulevard	B8	December-88	17400	3	4	1	3	0.47	0.63	0.16	0.47
15	Clark Avenue/Charles Street	B1	February-96	21600	4	2	5	6	0.51	0.25	0.63	0.76
16	Clark Avenue/Condo Corporation (West of Yonge Street)	B1	August-98	28400	11	11	7	10	1.06	1.06	0.68	0.96
17	Clark Avenue/Coulter's Mill Plaza (East)	B8	March-92	17400	2	1	2	2	0.31	0.16	0.31	0.31
18	Clark Avenue/D.C.C. Access/Plaza Access	B1	November-02	18100	2	0	0	2	0.3	0	0	0.3
19	Clark Avenue/Hilda Avenue	B1	November-87	32100	5	2	7	2	0.43	0.17	0.6	0.17
20	Clark Avenue/Judith Avenue/Stonemill Gate	B8	April-90	18300	2	1	1	5	0.3	0.15	0.15	0.75
21	Clark Avenue/New Westminster Drive	B8	March-90	31600	10	8	9	7	0.87	0.69	0.78	0.61
22	Clark Avenue/South Promenade	B8	August-86	22000	3	2	3	4	0.37	0.25	0.37	0.5
23	Clark Avenue/York Hill Boulevard (West)	B1	December-88	26500	9	7	6	9	0.91	0.71	0.6	0.87
24	Clark Avenue/York Hill Boulevard/Springfield Way	B1	January-88	20400	5	7	5	6	0.67	0.94	0.67	0.81
25	Credlistone Road/Langstaff Road	B24	December-02	15400	1	1	2	1	0.18	0.18	0.36	0.18
26	Chrislea Road/Jevlan Drive	B30	February-03	15900	4	4	4	0	0.66	0.66	0.66	0
27	Edgeley Boulevard/Applewood Crescent (North)	B30	February-01	10800	4	2	3	4	1.01	0.51	0.75	1.01
28	Hilda Avenue/Crestwood Road	B1	January-96	14300	1	1	2	2	0.19	0.19	0.38	0.38
29	Hilda Avenue/York Hill Boulevard	B1	March-90	18100	2	1	4	0	0.3	0.15	0.61	0

30	Kipling Avenue/Woodbridge Avenue	B51	February-83	23600	6	12	9	4	0.7	1.39	1.04	0.46
31	Martin Grove Road/Andrew Park/Auburn Road	B51	October-97	19600	3	3	2	2	0.42	0.42	0.28	0.26
32	Martin Grove Road/Langstaff Road	B51	January-95	14300	2	0	2	0	0.38	0	0.38	0
33	Martin Grove Road/Royburn Road	B51	April-91	16200	1	1	0	1	0.17	0.17	0	0.17
34	Martin Grove Road/Woodbridge Avenue	B51	April-93	12300	1	3	4	5	0.22	0.67	0.89	1.11
35	Martin Grove Road/Woodstream Blvd/Regina Road	B50	February-02	19100	6	0	6	3	0.86	0	0.86	0.43
36	McNaughton Road/Cranston Park Drive	B26	February-99	9200	0	2	0	0	0	0.6	0	0
37	McNaughton Road/St. Joan of Arc Avenue	B26	October-97	10000	0	0	0	0	0	0	0	0
38	Millway Avenue/Applewood Crescent (North)	B30	January-03	8800	1	2	2	1	0.37	0.73	0.73	0.31
39	Millway Avenue/Pennsylvania Avenue	B30	February-02	8700	0	2	0	1	0	0.63	0	0.31
40	New Westminster Drive/Beverly Glen Boulevard	B9	February-99	17600	2	6	4	2	0.31	0.93	0.62	0.31
41	New Westminster Drive/Brownridge Drive/W. Promenade	B8	November-93	25700	4	2	2	3	0.43	0.21	0.21	0.32
42	New Westminster Drive/Conley Street	B8	January-88	19600	3	9	4	4	0.42	1.26	0.99	0.96
43	New Westminster Drive/Mullen Drive/Joseph Aaron Blvd.	B8	March-90	21100	3	9	9	2	0.39	1.17	1.17	0.26
44	Rivermede Road/Bowes Road	B16	November-92	15400	7	5	7	1	1.43	1.02	1.43	0.18
45	Rivermede Road/North Rivermede Road	B16	March-94	15400	2	3	7	1	0.36	0.53	1.03	0.18
46	Rowntree Dairy Road/Strada Drive	B36	May-02	17800	5	3	2	3	0.77	0.46	0.31	0.46
47	Rowntree Dairy Road/Winges Road/Auto Park Circle	B36	May-02	18300	6	9	2	2	0.9	1.35	0.3	0.3
48	Whitmore Road/Winges Road/Trowers Road	B36	May-02	16700	4	1	4	2	0.66	0.16	0.66	0.33
49	Woodbridge Avenue/Clairence Street	B44	October-96	18000	3	5	3	4	0.46	0.76	0.46	0.61
50	Woodbridge Avenue/Forest Drive/Lewis Drive	B51	January-03	12400	3	0	0	2	0.66	0	0	0.44
51	York Hill Boulevard/Chalbed Gate	B1	February-02	13000	2	0	0	1	0.42	0	0	0.21

Notes:

AADT - Annual Average Daily Travel

mve - million vehicles entering

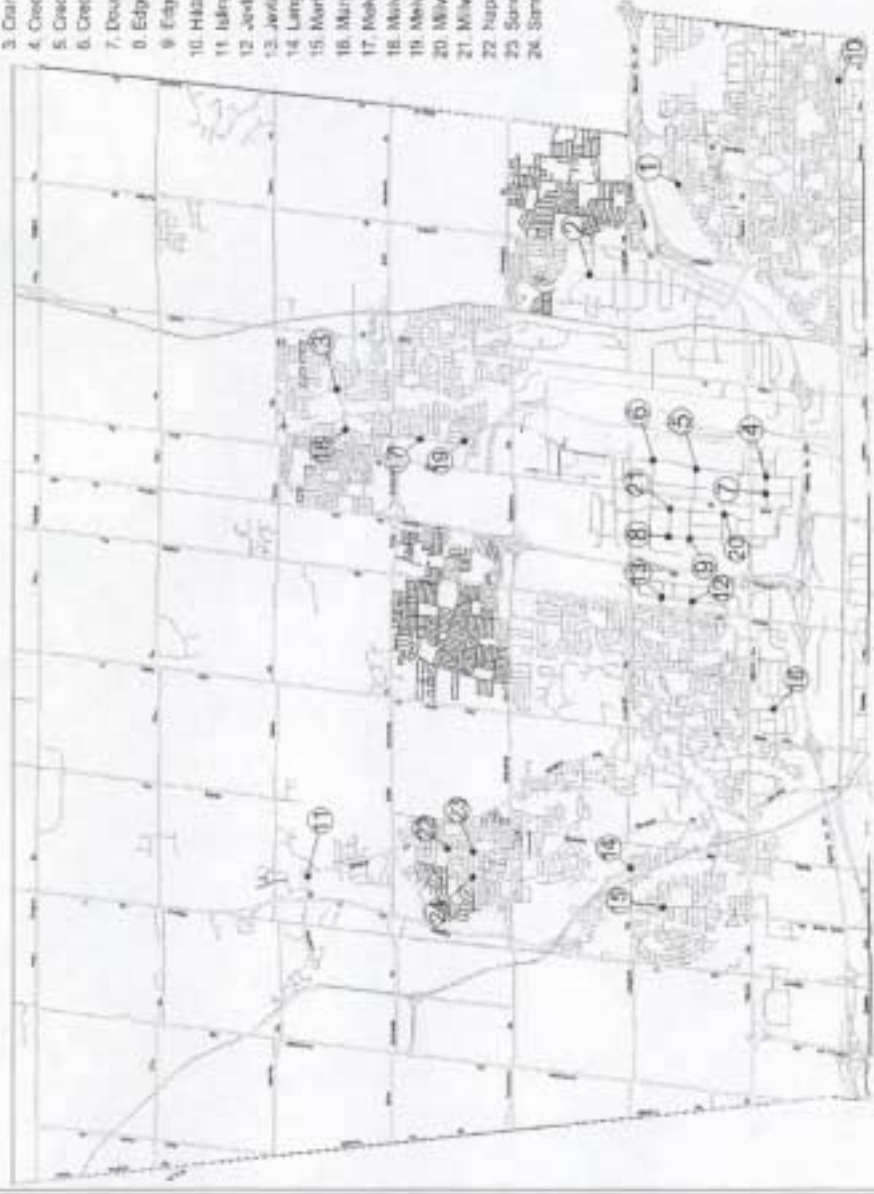
Collisions per year may vary as reports are received by the City

ATTACHMENT No. 3

City of Vaughan - Collision Review 2003 Major Unsignalized Intersections

LEGEND

1. Beverley Glen Boulevard/North Boulevard
2. Confederation Parkway/Saffern Drive
3. Cummer Park Avenue/Cunningham Drive
4. Creditstone Road/Doughton Road
5. Creditstone Road/Macintosh Boulevard
6. Creditstone Road/Phyllis Road
7. Doughton Road/Marquette Road
8. Edgeway Boulevard/Cidermill Avenue
9. Edgeway Boulevard/Pattersonville Avenue
10. Hilda Avenue/Finewood Drive
11. Islington Avenue/Nashville Road
12. Jordan Drive/Carleton Road
13. Jordan Drive/Royal Road
14. Langstaff Road/Vaughan Mills Road
15. Martin Grove Road/Forest Drive
16. Marwood Avenue/Spada Drive
17. Mohrville Avenue/Aero Road
18. Norville Avenue/Cunningham Drive
19. Norville Avenue/Springdale Road
20. Milverly Avenue/Applewood Crescent (South)
21. Milverly Avenue/Cidermill Avenue
22. Napa Valley Avenue/Forest Fountain Drive
23. Sorbus Boulevard/Forest Fountain Drive
24. Sorbus Boulevard/Monte Carlo Drive



M.T.S.

CITY OF VAUGHAN - INFORMATION SYSTEMS

ATTACHMENT No.4
City of Vaughan
Collision Review 2002 - Major Unsignalized Intersections

#	Intersection Location	Block	All-Way Stop	Surrounding Uses	AADT	Collisions per Year			Collision Rate (collisions/mve)				
						1999	2000	2001	2002	1999	2000	2001	2002
1	Beverly Glen Boulevard/Worth Boulevard	B9	No	Residential	7900	0	1	0	0	0.00	0.39	0.00	0.00
2	Confederation Parkway/Stuffem Drive	B17	Yes	Industrial	8400	0	1	2	2	0.00	0.33	0.65	0.65
3	Cranston Park Avenue/Cunningham Drive	B26	Yes	Residential	5300	0	0	1	1	0.00	0.00	0.52	0.52
4	Creststone Road/Doughton Road	B22	Yes	Industrial	9200	1	0	0	2	0.34	0.00	0.00	0.60
5	Creststone Road/MacIntosh Boulevard	B23	No	Industrial	14200	2	1	0	0	0.50	0.25	0.00	0.00
6	Creststone Road/Pippin Road	B23	No	Industrial	12700	0	0	0	0	0.00	0.00	0.00	0.00
7	Doughton Road/Maplecrtle Road	B22	Yes	Industrial	6900	0	0	3	2	0.00	0.00	1.58	0.79
8	Edgeley Boulevard/Cidermill Avenue	B30	No	Industrial	11400	0	0	0	0	0.00	0.00	0.00	0.00
9	Edgeley Boulevard/Pennsylvania Avenue	B30	Yes	Industrial	13000	1	3	1	2	0.23	0.70	0.23	0.42
10	Hilda Avenue/Finewood Drive	B1	Yes	Residential	12800	5	2	10	7	1.07	0.43	2.14	1.50
11	Islington Avenue/Nashville Road	B54	Yes	Kleinburg	10900	0	0	0	0	0.00	0.00	0.00	0.00
12	Jevian Drive/Carlauren Road	B30	Yes	Industrial	9700	0	0	0	1	0.00	0.00	0.00	0.28
13	Jevian Drive/Royalric Road	B30	Yes	Industrial	11000	0	2	4	1	0.00	0.45	0.91	0.25
14	Lungstaff Road/Vaughan Mills Road	B52	Yes	Residential	10700	0	0	0	0	0.00	0.00	0.00	0.00
15	Martin Grove Road/Forest Drive	B51	Yes	Residential	11400	0	0	4	0	0.00	0.00	0.94	0.00
16	Marycrott Avenue/Stroada Drive	B36	Yes	Industrial	13700	2	1	1	1	0.44	0.22	0.22	0.20
17	Melville Avenue/Avrs Road	B25	Yes	Residential	12200	0	0	0	1	0.00	0.00	0.00	0.22
18	Melville Avenue/Cunningham Drive	B26	Yes	Residential	7700	0	1	0	0	0.00	0.36	0.00	0.00
19	Melville Avenue/Springdale Road	B25	Yes	Residential	13700	0	0	2	0	0.00	0.00	0.40	0.00
20	Milway Avenue/Applewood Crescent (South)	B30	Yes	Industrial	12300	1	1	2	1	0.37	0.37	0.74	0.22
21	Milway Avenue/Cidermill Avenue	B30	Yes	Industrial	6300	0	0	0	0	0.00	0.00	0.00	0.00
22	Napa Valley Avenue/Forest Fountain Drive	B53	Yes	Residential	6900	1	0	0	1	0.40	0.00	0.00	0.40
23	Sonoma Boulevard/Forest Fountain Drive	B53	Yes	Residential	6400	1	0	0	1	0.43	0.00	0.00	0.43
24	Sonoma Boulevard/Monte Carlo Drive	B53	Yes	Residential	4000	0	0	0	1	0.00	0.00	0.00	0.68

Notes:

"Kleinburg" refers to Kleinburg Village

AADT - Annual Average Daily Travel

mve - million vehicles entering

Collisions per year may vary as reports are received by the City