



Smart Asset Management and Inventory System by VHB

## CASE STUDY

# Managing Pavement Assets



(c)Doug Kerr via Flickr (CC BY-SA 2.0)



Our Smart Asset Management Inventory System—SAM IS™—incorporates the features developed for the Town of Dedham and others to help municipalities inventory, plan, and budget for needed public works programs, including pavement management, stormwater systems, signage, and other municipal assets.

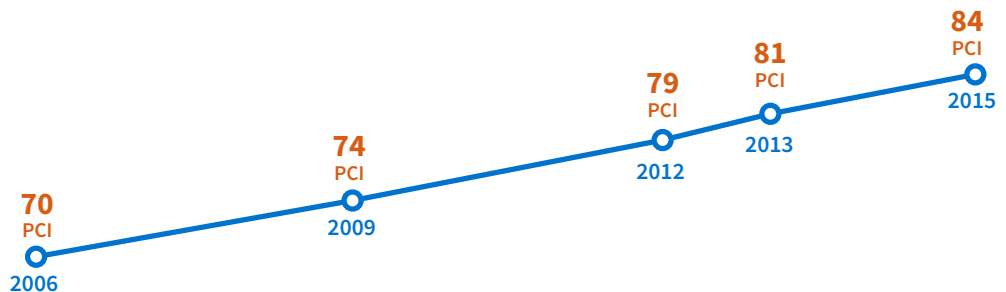
Effective pavement management has paid off in Dedham, Massachusetts. In 2006, the Town retained VHB to develop and implement a Pavement Management System to help its staff understand and plan for future budget and workload needs. The comprehensive database features a catalog of all town roads and their attributes, including the average condition and backlog of work needed on each, as well as pavement budget projections. The completed System provides critical tools to help the Town plan ahead and achieve its goals for the road network.

VHB installed the Pavement Management System on Town computers so the staff could prioritize projects, develop their road program, track pavement repairs and conditions, and analyze funding levels on a continuing basis. The System gave the Town the ability to overlay other GIS data—such as parcels, utilities, and other project mapping—to help coordinate pavement work with additional infrastructure projects.

We identified an average Pavement Condition Index (PCI) of 70, which is below the average for comparable towns. VHB also projected that an annual budget of \$2.1M would increase the average PCI to 80 within a decade. We presented these findings to the Board of Selectmen to help Town decision-makers understand the status of Dedham’s roads and the funding required to reach the desired conditions on them.

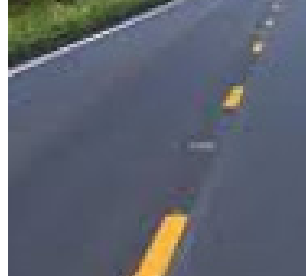
The Town increased its budget for pavement management on our recommendation, and we performed subsequent quality assurance testing on its paving projects. By 2009, the condition of the Town’s roads increased to a PCI of 74. Over the following three years, Dedham increased its pavement management budget to a high of \$2.2M. The 2012 follow-up study revealed an average PCI of 79, and the most recent study in 2015 shows an average PCI of 84. By performing consistent updates and pavement management analysis, the benefit of Dedham’s investment is evident in the **increase from a PCI of 70 in 2006 to a PCI of 84 in 2015.**

Change in Town-wide average PCI since 2006





Approx. 70 PCI in 2006



Approx. 84 PCI in 2015

### Benefits of improving PCI

The rideability and appearance of roads with a PCI of 70 and a PCI of 84 is drastically different. Studies have shown that the improved road network will return financial benefits to the taxpayers of Dedham. A higher average PCI is less expensive to maintain, yielding a lower overall tax burden in the long term. The smoother roads also lead to lower vehicle repair and maintenance costs for residents.

Funding analysis indicates the Town can cut its budget by \$1M and maintain a very good average PCI of 84-85 in the future, or continue at \$2M annually with a projected average PCI of 91 by FY 2020.

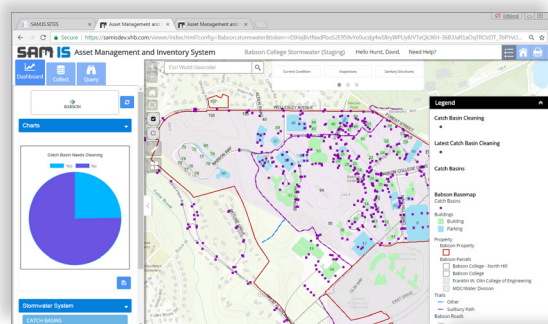
By performing the Pavement Management Study and consistently using a comprehensive pavement management solution, VHB was able to help the Town use quantifiable, scientific data to justify the benefits of increasing its pavement budget. The recommendations contained in our study, along with the implementation of a comprehensive paving quality assurance program, also helped the Town dramatically improve the condition of its road network.

Pavement conditions can change over time due to weather, traffic, and other factors. Consistent quality assurance testing on pavement, however, helps a municipality understand its system and how to improve it.

### Schedule a demonstration

to see how we can help your municipality with asset management.

[www.samisbyvhb.com](http://www.samisbyvhb.com)



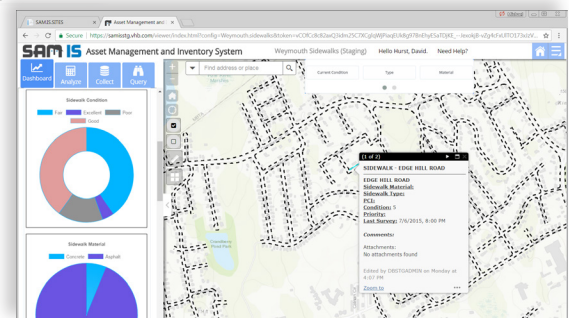
### Information at your fingertips.

The asset management solution helps display any asset conditions, both spatially and within a customizable dashboard.

◀ *SAM IS™ Stormwater module helps municipalities with catch basin maintenance*

### What does the future hold?

Prioritize what actions are needed and apply the appropriate resources to an issue before it causes disruption. Use the information in financial planning and budgeting. Help limit the impact of emergencies by staying ahead of maintenance needs and inspections.



▲ *SAM IS™ Sidewalk module with ADA compliance methodology*