

Understanding & Implementing Road Network Health Strategies

Why is Road Network Health Important?

Many states, counties, and municipalities these days are experiencing serious funding shortfalls, putting road construction and even rehabilitation projects at risk. COVID-19 related economic factors have reduced taxes from gasoline and other excise taxes used that support transportation construction. Making matters worse, many of the nation's highways and roads need major repairs and rehabilitation, but funding has lagged far behind even the most critical needs for decades. For these reasons, the concept of Road Network Health can help owners get the most from their investments.

What is Road Network Health?

Road Network Health uses Life Cycle Cost Analysis (LCCA), Remaining Service Life (RSL) and a "Mix of Fixes" approach to make informed decisions and improve the return on investment (ROI) of available funds. Road Network Health recognizes the inherent value in inter-industry competition to ensure all groups are getting the most from their budget dollars.

Getting started...

The first step in getting started is to consider allocating resources according to what is best for the whole road network and not looking at it project to project. By combining a "Remaining Service Life" model with a "Mix of Fixes" approach, agencies can prioritize projects more readily.

Combining these approaches can extend the service life of a road up to 40 years. The Mix of Fixes approach helps match a specific solution to a type of distress or damage. Here are just a few examples:

Problem: 30-year old highway with edge breaks, potholds, and other distresses.

Mix of Fixes Solution: An affordable alternative to reconstruction, a concrete overlay can fix the distresses and extend service life another 20-30 years or more.

Problem: Faulting on a busy urban highway creates a rough ride and uneven pavement sections.

Mix of Fixes Solution: A cost-effective alternative to an asphalt overlay is inexpensive dowel-bar retrofit and diamond grinding. This can fix uneven slabs and restore a smooth, quiet ride to the pavement.

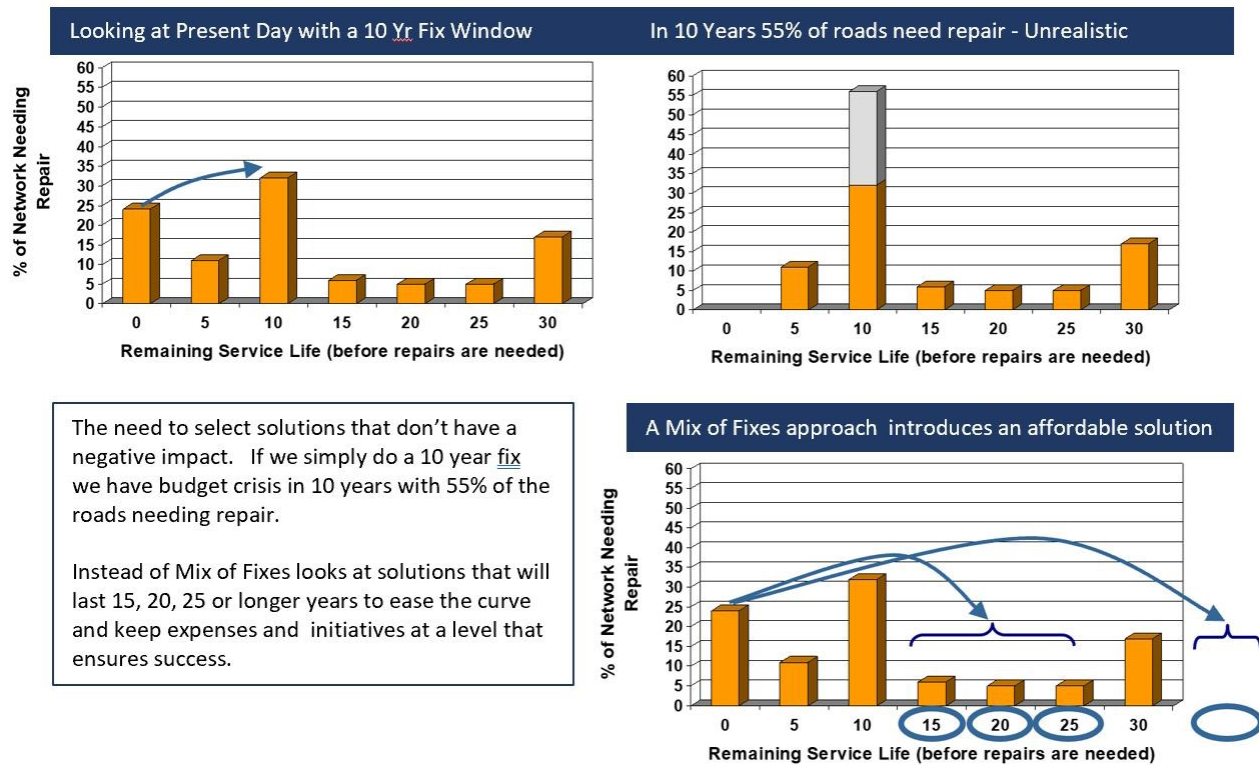
Problem: A road needs to be resurfaced. Road reconstruction is scheduled to start in 5 years.

In this scenario a 6-inch asphalt overlay may be all that is needed to carry you to the start of the road reconstruction. But is it?

Mix of Fixes Solution: Is there a chance the funding could be delayed for this reconstruction? It might be worth looking at a concrete overlay, a comparable cost competitive option which provides 15 years for the same price. This provides a safety net for the agency.

The Mix of Fixes encourages looking at different solutions to help plan for unexpected future challenges.

Project Example: In this case, the owner generally uses 10-year repair cycles. Look what happens in 10 years. This creates havoc at 10 years. Instead, imagine how the performance and economics would look in 20 years with better repair or restoration options by using a Mix of Fixes approach.



The need to select solutions that don't have a negative impact. If we simply do a 10 year fix we have budget crisis in 10 years with 55% of the roads needing repair.

Instead of Mix of Fixes looks at solutions that will last 15, 20, 25 or longer years to ease the curve and keep expenses and initiatives at a level that ensures success.

Using the Road Network Health program enables DOT's and Municipalities to effectively manage their road programs while ensuring the highest level of return for their projects. Taxpayers and other road users would never willingly accept 55% of their roads under construction, nor would funding be available to execute carry out such a plan.

Engaging your user community

The use of Remaining Service Life and "Mix of Fixes" methods, combined with healthy competition between pavement materials industries reduces costs, leads to greater innovation, and allows owners to do more with the same dollars. Road Network Health is a program that helps communities grow.

Many owners and contractors also have great success with clear, focused, and transparent communications with local retailers, farmers, and other businesses, as well as other homeowners and other property owners. Communications and other outreach help manage expectations and often involves stakeholder input. In this way, the people in the community become stronger advocates. Local media and social media networks (Twitter, Facebook, Instagram, etc.) then become effective ways to communicate detours, project status, and appreciation. In turn, you may also see local owners and residents expressing thanks and appreciation for a job well done! Road Network Health supports everyone.

Conclusion

Committing to Road Network Health strategies can reduce investment expenses, strengthen return on investment, increase time between replacement, repair, and maintenance cycles, and creating industry innovation. At the same time, a successful program builds advocates, and strengthens our communities.