



Transportation Challenges on the Navajo Nation

Navajo Division of Transportation
Partnership Relaunch Meeting
Tse Bonito, NM
June 6, 2012



Navajo Division of Transportation

- Became a Division on August 9, 2009
- Administer transportation programs
- Provide efficient transportation system
- Ensure operation and improvement of transportation system
- Legislative oversight by Resources and Development Committee of the Navajo Nation Council





Navajo Division of Transportation

- Six Departments:
 - ✓ Transportation Planning
 - ✓ Project Management
 - ✓ Environmental/Cultural Resources
 - ✓ Road Maintenance
 - ✓ Airports
 - ✓ Highway Safety
- Work Collaboratively with BIA to manage Navajo Nation's \$54 million Tribal Transportation Improvement Program (TTIP)



Navajo Division of Transportation

- 2010 Inventory = 14,733 miles
 - State – 1,642 miles
 - Counties – 1,864 miles
 - BIA – 6,217 miles
 - NN – 5,010 miles
- Total Paved Roads = 3,381 miles (23%)
- Total Unpaved Roads = 11,352 miles (77%)
 - Total Graveled Roads = 234 miles
- Road Construction/Maintenance is a partnership with 3 State DOTs, 7 County DOTs and the BIA





Goals & Objectives

- Upgrade Expertise in Roadway, Drainage & Road Construction
- Develop Nationwide Road Maintenance Plan
- Establish Gravel Pits & Reliable Water Source
- Evaluate Soil Stabilizers
- Collaborate with County DOTs, School Districts & Chapters on Regional Road Maintenance



Fuel Excise Tax Program

- Collect 18¢ per gallon
- \$12 million collected annually
- \$4 million to State of AZ
- \$2 million to NN Set Asides
 - >Permanent Trust Fund (12%)
 - >Veterans Trust Fund (4%)
 - > Land Acquisition Fund (2%)
 - > Tax Statues (2%)
- \$3 million Funds NDOTs Road Maintenance
- \$3 million for FET Projects
- In 2011, NDOT received 58 proposals totaling \$38 million





Graveling Projects

- Partnership with Navajo County
- County procured Contractor to crush and haul gravel
- NDOT provided Clearances, Personnel, Equipment & Funding
- 25 miles graveled for \$3 million
- Applied 4 inches of gravel with magnesium chloride on 20-foot wide road



Red Dog Graveling Partnership

- Partnership with Navajo County, Peabody Coal & Ten Chapters in Black Mesa Region
- 65,000 Tons Crushed will cover 25 miles of dirt roads
- \$250,000 for hauling by BIA
- NDOT, BIA, School Districts & Chapters provided Personnel, Equipment & Funding





NDOT Road Maintenance

- (1) BIA gets \$6 million/year for Road Maintenance
- (2) NDOT has \$5.7 million for FY2012
 - > \$2.1 Million from FET funds for 110 Chapters
 - > \$3.6 Million from 93-638 Road Construction Funds
 - * \$1.5 Million spent on equipment
 - * \$2.1 Million left for Road Maintenance for 1,477 miles of BIA Roads (blade twice a year)
- (3) Develop Nationwide Road Maintenance Plan
(Collaborate with BIA, Counties, School Districts and Chapters)



NDOT Road Maintenance

- (4) Develop Regional Road Maintenance Planning
 - > Chapters identify and prioritize roads in the region
 - > Identify one equipment operator from the area
 - > Identify secure locations for equipment
 - > Chapters pool money for fuel and maintenance
 - > Chapters could approach County for equipment maintenance
 - > NDOT will provide one grader and pay for operator
 - > Chapters identify roads to maintain and frequency based on budget.



NDOT Road Maintenance

(5) Grader Operator Productivity

- > Grade 4 miles/day, 20 miles/week, 80 miles/month
- > 1 grader = 80 miles/month x 10 months = 800 miles/year

Keep in mind, this is to blade the road one time!

- > Four blades per year = 200 miles
- > Cost of blading = 800 miles x \$750/mile = = **\$600,000**

Cost to Blade 800 miles of roads for 24 Regions

- > 1 grader = 800 miles/year 24 Regions = 24 graders
- > 24 Regions x 800 miles/year = 19,200 miles/year
- > 19,200 miles x \$750/mile = **\$14,400,000 per Year**
- > **In 2012, NDOT received only \$2,100,000 (FET Funds) & \$2,100,000 (93-638 Funds) for Road Maintenance!**



NDOT Road Maintenance

(6) Cost to Gravel Dirt Roads Per 1 Mile

(a) Water Needed for Construction

- | | |
|------------------------------|----------------|
| > Water Permit (200,000 gal) | \$1,000 |
| > Equipment (3 water trucks) | \$7,000 |
| > Labor (3 personnel) | <u>\$2,000</u> |
| > Subtotal | \$10,000 |

(b) Road Base Grading

- | | |
|--|---------|
| > Equipment (2 blades) & Labor (2 staff) | \$1,500 |
|--|---------|



NDOT Road Maintenance

(c) Gravel Roadway

> Gravel (2,100 tons x \$28/ton)	\$67,200
> Mag Chloride (6,000 gal)	\$ 4,500
> Equipment (3 Water Trucks, 2 rollers & 3 blades)	\$15,000
> Labor (8 personnel)	<u>\$ 4,000</u>
> Subtotal	\$90,700

(d) **Gravel Construction Total = \$102,200 per mile**

Example: 10 miles will cost \$1,022,000



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