

Retail Pavement Management—A Study in Success

By Chris Tanner, Vice President, Rose Paving Company

Pavement management is the process of overseeing the maintenance and repair of one or multiple parking lots. The two key benefits of performing pavement management are improved pavement conditions and reduced maintenance costs. Essentially, with any parking lot, the key is to maintain the pavement in good condition (at a relatively low cost) for as long as possible before utilizing more expensive structural remedies such as resurfacing or reconstruction.

To help organize the process of pavement management, it is helpful to develop a plan of action. Pavement Management Planning or PMP is a systematic, long-term approach in optimizing pavement maintenance that ties together various maintenance options in one plan based on available funding. Through this proven, six-step process, parking lots can be managed effectively over an extended period of time, thus prolonging the functionality of the structure. This article will discuss the six steps utilized in an effective PMP and an actual plan of approach for a portfolio of retail stores. A well-executed pavement management plan includes the following steps.

- 1. Perform a physical inventory of the parking lot**

Walk the lot and pay careful attention to areas of automotive and pedestrian traffic flow, entrances and exits, drainage, islands, delivery zones, and dumpsters. Depressions, rutting, cracking by type and severity, potholes, and saw-cut repairs should be noted.

- 2. Evaluate and categorize pavement defects**

Once the inventory is complete, a diagram of the parking lot is created to illustrate each damaged area and recommended repair. Next, pavement defects and recommended repairs are ranked from the most to least cost-effective repair; rankings should not be ordered by level of severity. The reason for this is simple: repairs in high-traffic areas should take priority over fixing a defect in an isolated area. While the defect may be more severe, correcting damages in high-traffic areas will prevent future, more costly defects and/or potential liabilities from occurring.

- 3. Prioritize treatments by identifying the most cost-effective and/or timely repairs** Armed with a pavement inventory and maintenance alternatives, it is then possible to model pavement condition based on various rehabilitation strategies (maintenance procedures and timing) to determine future pavement condition and associated cost to reach the desired outcome. Strategies will be further adapted according to goals and funding unique to each property.

- 4. Understand the failure mechanism and what caused it to occur**

Possibilities may include poor design (original construction), lack of maintenance, excessive sprinkling, over salting during winter, snow plow damage, or poor drainage.

- 5. Schedule and perform maintenance**

In this phase, work schedules are produced and priorities and budgets are set. Pavement maintenance and rehabilitation procedures are then performed as scheduled.

- 6. Monitor the effectiveness**

Your contractor should collect condition data on an annual basis to monitor and verify if rehabilitation strategies are producing predicted results. At any point during the plan, strategies can be adjusted to meet specific needs.

The PMP process has been proven effective time-after-time on retail sites across the nation. One such program was created for 25 newly acquired sites of a popular retail chain. All of the sites are located in California. Since their original construction four years ago, each site was only sealed and striped one time in the year 2006. With an average parking lot size of slightly over 70,000 square feet, each location generates an average of 5,000 car trips on weekdays and even more on weekends. While this impressive number is positive for store revenue, the volume of vehicular traffic is not as beneficial for the retailer's parking lots. Over time, traffic exerts its toll on pavement and causes wear and tear. The best solution is to

perform routine preventative maintenance. But, without a plan in place, budgeting for and scheduling procedures at the right time can be a costly guessing game at best. And, with 25 additional sites to manage, this retailer needed to stretch time, resources, and money more than ever before. It was quickly realized that the retailer needed to develop a pavement management plan.

The rate at which a parking lot deteriorates is dependent upon its geographic location and weather conditions, traffic patterns, original construction quality, and whether or not routine maintenance is performed on the pavement. Because none of these factors varied for all 25 sites, the deterioration rate was very similar for all locations. Indeed, after conducting a physical inventory, the lots were collectively categorized as “blemished” or slightly deteriorated. To achieve the desired outcome for each site--maintain each lot in good condition, provide a safe and convenient parking experience, and enhance the brand image with an aesthetically pleasing appearance--an approach spanning 12 years was recommended as follows:

2009	crackseal, sealcoat, and stripe for approximately \$12,500
2010	no maintenance
2011	asphalt patching repairs for approximately \$7,500
2012	crackseal, sealcoat, and stripe for approximately \$15,500
2013	no maintenance
2014	asphalt patching repairs for approximately \$12,000
2015	crackseal and stripe for \$9,000
2016	no maintenance
2017	no maintenance
2018	asphalt patching repairs for approximately \$18,500
2019	no maintenance
2020	minor asphalt repairs and resurfacing for approximately \$98,000

This strategy enabled the retailer to create a long-term budget reflecting expenses totaling approximately \$173 thousand dollars for each of the 25 sites. A comparative study of the sites determined that, if the retailer did not opt for the plan and deferred maintenance, by the year 2020 it would cost \$227,500 for major reconstruction of every site. As it is planned out, the proactive approach saves the retailer approximately \$54,500 for each site and prevents unbudgeted expenses and potential liabilities that may occur on an aged and deteriorated parking lot. To date, maintenance has been scheduled for 2009 and the results will be monitored throughout 2010. Provided predicted results are achieved, the PMP will continue as planned for the remaining years.

When faced with shrinking budgets and little time or resources, it is especially important to prioritize and plan ahead. Being proactive with preventative maintenance on your parking lot is a much better solution than reacting to untimely emergencies or liability issues. Whether you have one lot locally or hundreds of lots nationwide, teaming up with an experienced parking lot management contractor and implementing a pavement management plan will save dollars and time between planned maintenance and unbudgeted repairs.

Chris Tanner is vice president of Rose Paving Company, headquartered in metropolitan Chicago, providing parking lot management solutions for commercial and industrial properties nationwide for over thirty-five years.