

## Summary of Pooled Fund Project Special Session at the Transportation Research Board's (TRB) 11<sup>th</sup> International Conference on Low-Volume Roads

Representatives from the eight Pooled Fund Project Participant States (Iowa, Illinois, Louisiana, New York, Ohio, Pennsylvania, Virginia, and Wyoming) decided on the focus of the session, titled, Managing Low-Volume Roads (LVRs) in the States at a March 2015 on-line meeting. Each state was requested to gather and present information on the following four aspects related to low-volume roads at a special session at the conference held from July 12 to 15, 2015 in Pittsburgh, PA:

1. Who owns and manages the LVR network
2. How LVRs are financed
3. What critical issues they are facing
4. Innovative ideas that are being tested

Representative(s) from each of the participating states provided an overview of managing and financing the LVR system in their respective states at the special session, titled, "Managing Low-Volume Roads in the States" held on Tuesday, July 14, 2015. Following is a summary of the information presented.

1. Who owns and manages the LVR network

All states, except Virginia, share the responsibility of owning and managing the LVRs with counties, townships, villages, and/or cities. In Virginia, the state owns the total roadway network including the LVRs which account for 51 percent of the 126,000 lane miles owned and maintained by the state.

In the remaining states the mileage of roads owned and managed by local government averages 79 percent of the total mileage in the state with a range of 65 percent in Pennsylvania, to 89 percent in Illinois. This scenario applies to most of the states, while the Virginia approach is only practiced by a handful of states.

2. How LVRs are financed

Sources of funds vary from state to state. However, major sources appear to be federal, state, and county/city generated revenues from road use tax, gas tax, motor vehicle license tax, and voted or not-voted levies. In some states, income tax, road maintenance agreements, special federal or state grants are additional sources of funding for LVRs. Recently, states in which energy industry is booming, oil and gas industries are taxed. Basis for distribution of funds to counties is based on a multi-year plan, population, and/or miles of roadway.

3. What critical issues they are facing

The most common issue facing the owners and managers of LVRs is related to funding. There are short- and long-term shortages of funding. This is true even in states where the gas tax has seen an increase in recent years because the general lack of funds over the years has created significant back log of the required maintenance, construction, etc. With delays in addressing the deteriorated condition of LVR infrastructure – pavements, bridges, and drainage structures – the majority of the system has felt the cumulative effects. In addition, a large percentage of the LVR infrastructure has either already met or exceeded its service life expectancy.

A recent boom in production of natural gas using fracking has resulted in severe damage to local road systems caused by movement of heavy equipment and trucks. The same is observed with the increases seen in the industrial activity related to alternative energy production approaches such as wind farms, and ethanol production from corn. Increased traffic of heavy equipment has resulted in safety concerns and public health issues related to production of dust from the unpaved LVRs. With increases in environmental regulations, the task of the owners/managers of LVRs has become very difficult in light of the lack of funds to satisfy the requirements of these unfunded regulations.

Lack of funds has also created long backlogs of equipment replacement plans, planned construction/reconstruction, and difficulty in meeting the material, construction and maintenance costs. Some states have also experienced lack of personnel.

Weather related issues – increased precipitation, flooding, snowfall, and severe weather related to climate change -- have compounded the problems faced by the LVR owners/managers. In coastal areas expected flooding of LVRs has potential for total destruction of these facilities.

#### 4. Innovative ideas that are being tested

Every state has several innovations either being tested or implemented to assist the low-volume roads managers. The following table shows the innovations by state.

State	Innovation
IA	For Bridges: Railroad Flatcar bridges; GRS abutments; Pre-fabricated timber structures; Folded Plate Girders; Precast Concrete Slab Bridges; and Internal Curing Concrete.  Other Areas: 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; and Warm Mix Asphalt
IL	STP-Bridge program, County engineer salary program, Formal pavement management system, Incandescent to LED light change outs, GPS tracking of agency vehicles
LA	“Right-Sizing” Truck Registration Fees, FRP wraps of timber piles, RCC & FDR test sections, and Infrastructure damage cost recovery
NY	Smart phones, Web resources, New maintenance methods

OH	Ohio Research Initiative for Locals (ORIL) – modeled after MN and IA to do research for practitioners. It is a \$2 million per year initiative of self-generated funds. Reserved for research, contract research administered by ODOT, not for Capitol improvement or routine maintenance, nor a grant program; Ideas generated, conduct of research and implementation of results, and assessment of program.
PA	<ul style="list-style-type: none"> <li>• 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. Increase in annual allocations</li> <li>• 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. The Green Light-Go: Pennsylvania’s Municipal Signal Partnership Program (Green Light-Go Program) is designed to improve safety and mobility by reducing congestion and improving efficiency of existing traffic signals on state highways. The Program is comprised of the Local Grant Element (Designated only Corridors funded through Act 89 of 2013) and the PennDOT Project Element (Critical Corridors). Municipal applications for the Green Light-Go Program require a 50% match using municipal or private cash.</li> <li>• 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 &amp; Gravel Roads program.</li> <li>• 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. Designed to take advantage of design similarities and economies of scale that will reduce the tax payers’ costs.</li> <li>• Counties will have the option to assess a \$5 vehicle registration fee to generate additional revenue for their highway and bridge needs.</li> </ul>
VA	<ul style="list-style-type: none"> <li>• Common sense engineering</li> <li>• State forces construction</li> <li>• Utilization of recycled products</li> <li>• Pavement reclamation</li> <li>• Rural rustic program</li> <li>• Thin lift asphalt overlays</li> <li>• Public outreach</li> </ul> <p>VDOT Chief Engineer has tasked staff to utilize common sense engineering. Staff needs to scope and develop project that meet the needs of the traveling public. For example, a low-volume roadway has a structurally deficient one-lane bridge that has served the traveling public for over 50 years, why should we replace it with a two-lane bridge. They are utilizing low-volume roadway standards where applicable and requesting design waivers when needed.</p> <p>Particularly with the Small Bridge Program they have found that state forces construction is the most economical approach. The cost is nearly half the cost of the contracted amount. Illustration of a state forces constructed precast slab bridge was shown. All of the slabs were pre-casted by state forces.</p> <p>They are currently looking into the cold central plant recycling and the utilization of reclaimed asphalt pavement. There is also a gravel roads management study looking into the utilization of recycled asphalt material and other means and methods for maintaining gravel roads.</p>

WY	<p>Funding Partnerships</p> <p>17-Mile Road</p> <ul style="list-style-type: none"> <li>- Built in the 30's, widened and paved in the 50's. Nothing until recently</li> <li>- Ownership – WYDOT &amp; County; also Bureau of Indian Affairs, and then the Shoshone and Arapahoe Tribes via self-determination, have jurisdiction over many miles of LVR's.</li> <li>- Fatality rate was 6.29 and our state average is 3.84</li> <li>- WRIR has the highest pedestrian fatality rate of Reservations in the nation</li> <li>- Needed a joint effort to get it reconstructed</li> <li>- -MOU signed in 1996, finished construction in 2014</li> </ul> <p>Working Partnerships</p> <ul style="list-style-type: none"> <li>• <u>17-Mile Road (County Road #334)</u> <ul style="list-style-type: none"> <li>– Shoshone &amp; Arapaho Tribes <ul style="list-style-type: none"> <li>• TIGER Funds - \$8.2 million</li> <li>• Indian Reservation Roads - \$427,000*</li> </ul> </li> <li>– WYDOT <ul style="list-style-type: none"> <li>• PLH Discretionary Funds - \$4.7 million</li> <li>• CRIP Funds - \$5.0 million</li> <li>• STP Funds - \$3.9 million</li> <li>• High Priority H660 Funds - \$90,000</li> </ul> </li> <li>– Fremont County Funds <ul style="list-style-type: none"> <li>• County Road Funds - \$1.2 million</li> </ul> </li> <li>– <u>Department of Tourism - \$85,000</u></li> </ul> </li> </ul> <p>Total = ±\$23,600,000</p>
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