



# City of Dexter

## 2015 Pavement Maintenance Program

Community Information Presentations

July 2015

# Road Program History

- Levied the additional 0.5 mil in 2014
- Sold \$800,000 bond in 2014 which will be paid off in 2024
- Supplemented in 2015 by \$100,000 from the 0.5 mill Countywide Road Millage

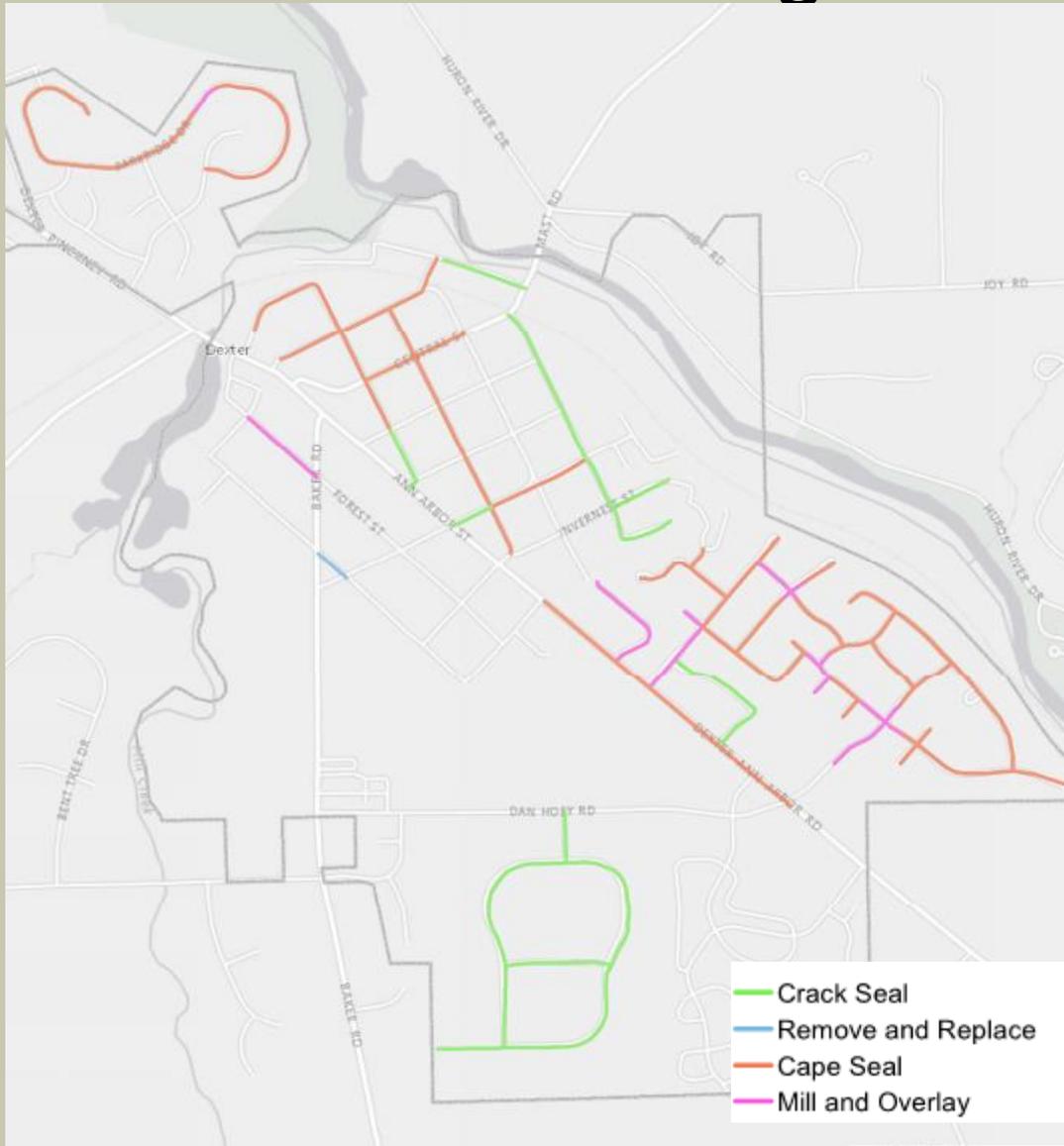
# Road Program Objectives

- Improve the ride quality and aesthetics of City roads.
- Extend the service life of all roadways by performing preventative maintenance at the right time.
- Perform fixes that maximize the remaining service life at the lowest cost.
- Complete initial pass of work within 5 years.

# History of Recent Road Improvement Efforts

Year	Project	Activity Type
2008	Pavement Ratings	Condition Survey
	Pavement Maintenance Report	Study and Plan
2009	Cape Seal and Micro surface	Maintenance
2010	Pavement Ratings	Condition Survey
2012	Pavement Ratings	Conditions Survey
2012	Main Street / Central Street	
2013	Hudson Street	Crush and Shape
<b>2014</b>	<b>Road Program Initiated</b>	<b>Tax Levy and Bond Sale</b>
2014	Pavement Maintenance	Crack Seal
	Asphalt Paving	Crush and Shape Overlay
<b>2015</b>	<b>Pavement Maintenance</b>	<b>Crack Cape Seal</b>
	<b>Asphalt Paving</b>	<b>Mill Overlay</b>

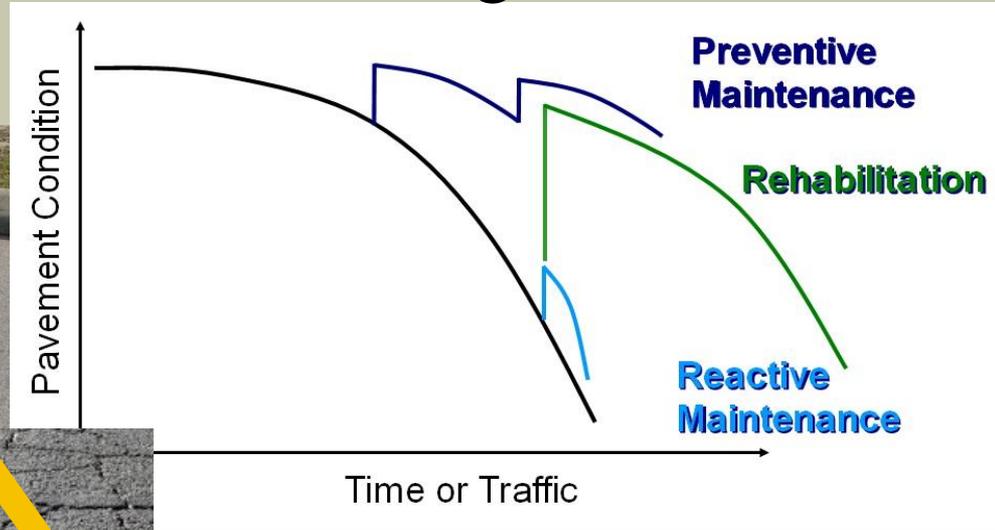
# 2015 Program Overview



- **Replacement** in areas of storm sewer replacement
- **Mill and Overlay** in areas with significant alligator cracking.
- **Capeseal** in subdivision areas for pavement preservation
- **Crack seal** on 2014 mill and overlay streets.

***This program selects the right fix based on recent observed pavement conditions***

# Picking the right fix at the right time

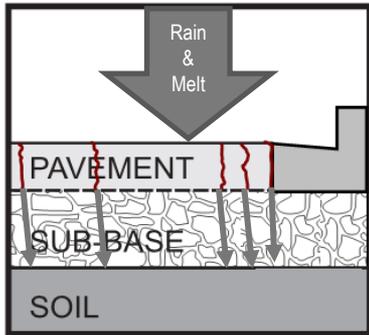


*By using a combination of preventative maintenance and rehabilitation, we can extend the life cycle of roads well beyond their initial 20 expected lives.*

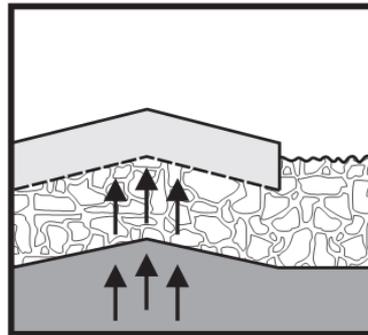
Fix	Application	Photo of Typical Pavement	Cost
Crack Seal <i>(Preventative)</i>	Cracks every 30-50'		\$.5/yard
Cape Seal <i>(Preventative)</i>	"Block" Cracking, Some Alligator Cracking		\$4/yard
Mill and Overlay <i>(Rehabilitation)</i>	Alligator Cracking		\$15/yard
Pulverize and Overlay <i>(Rehabilitation)</i>	Severe Alligator Cracking Base failures		\$35/yard
Reconstruction <i>(Replace)</i>	Total Pavement Failure Obsolete Road		\$80/yard

# Importance of Preventative Maintenance

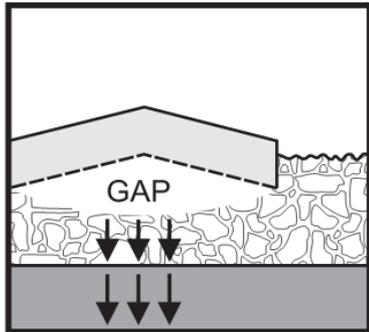
## Before Pavement Maintenance



Potholes begin after snow or rain seeps into the soil below the road surface.



The moisture freezes when temperatures drop, causing the ground to expand and push the pavement up.

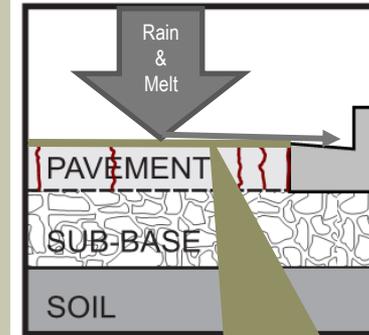


As temperatures rise, the ground returns to normal level but the pavement often remains raised. This creates a gap between the pavement and the ground below it.



When vehicles drive over this cavity, the pavement surface cracks and falls into the hollow space, leading to the birth of another pothole.

## After Pavement Maintenance



*Crack Seal, Cape Seal, Overlay*



The moisture freezes when temperatures drop, causing the ground to expand and push the pavement up.



As temperatures rise, the ground returns to normal level but the pavement often remains raised. This creates a gap between the pavement and the ground below it.



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*Pavement structure prolonged by "waterproofing" Base Layers*

# Discussion of Fixes

- Cape Seal: Relatively inexpensive fix that seals the underlying pavement and prolongs pavement life with a thin structural layer.
- Mill and Overlay: Moderate cost fix that removes upper layer of failed pavement and replaces with new asphalt.
- Replacement: Most expensive option. This is proposed in areas where underground work is also necessary (Hudson and Grand Street)

# Cape Seal Process



## Process

1. Apply asphalt emulsion sealant.
2. Apply stone chips to fill voids and improve skid resistance
3. Drive over loose stones with rubber tired machines.  
*(leave in place for 1 week)*
4. Apply slurry seal.

# Frequently Asked Questions: Cape Seal

- **Will I lose access to my driveway?**
  - There will be temporary (~30 minutes) disruptions to driveways during the placement of asphalt emulsion and seal coat.
- **Will I be notified when work will occur?**
  - The Contractor will provide at least 48 hour notice prior to performing any work that will require driveway closures. Letters will be mailed or hand delivered to your home.
- **How will traffic be handled during construction.**
  - At least one lane will be maintained at all times with flag control. Slight delays should be expected from this work.
- **What will I see during construction?**
  - The first process will be the placement of an asphalt emulsion. This will be sprayed on the existing pavement.
  - This will be followed by the placement of small gravel which will be pressed into the asphalt. This will remain in place for approximately 1 week.
  - A final seal coat will be placed over the asphalt which will seal the gravel in place and provide a black, asphalt like appearance.
- **How will the surface be different?**
  - The cape seal surface is rougher than conventional asphalt due to the gravel.

# Frequently Asked Questions: Mill and Overlay

- **Will I be notified when work will occur?**
  - The Contractor will provide at least 48 hour notice prior to performing any work that will require driveway closures. Letters will be mailed or hand delivered to your home.
- **Will I lose access to my driveway?**
  - There will be temporary (~30 minutes) disruptions to driveways during milling and paving operations (separate dates typically)
- **How will traffic be handled during construction.**
  - At least one lane will be maintained at all times with flag control. Slight delays should be expected from this work.
- **What will I see during construction?**
  - The first operation will be the milling of asphalt. This will involve a mill machine and dump truck which will grind the upper layer of asphalt off.
  - A few days later, a tack coat will be placed on the milled surface. This is a sticky substance and should not be walked on as it can cause property damage.
  - That same day, a layer of new asphalt will be placed.

# Additional Information

- City of Dexter Project Website
  - Presentation Documents
  - Frequent updates of construction progress and maps
  - [www.dextermi.gov/roads](http://www.dextermi.gov/roads)
- Facebook