Pavement Preservation Program

February 3, 2015

Roadway Network

- 106 lane miles in City = 875,000 sq yds
  - 75% is residential, no grant funding programs
  - Does not include SR 527 or SR 96
- Typical life expectancy of original pavement in Mill Creek is 30 – 40 years
- Age range for City streets is 10 – 40 years
- Deterioration rate is not constant
Pavement Deterioration Curve

Typical graph of pavement condition over time

Pavement Preservation

Crack sealing @ $1 / sq yd
Surface Treatment @ $5 / sq yd
Overlay @ $30 / sq yd
Rebuild @ $60 / sq yd
Tools in the Toolbox

Preservation treatments to extend life
- Chip seal and slurry seal
  - Proposed trial of new Bonded Wearing Course
- Surface coating on structurally sound roads
  - Extend pavement life 7 – 10 years
  - Primarily for lower volume residential streets
  - Usually does not require ADA ramp upgrades
- $3 - $5 per square yard average cost

Structural techniques for road failure
- Overlay: grind and repave
  - Only option for major collector / arterial roads
  - New roadway should last 20 – 25 years
- Requires ADA ramp upgrades
  - Can be half the total project cost
- $30 per square yard average cost but varies
  - $56 per sq yd for 164th with Fed $ and night work
Life Cycle Costs

• Comparison of same road over 20 years
  o Two preservation treatments - $10 / sq yd
  o One overlay - $30 / sq yd
  o If no ADA - $15 / sq yd

• Preservation treatment
  o Annual cost range: $0.40 - $0.75 / sq yd / yr

• Structural Overlay
  o Annual cost range: $1.20 - $2.50 / sq yd / yr
  o If no ADA: $0.75 / sq yd / yr

2015 Work Plan

• Trial of Bonded Wearing Course (BWC)
  – Thin (3/4") top coat, applied like a chip seal
  – Silver Crest / Silver Glen neighborhoods
    • No ADA upgrades in this area
    – Multi-agency partnering with SnoCo

• Expected cost is $10 / square yard

• Life expectancy 15 – 20 years?
2015 Work Plan

- Trial of smaller ¼” chip seal material
  - 23rd Avenue SE cul-de-sacs
  - Wexford Court subdivision
  - Use SnoCo maintenance crews
- Citywide patching and crack sealing
  - Landscape median reconstruction
- Consultant design work for 2016 overlay

Questions?