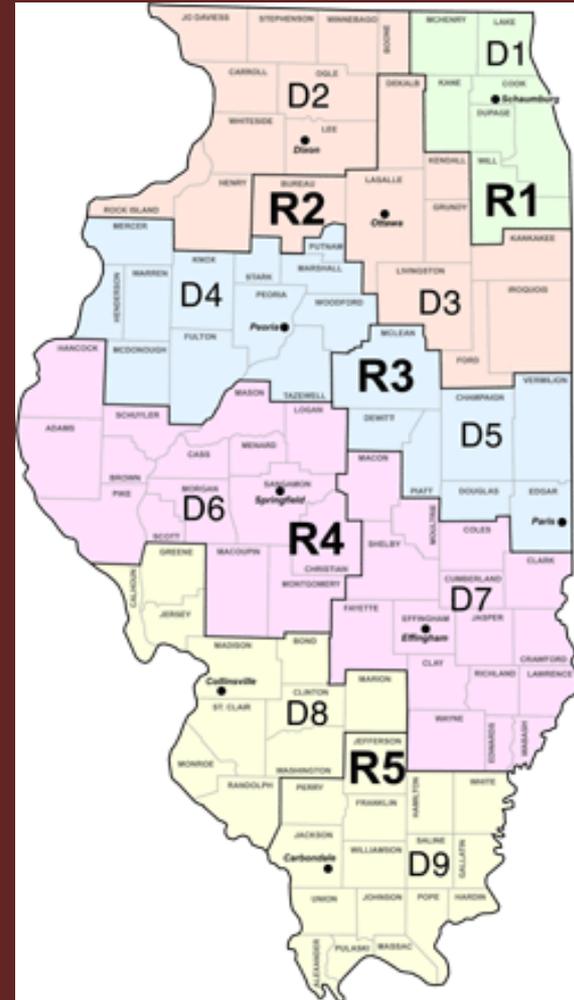


*Local Roads & Streets:
The Illinois Perspective*

11th International Conference
on Low-Volume Roads
July 12-15, 2015
Pittsburgh, PA

Illinois Perspective

- Illinois DOT
 - Central Office
 - Central Bureau of Local Roads & Streets
 - 5 Regions
 - 9 Districts
 - District Bureau of Local Roads & Streets



Illinois Perspective

- Local Forms of Government
 - 7,059 local governments (taxing bodies)
 - Illinois has the highest number of local governments in the country (2012 data)
- Local Public Agencies
 - 102 Counties
 - 1,457 Townships
 - 1,297 Municipalities
 - 2,856 total local agencies*

Illinois Perspective

Mileage Comparison (2014 data)

• Total Illinois Highway Mileage	<u>146,765</u>
– Illinois DOT	15,978
– Toll-way	294
– Local Public Agency	130,493
• Annual Vehicle Miles of Travel	<u>105,032,000</u>
– Illinois DOT	58,135,000
– Toll-way	8,728,000
– Local Public Agencies	38,169,000

Illinois Perspective

Bridge Comparison (2014 data)

• Total Illinois Bridges	<u>26,667</u>
– Illinois DOT	7,823
– Toll-way	529
– Local Agency	18,315
• Total Deficient or Obsolete	<u>4,193</u>
– Illinois DOT	1,503
– Toll-way	129
– Local Agencies	2,561

Illinois Local Agency Funding

Federal Funding

- STP (18.92%) \$224,571,895
- STP-Bridge (15%) \$33,685,784
- TAP \$28,731,000
- HSIP \$14,739,000
- RR / Highway Safety \$6,207,000

Illinois Local Agency Funding

State Funding

- Motor Fuel Tax (CY2014) \$561,159,014
- Grade Crossing Protection \$42,000,000
- Local Benefits Program \$36,600,000
- Township Bridge Program \$15,000,000
- Economic Development \$15,000,000
- Truck Access Route Program \$7,000,000

Illinois Local Agency Funding

Local Funding

- Variety of locally imposed road and bridge taxes
- Locally imposed gas tax
- Road & Bridge tax
- Permanent Road tax
- Federal-aid Matching tax

Illinois Local Agency Planning & Programming

- Funding allotments, distributions, and solicitations are done throughout the year
 - Most are done in late fall
- November – February
 - Annual programming cycle for local agencies
 - Projects are included in the IDOT annual and multi-year published program

Illinois Local Agency Short- and Long-Term Issues

Short-term

- Funding shortage
- Rapid increases in material / construction costs
- 60 percent reduction in purchasing power
- Increasing regulations / mandates with no funding
- Public expectations (decreased level of service)
- Population growth / travel demand
- Aging workforce
- Political influences

Illinois Local Agency Short- and Long-Term Issues

Long-term

- Better budgeting and forecasting tools
- Don't build what you can't maintain
- Replacing infrastructure (TBP & PCC deck beams)
- Public expectations (Urban residents relocating to rural areas)
- Increased environmental regulations
- Lack of State investment in State routes versus Interstate, pushes motorists to the local system
- ADA / Complete streets

Illinois Local Agency Innovative Ideas

- STP-Bridge program
- County engineer salary program
- Formal pavement management system
- Incandescent to LED light change outs
- GPS tracking of agency vehicles
- Federal and State regulations somewhat prohibit local agencies from innovative opportunities

Thank you!

Thomas Winkelman, P.E.

Acting Local Program Development Engineer

Illinois Department of Transportation

Central Bureau of Local Roads & Streets

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Phone: (217) 782 – 0675

International Low Volume Roads Conference 2015



NICOLE FOX, P.E.
SECONDARY ROADS ENGINEER
IOWA DOT – OFFICE OF LOCAL SYSTEMS

Iowa Roadway Information



- Iowa DOT owns/manages 9400 miles of roads and 4100 bridges
- Counties own/manage 90,000 miles of roads and 19,000 bridges
 - Farm to Market routes in cities <500 population
- Cities manage 16,500 miles of roads and 1150 bridges

Iowa Financial Information



- **Road Use Tax Fund at State level**
 - Iowa DOT – 47.5%
 - Counties Secondary Road Fund – 24.5%
 - Counties Farm to Market Fund – 8%
 - Cities – 20%

Federal Funding



- STP funding to Locals
- Distributed through Regional Planning Affiliations and Metropolitan Planning Organizations
- LPA's get about 31% of Iowa's Federal Funding
- HSIP Funding
- HBP Funding (set aside of STP)
 - Counties \$33 Million
 - Cities \$9 Million

Counties



- **Secondary Road Fund**
 - distributed by Formula (VMT, LFBD, #Miles, Pop.)
 - Each county gets \$2.2M-\$7M from RUTF
 - Get property taxes for roads (Iowa Code)
- **Farm to Market Road Fund**
 - Distributed by Formula (VMT, LFBD, #Miles, Pop.)
 - Each County gets \$600,000-\$2M
- **Various Grant Programs**
 - TSIP – 1/2% RUTF
 - State Bridge Funds

Cities



- **Funding based on population (~\$120/person)**
- Largest city is 200,000 population
- Capital City of Des Moines
- \$25 Million per year RUTF

Long term issues



- Recent 10 cent gas tax increase
- Funding is still not enough to sustain the system
- Have to make up for things they were putting off
 - Equipment replacement
 - Road rock
 - Construction

Innovative Ideas - Bridges



- **Railroad Flatcar bridges**
- **GRS abutments**
- **Pre-fabricated timber structures**
- **Folded Plate Girders**
- **Precast Concrete Slab Bridges**
- **Internal Curing Concrete**

Innovative Ideas – Other



- Safety Edge
- Various Maintenance treatments for pavements
- Gravel Road Stabilization
- Geo-columns on Frost Boils for gravel roads
- Asset Management for Pavements and gravel roads
- Research on Financial Needs of Counties
- Work Order tool for Maintenance projects
- Fabric Interlayer on pavement overlays
- Otta Seals
- Warm Mix Asphalt

Questions?



Nicole Fox, P.E.

Iowa DOT

Office of Local Systems

Secondary Roads Engineer

Nicole.fox@dot.iowa.gov

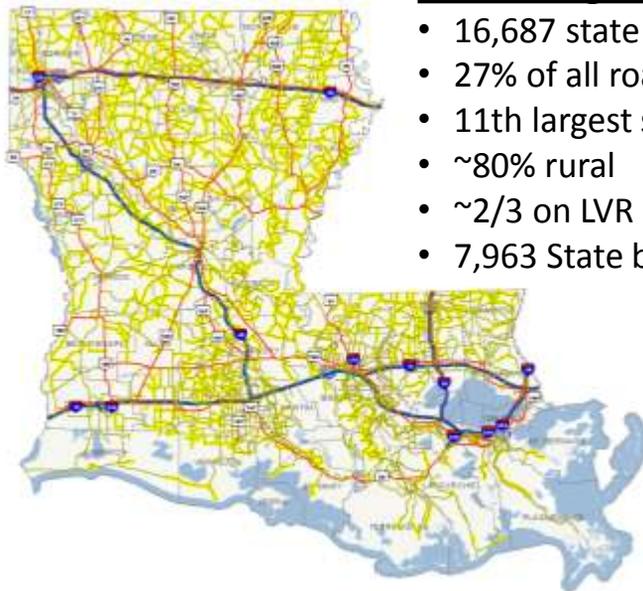
515.239.1506

Louisiana LVR

Harold "Skip" Paul and Kirk Zeringue



1



LA State Highway System

- 16,687 state CL miles
- 27% of all roads in LA
- 11th largest state system
- ~80% rural
- ~2/3 on LVR
- 7,963 State bridges (60%)

2

Challenges

3

LVR Funding

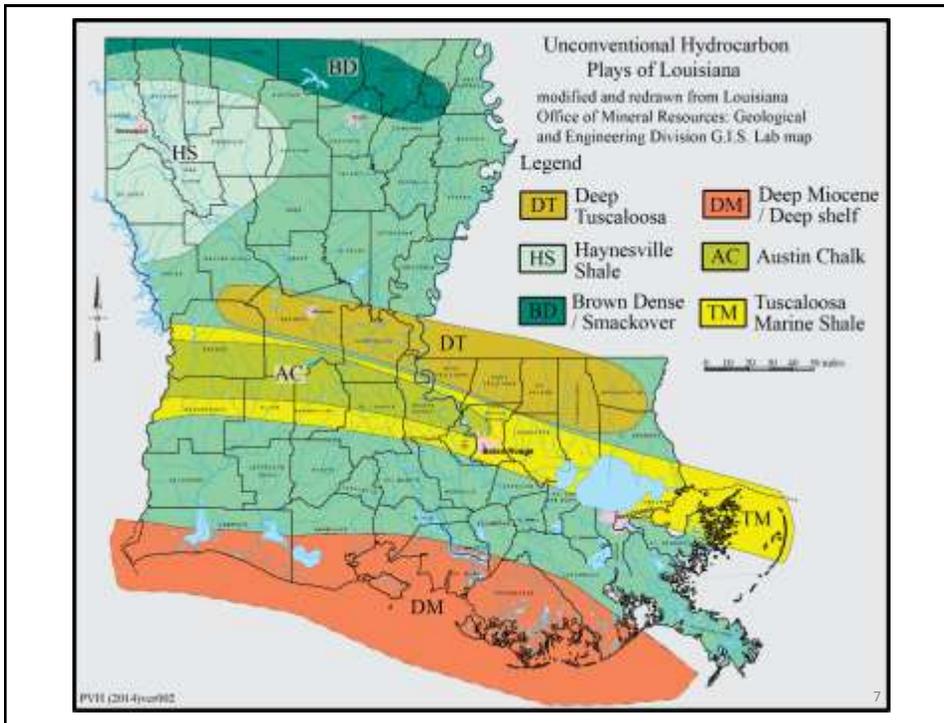
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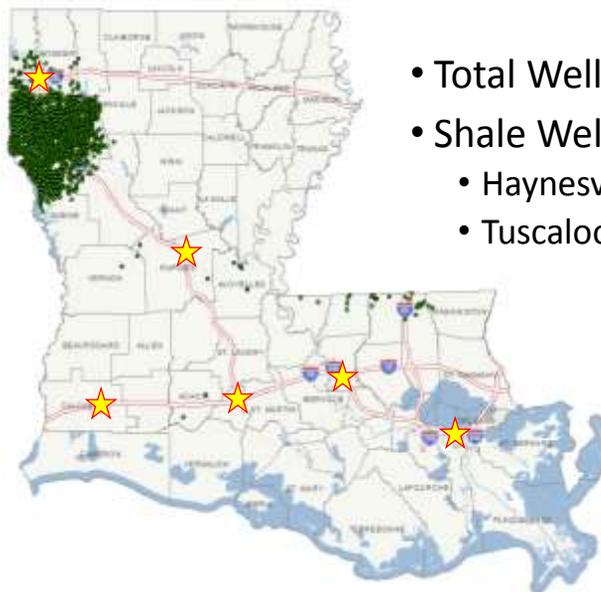
Challenges – cont'd

5





Oil & Gas Industry

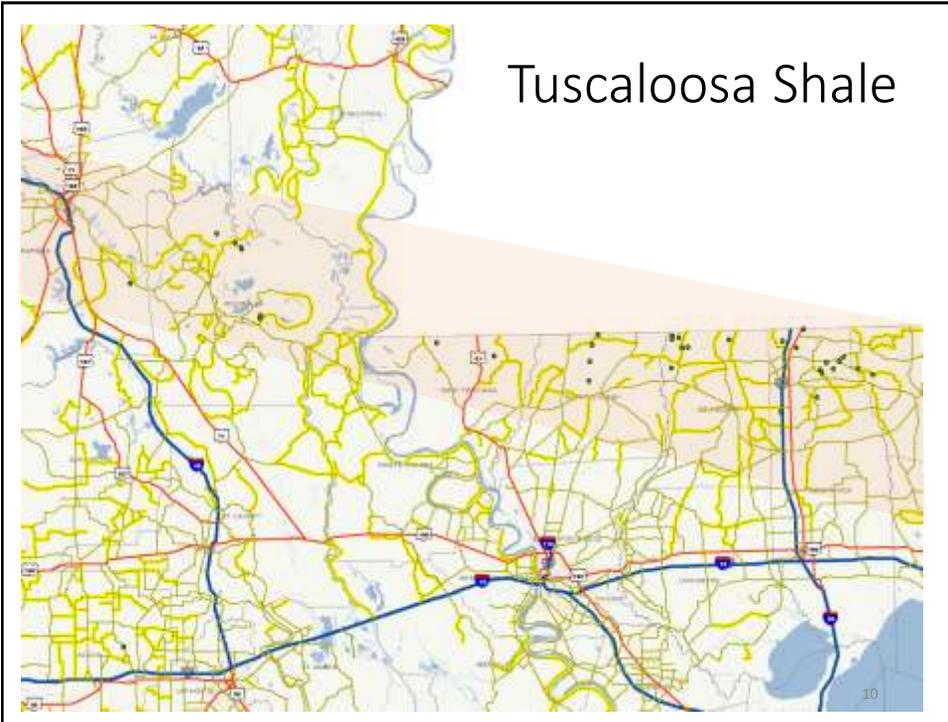


- Total Wells = ~240,000
- Shale Wells*
 - Haynesville - 3084
 - Tuscaloosa - 47

*as of 7/13/15

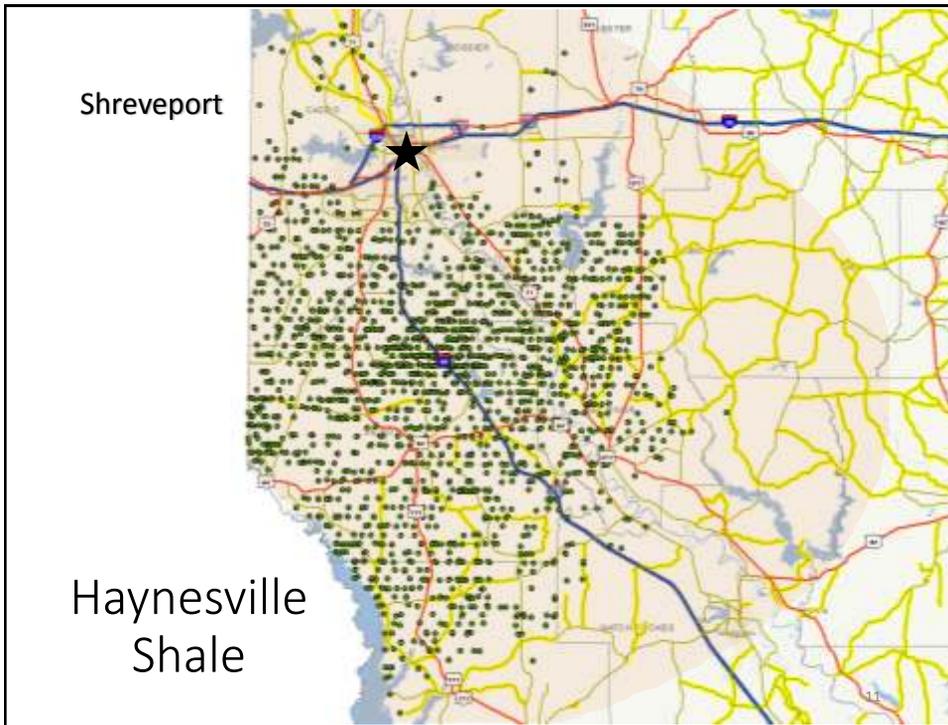


9



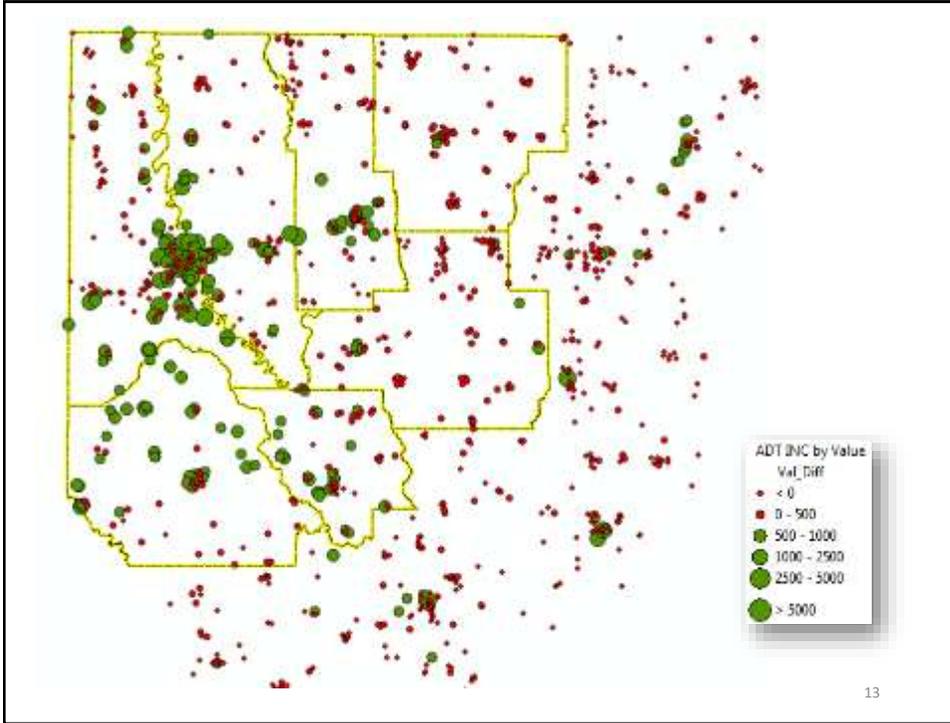
Tuscaloosa Shale

10



Impacts To Traffic

- Increased traffic due to the movement of heavy equipment, fracking sands, and water
 - ~ 3,000 tons of sand required per well annually.
 - 6 million gallons of water needed to frack a well
- Traffic safety
- Increase in congestion

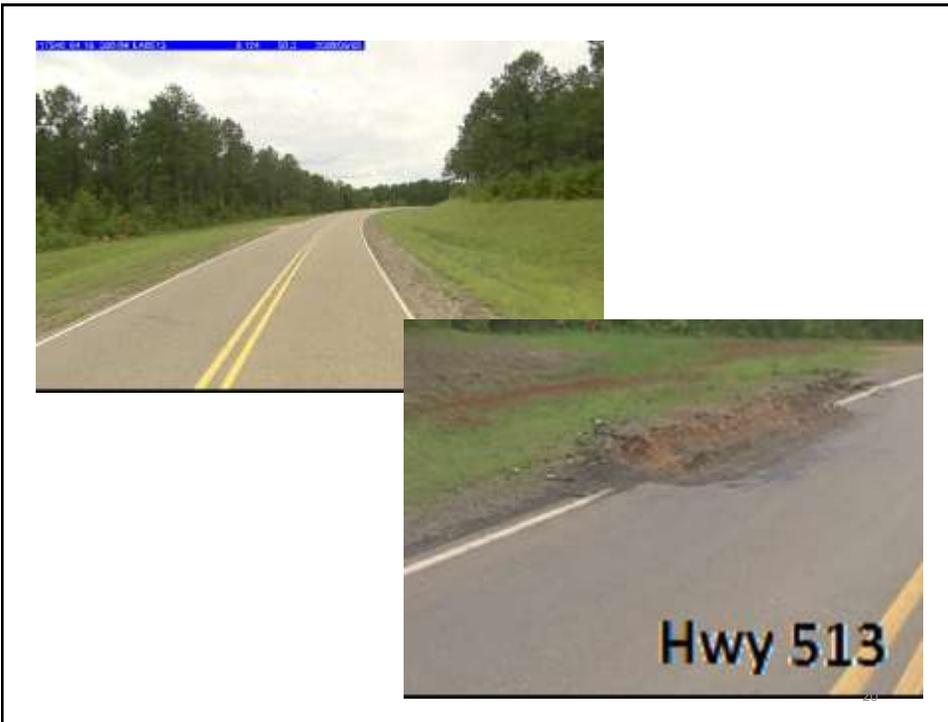


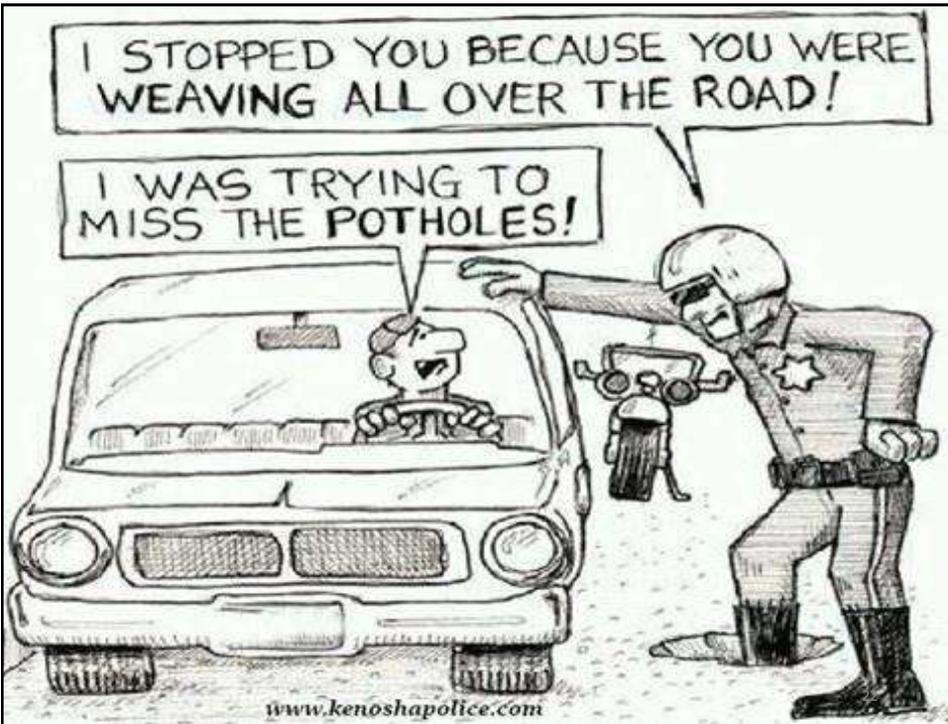
Impacts to LA
roads/bridges/structures

15









Mud & Gravel on (Paved) Roads

RS 30:2531.3

Page 1 of 2

§2531.3. Commercial littering prohibited; civil penalties; indemnification; special court costs

A. No person shall dispose or permit the disposal of litter resulting from industrial, commercial, mining, or agricultural operations in which the person has a financial interest upon any public place in the state, upon private property in this state not owned by him, upon property located in rural areas in this state not owned by him, or in or on the waters of this state, whether from a vehicle or otherwise, including but not limited to any public highway, public right-of-way, public park, beach, campground, forest land, recreational area, trailer park, highway, road, street, or alley, except when such property is designated by the state or by any of its agencies or political subdivisions for the disposal of such items and such person is authorized to use such property for such purpose.

B. No person shall operate any truck or other vehicle on any highway in such a manner or condition that litter resulting from industrial, commercial, mining, or agricultural operations in which the person is involved can blow or fall out of such vehicle or that mud from its tires can fall upon the roadway.

C.(1) If the litter is disposed of from a motor vehicle, boat, or conveyance, except a bus or large passenger vehicle or a school bus, all as defined by R.S. 32:1, there shall be an inference

23



24



Timber Pile Substructures

- District 04 has **58** bridges with timber pile substructures.
- We are exceeding the life expectancy of these piles.



27

Unauthorized Actions







Research

- “Right-Sizing” Truck Registration Fees
- FRP wraps of timber piles
- RCC & FDR test sections
- Infrastructure damage cost recovery



Managing Low-Volume Roads in New York State

 David P. Orr, PE, PhD

 Director

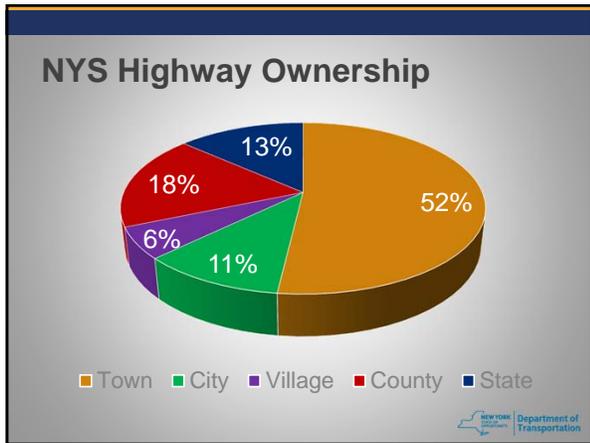
 Cornell Local Roads Program

 NY LTAP Center



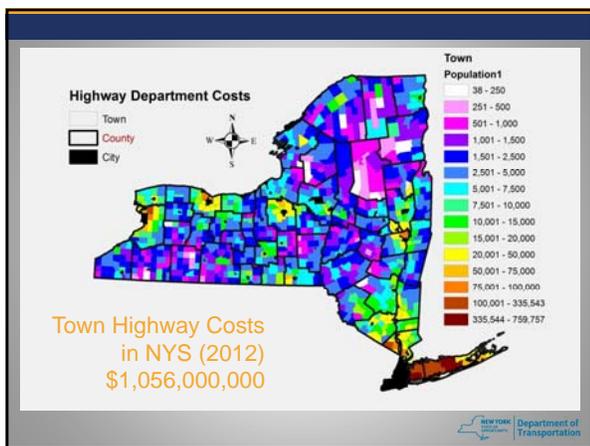

NYS Highway Ownership

Level	Number	Centerline Mileage
Town	932	58,436.5
City	62	12,254.4
Village	551	6,598.2
County	57	20,239.2
State	n.a.	15,123.4
Other	n.a.	2,057.5
Total	1,602	114,709.2

Bridges

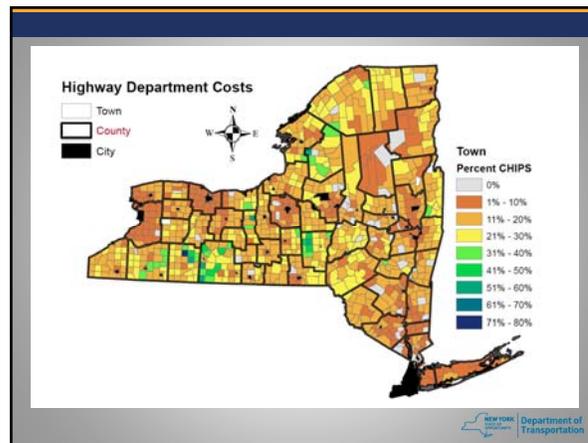
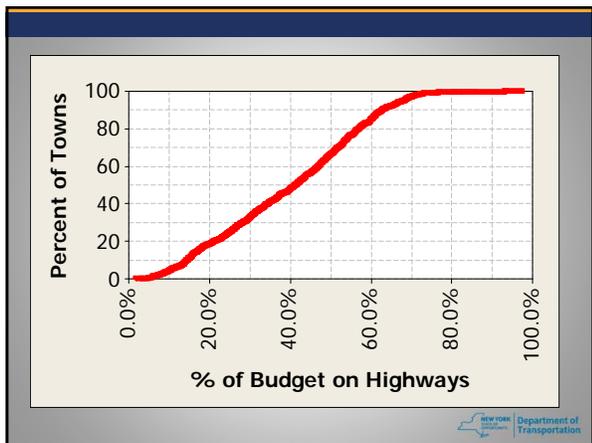
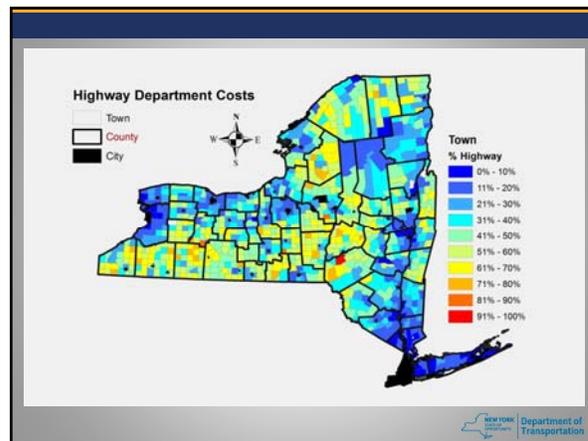
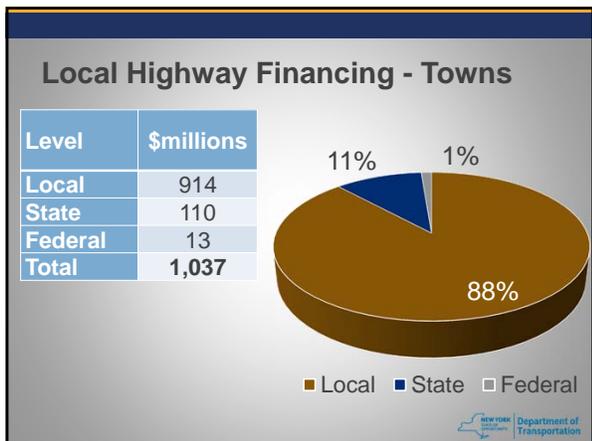
Level	Number
Local	8,606
State	7,674
Total	16,280

LVRs

- Towns
- Villages
- Counties
- State





Critical Issues

- Budget
- Weather-related
- Lack of personnel

Ideas

- Smart phones
- Web resources
- New maintenance methods
- ~~Social media~~

 NEW YORK
STATE OF OPPORTUNITY
Department of
Transportation



Thank You

David P. Orr, PE, PhD
david.orr@cornell.edu

 Cornell University

 Cornell Local
Roads Program

STATE OF OHIO

TRB INTERNATIONAL CONFERENCE ON LOW- VOLUME ROADS-PITTSBURGH, PA JULY 14, 2015

- Greg Butcher, PE, MPA Violet Township
- Terry Lively, PS, PE Belmont County

STATE OF OHIO



STATE OF OHIO

- POPULATION OF 11.6 MILLION
- 113,000 ROADWAY MILES
- 43,000 BRIDGES

STATE OF OHIO

- Home Rule State- an amendment to the state constitution grants cities, municipalities, and/or counties the ability to pass laws to govern themselves as they see fit (so long as they obey the state and federal constitutions)
- 88 Counties, 950 Cities and Villages, 1300 Townships
- **84% of center line miles maintained by Locals**

STATE OF OHIO

- Primary Funding Sources
 1. Gas Tax
 2. Motor Vehicle License Tax
- Other Funding Sources
 1. Income Taxes
 2. Voted/Unvoted Tax Levies (Based on Property Valuation)
 3. Indirect Funding-Road Use Maintenance Agreements (RUMAs)

STATE OF OHIO

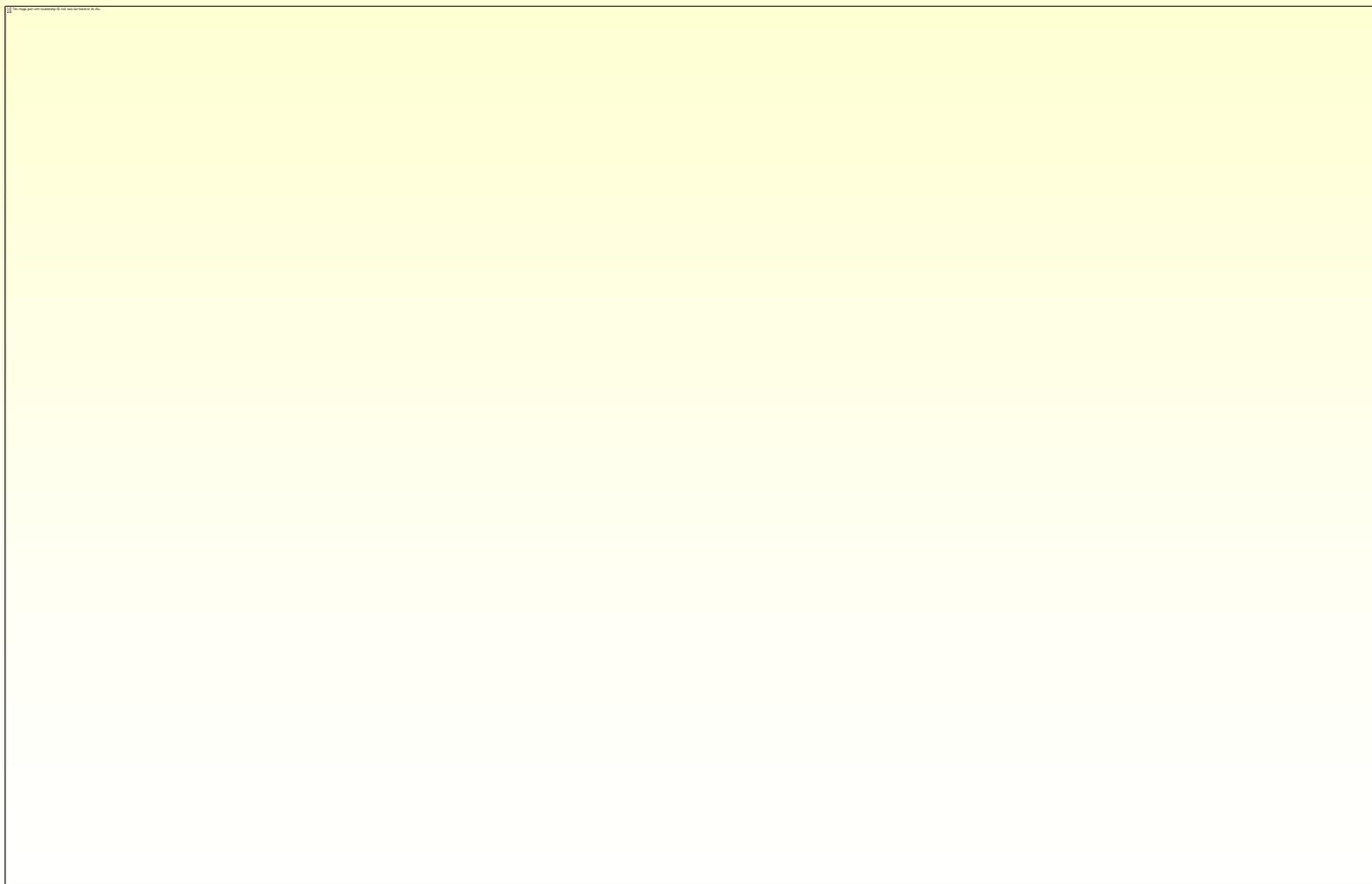


STATE OF OHIO

MAINTENANCE RESPONSIBILITIES

- State Highway System-ODOT
- County, Municipality and Township by Jurisdiction
- Private Companies using the RUMA Process

STATE OF OHIO

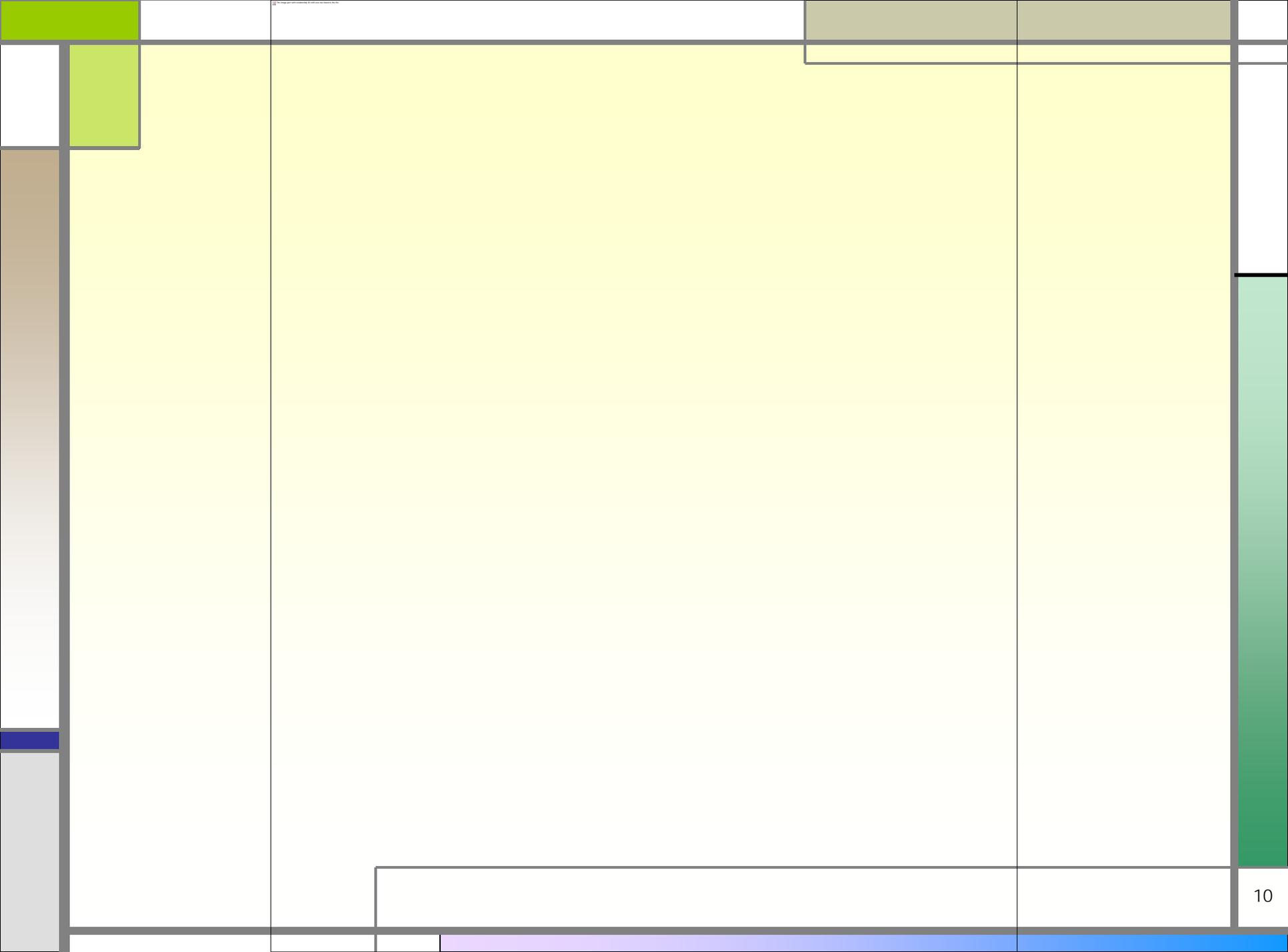


STATE OF OHIO

OHIO RESEARCH INITIATIVE FOR LOCALS (ORIL)

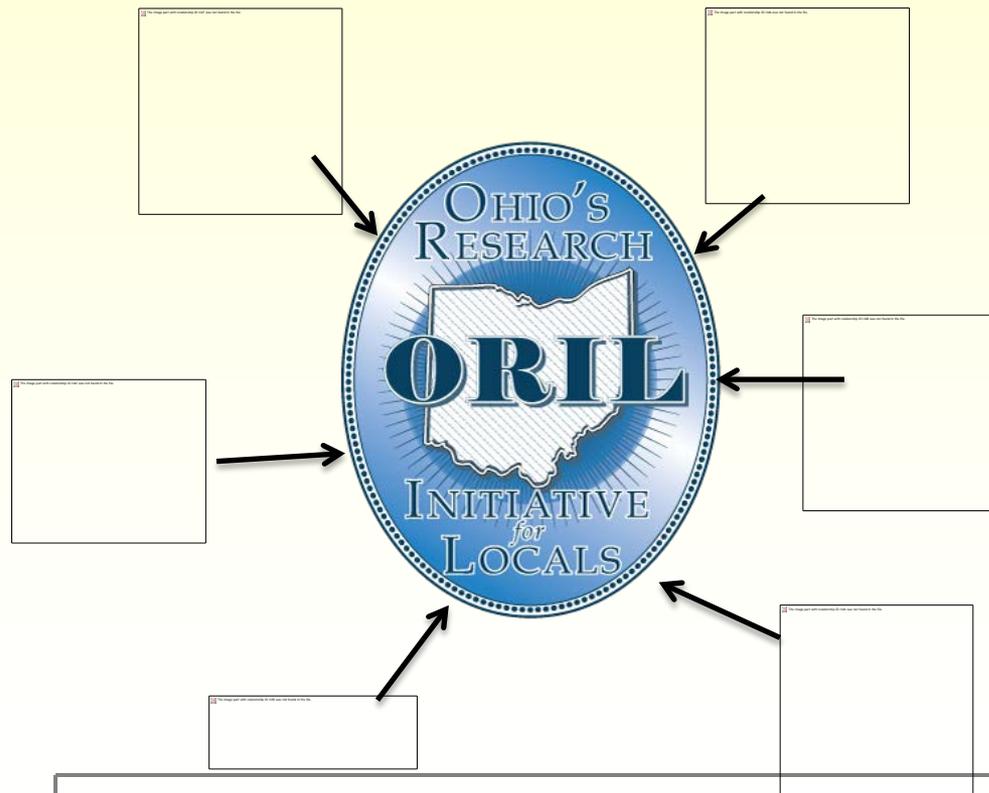
- New program modeled after Minnesota and Iowa

<https://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/ORIL/Pages/default.aspx>



ORIL – What is it?

Providing *real* solutions to *real* problems...
through *research*



ORIL – What is it?



Mission

- ORIL develops, funds and oversees transportation research projects to meet the needs of local agencies for the safety and economic well-being of the traveling public and Ohio.

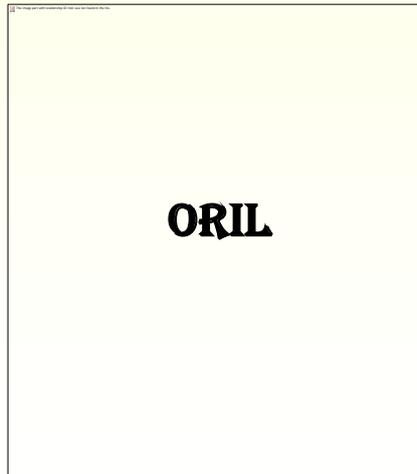


ORIL – What is it?



Vision

- ORIL, with self-sustaining funding, identifies, manages and facilitates strategic research that solves local transportation challenges with implementable and cost-effective solutions



ORIL – How does it work?



Who's bringing the checkbook?



ORIL – How does it work?

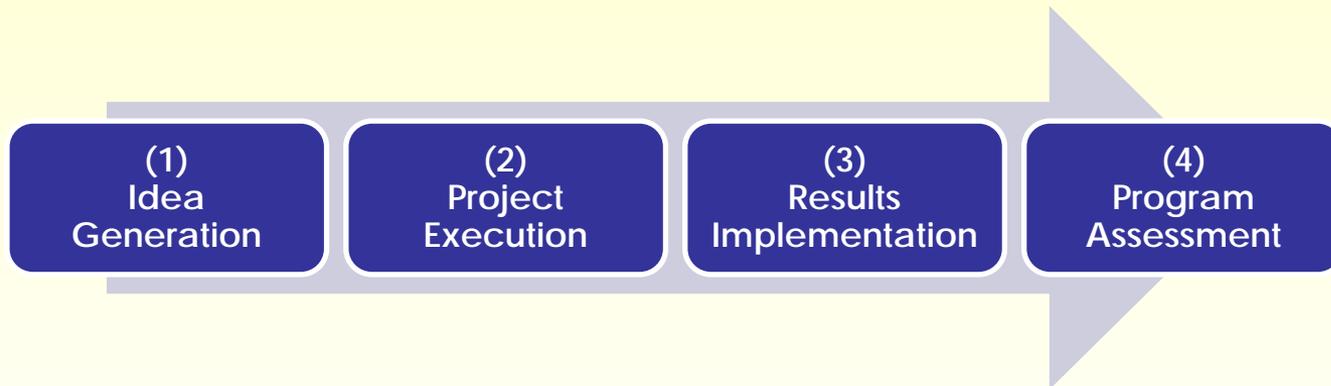
How does the money work?

-  Used for research expenses only
-  Contracted research projects
-  Funds & contracts managed by ODOT

-  Not for capital improvements
-  Not for standard maintenance activities
-  Not a grant program

ORIL – How does it work?

Four Phases



STATE OF OHIO

THANK YOU!





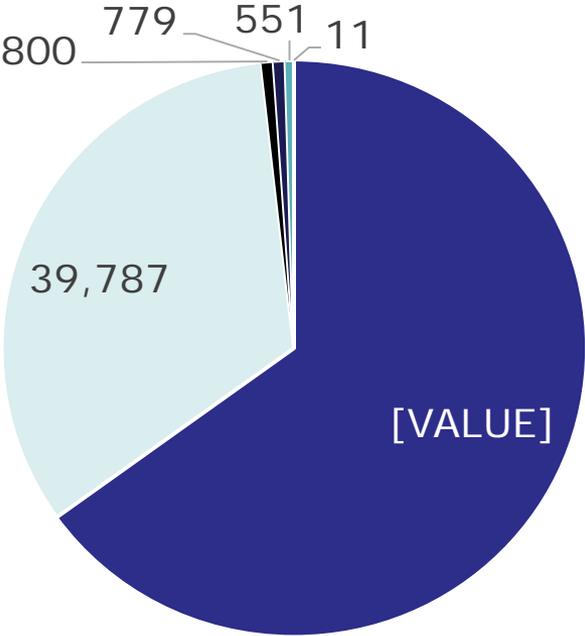
MANAGING LOW VOLUME ROADS

Pennsylvania

11th International Conference on Low-Volume Roads
Pittsburgh, PA
Tuesday, July 14th

Management and Ownership

Linear Miles by Ownership



- Municipal
- State (Other)
- PennDOT
- PA Turnpike
- Federal
- Toll Bridge/Ferry

▶ Financing

- Liquid Fuel Tax Fund allocated to counties based on average gas consumption
 - 4.17% of an annual millage rate as scheduled in Act 89
- Liquid Fuel Tax Fund allocated to municipalities based on road mileage and population
 - 20% of 11.5 cents of the Liquid Fuels and Fuels Tax receipts;
 - 20% of 35 mills of the Oil Franchise Tax, Section 9511 (c) of the Vehicle Code;
 - \$5,000,000 (Act 68 of 1980) under Section 9301 of the Vehicle Code;
 - 12% of Act 26 of 1991, Oil Company Franchise Tax;
 - 12% (38.5 mills) of Act 3 of 1997, Oil Company Franchise Tax and Act 44 of 2007

➤ Critical Issues

- Inventory and Condition of Local Assets
- Marcellus Shale Gas Extraction
- Unfunded Mandates
- Money Counts

▶ ACT 89

- Will provide an additional \$220 million a year in Liquid Fuels allocations statewide for locally owned roads and bridges by the fifth year – a more than 60 percent increase over current allocations to local governments.
- Up to \$40 million in grant money by state fiscal year 2016-17 will be provided to coordinate traffic signals to alleviate congestion and save fuel. PennDOT and municipalities would each contribute 50 percent of costs.
- Up to \$8 million will be made available annually for the paving of low-traffic-volume rural roads as part of a \$35 million Dirt & Gravel Roads program.

▶ ACT 89

- There will be a savings of up to 100 percent of the required local match, per bridge, for municipalities that participate in PennDOT's bridge bundling program.
- Counties will have the option to assess a \$5 vehicle registration fee to generate additional revenue for their highway and bridge needs.
- Provides incentives, including local match waivers, for transit agencies to consolidate in regions if consolidation studies show potential for cost savings and efficiencies.
- These measures provide additional assistance to municipalities and counties to help ease the pressure on property taxes.

▶ Dirt and Gravel Road Program

- Act 89 of 2013 (PA Transportation Bill) not only increased the Dirt and Gravel Road Maintenance Program funding from \$5 Million to \$35 Million, it also dedicated a minimum of \$8 Million of that money towards paved or sealed low volume roads with 500 vehicles per day or less.

Contact

Brian Wall | Transportation Planning Manager

PA Department of Transportation

Bureau of Planning and Research

Phone: 717.772.0827

Email: bwall@pa.gov

www.dot.state.pa.us



**International Low Volume Roads Conference:
*Managing Low Volume Roads in Virginia***

July 14, 2015

Sean Nelson, P.E.

VDOT Fredericksburg Residency

Resident Engineer

Virginia's Low Volume Network

Total lane miles
maintained ~ 126,000

Total lane miles classified
as low volume ~ 64,320

Total lane miles of low
volume unpaved ~
13,800



Funding Low Volume Roads in Virginia

\$2 billion =
Maintenance &
Operations budget

\$500 million =
Money spent annually
over past 2 years to
maintain secondary
system



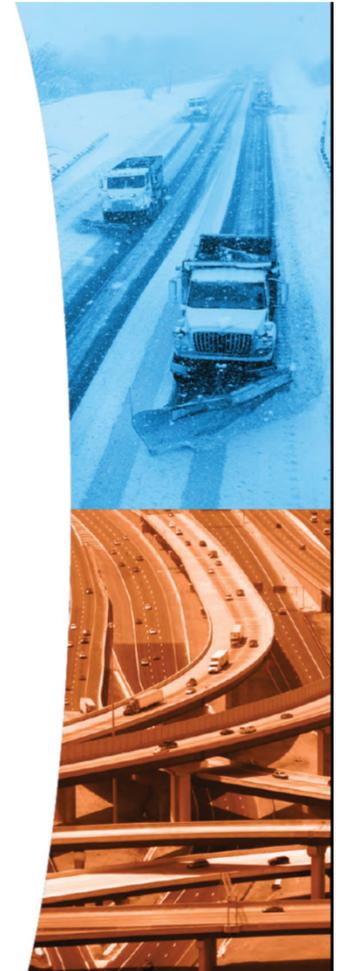
Funding Low Volume Roads in Virginia

- **Secondary Six-Year Plan**
- **Dedicated unpaved road funding**
- **Revenue sharing**
- **Urban funding**



Fiscal Year 2015

Revised
VDOT Annual Budget
November 2014



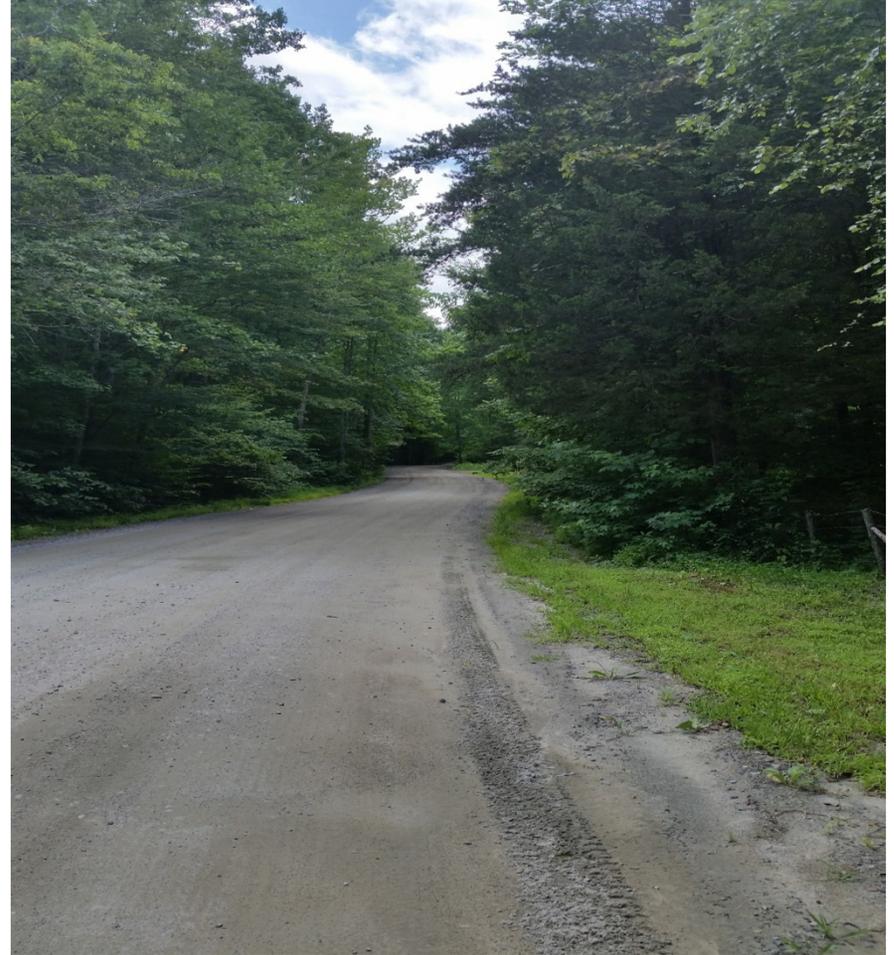
Critical Concerns

- Aging infrastructure
- Construction quality
- Drainage



Critical Concerns

- **Sea level along coastal areas**
- **Unpaved roadways**
- **Preventative maintenance**





Customer need vs want

Innovative Solutions

- **Common sense engineering**
- **State forces construction**
- **Utilization of recycled products**



Innovative Solutions

- **Pavement reclamation**
- **Rural rustic program**
- **Thin lift asphalt overlays**
- **Public outreach**





THANKS



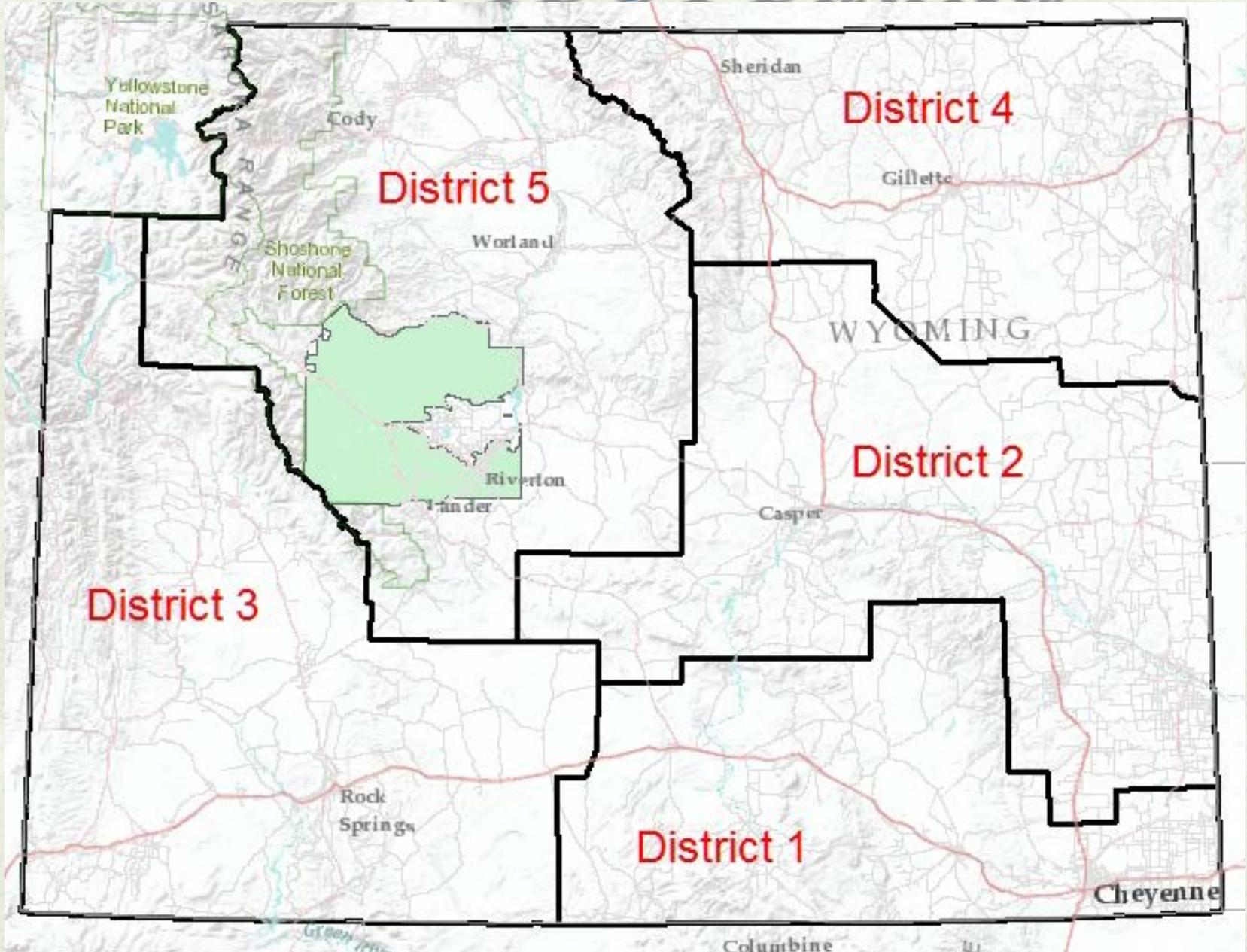
Wyoming

Low Volume Roads

11th International Conference
on Low Volume Roads
July 11 – 16, 2015
Pittsburg, PA

Shelby Carlson, PE
WYDOT District 5 Engineer

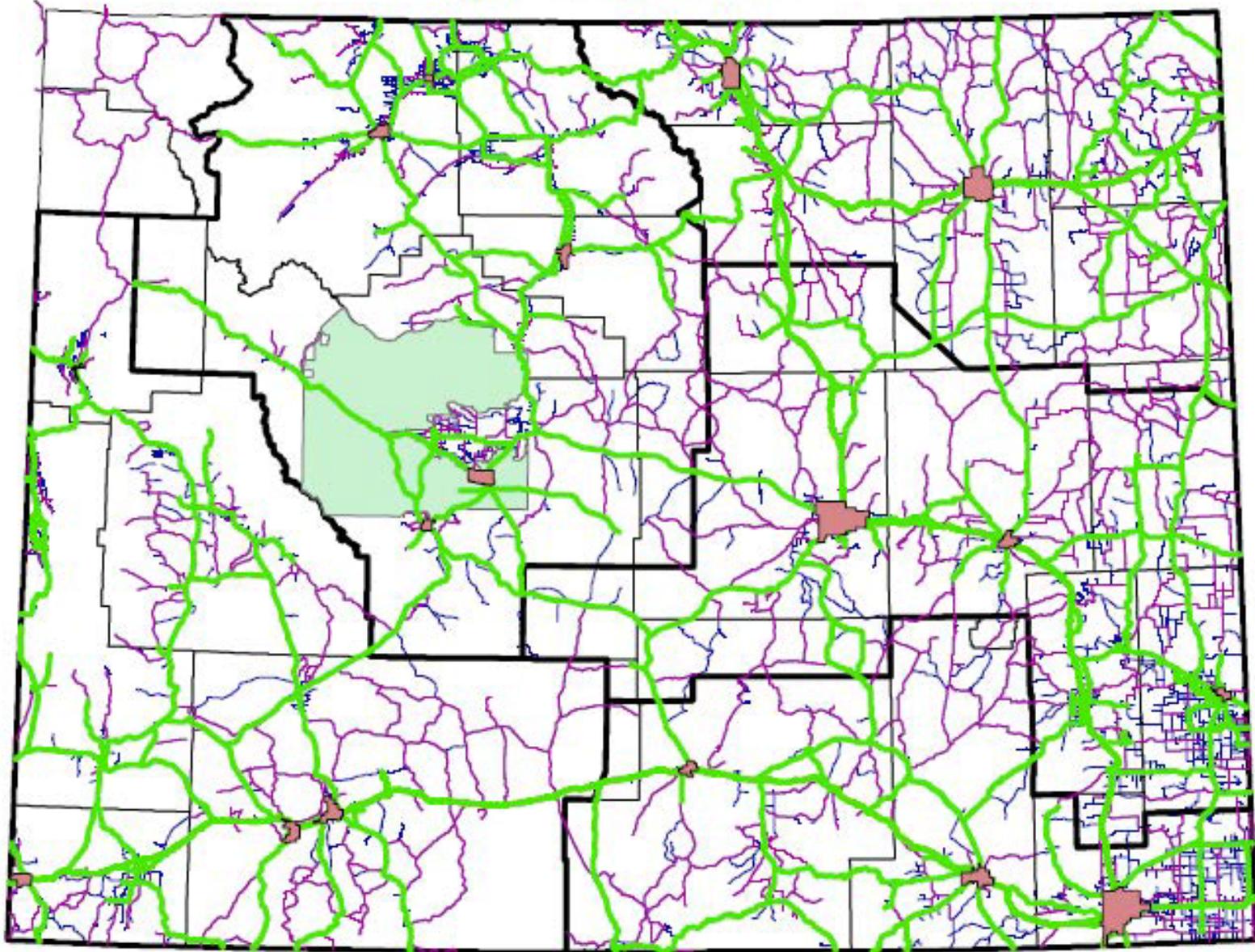
WYDOT Districts



LVR Ownership

- Wyoming DOT (WYDOT)
- Counties
- Cities & Towns
- Bureau of Indian Affairs
 - Shoshone & Arapaho Tribal Transportation via Self-Determination
- Wyoming State Parks
- US Forest Service
- Bureau of Land Management
- National Park Service

Wyoming Public Road System

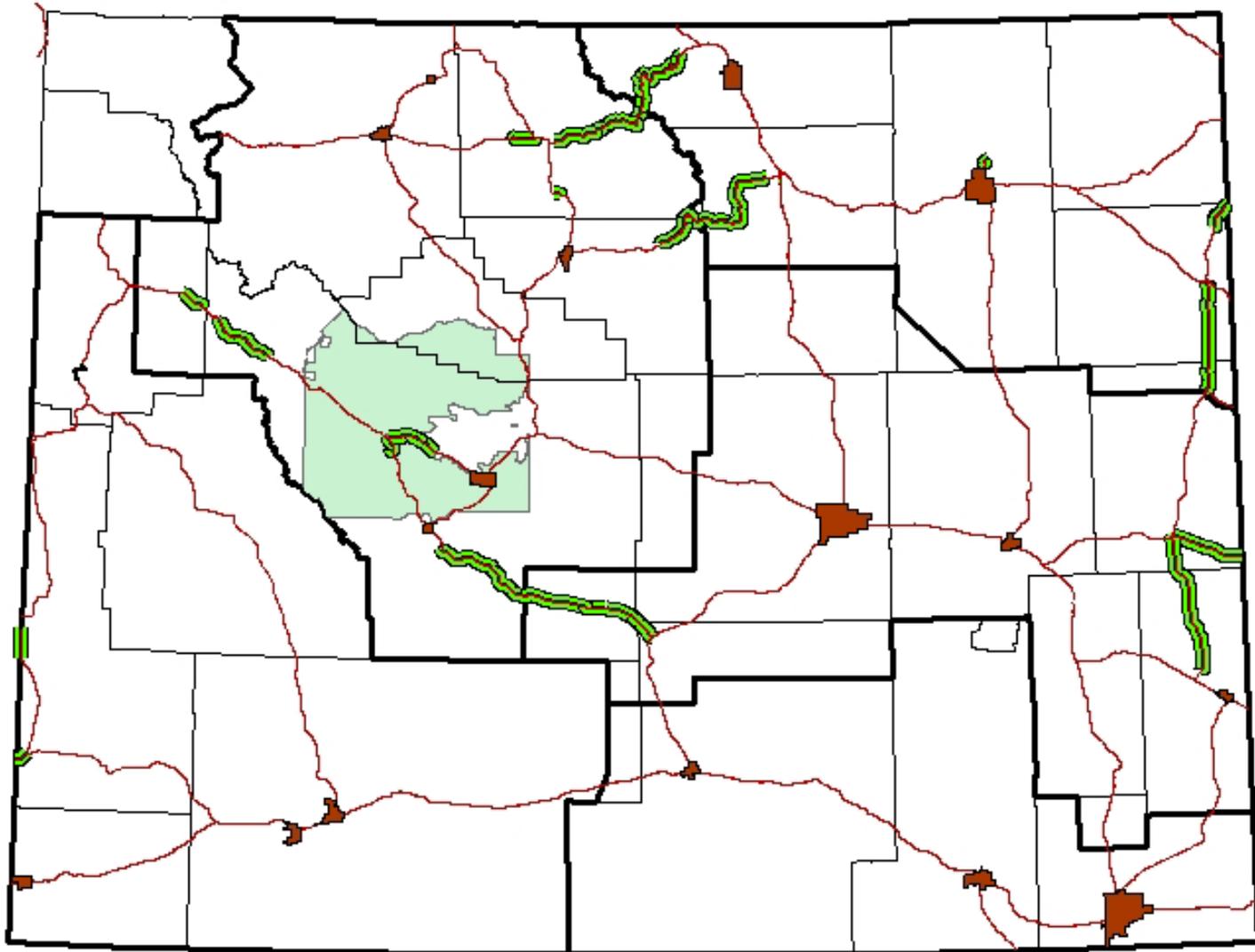


HPMS Ownership = State

HPMS Routes

Ownership Data Submitted on HPMS Routes

Wyoming Low Volume NHS Roads

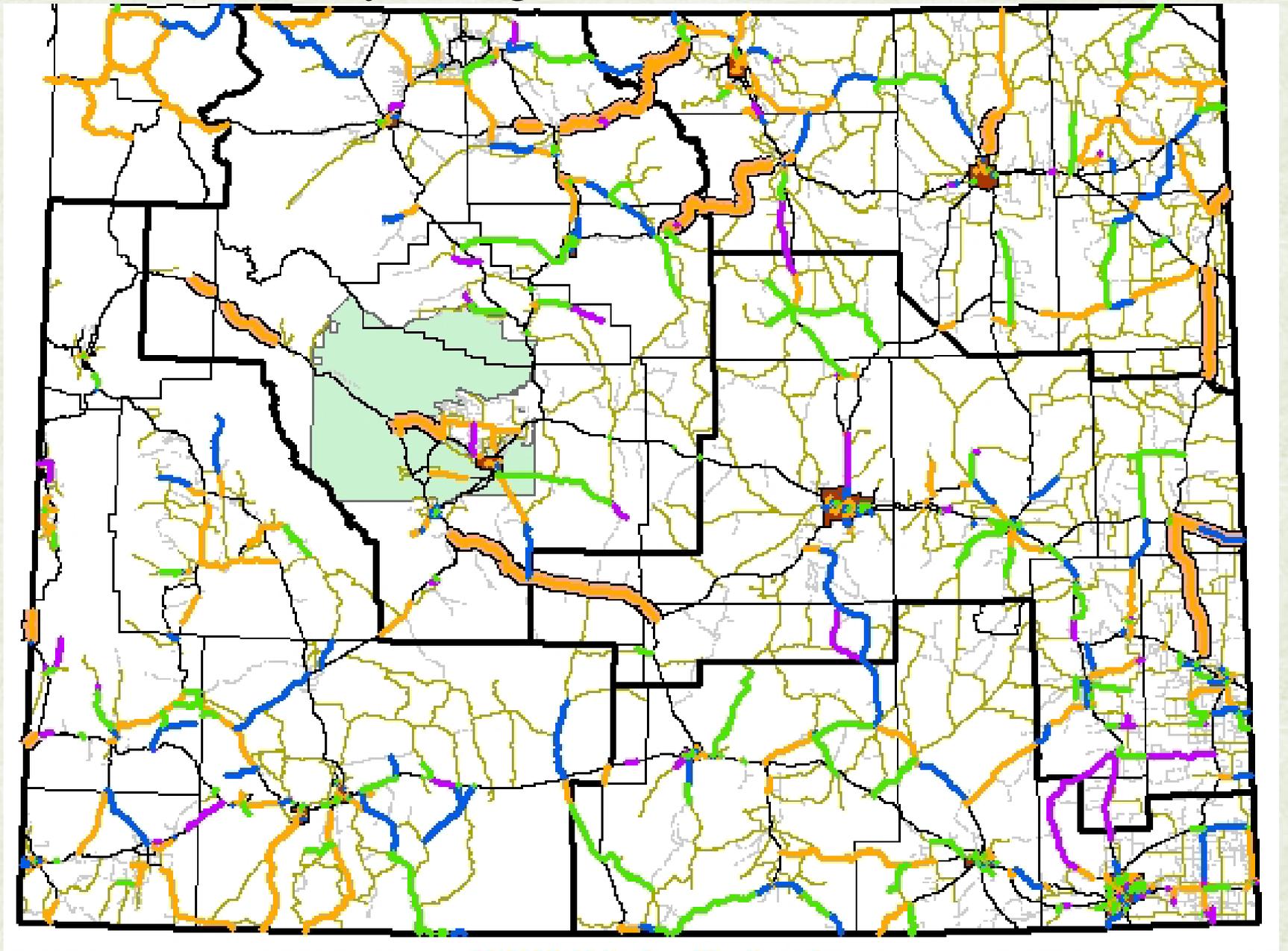


With WYDOT District, County and Urban Boundaries

Higher Volume NHS

Low Volume NHS

Wyoming LVR w/AADT Data



LVR Financing

Federal Funding Sources/Programs:

- Highway Improvement – NHS only
- Surface Transportation
 - Commission Road Improvement
 - \$5.0 mil/yr, 15% match, road exchange, county
 - Urban Systems
 - \$5.7 mil/yr, >5000 pop., LVR or HVR
- Bridge Replacement & Rehabilitation
 - \$3.1 mil/yr set aside for off-system bridges
- Rail-Highway Crossings - \$1.1 mil/yr
- Congestion Mitigation & Air Quality –
 - \$2.0 mil/yr to Counties for dust abatement
- Federal Lands Access Program - variable
- TIGER Funds – variable

LVR Financing

State Funded Sources/Programs:

- **24¢ Gasoline Tax**
 - State – 55.1%, ~\$43.6 mil/yr
 - Counties – 26.3%, ~\$20.3 mil/yr (Counties & County Road Fund)
 - Cities – 14.7%, ~\$11.1 mil/yr
 - State Parks – 3.9%, ~\$3.0 mil/yr
- **24¢ Diesel and Special Fuels Tax**
 - State – 67.6%, ~\$64.5 mil/yr
 - Counties – 18.1%, ~ \$17.7mil/yr
 - Cities – 14.3%, ~\$11.1 mil/yr + \$4.4 mil/yr SF's

LVR Financing

State Funded Sources/Programs:

- Industrial Roads
 - Counties - \$2.0 mil/yr, 50% match
- State Parks Roads
 - \$250,000 / yr, No Match req'd
- Vehicle Registration – Counties
- State Lands and Investment Board
 - Local assessments for improvement districts, bonds, etc.

Reservation Roads

- Road Miles –
 - Federal Roads held in Trust by the Bureau of Indian Affairs (BIA)
 - Support of ownership by the FHWA for those taken over by the individual tribes through Self-Determination
 - Rocky Mtn/Great Plains Tribes – 75%
 - MT-WY-ND-SD-NE
 - Wind River Reservation 1362 miles
 - All but about 20 miles are low volume
 - Navajo Nation – 25%
 - Other Reservations – City/County/State
 - i.e. - Alaska – 9 miles

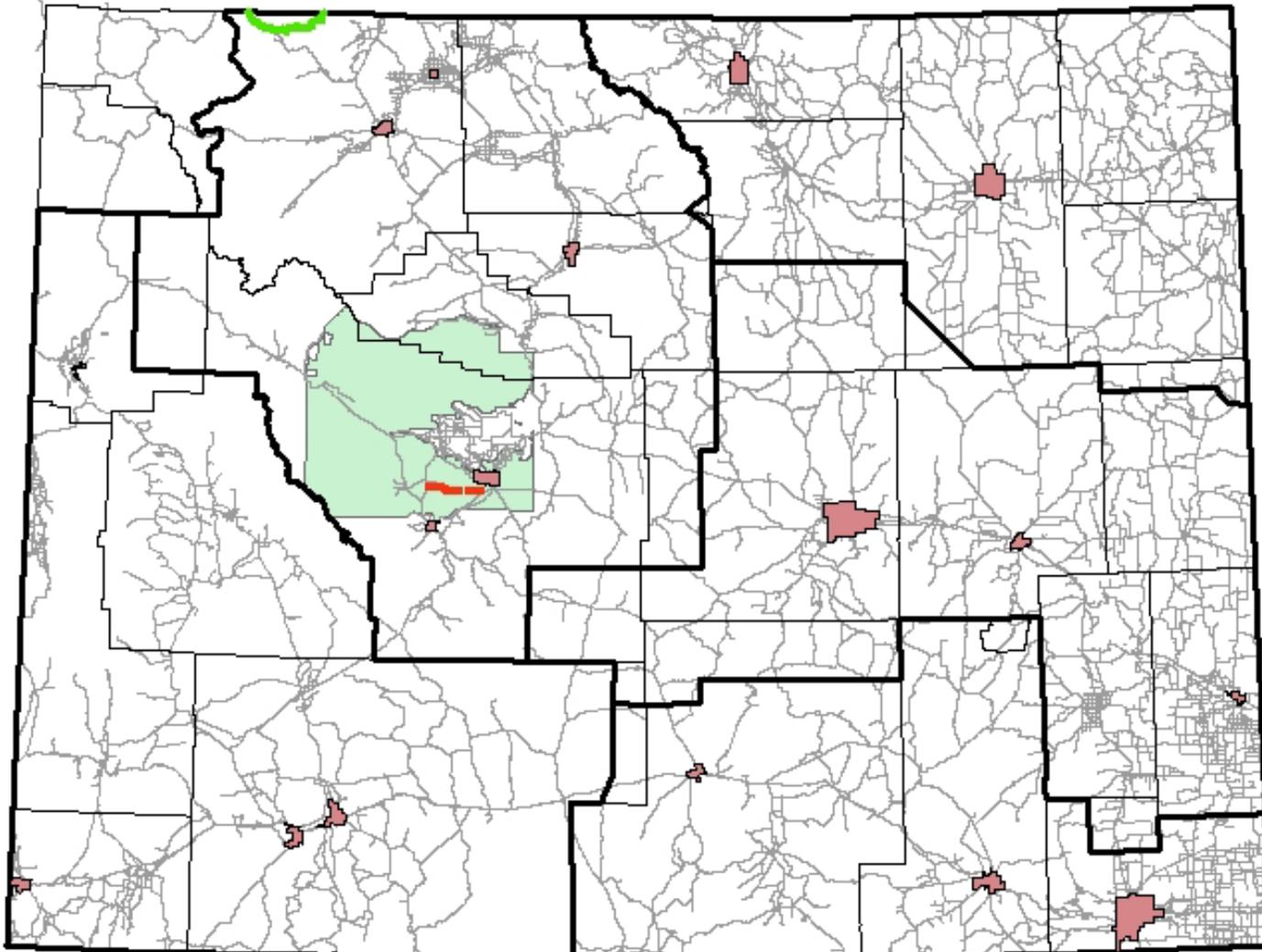
Tribal Roads Programs

- Tribal Transportation -Construction
- Road Maintenance Funds
 - Department of Interior Budget
 - Road Maintenance Funds to Tribes via the BIA Budgeting Process
 - (Tribal Program Allocation)
 - Competes with Social Services, Education, Health, Law Enforcement, Courts, etc.
 - Roads become a low priority
- Under-funded
 - Maintenance - ~\$300/mile
 - State/County/City Average ~\$1,500 - \$3,500/mile
 - Freeze/Thaw/Snow Removal

Funding Partnerships

Wyoming Beartooth Highway and 17 Mile Road

with WYDOT District, County and Urban Boundaries



Working Partnerships

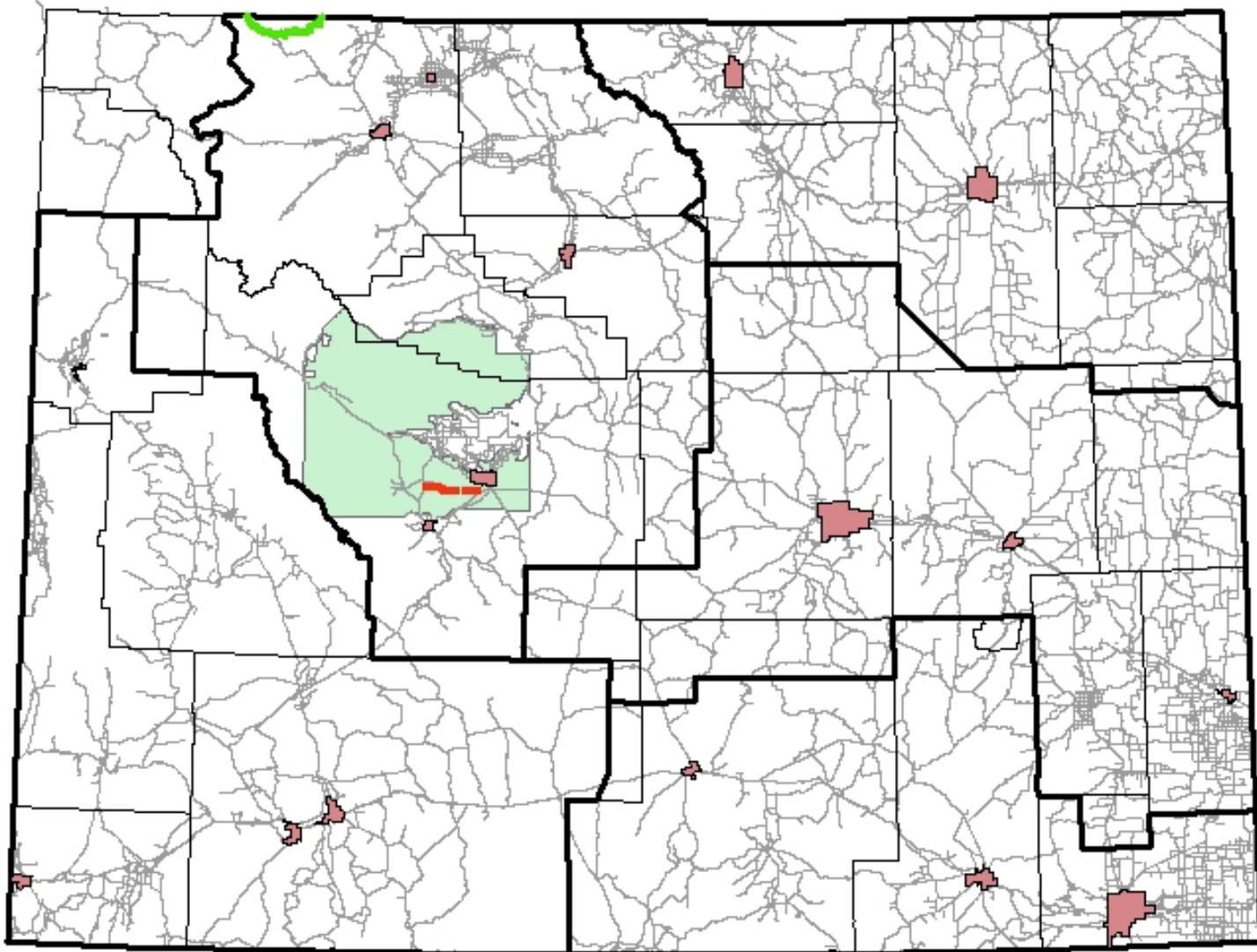
- 17-Mile Road (County Road #334)
 - Shoshone & Arapaho Tribes
 - TIGER Funds - \$8.2 million
 - Indian Reservation Roads - \$427,000*
 - WYDOT
 - PLH Discretionary Funds - \$4.7 million
 - CRIP Funds - \$5.0 million
 - STP Funds - \$3.9 million
 - High Priority H660 Funds - \$90,000
 - Fremont County Funds
 - County Road Funds - \$1.2 million
 - Department of Tourism - \$85,000

Total = ±\$23,600,000

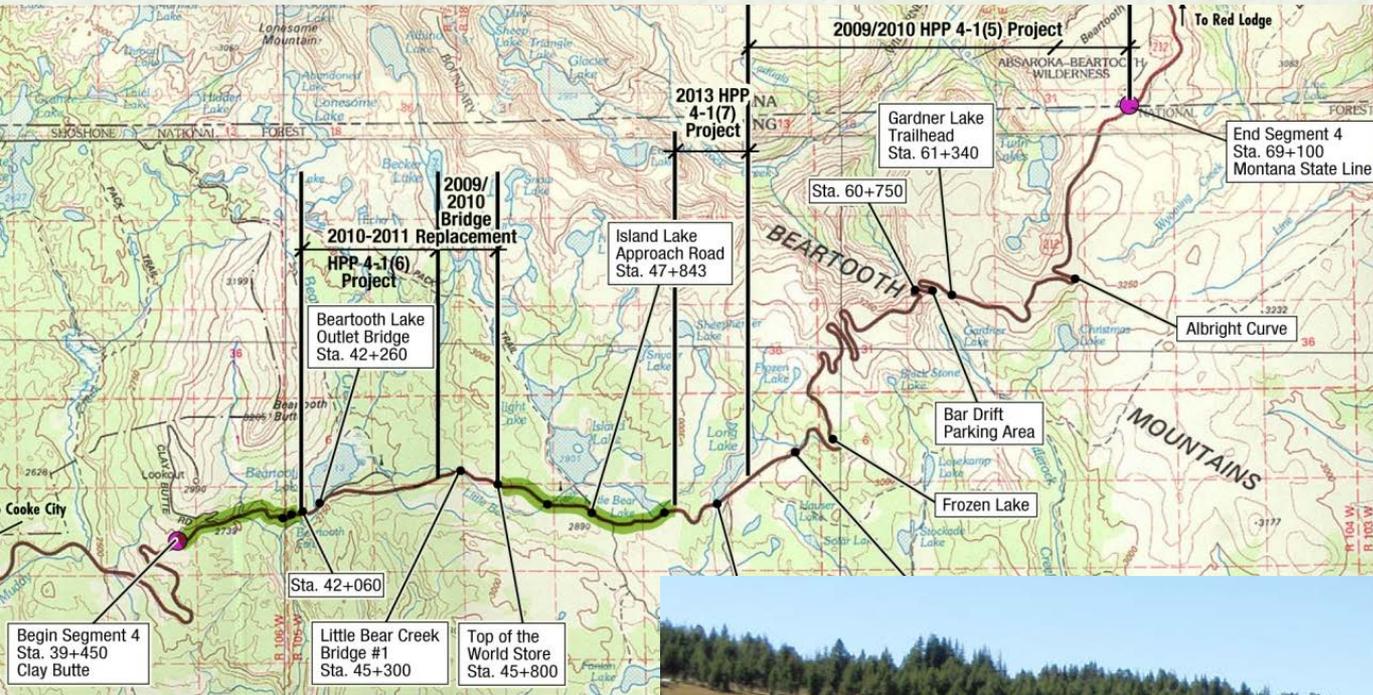
Funding Partnerships

Wyoming Beartooth Highway and 17 Mile Road

with WYDOT District, County and Urban Boundaries



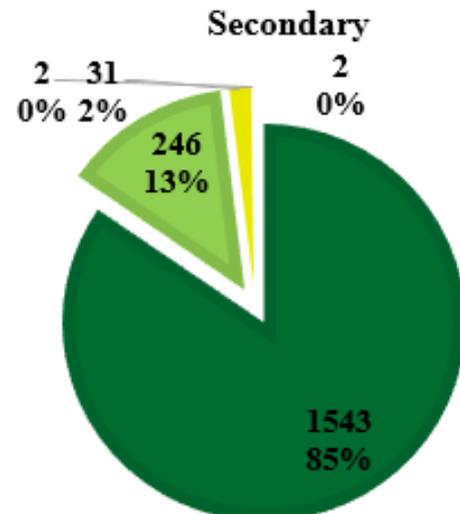
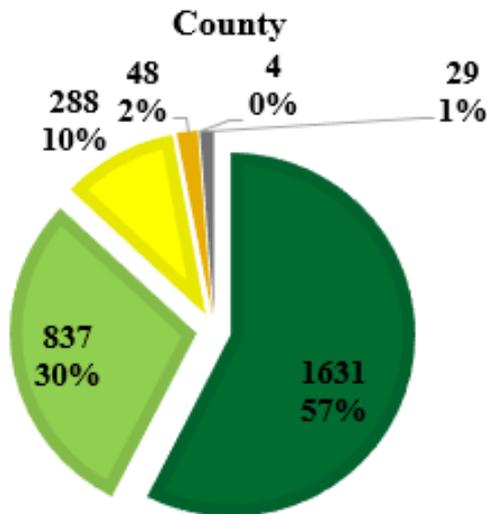
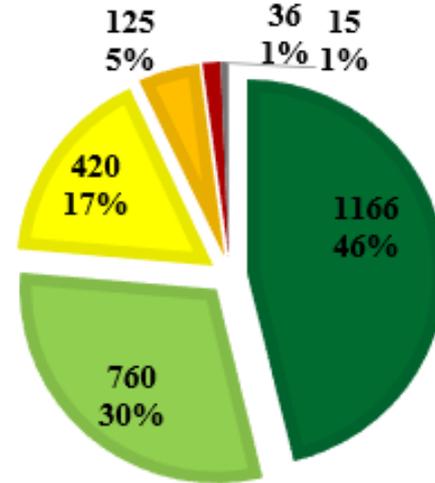
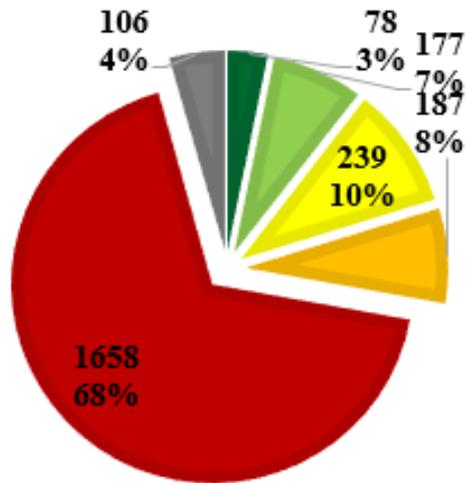
Beartooth "All-American" Highway



Beartooth Highway

- TIGER - \$6.0 million
- Crown Butte Mine Settlement
 - \$12.0 million, \$2.0 million to plowing
- NPS – Matching Funds
- Forest Lands Funds - \$3.34 million
- STP Redistribution Funds - \$865,000
- PLH Discretionary Funds - \$5.5 million
- Scenic Byway Funds - \$57,000
- Forest Access Program - ??

Pavement Serviceability Index



Issues

- Maintenance

- Pvmnt, Invert Pen, Gravel, etc.
 - Consider procedures, products, etc. to balance added \$ to benefits
- Bridges –
 - Many 40-50 years old
 - 3 – 4 /yr to keep up – lack of \$\$'s
- Snow Plowing
 - Public Demands
- Aggregates
 - Becoming more difficult to permit gravel sources

- Drainage

- Inadequate roadside drainage
 - Road acts as dam
 - Saturation/over-topping
 - Road damage
-  Focus on pavements, less culvert work
 - Deterioration / collapsing / leaking

Issues

- Farmland / Range land
 - Large pieces of equipment
 - Slow-moving, over-width
 - Safety / Mobility Issues
 - Irrigation
 - Prior Right
 - Standing Water (flood irrigation) saturating sub-grades
 - Aged Siphons – leaking
 - Fences
 - Deterioration
 - Livestock – Wyoming Fence out for Cattle
 - Burden on the road agency to maintain
 - Safety Issues
- Rural Sprawl
 - Private Subdivisions
 - Many w/o HOA, no road maintenance
 - Counties expected to take over
 - Pending Litigation
 - Snow Plowing of adjoining Collectors/Minor Arterials

Issues

- Mountainous Terrain
 - Land and rock slides
 - Permanent repair(\$\$\$) vs maintenance (\$)
 - Safety Concerns
 - Plowing Burden
- Industrial Activity
 - Oil/Gas
 - Wind Farm Construction
 - Seasonal Usage
- Safety
 - Single Vehicle Roll-overs
 - Distracted Drivers
 - Alcohol and Substance Abuse
 - Lack of Seatbelt Usage
 - Speed
 - Intersection Crashes

Design Standards

- County Road Fund Manual
 - 2011 Revision – Joint effort
 - WYDOT
 - Wyoming Association of County Officials
 - Standards established for:
 - State or Federal Funded Projects - higher
 - County Road Funded Projects – lower
- Rebuild of Industrial Damaged Roads
 - What Volume / Loading do you design to?
 - May go back to 150 cars/day
 - Oil play/Wind Farm impacts may continue
- 1100 VPD is high for Wyoming
 - Do you build to the same standard for:
 - 500 cars/day? 300 cars/day? 100 cars/day



The End