



ULTIMATE GUIDE TO

PAVEMENT MAINTENANCE

Unlock the secrets to keeping your commercial property's pavement safe, attractive, and long-lasting. provides practical strategies to protect your investment, reduce repair costs, and ensure safety across all your locations.



Pavement maintenance isn't just about aesthetics, it's about protecting your investment and ensuring a safe environment for customers and employees. Regular upkeep helps businesses avoid costly repairs, extend the life of their property, and create a positive, lasting impression. A well-maintained lot speaks volumes about your commitment to quality and professionalism.

Bob Zaprzal

Director of Operations Parking Lot Services



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First Impressions Matter: The Impact of Well-Maintained Pavement

Your commercial property's pavement is one of the first things customers, tenants, and visitors notice, making it crucial to your property's image and functionality. Well-maintained pavement enhances aesthetics, ensures safety, and reduces liability by preventing accidents caused by cracks, potholes, or other hazards. Implementing cost-effective maintenance strategies and long-term planning not only preserves your investment but also helps avoid expensive repairs down the line, whether for parking lots, walkways, or driveways.

THE IMPORTANCE OF PAVEMENT MAINTENANCE

Pavement endures constant exposure to traffic, weather, and environmental factors that can cause damage over time. Regular maintenance prevents costly repairs, enhances safety, and extends the life of your pavement. By addressing small issues early and keeping surfaces in good condition, you improve curb appeal, reduce liability, and ensure compliance with safety regulations like ADA requirements. Investing in proactive maintenance protects your property and minimizes disruptions to your business.

OVERVIEW OF KEY MAINTENANCE TASKS

Effective pavement maintenance includes several key tasks, each with its own set of benefits:

- **Regular Inspections:** Identifying small issues like cracks or surface wear early on allows for timely repairs before they escalate into major problems.
- **Crack and Pothole Repairs:** Repairing these common issues prevents water infiltration and further damage, reducing the risk of larger, more expensive repairs in the future.
- **Sealcoating:** Applying a protective layer to your pavement shields it from UV damage, weathering, and chemical spills, helping to prolong its lifespan.
- **Repainting Lines and Signage:** Keeping parking lines, crosswalks, and other markings fresh ensures proper traffic flow, pedestrian safety, and adherence to regulations.



MAINTENANCE



APPEARANCE

By understanding and implementing these essential tasks, you can maintain the safety, appearance, and durability of your pavement, creating a more welcoming environment for everyone who visits your property.

THE BASICS OF PAVEMENT MAINTENANCE

To properly maintain pavement, it's essential to first understand the different types of pavement materials and their unique characteristics, as well as the common issues that can affect them. This knowledge will help you choose the best maintenance strategies to keep your pavement in excellent condition.



ASPHALT:

- Commonly used for parking lots and due to its cost-effectiveness and flexibility.
- Durable, easy to repair, and provides a smooth surface.
- Requires regular maintenance such as sealcoating to protect it from UV damage and moisture.



CONCRETE:

- Known for its strength and long lifespan, concrete is often used for sidewalks, curbs, and heavy traffic areas.
- Concrete is more expensive than asphalt but requires less frequent repairs. It's highly resistant to wear and tear but can crack with temperature changes or improper installation.



GRAVEL:

- Gravel is often used for less formal parking areas or temporary surfaces.
- Affordable and quick to install but requires frequent maintenance, such as replenishing and leveling.



Common Issues:

- **Cracks:** Caused by temperature changes, heavy traffic, or poor drainage, allowing water to seep in and expand the damage.
- **Potholes:** Form when water infiltrates cracks, weakening the pavement layers, and traffic worsens the damage.
- **UV Damage:** Sunlight causes asphalt to oxidize, leading to brittleness, fading, and cracks.
- **Erosion and Drainage Issues:** Poor drainage weakens the foundation, causing cracks and surface dips.
- **Surface Wear:** Regular use and exposure lead to surface degradation and fading, requiring sealcoating for protection.

PAVEMENT'S WORST ENEMIES

Pavement is constantly under attack by various elements that compromise its strength, appearance, and longevity. Understanding these common enemies can help you take proactive steps to protect your investment.



WATER



- Standing Water
- Freeze/Thaw & Salt
- Drainage



UV RAYS



- Oxidation
- Long-Term Wear



HEAVY/LONG STANDING VEHICLES



- Rutting
- Base Failure



FUEL & OIL



- Pollutant Into Water
- Eats Away Pavement
- Tracks Into Locations



TREES & WEEDS



- Destruction of Pavement & Base
- Heaving Slabs
- Widening of Cracks



BY ADDRESSING THESE COMMON THREATS,

You can significantly extend its life, improve its appearance, and prevent costly repairs.

Regular maintenance and proactive measures are key to keeping your lot in top condition.

SEASONAL MAINTENANCE STRATEGIES

Effective pavement maintenance requires adapting your strategy to the changing conditions of each season. Each season presents unique challenges and opportunities to ensure the longevity and safety of your pavement. By following these seasonal maintenance strategies, you can stay ahead of potential problems and minimize long-term damage.



SPRING: PREPARING FOR THE YEAR AHEAD

As winter ends, spring is the perfect time to assess the condition of your pavement and address any damage caused by freezing temperatures, snow, and ice. Key tasks include:

- **Thorough Inspections:** Check for cracks, potholes, and surface wear that developed over the winter months.
- **Crack Filling and Pothole Repairs:** Repair any damage before it worsens with the increase in spring rainfall.
- **Cleaning and Debris Removal:** Clear away any debris, leaves, or dirt that may have accumulated, which can lead to drainage issues and surface wear.
- **Drainage System Check:** Ensure your drainage systems are functioning properly to prevent water buildup and erosion during spring rains.



SUMMER: OPTIMAL CONDITIONS FOR REPAIRS AND SEALCOATING

Summer offers the ideal weather conditions for many pavement maintenance tasks due to warmer temperatures and dry conditions. Focus on:

- **Sealcoating:** Apply a fresh layer of sealcoat to protect against UV damage, oxidation, and water infiltration. This process requires warm temperatures for proper application and curing.
- **Repainting Lines and Markings:** Take advantage of clear, dry weather to update parking lines, crosswalks, and other surface markings for safety and visibility.
- **Asphalt Repairs:** Hot weather is optimal for asphalt repair methods, including crack sealing and infrared asphalt repair, as the materials bond better in warmer temperatures.

SEASONAL MAINTENANCE STRATEGIES



FALL: PREPPING FOR WINTER WEATHER

As the temperatures drop, fall is the time to prepare your pavement for the harsh winter months ahead. Key steps include:

- **Addressing Cracks and Potholes:** Repair any cracks and potholes before freezing temperatures cause water to expand within them, leading to further damage.
- **Final Sealcoating:** If not done in the summer, apply sealcoat before the weather turns cold to protect the pavement from moisture and freeze-thaw cycles.
- **Clearing Gutters and Drains:** Ensure all drainage systems are free of leaves and debris to prevent water buildup that could lead to surface erosion or ice formation.



WINTER: SNOW AND ICE MANAGEMENT TIPS

Winter poses the most significant challenge for pavement maintenance, but proper preparation and management can prevent damage and ensure safety:

- **Snow Removal:** Use plowing and shoveling techniques that avoid scraping or damaging the pavement surface.
- **De-icing Products:** Apply de-icing materials like salt or sand sparingly, as excessive use can harm asphalt and concrete. Opt for pavement-friendly de-icers whenever possible.
- **Frequent Inspections:** Monitor the condition of the pavement throughout the season for cracks or damage caused by freezing and thawing cycles, and address issues immediately.
- **Pavement Safety:** Keep walkways and parking lots clear of ice to reduce the risk of slips and falls. Mark icy patches with warning signs if needed.



DETAILED MAINTENANCE TASKS

Regular, detailed maintenance is the best way to keep your pavement looking great, staying safe, and lasting as long as possible. It's about catching small issues early and taking care of the key tasks that prevent bigger problems. With the right upkeep, you protect your investment and avoid costly repairs down the line. And with Powerhouse as your 'easy button,' we take the hassle out of maintenance, making sure everything runs smoothly while you focus on your business.

-ERIC BROWNLEE
SVP EXTERIOR SERVICES

CONDUCTING THOROUGH INSPECTIONS

Routine inspections are the foundation of effective pavement maintenance. Regular assessments allow you to catch small problems before they become significant issues.



Frequency: It's best to conduct inspections at least twice a year, preferably in the spring and fall, with additional checks after severe weather events.



What to Look For: During inspections, look for surface wear, cracks, potholes, drainage issues, fading lines, and any signs of UV damage. Also, examine curbs, gutters, and other adjacent structures that may impact pavement performance.



Document Findings: Keep detailed records of your inspection findings, including the location and severity of any issues, to track trends and ensure timely repairs.

REPAIRING CRACKS AND POTHOLES

Cracks and potholes are among the most common pavement problems and addressing them promptly is crucial to maintaining the structural integrity of your surface.



Crack Repair: Cracks allow water to seep beneath the pavement surface, causing further damage as it freezes and expands. Use crack filler to seal small cracks (between 1/4" to 3/4" wide) and prevent them from worsening. Larger cracks may require asphalt patching or more intensive repairs.



Pothole Repair: Potholes form when cracks allow water to infiltrate and weaken the sublayers of the pavement. Filling potholes quickly can prevent further erosion and avoid expensive repairs later. Cold patch or hot mix asphalt are common materials for pothole repair, depending on the weather conditions.

SEALCOATING: BENEFITS AND APPLICATION

Sealcoating is a protective measure that prolongs the life of your pavement by creating a barrier against damaging elements such as UV rays, moisture, and chemicals.



Benefits of Sealcoating:

- Protects asphalt from oxidation caused by UV exposure.
- Prevents water infiltration, reducing the risk of cracks and potholes.
- Enhances the appearance of the pavement by giving it a fresh, black finish.
- Reduces wear from vehicle traffic and spills, such as oil or gasoline.



Application Process:

1. **Preparation:** Before applying the sealcoat, clean the pavement surface to remove dirt, debris, and oil stains. Any cracks or potholes should be repaired first.
2. **Application:** Apply the sealcoat evenly across the surface using a squeegee, sprayer, or brush. It's industry standard to apply two coats of sealcoat for maximum protection and durability. Sealcoating is typically applied in warm, dry weather to ensure proper bonding and curing.
3. **Curing:** Allow the sealcoat to cure fully before reopening the surface to traffic. This usually takes 24-48 hours, depending on weather conditions.



Frequency: Sealcoating should be applied every 2-3 years, depending on traffic and environmental exposure

REPAINTING LINES AND UPDATING SIGNAGE

Well-marked parking lots, crosswalks, and signage are essential for ensuring both safety and compliance with ADA regulations. Regular repainting and signage updates help maintain an organized flow of traffic and improve the overall look of your property.



Repainting Lines:

- Over time, parking lot lines and directional markings fade due to sun exposure, traffic, and weather. Faded lines can cause confusion for drivers and pedestrians and may violate safety regulations.
- Repaint parking spaces, crosswalks, arrows, and other surface markings as needed, usually every 1-2 years depending on wear.



Updating Signage:

- Ensure that all signage, such as stop signs, speed limit signs, and ADA-compliant parking signs, is clearly visible and in good condition.
- Replace damaged or outdated signs promptly, and ensure that any signage updates comply with current regulations.

By consistently performing these detailed maintenance tasks, you'll extend the life of your pavement, improve safety, and maintain a well-kept appearance that reflects positively on your property.

ADVANCED MAINTENANCE TECHNIQUES

As pavement maintenance evolves, more advanced techniques can be used to extend the lifespan of your surfaces and improve sustainability. This chapter explores three key advanced techniques: infrared asphalt repair, asphalt overlay vs. replacement, and sustainable pavement maintenance practices.



INFRARED ASPHALT REPAIR

Infrared asphalt repair is an efficient and cost-effective method for fixing localized damage, such as cracks and potholes, without the need for full resurfacing.

ASPHALT OVERLAY VS. REPLACEMENT

When large sections of pavement deteriorate, you can choose an asphalt overlay or full replacement. An overlay adds a new asphalt layer, extending pavement life if the base is solid. If the foundation is too damaged, a full replacement is needed, though more costly, it offers a long-lasting surface.



SUSTAINABILITY IN PAVEMENT MAINTENANCE

As sustainability grows in importance, adopting eco-friendly pavement practices can reduce environmental impact. Recycling asphalt through methods like infrared repair and milling reuses materials, cutting down the need for new ones. Permeable pavement improves drainage and reduces runoff, while eco-friendly sealcoating with low VOCs minimizes chemical pollution.

Incorporating these advanced techniques into your maintenance plan can help you extend the lifespan of your pavement, minimize disruptions, and contribute to more sustainable property management.

SAFETY CONSIDERATIONS

3 KEY FACTORS



ENSURING PEDESTRIAN & VEHICULAR SAFETY

Ensure pedestrian and vehicular safety by maintaining walkways, lighting, and pavement markings. Address potholes and drainage issues to ensure smooth traffic flow and prevent accidents.



COMPLIANCE WITH ADA REGULATIONS

Ensuring compliance with ADA regulations is not only a legal requirement but also essential for creating an inclusive environment. Maintain accessible parking, walkways, ramps, and curb cuts to support accessibility for all individuals.



EMERGENCY MAINTENANCE PROTOCOLS

Emergency situations like severe weather require immediate action to maintain safety. Be prepared with an emergency maintenance plan and proper signage and barricades to address urgent issues like flooding, snow and debris.



Ensuring the safety of pedestrians and vehicles is a top priority in pavement maintenance. Proper safety measures not only protect the people using your property but also reduce liability risks. This chapter covers the essential safety considerations, including maintaining pedestrian and vehicular safety, staying compliant with ADA regulations, and establishing emergency maintenance protocols.

By prioritizing safety in your pavement maintenance plan, you create a safer, more accessible environment for everyone while also minimizing risks and liabilities for your business.



DID YOU KNOW...



SAFETY CONSIDERATIONS

According to the National Safety Council, an alarming **1 in 5** vehicle collisions occurs in parking lots. This highlights the critical importance of maintaining clear markings, signage, and traffic flow in these spaces. With thousands of vehicles moving through parking lots daily, ensuring safety through regular maintenance and well-placed features like directional arrows, speed bumps, and clear pedestrian crosswalks can significantly reduce the risk of accidents. Keeping your lot well-organized isn't just a matter of aesthetics—it's essential for preventing these frequent, yet avoidable, incidents.

MAINTENANCE CONSIDERATIONS

During your next parking lot maintenance, take the opportunity to improve safety and flow.

- Fresh lot markings, directional arrows, and crosswalks ensure a well-organized space.
- While repairs are underway, it's also a great time to install speed bumps, refresh signage, and address overgrowth or lighting for enhanced visibility and security.
- Don't forget about tree/shrub overgrowth and lighting too!

SOCIAL DISTRACTIONS



Parking lots are high-risk areas for distracted driving, with reports showing **56% of drivers texting, 52% using social media, and 50% sending or checking emails** while behind the wheel.

VANITY DISTRACTIONS



Surprisingly, **55% of drivers engage in personal grooming** while behind the wheel, and **49% are taking photos or watching videos**. These actions divert attention from driving and greatly increase the risk of accidents.



SELECTING THE RIGHT CONTRACTOR

Choosing the right contractor is crucial for ensuring the quality and longevity of your pavement. The right partner will provide expertise, reliability, and cost-effective solutions, while poor contractor performance can lead to subpar results and costly repairs down the road. In this chapter, we'll discuss what to look for in a maintenance contractor, key questions to ask, and how to evaluate their performance.

WHAT TO LOOK FOR IN A MAINTENANCE CONTRACTOR

When selecting a pavement maintenance contractor, several key factors should guide your decision:

- **Experience and Expertise:** Look for contractors with proven experience in pavement maintenance and repair, ideally with a portfolio of similar projects. Specialization in asphalt or concrete and knowledge of the latest techniques, like infrared repair, are a plus.
- **Reputation and References:** Research the contractor's reputation through reviews, testimonials, and references. Ask for contact information of previous clients to gain insight into the contractor's reliability and workmanship.
- **Licensing and Insurance:** Ensure the contractor is fully licensed and carries adequate insurance coverage. This protects you in case of accidents or damage during the project.
- **Equipment and Materials:** Confirm that the contractor uses up-to-date equipment and high-quality materials, as these directly impact the final result and longevity of your pavement.
- **Safety Standards:** A good contractor will prioritize safety for both workers and the general public during the project. Ask about their safety protocols and any certifications they may hold.

Questions to Ask Potential Contractors

Asking the right questions during the selection process helps ensure you choose a contractor who meets your needs and expectations. Be sure to ask about their experience with similar projects, recommended maintenance techniques, recent client references, safety protocols to minimize disruptions, and any warranties or guarantees they offer.



EVALUATING CONTRACTOR PERFORMANCE

Once you've hired a contractor, it's important to evaluate their performance throughout the project and after its completion:

- **Timeliness and Communication:** Monitor whether the contractor sticks to the agreed-upon timeline and maintains clear, open communication throughout the project. Delays or poor communication can indicate potential issues.
- **Quality of Work:** Assess the quality of the repairs or maintenance once the work is complete. Check for proper application, smooth finishes, and adherence to safety standards.
- **Responsiveness to Issues:** If problems arise during or after the project, evaluate how quickly and effectively the contractor addresses them. A responsible contractor will be prompt and professional in resolving any concerns.
- **Long-Term Results:** Over time, observe the durability of the work. If the pavement holds up well and requires minimal follow-up repairs, it's a good indicator of quality workmanship.

By carefully selecting the right contractor and evaluating their performance, you ensure your pavement is maintained to the highest standards, protecting your investment and avoiding future issues.





COST MANAGEMENT



Effective cost management is essential for maintaining your pavement without overspending. By budgeting wisely, implementing cost-effective strategies, and planning for long-term maintenance, you can protect your investment while controlling expenses. This chapter will guide you through the key aspects of managing costs in pavement maintenance.

- 01  **BUDGETING FOR PAVEMENT MAINTENANCE**
 Creating a budget for pavement maintenance is crucial to avoid unexpected costs and ensure regular upkeep. Consider the following when building your budget:
 - Assess the Condition of Your Pavement
 - Prioritize Maintenance Tasks
 - Factor in Seasonal Maintenance
- 02  **COST-EFFECTIVE STRATEGIES**
 While maintaining pavement can be expensive, there are strategies to help reduce costs without sacrificing quality.
 - Preventative Maintenance
 - Bundle Services
 - Use Durable Materials
 - Consider Infrared Asphalt Repair
- 03  **LONG-TERM MAINTENANCE PLANNING**
 Long-term maintenance planning is key to reducing costs over the lifespan of your pavement. A proactive approach ensures your pavement stays in good condition and helps avoid unexpected, costly repairs.
 - Create a Maintenance Schedule
 - Track Pavement Condition
 - Plan for Major Repairs

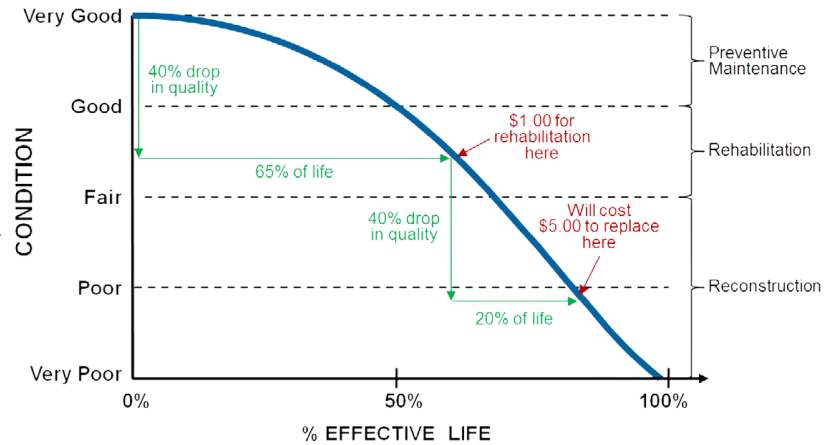
COST MANAGEMENT




By improving your pavement management system through regular maintenance, you can reduce both time and costs, addressing issues before they worsen. Preventive maintenance on pavements is 6-10 times more cost-effective than waiting for significant damage and performing reactive repairs. Early maintenance prevents small cracks and issues from developing into costly repairs.

Source: Minnesota Department of Transportation

Figure 2.4-1 Typical Asset Decay Curve






50%

REDUCED COSTS


Pothole Repair Impact: Quick pothole repair can prevent further pavement degradation and reduce future repair costs by up to 50%. Delayed repairs often lead to water infiltration, which can significantly increase the need for major reconstruction

Source: Asphalt Magazine



25%

Extended Life



LIFE EXTENSION

Life Extension through Preventive Maintenance:

Routine maintenance, such as crack sealing and sealcoating, can extend pavement life by up to 25%, preventing premature failure and the need for resurfacing

Source: Minnesota Local Road Research Board



CONCLUSION

Maintaining your pavement is essential for ensuring safety, longevity, and a polished appearance for your property. Throughout this guide, we've covered the basics of pavement materials, common issues, seasonal strategies, advanced repair techniques, and the importance of selecting the right contractor. We've also discussed how proactive maintenance and cost management can save you from more significant, expensive repairs in the future.

MAINTENANCE

Regular pavement maintenance is not just about aesthetics—it's critical for safety. Well-maintained surfaces reduce the risk of accidents and liabilities, while also improving the visual appeal of your property. Consistent care, such as crack filling, pothole repair, and sealcoating, extends the life of your pavement and prevents minor issues from escalating into major problems.



ANNUAL CHECKLIST

ANNUAL PAVEMENT MAINTENANCE CHECKLIST

Before you begin your maintenance schedule, call Powerhouse to set up a recurring maintenance plan to ensure year-round care and timely repairs for your pavement. Schedule a location survey and inspection to assess the current condition and plan for any larger projects needed for the upcoming year. Assess the Condition of Your Pavement

SPRING: PREPARING FOR THE YEAR AHEAD

- Inspect for Winter Damage:** Check for cracks, potholes, and signs of water damage caused by freezing and thawing.
- Clean Pavement:** Sweep away debris, leaves, and dirt to prevent drainage issues.
- Repair Cracks and Potholes:** Address any damage from the winter to prevent it from worsening.
- Check Drainage Systems:** Ensure drains, gutters, and slopes are clear to prevent water pooling.
- Repaint Lines:** Refresh any faded parking lot lines, crosswalks, or signage to ensure safety and compliance.
- Schedule a Location Survey:** Work with Powerhouse to inspect your pavement and assess needs for the year, including larger upcoming projects.

SUMMER: IDEAL CONDITIONS FOR REPAIRS

- Sealcoating:** Apply a fresh layer of sealcoat to protect the pavement from UV rays, weathering, and chemical spills.
- Repaint and Markings:** This is the best time for repainting parking lines, traffic arrows, and other markings.
- Routine Inspections:** Perform another inspection, especially for new damage, and monitor repaired areas.
- Repair Expansion Joints:** Summer heat can cause further expansion, so check and repair joints as necessary.



ANNUAL CHECKLIST

FALL: PREPARING FOR WINTER WEATHER

- Crack Sealing:** Fill any cracks before winter’s freeze-thaw cycle worsens them.
- Inspect and Clean Drainage Systems:** Ensure all drains are clear of leaves and debris to handle winter rains and snowmelt.
- Clear and Repair Pavement:** Address any potholes or surface damage to prevent water intrusion and freezing.
- Renew Your Powerhouse Maintenance Plan:** Connect with Powerhouse to renew your recurring maintenance plan for the coming year and ensure larger pavement projects are scheduled in advance.

WINTER: SNOW AND ICE MANAGEMENT

- Snow Removal:** Ensure timely and safe snow removal without damaging the pavement.
- De-icing:** Use pavement-friendly de-icing products sparingly to prevent damage from excessive salt use.
- Inspect After Storms:** Regularly inspect for cracks or potholes caused by freeze-thaw cycles or plowing.
- Safety Precautions:** Place warning signs on icy areas and ensure pedestrian paths are clear and safe.

By following this seasonal maintenance schedule and coordinating with Powerhouse for your recurring plan, you can extend the life of your pavement, ensure safety, and reduce the need for costly repairs.



SCAN TO GET STARTED





WWW.POWERHOUSENOW.COM

Protect your pavement and avoid costly repairs by taking proactive steps with Powerhouse. From routine inspections to long-term maintenance plans, we make it easy to keep your pavement safe, durable, and well-maintained year-round. Let Powerhouse handle the hassle and ensure your investment lasts for years to come.



SCAN TO GET STARTED



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