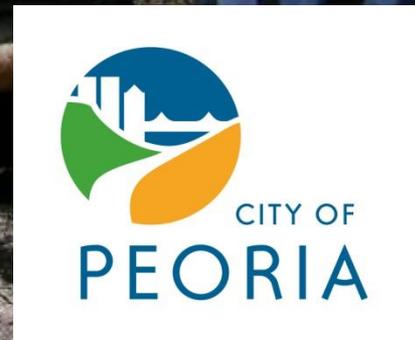


RESIDENTIAL STREET PAVING

May 6, 2013

Jeffrey M. Smith, P.E.
City of Peoria
Interim Director of Public Works

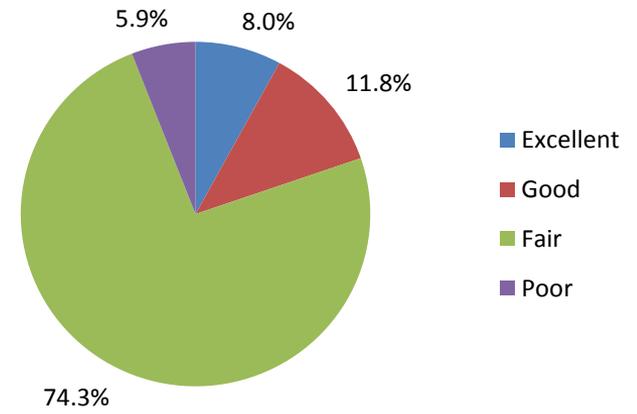
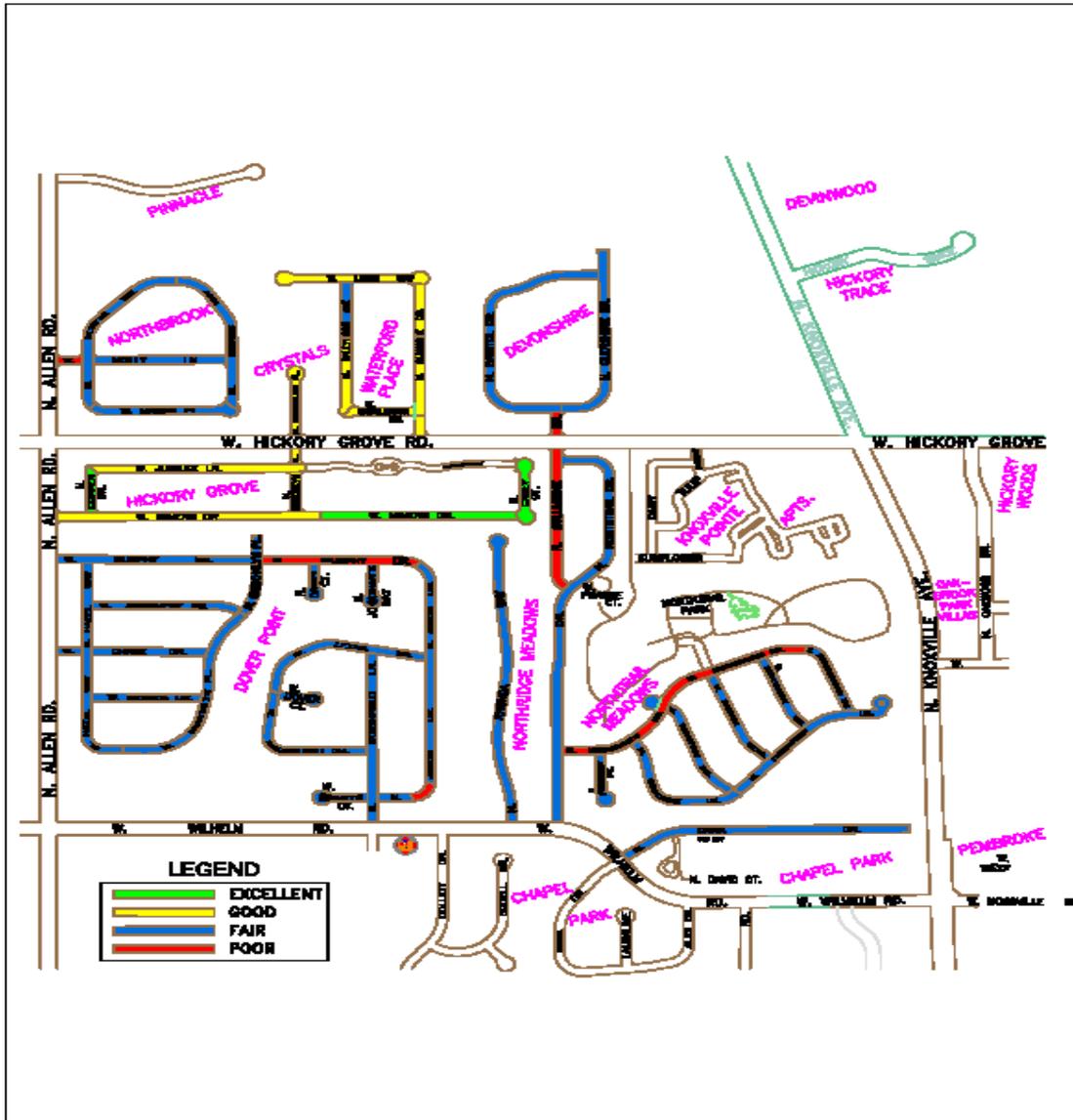


Peoria's Design Standards are 40 years old

- Newer subdivision streets showing distress in 5-10 years
- Considering thicker section and improved inspection
- Preventative maintenance program eliminated
- Little capacity to do repairs



Growth Cell 1A Example



Repair Costs

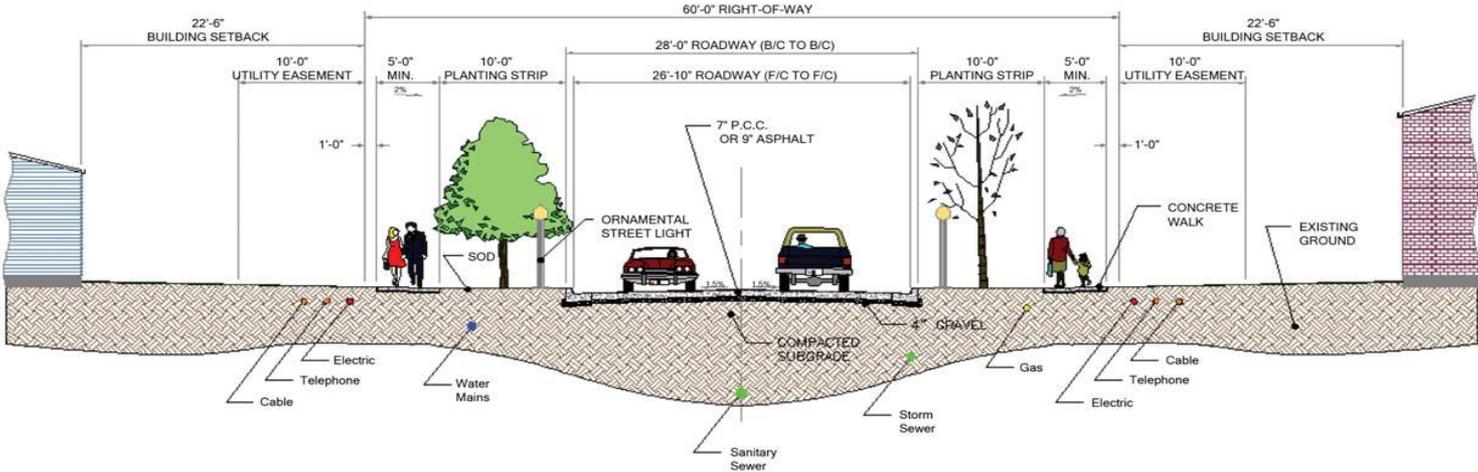
- Cost to patch and oil & chip \$500,000
- Cost to replace \$10,000,000
- Budget \$0



Proposed Streets

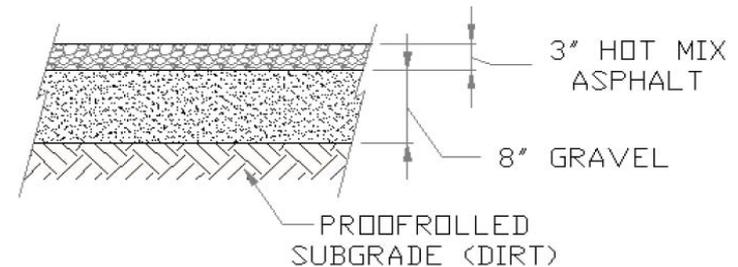
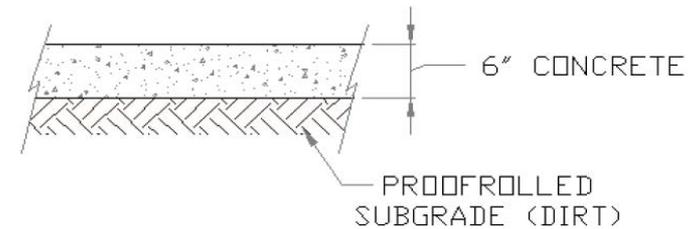


PROPOSED TYPICAL SECTION FOR NEWLY DEDICATED STREETS



Pavement Design

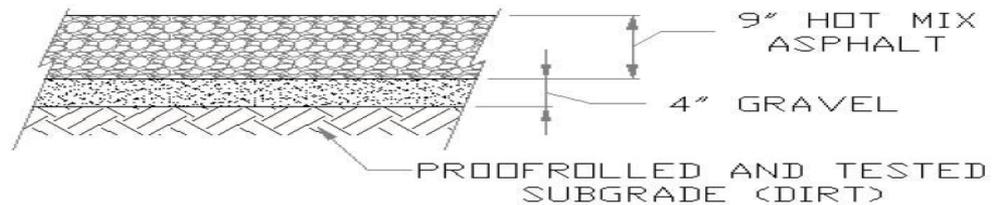
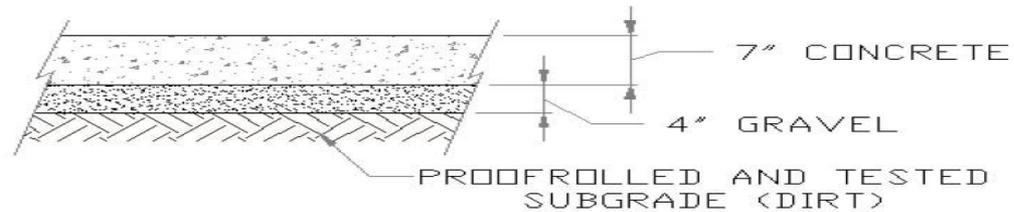
- Lower initial cost for developers
- Higher maintenance and lifecycle costs for citizens
- Stricter standards in peer communities



Pavement Design

- **Critical Success Factor: “Invest in Infrastructure & Transportation”**
- **Require thicker pavements**
- **Higher initial cost for developers \$750/lot(concrete), \$2,200/lot (asphalt)**
- **Lower lifecycle cost for taxpayers (\$10,627/lot over 60 year life)**
- **Higher quality, longer-lasting streets**

Proposed Street



Design Process

- IDOT Bureau of Local Roads Manual – Ch 37
(New Ch 44)
- Soils/Subgrade
- Drainage
- Traffic
- Life
- Materials
- Methods

Soils/Subgrade

- Trenches
 - Sewer
 - Water
 - Storm Sewers
 - Utilities
- Subgrade Stabilization
 - Compaction
 - Remove Unsuitable
 - Lime Modification

Drainage

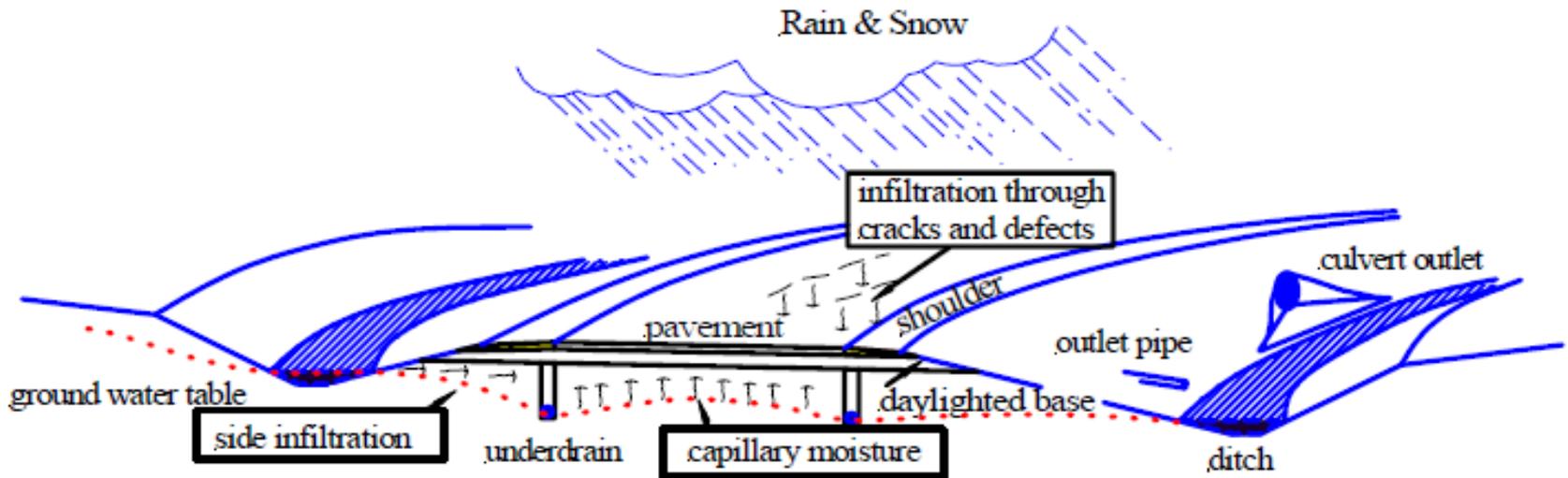


Figure 8 Conceptual road drainage system

Design Period

This is the period for which the pavement is designed to handle the anticipated traffic. At the end of this period a reasonable person would expect the pavement to be replaced.

20 years minimum

30 years recommended

Pavement Types

- Conventional Asphalt
- Full Depth Asphalt
- Portland Cement Concrete
- Composite – Asphalt Over Concrete

Materials & Methods

MATERIALS

- Cement Type, Sand, Aggregate, Air-Entrained, Water
Asphalt Type, Sand, Aggregate, Polymer modification

METHODS

- Mixing/Proportioning
- Temperature, Compacting, Cutting Joints

Inspection & Testing



Coring



Compacting



Air Meter

Questions

**For more information, contact Jeffrey
Smith, City of Peoria Interim
Director of Public Works at
(309) 494-8800**