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2006 ROADS MINOR CAPITAL PROGRAM

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, March 24, 2006, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

1. It is recommended that this report be received for information.

2. PURPOSE

This report is prepared to update Regional Council of the status of the Roads Minor Capital Construction Program which includes road resurfacing, intersection improvements and minor bridge and culvert repairs.

3. BACKGROUND

The Roads Capital Plan is a program of planned road improvements to accommodate growth in population and employment in the Region and to upgrade existing services to our communities. It is also geared towards meeting the Region's 2026 Vision goal of providing the "Infrastructure for a Growing Region".

A large portion of the projects that are contained within this capital plan are the major capital projects. These projects include road widenings, reconstructions, grade separations, new roads and highway interchanges. These projects are approved annually by Regional Council as part of the business plan and capital program and are depicted graphically in our 10-Year Roads Construction Program.

Also included in the yearly approved capital program are a series of other important projects that are required to either help prolong the life of our road infrastructure or to help alleviate traffic congestion on our roads. The projects that are included in this category include Road Resurfacing, Intersection Improvements and Bridge and Culvert Rehabilitation. These projects are generally smaller in scale than those identified as major capital projects, and for this reason staff commonly refer to this as the "Minor Capital Program". Other characteristics of the projects in the minor capital program include requiring no property acquisition, little or no utility relocations and generally minor regulatory permits and approvals. As such, these projects can be delivered much quicker than the larger projects.

Regional staff have regularly reported the status of the major capital projects to Transportation and Works Committee and Regional Council and felt it was equally important to highlight the road resurfacing, intersection improvements, and bridge rehabilitation that will be constructed in 2006.

The value of the 2006 Minor Capital Roads Program is approximately \$15 million as identified in the approved 2006 budget and business plan. This money provides for the improvement and rehabilitation of various assets, such as pavement, bridges, culverts, and intersections, which help to maintain a satisfactory level of service to York Region's residents.

The following section explains the processes by which projects are identified in each of the three components of the minor capital program.

3.1 Road Resurfacing and Road Improvements

Regional staff makes use of a pavement management system to determine the necessary rehabilitation techniques for sections of Regional roads. The pavement management system is an evaluation of the condition of all paved Regional road sections. It evaluates each section of road every two years and documents the extent and severity of pavement distresses (such as rutting, roughness and different types of cracking). Different rehabilitation techniques are considered to correct the stated deficiency. These techniques include crack sealing, grind and patch paving, microsurfacing, resurfacing and full depth reconstruction.

A network-wide optimization routine is then carried out to recommend a program of resurfacing and other minor work for each year over a ten-year time frame. The recommendations of rehabilitation techniques are based on the effectiveness of dollars spent that will be suitable to maintain road and traffic conditions to an acceptable service level.

Staff within the Roads Branch review the recommendations to prioritize them based on the specific repair required. Also, the proposed works are coordinated with local municipal, and other regional contracts to avoid any potential conflicts and to minimize traffic impacts.

3.2 Intersection Improvements

As an intermediate step towards increasing road capacity without widening the road, intersection improvements are usually implemented first. Generally, this strategy allows the Region to delay the need to widen a road by a few years in most cases by providing road capacity improvements at the roadway's most congested points.

The Intersection Improvement Program is established by a committee of staff within the Transportation and Works Department - Roads Branch. This committee is comprised of four managers with a mandate to establish and schedule the program consisting of geometric, operational, development and safety improvements along the Regional road

network. Each year numerous requests for operational improvements and traffic control signals are received from local municipalities and members of the public. After these requests are received, they are brought forward to the Intersection Improvement Program Committee for consideration based upon their merits i.e. traffic control signal warrants, safety concerns, capacity improvements and cost. Once the committee has reviewed the project requirements, they are categorized for inclusion within the minor capital program. Intersection improvements that are more substantial in nature (i.e. require property, relocation of utilities and receipt of permits) are included in the 10-Year Road Construction Program. The projects are then subject to the available funding as approved by Regional Council through the approval of the budget.

3.3 Bridge and Culvert Rehabilitation

In 1997, Provincial Legislation was introduced under the *Public Transportation and Highway Improvement Act* requiring the structural integrity, safety and condition of every structure with a span of 3.0m and greater be determined through inspections. Inspections are carried out every two years, 50% of the structures are done each year. A total of 254 bridge and culvert structures over 3m in width are contained within the Regional system of which 143 are bridges and 111 are culverts.

In December 2005, York Region completed a Municipal Structures Inventory and Inspection Report. The inspections provide recommendations and cost estimates for structures which require maintenance or repair. These recommendations are made to maximize the life of bridge and culvert structures and delay the cost of full reconstruction. The projects are then prioritized based on factors such as coordination with road construction projects, safety improvements, traffic characteristics and funding constraints.

4. ANALYSIS AND OPTIONS

Over the past few years Regional Council has, through the approval of the Roads Capital Budget and 10-year Capital Program, endorsed a greater emphasis on improvement, rehabilitation, and optimization of the Region's road system assets. The following section identifies the list of key minor capital projects that were completed in 2005 and also identifies the planned improvements for 2006.

4.1 2005 Accomplishments

In 2005, a total of \$15 million was spent in the minor capital program which represented 100% expenditure of the approved budget. *Attachment 1* identifies the type of improvements and the locations where the work was completed.

4.1.1 Intersection Improvements

In 2005, York Region staff carried out minor improvements to over 35 intersections at a total cost of \$3.1 million. These improvements included:

- Construction of eight new traffic control signals.

- Improvements to 18 existing traffic control signals.
- Installation of illumination at 11 intersections.

4.1.2 Bridge and Culvert Rehabilitation

Various bridge and culvert repairs in 2005 were completed at a total cost of \$0.9 million including:

Bridge Repairs:

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|---------------------------|-------------------------------|-------------------|
| • High Street | - 0.95 km north of Highway 48 | Town of Georgina. |
| • 14 th Avenue | - 0.87 km east of Reesor Road | Town of Markham. |

Culvert Repairs:

- | | | |
|----------------------|--|-------------------|
| • Metro Road | - 1.4 km north of Morton Avenue | Town of Georgina. |
| • Old Homestead Road | - 1.4 km east of Warden Avenue | Town of Georgina. |
| • King Road | - 2.08 km east of 8 th Concession | Township of King. |
| • King Road | - 0.4 km east of 8 th Concession | Township of King. |

4.1.3 Road Resurfacing and Road Improvements Completed in 2005

In 2005, approximately \$11.3 million was spent on various road resurfacing and road improvement projects.

The road resurfacing projects completed in 2005 included:

- Yonge Street, between Bloomington Road and Industrial Parkway, Town of Aurora.
- Bloomington Road, between Kennedy Road and Highway 48, Town of Whitchurch-Stouffville.
- Highway 27, between Highway 7 and Steeles Avenue, City of Vaughan.
- Highway 7, between Highway 27 and Highway 427, City of Vaughan.
- Highway 7, between Kennedy Road and Highway 48, Town of Markham.
- Woodbine Avenue, between Vandorf Sideroad and south of Aurora Road, Town of Whitchurch-Stouffville.

Minor road improvement projects in 2005 included:

- Microsurfacing of Woodbine Avenue between Stouffville Road and Ravenshoe Road.
- Microsurfacing at 15 intersections in various locations.
- Surface treatment of 60 lane-kilometres or roads in various locations.
- Grind and patch paving of various locations.

4.2 2006 Roads Minor Capital Program

In a continuing effort to maintain the Regional roads, bridges and culverts, and to maximize the safe and effective functions at intersections, \$15 million has been approved in the 2006 capital budget for minor capital works. *Attachment 2* identifies locations of the improvements proposed for 2006.

4.2.1 Intersection Improvements for 2006

A total of \$3.5 million was approved for the construction program for Miscellaneous Intersection Improvements in 2006. This will be directed towards improvements in four different categories.

Installation of New Traffic Signals:

- Ninth Line at Delmark Boulevard/Kenilworth Gate, Town of Markham.
- Rutherford Road at Thornhill Woods Drive (including illumination), City of Vaughan.
- Yonge Street at Jefferson Sideroad, Town of Richmond Hill.
- Bayview Avenue at Hollandview Trail/Spring Farm Way, Town of Aurora.
- 14th Avenue at Middlefield Road (including illumination), Town of Markham.
- Gamble Road at Rolling Hill Road, Town of Richmond Hill.
- Dufferin Street at Kirby Road, City of Vaughan.
- Ravenshoe Road at Warden Avenue, Towns of Georgina/East Gwillimbury.
- Forest Fountain Drive and Rutherford Road, the City of Vaughan.
- 16th Avenue and Dewbourne Avenue, Town of Richmond Hill.
- Leslie Street East and West and Stouffville Road, Town of Richmond Hill.

Installation of Illumination:

- Jane Street at 17th Sideroad, Township of King.
- Highway 27 at 17th Sideroad, Township of King.
- Highway 27 at Kirby Road, City of Vaughan.
- Warden Avenue at 19th Avenue, Town of Markham.

Geometric Improvements:

- Metro Road at Old Homestead Road, Town of Georgina.
- Bathurst Street at Queensville Road (including illumination), Township of King/Town of East Gwillimbury.
- Jane Street at Springside Road (including traffic signal modifications), City of Vaughan.
- Elgin Mills Road East at Yorkland Street/Enford Road (including traffic signal modifications), Town of Richmond Hill.

4.2.2 Bridge and Culvert Rehabilitation for 2006

Various bridge and culvert repairs total approximately \$500,000 in contract value for 2006 include:

- Bowes Bridge on Langstaff Road, City of Vaughan.
- Culvert repair Leslie Street north of Bloomington Road, Town of Aurora.
- Bridge on Bayview Avenue over Highway 7, Towns of Richmond Hill/Markham.
- Joe Kelly pedestrian bridge, Town of East Gwillimbury.
- Minor repair of bridges and culverts in various other locations.

4.2.3 Various Road Resurfacing and Road Improvements for 2006

In 2006, \$11.2 million has been approved to be spent on various Road Resurfacing and Road Improvement projects.

The road resurfacing projects for 2006 include:

- Jane Street between Highway 7 and Langstaff Road, City of Vaughan.
- Weston Road between Highway 7 and Langstaff Road, City of Vaughan.
- Leslie Street between Mount Albert Road/Farr Avenue and Ravenshoe Road, Town of East Gwillimbury.
- McCowan Road between Stouffville Road and Bloomington Road, Town of Whitchurch-Stouffville.
- Warden Avenue between Stouffville Road and Bloomington Road, Town of Whitchurch-Stouffville.

5. FINANCIAL IMPLICATIONS

Regional Council has allocated funding in the order of \$15 million to the Minor Capital Program through its approval of the 2006 budget and business plan. Table 1 identifies the breakdown of each component of the Minor Capital Program and the respective funding sources.

Table 1
Minor Capital Funding

Minor Program	Development Charge/Tax Levy (%)	2006 Budget
Miscellaneous Intersection Improvements	59.5/40.5	\$3.450 million
Miscellaneous Bridge and Culvert Rehabilitation	0/100	\$.500 million
Various Road Improvements and Road Resurfacing	0/100	<u>\$11.213 million</u>
Total		<u>\$15.163 million</u>

6. LOCAL MUNICIPAL IMPACT

The improvements planned in the 2006 Minor Capital Program will have a positive impact to the respective local municipalities. Regional staff work closely with local municipal staff to coordinate our works with any proposal by the local municipalities. In order to expedite some of the rehabilitation work, staff may seek approval of the local municipal Councils for noise exception by-laws to allow night work if appropriate.

7. CONCLUSION

An appropriate maintenance and rehabilitation program is critical to extend the life of our road infrastructure and protect the infrastructures value. Systems have been put in place to evaluate the best methods of rehabilitation for the pavement structure and Regional bridges and culverts. Regional Council has approved funds in the 2006 budget for intersection improvements, road resurfacing and bridge and culvert rehabilitation. This report presents to Regional Council our 2006 Minor Capital Program.

Through continued monitoring of our assets through such programs as the Pavement Management System and Bridge and Culvert Inspections Program, staff will improve and build on our ability to deliver the best and most cost conscious program to maximize the life of our infrastructure.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)