City of Kingston
Report to Council
Report Number 26-050

To:	**Mayor and Members of Council**
From:	**Ian Semple, Commissioner, Transportation & Infrastructure Services**
Resource Staff:	**Luke Follwell, Director, Engineering Services**
Date of Meeting:	**February 3, 2026**
Subject:	**Annual Update on Planned Road Projects Including Road Condition Information**

Council Strategic Plan Alignment:

Theme: 3. Build and Active and Connected Community

Goal: 3.4 Improve road condition, performance, and safety.

Executive Summary:

Engineering, Transportation, and Public Works collectively manage approximately 1,828 lane kilometres of roadway across the City of Kingston. This extensive network represents one of the City's most significant public assets and requires sustained, data-driven investment to preserve safety, reliability, and value for residents and businesses.

Council Priority 3.4.1C directs staff to provide an annual report on planned road projects including road condition information. Utilizing the road condition information, staff have identified road assets for renewal, rehabilitation, reconstruction or expansion in 2026. A list of planned road projects is included in this report with project details will be shared on the City's Projects and Construction Map following 2026 budget approval.

The 2026 capital program represents a substantial increase in roadway renewal and rehabilitation activity. A total of approximately 121 lane kilometres is planned for renewal, rehabilitation, reconstruction, or growth-related works in 2026. This represents an increase of

roughly 36 lane kilometres compared to 2025 and exceeds the average annual delivery of approximately 75 lane kilometres achieved between 2021 and 2025.

These investments are deliberately focused on extending the service life of existing road assets rather than relying solely on full reconstruction and reflects the prioritization and direction set in the capital budget process. By applying the right treatment at the right time, such as micro-surfacing, mill and pave, pavement rehabilitation, and targeted surface treatments, the City can slow deterioration, improve overall network condition, and reduce long-term costs. This approach allows limited capital funding to be spread across a greater portion of the network while deferring more expensive reconstruction wherever feasible.

The City continues to rely on a robust pavement management program informed by bi-annual condition surveys, asset management analysis, and ongoing inspections by Public Works and Engineering staff. While the overall network condition remains within the “fair” range, there remains a growing gap between current and target condition levels, particularly on arterial and collector roads. The 2026 program is structured to address this gap by directing investment to higher-order roads while maintaining a balanced approach across all road classes.

Taken together, the increased scale of work planned for 2026 and the emphasis on timely rehabilitation demonstrates a continued commitment to protecting the City’s roadway assets, maximizing the return on public investment, and ensuring a sustainable, predictable level of service for residents over the long term.

Recommendation:

This report is for information only.

Authorizing Signatures:

ORIGINAL SIGNED BY COMMISSIONER

Ian Semple, Commissioner, Transportation & Infrastructure Services

ORIGINAL SIGNED BY CHIEF

ADMINISTRATIVE OFFICER

Lanie Hurdle, Chief Administrative Officer

Consultation with the following Members of the Corporate Management Team:

Paige Agnew, Commissioner, Growth & Development Services	Not required
Jennifer Campbell, Commissioner, Community Services	Not required
Neil Carbone, Commissioner, Corporate & Emergency Services	Not required
David Fell, President & CEO, Utilities Kingston	Not required
Desirée Kennedy, Chief Financial Officer & City Treasurer	Not required
Jenna Morley, City Solicitor	Not required

Options/Discussion:

Engineering, Transportation, and Public Works collectively manage a network of more than 1,800 lane kilometres of road in the City of Kingston, of which more than 1,500 kilometres are asphalt, 260 kilometres are surface treated, and 46 kilometres are granular. A summary of the total lane kilometres for each road classification across the city is shown in Table 1.

Table 1: Road Network Summary - Lane Kilometres (km)

Road Classification	Arterial	Collector	Local	Total	%
Asphalt	479.5	137.3	901.8	1,518.5	83.0%
Surface Treatment	5.8	0.0	257.4	263.2	14.4%
Granular*	0.0	0.0	46.2	46.2	2.5%
Interlocking	0.4	0.0	0.1	0.5	0.0%
TOTAL	485.7	137.3	1,205.5	1,828.5	100.0%
% of entire network	26.6%	7.5%	65.9%	100.0%	

*Granular roads and concrete pavers are not rated in the bi-annual inspection

The City currently classifies its roads based on the following three functional classifications:

- **Arterial**: All cross-city corridors consisting of 2 to 4 or more lanes, spaced at 1 to 2-kilometre intervals with daily traffic counts exceeding 10,000 vehicles per day. The recommended minimum target overall condition index (OCI) for arterials is 65.
- **Collector**: Continuous and discontinuous cross-city and inter-district corridors that are 2 to 4 lanes across and have a center line stripe or a designated bus route. The average daily traffic count falls in the 1,000 to 10,000 vehicle per day range. The recommended minimum target OCI for collectors is 60.
- **Local**: The majority of road segments consisting of all residential roads not defined as Arterial or Collector. The recommended minimum target OCI for locals is 55.

Background

Maintaining a network of this size requires knowledgeable staff, resources, data collection, and analysis. Selecting which lifecycle activity (maintenance, renewal, rehabilitation, reconstruction) to perform on individual road assets in any given year, within the approved budget envelope, is a comprehensive process.

The result of this continued investment in the road network has ensured that the OCI over the last few years has not seen a sharp decline, however a slight overall decrease from the 2024

OCI of 57.4 (Fair) to the current OCI of 52.5 (Fair) was recorded. This reinforces the need for significant, ongoing investments across the entire road network to maintain this rating and reach recommended target OCIs.

A summary of the entire network is provided in Table 2. The gap between the actual OCI and the target OCI for Arterial and Collector roads continues to grow and is recommended as a focus of investment in the short term.

Table 2: Inspected Overall Condition Index (2025) - Lane Kilometres (km's)

Rating	Arterial	Collector	Local	Total	%
Very Good (80 – 100)	35.7	22.6	114.0	172.3	9.4%
Good (60 – 79.9)	102.0	20.2	318.4	440.6	24.1%
Fair (40 – 59.9)	192.8	40.8	407.1	640.7	35.0%
Poor (20 – 39.9)	114.7	30.5	226.5	371.7	20.3%
Very Poor (0 – 19.9)	40.1	23.2	93.2	156.5	8.6%
Not Rated	0.4	0.0	0.1	0.5	0.0%
Granular	0.0	0.0	46.2	46.2	2.5%
TOTAL	485.7	137.3	1,205.5	1,828.5	100.0%
2025 Inspected OCI	53.8	52.5	52.5	52.5	
Target OCI	65.0	60.0	55.0		

Analysis

The key to a successful pavement management program is to develop a reasonably accurate roadway performance model and identify the optimal timing of lifecycle activities to extend the quality of the asset over time. Since 2019, the road network has been surveyed bi-annually to collect data on the condition of asphalt and surface treated road surfaces. The results of this survey generate an overall condition index (OCI) for each road segment. Granular roads are not included in the bi-annual inspection as they are visually inspected by Public Works. Once the data is collected and verified, it is entered into the City’s asset management software, analyzed, and evaluated to determine which pavement activity is best suited for the condition of the asset at that time.

In addition to the bi-annual review, staff are analyzing the rural road network to identify where service levels can be adjusted to improve long-term affordability. Gravel roads make up less

than 3% of the system (about 50 lane kilometres) yet generate disproportionately high operating costs. Upgrading selected gravel roads to surface-treated standards may reduce long-term maintenance costs despite the initial capital investment.

Conversely, reducing service levels in some areas, such as converting asphalt roads to surface treatment, may be necessary given limited resources and a significant rehabilitation backlog. Such service level adjustments can have a positive outcome for both the overall road network and residents. In practical terms, surface-treated roads are more cost-effective to construct and maintain than higher service levels, and they allow for more frequent, lower-cost, proactive maintenance activities. This results in more consistent pavement conditions over time, improved asset sustainability, and a more predictable level of service for residents when compared to higher-cost road standards that require infrequent and more expensive rehabilitation. These adjustments aim to improve overall network condition and cost effectiveness.

The City's Asset Management plan outlines the following lifecycle activities to be considered when evaluating an asset. A wide range of intervention types are available for road preservation and maintenance. To maximize return on investment, the interventions need to be timely and appropriate. Utilizing maintenance, renewal and rehabilitation programs to manage the road network reduces the need for full reconstruction and allows more work to be done over a greater portion of the network.

Inspection and Monitoring

Actions or policies that can lower costs or extend asset service life of the road include ongoing, regular visual inspections by Public Works, bi-annual road condition survey completed across the full network, transportation and traffic studies to gauge volume and changing use, and inclusion of maintenance provisions as part of long-term transportation planning.

Maintenance

The City responds to road maintenance through a variety of methods including pothole repair, crack sealing, and asphalt treatments. Table 3 summarizes the various maintenance activities planned for 2026 with a comparison to 2025 and the previous five years.

Table 3: Maintenance Summary

Description	2025	Average (2021-2025)	2026 Projection
Pothole Identification (each)	7,500.0	14,590.3	6,500.0
Pothole Patching (each)	7,486.0	14,585.3	6,475.0
Pavement Repair / Patching (kms)	1.3	3.4	0.7
Crack Sealing (kms)	151.2	44.6	116.9

Description	2025	Average (2021-2025)	2026 Projection
Asphalt Rejuvenator (kms)	55.6	36.2	51.6
Sweeping (each asphalt lane)	3,100.0	3,033.0	3,100.0
Line Painting (kms)	749.0	1,031.8	1,700.0
Surface Treated Maintenance (kms)	0.0	0.0	14.1

A short description of the maintenance activities is provided below for reference.

Pothole Identification and Repair

A multi-stage process where the City responds to potholes that form seasonally on the roads during the freeze/thaw cycle in winter and spring. During the winter and early spring, City crews apply a temporary cold patch material that is then replaced with a more robust repair in the late spring using asphalt. In 2025, the City repaired more than 7,500 potholes and, in 2026, is looking at using recycled asphalt to enhance initial repairs.

Pavement Repair and Patching

Areas that require a localized repair greater than pothole patching are identified through the pothole identification process and progressed to a repair using patching by removal and replacement with a full depth of hot mix asphalt or filled and re-surfaced with a thinner layer of asphalt across the entire surface of the road. These methods are field determined resulting from inspections by both Public Works and Engineering Services staff.

Crack Sealing

A proactive maintenance activity that addresses issues forming on existing roads and extends the life of the asphalt by reducing opportunities for water to infiltrate into the road base.

Asphalt Rejuvenator

A spray-applied treatment designed to restore much of the elasticity in asphalt cement, which deteriorates over time due to oxidation and aging. This application results in a wearing surface that is less susceptible to cracking due to water permeation in the winter months therefore extending the life of the surface asphalt.

Street Sweeping

Street sweeping is conducted at multiple occurrences through the calendar year. Each spring, all asphalt surfaces are swept to remove residual winter sand, which is then recycled into sand supply for future winter seasons. Through the summer months, roads are swept at a minimum of

once for maintenance, with increased frequency on cycle routes and attraction (BIA, Downtown) areas.

In late fall prior to winter operations commencing, asphalt surfaces are swept once more to remove leaf debris to prevent drain blockages over the winter and early spring.

Line Painting

Longitudinal lines are refreshed annually across the city road network. High-volume traffic areas are completed a second time each fall prior to winter. The City utilizes waterborne, reflective paint specified by the Ministry of Transportation (Ontario) for all longitudinal markings. Transverse markings at intersections, symbols, traffic calming, and active transportation markings are inspected annually and replaced as required using thermoplastic reflective paint to increase lifespan.

Surface Treated Maintenance

Since 2019, the City has completed a seven-year program combining reactive rehabilitation for roads in poor condition with proactive rehabilitation for roads that remained serviceable. This balanced approach has brought the surface-treated road network to a consistent and manageable standard and now allows the City to transition to a proactive maintenance strategy.

Going forward, this maintenance strategy will utilize targeted preservation treatments such as fog seals, slurry seals, and periodic surface treatments to protect prior investments, slow pavement deterioration, and reduce long-term lifecycle costs.

Repairs, Renewal, Rehabilitation, and Full Reconstruction

Repairs and upgrades are made to our existing roads using various treatments and safety measures. These interventions, detailed briefly below, can include surface treatments, localized asphalt replacement, and repairs designed to extend the life of the roadway or parking areas. Table 4 summarizes the various repair, renewal, rehabilitation, and reconstruction activities planned for 2026 with a comparison to 2025 and the previous 5 years.

Table 4: Repair, Renewal, Rehabilitation and Reconstruction (Lane Kilometres)

Description	2025	Average (2021-2025)	2026 Projection
Micro-surfacing	0.0	9.7	21.5
Pavement Rehabilitation	4.7	7.2	18.4
Mill and Pave	7.5	4.9	44.7
Single Surface Treatment	23.7	22.6	18.5

Description	2025	Average (2021-2025)	2026 Projection
Pulverize and Double Surface Treatment	32.8	22.5	6.1
Full Reconstruction	16.3	7.5	11.8
New Construction	0.0	0.7	0.0
TOTAL	**84.9**	**75.1**	**121.0**

A short description of these activities is provided below for reference.

Micro-Surfacing

A cold-applied treatment that combines asphalt emulsion and granular material to form a thin wearing surface on existing asphalt pavements. Benefits include improved skid resistance and reduced water permeability.

Pavement Rehabilitation 90mm

Refers to the removal and replacement of both the surface layer of asphalt and the base layer(s) when the full asphalt structure has deteriorated. This process allows for granular grade corrections, if necessary, during the rehabilitation.

Mill and Pave

Involves removing the surface or wearing layer of asphalt through milling while preserving the underlying base asphalt. A new surface or wearing layer is then installed over the existing base asphalt.

Single Surface Treatment

Involves applying a heated asphalt emulsion and fine-graded granular material to overlay the surface of a roadway with an existing surface-treated or wearing layer.

Surface Treatment - Pulverize and Double Surface Treatment

A strategy where the existing surface-treated wearing surface is pulverized and mixed with the underlying granular base material. The road is then graded to address any inconsistent road grades. Finally, two applications of surface treatment are applied, each consisting of heated emulsion followed by fine-graded granular material.

New and Reconstructed Infrastructure

Larger road infrastructure projects can involve above and below ground infrastructure upgrades with opportunities to address connectivity, safety, and accessibility to a greater degree than the localized or maintenance works outlined in the above sections. There are two main types of projects:

New Construction

Refers to the creation of a new road and right-of-way assets. This process is typically driven and funded by development charges.

Full Reconstruction

Refers to the complete removal of the granular road base, base asphalt, and surface asphalt as part of a total road reconstruction. Followed by the installation of new granular base material, base asphalt, and a new surface asphalt. This process is generally combined with the replacement of the underground utilities (water, sewer and storm). This process results in a new road.

Planned Works for 2026

The below list of road assets has been identified to receive renewal, rehabilitation, replacement, or expansion and were included in the 2026 capital budget submission.

Micro-surfacing

- Elliott Avenue
- John Counter Boulevard

Pavement Rehabilitation

- Barrie Street
- Birchwood Drive
- Cataraqui Woods Drive
- Cranbrook Street
- Day Street
- Dianna Street
- Ford Street
- Helena Place
- Norman Rogers Drive
- Resource Road
- Starr Place
- Sutherland Drive
- Woodland Place
- Wright Crescent

Mill and Pave

- Bagot Street
- Brock Street
- Centennial Drive
- Collins Bay Road
- Johnson Street
- Elliott Avenue
- Leroy Grant Drive
- Portsmouth Avenue
- Taylor Kidd Boulevard

Surface Treatment

- 6th Concession Road
- Aley Street
- Hitchcock Road
- Horning Road
- Jackson Mills Road
- Leo Lake Road
- Parkland Drive
- Thompson Crescent
- Van Order Road

Full Reconstruction

- Aberdeen Street
- Ann Street
- Anne Street
- Elizabeth Street
- Ellice Street
- Front Road
- Garrett Street
- Gore Road
- Highway 15
- King Street
- King Street West
- Main Street
- Mary Street
- Princess Street
- Raglan Road
- Union Street
- Victoria Street
- Vine Street

A list of planned road projects is included in this report with project details will be shared on the City's Projects and Construction Map following 2026 budget approval.

Financial Considerations

Projects and processes outlined in this report are funded through existing capital and operating budgets.

Contacts:

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Other City of Kingston Staff Consulted:

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Anthony Simmons, Manager, Construction Services, Engineering Services

Alex Mut, Manager, Infrastructure, Engineering Services

Exhibits Attached:

None