

4

PRIORITY SETTING MODEL FOR ROADS CAPITAL CONSTRUCTION PROGRAMMING

The Transportation Services Committee recommends the adoption of the recommendation contained in the following report dated September 21, 2011, from the Commissioner of Transportation Services.

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report is to update Regional Council on the criteria used to develop and prioritize the 10-Year Roads Capital Construction Program.

3. BACKGROUND

Regional Council approved the original Transportation Master Plan in 2002 providing a framework for future transportation decisions

The Transportation Master Plan provides a framework for future transportation decisions, which support the Regional goals of sustainability, measured through environmental conservation, economic vitality and healthy communities.

The 2002 Transportation Master Plan outlined a rapid transit investment strategy to complement the maturing urban road system. The Transportation Master Plan identified a list of priority projects separated into three categories:

- Less than 10 years
- 10 – 20 years
- Beyond 20 years

A Priority Setting Model was developed following the approval of the York Region Transportation Master Plan

In 2002, after finalizing the York Region Transportation Master Plan, staff developed a defensible and transparent process to prioritize each project identified in the Transportation Master Plan. The result was a Priority Setting Model, which became the tool to achieve this.

The original Priority Setting Model scored each road link based on criteria that Council identified to be priorities at that time. The criteria listed in the Priority Setting Model in 2002 included:

- Existing traffic volumes
- Future traffic volumes
- Pavement condition
- Collision prediction factor
- Overall community and network benefit

The criteria are applied to the projects and a 10-Year Roads Capital Construction Program is developed and presented to Council as part of the annual business plan and capital budget.

Between 2002 and 2005, there were a number of changes in the planning regime for transportation projects that resulted in Regional Council approving new initiatives or responding to imposed constraints

Between 2002 and 2005, there were a number of changes that occurred which resulted in Council key initiatives. These changes can be separated into two categories, the first being “Council directed priorities” in which Council made strategic decisions to proceed in a certain direction, and the second being “imposed constraints” where external factors that Council has little or no control over have influenced our programs.

The following programs or initiatives are ones in which Council has chosen to allocate significant funding and resources. These programs or initiatives are not necessarily new but rather where additional emphasis has been placed in these areas since 2002 to meet the growing needs of our communities:

- *Transit Initiatives*, including introduction of VIVA and bus rapid transit, automated fare collection, traffic signal priority for transit vehicles, etc.
- *Managing Congestion Initiatives*, including transportation demand management, parking, communication and education, road expansion, etc.
- *Planning Initiatives*, including a growth management strategy, community intensification, a centres and corridors strategy, etc.
- *Asset Management Initiatives*, including maintaining a good state of repair for the transportation infrastructure.

The following programs or initiatives are ones that have been imposed on Council. These external factors have occurred since 2002 and have had a direct effect on the capital roads program and needed to be considered as part of any programming of the projects:

- *Changes in Legislation*, including the *Greenbelt Act, 2005* and *Greenbelt Plan*, the *Places to Grow Act, 2005* and the *Places to Grow - Growth Plan, 2006* for the Greater Golden Horseshoe, new Provincial Policy Statements, etc.
- *Neighbouring Municipalities' Infrastructure Programs*, most notably the difference in identification and timing of projects north of Steeles Avenue and south of Steeles Avenue.
- *Financial Pressures*, including the upward trend in project costs, notably in the areas of property acquisition and environmental mitigation and enhancement.

In 2005, the priority setting model was reviewed with the intent of reflecting these significant changes in how projects are prioritized in the 10-Year Roads Capital Construction Program

In 2005, staff reviewed the priority setting model in detail. They concluded that modifications were needed to reflect the changes in Council direction between 2002 and 2005 and the external factors affecting the delivery of transportation services. This resulted in a number of new criteria becoming necessary to support:

- Transit initiatives
- Management of congestion strategy
- Planning initiatives
- Asset management principles

And will be considered in accordance with:

- New provincial legislation
- Neighbouring municipal/provincial plans
- Financial pressures

In April 2006, Regional Council approved a revised set of criteria for the prioritization of projects on the 10-Year Roads Capital Construction Program

In April 2006, Regional Council approved a revised set of criteria for use in the prioritization of projects in the 10-Year Roads Capital Construction Program. Table 1 presents the revised criteria and their relative weighting.

These criteria are still used to establish priorities when programming the projects on the 10-Year Roads Construction Program.

Table 1
Revised Criteria for Prioritizing Projects
In the 10-Year Roads Capital Construction Program

Criteria	Percentage Weighting
1. Existing Volume/Capacity	15
2. Future Volume/Capacity	5
3. Transit	15
4. Real Time Delays	5
5. Arterial Lane Connectivity/Capacity	5
6. Connectivity to a Provincial Freeway Network	10
7. Centres and Corridors	5
8. Development	5
9. Economic Development	5
10. Potential for Safety Improvements	10
11. Natural Environment Considerations	10
12. Pavement Conditions	10
Total	100

4. ANALYSIS AND OPTIONS

Each year staff use the Priority Setting Model in preparation of the Roads Capital Construction Program

Every year staff collect the data and undertake the modelling necessary to update each criterion in the Priority Setting Model. The Priority Setting Committee, which is comprised of senior staff and technical specialists from Transportation Services and Planning and Development Services, reviews this data to ensure it accurately reflects existing and future conditions.

After agreement is reached on the data a series of filters are used to calculate an aggregate “score” for each road link, which delineates the relative need for improvements

The Priority Setting Model calculates a “score” for each road link. This score reflects the aggregate score of all the criteria used in the model. Road links with the highest score reflect the most deficient or critical sections of our transportation network. These sections are the highest priority areas and should receive the most consideration in programming future road improvements.

The Priority Setting Committee then reviews the overall aggregate scores and for each road link. Based on the model output, experience and knowledge of local challenges, they identify for Council’s consideration new projects that should be incorporated into the

Roads Capital Construction Program or if the timing of existing projects should be adjusted.

Since 2007, the Priority Setting Model continues to provide consistent results and a stable program with transparent and defensible decision-making

The revised criteria were used for the first time in preparation of the 2007 10-Year Roads Capital Construction Program. Between 2007 and 2009, the program changed only slightly based on small changes in the input data and modelling output. This reflects positively on the effort and completeness of the 2007 work. It also demonstrates the efficiency of the Priority Setting Model at producing consistent and repeatable results year over year.

Existing and emerging pressures necessitate a review of the Priority Setting model Criteria to ensure they are still reflective of Council's priorities

Over the last three years, the output of the Priority Setting Model has been consistent and stable. However, there have been an increasing number of changes to the timing of projects in the Roads Capital Construction Program. These timing changes and the addition/deferral of projects have been largely based on implementation delays, significant cost escalation in property acquisition and environmental mitigations and the availability of funding. This has been experienced throughout York Region. An example of this is in the Town of Markham where several major capital projects have been deferred significantly pending the outcome of the Sustainable Travel Choices study.

In addition, the 2009 update to the Transportation Master Plan, the ongoing commitments and expectations for rapid transit delivery in York Region and the continuing transition of our communities to higher density housing is causing us to reconsider the Priority Setting Model criteria and weighting.

Staff are reviewing the Priority Setting Model criteria and weighting

In spring 2011, staff began discussing a process to review the existing Priority Setting Model and assess whether or not it continues to provide a Roads Capital Construction Program that is responsive to Council's direction.

Consultation with local municipal staff, the Regional Planning Department and the York Region Rapid Transit Corporation will be key components of this review. Proposed changes, if any, to the Priority Setting Model will be presented to Council in spring/summer 2012. Changes to the Priority Setting Model approved by Council will then be used in developing the 2013 10-Year Roads Capital Construction Program.

The review of the Priority Setting Model will include an assessment of the types of projects recommended in the Roads Capital Construction Program and how to make the transportation investments more responsive to near-term needs

The length of time it takes to implement a major road expansion project continues to increase. These projects now take a minimum of eight to ten years from the start of the planning/Class Environmental Assessment to the commissioning of the completed improvement. While these types of projects are necessary to support the long-term transportation strategy, they are not very responsive to the near term needs of our communities. Therefore, in refining the Priority Setting Model criteria, staff will also look at the types of improvements considered and look for opportunities to implement smaller scale projects that will address the near-term need for capacity improvements yet not preclude a future major expansion or transit related improvement.

5. FINANCIAL IMPLICATIONS

There are no specific financial implications as a result of the recommendation of this report.

Council continues to place a significant priority on managing congestion, maintaining a state of good repair and accommodating growth in travel demand throughout York Region. Having a defensible and transparent decision making process behind the Roads Capital Construction Program provides solid support for Council's significant investments in transportation infrastructure.

6. LOCAL MUNICIPAL IMPACT

The 10-Year Roads Capital Construction Program provides direct benefits to all local municipalities by providing new and reconstructed infrastructure to support existing and planned communities. The Priority Setting Model is a defined process supporting the recommendations for road improvements presented to Council as part of the annual budget process, which provides confidence that the investments are appropriate and balanced.

7. CONCLUSION

Through the development of the 2002 Transportation Master Plan, a Priority-Setting Model was implemented which identified a number of criteria used to prioritize the projects resulting in the 10-Year Capital Program. Between 2002 and 2005 there were a number of significant changes to both strategic decisions of Council as well as external factors that the Region has had limited to no control over. As such, in 2006 Council

approved a revised set of criteria and weighting to be used in prioritizing the 10-Year Roads Capital Construction Program.

The revised criteria have been used in developing the 10-Year roads Construction Program since 2007. These criteria and weighting have resulted in a stable and defensible program. However, in light of the ongoing challenges in the timely delivery of major capital expansion projects and to be more responsive to the near term needs of our communities it is appropriate to review the Priority Setting Model criteria.

Between spring 2011 and spring 2012, staff will complete a review of the Priority Setting Model criteria and weighting. Changes, if any, to the criteria will be presented to Council in spring/summer 2012. Approved changes can then be used to develop the 2013 10-Year Roads Capital Construction Program.

For more information on this report, please contact Stephen Collins, Manager Engineering Roads at Ext. 5949.

The Senior Management Group has reviewed this report.