

## COMMITTEE OF THE WHOLE MAY 2, 2005

### WESTON DOWNS COMMUNITY TRAFFIC INFILTRATION STUDY

#### Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That this report on staff's findings regarding an assessment of traffic operations for the Weston Downs Community be received;
2. That no further traffic calming measures be installed for the Weston Downs Community upon completion of the Weston Downs Phase II works scheduled for Summer, 2005 construction; and
3. That Council's direction from the January 24, 2005 meeting, wherein the proposed turning prohibitions along Velmar Drive and Valeria Boulevard not be implemented, be so confirmed.

#### Economic Impact

Not Applicable.

#### Purpose

To report on the findings of the traffic infiltration and other traffic studies for the Weston Downs Community as per Council direction.

#### Background - Analysis and Options

At its meeting on January 24, 2005, under Item 18, Report No. 1 Council approved, amongst other related recommendations:

**“That staff be directed to perform a traffic infiltration study within the entire Weston Downs Community and provide a report to the Committee of the Whole meeting of May 2, 2005.”**

Further, at the meeting of February 28, 2005, Item 7, Report No. 10, Council confirmed its earlier direction:

**“That no further action be required until after a comprehensive traffic study has been conducted by Engineering staff and a report summarizing the findings be provided for Council consideration.”**

There are pre-existing all-way stop controls and traffic calming measures located within the Weston Downs Community. Refer to Attachment No. 1 for the area neighbourhood.

#### Traffic Studies – Conducted subsequent to the construction of Rutherford Road

Staff collected speed and volume data on various roadways within the Subdivision from March 30, 2005 to April 6, 2005. The collected speed and volume data covered a 24-hour time period and is summarized below. Velmar Drive, Valeria Boulevard, Village Green Drive and Orr Avenue are designed as feeder roadways (23.0m right-of-way) typically accommodating volumes up to 8,000 vehicles per day.

| <u>Location</u>                           | <u>Day of Week (highest weekday volume)/Saturday</u> | <u>Direction</u>                  | <u>24 Hour Volume</u> | <u>Average Speed over Study</u> |
|---|--|-----------------------------------|-----------------------|---------------------------------|
| Velmar Dr – south of Topper Ct            | Friday   | Northbound<br>Southbound<br>Total | 2118<br>1868<br>3986  | 43 km/h<br>43 km/h              |
| Velmar Dr – south of Topper Ct            | Saturday   | Northbound<br>Southbound<br>Total | 1801<br>1630<br>3431  |                                 |
| Velmar Dr – south of Cartwright Blvd      | Friday   | Northbound<br>Southbound<br>Total | 1739<br>1553<br>3292  | 44 km/h<br>45 km/h              |
| Velmar Dr – south of Cartwright Blvd      | Saturday   | Northbound<br>Southbound<br>Total | 1378<br>1247<br>2625  |                                 |
| Valeria Blvd – south of Romeo Cres        | Tuesday  | Northbound<br>Southbound<br>Total | 2692<br>2698<br>5390  | 49 km/h<br>50 km/h              |
| Valeria Blvd – south of Romeo Cres        | Saturday   | Northbound<br>Southbound<br>Total | 2173<br>2049<br>4222  |                                 |
| Village Green Dr – west of Nova View Cres | Friday   | Eastbound<br>Westbound<br>Total   | 1121<br>1303<br>2424  | 41 km/h<br>39 km/h              |
| Village Green Dr – west of Nova View Cres | Saturday   | Eastbound<br>Westbound<br>Total   | 953<br>1094<br>2047   |                                 |
| Orr Ave – west of Kimber Cres             | Friday   | Eastbound<br>Westbound<br>Total   | 759<br>775<br>1534    | 40 km/h<br>40 km/h              |
| Orr Ave – west of Kimber Cres             | Saturday   | Eastbound<br>Westbound<br>Total   | 650<br>633<br>1283    |                                 |

The existing speed limit on all the roadways in the above chart are posted at 40km/h. The collected vehicle speeds are similar to other feeder type roadways within the City.

Staff conducted radar speed studies on the following roadways. Valeria Boulevard is designed as a feeder roadway (23.0m right-of-way) and Santa Barbara Place is designed to a local roadway (20.0m right-of-way).

| <u>Location</u>                          | <u>Time of Day</u> | <u>Direction</u>         | <u>Average Speed</u> |
|--|--------------------|--------------------------|----------------------|
| Valeria Blvd – east of Columbus Ave      | 7:15am to 8:45am   | Eastbound<br>Westbound   | 44 km/h<br>45 km/h   |
|  | 3:45pm to 4:45pm   | Eastbound<br>Westbound   | 46 km/h<br>49 km/h   |
| Santa Barbara Pl – north of Columbus Ave | 7:30am to 8:45am   | Northbound<br>Southbound | 38 km/h<br>38 km/h   |
|  | 3:00pm to 4:15pm   | Northbound<br>Southbound | 40 km/h<br>38 km/h   |

The collected vehicle speeds are similar to other feeder and local type roadways within the City.

Staff conducted an infiltration study for the entire Weston Downs Community bounded by Rutherford Road, Weston Road and Langstaff Road during the AM and PM peak periods on April 5, 2005 in order to determine the amount of “cut through traffic”. Six access locations were manually counted and observed. The following table summarizes the results of this investigation.

| <u>Infiltration Pattern</u>                         | 7:00-9:00 AM          |  | 4:00-6:00 PM          |  |
|---|-----------------------|--|-----------------------|--|
|   | <u>Inbound Volume</u> | ( # of Vehicles) % of Entering Traffic | <u>Inbound Volume</u> | ( # of Vehicles) % of Entering Traffic |
| Rutherford/Babak (right turn) to Weston/Astona      | 56                    | (0) 0%                                 |                       |  |
| Rutherford/Babak (right turn) to Weston/Valeria     | 56                    | (1) 2%                                 |                       |  |
| Rutherford/Babak (right turn) to Langstaff/Valeria  | 56                    | (2) 4%                                 |                       |  |
| Rutherford/Velmar (right turn) to Weston/Astona     | 176                   | (17) 10%                               |                       |  |
| Rutherford/Velmar (right turn) to Weston/Valeria    | 176                   | (2) 1%                                 |                       |  |
| Rutherford/Velmar (right turn) to Weston/Greenpark  | 176                   | (2) 1%                                 |                       |  |
| Rutherford/Velmar (through) to Weston/Valeria       | 77                    | (0) 0%                                 |                       |  |
| Rutherford/Velmar (through) to Langstaff/Valeria    | 77                    | (4) 5%                                 |                       |  |
| Weston/Astona (left turn) to Rutherford/Babak       |                       |  | 550                   | (5) 1%                                 |
| Weston/Astona (left turn) to Rutherford/Velmar      |                       |  | 550                   | (50) 9%                                |
| Weston/Valeria (left turn) to Rutherford/Babak      |                       |  | 247                   | (0) 0%                                 |
| Weston/Valeria (left turn) to Rutherford/Velmar     |                       |  | 247                   | (1) 1%                                 |
| Weston/Greenpark (left turn) to Rutherford/Babak    |                       |  | 166                   | (0) 0%                                 |
| Weston/Greenpark (left turn) to Rutherford/Velmar   |                       |  | 166                   | (4) 2%                                 |
| Langstaff/Valeria (right turn) to Rutherford/Babak  |                       |  | 125                   | (0) 0%                                 |
| Langstaff/Valeria (right turn) to Rutherford/Velmar |                       |  | 125                   | (2) 2%                                 |
| Langstaff/Valeria (through) to Rutherford/Babak     |                       |  | 137                   | (0) 0%                                 |
| Langstaff/Valeria (through) to Rutherford/Velmar    |                       |  | 137                   | (8) 6%                                 |

Clearly, it is shown through the traffic study that the level of traffic infiltration within the Weston Downs Community is minimal after the construction period on Rutherford Road.

Traffic Studies – Conducted during the construction of Rutherford Road

Staff previously collected speed and volume data on Velmar Drive and Village Green Drive during 2004, while Rutherford Road was under construction by the Region of York, that covered a 24-

hour time period and are summarized below. Velmar Drive and Village Green Drive are designated as a feeder roadway (23.0m right-of-way).

| <u>Location</u>                           | <u>Date</u>                     | <u>Direction</u>                  | <u>Average Speed</u> | <u>24 Hour Volume</u> |
|---|---------------------------------|-----------------------------------|----------------------|-----------------------|
| Velmar Dr - south of Flushing Ave         | June 21 to June 23, 2004        | Northbound<br>Southbound<br>Total | 43 km/h<br>44 km/h   | 1197<br>1102<br>2299  |
| Velmar Dr – south of Village Green Dr     | November 29 to December 1, 2004 | Northbound<br>Southbound<br>Total | N/A<br>N/A           | 1988<br>1772<br>3760  |
| Village Green Dr – west of Nova View Cres | November 29 to December 1, 2004 | Eastbound<br>Westbound<br>Total   | 41 km/h<br>41km/h    | 1137<br>1363<br>2500  |

The existing speed on both roadways in the chart is posted at 40km/h. The collected vehicle speeds are similar to other feeder type roadways within the City.

Staff also conducted an infiltration study for Village Green Drive between Rutherford Road/Velmar Drive and Weston Road/Astona Boulevard intersections during the AM and PM peak periods on September 21, 2004 in order to determine the amount of “cut through traffic”. The following table summarizes the results of this investigation.

| <u>Infiltration Pattern</u>    | <b>AM Peak Period 7:00-9:00</b> |  | <b>PM Peak Period 3:30-6:00</b> |  |
|--------------------------------|---------------------------------|--|---------------------------------|--|
|                                | <u>Inbound Volume</u>           | <b>( # of Vehicles )<br/>% of Entering Traffic</b> | <u>Inbound Volume</u>           | <b>( # of Vehicles )<br/>% of Entering Traffic</b> |
| Rutherford Road to Weston Road | 375                             | (174) 46%  |                                 |  |
| Weston Road to Rutherford Road |                                 |  | 741                             | (230) 31%  |

Traffic infiltration is normally defined as “vehicular traffic passing through an area when the vehicle operator does not have a destination in the area”. Generally, the threshold value above which through traffic is defined as infiltration is 30%. Clearly, it is shown through the traffic study that traffic infiltration within the Weston Downs Community during Rutherford Road construction was substantial.

#### Summary Comparison of Studies

The following summarizes the studies before and after the re-construction of Rutherford Road:

- The collected traffic volumes are similar for Village Green Drive and Velmar Drive south of Village Green Drive - pre-construction 3760, after construction 3292, reduction in traffic 12%.
- The average speeds have remained consistent - pre-construction range from 41 km/h to 44 km/h, after construction range from 39 km/h to 50 km/h.
- The ‘cut-through traffic’ of the Weston Downs community is minimal - after construction the cut through movements range from 0% to 10% for all studied locations.
- The ‘cut-through traffic’ between Rutherford Road/Velmar Drive and Weston Road/Astona Boulevard has reduced from 46% in September 2004 to 10% in April 2005 during the morning period.

- The 'cut-through traffic' between Weston Road/Astona Boulevard to Rutherford Road/Velmar Drive has reduced from 31% in September 2004 to 9% in April 2005 during the afternoon period.
- The total eastbound right turn volume from Rutherford Road onto Velmar Drive has reduced from 375 in September 2004 to 176 in April 2005 (53% reduction) during the morning period.
- The total northbound left turn volume from Weston Road onto Astona Boulevard has reduced from 741 in September 2004 to 550 in April 2005 (26% reduction) during the afternoon period.
- The traffic volume is mostly generated by the residents from within the community.

It can be concluded that motorists would tend to travel through the Weston Downs Community during the construction of Rutherford Road at Weston Road. Since the construction has now been completed the amount of 'cut-through traffic' and the number of vehicles turning into the community has reduced significantly in both the morning and afternoon periods.

Additional traffic calming measures for Greenpark Blvd., Valeria Blvd., Fifth Ave. and Woolacott Road in the form of speed humps and a raised crosswalk will be constructed this Summer as part of completion of Weston Downs Phase II works.

We note that York Regional Police Services have been requested to provide frequent traffic surveillance within the Weston Downs Community, specifically with respect to stop sign compliance and speeding violations. Further, Region of York Transportation and Works staff has now completed their review of the northbound left-turn advance and has concluded that current signal timings for the PM peak hours are adequate.

Staff will continue to monitor traffic on a random basis in the Weston Downs Community.

#### **Relationship to Vaughan Vision 2007**

This traffic study is consistent with Vaughan Vision 2007 as to ensure enhanced safety standards are incorporated in community designs (1.1.2).

This report is consistent with the priorities previously set by Council and the necessary resources have been allocated and approved.

#### **Conclusion**

This report details staff's findings to date regarding an assessment of the traffic operations for the Weston Downs Community staff have concluded that with the exception of those traffic calming works proposed for installation Summer, 2005 that no further action is required. Staff will however continue to monitor the area on a random basis.

#### **Attachments**

1. Location Map

#### **Report prepared by:**

Mike Dokman, Supervisor, Traffic Engineering, ext. 8031

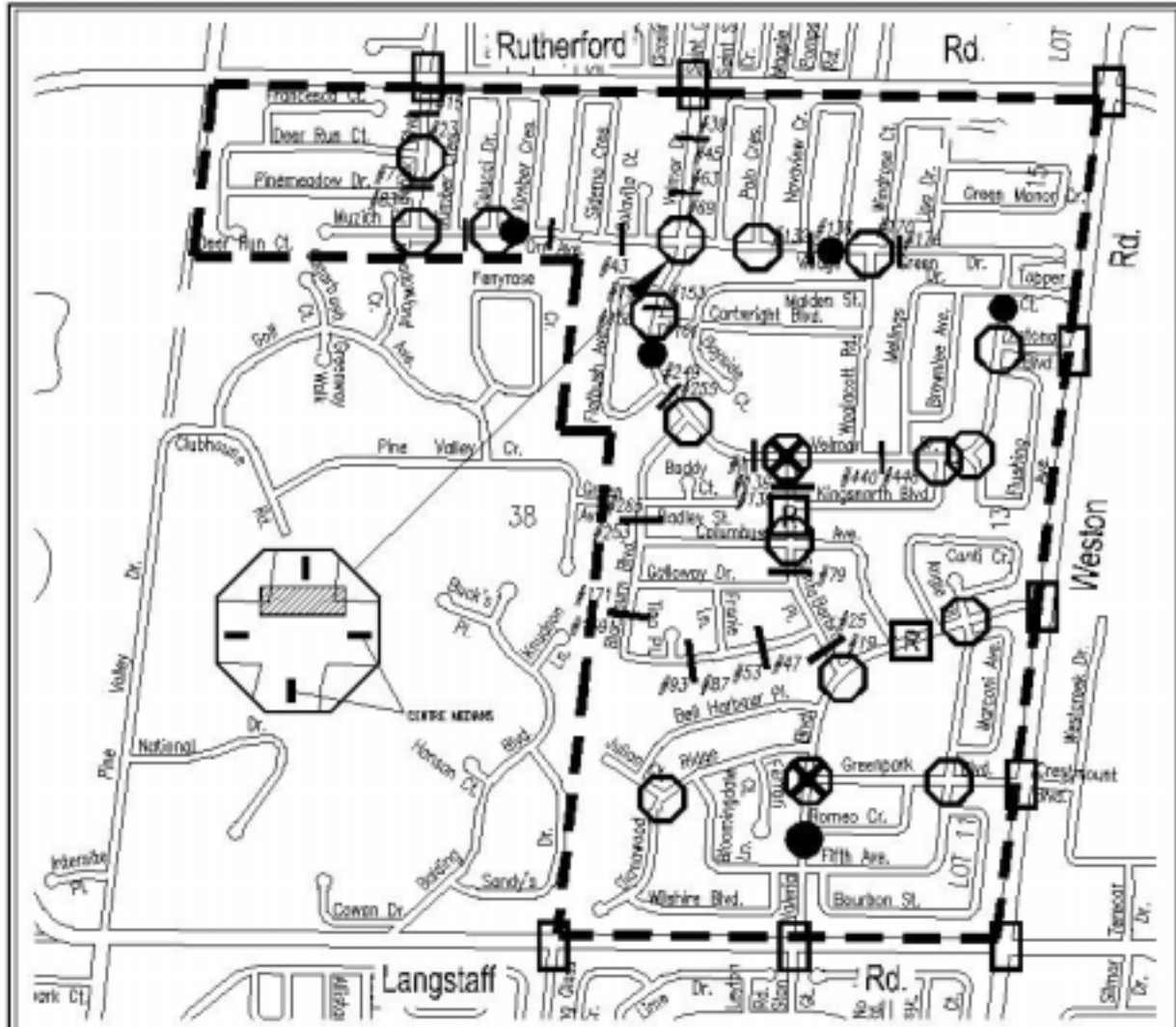
Respectfully submitted,

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

Gary Carroll, P. Eng.,  
Director of Engineering Services










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# ATTACHMENT No. 1



## WESTON DOWNS COMMUNITY TRAFFIC CALMING STUDY

### LEGEND

- |   |                                     |   |                                     |
|---|-------------------------------------|---|-------------------------------------|
|  | EXISTING TRAFFIC SIGNALS            |    | AUTOMATIC TRAFFIC COUNTER LOCATIONS |
|  | EXISTING ALLWAY STOP CONTROL        |    | RADAR SPEED STUDY LOCATIONS         |
|  | EXISTING SUPERVISED SCHOOL CROSSING |    | WESTON DOWNS COMMUNITY              |
|  | EXISTING SPEED HUMP                 |  | NOT TO SCALE                        |
|  | EXISTING RAISED CROSSWALK           |   |                                     |