Roads and Transportation Asset Management Plan Update

Greater | Grand Sudbury

City of Greater Sudbury

- Home to 179,965 people
- Geographically the largest city in Ontario at almost 3200 square km's.
- Almost 3,700 lane km of roads

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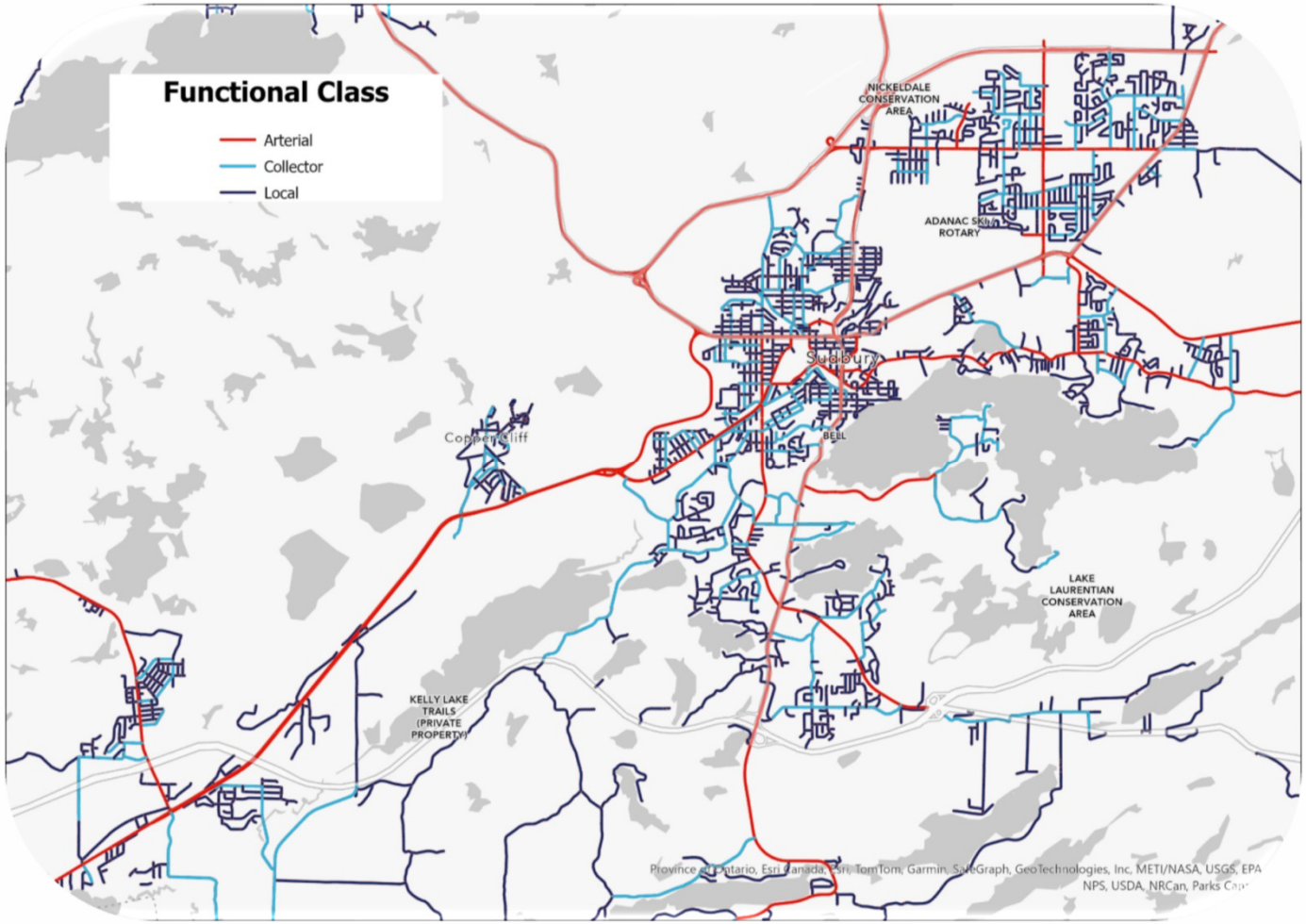
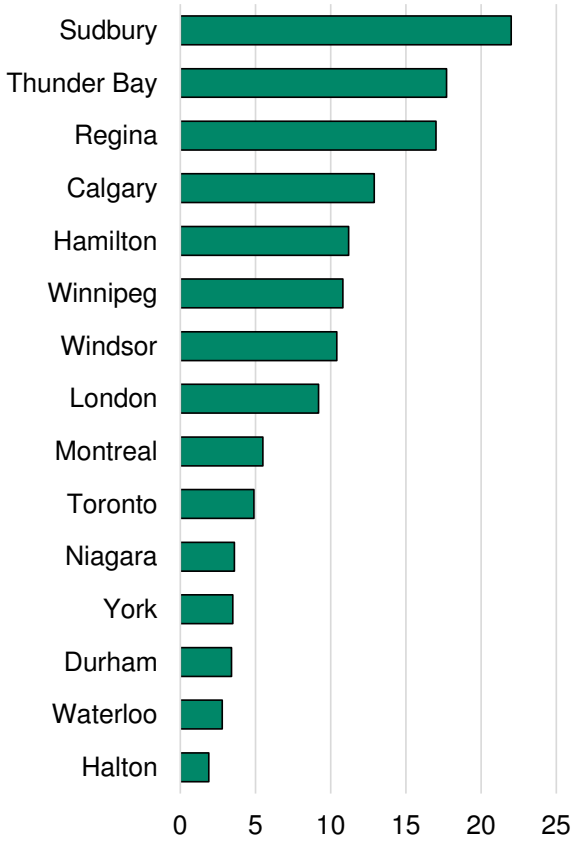


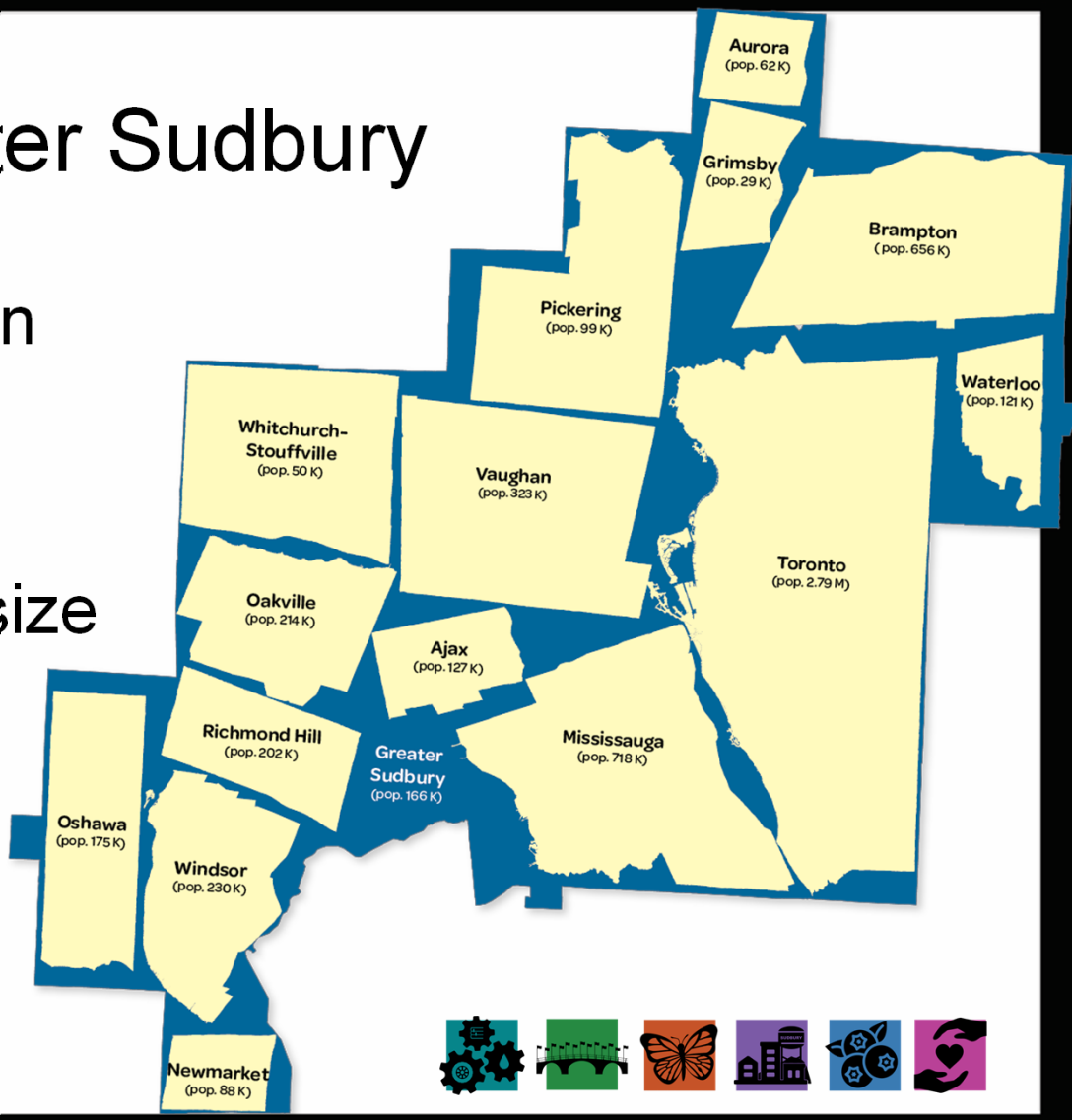
Lane Km per 1,000 Population



Greater Grand Sudbury

Key Issues Facing Greater Sudbury

- Shorter construction season
- Climate instability
- Resource constraints
- Tax base vs geographical size



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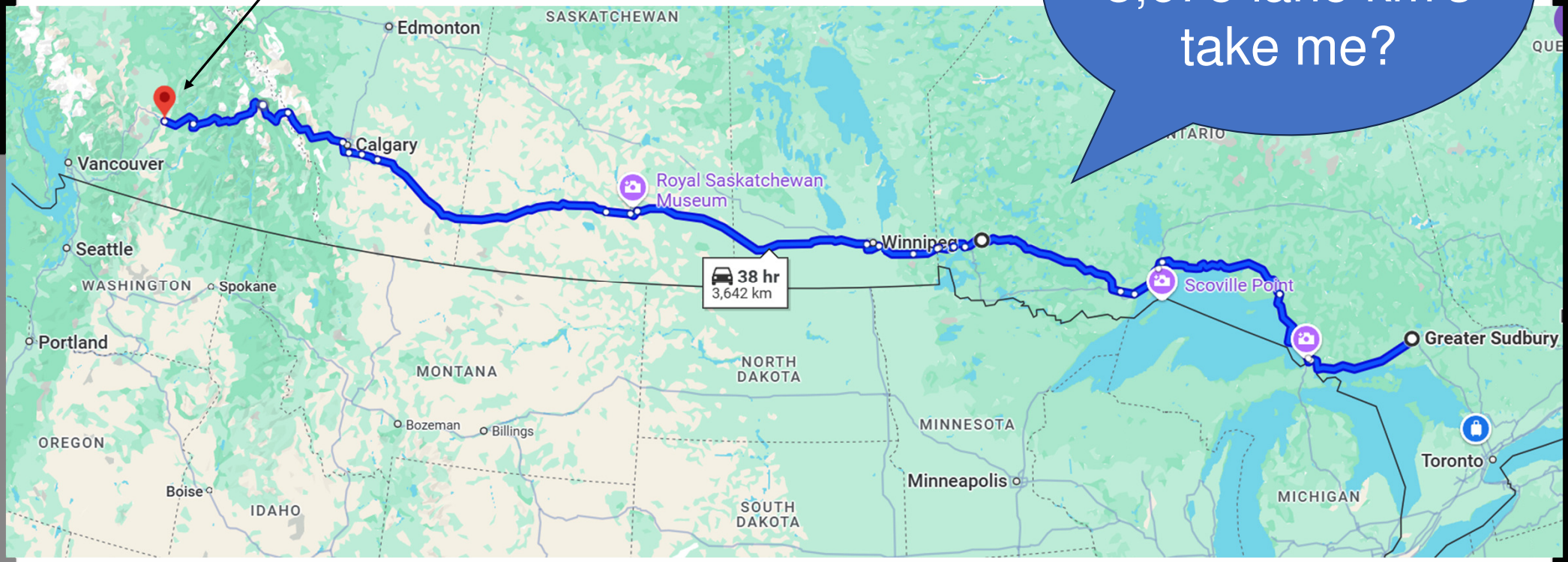
Kamloops,
British Columbia

Where will 3,675 lane km's take me?



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Roads and Transportation Asset Management Plan

City of Greater Sudbury

March 17th, 2025

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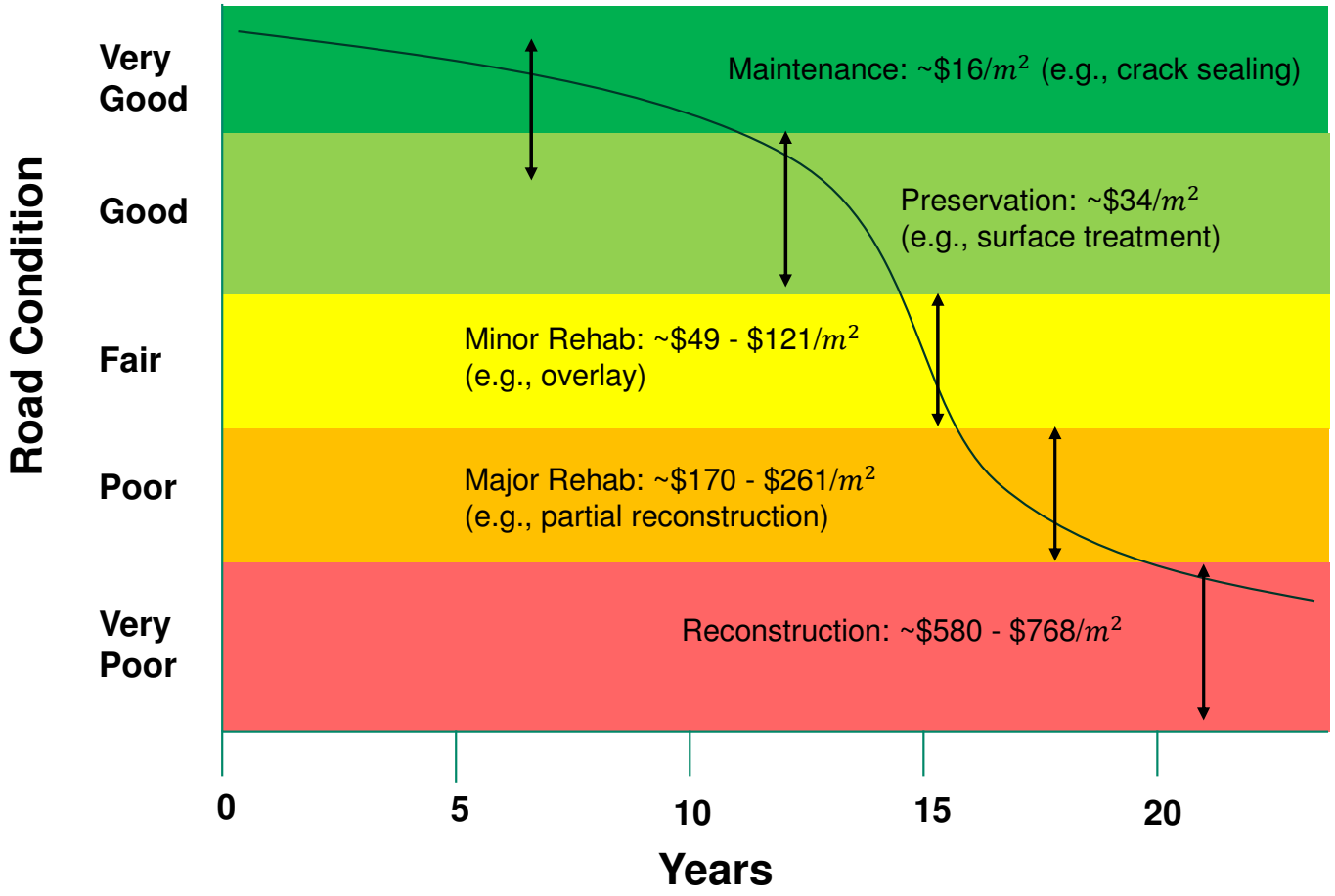
Ontario Regulation 588 / 17

Deadline	Regulatory Requirement	Requirements on Levels of Service
July 1st, 2019	All Municipalities are required to prepare their first **Strategic Asset Management Policy**	NA
July 1st, 2022	All municipalities are required to have an **Asset Management Plan** for its **entire core municipal infrastructure**.	Existing LoS for **Core** Assets
July 1st, 2024	All municipalities are required to have an **asset management plan** for infrastructure **assets not included under their core assets**.	Existing LoS for **All** Assets
July 1st, 2025	All AM Plans must include information about the **LoS that the municipality proposes to provide**, the **lifecycle activities** and **associated costs** needed to achieve those LoS, **available funding**, any **funding shortfalls**, and the **risk** of failing to meet the proposed LoS.	**Proposed LoS for All Assets**

City's Lifecycle Strategies Against Road Deterioration



Impacts of Road Deterioration

Direct Financial

- Costs with Deteriorated Condition
- Increased Maintenance Costs
- Increased Backlog

Social-Economical

- Increase Service Requests
- Equity Concern / Vulnerable Population
- Negative Impacts on Local Businesses
- Decreased Public Satisfaction and Trust

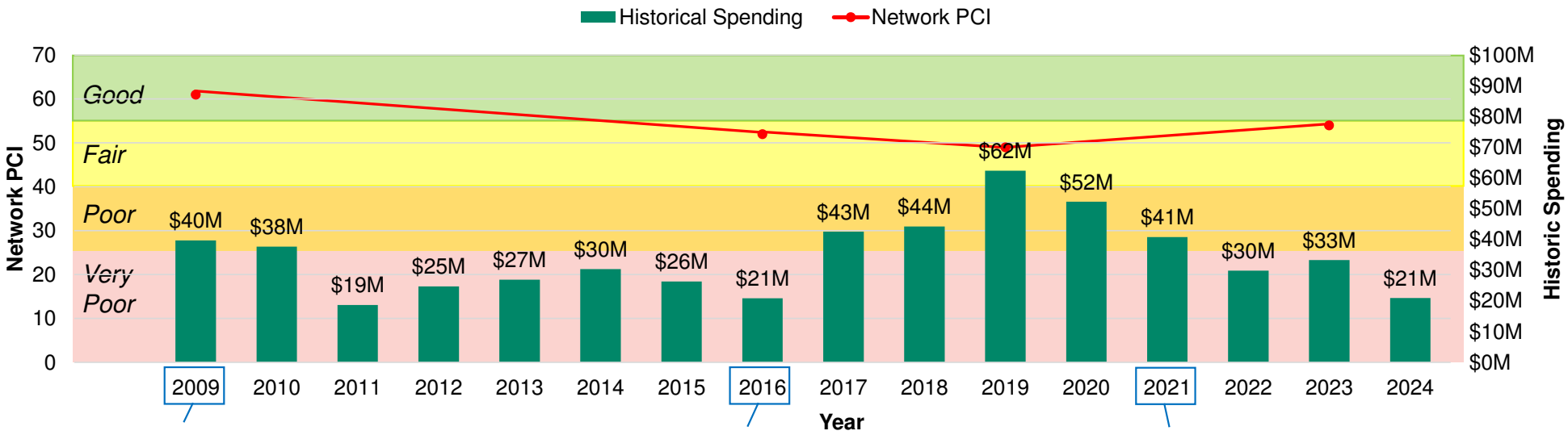
Safety

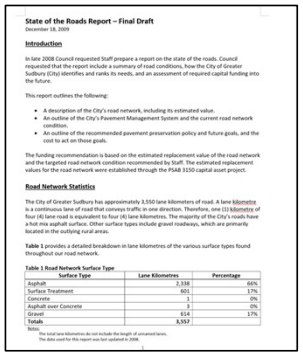
- Hazardous Conditions
- Reduced Reaction Time
- Motorcycle and Bicycle Safety

Other

- Increase Vehicle Operating Costs
- Traffic Congestion Impacts
- Liability and Legal Considerations

Historical Spending and PCI Trend for the Road Network





State of the Roads Report – Final Draft

December 18, 2009

Introduction

In late 2008 Council requested Staff prepare a report on the state of the roads. Council requested that the report include a summary of road conditions, how the City of Greater Sudbury (City) identifies and ranks its needs, and an assessment of required capital funding into the future.

This report outlines the following:

- A description of the City's road network, including its estimated value.
- An outline of the City's Pavement Management System and the current road network condition.
- An outline of the recommended pavement preservation policy and future goals, and the cost to act on those goals.

The funding recommendation is based on the estimated replacement value of the road network and the targeted road network condition recommended by Staff. The estimated replacement values for the road network were established through the PSAB 3150 capital asset project.

Road Network Statistics

The City of Greater Sudbury has approximately 3,550 lane kilometers of road. A lane kilometre is a continuous lane of road that conveys traffic in one direction. Therefore, one (1) kilometre of four (4) lane road is equivalent to four (4) lane kilometres. The majority of the City's roads have a hot mix asphalt surface. Other surface types include gravel roadways, which are primarily located in the outlying rural areas.

Table 1 provides a detailed breakdown in lane kilometres of the various surface types found throughout our road network.

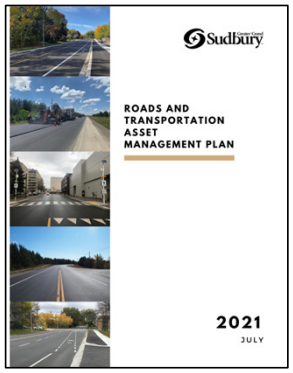
Table 1 Road Network Surface Type

Surface Type	Lane Kilometres	Percentage
Asphalt	2,338	66%
Surface Treatment	601	17%
Concrete	1	0%
Asphalt over Concrete	3	0%
Gravel	614	17%
Totals	**3,557**	

Notes:
The total lane kilometres do not include the length of unnamed lanes.
The data used for this report was last updated in 2008.

Annual Funding
Need = $65 Million

10-Year Total Need
= $ 1.7 Billion

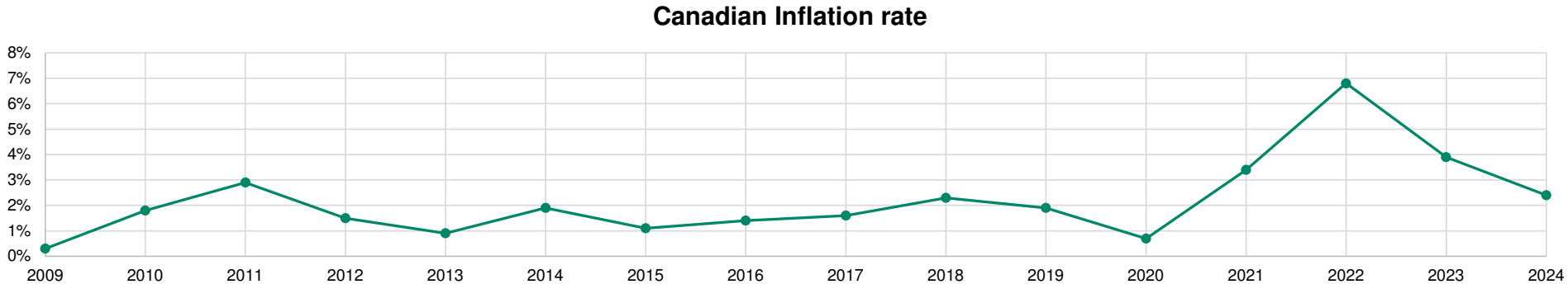


Annual Funding
Need = $80 million

Treatment Unit Price Change

Treatment	2013 Unit Cost ($/$m^2$)	2016 Unit Cost ($/$m^2$)	2024 Unit Cost ($/$m^2$)
Crack sealing	$6	$7	$16
Rehabilitation	$106	$153	$261
Reconstruction	$291	$365	$768

Note: 2013 unit cost is for rural collector, and 2016 and 2024 are for urban arterial.



Source: Canada Historical Inflation Rates - 1989 to 2025 | Inflation Rate and Consumer Price Index

Road Condition Rating by Pavement Condition Index (PCI)

Pavement Condition Rating	PCI
Very Good	85-100

Capreol Road

Pavement Condition Rating	PCI
Good	55-85

Algonquin Road

Pavement Condition Rating	PCI
Fair	40-55

Howey Drive

Pavement Condition Rating	PCI
Poor	25-40

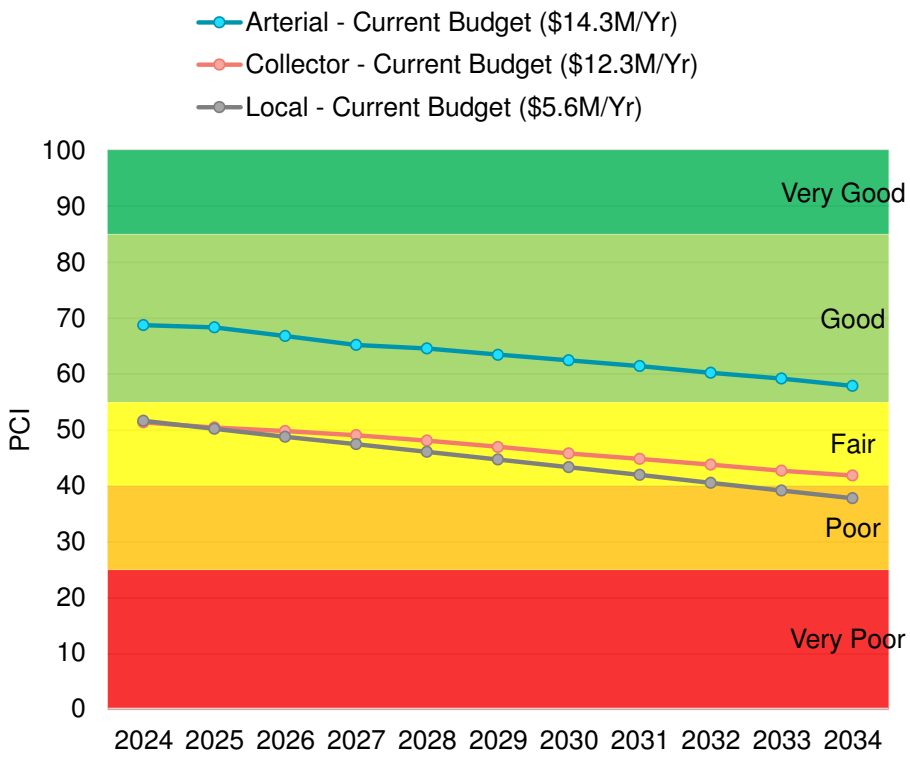
Lansing Avenue

Pavement Condition Rating	PCI
Very Poor	0-25

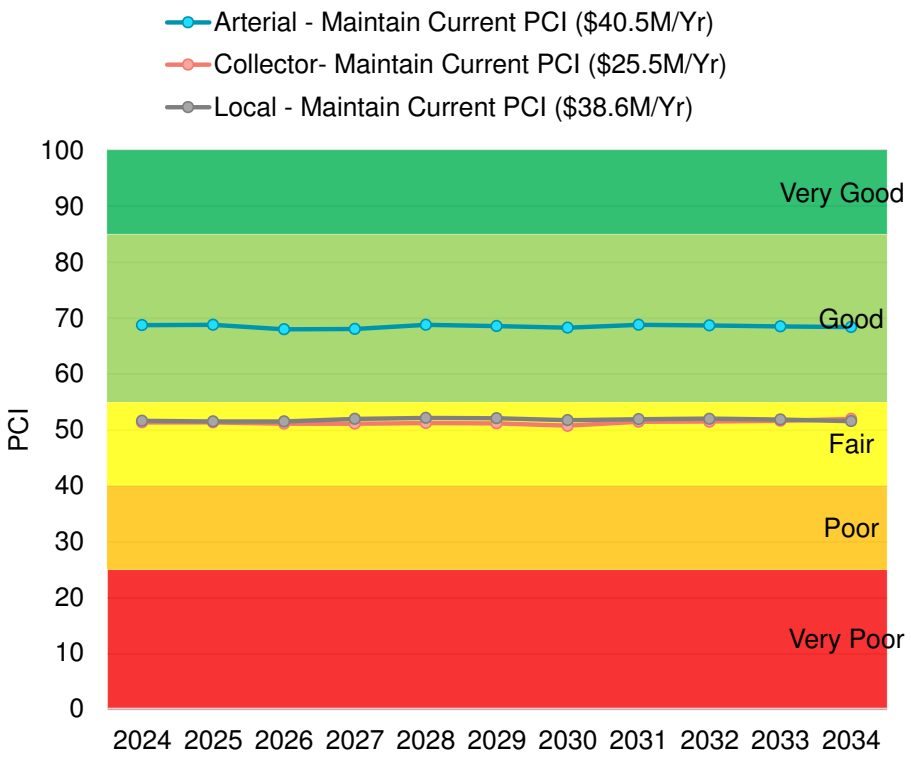
Montee Principale

Preliminary Financial Analysis

Network Average PCI Prediction under Current Budget (10-Year Total = $322 Million)



Network Average PCI Prediction under Maintain Current Condition (10-Year Total = $1.1 Billion)



Next Steps

- Explore other funding scenarios and assess their impacts:
  - What is the cost of maintaining different Network Average PCIs (e.g., 50, 55, 60, etc.)?
  - What is the cost of maintaining separate Average PCIs for Arterial, Collector, and Local roads?
  - What are the cost implications of prioritizing arterials for continuous maintenance while delaying interventions for collector and local roads?
  - How does increasing the annual budget by a specific amount impact the PCI forecast?
  - What are the risks associated with not meeting the desired service level?
  - What are the trade-offs between budget allocation and service level outcomes?
  - Are there any non-financial strategies that could support achieving service goals?

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