



Local Technical Assistance Program

Gravel (Unsealed) Roads Management

George Huntington October 21, 2010 Rapid City, South Dakota



Why a 'program' to manage unsealed roads?

- More efficient operations
- Better communications





State-of-the-Practice

What we're doing... What are you doing? What can you do?



What gravel roads problems do you have?

• Frequent complaints?

- Easy way to pull up a road's recent history
- Readily available work schedule

Insufficient maintenance forces and equipment?

- More cost effective maintenance
- Lack of good gravel
- Dust
 - Track dust suppression to learn how effective it is, for maintenance deferment as well as dust control.



What information do politicians expect you to have? How about the public?

- How do you decide which roads to maintain next?
- How do you decide where to get your gravel?
- Why are our roads so dusty?



What *should* they expect?

- Efficient management
- Are our roads getting better? Worse?
- Dust suppression where it's cost-effective
- Economically sound decision-making
- Accurate information



What we've been up to...

• Final Report to WYDOT

- Available on our website
 - Google "Wyoming LTAP"
 - Go to 'Special Projects'
- Implementation Guide
- Programming Guide
- Ride Quality Rating Guide





What did our group of experts conclude?

- Limited resources is the challenge
 - Simple and transparent
- Condition is hard to measure
 - Surface condition/ride quality
 - Gravel thickness
- Maintenance Scheduling
- Cost Tracking
 - Blading
 - Regravel



Fundamental Information

- Inventory
- Road section history
 - Blading
 - Regravel
 - Tons/mile/year
 - Source
 - Properties
 - Dust suppression
 - Drainage maintenance

- Road section condition
 Ride quality
 - Gravel thickness



It's a long process...

History of each road section

- Cost histories
- Performance histories

History of maintenance practices

- Blading
- Regraveling
- Dust control
- Drainage



What we're doing next:







What information do you have?

- D-ware? ND-LTAP software?
- http://www.sddot.com/pe/data/gis.asp
 I googled 'south dakota transportation gis'



What other information is available?

- History?
- Condition or performance data?
- How can you pull information you need from your cost tracking system?
- Traffic counts?
- Soil types?



What could you be doing?

- Where is your gravel going?
 - Regravel: Tons/mile/year
 - Network, Class, Road, Section
 - Source, Properties, Treatment
 - Spot Repairs and Patching



- What are your motor graders doing?
 - Blading: Hours/mile/year or \$/mile/year
 - Network, Class, Road, Section
 - Pull Shoulders, Clean Ditches, Restore Crown
- How are your roads performing?
 - Ride Quality
 - Gravel Thickness
 - Traffic Volumes and Speeds

What changes should be made?

- Know the short-term history (and eventually the long-term history) of each road section.
 - Divide the road network into 'maintenance management sections.'
 - Properly define and track your maintenance tasks.
- Have some way of assessing performance.
 - Visual ratings, during 'check roads' and when maintainers blade the road.
 - Gravel thickness

Additional Resources

WYT^2	Wyoming Technology Transfer Center Wyoming
LTAP	
Home	► Special Projects
Staff	The Wyoming To/LTAP Center performs special projects occasionally. Information
Library	and/or reports on these projects will be available here.
Newsletter	Level Establishment
Events and Workshops	> Legal Establishment
Road Scholars	Logal Pathlichment of County Boads, Males (as = MB)
Vou Show Us	Legal Establishment of County Roads - Vol. 1 (217 KB) Legal Establishment of County Roads - Vol. 2 (111 MB)
Special Projects	Outline for Creating a County Road (43 KB)
Loan Programs	Wyoning State Statutes (335 kb)
Safety Program	
Certifications	**CORRECTION TO LEGAL ESTABLISHMENT OF COUNTY ROADS**
Tech Briefs	The report entitled "Legal Establishment of County Roads in Wyoming" contains an
Links	error. Page 52, paragraph 5. A. (1) should read, "Failure to adequately maintain a county road does not vacate the road." The word "not" was inadvertently left out of
LTAP Mission The mission of the National	this sentence in the final report. The same error occurred on page 4, paragraph 5. A. (1) of the laminated outline. We regret any confusion this error may have caused.
Local Technical Assistance Program is to foster a sale	≻ Gravel Roads Management
efficient, environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology.	<u>Meeting Notes and Minutes</u> <u>Drafts</u> <u>Email Comments</u> <u>Gravel Roads Management FINAL REPORT</u> <u>Gravel Roads Management PROGRAMMING GUIDE</u> <u>Gravel Roads Management IMPLEMENTATION GUIDE</u>
A CONTRACT OF TRACT	 Asset Management Reports (as Word Documents) Training Materials (as Powerpoint Presentations) Reports and Presentations WRRSP Paper WRRSP Poster WYDOT Case Study Paper WYDOT Case Study Poster
	Hanner Truck Turffic Immosts

Ride Quality Rating Guide

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	Rating	speed, mph*	Distresses ** Adapted from the Gravel - PASER manual
10	Excellent	65+	
9	Very Good	55 - 65	
8	Good	50 - 55	Dust under dry conditions; Moderate loose aggregate; Slight washboarding
7	Good	45 - 50	
6	Fair	35 - 45	Moderate washboarding (1" - 2" deep) over 10% - 25% of area; Moderate dust,
5	Fair	25 - 35	occasional small pothole (less than 2" deep); Some loose aggregate (2" deep)
4	Poor	17 - 25	Moderate to severe washboarding (over 3" deep) over 25% of area; Moderate
3	Poor	10 - 17	10% - 25% of area; Severe loose aggregate (over 4")
2	Very Poor	5 - 10	Severe rutting (over 3" deep) over 25% of area; Severe potholes (over 4" deep)
1	Failed	0 - 5	over 25% of area; Many areas (over 25%) with little or no aggregate

* Passenger car speeds based on surface condition allowing for rider comfort and minimal vehicle wear and tear, assuming no safety or geometric constraints force slower travel. Doesn't spill your coffee! ** Individual roadways may not have all of the types of distress listed for any particular rating. They may have only one or two types.

Questions? Comments?







