



THE US POTHOLE PROBLEM

The word pothole elicits groans from motorists, and public works organizations across the country. Increased traffic, outdated repair methods, and stagnant budgets have all led to an overwhelming influx of potholes and other road related defects.

WHAT YOU ARE DOING, AND WHY IT (PROBABLY) ISN'T WORKING

Most municipalities currently use what is known as the throw and go method, which is simply applying asphalt material, usually cold patch, into the pothole and moving on. This method includes no prep work, no compaction, and a majority of the time results in sub par results and requires the area to be re-repaired multiple times. It is widely known and accepted that this method DOES NOT WORK. Yet year after year this continues to be the most prominent method of pothole patching.



COMMON ISSUES MUNICIPALS ARE FACING



BUDGETS

Municipals across the country have suffered dwindling budgets, and as the potholes become larger and more frequent the money to effectively repair them is being cut or reallocated.



RESOURCES

It is no secret there is a severe labor shortage in the US. But add to that material shortages and long lead times for new equipment the pothole problem is quickly spiraling out of control.



FREEZE THAW CYCLE

The environmental factors effecting roads have seemed to be getting more and more severe. In the northern states the freeze thaw cycle has wreaked havoc on the roadway systems and caused an exponential rise in the number of potholes.



OUTDATED REPAIR METHODS

The throw and go method repair method used by so many may have once been seen as an effective repair method. But as the potholes become more severe and frequent this method simply is no longer a viable option to offering long term solutions.

HOW DO POTHOLES FORM?



WATER ACCUMULATES BETWEEN THE ASPHALT & SUBGRADE UNDER THE ROAD.



COLD FREEZES THE WATER, CAUSING IT TO EXPAND & FORM A BUMP IN THE ROAD.



WARM TEMPERATURES THAW THE ICE, CREATING A CAVITY UNDER THE ROAD.

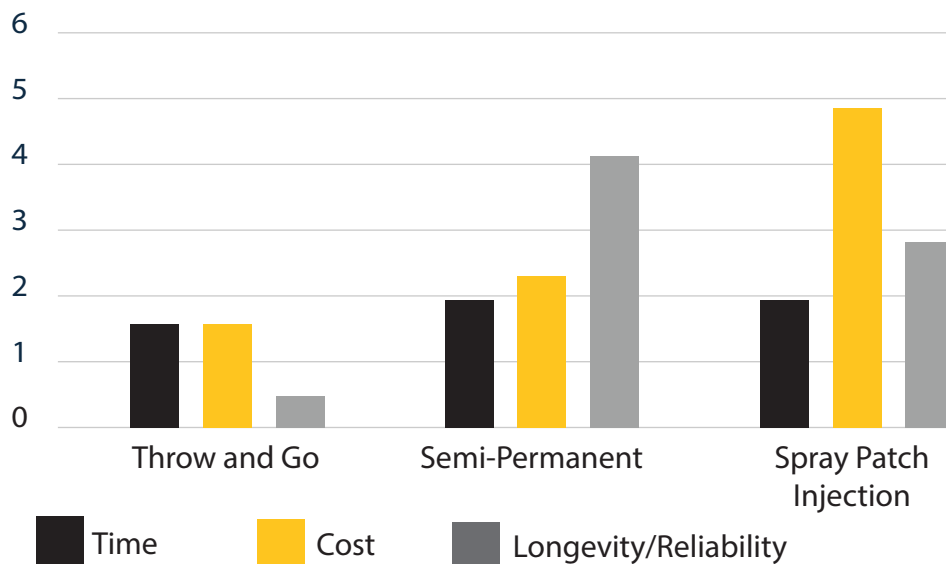


WEIGHT FROM PASSING VEHICLES CAUSES ASPHALT TO COLLAPSE, CREATING THE POTHOLE.

REPAIR METHOD COMPARISON

Out of the 3 common repair methods the semi-permanent is widely considered to be the most effective. The cost to success ratio associated with the semi permanent method far exceeds that of the other common methods. The semi permanent method includes 3 main steps that include prepping the area, patching, and compacting.

REPAIR METHOD COMPARISON



POTHOLE REPAIR METHODS

THROW AND GO

The throw and go method is the most common methods amongst municipal organizations. This method includes simply applying material, usually cold, patch, to the repair area and moving on to the next repair area.

SEMI-PERMANENT

This method includes a simple 3 step process that if done correctly can yield successful results while also minimizing the cost. The 3 step process includes prepping the repair area, patching, and compacting.

SPRAY INJECTION PATCHING

Spray Injection Patching is performed using a specialized machine that applies a combination of asphalt emulsion and aggregate into the repair area. This method although more reliable than thrown and go can be very costly in equipment and material cost.

SEMI-PERMANENT / PPC METHOD

PREPARATION

Repair area is cleared of debris and moisture is dried out.



01

PATCHING

Hotmix asphalt is applied to the repair area leaving it slightly above grade.



02

03



COMPACTION

Area is compacted level with the surrounding grade.

WHAT IS THE PPC METHOD AND WHY DOES IT WORK

The PPC method stands for preparation, patching, and compaction as is a semi-permanent method of pothole repair. This method is widely considered to be the best long term solution to pothole repair because of its moderate costs yet high reliability. Although referred to as a “semi-permanent” method if done correctly areas repaired using this method typically will outlast the surrounding pavement and will eliminate repeat visits to the same repair area. If you truly want to perform long term pothole repairs implementing this method should be your first course of action.

P

PREPARATION

The preparation step includes clearing the repair area of any debris, and drying out any moisture.

P

PATCHING

When applying material to the repair area hotmix asphalt is always recommended.

C

COMPACTION

A plate compactor or walk behind roller is recommended.

The Importance of Hotmix Asphalt

Where many municipalities fall short is relying on cold patch material when patching potholes. Hotmix Asphalt (HMA) applied at the recommended temperature of 325-350 F will by far yield the best repair results. Although HMA production in some areas is seasonal there are several pieces of equipment such as asphalt recycling machines and asphalt hotbox reclaimers that will enable you to use HMA year round.



IMPLEMENTING A SUCCESSFUL POTHOLE PATCHING PROGRAM



SELECTING THE RIGHT PATCH MATERIAL

HOTMIX ASPHALT

\$60-80 Per Ton

Preferred Patching Material

Viewed As Long Term Solution

Recommended Application Temp
325-350 F



COLD PATCH

\$125-150 Per Ton

Used on "Emergency Situations"

Viewed As Temporary Repair

Recommended Application Temp
80-90 F



EQUIPMENT NEEDS



ASPHALT HOTBOX

Used to maintain patching material at recommended temperatures.



COMPACTION DEVICE

A plate compactor or walk behind roller is recommended to achieve maximum compaction density.



HAND TOOLS

Tools such as shovels, rakes, lutes, brooms, back pack blowers, and hand torches.



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