

# Lake Shannon Road Issues

(original presentation date, April 11, 2022)

***May 2023***

*(minor updates)*

# Outline

- Summary
- Background
- Concerns
  - Examples
    - longitudinal (linear) cracking
    - transverse cracking
    - center line cracking
    - edge cracking
    - erosion along shoulder
    - rust spots
- Maintenance Costs
- Questions

# Summary

The Lake Shannon Association roads are generally in very good shape. There are a number of issues, however, that if not addressed could lead to accelerated deterioration in the future.

In addition, a long term road maintenance strategy with accompanying financing should be considered by the Association.

# Background

- Five years ago the Lake Shannon Board and a number of concerned residents organized a petition drive to repave the existing roads. The petition drive generated significant support by residents in both Tyrone and Deerfield Townships. The petitions were certified by both townships and each township generated bonds to pay for the construction, the cost to be paid over a 10-year period.
- During the summer of 2018, Ledgewood, Surfwood, Driftwood, Ore Knob, Starwood, Sandwood, Lake Shannon Court, Ore Knob Court, and Parkwood were repaved. The Livingston County Road Commission bid out and managed the construction project.

## Background *(continued)*

- The existing base was lightly graded to maintain current drainage patterns and approximately 3.5” of new asphalt was laid down over an existing road base consisting of 3.0” of asphalt.
- The total cost of the project was \$1.6 MM (\$4,502 per parcel for Tyrone township residents and \$4,656 per parcel for Deerfield township residents). The cost difference was due to the number of residents in each area.
- The entire cost of the road construction was paid by the per parcel special assessment on Tyrone and Deerfield Township residents.

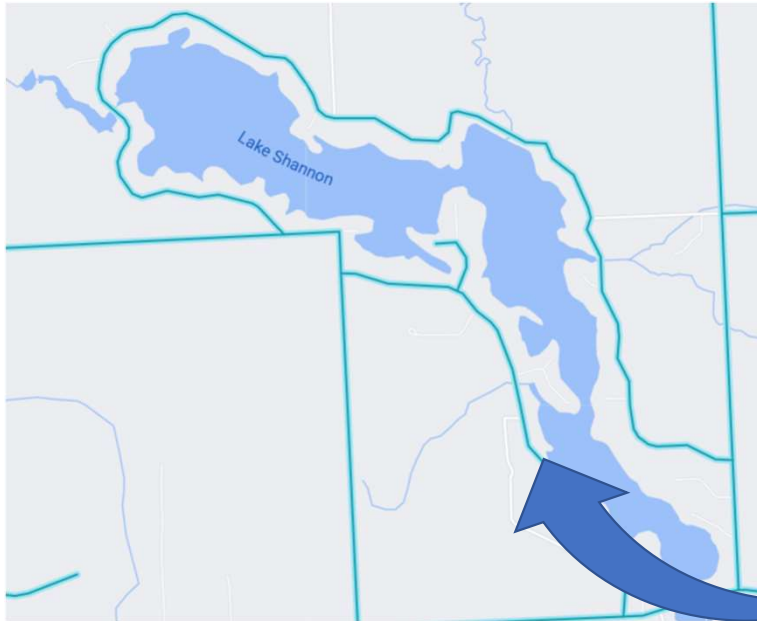
# Road Concerns

- The roads are still in generally good condition, but some concerns are present.
- At various spots around the lake, the following defects can be found:
  - longitudinal (linear) cracking
  - transverse cracking
  - center line cracking
  - edge cracking
  - shoulder erosion
  - holes
  - rust spots

## Longitudinal Cracks

# Examples

7222 Ledgewood Dr



Issue: longitudinal cracks in road,  
water appears to be getting through  
to the base

**Slide 7**

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**RD1**

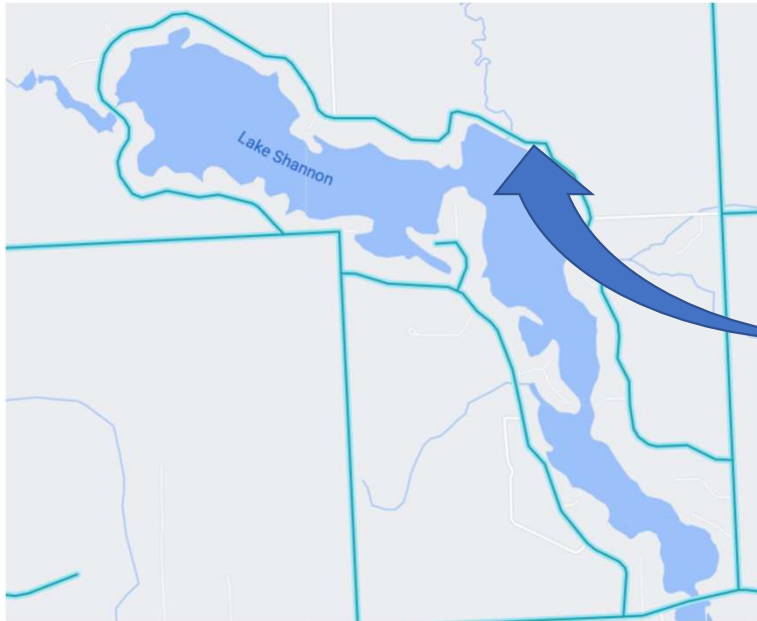
Robert Donald, 4/26/2022



## Longitudinal Cracks

# Examples

8115 Parkwood Dr

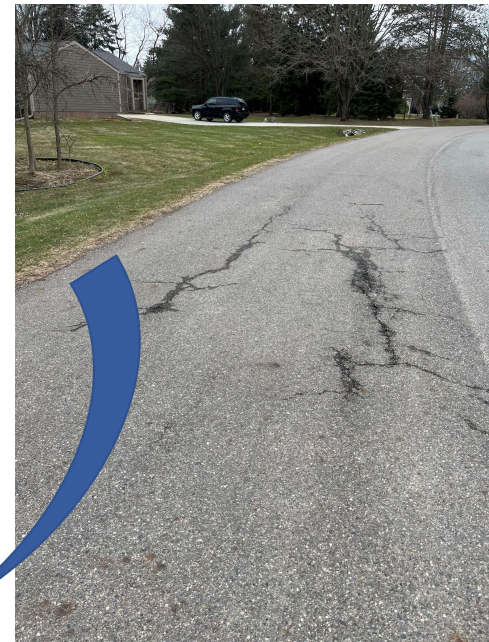
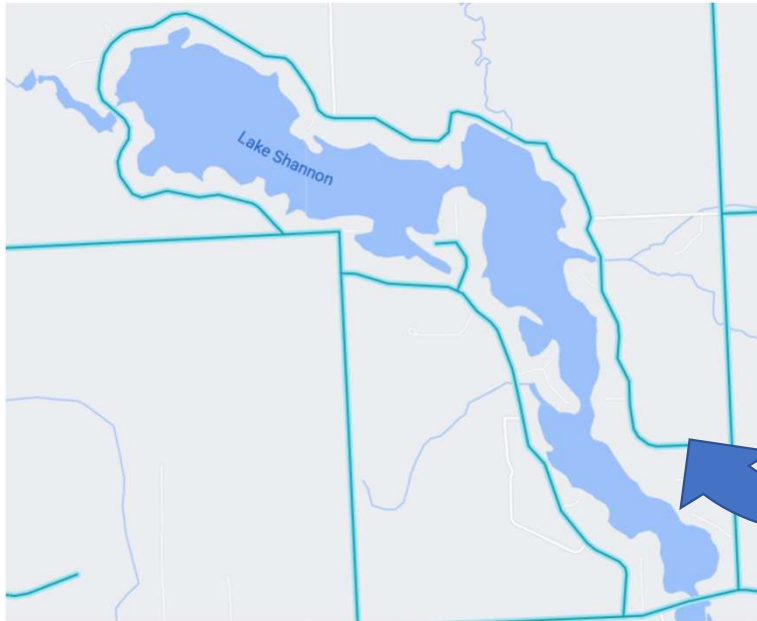


Issue: longitudinal cracks in road,  
water appears to be getting through  
to the base

## Longitudinal Cracks

# Examples

7231 Parkwood

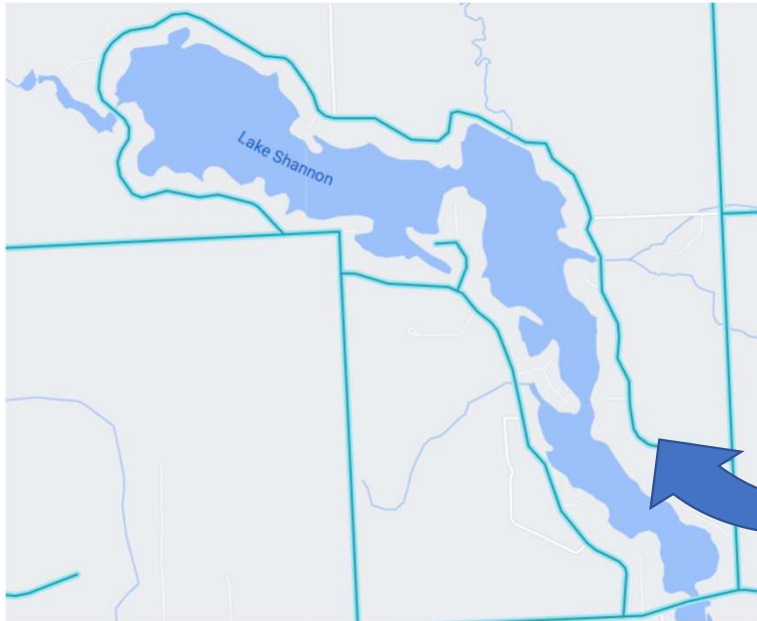


Issue: longitudinal cracks in road,  
water appears to be getting through  
to the base

## Longitudinal Cracks

# Examples

7259 Parkwood

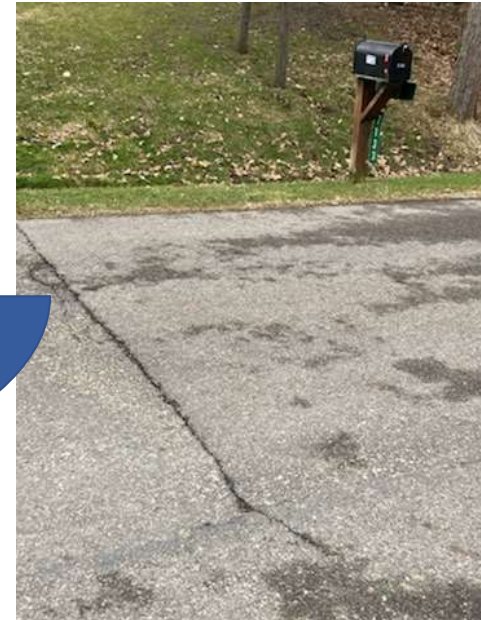


Issue: longitudinal cracks in road,  
water appears to be getting through  
to the base

## Transverse Cracks

# Examples

7133 Driftwood

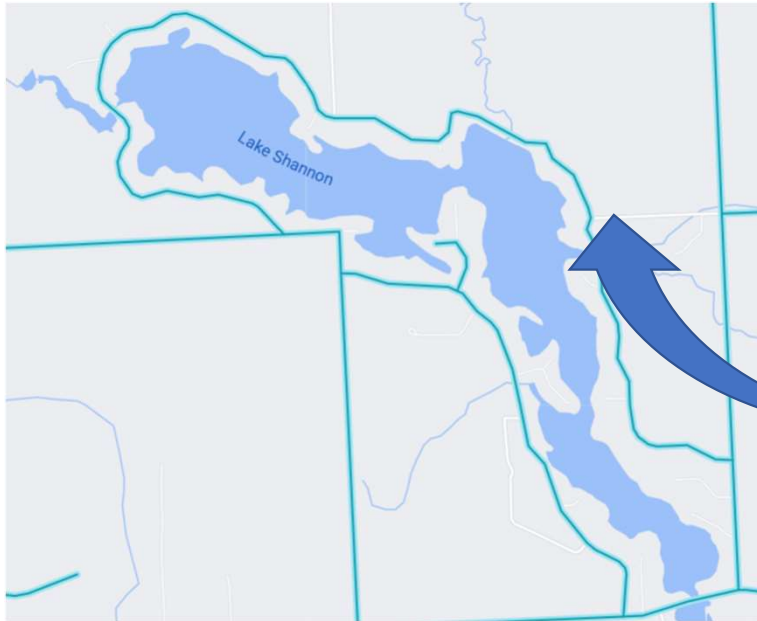


Issue: transverse crack in road, water appears to be getting through to the base, looks like a point where paving stopped and then restarted

Transverse  
Cracks

# Examples

8354 Dean



Issue: transverse crack in road, water appears to be getting through to the base, looks like a point where paving stopped and then restarted

## Transverse Cracks

# Examples

Intersection of Dean and McGuire



Issue: transverse crack in road, water appears to be getting through to the base, looks like a point where paving stopped and then restarted

Transverse  
Cracks

# Examples

7129 Driftwood

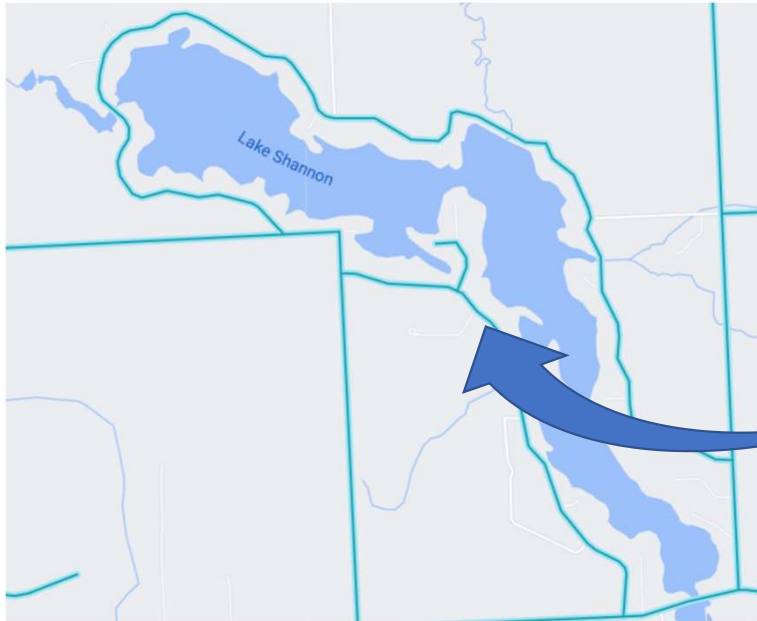


Issue: transverse crack in road, water appears to be getting through to the base

Transverse  
Cracks

# Examples

7385 Ledgewood



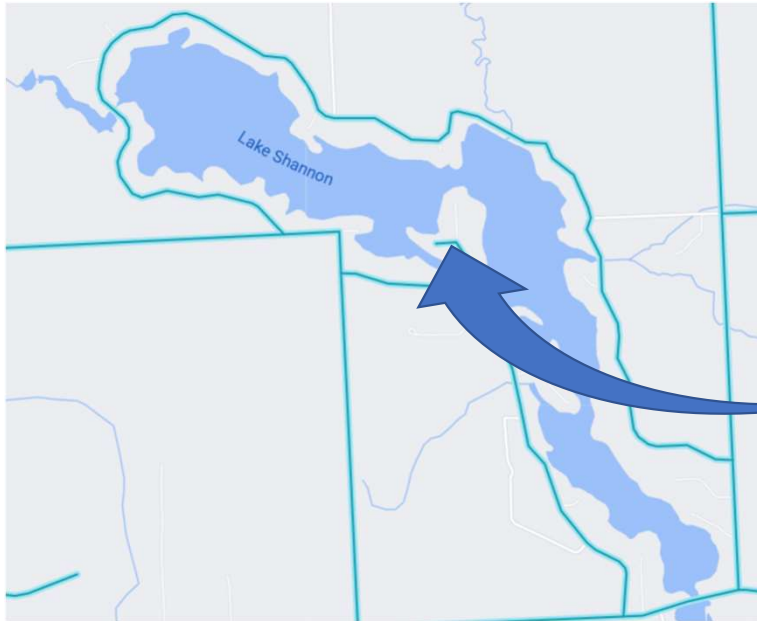
Issue: transverse crack in road, water appears to be getting through to the base



Transverse  
Cracks

# Examples

7527 Ore Knob Ct.

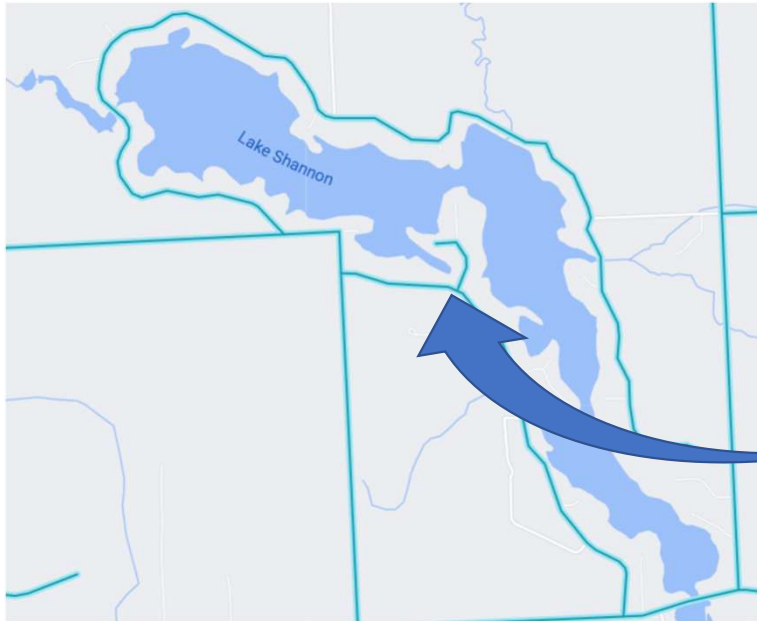


Issue: transverse crack in road, water appears to be getting through to the base

## Transverse Cracks

# Examples

Entrance to Ore Knob  
from Ledgewood

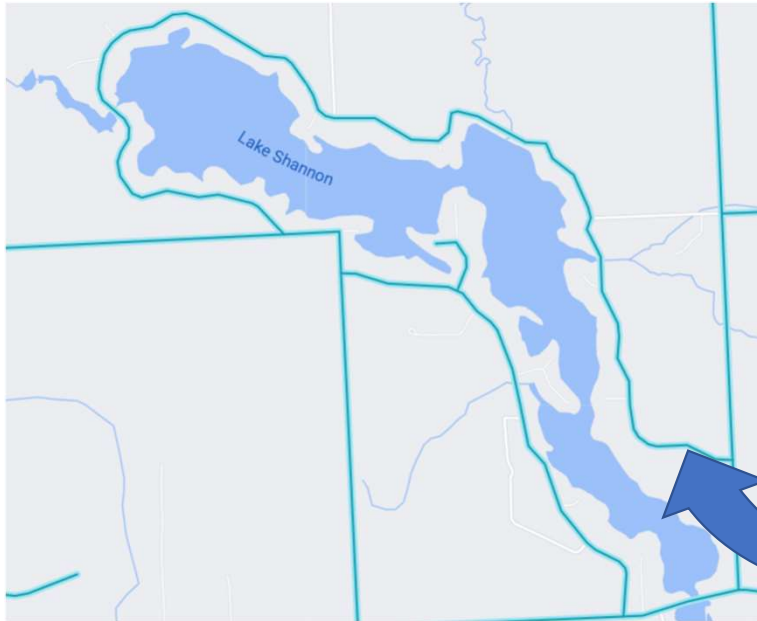


Issue: transverse crack in road, water appears to be getting through to the base, appears to be crack between two different pavings

## Center Line Cracks

# Examples

7247 Parkwood



Issue: center crack in road, water appears to be getting through to the base, appears to be pop between two different pavings

Center Line  
Cracks

# Examples

Ore Knob Ct.

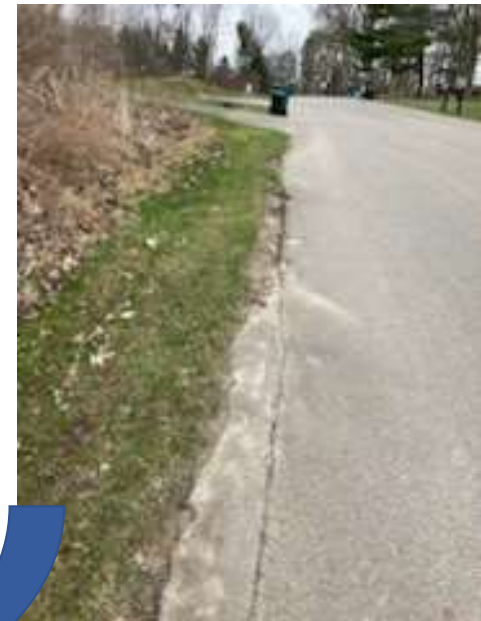


Issue: center crack in road, water appears to be getting through to the base, appears to be crack between two different pavings

Edge  
Cracks

# Examples

Across from the end of Surfwood



Issue: edge cracks in road, edge of road is starting to deteriorate, loss of berm and possible undercutting of road

Edge  
Cracks

# Examples

7634 Ledgewood

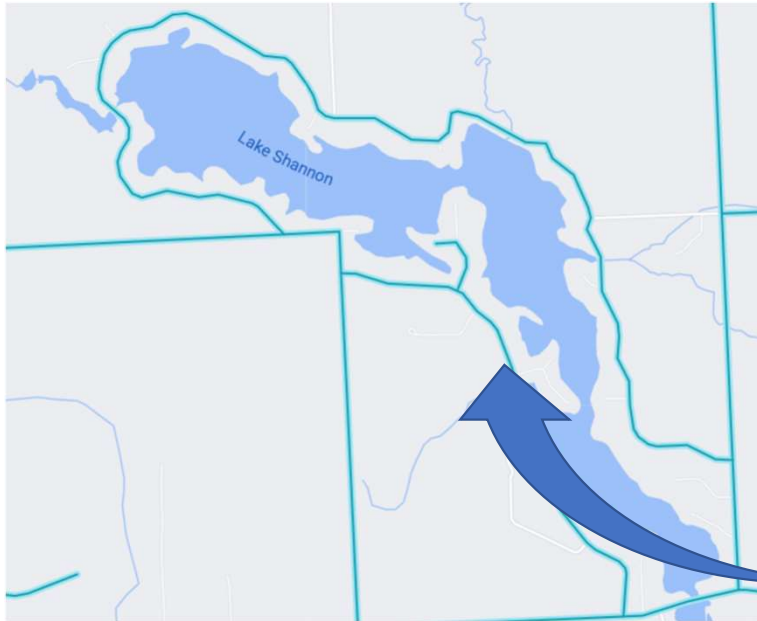


Issue: edge cracks in road, edge of road is starting to deteriorate, loss of berm and possible undercutting of road

Edge  
Cracks

# Examples

7346 Ledgewood

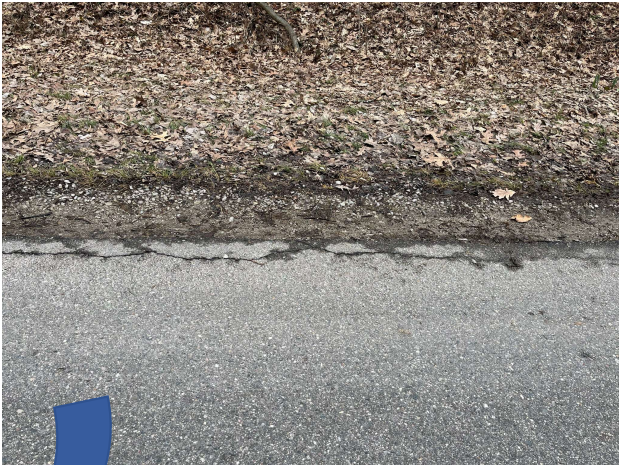
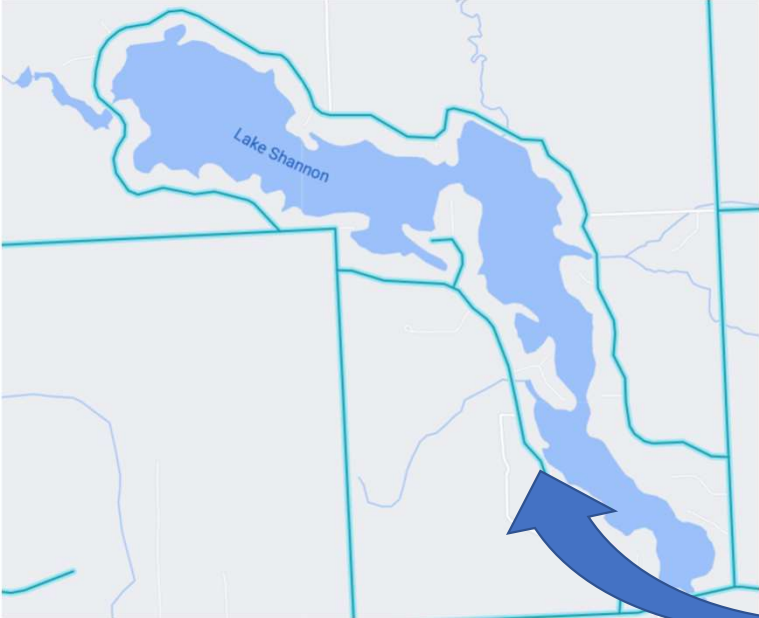


Issue: edge cracks in road, edge of road is starting to deteriorate, additional asphalt has been added

Edge  
Cracks

# Examples

7160 Ledgewood



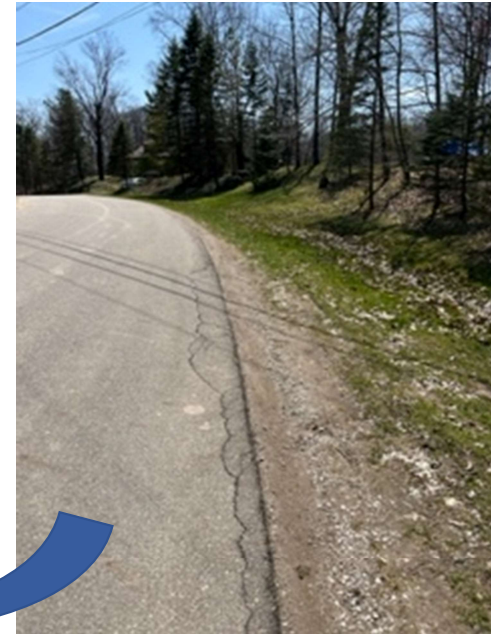
Issue: edge cracks in road, edge of road is starting to deteriorate



Edge  
Cracks

# Examples

7218 Driftwood



Issue: edge cracks in road, edge of road is starting to deteriorate, loss of berm and possible undercutting of road

Shoulder  
Erosion

# Examples

7496 Parkwood



Issue: erosion of berm, potential for undercutting the road

Shoulder  
Erosion

# Examples

8078 Driftwood



Issue: erosion of berm, potential for undercutting the road

Shoulder  
Erosion

# Examples

Ledgewood off of Faussett



Issue: erosion of berm, potential for undercutting the road

## Holes

# Examples

7050 Lake Shannon Ct

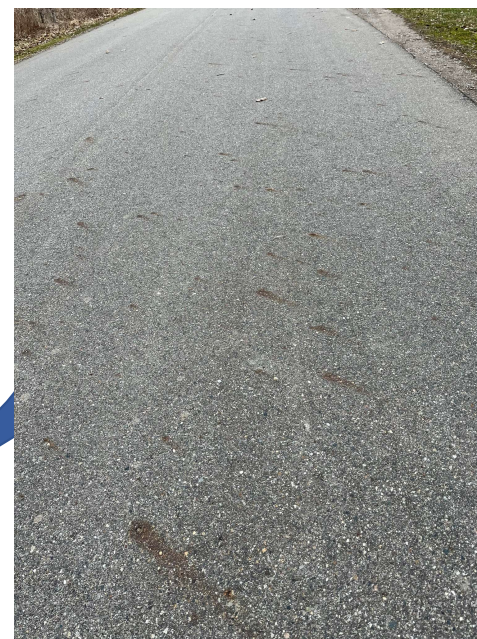
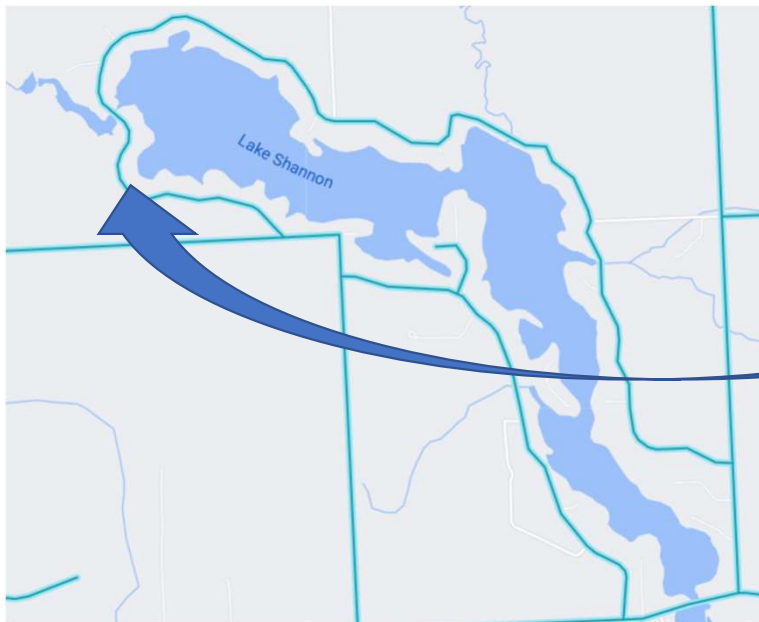


Issue: small holes in road, mostly an aesthetic issue

Rust  
Spots

# Examples

various locations

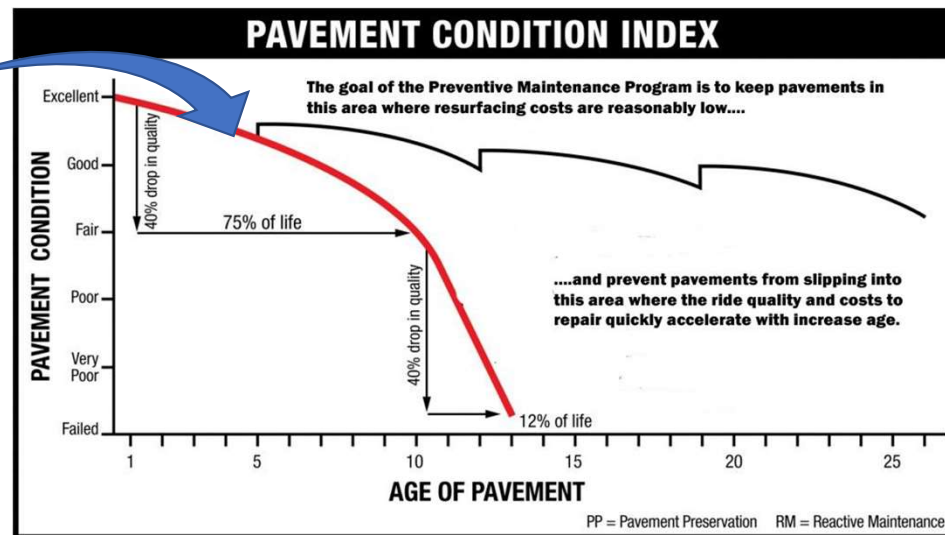


Issue: rust spots at many locations  
around the lake

# Maintenance Costs

The cost of routine, preventive maintenance (*sealing cracks, repairing shoulders*) can be significant in the short term, but the cost of neglecting it can be significantly higher in the long run.

We are here!



# Maintenance Costs

<u>Technology</u>	<u>\$/Lane Mile</u>	<u>Cost*</u>
Chip Seal	\$12,000	\$144,000
Slurry or Cape Seal	\$17,000	\$204,000
Minor Rehabilitation	\$25,000	\$300,000
Micro Surfacing	\$31,000	\$372,000
Ultra Thin Overlay	\$37,000	\$444,000
Overlay - Non Structural	\$44,000	\$528,000
Resurfacing	\$74,000	\$888,000
Mill and Fill - Non Structural	\$75,000	\$900,000
Overlay - Structural	\$88,000	\$1,056,000
Mill and Fill - Structural	\$113,000	\$1,356,000
Major Rehabilitation	\$121,000	\$1,452,000
Crush and Shape	\$142,000	\$1,704,000
Reconstruction	\$261,000	\$3,132,000

\* *Assuming six miles of Lake Shannon roads*

Analysis of TAMC Investment Reporting Data for Network Level Modeling on the Locally Owned Road System in Michigan  
2016 & 2017 County Projects



# Questions

Questions for the Lake Shannon Association to consider:

1. How well is Livingston county planning on maintaining the roads?
2. How well do residents expect the roads to be maintained?
  - Is there a difference?
3. How much will it cost to maintain them to that level?
  - Do we do this on our own or do we hire ...
    - a consultant to develop a pavement management program to maximize the life of the roads?
    - a consultant to evaluate the extent of deterioration, determine the causes, and then oversee rehabilitation
  - What are future preventive maintenance and rehabilitation costs

# Questions *(continued)*

Questions for the Lake Shannon Association to consider:

4. Can we implement a preventive maintenance program that extends the lifetime of the roads, delays major rehabilitation, and thus is more economical than doing nothing?
  - are we willing to spend money today to save more money tomorrow?
5. A clear understanding of the costs of maintaining the roads (maintenance costs, construction hassle) versus the benefits of good roads (roads consistent with an upscale community, increased home values, smoother ride) need to be clearly communicated to home owners so they can make an informed decision.