



ASSET MANAGEMENT PLAN

NON-CORE ROAD NETWORK

2024

OWENSOUND.CA

1.0 Introduction

The City’s road network assets are broken out into 4 asset classes and includes the following:

- **Streetlights:** Lighting fixtures installed along streets and public areas to illuminate the surroundings during nighttime hours to enhance visibility for drivers and pedestrians, improve safety, and contribute to urban security and aesthetics.
- **Traffic Signals:** Control devices located at intersections and pedestrian crossings that regulate vehicular and pedestrian traffic flow, ensuring safe and orderly movement, reducing traffic congestion, and preventing accidents.
- **Retaining Walls:** Structures designed to hold back soil and prevent erosion, often used to create level areas on sloped terrain for landscaping, roads, or property development. Their primary function is to provide stability and support to the terrain, preventing land movement and minimizing the risk of landslides.
- **Parking Lots:** Convenient parking space for residents, visitors, and businesses. Located near shops, dining, and attractions, they support local commerce and events by providing accessible short- and long-term parking options. This plan only captures the core downtown parking lots.
- **Fleet:** Light duty, Heavy duty, equipment, and machinery essential for the road network operations.
- **Facilities:** Support and administrative facilities for storage, maintenance work, and operations of road network assets.

Core road network assets were captured in the 2022 Asset Management Plan and are not included here. In the 2025 update, all non-core and core road network assets will be captured together.

2.0 State of Infrastructure

2.1 Inventory

Table 2.1.1 summarizes the road network assets by asset class.

Table 2.1.1 Non-Core Road Network Inventory by Classification

Asset Class	Item	Current Inventory
Streetlights	Conventional Streetlight - Utility-owned Pole (arm only)	1500
	Conventional Streetlight - City-owned Pole (arm) - Direct Bury Pole (Incl. underground electrical supply)	500
	Conventional Streetlight - Luminaire	2000
	Decorative streetlight - decorative luminaire & arm (concrete base-mounted pole)	50
	Decorative Streetlight - Pole Top Luminaire (no arm) (concrete base-mounted pole)	50
Traffic Signals	Class 1	8
	Class 2	12
	Class 3	3

	Pedestrian Crossover	4
Retaining Walls	OSIM Identified Retaining Walls	38
Parking Lots ¹	Municipal lots	7
Fleet	Light Duty Vehicles	7
	Heavy Duty Vehicles	5
	Light Duty Equipment	17
	Heavy Duty Equipment	5
Facilities ²	Roads Support Buildings	<ul style="list-style-type: none"> • Sand Domes (2) • Murray McDonald Building (Shop/Office) • Storage Shop

¹ Core municipal parking lots only. Additional parking lots will be included in a future asset management plan update, when the data is available.

² The City's facility related database is being developed to componentize buildings into multiple assets that make up a single structure, following UNIFORMAT II guidelines. However, when discussing inventory for the purposes of asset management, it is more practical to report on the number of structures/buildings rather than each component.

2.2 Valuation

Replacement Cost Valuation

Streetlights, Traffic Signals, Parking Lots, Fleet

The 2024 estimated replacement costs were determined through historical costs updated by inflation, price indices, and the City's 2023 Development Charges Study where appropriate.

Retaining Walls

Replacement costs for retaining walls are provided annually in the Ontario Structure Inspection Manual (OSIM) summary reports. These reports estimate the costs of replacing each retaining wall with a similar structure, as any future modifications must comply with detailed design and current design standards.

Facilities

The replacement cost of buildings was determined through the Building Condition Assessments completed in 2024. The replacement cost of facilities not assessed in 2024 have been estimated using the 2024 insured value under the City's property insurance policy.

The estimated replacement cost of the City's non-core road assets in 2024 dollars is \$44,165,099 million.

Table 2.2.1 Non-Core Road Assets Replacement Valuation

Asset Type	Replacement Cost	Replacement Cost	% of Total Value
Streetlights	Lump Sum	\$12,850,000	29%
Traffic Signals	Lump Sum	\$6,510,000	15%
Retaining Walls	Lump Sum	\$6,818,200	15%

Asset Type	Replacement Cost	Replacement Cost	% of Total Value
Parking Lots	Lump Sum	\$1,031,760	2%
Fleet	Lump Sum	\$6,436,000	15%
Facilities	Lump Sum	\$10,519,139	24%
	Total	\$ 44,165,099	100%

2.3 Assessment Approach

2.3.1 Streetlights, Traffic Signals, Parking Lots, Fleet

While the City follows O.Reg 239/02, Minimum Maintenance Standards for Municipal Highways, and conducts third-party inspections for streetlights and traffic signals to ensure they are in working order, a condition score is not given. Additionally, the City does not currently undertake internal or third-party condition inspections for parking lots. Due to this, the condition of these assets is based on their remaining useful life (RUL). It is important to note that the RUL method used to determine the condition is solely age-based and does not consider any maintenance activities undertaken to extend the useful life of the assets. The confidence in the accuracy of the condition with this method is low.

Table 2.3.1.1 Streetlight, Traffic Signals, Parking Lots, Fleet Condition Rating

Rating	RUL % (Age Based)
Very Good	95-100

Good	80-94
Fair	40-79
Poor	10-39
Very Poor	<9

2.3.2 Retaining Walls

The state of the City’s retaining walls is determined under the direction of a professional engineer and in accordance with the Ontario Structure Inspection Manual (OSIM), as per O.Reg 104/97. The City last conducted a third-party inspection of retaining walls in 2023 through GM BluePlan Engineering. Through these inspections, the retaining walls are given a Bridge Condition Index³ (BCI) score.

Table 2.3.2.1 Retaining Wall Condition Rating

Rating	BCI
Very Good	80.0 - 100
Good	65.0 - 79.9

³ The Bridge Condition Index (BCI) for each structure is determined based on the MTO Methodology. The BCI determined helps to schedule maintenance and rehabilitation work and is not an indication of the safety of the bridge. The BCI is related to the condition defined within the MTO Methodology.

Fair	45.0 - 64.9
Poor	40.00 - 44.9
Very Poor	0 - 39.9

2.3.3 Facilities

The state of the facilities is determined through third-party building condition assessments (BCA) where they are given a Facility Condition Index⁴ (FCI) score. The City last conducted BCA's in 2024 through Roth IAMS. For facilities without a BCA, an estimated FCI was given using a best practice method.⁵

Table 2.3.3.1 Facilities Condition Rating

Rating	Facility Condition Index
Very Good	<5%
Good	6-10%
Fair	11-30%

⁴ FCI is equal to the Total Building Repair/Upgrade/Renewal needs in dollars (\$) divided by the Current Replacement Value of Building Components in dollars (\$). FCI is obtained by aggregating the total cost of any needed or outstanding repairs, renewal or upgrade requirements at a building compared to the current replacement value of the building components.

⁵ Estimated FCI = (Replacement Value*.015)*Building Age/Replacement Value
(Replacement Value.015)=Annual Need*

Poor	31-60%
Very Poor	>60%

2.4 Asset Condition Assessment

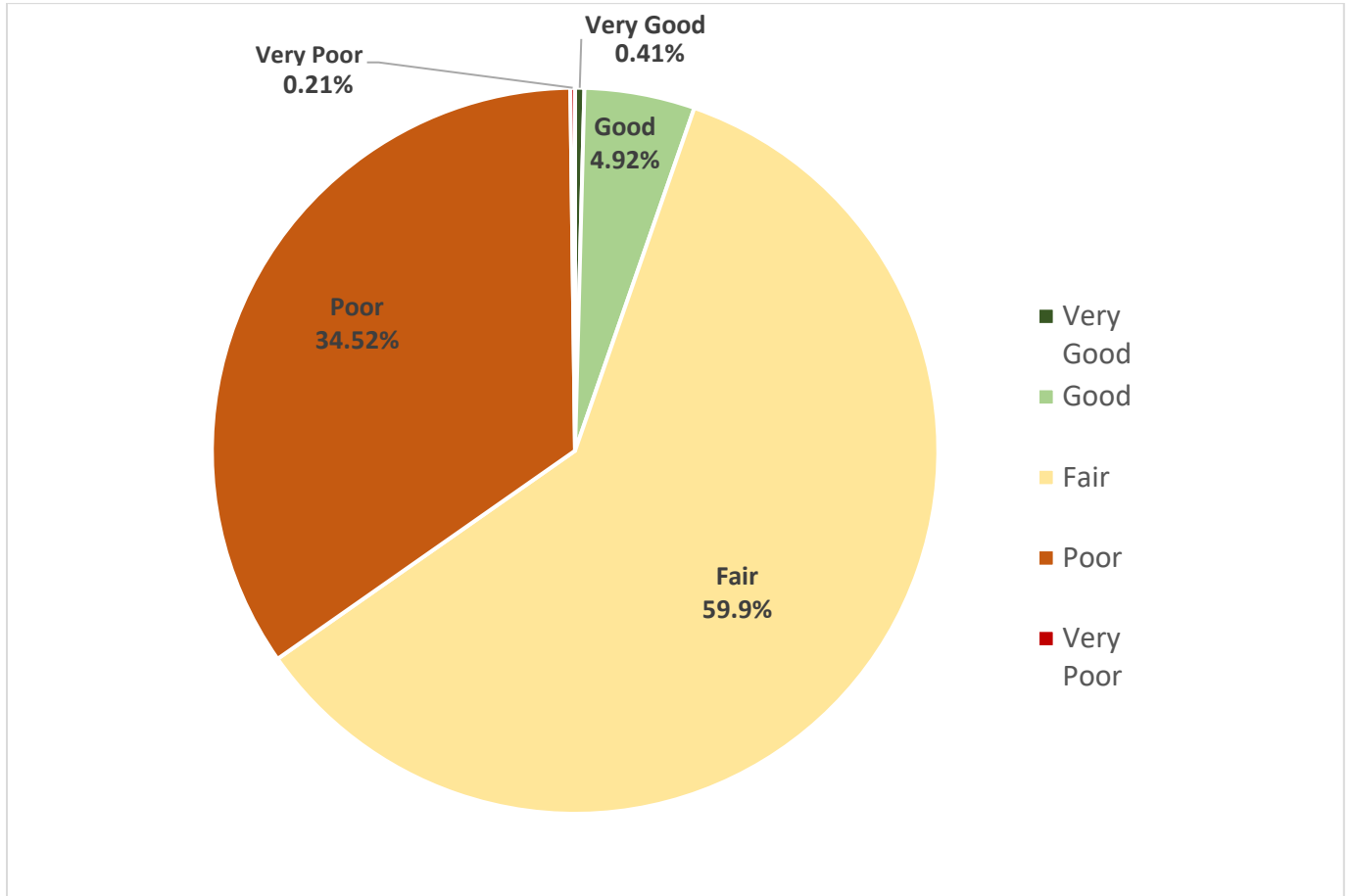
The table below provides the pooled condition score of non-core road assets by class.

Table 2.4.1 Condition Assessment – Non-Core Road Network

Asset Class	Condition Score	Condition System
Streetlights	Fair (59%)	RUL (Age Based)
Traffic Signals	Poor (37%)	RUL (Age Based)
Retaining Walls	Good (75)	BCI
Parking Lots	Fair (61%)	RUL (Age Based)
Fleet	Fair (46%)	RUL (Age Based)
Facilities	Fair (16%)	FCI

A pie chart breaking out the assets by condition for the Municipality’s non-core road assets is shown in Chart 2.4.1 below.

Chart 2.4.1 Visual Non-Core Road Network Condition Assessment



The State of Assets with the most recent 2024 data indicates that 5.33% of non-core road network assets are in Very Good or Good condition, 59.9% are in Fair condition, and 34.73% are in poor or very poor condition.

Note: Streetlights are currently a grouped asset, with one average condition rating for all assets within the group. This group of assets makes up a large portion of road network assets in poor condition. It is suspected that when these assets are tracked individually, the overall condition score will improve.

2.5 Useful Life

The useful life of the non-core road network assets will vary by component, and the overall life is significantly impacted by the maintenance strategies and the level of use. There are currently no defined maintenance strategies deployed to extend the useful life, however, guidelines are followed to

ensure the assets are kept in safe working order, and preventative maintenance is routinely completed on fleet.

Facilities are unlike other assets because they comprise numerous components, each with its own distinct lifespan and maintenance requirements. The overall life of a building is significantly impacted by the maintenance strategies employed and the level of use each component endures. The City understands that there are various maintenance strategies tailored to each asset component.

The City is currently developing a fleet management strategy. This strategy will confirm the anticipated useful life for similar fleet assets across the organization.

It is possible to have some assets that exceed the lives defined as well as some that require replacement prior to the end of their anticipated life due to several factors including change of use, climate and significant weather, preventative treatment etc.

Table 2.5.1 outlines the anticipated useful life for each asset class, along with the anticipated added life for each type of maintenance strategy. These lives are used for PSAB purposes and align with the City's Tangible Capital Asset policy.

Table 2.5.1 Useful Life by Asset Class – Non-core Road Network

Asset Class	Anticipated Useful Life (years)
New Asset / Replacement	
Streetlights	25-65
Traffic Signals	25
Retaining Walls	50

Asset Class	Anticipated Useful Life (years)
Parking Lots	40
Fleet	7-25
Facilities ⁶	10-100

3.0 Level of Service

Unlike the 2022 Asset Management Plan for Core Assets (roads, bridges, stormwater, water, and wastewater), O. Reg. 588/17 does not identify requirements for reporting on non-core Levels of Services such as Fire and Emergency Services.

Levels of Service (LOS) refers to the quality and availability of services provided to residents and are defined by various performance measures.

With no guidance in the regulation, the only measurable LOS statement currently available is based on the condition of the assets. Until more comprehensive LOS targets are developed, using asset condition as a key indicator will help guide strategic planning and resource allocation.

The following table summarizes the current level of service performance, based on the most recent data available.

⁶ The large span in anticipated useful life is due to the fact that buildings are broken out into 6 components as per Uniformat II guidelines, with each component type having varying useful lives.

Strategic Priority/Values	Level of Service Statement	Technical Level of Service	Current Performance	Target Performance
Service Excellence Safe City	Assets are maintained in a state of good repair.	% of non-core road network assets in fair or better condition.	65.23%	TBD

The City will need to consider the development of both Community and Technical Levels of Services to be maintained by the City as it continues to develop its asset management program. The 2025 asset management plan will outline the proposed levels of service as defined by City Council.

3.1 Corporate Objective

The corporate objective of infrastructure services as per the City’s Official Plan (2022) is to improve, maintain and expand the City’s infrastructure network, including transportation, [and] servicing infrastructure... in order to better serve residents, businesses and visitors. The City’s transportation network is designed to facilitate the safe, convenient and reliable movement of people, goods and services between within the City and to external destinations.

3.2 Legislative Requirements – General

A non-exhaustive list of the legislative requirements that impact the delivery of non-core road network services include the following:

- Ontario Minimum Maintenance Standards
- Ontario Highway Traffic Act
- Building Code Act & Ontario Building Code
- Environmental Assessment Act
- Accessibility for Ontarians with Disabilities Act (AODA)

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To effectively maintain the road network assets at the established service levels, they require the appropriate maintenance or rehabilitation strategy applied throughout an asset’s lifecycle. There are six lifecycle maintenance strategies considered in the overall sustainable management of these assets, described in Table 4.1.1 below.

Table 4.1.1 Lifecycle Activities – Non-core Road Network

Activities	Planned Actions	Lifecycle Activities
Non-infrastructure Solutions	Actions or policies that can lower costs or extend life and can include adjustments to levels of service	<ul style="list-style-type: none"> • Master Planning • Third-party Building Condition Assessments
Maintenance	Regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events.	<ul style="list-style-type: none"> • OSIM inspections legislatively required every 2 years • Streetlight Bulb Retrofits • Minimum Maintenance Standards Inspections

Activities	Planned Actions	Lifecycle Activities
Renewal/Rehabilitation	Significant repairs designed to extend the life of the asset.	<ul style="list-style-type: none"> • Crack Repair (Retaining Walls) • Equipment component replacement
Replacement	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.	<ul style="list-style-type: none"> • Complete Asset Replacement – Condition Based
Disposal	Activities associated with disposing of an asset once it has reached its useful life, or is otherwise no longer needed by the municipality.	<ul style="list-style-type: none"> • Environmental Remediation
Expansion	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.	<ul style="list-style-type: none"> • Construction of new parking lots, streetlights, retaining walls etc. due to development.

4.2 Risks Associated with the Strategy

The City does not currently have a corporate risk management strategy or risk profiles for assets. It is recommended that the City develop a corporate wide risk management toolkit for the next Asset Management Plan update in 2025.

Risks associated with not completing the above lifecycle activities is as follows:

Third-party Building Condition Assessments

Failure to conduct third-party building condition assessments risks an inaccurate understanding of the actual state of facilities, leading to unanticipated repairs and maintenance costs. These missed insights could also compromise safety standards, decrease asset longevity, and result in decreased investment return.

Inspections

Neglecting regular inspections of road network assets can result in undetected deterioration or damage. Without timely identification of issues, minor problems may escalate into larger failures, leading to increased repair costs, safety risks, and disruptions in service. Inspections are critical for proactive asset management and maintaining infrastructure reliability.

Minor Repairs (e.g., Crack Repair on Retaining Walls)

Ignoring minor repairs, such as crack repairs on retaining walls, can compromise structural integrity over time. Small defects, if left untreated, may develop into serious failures, requiring more extensive and expensive rehabilitation or replacement. This also introduces safety risks, particularly in areas with significant traffic or pedestrian activity.

Equipment Component Replacement

Not replacing equipment components promptly risks exacerbating wear and tear on machinery. Continued operation with failing components can lead to more significant equipment breakdowns, higher replacement costs, and compromised service delivery continuity.

Condition-Based Replacement

Failing to replace assets based on their condition can lead to significant deterioration, resulting in higher costs due to emergency repairs or unplanned replacements. It can also cause safety hazards for road users, reduced service levels, and potential liability issues for the City.

Environmental Remediation After Disposal

Skipping environmental remediation after asset disposal can result in contamination of soil, water, or air, causing environmental damage and potential regulatory violations. This can expose the city to legal liabilities,

finances, and increased costs for future clean-up efforts, in addition to harming public health and the surrounding ecosystem.

4.3 Lifecycle Analysis

The City does not have a defined lifecycle strategy implementation plan for its non-core assets. The above lifecycle activities are typically undertaken as needed, rather than within a predetermined timeframe, usually when an asset has significantly deteriorated or failed. There is currently no timely rehabilitation that occurs throughout the non-core road assets' life to extend their useful life.

Once an asset has begun to deteriorate, the above strategies are prioritized through the capital and operating budget processes, guided by OSIM reports, Minimum Maintenance Standards Inspections, and internal assessments that help identify the needs of the road network assets.

During the capital budget process, staff identify the most cost-effective options for completing projects while maintaining the current level of service. Guiding documents, such as the Transportation Master Plan, specify the materials and standards required to meet these established levels of service.

It is recommended to develop a comprehensive lifecycle strategy aligned with the levels of service for non-core assets in the future when the proposed levels of service are defined in the 2025 asset management plan, through consultation with Council. This strategy will be crucial to ensure a systematic approach to asset management, allowing for proactive maintenance and timely upgrades. By aligning the strategy with the established levels of service, the City can optimize resource allocation, minimize unexpected failures, and maintain infrastructure quality, ultimately leading to long-term cost savings and improved public satisfaction. However, it is important to note that balancing these costs within the City's budgets may necessitate reducing levels of service in areas, and seeking additional funding sources.

5.0 Financing Strategy

5.1 Annual Funding vs Annual Investment Required

O. Reg. 588/17 requires the Municipality to identify the cost of the lifecycle activities that would need to be undertaken to maintain the current levels of service for each of the ten years following the year for which the current levels of service are determined along with the costs of providing those activities.

Funding

The below chart outlines the 10-year lifecycle costs of the non-core road network assets currently being funded:

Table 5.1.1 Annual Funding – Non-Core Road Network

Activities	Annual Costs (\$)										
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Non-Infrastructure Solutions	-	-	250,000	-	300,000	-	-	-	-	-	-
Maintenance	445,000	456,125	467,528	479,216	491,197	503,477	516,064	528,965	542,189	555,744	569,638
Renewal/Rehabilitation	-	-	-	-	-	-	-	-	-	-	--
Replacement	173,000	192,000	447,000	1,423,500	1,459,500	499,000	699,000	699,000	699,000	699,000	699,000
Disposal	-	-	-	-	-	-	-	-	-	-	-
Expansion	-	-	-	-	-	-	-	-	-	-	-
Total	618,000	648,125	1,164,528	1,902,716	2,250,697	1,002,477	1,215,064	1,227,965	1,241,189	1,254,744	1,268,638

The average annual investment, as included in the City’s annual operating budget, approved multi-year capital plan, and adjusted for the five years outside of the multi-year capital plan is \$1,254,013.

Non-Infrastructure Solutions is derived from the Multi-Year Capital Plan, and operating budget, where applicable and are identified in the lifecycle strategy section above. Maintenance costs have been determined through the 2024 Operating budget and are inflated by 2.5% each year for this plan. Renewal/Rehabilitation costs will derived from the Multi Year Capital Plan as the City better defines these activities in future capital detail sheets. For the purposes of this report, these activities have been identified as replacement activities. Replacement costs have been taken from the Multi-Year Capital Plan and Fleet Reserve Schedule. The multi-year capital plan is approved out to 2029. To forecast the subsequent years, an average of the previous years was used for the final five years of this plan.

It is important to note that the above table includes all budgeted items, no matter the source of funding. Funding sources include reserves, taxation, and grants. Due to this, the funding amounts are not ensured and can be dependent on receiving a grant.

Investment Required

The below chart outlines the 10-year annual investment required to maintain the current level of service of the non-core road network assets utilizing the results of condition assessments and best practice applications:

Table 5.1.2 Annual Investment Required – Non-core Road Network

Activities	Annual Costs										
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Non-Infrastructure Solutions	-	-	250,000	-	300,000	-	-	-	-	-	-
Maintenance	445,000	456,125	467,528	479,216	491,197	503,477	516,064	528,965	542,189	555,744	569,638
Renewal/ Rehabilitation	-	-	-	-	-	-	-	-	-	-	-
Replacement	2,426,409	1,330,988	1,446,927	2,830,780	1,864,492	873,816	3,665,939	997,904	43,981	103,200	39,482
Disposal	-	-	-	-	-	-	-	-	-	-	-
Expansion	-	-	-	-	-	-	-	-	-	-	-
Total	2,871,409	1,787,113	2,164,455	3,309,996	2,655,689	1,377,292	4,182,002	1,526,869	586,171	658,944	609,119

The average annual investment required for the non-core road network to maintain the current level of service for this portfolio is \$1,975,369.

Non-Infrastructure Solutions are derived from the Multi-Year Capital Plan and operating budget, where applicable and are identified in the lifecycle strategy section above. Maintenance costs have been determined through the 2024 Operating budget and are inflated by 2.5% each year for the period of this plan. Renewal/Rehabilitation costs have been identified as replacement activities until such time the City

updates its capital detail process. Replacement costs have been taken from the 2024 Building Condition Assessments, which outlines the activities to be undertaken to maintain the facility in a state of good repair, Fleet Reserve Schedule, which identifies replacement year, and a replacement schedule for all other assets based on end of useful life date, with input from the OSIMs for retaining walls.

5.3 Annual Funding vs Annual Investment Required Analysis

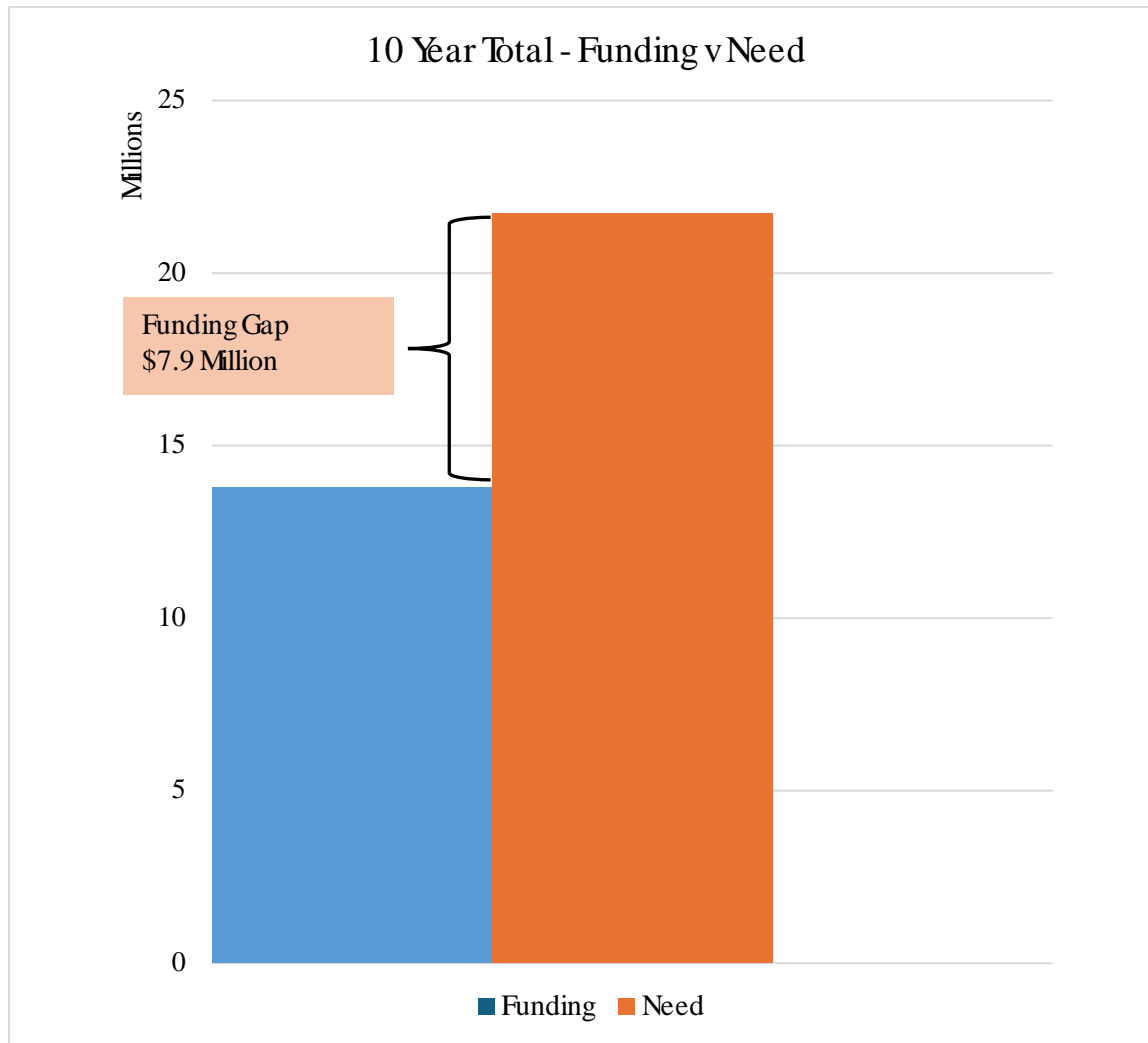
The analysis between the Investment Required and the Funding identifies the funding gap between the two financial models. The result of this analysis is included in Tables 5.3.1 as follows:

Table 5.3.1 10 Year Total - Funding vs Need – Non-core Road Network

	Annual Costs (\$)											
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	10 Year Total
Funding	618,000	648,125	1,164,528	1,902,716	2,250,697	1,002,477	1,215,064	1,227,965	1,241,189	1,254,744	1,268,638	13,794,143
Need	2,871,409	1,787,113	2,164,455	3,309,996	2,655,689	1,377,292	4,182,002	1,526,869	586,171	658,944	609,119	21,729,060
Funding Gap	(2,253,409)	(1,138,988)	(999,927)	(1,407,280)	(404,992)	(374,816)	(2,966,939)	(298,904)	655,019	595,800	659,518	(7,934,917)

Note: The years where there appears to be more funding than need, is due to OSIM replacement years being recommended earlier than reflected in the multi-year capital plan.

Below is a visual representation of the 10 year funding vs need, which identifies the funding gap.



Based on the above, the 10-year funding gap is \$7.9 million, and the average annual funding gap is \$721,356.

In order to meet the financial requirements of the Lifecycle Financing Strategy, the City will be required to fund projects through additional revenue tools such as reserve and reserve funds, grants, debt, new revenues, or additional annual levy increases. Alternatively, projects will need to continue to be deferred, which will have a negative impact on the overall condition. During the creation of the 2025 plan, Level of Service workshops with Council will be held. If levels of service are recommended to be changed, this will affect the financing strategy.

5.4 Lifecycle Financing Strategy Limitations

The Lifecycle Financing Strategy has been developed on the current levels of service and programs being delivered by the City. This model implies that these practices have been in place since the installation of the assets and does not recognize the impacts of previous investments that has resulted in the current system condition, nor does it take into account any backlog. Additionally, the current strategy was produced with the limited data available, and therefore, there may be inaccuracies in replacement costs, end of useful life, replacement timing, etc.

6.0 Improvement Plan and Recommendations

The following recommendations are based on the review of current management practices; and inventory, valuation and condition analysis.

Table 6.0.1 Asset Management Planning Recommendations – Non-Core Road Network

	Recommendations
1.	Conduct condition inspections on traffic signals, streetlights, and parking lots in 2025 and beyond to monitor lifecycle work completed to date and to develop a model for these asset classes.
2.	Establish and monitor appropriate and measurable levels of service and performance measures, including the establishment of target asset conditions for each asset class.
3.	Establish a dedicated funding stream for the management of non-core road network assets.
4.	Implement a scoring system integrated with GIS mapping to correlate asset condition ratings for the non-core road

	Recommendations
	network assets, ensuring timely rehabilitation or replacement of all assets within the road corridor.