

CDOT Least Cost Analysis for Very Low Volume Roads

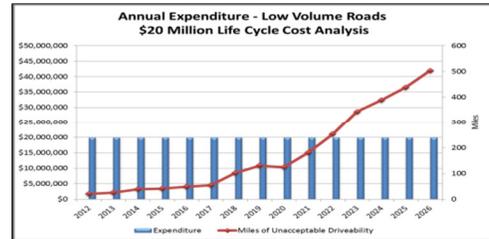
Executive Summary – October 3, 2012 *(additional analysis forthcoming)*

Introduction:

- Pavement Management System (PMS) study to investigate alternative methods for maintaining CDOT's Very Low Volume Roads. Determine the least cost to CDOT to keep the very low volume roads at an acceptable drivability level and compare that to traditional approaches.

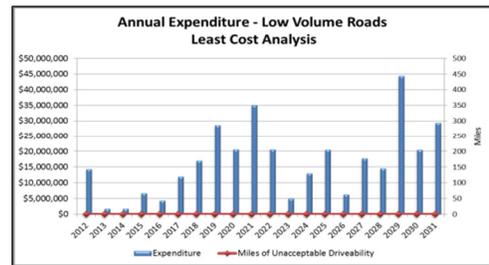
Traditional PMS Approach:

- PMS maximizes condition of all CDOT highways with more importance placed on high volume facilities. In doing so, the PMS tries to maintain the high volume highways in near perfect condition at the expense of the lower volume highways.



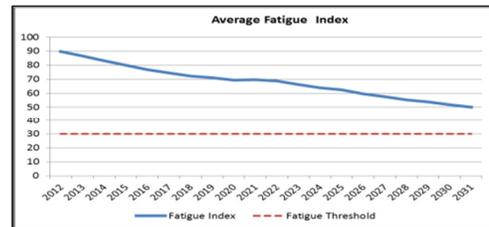
Least Cost PMS Approach:

- PMS calculates the least cost for maintaining the very low volume roads at an acceptable level of drivability without trying to maximize condition. PMS is charged with not letting roads become unacceptable but it is not tasked to keep these roads in good condition.



Effect on Condition of Roads:

- Very low volume roads will continue to deteriorate until they reach unacceptable drivability thresholds and will only be repaired at that time. Over time the condition of these roads will deteriorate to those thresholds.



Potential Cost Savings Over 15 Years:

| Approach | 20-yr Investment | 2031 Miles Unacceptable |
|-------------|------------------|-------------------------|
| Traditional | \$299,986,442 | 503.53 |
| Least Cost | \$215,712,947.09 | 0 |

Risks:

- Definition of acceptable drivability - standards may be set too low?
- Treatment Effectiveness - will we get estimated life out of minor treatments on poor roads?
- Public perception due to a lack of reconstruction of very low volume roads
- Sustainability for future generations
- Lower overall system quality