

East Hants Roads Assets – State of the Infrastructure Update

Corporate and Residential Services Committee
November 12th 2024



EAST HANTS

Background

- East Hants Asset Management (AM) Program kicked off in November 2022 with Council's approval of the Asset Management Policy.
- Staff provided an AM Program information report to Council in May 2024 which provided updates on the program's AM Strategy and Roadmap development and the outcomes of the Roads Pilot project.
- From the Roads Pilot Project and Roads Asset Management Plan, it was recommended that staff collect up-to-date Visual Condition Assessment (VCA) data on Roads Assets to better inform planning and decision making in the future.

Background

- Over Summer 2024, staff collected and compiled data on Municipally-owned Road Assets to help answer the following key Asset Management questions:
 - What do we have?
 - Where is it located?
 - What is its condition and expected remaining useful life?
- Since asset inventory and condition data is ever-changing, this is a **point-in-time** report, representing the state of the roads infrastructure as of August 1, 2024, following completion of Visual Condition Assessments.

Discussion

What do we have?

- The Municipality of East Hants owns **36.05 km** of roads
 - **28.34 km** are asphalt (paved) roads
 - **7.71 km** are gravel (unpaved) roads
- Municipal Roads are found within the boundaries of **nine** different communities in East Hants and across **eight** different polling districts.

Discussion

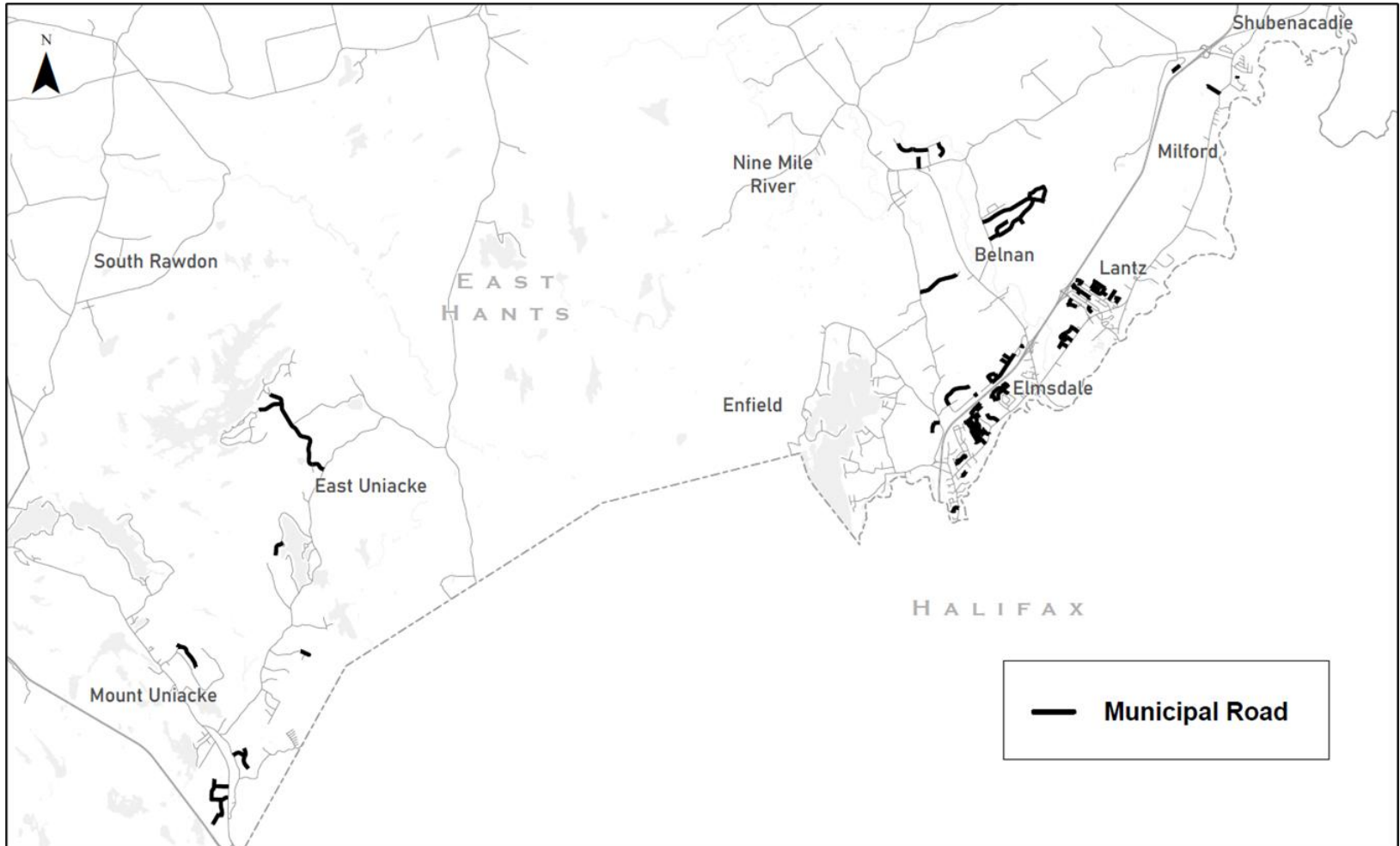
Table 1. Municipal Road Lengths by East Hants Community

| Community | Asphalt Road Length (km) | Gravel Road Length (km) | Total Road Length (km) |
|-----------------|--------------------------|-------------------------|------------------------|
| Belnan | 2.97 | 2.68 | 5.65 |
| East Uniacke | 3.78 | 0.87 | 4.65 |
| Elmsdale | 5.52 | 0.0 | 5.52 |
| Enfield | 5.29 | 2.36 | 7.65 |
| Hardwood Lands | 0.29 | 0.0 | 0.29 |
| Lantz | 5.64 | 0.0 | 5.64 |
| Milford | 0.51 | 0.0 | 0.51 |
| Mount Uniacke | 4.34 | 0.0 | 4.34 |
| Nine Mile River | 0.0 | 1.80 | 1.80 |

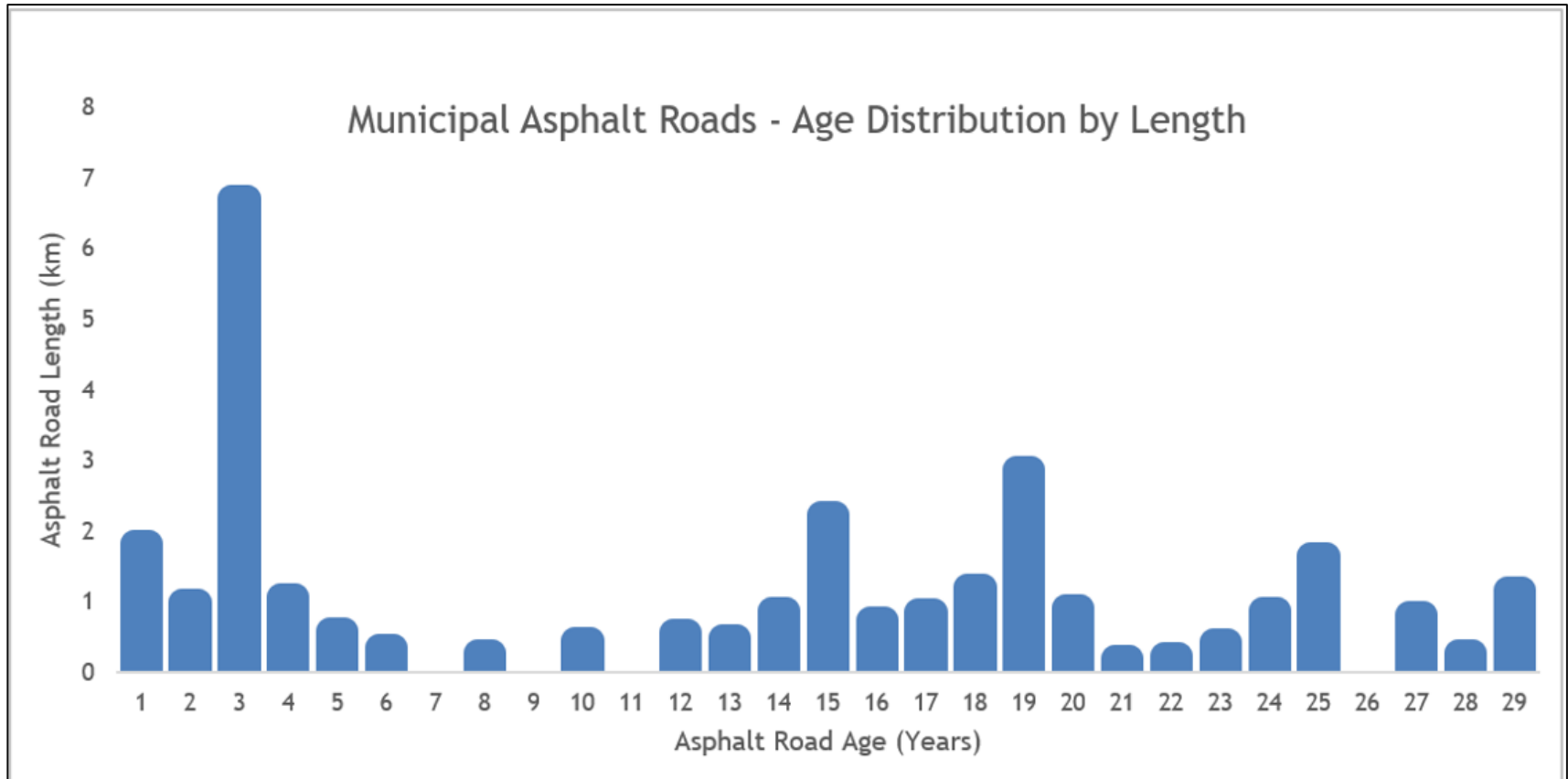
Table 2. Municipal Road Lengths by East Hants Polling District

| Polling District | Asphalt Road Length (km) | Gravel Road Length (km) | Total Road Length (km) |
|------------------|--------------------------|-------------------------|------------------------|
| District 1 | 4.39 | 0.0 | 4.39 |
| District 2 | 5.52 | 0.0 | 5.52 |
| District 3 | 3.32 | 4.42 | 7.74 |
| District 6 | 2.11 | 0.0 | 2.11 |
| District 7 | 4.04 | 0.0 | 4.04 |
| District 8 | 3.31 | 0.0 | 3.31 |
| District 9 | 4.81 | 0.87 | 5.68 |
| District 10 | 0.90 | 2.36 | 3.26 |

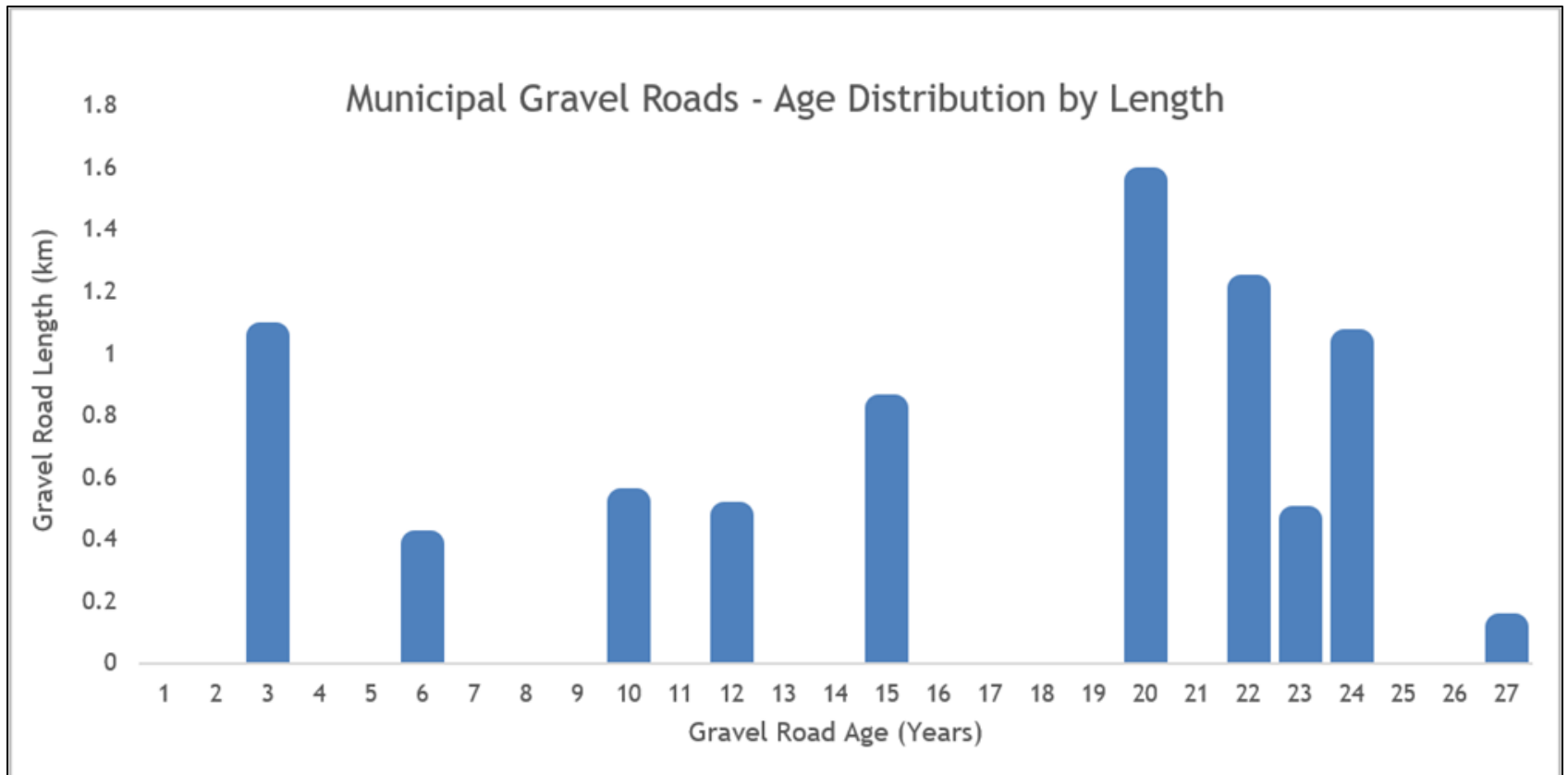
Municipally-Owned Roads



Discussion



Discussion



Discussion

- The average age of Municipal asphalt roads is **13 years**, and the average age of Municipal gravel roads is **14 years**.
- Industry standard estimates for ‘Expected Useful Life’ (EUL) have been developed

| Asset Element Type | Expected Useful Life (Years) |
|-----------------------|------------------------------|
| Asphalt (Paved) Road | 25 |
| Gravel (Unpaved) Road | 10 |

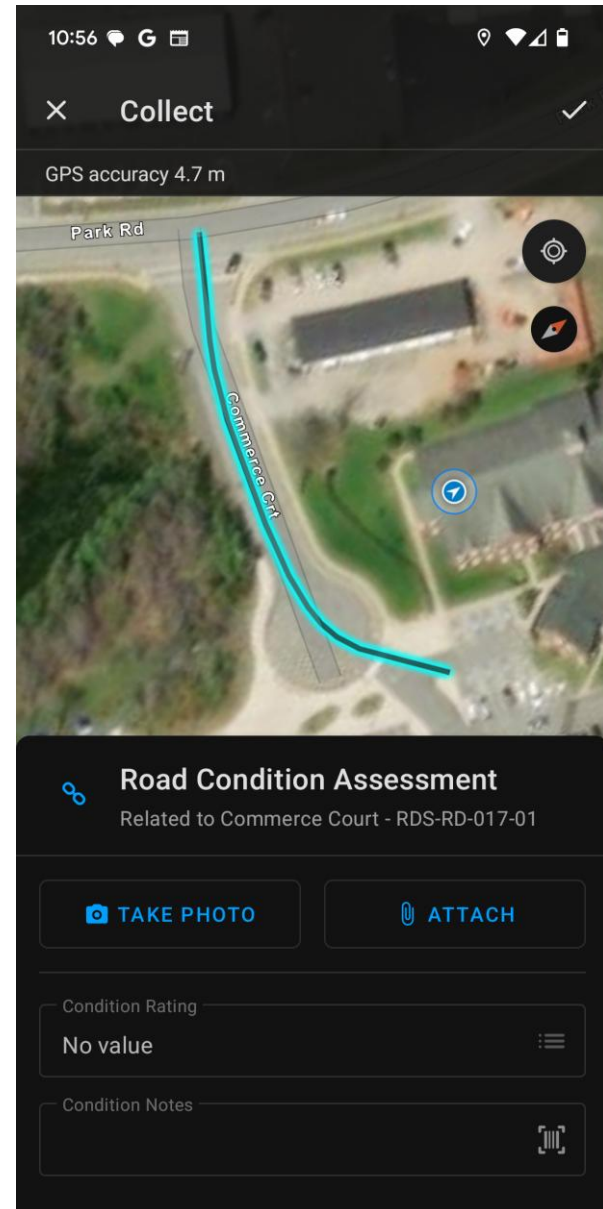
- EUL estimates are general guidelines. We know there are a number of factors aside from age that can influence the length of a road’s useful life including the amount of use or traffic, quality of construction, and climate or environmental factors.

Discussion

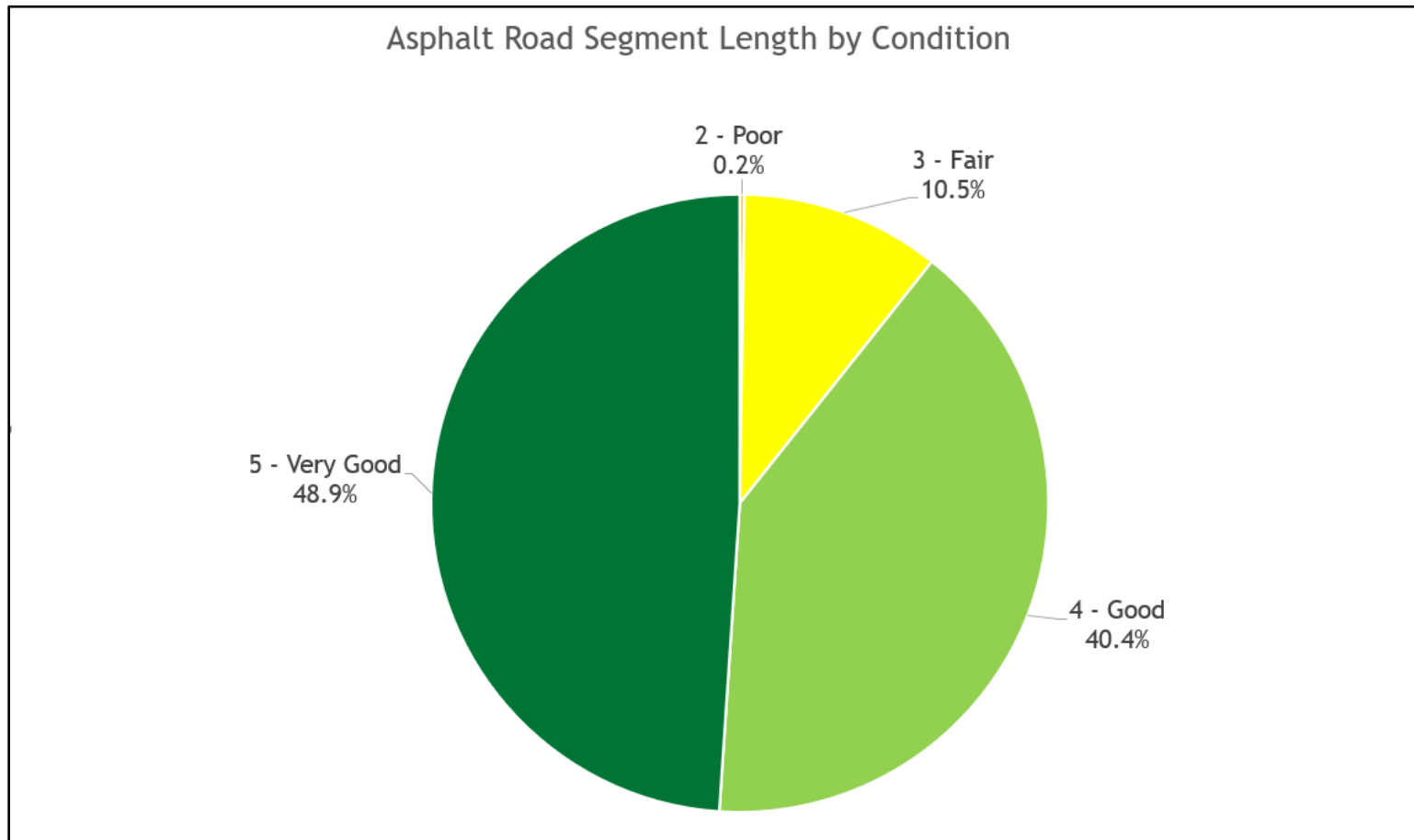
- Age alone may not be the most accurate tool for medium and long-term planning and decision-making. Regular and up-to-date condition data is best practice in Asset Management for all assets, and was the recommended next step for East Hants roads from the Roads Pilot Project.

Mobile Data Collection

- Staff made use of available mobile GIS tools to perform Visual Condition Assessments for Municipal Roads



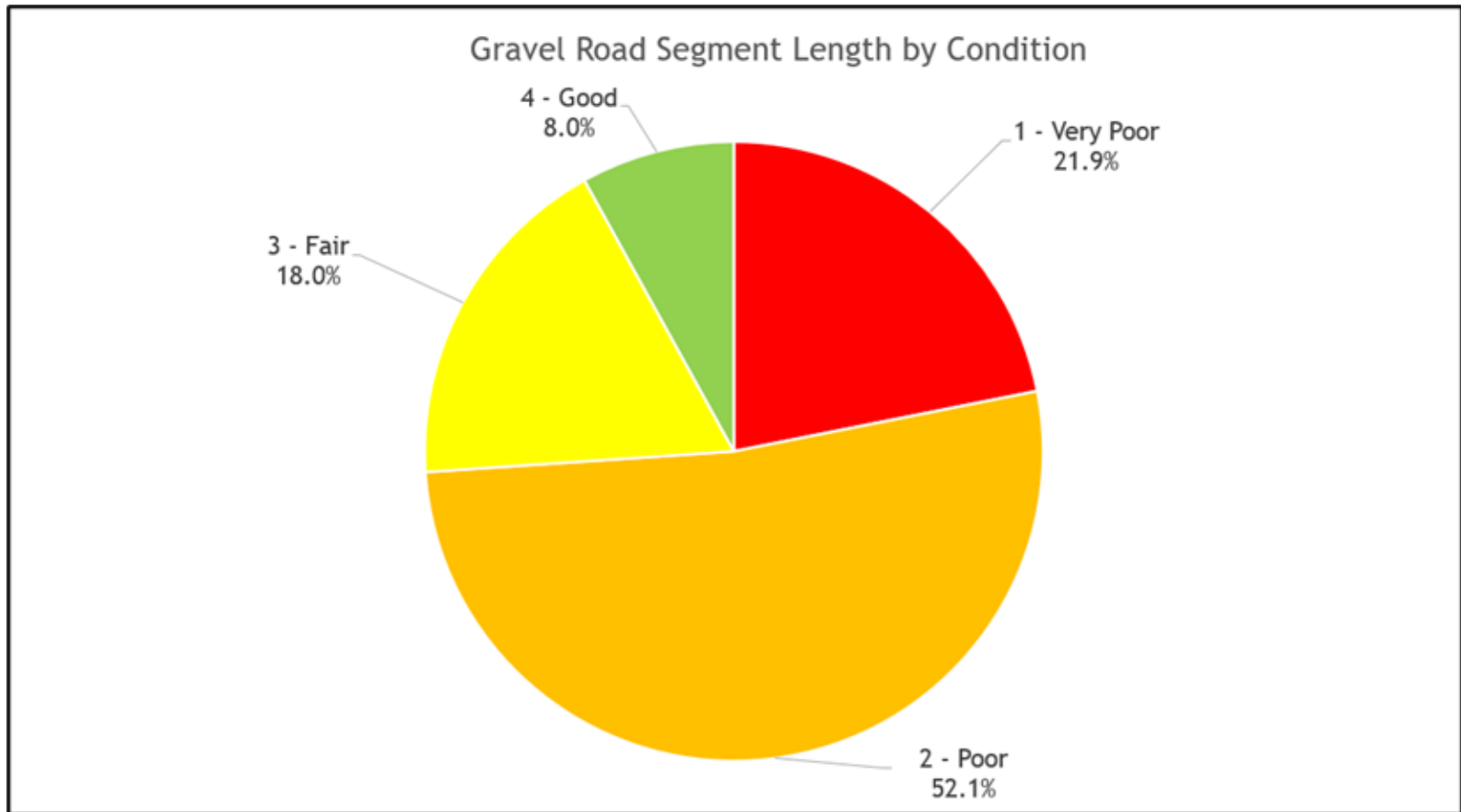
Discussion



Detailed VCA Scale for Asphalt Roads

| Grade | Condition Rating | Decimal Range | Description |
|-------|------------------|---------------|--|
| 5 | Very Good | 5.00 - 4.50 | Pavement is in very good condition and does not require action. |
| 4 | Good | 4.49 - 3.50 | Pavement is in good condition, in the early stages of its lifecycle with minimal slight-moderate cracking |
| 3 | Fair | 3.49 - 2.50 | Pavement needs a minor form of resurfacing or spot repair to mitigate the effects of rutting, cracking and other distresses in some localized areas. |
| 2 | Poor | 2.49 - 1.50 | Pavement needs a major form of resurfacing to mitigate the effects of rutting, cracking and other distresses over a large area. |
| 1 | Very Poor | 1.49 - 1.00 | Pavement has endured significant damage and a full reconstruction is required to improve condition. |

Discussion



Detailed VCA Scale for Gravel Roads

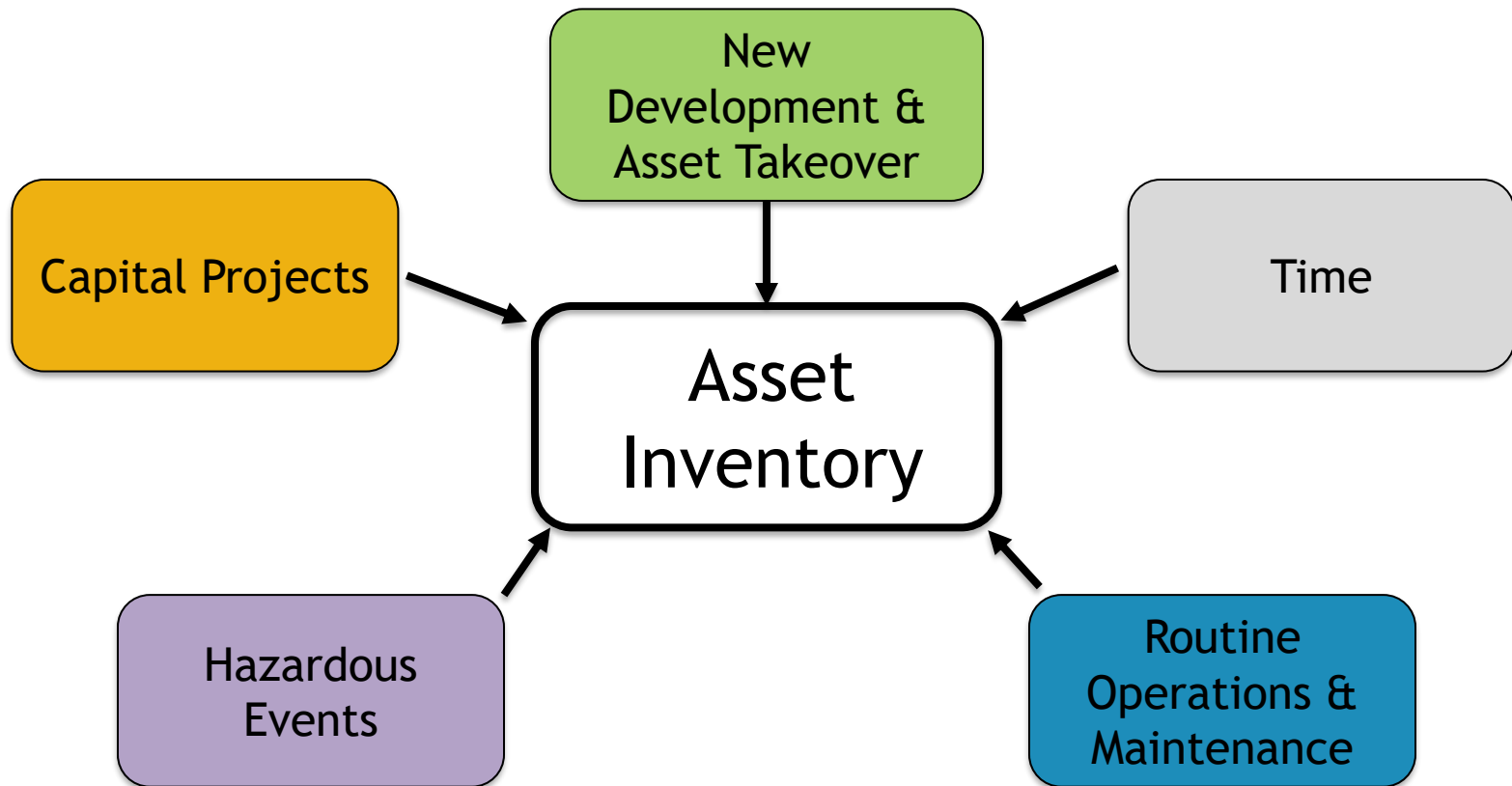
| Grade | Condition Rating | Decimal Range | Description |
|-------|------------------|---------------|--|
| 5 | Very Good | 5.00 - 4.50 | Gravel road has a good crown and was recently regraded. No distresses are present allowing for an excellent surface condition and ride for traffic. |
| 4 | Good | 4.49 - 3.50 | Gravel road has a good crown, and the top layer is adequate. There are little to no ruts or potholes therefore only routine grading and dust control is needed. |
| 3 | Fair | 3.49 - 2.50 | Gravel road has a good crown, and the top layer is mostly adequate but additional aggregate may be needed in some locations to correct wash boarding or isolated potholes (<2") and ruts (<1"). |
| 2 | Poor | 2.49 - 1.50 | Gravel road has little or no roadway crown and some areas (up to 25% of the road surface) have little or no aggregate. Moderate potholes and rutting (2-4") are observed over 10%-25% of the surface area. |
| 1 | Very Poor | 1.49 - 1.00 | Gravel road has no roadway crown and is bowl shaped with extensive ponding. Over 25% of the road surface has severe rutting (>3") and potholes (>4"). |

Discussion

| Asset Element Type | Expected Useful Life (Years) | Average Aged-Based Remaining Useful Life (Years) | Average Overall Summer 2024 Condition Rating |
|-----------------------|------------------------------|--|--|
| Asphalt (Paved) Road | 25 | 12 | 4.41 (Good) |
| Gravel (Unpaved) Road | 10 | -4 | 2.29 (Poor) |

Discussion

- Inventory and condition data is living, and always changing.



Discussion

- Visual Condition Data collected in summer 2024 will be used to support upcoming capital budget recommendations. Additionally, the data helps to re-affirm the need of some existing capital projects in the 5-year capital budget.
- Visual Condition Assessments were also performed for Municipally-owned sidewalks in summer 2024, and a similar report can be brought forward at the request of Council.
- As East Hants continues through the AM journey, as much detailed age and condition data as possible will be collected for other service areas and asset classes as well.

Recommended Motion

- ***Corporate and Residential Services Committee recommends to Council that they receive and file the East Hants Roads Assets - State of the Infrastructure Update report dated September 11, 2024.***