

Optimizing Pavement Management in a Mid-Sized Municipality

Background

A mid-sized municipality with a network of 100 centerline miles was facing significant challenges in managing its road infrastructure. The city's Pavement Condition Index (PCI) was averaging 60, reflecting a network in deteriorating condition. The annual budget allocated for maintenance and repair was \$500,000, primarily used for a reactive maintenance strategy that involved placing an inch and a half asphalt overlay on the roads perceived as the worst, based on public opinion and staff reviews. This approach, while intuitive, was not yielding improvements in overall network condition and was highly influenced by subjective assessments.

Challenge

The primary challenge was the inefficient use of the annual budget, driven by a lack of objective, data-driven decision-making processes. The municipality's strategy focused on high-visibility,

poor-condition roads without addressing the underlying need for a systematic, preventive maintenance approach that could extend the lifespan of the entire network and improve the overall PCI.

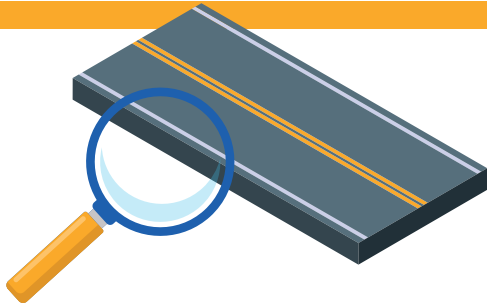
Solution Implementation with Pavement Management Group (PMG)

The city contracted with Pavement Management Group, a leader in optimized pavement management solutions. PMG introduced their turn-key pavement management solution powered by the RoadINsights platform, which integrates web and GIS capabilities with streaming HD video. This advanced platform enabled a more objective, professional, and expert-based analysis of the city's pavement management needs.

Key Features of PMG's Solution

1. Data-Driven Analysis

PMG's solution provided a comprehensive assessment of the entire roadway network, utilizing the latest in pavement analysis technology. This allowed for a detailed understanding of pavement conditions across the network, far beyond the most visibly deteriorated roads.



2. Preventive Maintenance Strategy

With PMG's guidance, the city adopted preventive maintenance strategies, including crack sealing, microsurfacing, and rejuvenation treatments, tailored to different segments of the road based on their specific conditions and deterioration rates.

3. Optimized Budget Allocation

PMG's platform facilitated an optimized allocation of the annual budget, focusing on interventions that offered the most significant return on investment in terms of extending pavement life and improving overall road quality.

4. Transparent Reporting and Communication

RoadINSights enabled clear and transparent reporting of conditions and treatments, which was crucial in building trust with the public and council. The ability to visually demonstrate the condition of the roads and justify the maintenance strategies helped in managing public expectations and enhancing community engagement.



The PMG team is fantastic to work with. They are extremely responsive, provide a fantastic deliverable, and work to meet the needs of each client individually.

Danessa Chambers,
PE, Assistant City Engineer - Vero Beach Florida



Results

After the implementation of PMG's pavement management solution, the city experienced a significant transformation in its pavement management approach and outcomes:

- **Improved PCI:** Within the first year of adopting PMG's recommendations, the city's average PCI improved from 60 to 64, reflecting better overall road conditions and at the same budgetary cost.
- **Cost Efficiency:** By investing in preventive maintenance, the city reduced the need for costly reactive treatments and was able to maintain more miles of road within the same budget.
- **Enhanced Public Confidence:** The use of transparent, data-driven analytics and clear communication through RoadINSights helped improve public perception of the city's pavement management efforts.

Conclusion

The partnership with Pavement Management Group enabled the municipality to shift from a reactive, opinion-driven approach to a proactive, data-driven pavement management strategy. This shift not only improved the quality and lifespan of the road network but also ensured a more judicious use of taxpayer money, setting a new standard in municipal road management that other cities could emulate to optimize their pavement management practices.



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