

2013 CITY OF LINCOLN PARK
BOND ISSUE FOR ROADS AND
INFRASTRUCTURE

OVERVIEW OF CITY'S STREET NETWORK:

- THE CITY OF LINCOLN PARK HAS 115 MILES OF ROADS
- THE AVERAGE LIFE FOR A CONCRETE ROAD IS 35+ YEARS
- THE AVERAGE CITY OF LINCOLN PARKS ROAD IS 60+ YEARS
- EVALUATION OF STREETS CONDUCTED IN 2012 UTILIZING PAVEMENT SURFACE AND EVALUATION RATING SYSTEM (PASER) IN CONJUNCTION WITH THE MICHIGAN TRANSPORTATION ASSET MANAGEMENT COUNCIL
- THE CITY OF LINCOLN PARK HAS:
 - 24 MILES OF GOOD ROADS
 - 65 MILES OF FAIR ROADS
 - 26 MILES OF POOR ROADS

THE 2013 CITY OF LINCOLN PARK PROPOSED BOND ISSUE WOULD REPLACE OR REHABILITATE SEVERAL MILES OF STREETS AND PROVIDE CONTINUED PREVENTATIVE MAINTENANCE FOR GOOD ROADS TO ENSURE THAT THESE ROADS REMAIN IN GOOD CONDITION FOR YEARS TO COME

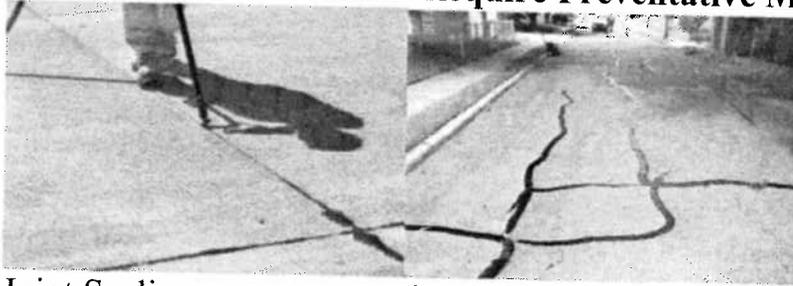
ALSO INCLUDED IN THE BOND ISSUE IS REPAIRING AND REPLACING INFRASTRUCTURE THAT IS DETERIORATED OR FAILING

2013 CITY OF LINCOLN PARK

BOND ISSUE FOR ROADS AND INFRASTRUCTURE

The City of Lincoln Park has completed an evaluation of its 115 miles of roads based on the 2012 MDOT Standards for Roadway Assessment and the results are as follows:

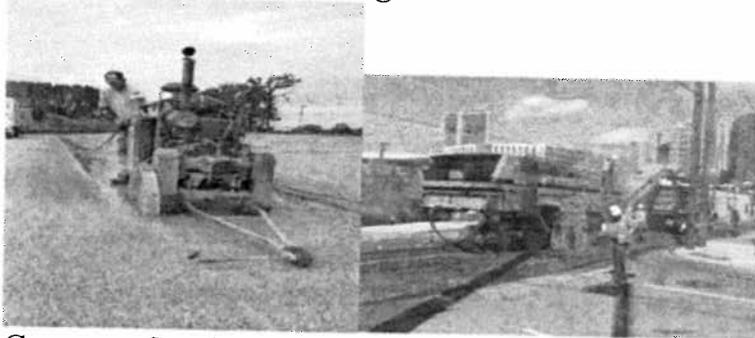
- **24 Miles of Good Roads**
 - **Roads in Good Condition Require Preventative Maintenance**



Joint Sealing

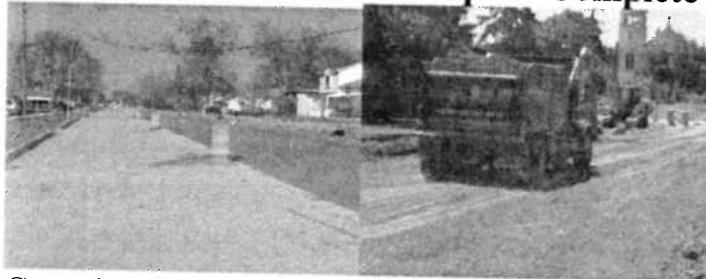
Crack Sealing

- **65 Miles of Fair Roads**
 - **Roads in Fair Condition Require Concrete Sectioning and/or Milling and Resurfacing**



Concrete Sectioning Mill & Resurface

- **26 Miles of Poor Roads**
 - **Roads in Poor Condition Require Complete Reconstruction**



Complete Reconstruction

The 2013 City of Lincoln Park proposed bond issue will remediate approximately 50 to 60 miles throughout the City. The worst roads in each category will be selected.

City of Lincoln Park
 2012 Capital Improvement Bond & Other Funding Sources
 Total Amount = \$20,000,000.00
 OVERALL

PASER Rating	Percentage of Remediation	Miles of road Repaired	Type of Repair	Proposed Cost of Remediation
10	0.02%	0.11	Preventative Maintenance	\$ 4,000.00
9	0.1%	0.54		\$ 20,000.00
8	1%	5.41		\$ 200,000.00
7	3%	11.36		\$ 600,000.00
6	9%	5.68	Street sectioning and limited areas of reconstruction	\$ 1,800,000.00
5	18%	5.68		\$ 3,600,000.00
4	24%	5.19		\$ 4,800,000.00
3	23%	3.96	Complete Removal and reconstruction	\$ 4,600,000.00
2	19%	3.27		\$ 3,800,000.00
1	2%	0.32		\$ 376,000.00
	Total =	41.54		\$ 19,800,000.00
	Bond Cost =			\$200,000.00
	Grand Total =			\$20,000,000.00

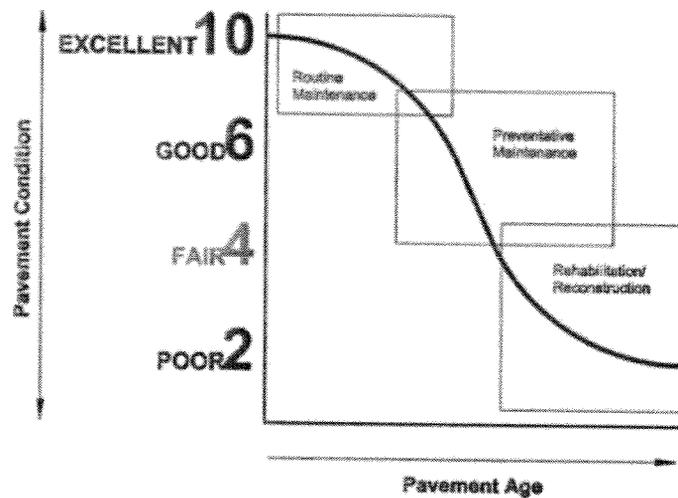


Figure 4 – Pavement Deterioration Curve

There are three (3) categories of road treatments as defined by TAMC. Each treatment has different characteristics, costs and suitability for a given application. Not all treatments are appropriate for a given level of pavement distress. The right treatment will depend on several factors such as costs, the existing condition of the roadway, soil conditions and major use of the roadway. The first is routine maintenance which involves the day to day work of street sweeping, snow plowing, catch basin cleaning and related work. The second category is preventative maintenance, extending the life of a pavement, such as joint sealing, chip sealing, concrete sectioning and asphalt overlays. Preventative maintenance is designed to address structural issues before the integrity of the roadway has been compromised and has to be reconstructed. The final category is structural improvement required when the life of the roadway can no longer be extended and reconstruction of the roadway is required. Below is a table providing the recommended treatments for each PASER rating.

ASPHALT STREETS		
PASER Rating	Condition	Recommended Treatment
1	Failed	Reconstruction
2	Very Poor	Reconstruction
3	Poor	Major Overlay or Reconstruction
4-5	Fair	Asphalt Overlay or Patching
6-7	Good	Sealcoating or Joint Sealing
8	Very Good	Joint Sealing or No Maintenance
9-10	Excellent	No maintenance required

CONCRETE STREETS		
PASER Rating	Condition	Recommended Treatment
1	Failed	Reconstruction
2	Very Poor	Reconstruction
3	Poor	Reconstruction
4-5	Fair	Significant Concrete Sectioning or Asphalt Overlay
6-7	Good	Concrete Sectioning
8	Very Good	Joint Sealing
9-10	Excellent	No maintenance required

Table 3 – Recommended Pavement Treatments

As can be seen on the deterioration curve above, it is best for the City to follow the approach known as a “mix of fixes.” This approach saves the City money and extends the useful life of pavements. The cost to reconstruct streets is significant costing approximately \$1,500,000 to \$2,000,000 for one (1) mile of a residential street. As can be seen in the table below, a large amount of streets can be rehabilitated and saved from being compromised or failing and the useful life extended by providing preventative maintenance techniques. By following the “mix of fixes” approach, the City can reach its goal of providing a roadway infrastructure that is rated good or fair at a faster rate than only completing reconstruction projects. The following table provides approximate costs per lane mile of different preventative maintenance techniques

	Cost per Lane Mile	Additional Service Life	Cost per Year of Service Life
Joint and Crack Sealing	\$2,000	1-2	\$1,333.33
Sealcoating	\$16,000	5-7	\$2,666.67
Ultra Thin Overlay	\$18,000	7-10	\$2,117.65
Milling and Resurfacing	\$85,000	10-12	\$8,500.00
Concrete Sectioning	\$110,000	12-15	\$8,800.00

Table 4 – Cost of Preventative Maintenance Techniques

VIII. 5 Year Construction Plan

The most difficult task with developing an asset management plan is to identify and prioritize potential road projects. There are several factors analyzed to identify which road projects are highest priority and include, but are not limited to: