Reversion of Paved Surfaces to Unpaved Surfaces
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Recent Survey on Conversion of Paved Roads to Unpaved – More Extensive Than Anticipated

Source: NCHRP 20-05 Project Draft Report on Converting Paved Roads to Unpaved

Day County, SD Experience

• Several reversion projects have been done
• Initial negative reaction from the public, but seem to accept it after seeing a better driving surface, even though it is unpaved.
• All projects have been done by:
  – Add additional gravel prior to recycle
  – Recycling existing pavement and new gravel
  – Shape and compact
  – Begin maintaining as a gravel road.
A Day County Project

Recycle Process
Virgin gravel course added on roadway prior to recycling.

Recycle Process (Con’t)

Reshape & compaction of the material
Outstanding performance

Performance documentation on 2-7-2013. This road had no blade maintenance since May, 2012. ADT is 75

Brown County, SD Experience

- County Road system is extensive:
  - 680 miles total
  - 480 miles paved – many in poor condition
  - 200 miles unpaved
  - Total annual hwy budget is 9.2 million dollars.
  - By best estimate, 40 million dollars is needed annually to repair/maintain the current paved system.
  - Far too many paved miles for budget to support.

Some of Brown County’s Challenges

The problems became severe after the economic downturn in 2008 and severe flooding at the same time.
Condition of one road late spring 2013

Experimenting with Reversion Process

- Simply go back to gravel
- Gravel surface with treatment for dust control
- Stabilized gravel –
  - Emulsified asphalt stabilization
  - Portland cement stabilization

Challenges with the Process of Reversion

Reversion with ripper and sheepsfoot roller – not recommended!
Some counties have done this, but the method not efficient or cost effective.

A better way to recycle failing pavement and add new surface gravel at the same time.

A good method

Careful processing and shaping is needed
Treat it like a construction project

Small loader-mounted recycling machines have worked well on small projects

Recycled material prior to processing and compaction

Very hard to avoid a few chunks if pavement is badly deteriorated
Compaction can be difficult in thick lifts with a high percentage of bituminous material.

Documentation of performance on a project one year after reversion from failing pavement to untreated gravel – average daily traffic is 90 vehicles per day.

If you cannot sustain your paved road system, you will have to do some reversion.

Do it right and it works.

Thank You