

Clause 5 in Report No. 12 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on September 21, 2017.

5

Transportation Capital Programming

Committee of the Whole recommends:

1. Receipt of the presentation by Brian Titherington, Director, Transportation and Infrastructure Planning.
2. Adoption of the following recommendation contained in the report dated August 24, 2017 from the Commissioner of Transportation Services:
 1. This report be received for information.

Report dated August 24, 2017 from the Commissioner of Transportation Services now follows:

1. Recommendation

It is recommended that this report be received for information.

2. Purpose

This report provides an update on the Transportation Capital Programming process used to develop and prioritize projects in the development of the yearly updates to the draft 10-Year Transportation Capital Plan. Transportation Services staff is now reviewing and updating the process to better align with the Region's Fiscal Strategy and objectives of the 2016 Transportation Master Plan in order to inform development of the 2019 multi-year budget and Transportation Capital Plan.

3. Background

A process to prioritize transportation capital projects has been in place since 2002

The Transportation Capital Programming process was initially developed to prioritize projects included in the 2002 Transportation Master Plan (TMP). Prioritization using a priority-setting model is one step in the Transportation Capital Programming process. 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

In April 2006, Council approved a revised set of criteria for the prioritization of transportation projects

In [April 2006](#), Council approved a revised set of criteria for use in the prioritization of transportation projects. Table 1 summarizes the revised criteria and their relative weighting.

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 Provincial Freeway Network	10

Transportation Capital Programming

Criteria	Percentage weighting
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

These criteria still form the basis of the priority-setting model currently used to prioritize road segments. An update to the process was provided to Council in 2011. Some of the priority-setting criteria have evolved since 2006 to reflect the availability of better data sources, to reduce double counting of some factors, and to reflect updated Provincial legislation/requirements.

The priority-setting model is only one component of the transportation capital programming process

The Transportation Capital Programming process includes the following major components:

- Prioritization – an assessment of transportation need ranking more than 600 individual Regional road links (two kilometre segments of road) using a priority setting model, which is based on quantitative data reflecting Council endorsed criteria.
- Project Planning and Estimating - grouping the highest-ranked road links into a smaller list of logical projects to be implemented. The costs to plan, design and construct the project are estimated and may include road widening, property acquisition, new bridges, grade separations, etc.
- Coordination with other work – coordinate transportation projects with the Regional Official Plan (development growth/planning) and other major infrastructure projects such as water and wastewater.
- Funding – the prioritized list of projects are programmed based on available funding to create the 10-Year Transportation Capital Plan, which is reviewed annually.

Transportation Capital Programming

With the 2016 approval of the Transportation Master Plan, it is now appropriate to review and update the process

The Transportation Capital Programming process, including the prioritization criteria used in the priority-setting model, were reviewed and updated after completion of the Transportation Master Plans in 2002 and in 2009. The reviews ensured the process was still reflective of the Region's priorities and pressures as documented in the approved TMPs.

The timing is appropriate to update the Transportation Capital Programming process. Significant factors that will guide the review of the programming process are:

- The Council-approved Regional Fiscal Strategy
- Recent changes in legislative requirements of the *Development Charges Act, 1997*
- Regional Official Plan and Municipal Comprehensive Review
- Completion of the 2016 Transportation Master Plan

4. Analysis and Implications

Fiscal realities require the 2016 Transportation Master Plan list of projects be prioritized for implementation

Despite the fact this Council has invested more funding into transportation infrastructure than any previous term of Council, it is not fiscally feasible or desirable to continue to build transportation infrastructure to meet ever-increasing peak travel demands (primarily by automobile). The transportation projects identified in the 2016 TMP, which are intended to meet peak travel demands to the year 2041 and beyond, are not fiscally feasible with current Regional funding sources.

As shown in Table 2, there is a significant gap between the transportation needs identified in the 2016 TMP and the funding available to align with the Fiscal Strategy. As discussed with the TMP task force and Council, it is not feasible to fund this gap with existing funding sources.

Table 2

Gap between Transportation Master Plan and available Road Capital Growth Funding over the next 10 Years (\$ Billions)

	\$ (Billions)
TMP Projected 10-Year Road Capital Growth Needs	\$2.8
Available Road Capital Growth Budget	\$1.3
10-Year Gap	\$1.5

Recognizing that this funding gap will continue to exist until alternative funding sources are realized, the programming process needs to be reviewed to ensure the 2016 TMP project list be further refined to reflect current and future fiscal realities.

The programming process should also be reviewed to ensure alignment with the revised objectives of the 2016 Transportation Master Plan

The 2016 Transportation Master Plan has been endorsed by Council and recognized with multiple awards for its long-term vision and overarching five objectives:

- Create a World Class Transit System
- Develop a Road Network Fit for the Future
- Integrate Active Transportation in Urban Areas
- Maximize the Potential of Employment Areas
- Make the Last Mile Work

The programming process needs to be revised to better reflect these objectives.

The updated programming process needs to maximize the return on investment for the prioritized transportation projects

In addition to the quantitative data used in the priority setting model, the larger transportation projects need to be prioritized based on overall value and the benefits they provide. It is important to recognize that not all transportation

projects provide the same benefits for all users relative to the project cost and not all elements of a project need to be constructed at the same time.

An example is a comparison of two different road widening projects, two to four lanes and four to six lanes. In both examples, a new lane of roadway is added in each direction. However, one project widens a road from two to four lanes (roadside ditches become urban curbs and sidewalks). The other widens a road from four to six lanes (curbs and sidewalks for the before and after scenario). The two to four lanes project adds new pedestrian, and possibly cycling facilities, and better facilitates transit and goods movement. The four to six lanes project already had existing curbs and sidewalks and widening to six lanes will simply retain those elements.

Recent project cost experience indicates a road widening from four to six lanes is approximately double the per kilometre cost of a widening from two to four lanes. Road widening in an urban environment is generally more costly than in a rural environment as result of significantly increased property costs, more extensive environmental mitigation measures as well the overall increase in costs to remove, relocate or replace/existing infrastructure such as utilities, water/wastewater infrastructure, storm sewers, sidewalks, curbs, trees, etc.

Furthermore, not all elements of road improvement projects necessarily need to be implemented when improving a section of road. For example, road/rail grade separations for commuter rail corridors may not represent good value-for-money since the travel time delays for commuter rail/road crossings are similar to those of a standard traffic signal cycle. These types of assessments will be project-specific as the impacts and delays along heavy freight rail corridors may be significantly different.

Other potential considerations for maximizing the return on investments may include:

- Leveraging other public investments, such as Regional water/wastewater infrastructure
- Coordinating with Provincial investments, such as Regional Express Rail
- Coordinating with private development
- Recognizing needs for asset management and maintenance costs

Transportation Capital Programming

The updated process is intended to inform development of the 2019 multi-year budget and capital program

Potential changes to the programming process are planned to be in place by mid-2018 to inform development of the new 2019-2023 multi-year budget and 10-year capital program.

Consultation with local municipalities is anticipated to begin in the fall of 2017. An update of the revised programming process will be provided to Council in spring 2018.

5. Financial Considerations

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

Council continues to place a significant priority on travelling smarter, providing transportation options, maintaining a state of good repair and accommodating growth in travel demand throughout the Region. Better integrating the fiscal realities in addition to transportation network needs considerations for all modes, will continue to justify support for Council's significant investments in transportation infrastructure.

6. Local Municipal Impact

The Transportation Capital Programming process provides direct benefits to all local municipalities by providing new and reconstructed infrastructure to support existing and planned communities. The Transportation Capital Programming process supports the recommendations for transportation improvements presented to Council as part of the annual budget process, which provides confidence the investments are based on an equitable assessment of transportation needs.

Local municipal staff will be engaged in the review of the programming process and through the annual discussions related to development of the 10-Year Transportation Capital Plan.

7. Conclusion

A process to prioritize investment into transportation capital projects has been in place since 2002. The process has typically been reviewed following the

Transportation Capital Programming

approval and completion of Transportation Master Plan updates. Given the completion of the TMP in 2016, it is an appropriate time to review and update the process.

Fiscal realities require the list of projects identified in the 2016 TMP be prioritized for implementation. The programming process should be reviewed and revised to integrate objectives of the 2016 TMP. The updated programming process needs to also maximize the return on investment for the prioritized transportation projects.

The updated process is targeted to be completed in time to inform development of the 2019 multi-year budget. Between fall 2017 and spring 2018, staff will complete a review of the Transportation Capital Programming process and present changes to Council in spring 2018. Potential changes would be used to develop the 2019-2023 Multi-Year Budget and 2019 10-Year Transportation Capital Plan.

For more information on this report, please contact Brian Titherington, Director, Transportation and Infrastructure Planning at 1-877-464-9675 ext. 75901.

The Senior Management Group has reviewed this report.

August 24, 2017

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Accessible formats or communication supports are available upon request

Transportation Capital Programing

Presentation to
Committee of the Whole

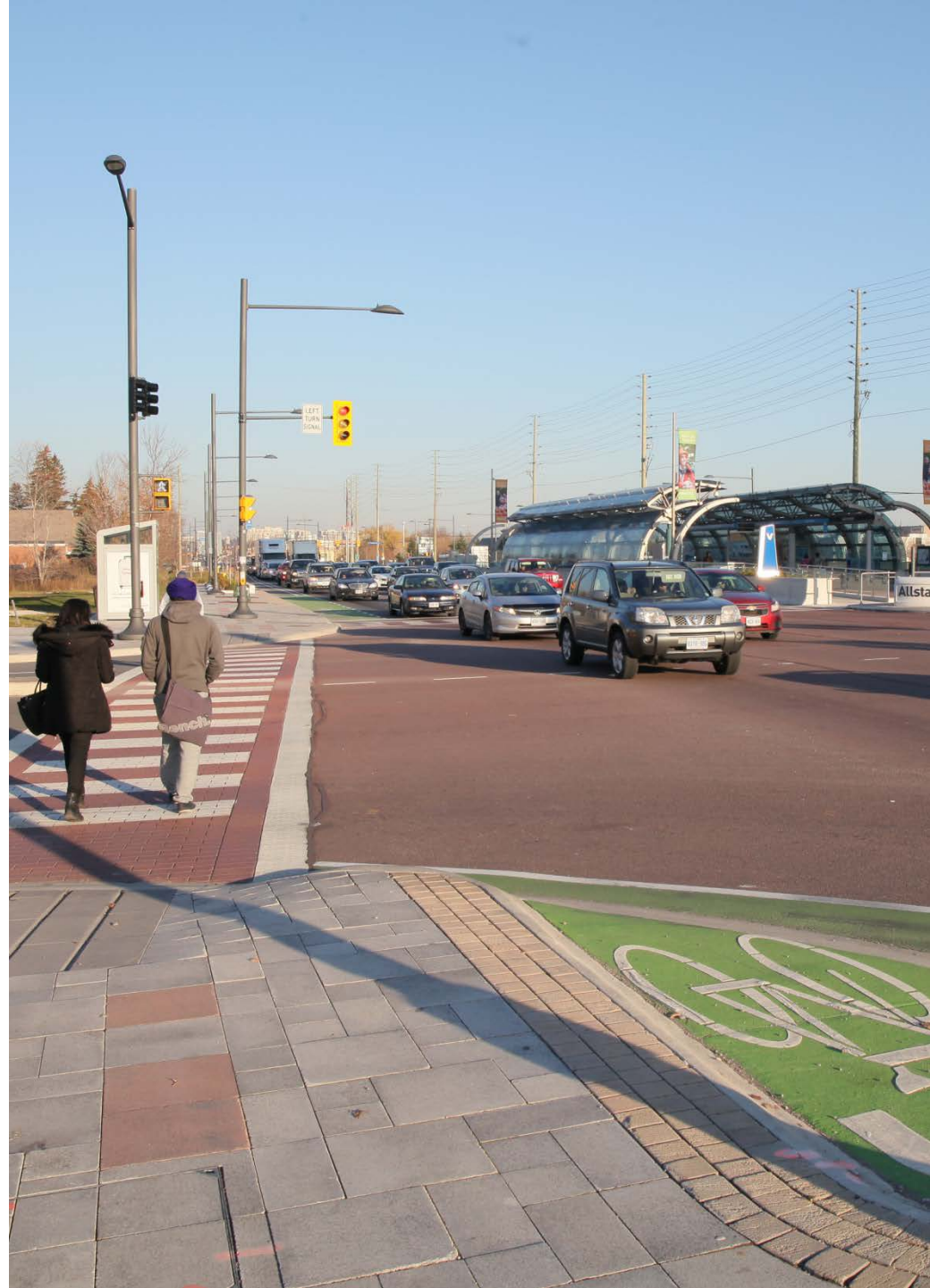
Brian Titherington

Transportation and Infrastructure Planning
September 7, 2017



Outline

- Purpose
- Current Process
- Evolving Opportunities
- Next Steps



Purpose

- To update Council on transportation capital prioritization process
- To better align Transportation Master Plan and Fiscal Strategy objectives
- Improve processes leading up to 2019-2023 Multi-Year Budget preparation



Increasing
Business Effectiveness

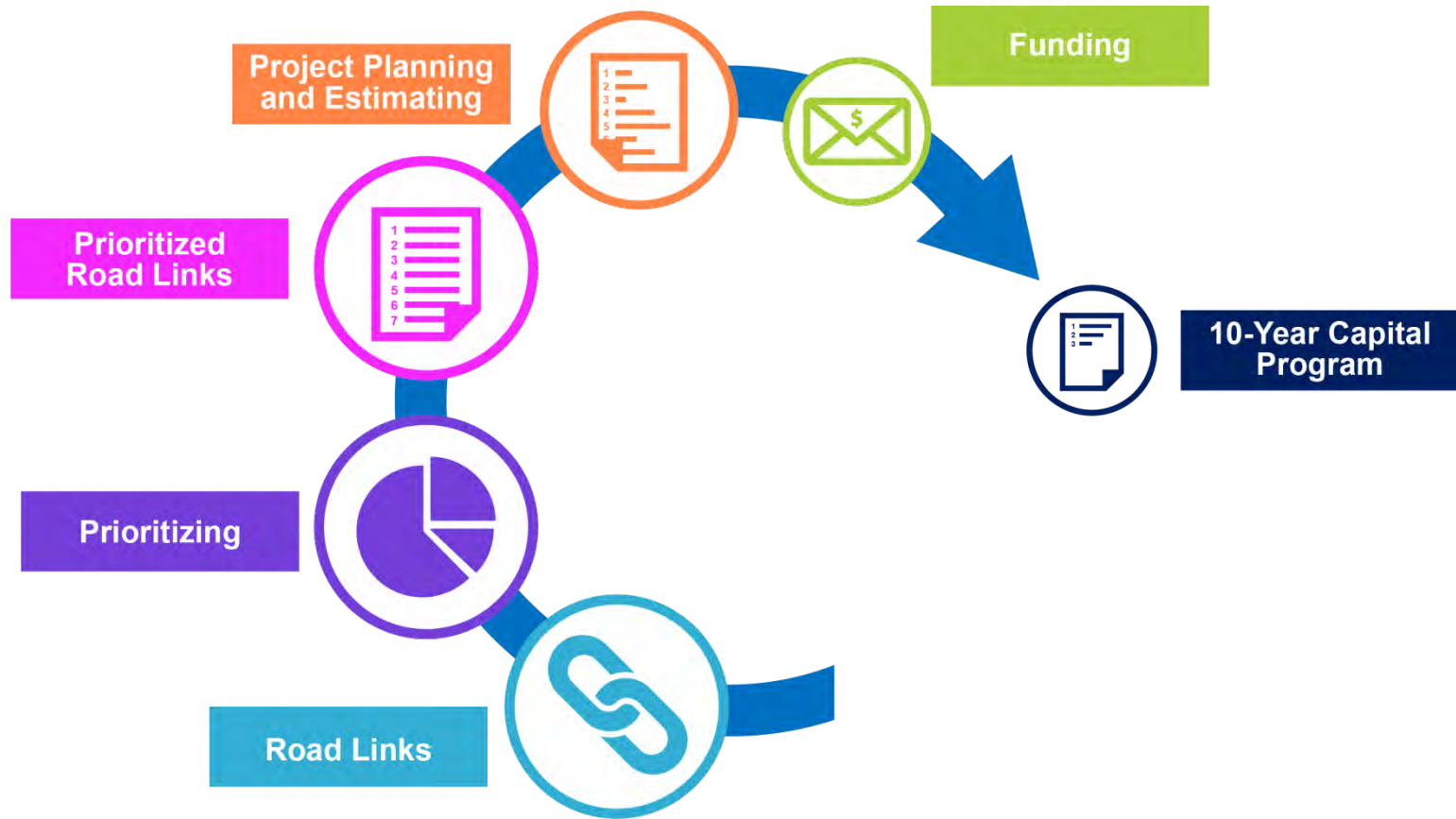


Enhancing
Traveller Experience



Building
System Improvements

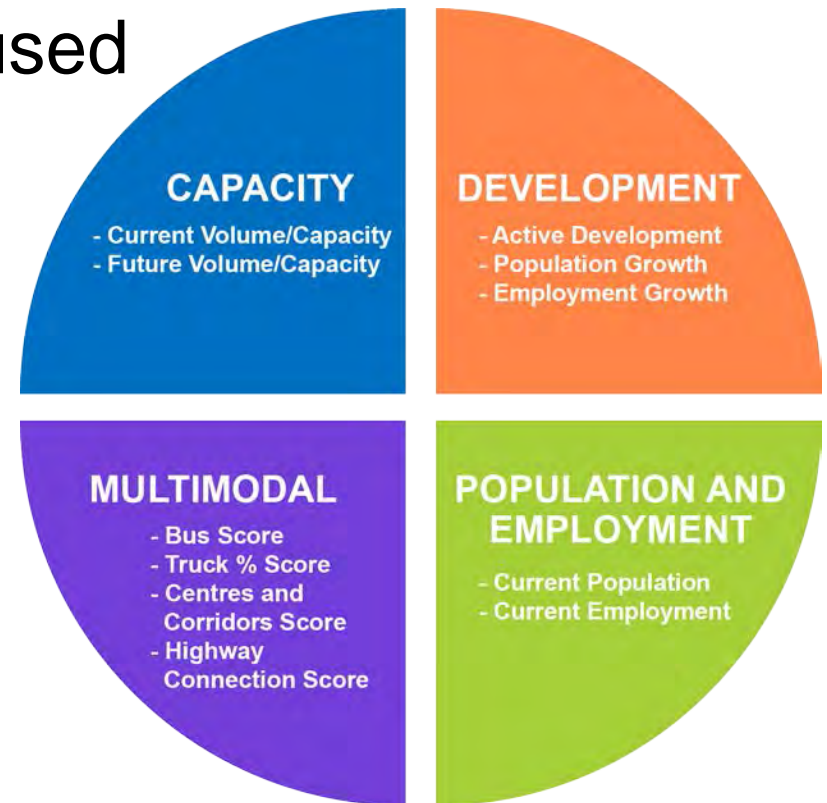
Context – Current Process



Consideration of funding is the last step

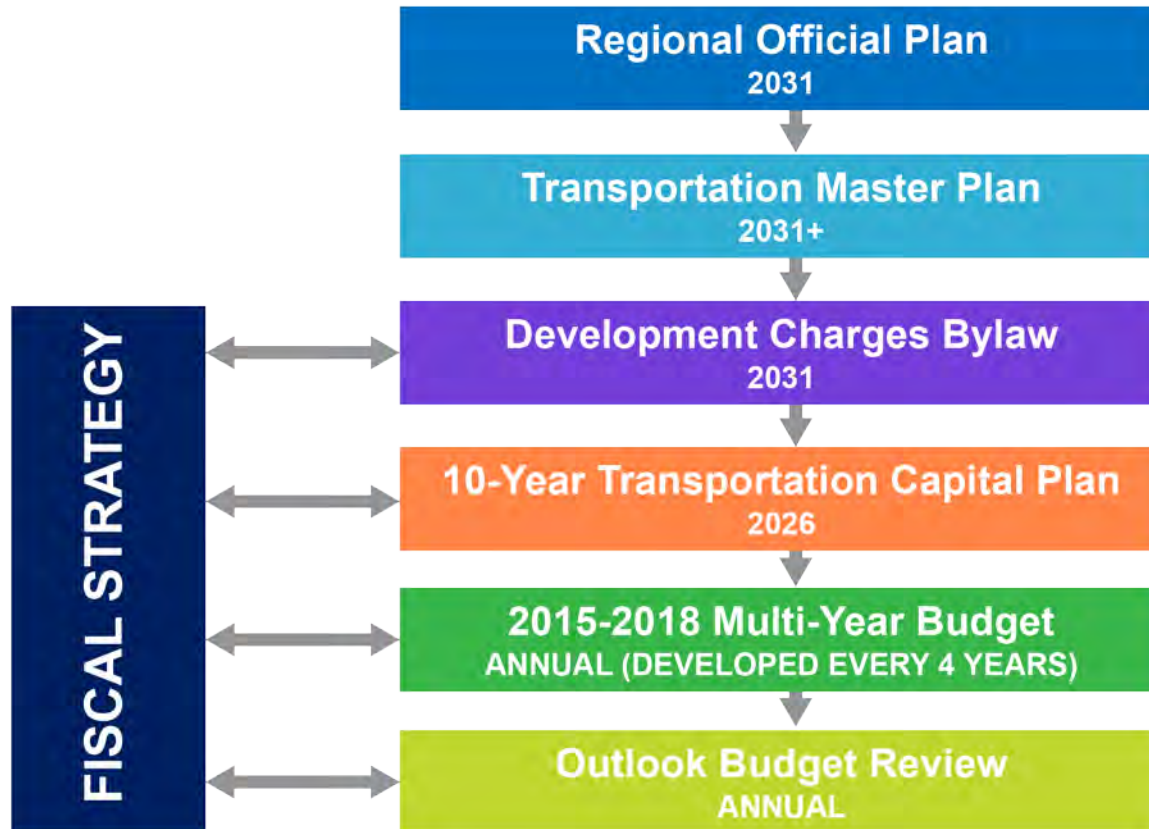
Context – Current Prioritization

- Primarily roads link focused
- Other modes not fully incorporated
 - Transit
 - Cycling
 - Pedestrians



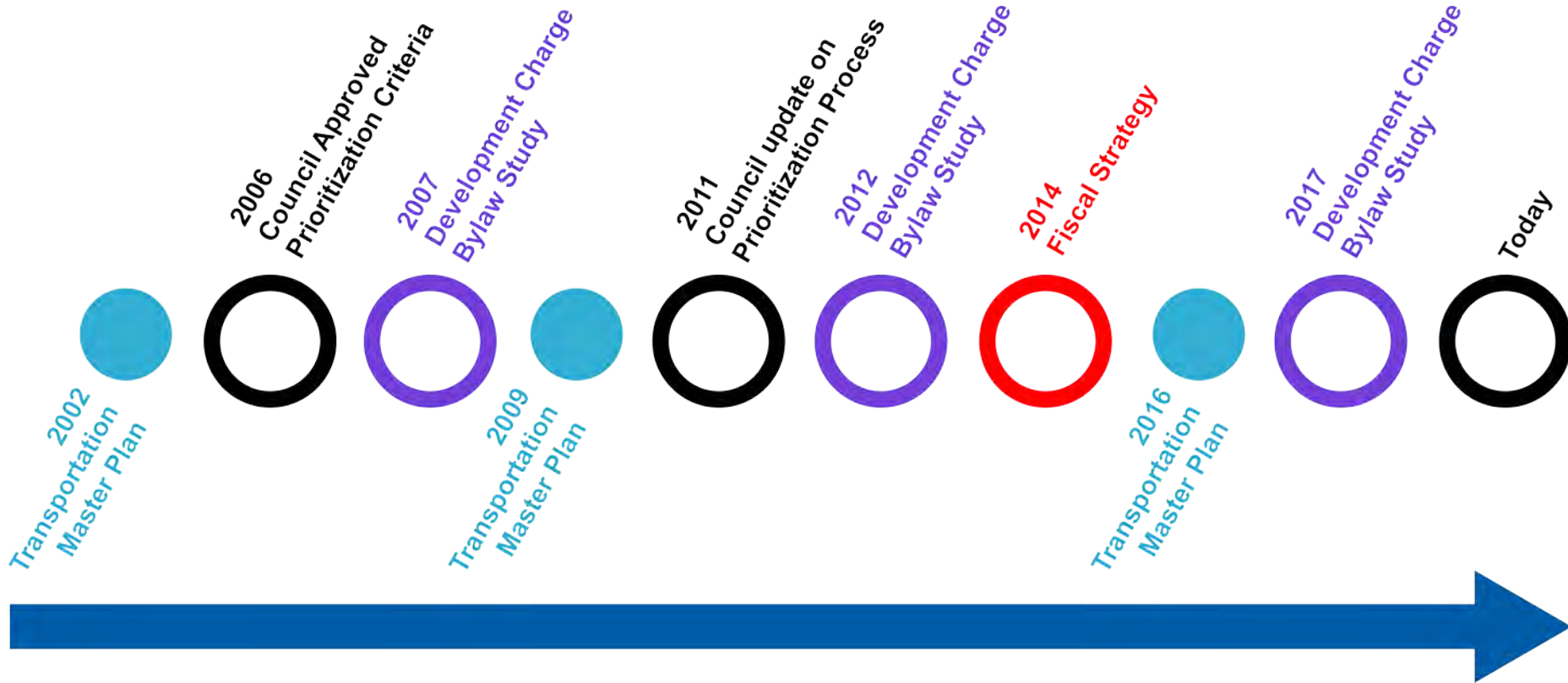
Based on Council approved criteria from 2006

Context – Incomplete Integration of Plans



Plans need to also be aligned from a fiscal perspective

Context: Historic Timeline



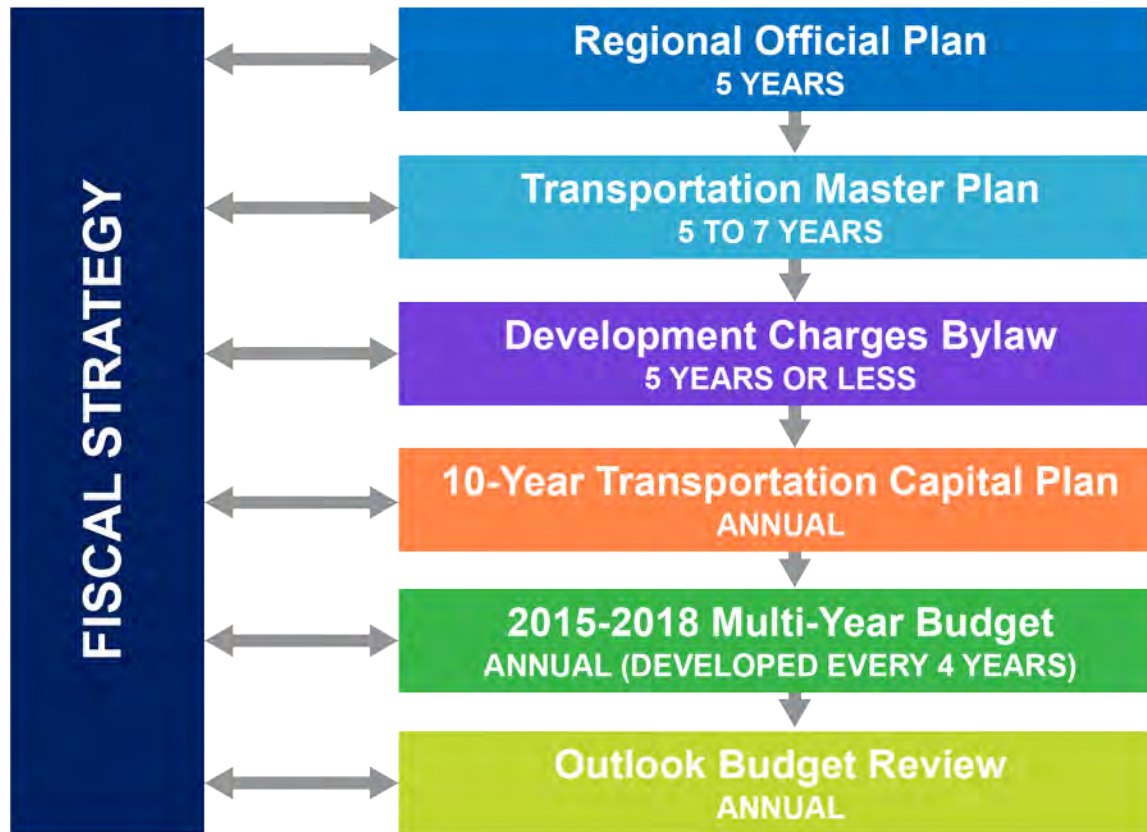
It is an appropriate time to review the process

Process Review Considerations

- Road link prioritization criteria need to be refreshed
- Program transportation projects considering non-roads based transportation needs and all capital investment options
- Financial considerations needs to be considered earlier in the process



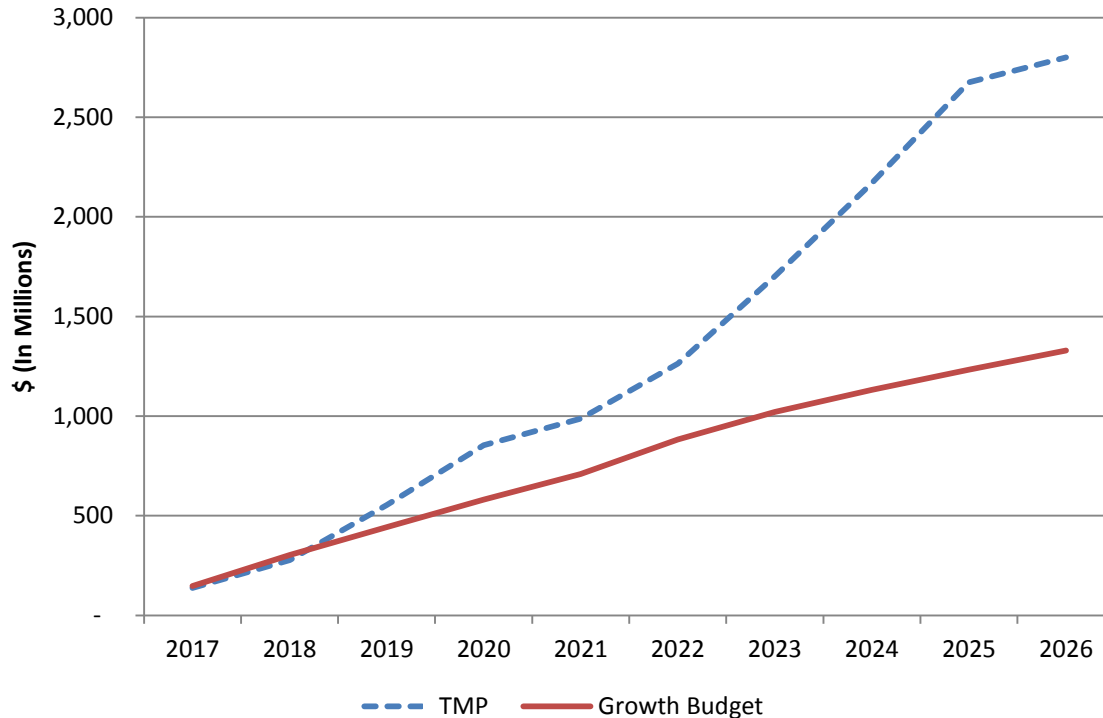
Desired State - Integration



Integrate fiscal strategy with all plans and processes

Moving Forward: From Vision to Reality

Cumulative Road Growth Gap










Roads Capital for Growth over the next 10 years (in \$ Billions)

TMP	\$2.8
Road Capital Growth Budget	\$1.3
10 Year Gap	\$1.5

Programming needs to reflect fiscal objectives

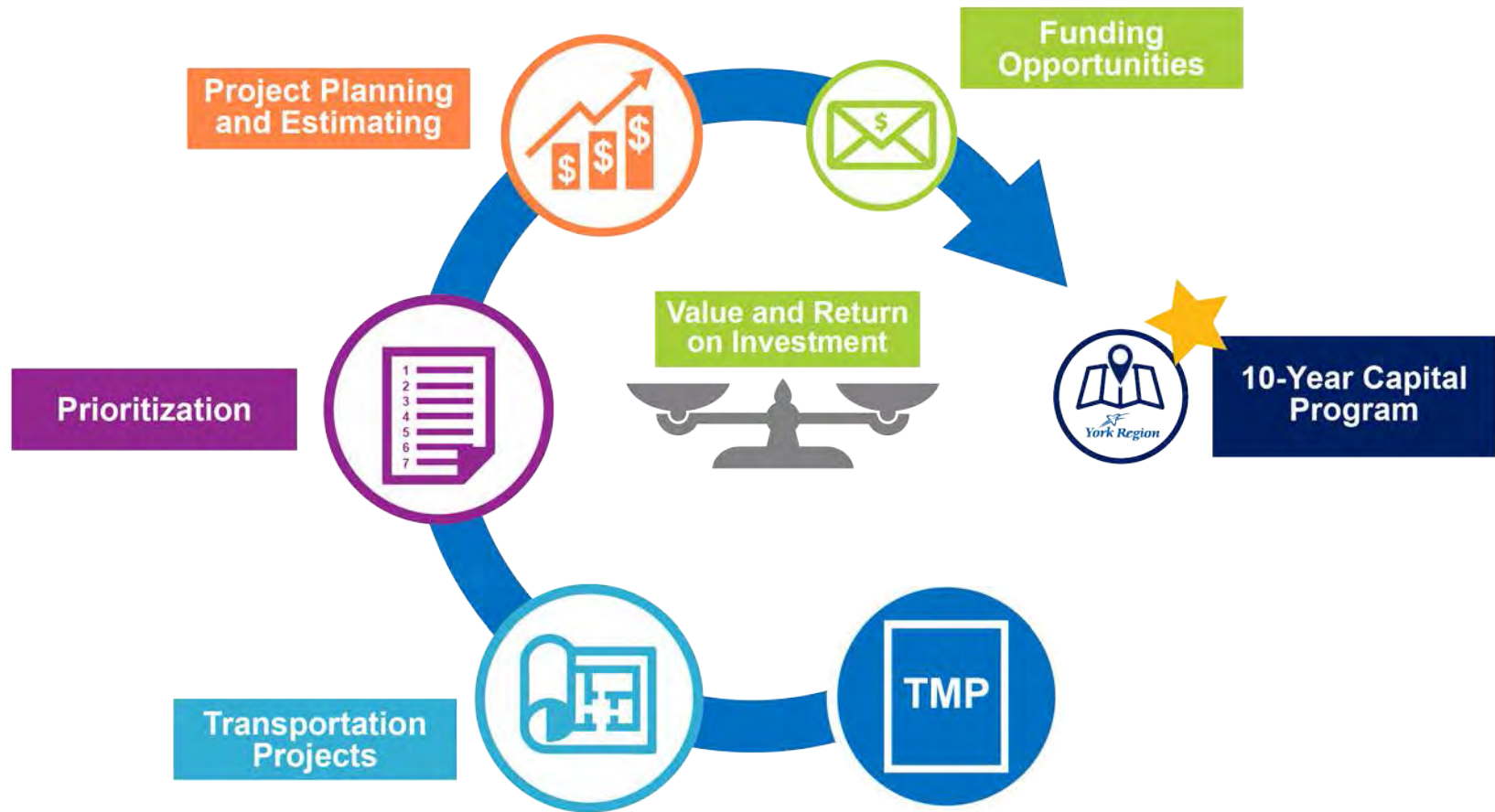
Moving Forward: Transportation Capital Investments

Sample Capital Investment Types	Potential Benefits/Impacts		
	Mobility	Travel Time Savings	Relative Capital Cost
Widening 4 to 6 Lanes (Urban to Urban)	—		\$\$\$
Rapid Transit			\$\$\$\$
Grade Separation			\$\$\$\$
Missing Road Link			\$\$\$\$\$



Not all project benefits are proportional to costs

Evolving Our Programming



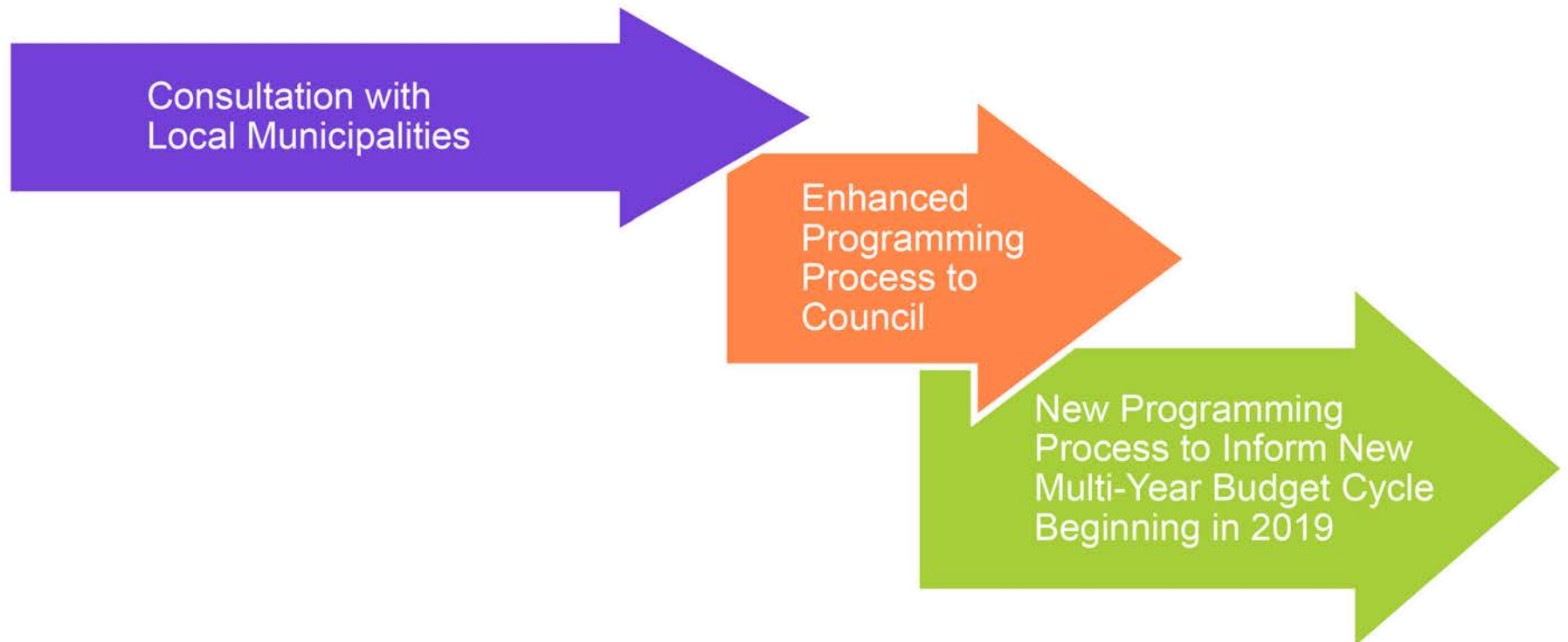
Connection to TMP and value throughout the process

Objectives of Revised Process

- Review and revise road link prioritization criteria
- Consider all transportation modes as capital investment options
- Better integrate Fiscal Strategy and financial considerations in programming and throughout the process



Next Steps



Thank You

Questions/Discussion

