

## Asset Management for Materials Engineering

The demands on our transportation system continue to grow; increased traffic usage, weights and congestion, increased system size and complexity, safety needs, cost inflation, and increased aging and deterioration. Resources available are not keeping up, making it harder and harder to meet all the needs.



- TAM is a performance-based approach that uses agency goals and objectives to drive resource allocation related to the installation, maintenance, repair, rehabilitation, replacement, and operation of transportation infrastructure assets.
- TAM enables State and local transportation agencies to improve accountability, decision-making, and coordination between maintenance and capital programs and better manage the available funding.
- The collection, management, and analysis of quality asset inventory and condition data is a critical part of asset management. Asset management implementation benefits from well-planned information technology systems that consider the decision-making processes that agencies use to keep assets operational and safe.
- MnDOT has made a strong commitment to managing our assets by adopting an Asset Management Strategic Implementation Plan, which sets a departmental vision and set of strategic objectives and action plans. In other words, MnDOT is committed *“to effectively manage transportation assets by mitigating risk, optimizing return on investment, and using the best available information and tools.”*



Materials engineering personnel play the key role in managing MnDOT's most valuable and important asset – its pavements. As such, their skill is magnified by orders of magnitude. Asset management principles are in keeping with longstanding traditions and goals of the discipline. Over the last few years as MnDOT has formalized its asset management commitment and practices, Materials engineering staff are called on to further advance the state of practice:

1. Being the champion for “taking care of what we have” for pavements as planning and programming decisions are made.
  2. Promoting adequate Preventive Maintenance allocations and follow through.
  3. Collaborating with various experts such as Planners and Maintenance personnel to plan to meet new annual PM targets.
  4. Supporting or leading planning to program “Follow-Up” Preventive Maintenance projects in the STIP to reliably capitalize on windows of opportunity for maximum preservation of newly constructed or rehabilitated pavements.
  5. Taking advantage of information such as life cycle plans and life cycle cost analyses available in MnDOT's TAMP, and through independent project related LCCA to recommend optimal pavement designs.
  6. Encouraging consideration of “Total Cost of Ownership” for holistic decision making.
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7. Evaluating program level recommendations in the context of “Mix of Fixes” and “Pavement Investment Evaluator”.
8. Leading district efforts to ensure preventive maintenance work is tracked and accounted for (CHIMES, TAMS) and ensuring accountability.



