Pay Now or PAY Later
Following Maintenance Standards Saves Money and Builds Value

By Michael J. Nichols, Vice President, Next Parking

The payoff line to an old commercial for an automotive service center went something like, "You can pay me now, or you can pay me later". In pushing a specific type of oil, it played off the concept that failure to complete a routine oil change with quality products now could result in more significant and costly repairs down the road.

The concept works with just about anything requiring ongoing and routine repairs and maintenance ("R&M"), including parking garages.

The annual R&M budget for a typical garage is not insignificant. For example, a typical 10-year old, multi-story garage with 500 spaces without any significant capital expenditures, could have total annual R&M expenditures ranging from $100,000 to $200,000.

Given the challenging economy and significant cost of R&M, it can be tempting to delay and defer certain expenses "until things get better". For example, if you are lax on elevator maintenance and select a minimum cost service plan, complete one power washing per year instead of two, or discontinue mechanical sweeping, it could mean an immediate savings in the tens of thousands of dollars. But today's deferred actions could, in fact, lead to bigger issues and greater problems down the road.

Maintenance deferred could lead to a deteriorating facility and the need to spend significant capital improvement dollars, increased insurance liability, lower daily and monthly parking volumes, lower rates, and, ultimately, a measurable decline in the value of the property.

To the purist, each maintenance issue is critical, and should not be overlooked or deferred. In reality, many are. Some critical and commonly overlooked R&M issues include power washing, fire suppression systems, elevators, and issues related to snow removal.

Power Washing

Power washing a parking garage presents more than its share of logistical problems, but should be done a minimum of once a year and more regularly in geographic areas where snow and ice, over time, can wreak havoc on any type of facility exposed to the elements. Regardless of the type of building—residential or commercial—patrons of the facility are likely to be displaced or inconvenienced while the procedure is being completed.

The most critical element of the procedure is dealing with the water—how do you get it there and where does it go as the facility is being power washed. Though some facilities may have their own source of water, more often than not the water comes from outside sources—either by tapping into a nearby fire hydrant or through a service bringing the water to the facility.

Each facility should be equipped with a series of drains to remove water used during a power wash, or when snow and ice melt. Drains clogged with paper or other debris mean problems. Therefore, drains should be snaked clear prior to any pressure wash at a facility. If not, pooling or standing water always finds a place to go.

Water is the number one enemy of a parking deck. Wherever it goes—unless it goes down the drain—it isn't meant to go. If it goes somewhere else it can cause damage, including:

- **Elevators**—it can cause problems with the mechanical/operating system of the elevator, or the physical structure of the elevator, by leaking into the elevator machine room or cab well.
- **Lighting fixtures**—it can cause individual lights, or more, to short out by leaking through the floor above.
- **Concrete**—when water settles into low-lying places, it ultimately can lead to cracking and spalling concrete.
- **Automobile damage**—when water leeches through the ceiling it can cause calcium drippings that will destroy the paint on cars, within a matter of hours.
- **Ground floor retail spaces**—for more modern facilities with ground floor retail spaces, excessive water can leak into those spaces and cause a variety of types of damage, to the physical structure as well as to merchandise that may be contained in those spaces.

The cost to power wash a garage will vary according to the size and location of the structure, and the types of services that are provided. Typically, the cost is approximately $10 per space.

Important questions to consider when power washing include:

- Will oil stains and other spots be pre-treated before pressure washing?
- How is the water for pressure washing being provided?
- Is the water heated prior to application?
- Do local ordinances prohibit "grey water" run-off from pressure washing to enter the normal sewer system?
- How will water be contained from entering "sensitive" areas?

Elevator

By virtue of their cost, elevators are one of the most significant systems of a parking facility requiring preventive and demand maintenance. At the same time, however, whether because of the level of specialization required for much of the maintenance or having to rely on an outside service provider, elevator maintenance is one of the most frequently overlooked maintenance issues.

Typically, an outside firm is contracted to provide facility elevator maintenance. The first decision is whether to hire a firm that services multiple brands of elevators or the service department of your specific brand of elevator manufacturer (i.e., Schindler, Otis, etc.). Typically, the best service and OEM parts can be provided by contracting with the service department of your specific brand of elevator's manufacturer. However, bidding the service contract among a number of elevator maintenance firms will result in receiving the most competitive price.

Once an elevator maintenance subcontractor has been identified, the most appropriate maintenance program needs to be selected. Rather than being proactive and practicing preventative maintenance, many operators deal with the issues as they happen and only negotiate a time and materials contract for service calls. Overlooked preventive maintenance is performed on an as needed basis or when a local government elevator inspection finds deficiencies requiring attention.

Even if an elevator maintenance contract is selected with scheduled preventive maintenance included as a component of the service, elevator subcontractors often fail to provide the promised preventive maintenance. It is essential to be aggressive in enforcing the scheduled preventive maintenance for both frequency of promised visits and scope of services provided.

A log should be maintained and on-site management should closely monitor preventive maintenance provided by the selected contractor. Often it is the lack of timely and proper preventive maintenance that causes elevator failure requiring expensive service calls.

Elevator service contracts will vary in cost based on the provider, the number of elevators in a facility and a variety of other factors.

The consequences of not maintaining an elevator properly, or in conducting maintenance in a way that is detrimental to the elevator system can be very costly. Replacing an elevator system will typically cost at least $100,000 per cab.

Fire suppression systems

Other systems typically found in most parking facilities that require regular attention are the fire suppression systems.

There are both dry and wet sprinkler systems.

Dry systems are typically used in areas that have potential for freezing when the piping extends into an unconditioned space, such as a parking garage. A dry system can have piping and sprinkler heads; or hose reels - but the system is filled with air and not water. In a dry sprinklered garage, the dry-pipe valve controls the flow of water between the dry system and water source. The dry-pipe valve has an air compressor that maintains the pressure in the dry portion of the system. As long as the dry portion of the system has sufficient pressure the dry-pipe valve stays shut, holding back the water. When a sprinkler head's fusible link breaks, air rushes out of the system, the dry-pipe valve opens, and water rushes into the system to the sprinkler heads that are open.

In the most typical garage fire suppression system, a dry system with hose connections. A Siamese pumper connection at street level is used to connect the garage fire suppression system to a source of water. This connection provides water to local hose connections throughout the garage for use by the local fire department.

Dry systems require specific installation methods to allow draining of all parts of the system, as well as special piping to prevent corrosion from oxidation.

A wet pipe system is one in which water is constantly maintained within the sprinkler piping. When a sprinkler activates this water is immediately discharged onto the fire. A wet system is not suitable for areas with sub freezing temperatures or where impact to piping or sprinklers could occur.

Both dry and wet systems have unique specifications for testing and certifying that valves, caps and other integral parts within the overall system will work when required. As part of the certification process, tags are put on to show the date the system was checked, who checked it and, typically, when the next evaluation is due.

Anecdotally it seems that most fire suppression systems in garages are not checked and certified as often as is required. The reasons have less to do with cost and more to do with ignorance and/or the lack of an overall plan.

The cost to check a wet or dry fire suppression system will vary according to the size and complexity of the fire suppression system in the facility.

The repercussions of deferred or overlooked maintenance of the fire suppression systems can be significant. Though automobile fires in parking garages are rare, they do happen. When you combine the combustibility of an open fire with automobiles that could have as many as 20 gallons of gas each - you have a recipe for a chain reaction of explosions that can cause substantial damage to the physical parking structure as well as all the parked cars.

Should such an unfortunate act ever happen, the cost could be substantial, potentially exceeding the damages covered on an insurance policy and exposing the Owner or parking manager to fund claims from out-of-pocket.

Snow and other seasonal elements

It isn't that snow is overlooked, but instead how the snow removal is handled that can cause problems.

First and foremost, snow adds a considerable load to the structural support system of the garage – stressing the entire structure. It also allows uncontrolled water intrusion into the structural elements of the garage and could lead to very costly repairs and premature garage failure.

When snow is removed or plowed, it should be hauled out of the garage or plowed in such a way that melting snow will flow to drains that are free of debris and blockage. Too often snow is pushed to the rear of each parking space with no concern for where the melting snow will travel and the potential for refreezing and causing a significant safety hazard. Just as with power washing, snow (once it has turned to water) will find a place to go – and usually a place you don't want water.

Another consideration of snow removal is the type of equipment used. Certain garage surfaces may require more specialized equipment—rubber tipped plows—to avoid damaging a deck with an elastomeric coating. Qualified service providers will have this equipment while small independent contractors most likely will not. As a result, it pays to use a qualified source.

In addition to these issues, consideration must also be given to what type of ice melt products are used—rock salt or those that are environmentally friendly. From a cost perceptive, rock salt is about one-fifth of the cost of many other environmentally friendly ice melting products. The trade off is the abrasiveness and corrosiveness of salt. Over time, the use of salt, and even the mixture of

salt and other products brought into the garage from the outside, will break down the concrete causing damage that can be expensive to repair. This, among other reasons, is why regular power washing and mechanical sweeping of a facility is essential. These regular cleanings with help remove the salt and ice melt residues and reduce their impact on the garage's concrete surfaces.

The Implications

Deferring one power wash or one fire suppression inpection by itself is not likely to be detrimental to the structural and/or operational well-being of a parking facility. But once that line has been crossed, and the first deferral is made, whether for cost or logistical issues, it becomes easier to defer the next time.

A pattern of deferred or neglected maintenance will result in a facility with significant issues.

The implication of neglecting to maintain a parking facility can be significant, with structural and safety problems spiraling out of control as they create significant financial issues.

If a facility presents an impression of being in ill-tended, unsafe and/or in a state of disrepair, patrons will take their business to competing garages. In most cases, patrons have choices; a facility with cracking and spalling concrete, elevators that are often out of order and unlit public areas rarely are their first choice.

Typically, the only way for an ill-tended facility to compete in the marketplace is price. The only way to persuade parkers to utilize a dilapidated facility is by highly discounting the parking rates, which oftentimes backfires by causing a downward rate spiral within the entire competing marketplace. That will result in reduced income levels from operation. A property with reduced operating revenues is worth less on the open market since garage values are typically tied to revenues, cash flows, and other measures of profitability.

The garage's value is almost certainly to be discounted even further as a buyer will require concessions to fix whatever is in a state of disrepair—cracking and spalling concrete, malfunctioning elevators, broken fire suppressions systems, etc. The concessions will certainly be greater than if the facility had been maintained properly.

So in the long run, the lack of a standard maintenance program and/or neglected maintenance matters comes at a considerable cost to the owner/investor.

The Solution

The obvious solution is to have a systematized maintenance program in place. Sophisticated computerized programs with scheduling and budgetary functions, among others, now are emerging in the marketplace. A more simplified and less costly approach would be a more traditional and equally effective checklist program, such as that portrayed by Next Parking in Table 1.

This checklist provides a suggested frequency of all primary and secondary maintenance items and can easily be modified to include completion dates and a targeted future calendar for scheduling purposes.

Garage maintenance programs are far from glamorous. Yet viewing these programs like certain other hard operational expenses—debt service, real estate taxes, insurance coverage, and personnel costs—gives them the level of importance they deserve. With that view, a maintenance program is less likely to be overlooked. Further, if maintenance programs aren't overlooked, value will be saved and/or created with a facility that can be judged on the merits of its financial operation.

# # #

Michael J. Nichols brings over 17 years of diverse operational and sales experience in the parking industry to Next Parking. Michael has worked for leading national and regional parking management firms over the course of his career in positions of increasing responsibility in cities along the Eastern seaboard. Michael is Vice President of the Middle Atlantic Parking Association and holds a Certified Parking Facility Manager designation as awarded by the National Parking Association.

Next Parking, LLC
400 Skokie Blvd., Ste. 800
Northbrook, IL 60062
847-881-2040
www.nextparkingllc.com

STRUCTURAL MAINTENANCE CHECKLIST

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Other
Visual Inspections								
Floor Surface Deterioration					■			
Water Intrusion					■			
Concrete Spalls or Cracks					■			
Rust or Corrosion on Fasteners					■			
Ceiling Deterioration					■			
Joint Sealant in Floors				■				
Expansion Joints				■				
Windows, Doors & Walls				■				
Roof Surface Membrane				■				
Replacement								
Roof Membranes or Penetrating Sealer								■
Concrete Floor Sealer								■

Membranes, floor sealers, and penetrating sealers should be maintained and replaced as specifically recommended by the manufacturer. Each product has unique qualities and expected service life. Visual inspections that reveal structural deterioration should be addressed by a qualified engineer who will suggest a restoration plan.

Next Parking, LLC
400 Skokie Blvd., Ste. 800
Northbrook, IL 60062
847-881-2040
www.nextparkingllc.com

OPERATIONAL MAINTENANCE CHECKLIST

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Other
Cleaning								
Broom Sweeping Local Areas		■						
Mechanical Sweeping of Floors				■				
Expansion Joint Cleaning				■				
Empty Trash Cans, Replace Liners		■						
Clean Elevator Floors and Tracks		■						
Glass Cleaning, Elevators and Stairs				■				
Cleaning Stairwells, Floors, and Handrails		■						
Elevator Lobby Cleaning		■						
Pressure Wash All Floor Surfaces						■		
Snow Removal (as needed)		■						
Clean Spills and Leaks (as needed)		■						
Doors and Hardware								
Doors Close and Latch Properly		■						
Painting								
Curb Painting (as needed)								■
Striping (2-3 years)								■

Next Parking, LLC
400 Skokie Blvd., Ste. 800
Northbrook, IL 60062
847-881-2040
www.nextparkingllc.com

OPERATIONAL MAINTENANCE CHECKLIST - CONTINUED

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Other
Electrical Systems								
Check Light Fixtures and Conduits		■						
Check Elevator Lights		■						
Check All Exit Signs and Special Lights		■						
Check Distribution Panels		■						
Replace Bulbs			■					
Elevators								
Check for In-Service Operation		■						
Subcontractor Preventative Maintenance						■		
HVAC (Elevators and Lobbies)								
Check for Proper Operation		■						
Subcontractor Preventative Maintenance					■			
Plumbing and Drainage								
Check Proper Operation Drains			■					
Check Proper Operation Fire Safety							■	