

# Operations and Community Services

2021-2022 Capital Program – Road and Bridge Infrastructure



# Roadway Infrastructure – Road Network

- Approximately 626 km of roadways
- Township's strategic road paving program began in 2007
  - 2007 – 386 km of hard surfaced roads and 226 km of gravel roads
  - 2020 – 596km of hard surfaced roads and 16 km of gravel roads
- Roadway infrastructure is Township's largest asset classes
- Touches all residents and aspects of daily lives
- Road Network Plan being developed to guide future transportation requirements
  - Road Needs Study – Completed
  - Roads System and Operations – Completed
  - Road standards – Completion 2021.

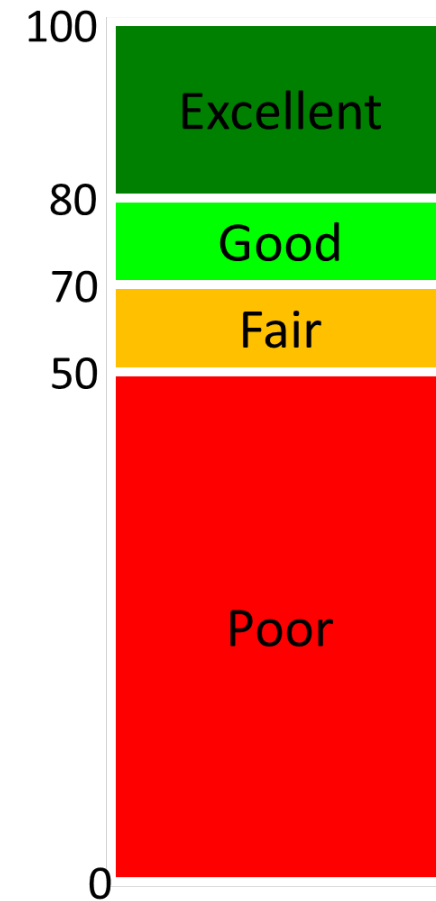
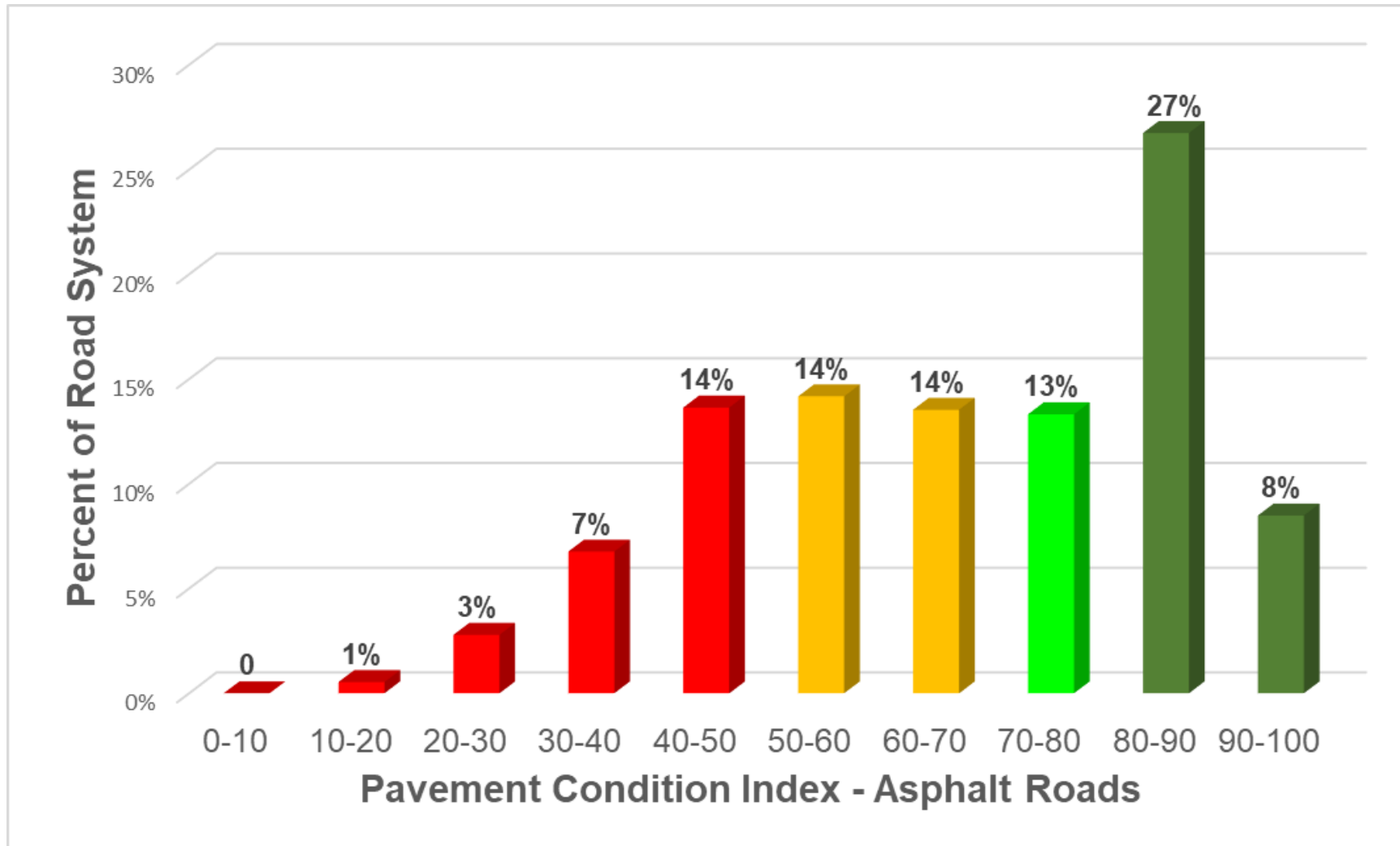
# Roadway Surface

Surface Type	Length (km)	Percentage
Concrete	0.9	0.1%
Gravel	21.5	4.0%
Hot Mix Asphalt	466.4	76%
Surface Treated	123.2	20%

\*Excludes unassumed subdivisions

Surface and Subsurface Components (Base) have different lifecycle and needs

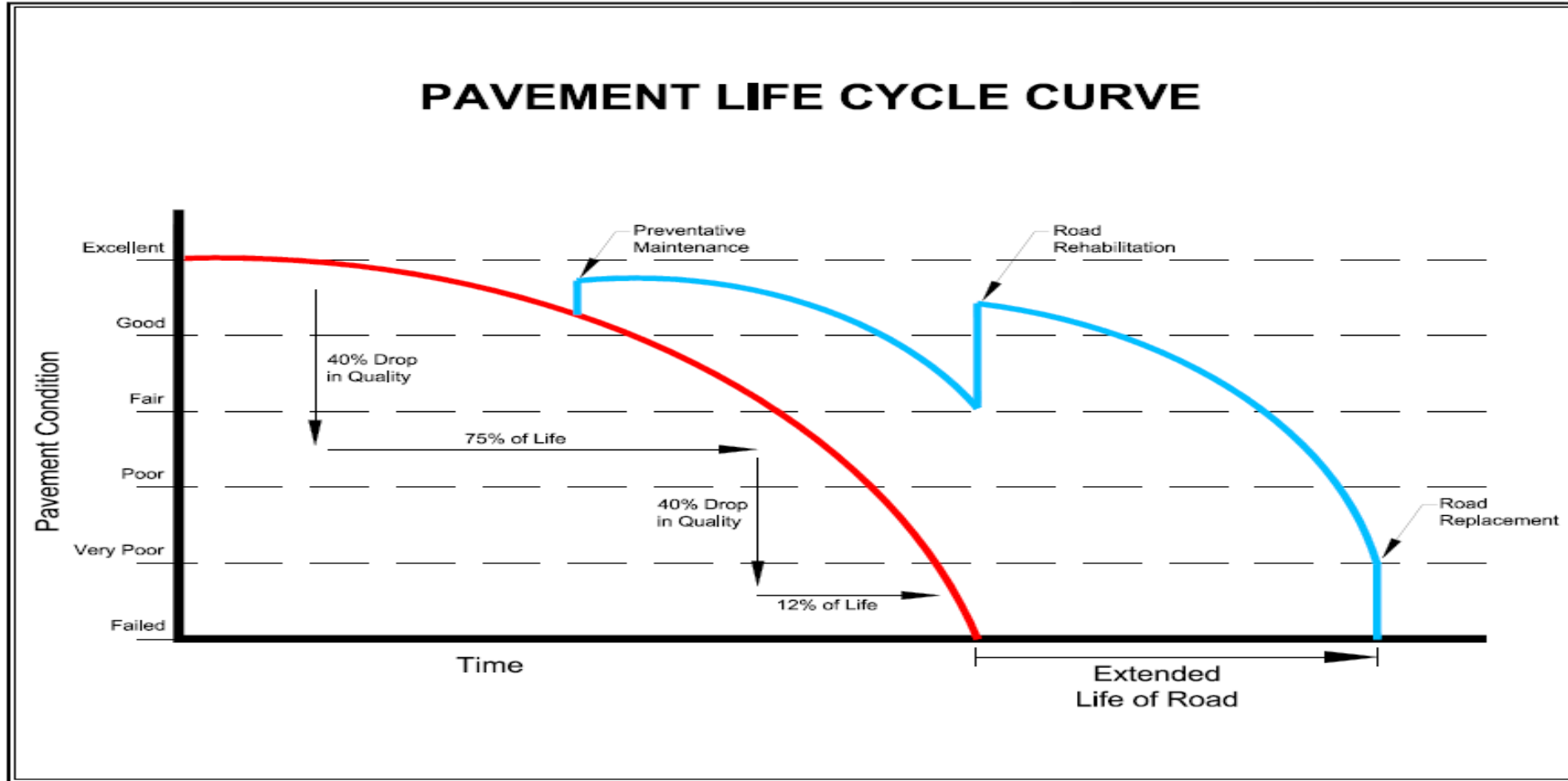
# Pavement Condition Index



# Pavement Lifecycle Costs

- Spending \$2.00 on Pavement Preservation at the 5 year mark eliminates or delays spending \$6.00-\$10.00 on future rehabilitation costs
- Spending \$2.00 on Pavement Preservation at the 5 year mark eliminates or delays spending \$4.00-\$5.00 on future reconstruction costs

# Pavement Life Cycle Curve



# Pavement Management Program 2021-2025

- Pavement Management Program implemented in 2017 under new Departmental Structure.
- Consists of various components - Micro Surfacing and Crack Sealing, Section Repair (Patching), Surface Treatment, Asphalt, Reconstruction.
- Focus on
  - Contract Administration
  - Quality and Quantity Control
  - Financial Management
  - Optimization of resources
  - Establishment of a multi-year program and lifecycle management

# Addressing roads needs

At its meeting of December 16, 2020 Council provided direction to staff to augment the draft 2021-2022 capital road rehabilitation program through additional debentured investment not to exceed \$4 Million to:

Capitalize on low interest rates;

Assist in closing the gap in roads needs and capital renewal;

Better manage lifecycle;

Advance priority roads in residential areas.



# Addressing roads needs

2021-2022 Pavement Management Program includes provisions to debenture \$3.9 Million to augment the planned capital program by \$1.9 Million in 2021 and \$2 Million in 2022.

This additional funding has allowed modification to the planned program to advance resurfacing residential (subdivision roads) throughout the Township, the hard surfacing of the gravel section of Bass Lake Side Road between Lines 8 and 9 and the advancement of priority roads needs.

This will also provide additional capacity to advance roads in the 2023-2025 program as a number of these roads were advanced in the 2021-2022 program.

# Addressing roads needs

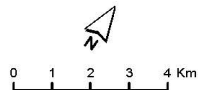
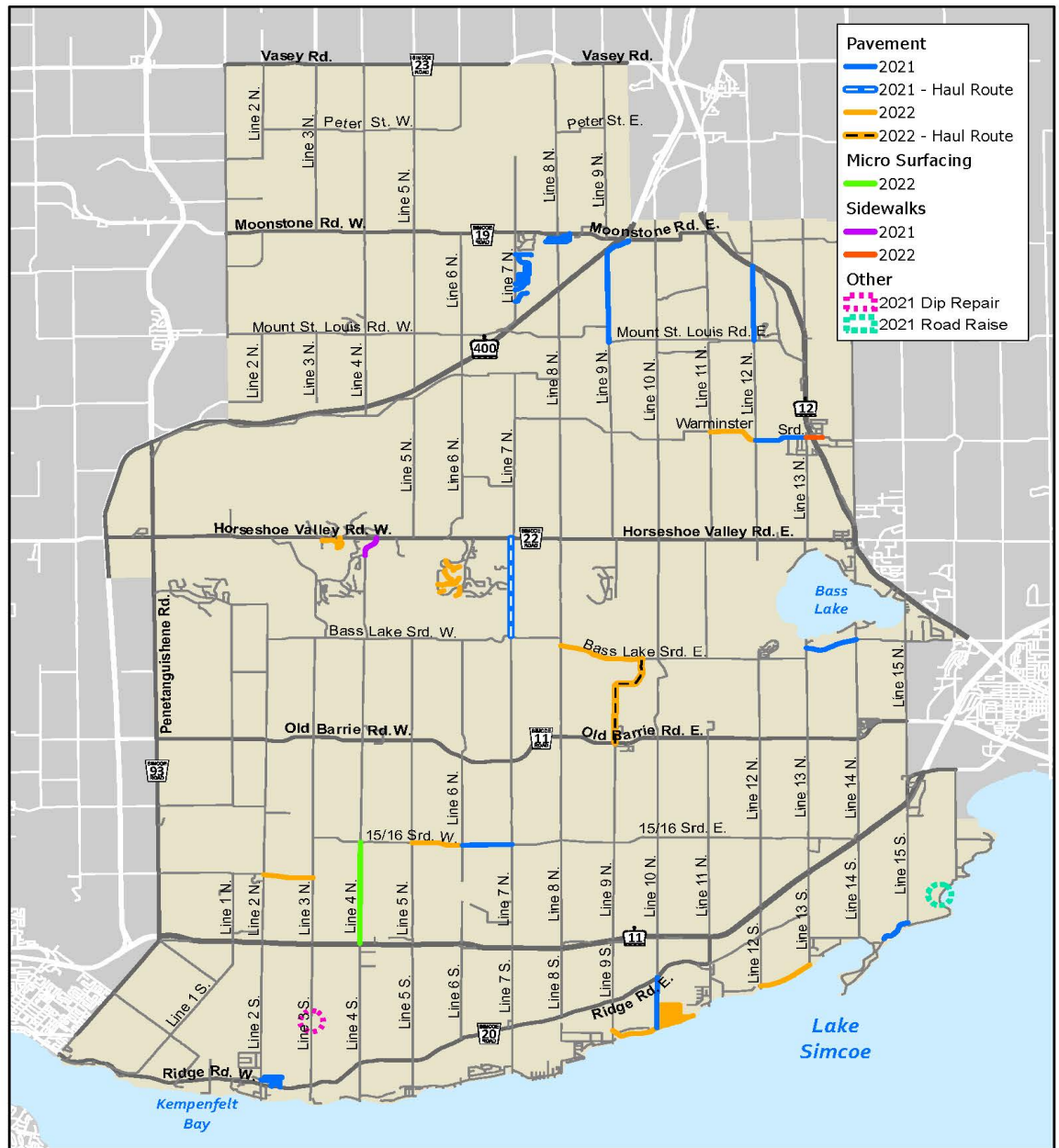
The draft 2021-2022 program is being presented inclusive of the additional funding proposed by Council.

Staff will continue to refine the 2023-2025 plan in the development of an updated 5 year capital plan following the asset management plan completion to be presented to the 2023-2026 Council in 2023.

# Pavement Management Program 2 Year Plan 2021-2022

Program developed considering and prioritized according to:

- Pavement condition index / roadway classification
- Risk management
- Tracking of complaints
- Optimizing resources available
- Lifecycle management
- Flexibility to adapt to changing needs
- Aligning with operational activities for shouldering, drainage and roadside improvements
- Plans of other agencies MTO, County of Simcoe as well as internal i.e. environmental services
- Continuation of road segment renewal i.e. Bass Lake Side Road, 15/16 Sideroad, Warminster Sd. Rd, Lakeshore Rd, Line 7 (Haul Route)



## 2021-2022 Capital Program



# 2021 Paving Projects

Project	2021 Budget	Funding Source
Bass Lake Side Road - Line 13 to Line 14	\$250,000	183K OCIF, 67K IRR
15/16 Side Road - Line 6 to Line 7	\$250,000	Infrastructure Renewal
Medonte Hills Subdivision - 6 streets	\$750,000	750K Gas tax
Warminster Side Road - Line 13 - Line 12	\$300,000	Infrastructure Renewal
Line 12 North – Mount Saint Louis Road to Highway 12	\$470,000	120K IRR, 350K Gas tax
Line 7 North - Horseshoe Valley Road to Bass Lake Side Road	\$450,000	Infrastructure Renewal (Haul Route)
Line 9 North – Moonstone Road to Mount Saint Louis Road	\$540,000	500K TL, 40K IRR

# 2021 Paving Projects

Project	2021 Budget	Funding Source
Shanty Bay – 6 Streets	\$685,000	Debt
Moonstone – Robincrest Subdivision	\$450,000	Debt
Maplewood Parkway	\$450,000	Debt
Line 10 South – Ridge Road to Lakeshore Road	\$300,000	Debt
Asphalt Patching	\$145,000	Tax Levy
Line 3 Dip repair	\$100,000	Infrastructure Renewal
Woodland Drive – road raise	\$75,000	Infrastructure Renewal

# 2021 Paving Projects

Project	2022 Budget	Funding Source
Sugarbush – Cul de Sac design	\$100,000	Infrastructure Renewal
Line 15 North culverts replacement	\$100,000	90K TL 10K IRR
Georgian Drive walkway	\$20,000	Infrastructure Renewal
Line 9 North – Old Barrie Road to Bass Lake - design	\$10,000	Haul route reserve

# 2022 Paving Projects

Project	2022 Budget	Funding Source
Country Club Lane / Birch Grove	\$300,000	Tax Levy
Bass Lake Side Road - Line 8 to Line 9	\$320,000	Infrastructure Renewal
Ski Trails Rd. - Line 2 to Line 3	\$290,000	183K OCIF, 40K TL, 67K IRR
15/16 Side Road - Line 6 to Line 5	\$300,000	233K IRR, 67K gas tax
Warminster Side Road - Line 12 - Line 11	\$300,000	Infrastructure Renewal
Line 9 North Old Barrie Road to Bass Lake Side Road - HAUL ROUTE	\$400,000	Infrastructure Renewal (Haul Route)
Sugarbush - 6 Streets	\$600,000	Gas Tax



# 2022 Paving Projects

Project	2022 Budget	Funding Source
Simcoeside Residential Development	\$1,100,000	Debt
Lakeshore Road – Line 9 to Line 10	\$400,000	Debt
Lakeshore Road – Line 12 to Line 13	\$525,000	Debt
Asphalt patching	\$225,000	Tax levy
Sugarbush – cul de sacs	\$250,000	Tax levy

# 2021/2022 Pavement Preservation Projects

Project	2021 Budget	Funding Source
Road Resurfacing - microsurfacing	\$200,000	Tax Levy
Crack Sealing	\$40,000	Tax Levy

Project	2022 Budget	Funding Source
Road Resurfacing - microsurfacing	\$200,000	Tax Levy
Crack Sealing	\$40,000	Tax Levy



# 2021 / 2022 Sidewalks

Project	2021 Budget	Funding Source
Line 4 North , Highland Drive to Line 4 Park	\$250,000	87,500 IRR, 162,500DC

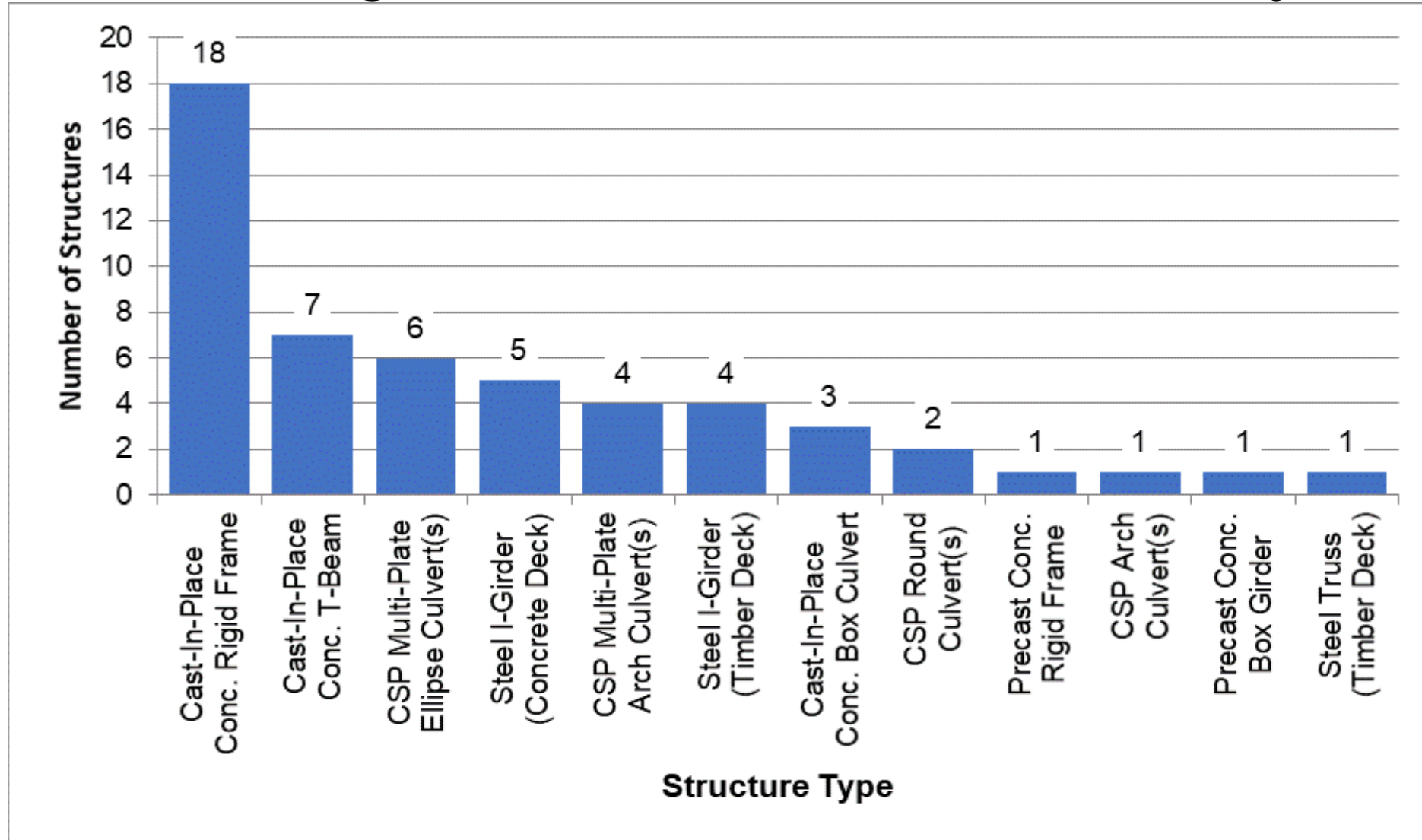
Project	2022 Budget	Funding Source
Danny McHugh Park to Preston Drive	\$250,000	167,500 IRR, 62,500DC



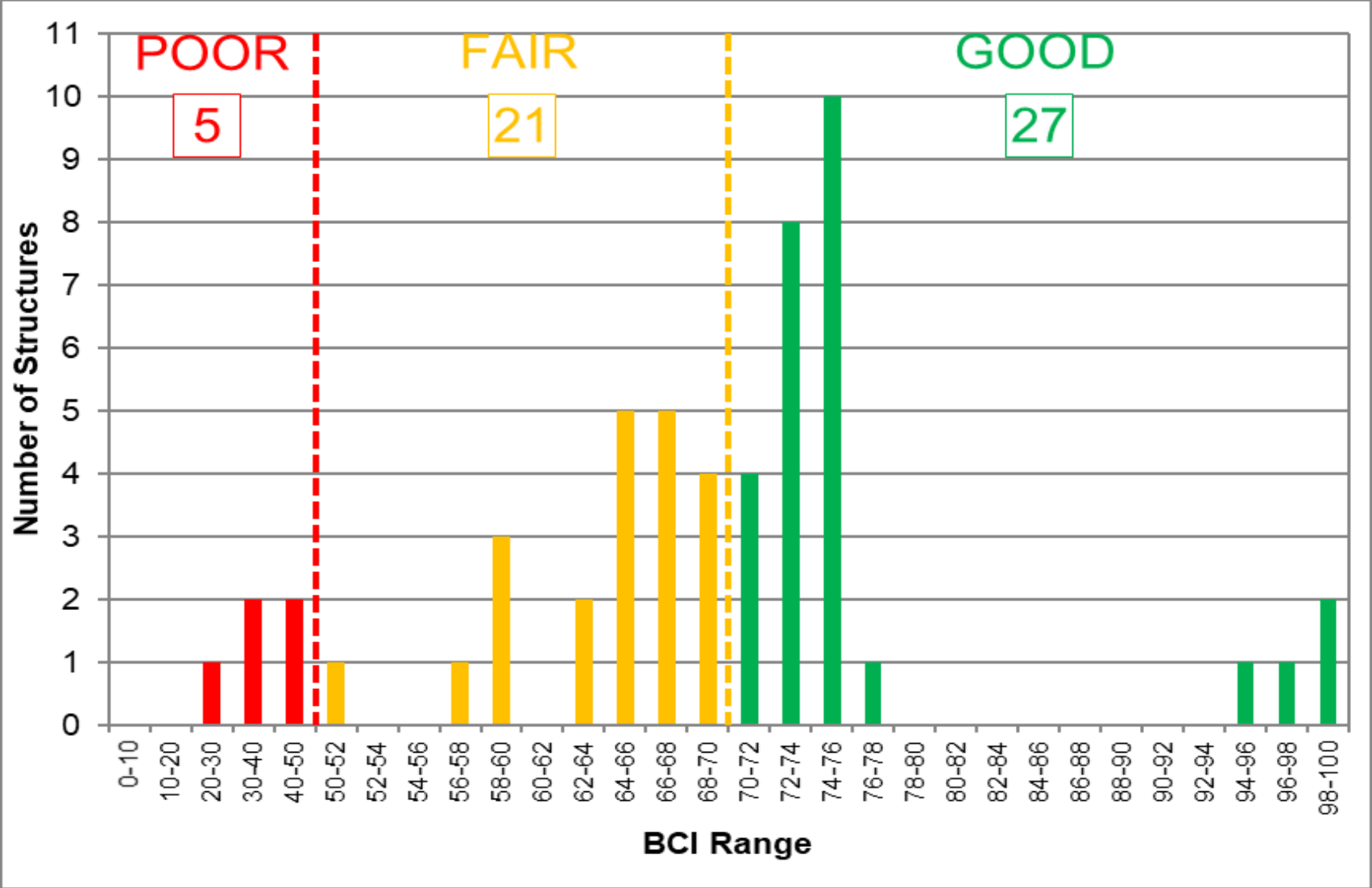
# Roadway Infrastructure – Bridges and Culverts over 3m

- The Township has 50 bridges and structures over 3m.
- There is a legislative requirement to inspect each of the structures bi-annually.
- These inspections are undertaken in accordance with the Ontario Structure Inspection Manual (OSIM).
- The inspections identifies their current condition and identifies any material defects, performance deficiencies, maintenance needs , additional studies or investigations and/or repairs/rehabilitation work required on a structure by structure basis.

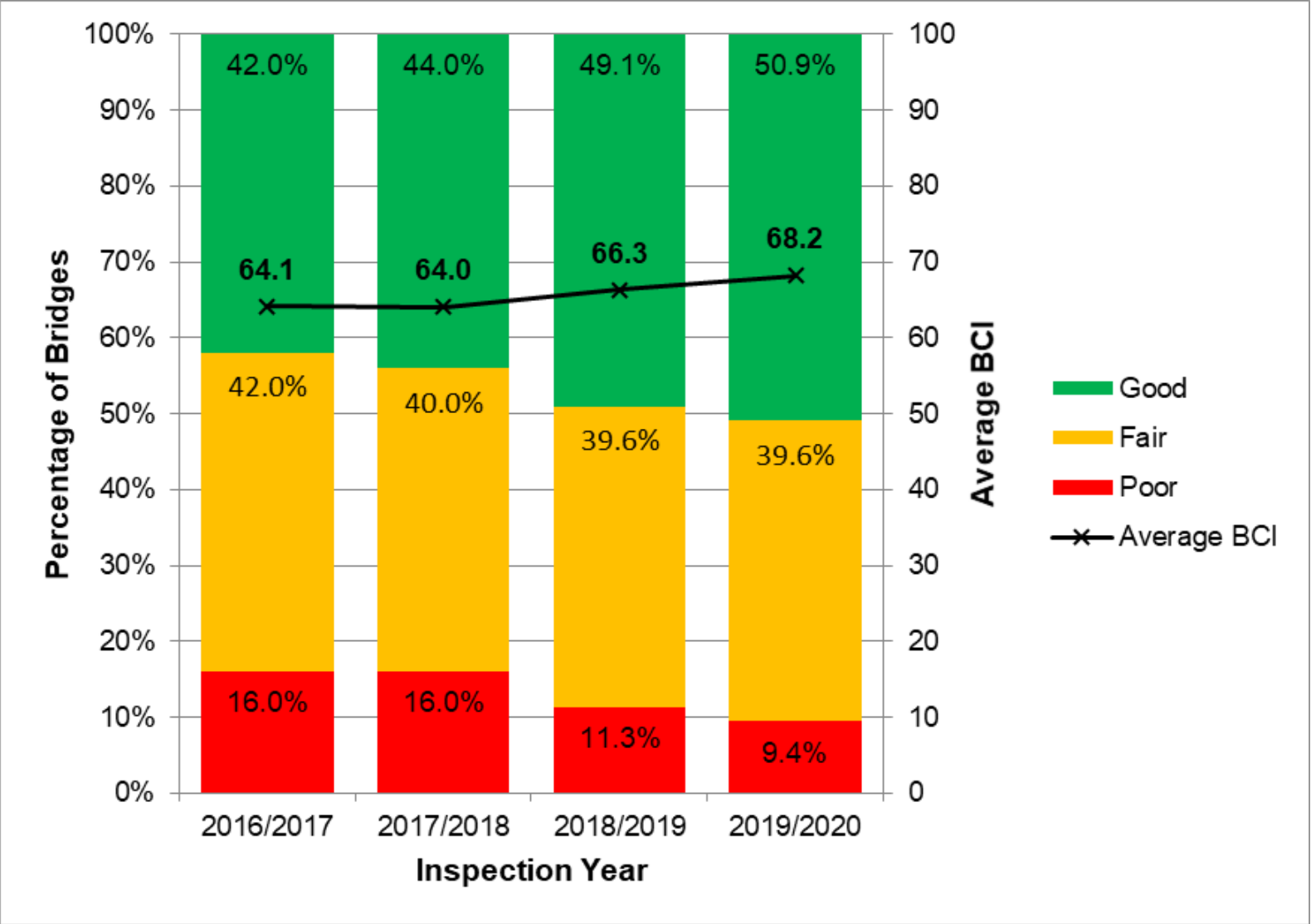
# Bridge and Structure Inventory



# Bridge and Structure Condition (BCI)



# Bridge and Structure Condition (BCI) – Historical Trend



# 2021-2025 Bridge Program

- The 2020 Municipal Bridge Inspection Report identifies \$4.25 million in bridge works within the immediate timeframe and an additional \$4.31 Million in the 1-5 year time horizon.
- Current funding allocations address only urgent high priority works.
- Addressing infrastructure requirements and sustainable funding will be further reviewed through the refinement of the Township's Asset Management Plan



# 2021 Bridge Projects

Project	2021 Budget	Funding Source
Culvert Replacement, Line 2, north of Ridge Road	\$700,000	Debt Financing
Bridge X-10 – Line 10, north of 15/16 Side Road - design	\$75,000	Debt Financing

# 2022 Bridge Projects

Project	2022 Budget	Funding Source
Bridge X-10 – Line 10, north of 15/16 Side Road	\$900,000	Debt Financing
Bridge 23 – Line 13, south of 15/16 Side Road - design	\$50,000	Debt Financing



# Roadside Safety Systems

## Guiderail / Barriers

Roadside safety system requirements are set out in the MTO - Roadside Safety Manual which is a guideline provided to be used as a risk assessment tool in establishing the need, type and extent of roadside safety measures.

From the 2020 OSIM report, the total estimated cost for guiderail roadside safety improvements is \$1.94M.

# 2021 Guiderail Projects

- Bridge BX3 - Line 1 south – new installation
- Bridge BX4 – 20/21 SR – new installation
- Bridge 04 – Line 1 South – replacement of deficient guiderails
- Engineering for 2022/2023 projects

Project	2021 Budget	Funding Source
2021 Guiderail Projects	\$125,000	Tax Levy

Project	2022 Budget	Funding Source
2021 Guiderail Projects	\$125,000	Tax Levy