WAR ON POTHOLES

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Sunday, March 28, 2010
Origin of the Word
POTHOLE

The word POTHOLE actually came from the Irish. After boiling potatoes, they would mash the potatoes with the pot on the ground, causing a deep hole to develop.
Pothole Politics

• Los Angeles-
  – 6,000 center miles
  – $671 spent by individual drivers due to pothole related damage
  – 2007 goal: fill 300,000 potholes
    • Reality: exceeded their goal by filling 307,000
  – 2009 goal: fill 350,000

• Seattle-
  – Mayor Greg Nickels declares a war on potholes, “fix every pothole within 48 hours”
  – 2007: filled 38,215 potholes
Pothole Politics

• Honolulu-
  – 2008: $850,000 on 69,264 potholes
    • $172,000 in claims
  – 2009-2011: $70 Million on street maintenance
Pothole Politics

• Rockford, Il
  – 2008: $1.3 million on 127,127 potholes
  – Testing a new epoxy that crews will treat a pothole with before they dump in the cold patch
Pothole Politics

• New Orleans-
  – “Know your potholes”
    • A handy-dandy pothole guide
    • Paint a pothole
    • Dress it up with Mardi Gras beads
Pothole Politics

• Colorado-
  – CDOT: region 4
    • 7,649 lane miles
    • 71,001 square yards patched
    • $695,566
Pothole Politics

- Colorado
  - Fort Collins
    - 502 center miles
    - $170,950
    - 5,000 potholes
  - Greeley
    - 367 center miles
    - $160,000
    - 40,000 potholes
  - Loveland
    - 324 center miles
    - 3,000 potholes
Nicknames

Pothole Patrolman
Pothole Rangers
Pothole Killers
Pothole Posse
Pothole Patrol
Pothole Squad
Pothole Busters
Pothole Patching Playbook

• What is a pothole?
• Why do potholes occur?
• How do you patch a pothole?
• What are the best materials to use?
What is a pothole?
What is a pothole?

• A pothole is a bowl-shaped hole in the pavement surface
  – Minimum width of 6”
• **Low-severity** potholes are less than 1” deep
• **Moderately severe** from 1”-2” deep
• **High-severity** greater than 2” deep
1. Potholes begin after snow or rain seeps into the soil below the road surface.

2. The moisture freezes when temperatures drop, causing the ground to expand and push the pavement up.

3. As the temperatures rise, the ground returns to normal level but the pavement often remains raised. This creates a gap between the pavement and the ground below it.

4. When vehicles drive over this cavity, the pavement surface cracks and falls into the hollow space leading to the birth of another pothole.

Source: town of Queensbury NY, Highway Department; ohttp://www.queensbury.net/Highway/highway_potholes.htm

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Methods to patch a pothole

Conventional
Throw-and-roll

Spray Patching

Semi-permanent
Cold mix

Permanent
Hot mix
Conventional

- Throw-and-roll
  - Cold mix
  - Hot mix

Requirements: Two person crew, one truck, material and shovels.
Conventional
Spray Patching

• Truck-mounted spray patcher

• Advantages-
  – Safety- operator doesn’t even have to leave the cab.
  – Inconvenience to traffic is minimal.
  – More potholes can be repaired each day.
  – Patches are longer lasting, cutting maintenance requirements in half.
  – Repairs can be made in wet weather.
Conventional Vs. Spray Patcher

4,959 Potholes Filled

Conventional Vs. Truck Spray Patcher

- 1,983.60 Hours vs. 1,120.73 Hours
- $104,950 vs. $66,063
- $21.16 per pothole vs. $13.32 per pothole
Spray Patching

- Single joystick control
- All controls accessible from cab
- Excellent visibility of work area
- 1-person operation
- Costs less
- Effective above 0°
Spray Patching

Step 1: Blow out the pothole

Step 2: Tack it

Step 3: Blow material & emulsion

Step 4: Cap it with rock
Semi-permanent Patch

• Semi-permanent cold mix patch
  – Debris and water removed
  – Sides are squared up
  – With cold mix placed, compacted
Permanent Patch

- Permanent hot mix patch
  - Debris and water removed
  - Sides are squared up and tacked
  - Hot mix is placed and compacted
Product Specifications

• **Equipment**: Product shall not require any special equipment for installation

• **Compaction**: Product shall not require any compaction requirements

• **Storage**: Product shall have a minimum storage life of 1 year
Product Specifications

• **Workability in adverse conditions:** Product shall remain workable in adverse weather conditions (prior to placement)

• **Durability:** Material shall be capable of being used as a permanent fix
Quality of Material is the key!

- Quality of materials is more important than method or machine
- Strategic Highway Research Program H-106
  - Most extensive evaluations of pavement maintenance
  - Better understanding of performance
  - Cost-effectiveness of various cold mix materials
- Effects of deicing materials
Tips for Driving Through Potholes

• Don’t brake in a pothole
• Tires must be properly inflated to reduce the risk of damage
• Most damage occurs on exiting the pothole
• A longer pothole usually causes more damage
Patch these potholes!
The quick fix to patching potholes
• CASI
  – EZ Street
• Envirotech
  – ProPatch
• Highway & Industrial Noise Solutions
  – Perma-Patch