



# Master Plan – For the Network Design of Roads Depots for the City of Kawartha Lakes

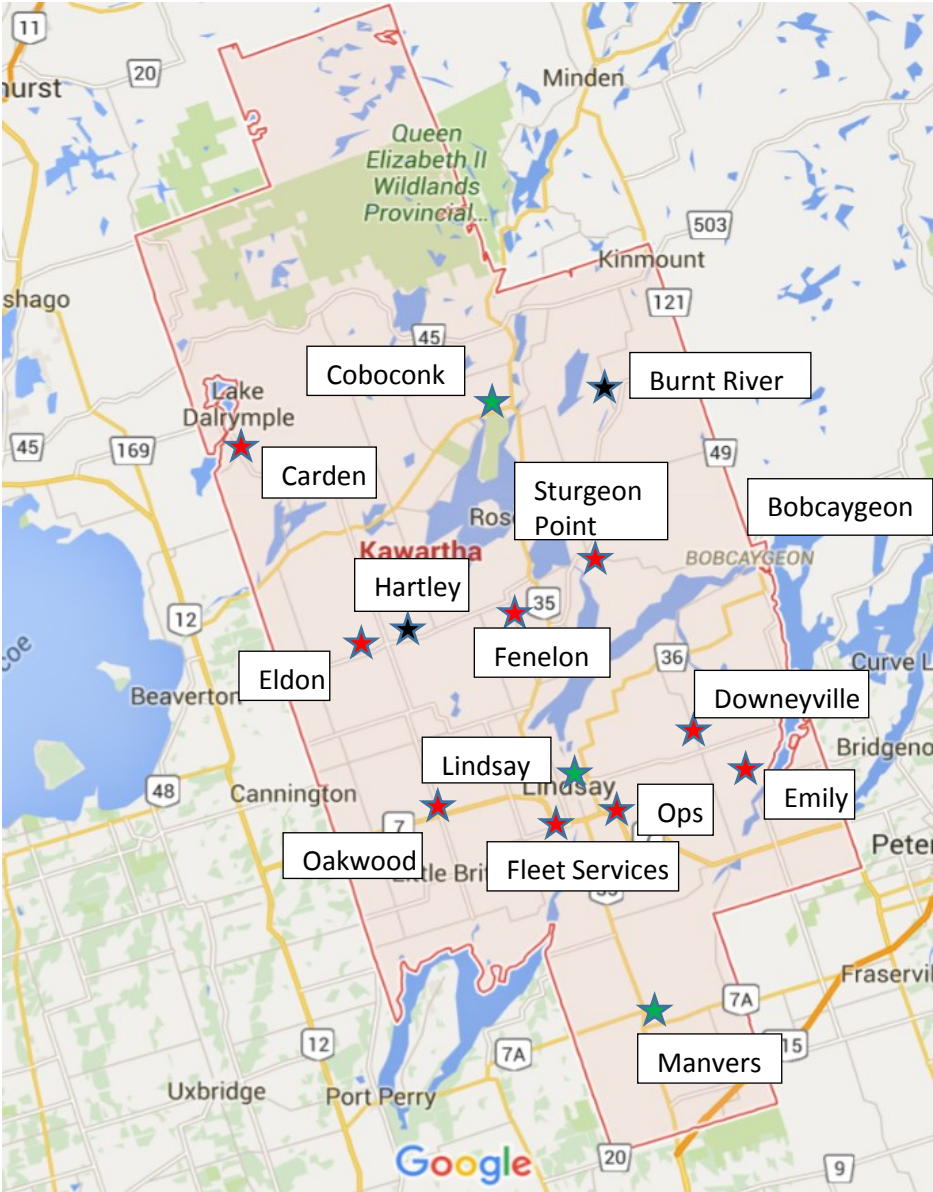
Presented by **Stirling** Rothesay Consulting Inc.

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# 1.0 Background

- Through amalgamation, the City of Kawartha Lakes inherited 15 Roads and Fleet Maintenance Depots located throughout the City in various sizes, styles, and states of condition.
- Since then, the Depots have continued to deteriorate, and many are quickly approaching the end of their expected service life of 60 years.
- To address the City's concern about the ability of these Depots to meet the growing demand for services and legislative requirements, Stirling Rothesay Consulting was retained to complete a Master Plan to recommend the preferred Depot network design.

The current Depot network design is shown to the right. The design does not satisfy the operational needs of the current Roads Department.



## 2.0 Municipal Class Environmental Assessment Process

- Ontario's Environmental Assessment Act (the EA Act) requires the examination of the environmental effects that could result from major projects or activities. This helps to ensure that a preferred solution with the fewest environmental impacts is selected. Therefore, this study followed the Municipal Class Schedule B Environmental Assessment process:
  - Identify **the Opportunity** that the project will be addressing.
  - Identify **the Alternative Solutions** that will address the Opportunity.
  - Analyse the Alternative Solutions and select **the Preferred Solution** taking into consideration the existing environment and public input through at least one Public Information Centre.
  - Prepare a **Project File** report and submit it for review by the public.
  - If there are no outstanding concerns raised by the public, then the recommendations of the project may be implemented.

## 3.0 The Opportunity

- To analyse the current Roads and Fleet Maintenance Depots and to recommend the preferred Depot network design – that is, the preferred number, location, and size of Roads and Fleet Maintenance Depots, within the City, to achieve productivity, legislative and service delivery objectives through to 2041.

## 4.0 The Alternative Solutions

- In total, four **Alternative Solutions** were identified and then evaluated in terms of their ability to address **the Opportunity**.

## Alternative Solution 1:

- Maintain the status quo by continuing to use and maintain the existing 15 depots

Based on the impact to employee productivity and operational needs, we do not believe that this Alternative will be the Preferred Solution. For example, some of the existing facilities are already insufficient in terms of size and employee amenities to satisfy operational requirements. Furthermore, most of the facilities will be, by 2037, exceeding their theoretical life expectancy of 60 years.

## Alternative Solution 2:

- Divide the City into three operations areas – **North, Central** and **South**
- Each area would have one main Primary Depot and one Satellite Depot (for sand/salt/material storage and snow dump)
- The **North** area would have an expanded Coboconk for the Primary Depot (including Fleet Services) and Carden for the Satellite Depot
- The **Central** area would have a new site for the Primary Depot (slightly east of Fenelon Falls) and either Fenelon Falls or Eldon for the Satellite Depot
- The **South** area would have St. David Street for the Primary Depot and Manvers as the Satellite Depot (with sand/salt/material storage). Transit and EMS would be expected to relocate
- The Fleet Services Depot would remain as is unless Transit storage relocate there



## Alternative Solution 3:

- This solution would be the same as Alternative 2 except the **South** area would build a new Primary Depot close to the Fleet Services Depot on Little Britain Road, and use Manvers as the Satellite Depot (with sand/salt/material storage). Vacating the St. David Street Depot would permit Transit to control this facility and, eventually, build their maintenance bays there to achieve full consolidation
- The existing Fleet Services Depot facility would remain as is at Little Britain Road providing maintenance services to Roads
- The benefits include more land for expansion at Little Britain than at St. David Street (more would need to be purchased), and the Fleet Services and Primary Depot would be consolidated on the same site










































## Alternative Solution 4:

- This solution would be the same as Alternative 2 except each area would have one main Primary Depot and **two** Satellite Depots (for sand/salt/material storage and snow dump)
- The **North** area would have an expanded Coboconk for the Primary Depot (including Fleet Services) and Carden **and one new location** for the Satellite Depots
- The **Central** area would have a new site for the Primary Depot (slightly east of Fenelon Falls) and **both** Fenelon Falls and Eldon for the Satellite Depots
- The **South** area would have St. David Street for the Primary Depot and Manvers **and Emily** as the Satellite Depots (with sand/salt/material storage). Transit and EMS would be expected to relocate
- The Fleet Services Depot would remain as is unless Transit storage relocated there

## 5.0 The Analysis

- Determining the Preferred Solution required the evaluation of each Alternative Solution using the following criteria:
  - Operational Needs and Growth Requirements
  - Legislative and Environmental Requirements
  - Impact on the Natural and Social Environment
  - Best Practice and Industry Trends for the Design of Roads Depots
  - Capital Cost Requirements
  - Impact on Operating Costs
  - Impact on Employee Productivity and Service Levels

# Summary Comparison of Alternative Solutions

Assessment Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Minimize Capital Costs				
Minimize Operating Costs				
Improve Productivity				
Improve Service Levels				
Meet Operational Needs				
Meet Growth Requirements				
Meet Legislative Requirements				
Meet Environmental Requirements				
OVERALL RANKING	 4th	 3rd	 1st	 2nd
 = Ranked 1st  = Ranked 2nd  = Ranked 3rd  = Ranked 4th  = Unacceptable				

# 20 Year Capital & Facility Operating Costs

Note that these are total costs that will be spent during a 20 year horizon. The 2037 Theoretical Depot Replacement Cost estimates the capital cost of replacing those depots, in 2037, that have exceeded their expected useful life of 60 years. Also, for Alternative Solutions 2 to 4, the annual fuel and vehicle life-cycle costs are expected to be higher than for Alternative Solution 1.

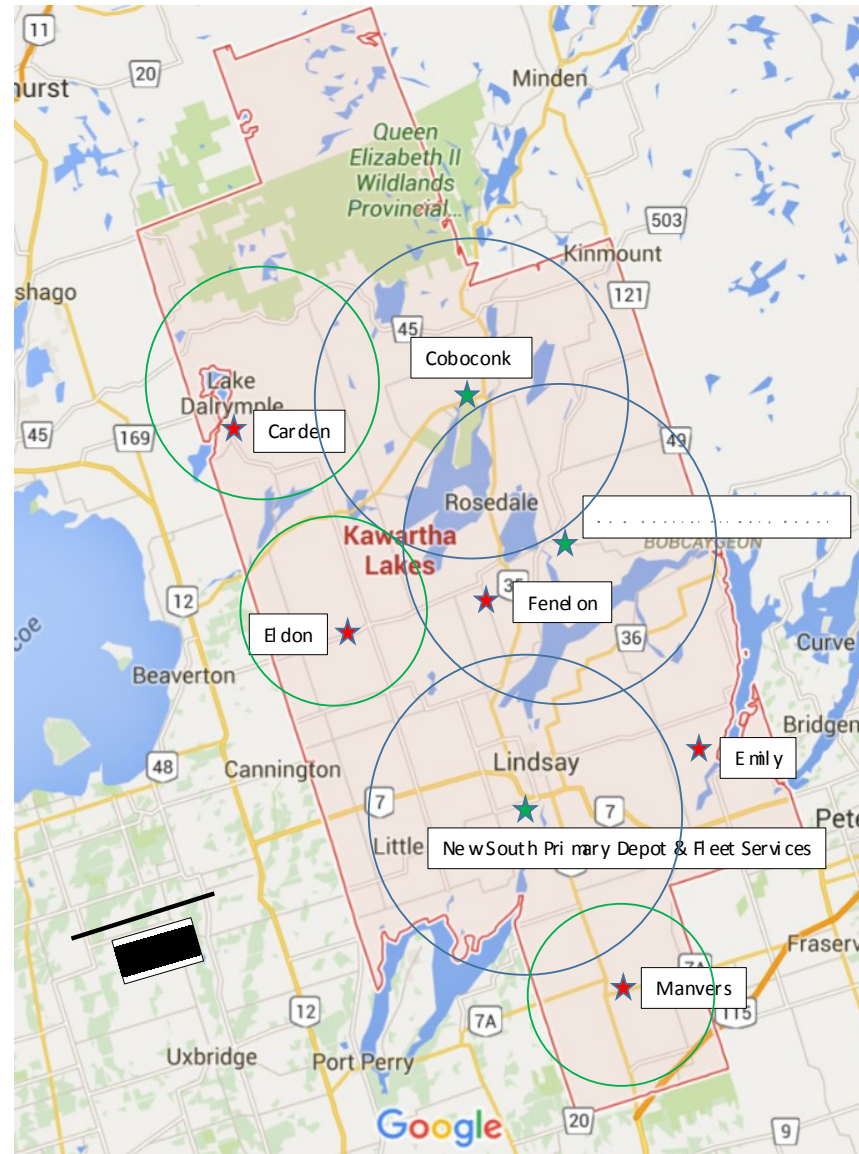
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Purchase Land	0	500,000(10+ acres)	700,000 (14+ acres)	530,000 (11+ acres)
Depot Redesign	0	12,893,214	19,591,446	14,123,214
Sale of Depots	0	(2,855,750)	(2,855,750)	(1,666,000)
20 Year Facility Repair	4,670,638	2,064,663	1,572,210	2,872,333
20 Year Energy/Insurance	7,488,000	3,600,000	3,400,000	4,898,000
60 Yr Theoretical Replacement Cost (starting 2037)	23,509,000	11,753,000	4,728,000	15,853,000
Total Cost	35,667,638	27,955,127	27,135,906	36,610,547

- Based on the study findings, Alternative Solution 3 was ranked the highest - largely because it recommended that the Roads operation at the St. David Street Depot be relocated to a new facility close to the existing Fleet Services facility at Little Britain Road (outside of Lindsay). Consolidating the Roads operation with Fleet Services would offer numerous operational benefits (rather than trying to upgrade the St. David Depot). It would also provide room for growth.
- It was also concluded that there would be operational benefits to incorporating some of the features of Alternative Solution 4 – namely keeping the Eldon and Emily Depots as secondary Satellite Depots in the Central and South areas.

## 6.0 The Preferred Solution

- Therefore, the Preferred Solution is a Modified Version of Alternatives 3 & 4 as outlined below:
  - Divide the City into three operations areas – **North**, **Central** and **South**
  - Each area would have one main Primary Depot and two Satellite Depots (for sand/salt/material storage and snow dump) except the **North** area which would just have one Satellite Depot
  - The **North** area would have an expanded Coboconk for the Primary Depot (including Fleet Services) and Carden for the Satellite Depot
  - The **Central** area would have a new site for the Primary Depot (slightly east of Fenelon Falls) and Fenelon Falls and Eldon for the two Satellite Depots
  - The **South** area would build a new Primary Depot close to the Fleet Services Depot on Little Britain Road, and use the Manvers and Emily Depots as the two Satellite Depots

# Location of the Preferred Network Design of Depots



- ★ Primary Depots
- ★ Satellite Depots



- The benefits of the Preferred Solution include:
  - The workforce will be more effectively managed as it becomes centralized into three Primary Depots. This should lead to improved workforce productivity and flexibility reducing operating costs and/or improving service levels.
  - The total cost of operating and maintaining the remaining depots will decrease.
  - The two new depots will be designed according to Best Practices to enable lean, efficient flow of employees, vehicles, materials and equipment.

The following 20 year capital and facility operating costs are required for the Preferred Alternative Solution:

	Capital & Facility Operating Costs (\$)
<b>North – Primary</b> - Expanded Coboconk Depot	900,000
<b>North – Satellite</b> - Expanded Carden Depot	882,200
<b>Central – Primary</b> - New Primary Depot	7,339,214
<b>Central – Satellite</b> - Expanded Fenelon Depot	285,000
Central – <b>Satellite</b> – Expanded Eldon Depot	165,000
<b>South – Primary</b> - Expanded Fleet Services Site	9,788,232
<b>South – Satellite</b> - Expanded Manvers Depot	396,800
<b>South – Satellite</b> – Expanded Emily Depot	165,000
Purchase Land	700,000 (14+ acres)
Sale of Depots	(1,666,000)
20 Year Facility Repair	2,379,880
20 Year Energy/Insurance	4,437,000
60 Year Theoretical Replacement Cost (starting in 2037)	8,827,000
<b>TOTAL</b>	<b>34,599,326</b>

- The total 20 year capital and facility operating cost for the Preferred Solution (including the cost to rebuild those depots that have exceeded their expected useful life of 60 years) is estimated to be **\$34,599,326**.
- By comparison, the total 20 year cost for Alternative Solution 1 (the Do Nothing approach) is estimated to be **\$35,667,638**. Therefore, a savings of \$1,068,312 over 20 years is provided by the Preferred Solution.
- When the employees are consolidated at one of three primary depots, we expect an increase in management focus, communication, and effectiveness. This should result in an improvement in collaboration and productivity/service levels by the crews resulting in a savings of \$4,540,000 over 20 years.
- Taking this into consideration, the Preferred Solution requires **\$5,608,312** less funding than the Do Nothing approach over a 20 year period.

## 7.0 Phasing

- We recommend that the City build two new Primary Depots, and upgrade the Coboconk Depot as soon as capital funding can be arranged.
- Doing this will permit the closure of eight existing depots (Bobcaygeon, Burnt River, Downeyville, Sturgeon Point, Hartley, Oakwood, Ops, St. David). This will also permit the Roads Department to begin consolidating the employees into the Primary Depots and benefiting from the expected increase in productivity, and increase in service levels to the most densely populated areas within the City.

- In terms of priorities, we recommend that the City begin by selecting and purchasing the appropriate site, and then building the new Central Area Primary Depot. Next, we recommend that the facilities at the Coboconk Depot be upgraded so that it can serve as the North Primary Depot. Lastly, the new South Area Primary Depot should be built close to the existing Fleet Services Depot, and the remaining satellite depots should be upgraded to meet Best Practices.
- Delay in planning for the phased investment in new depots will find the City in a situation, 20 plus years from now, where most off the depots will have exceeded their expected useful life of 60 years. This will leave the City in a situation where (1) it will be very expensive to continue maintaining these depots, (2) most of the depots will not meet the operational needs of the Roads Department, and (3) there will be little time to plan for the required depot replacement costs.

- On the following two pages, we display the recommended phasing strategy over the next 10, 15 and 20 years.
- The strategy's principle is to transfer capital funding that would have gone towards replacing the existing depots in Alternative 1 (as they reach the end of their expected 60 year service life) towards, instead, implementing the Preferred Solution. We also include the expected revenue from the sale of 8 depots, and the expected facility and operational efficiency savings.

Period	0-10 years (2027)	10-15 years (2032)	15-20 years (2037)
Sale of depots		863,000	803,000
Capital funding available by not replacing Depot facilities at the end of their expected service life	9,088,284	2,676,290	2,917,794
Facility repair, energy, insurance savings by closure of Depots		349,600	2,640,358
Potential efficiency savings by consolidating depots		600,000	600,000
<b>Phase 1 - Cost of new Central Area Primary Depot and closure of Central Satellite Depots</b>	(7,339,214)		
Cost of upgrades to Coboconk Depot and closure of North Satellite Depots	(900,000)		
<b>Phase 2 – Cost of new South Area Primary Depot and closure of South Satellite Depots</b>			(9,788,232)
<b>Phase 3 - Cost of upgrades to remaining Satellite Depots</b>			(1,894,000)
<b>Surplus/deficit at end of the period</b>	<b>849,070</b>	<b>5,337,960</b>	<b>616,880</b>

	Activity	2017-2027										2027-2032					2032-2037				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Phase 1	Seek Council Approval for Funding for New Central Area Primary Depot and Upgrades to Coboconk Depot	■																			
	Select New Depot Site		■																		
	Complete MCEA for new Site		■																		
	Purchase New Site		■																		
	Design/Build Central Area Primary Depot									■	■										
	Close Bobcaygeon, Sturgeon Pt., Hartley											■									
	Upgrade Coboconk Depot										■										
	Close Burnt River											■									
Phase 2	Seek Council Approval for Funding for New South Area Primary Depot																■				
	Select New Depot Site																	■			
	Complete MCEA for new Site																	■			
	Purchase New Site																	■			
	Design/Build South Area Primary Depot																		■	■	
	Close Oakwood, Ops, Downeyville, David																			■	
Phase 3	Seek Council Approval for Funding																■				
	Upgrade Remaining Satellite Depots																			■	