Woodland Hills

Pavement Management Program

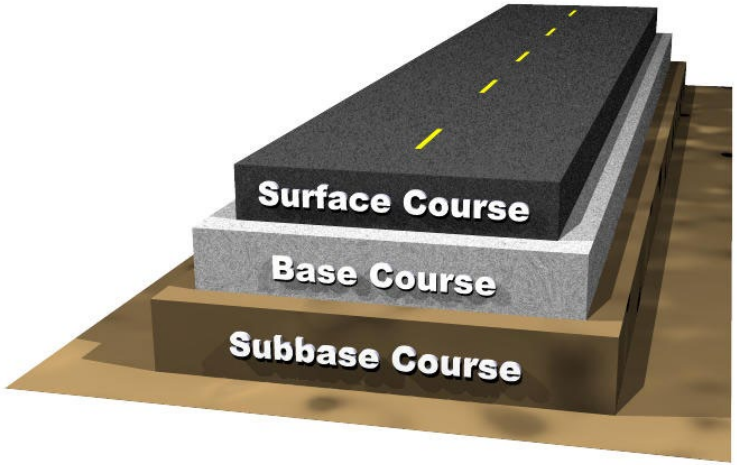
The Problem

Subbase, Base, & Drainage

HMA pavements can fail because of subgrade support deterioration as a result of excessive moisture or other water -related issues.

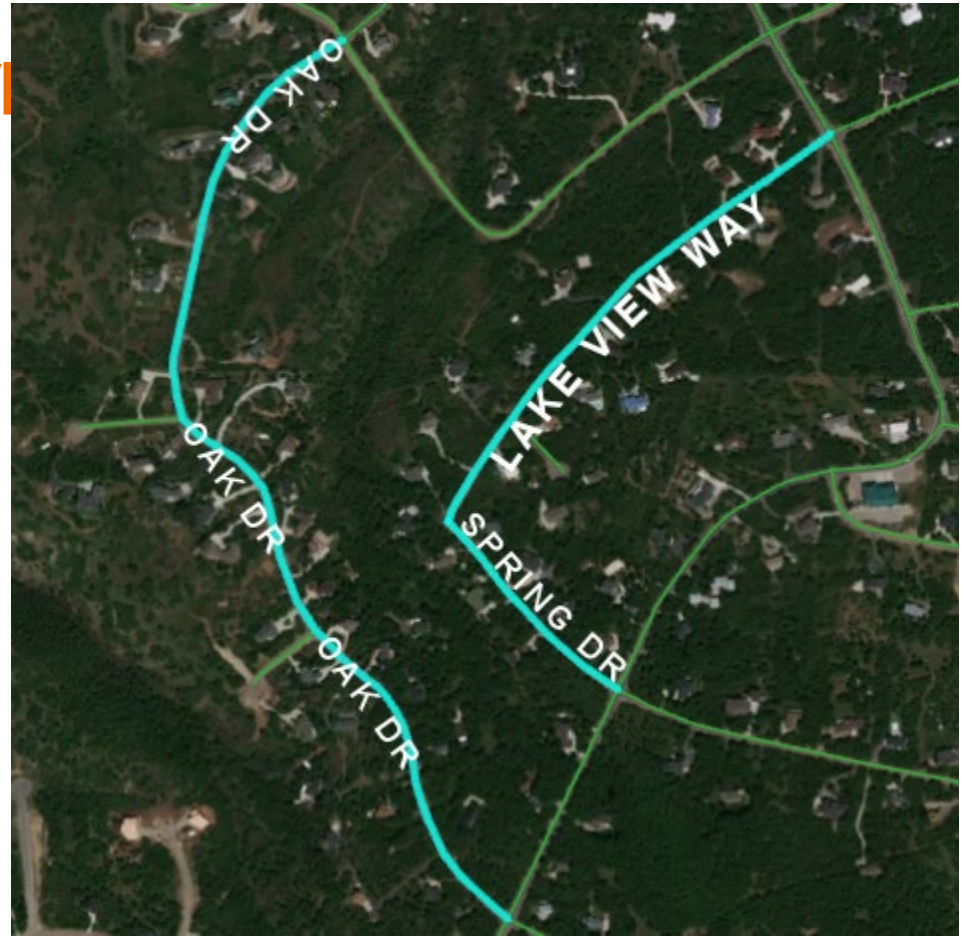
The subgrade must be able to support loads transmitted from the pavement structure ,often affected by degree of compaction, moisture content, and soil type.

HMA pavements also need a permeable base to provide for rapid removal of water which enters the pavement structure to avoid weakening of pavement structure.



Streets of Concern

1. Oak Drive
2. West Spring Drive
3. Lake View Way



Steps for Street Evaluation

1. Observe and take pictures of the streets or street segments
2. Determine various stresses and their severity and frequency
3. Use the Paser Manual to select a proper rating for the pavement
    a. http://www.apa -mi.org/docs/Asphalt -PASERManual.pdf

Pavement Surface Evaluation and Rating

PASER Manual

Asphalt Roads

Transportation Information Center
University of Wisconsin–Madison

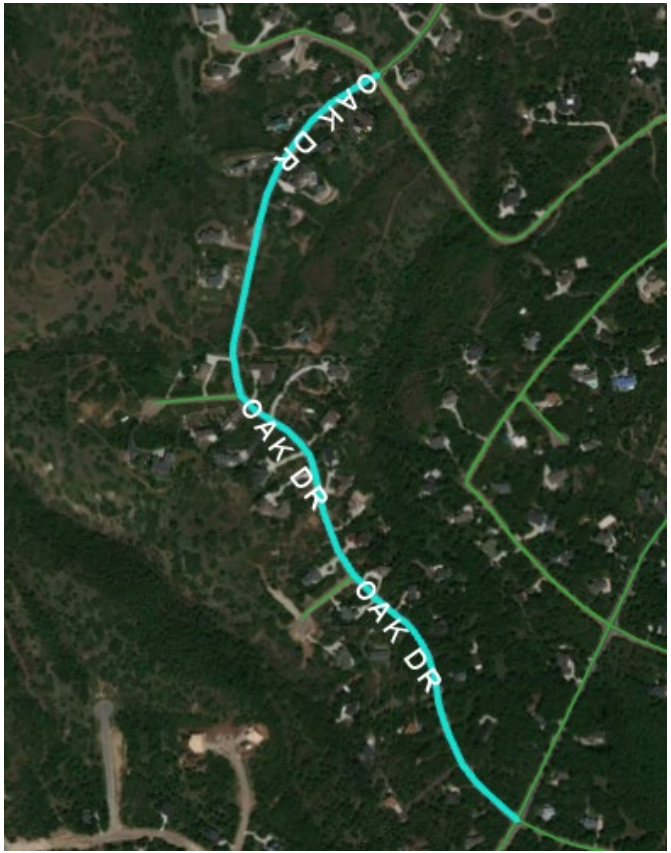
Rating system

Surface rating	Visible distress*	General condition/ treatment measures
10 Excellent	None.	New construction.
9 Excellent	None.	Recent overlay. Like new.
8 Very Good	No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely spaced (40′ or greater). All cracks sealed or tight (open less than ¼″).	Recent sealcoat or new cold mix. Little or no maintenance required.
7 Good	Very slight or no raveling, surface shows some traffic wear. Longitudinal cracks (open ¼″) due to reflection or paving joints. Transverse cracks (open ¼″) spaced 10′ or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	First signs of aging. Maintain with routine crack filling.
6 Good	Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open ¼″–½″), some spaced less than 10′. First sign of block cracking. Sight to moderate flushing or polishing. Occasional patching in good condition.	Shows signs of aging. Sound structural condition. Could extend life with sealcoat.
5 Fair	Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open ½″) show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs sealcoat or thin non-structural overlay (less than 2″)
4 Fair	Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (½″ deep or less).	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2″ or more).
3 Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking. Some alligator cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1″ or 2″ deep). Occasional potholes.	Needs patching and repair prior to major overlay. Milling and removal of deterioration extends the life of overlay.
2 Very Poor	Alligator cracking (over 25% of surface). Severe distortions (over 2″ deep) Extensive patching in poor condition. Potholes.	Severe deterioration. Needs reconstruction with extensive base repair. Pulverization of old pavement is effective.
1 Failed	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

Evaluation of Oak Dr

The pavement on Oak Dr. was placed into three different categories.

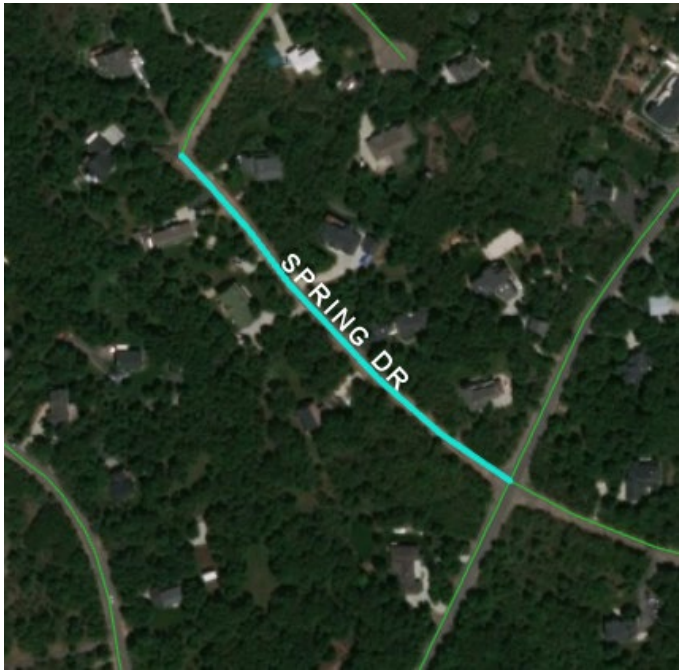
- The first 0.25 miles starting at the top of the image was classified as a three. The recommended treatment is a mill & fill.
- The second segment from 0.25 miles to Vista Circle was classified between five and six. The recommended treatment is a thin lift overlay or a combined crack seal and chip seal.
- The third segment from Vista Cir to the end of the street was classified as a nine. The recommended treatment for this section is a seal coat if the overlay is over three years old



Evaluation of Spring Drive

Spring Dr. is a short stretch of pavement so it was given a single classification for the entire street.

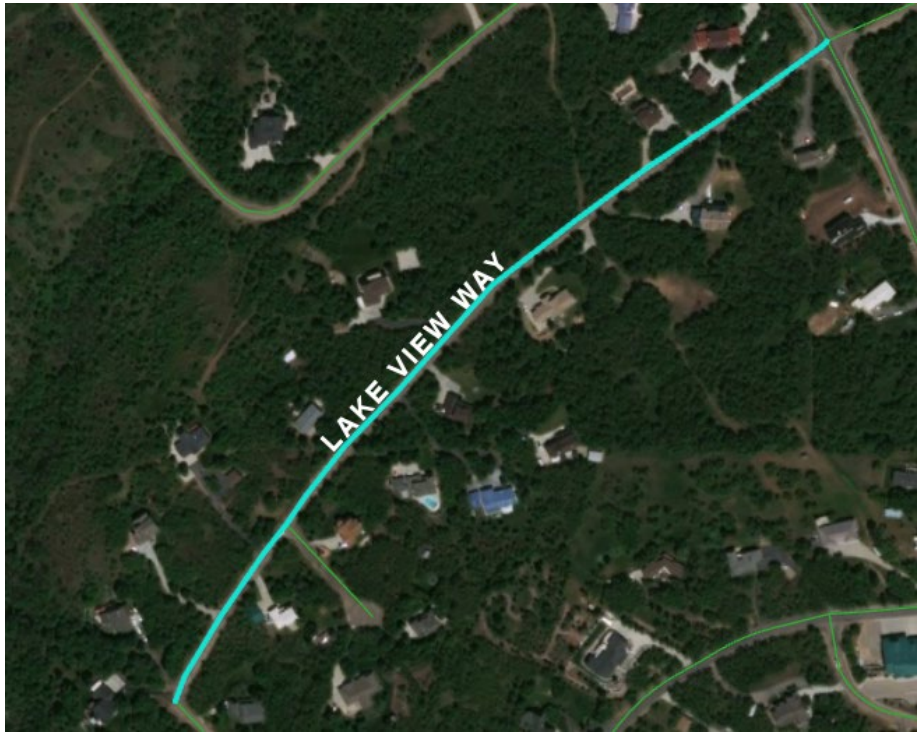
- This street was classified as a three. The recommended treatment is a mill & fill.



Evaluation of Lake View Way

Lake View Way is relatively short and exhibited similar pavement conditions throughout.

- Lake View Way was classified as a 6. The recommended treatment is an asphalt slurry seal coat.

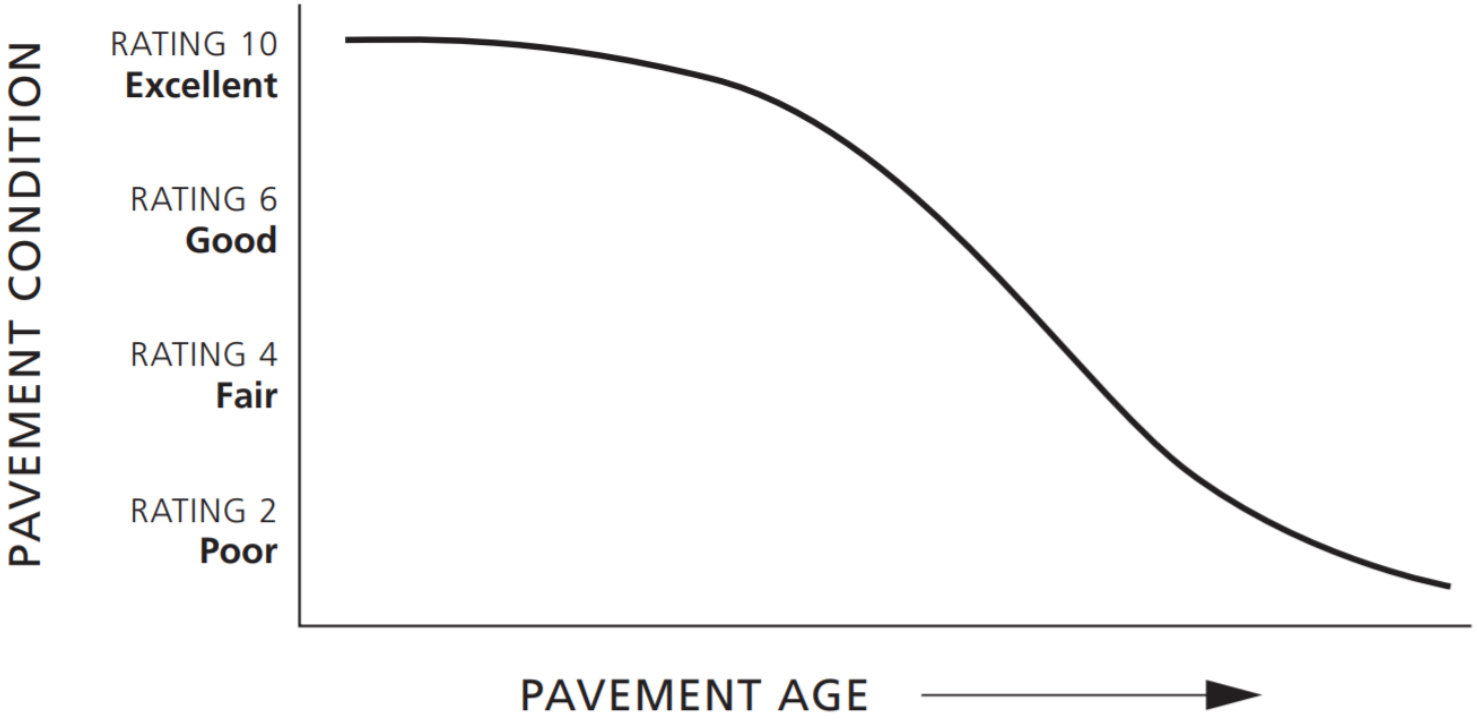


Why is it Important to Maintain Streets?

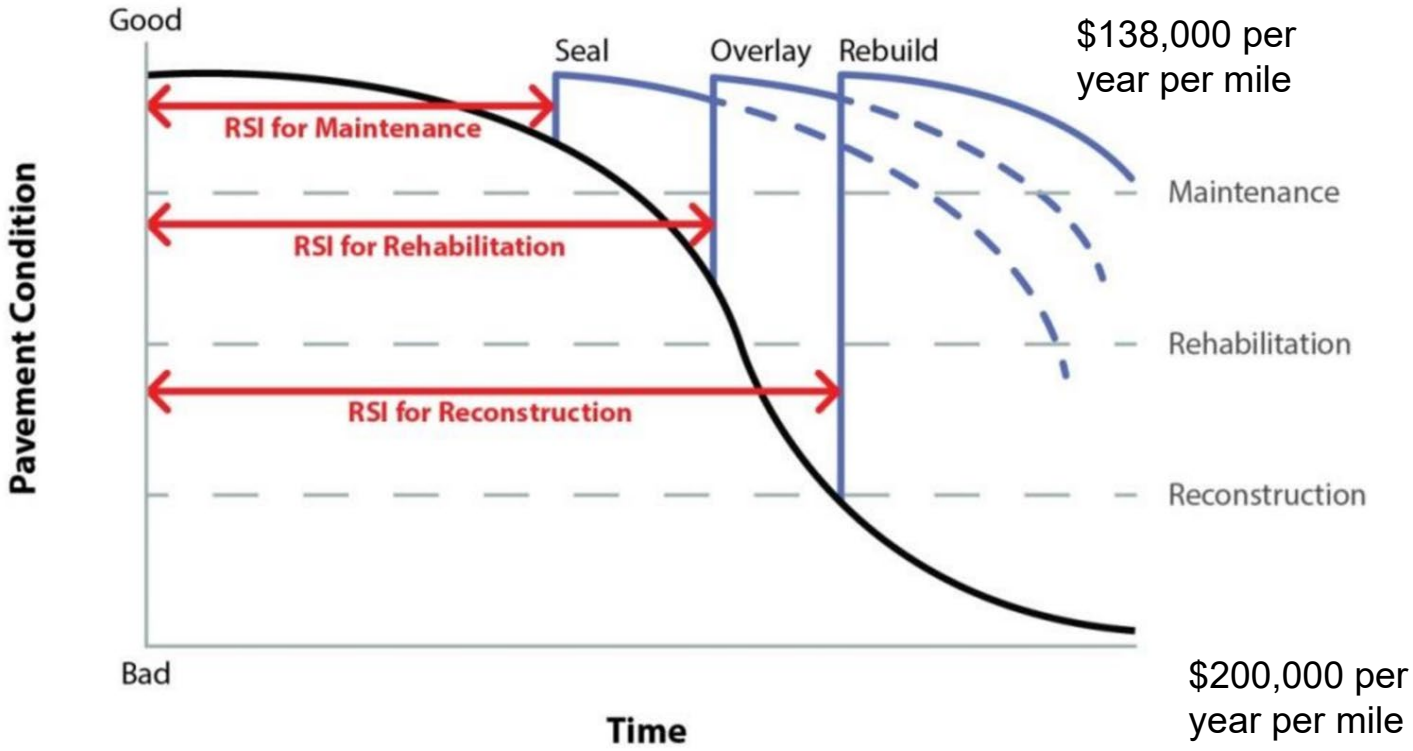
Save Money

Quality Roads

Pavement Rating is a Function of Age



Maintenance Leads to Longer Lasting Roac



… Which Leads to Better and Cheaper Roa

- Roads are kept in good condition.
- Allows for pavement budgeting.
- Saves money in the long run.

How much savings?

New Road Cost: $3M per mile of road

Average Road Life: 15 Yrs

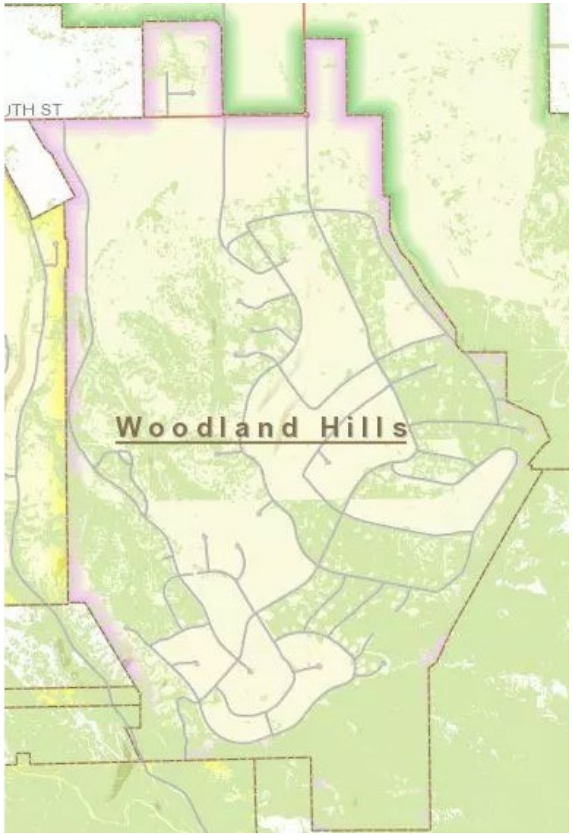
Average Cost: $200,000 per year per mile

With Road Maintenance (Crack Seal, Seal Coat, Mill and Fill): $270,000

Road Life w/ Maintenance: 25 Years

Average Cost: $138,000 per year per mile

Savings: $62,000 per year per mile



Woodland Hills Self Pavement Evaluation Website

Conclusion:

- Based on our evaluation using the PASER manual the three streets included in our study Oak Drive, West Spring Drive, and Lake View Way will require maintenance in the near future.
- Applying the right treatment to the right road at the right time will increase the life of the pavement and save money.
- Pavement condition data can be collected easily using the website created as part of this project.