Provincial- Municipal Roads and Bridges Review

Road Classification Framework

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Presentation

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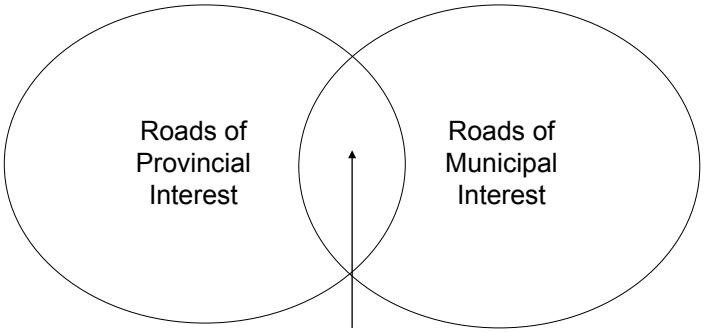
Introduction

- The Roads and Bridges Review Working Group 2 was responsible for identifying municipal roads of shared provincial-municipal interest.
- AMO retained IBI Group to assist the Working Group.
- The outcome was a consensus based, collaborative effort.
- Results were presented to the Roads and Bridges Review Steering Committee in June 2011.
- The Concurrent Session input will support the development of final recommendations in the Fall.

Background

- Roads serve many purposes and users – commuters, commercial carriers, tourists etc.
- The use of roads varies by day of the week, season, road type and geography.
- Roads connect population centres, economic nodes, transportation hubs and other activities across Ontario.
- These are factors to be considered when determining the provincial, municipal or shared provincial-municipal interest in a roadway.

Provincial-Municipal Interest



Roads of Shared Provincial-Municipal Interest

- The shared interest does not necessarily imply a change in jurisdiction or funding

Challenges

- Any classification methodology must be based on objective, consistent criteria, supported by data, that can be systematically applied across Ontario.
- Comprehensive data for all roads and economic activities across Ontario are not available.
- Difficult to define population centres due to different definitions for rural, urban and metropolitan areas.
- Variety of municipal governance structures and sizes so road classification approach has to be flexible.
- “No one size fits all.”

Approach

- The Roads and Bridges Sub-Group of the Provincial-Municipal Fiscal and Services Delivery Review (PMFSDR) concluded that the criteria used in the National Highway System are a good starting point for classifying the provincial interest in municipal roads.
- Focus on connectivity of population, economic, transportation nodes and whether some municipal roads are playing a provincial role in providing this connectivity.
- Use criteria and thresholds to classify municipal roads with varying degree of provincial-municipal interest.

Process

- Identify **Activity Nodes** based on criteria/thresholds:
  - population, transportation and economic nodes.
- Identify road **Connectors** between nodes.
- Classify into **Primary**, **Secondary** and **Tertiary** networks.
- Possible future network refinements based on other considerations (beyond study scope).

Road Classification Framework

Primary Network	Secondary Network	Tertiary Network
Population Nodes and Connections		
Connect major centres to each other	Connect to regional centres	Connect small centres/ sub-centres
Transportation Nodes and Connections		
Connect to: • road-based international border crossings • major road-based interprovincial border crossings • international airports • major marine ports • major intermodal terminals	Connect to: • regional airports • regional marine ports • regional intermodal terminals	

Economic Nodes

- Hospitals, universities considered as nodes but not included.
  - Many were within population centres i.e. hospitals, universities, etc. and population nodes are inclusive of such activities.
  - Primary access route is a municipal role and there are many potential routes.
- Lack of data for tourism, resource extraction, and other economic nodes; consider in future work.

Population Nodes

- **Primary Nodes/Major Centers (73 nodes)**
  - Used Statistics Canada Census data.
  - Identified population areas of 50,000+ population (25,000+ in North); use municipal boundaries.
  - Identified population centre as a primary node.
  - Population centre should have sufficient population-based services (e.g. hospital), otherwise node is demoted from primary to secondary.

Population Nodes

- **Secondary Nodes/Regional Centres (32 nodes)**
  - Principal urban centres of smaller population zones.
  - Other urban areas with population >10,000 (5,000 in North).
- **Tertiary Population Centres** (**84 nodes**):
  - Other urban areas with population >5,000; OR
  - Other urban areas with catchment population >5,000 AND including significant population-based services.
- Total Primary, Secondary, Tertiary: **189** population nodes.

Transportation Nodes

- **Border Crossings**
  - Primary: All international road crossings (**14**). international dangerous goods ferry (**1**).
  - Primary: Major interprovincial road crossings (**10**).
- **Airports**
  - Primary: National Airport System and high-cargo airports (**5**).
  - Secondary: Regional/Local designation (**15**) and/or scheduled year-round out-of-province service (**2**).

Transportation Nodes

- **Marine Ports**
  - Primary: Canadian Port Authority ports (**4**) and ports with over 5 million annual tonnage (**2**).
  - Secondary: Other ports with over 2 million annual tonnage (**5**).
- **Road-Rail Intermodal**
  - Primary: National Highway System / Ontario-Quebec Continental Gateway Terminals (**5**).
  - Secondary: Other intermodal terminals (**3**).

Summary of Activity Nodes

Criteria	Primary	Secondary	Tertiary	Total
Population Nodes	73	32	84	189
Transportation Nodes	41	25	-	66
Total	114	57	84	255

Summary of Network Lengths (km)

Criteria	Primary Network	Secondary Network	Tertiary Network	Total Network
Connection Type				
Population	10,172	990	551	11,713
Transportation	945	493	-	1,438
Jurisdiction				
Provincial	9,879	934	52	10,864
Municipal	1,238	550	499	2,287
Connecting Links	288	21	4	313
Other Municipal	950	529	495	1,974
Total	**11,117**	**1,483**	**551**	**13,151**

Summary

- A road classification methodology was developed using consistent criteria and connection guidelines.
- Road networks can be identified as being of "Primary", "Secondary", and "Tertiary" provincial interest.
- These road network classifications account for:
  - 313 km of Connecting Links
  - 1,974 km of other municipal roads
- The majority (85%) of Connecting Links are in the Primary and Secondary road network.

Conclusions

- Working Group 2 supports the proposed process to classify municipal roads on the basis of the activity node criteria and node connection guidelines.
- The process utilized publicly available data and identified those roads of provincial interest using a rational and reproducible methodology.
- More reliable data are required before other economic criteria (e.g. tourism nodes) can be applied systematically across Ontario.
- The road classification should therefore be viewed as preliminary, pending consideration of other economic criteria.