



Alden Road Improvement

McHenry County Division of Transportation

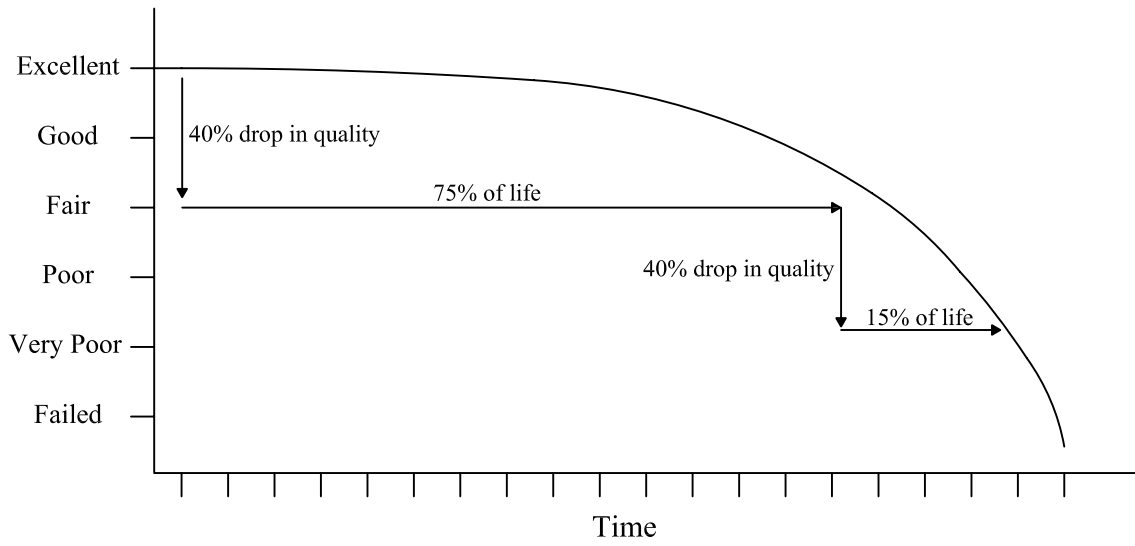
Pavement Condition Summary Stakeholder Group Meeting on May 24, 2010

Alden Road was originally improved from a dirt road to a paved facility in 1956. The road was constructed using a soil-cement subbase and a bituminous asphalt surface. Soil-cement is a highly compacted mixture of soil, cement, and water. The soil material in soil-cement can be almost any combination of sand, silt, clay, gravel, or crushed stone. This makes the use of soil-cement convenient and lower in cost because much of the material needed can be found in the original soil. The mixture typically has great strength and durability, making it widely used as a low-cost pavement base for low volume roads, residential streets, and parking in areas where soil conditions are favorable.

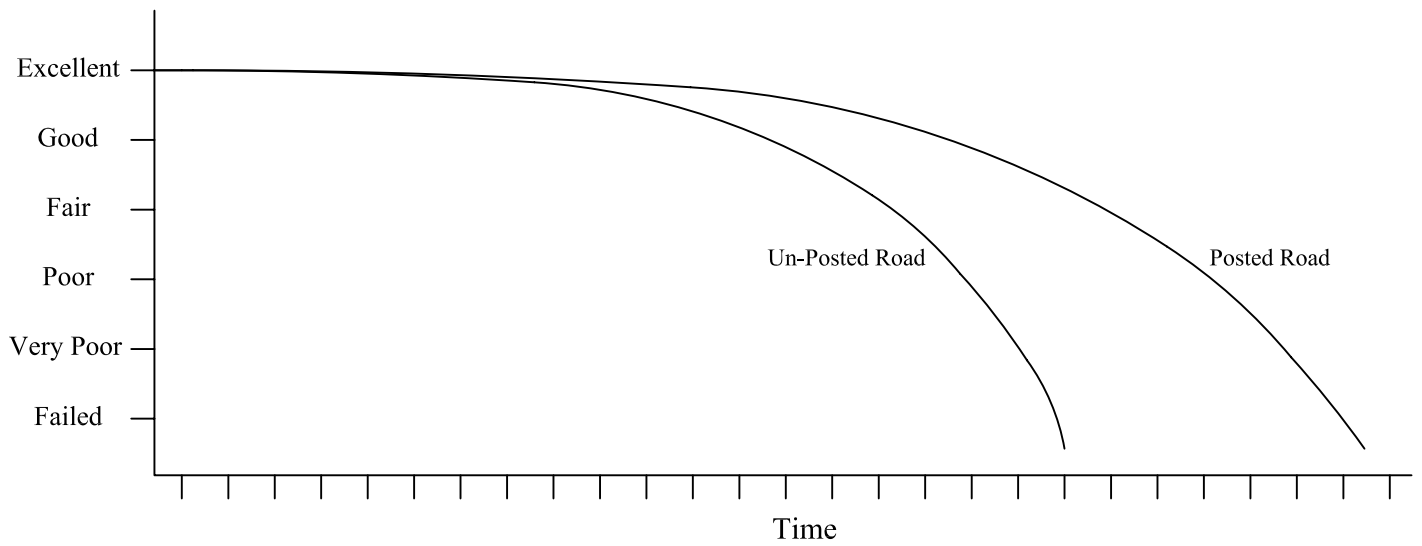
During construction of the facility the original dirt road was dug up, the cement powder mixed into the soil base, graded, and paved over. Because of the types of soil present along Alden Road, this method led to less than adequate drainage of the sub-pavement. Due to the poor subsurface drainage, water has seeped under the pavement and the existing pavement has experienced rapid deterioration in recent years. Over the life of the road, water has leached away nearly all of the soil-cement subbase. The soil investigation and report shows that there are many locations with no subbase at all, leaving only soil under the pavement. The soil itself is not a strong enough base for the roadway. This causes the surface to weaken and requires resurfacing more often than is economical. As the road ages, the drainage issues continue to worsen. Many of the pipes that cross under the road to help water follow its natural path are crushed, preventing the flow of water. As a result, water is trapped under the roadway, out of sight, where it causes the most damage to the pavement. Storm water is not draining from under the roadway itself, so the resulting freeze/thaw cycles cause the pavement to crack and break apart.

Visually, the pavement appears to be in better condition than it actually is due to frequent resurfacing. The current deteriorated condition of Alden Road's subbase makes it a priority to the County to avoid repetitive resurfacing and higher repair costs down the road. When the reconstruction is completed, proper drainage will increase the time between resurfacing to a 10-15 year interval rather than the 3-5 years presently required.

Pavement Life Cycle Curve

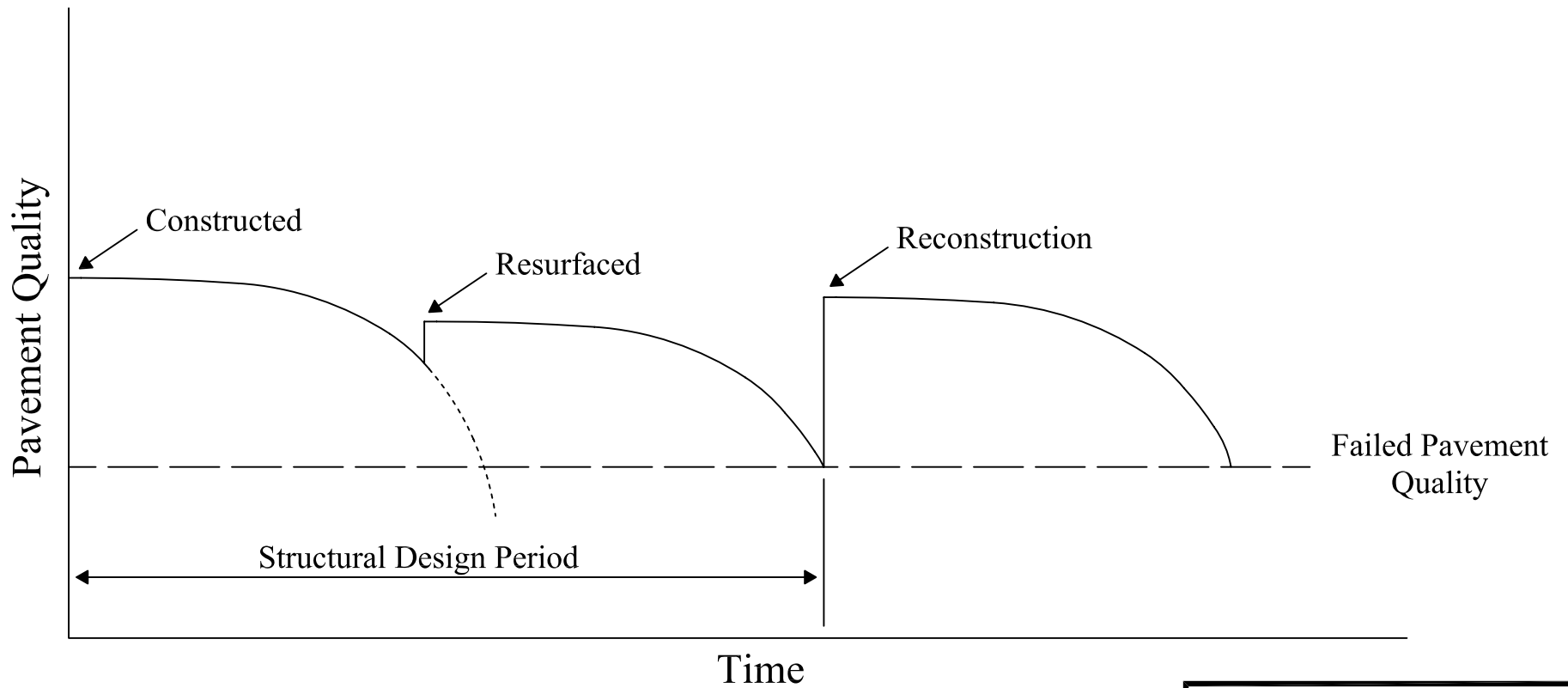


Pavement Life Cycle Curve
Posted vs. Un-Posted



Typical Pavement
Life Cycle Curve

Pavement Life Cycle Curve



Typical Pavement
Life Cycle Curve
With Resurfacing