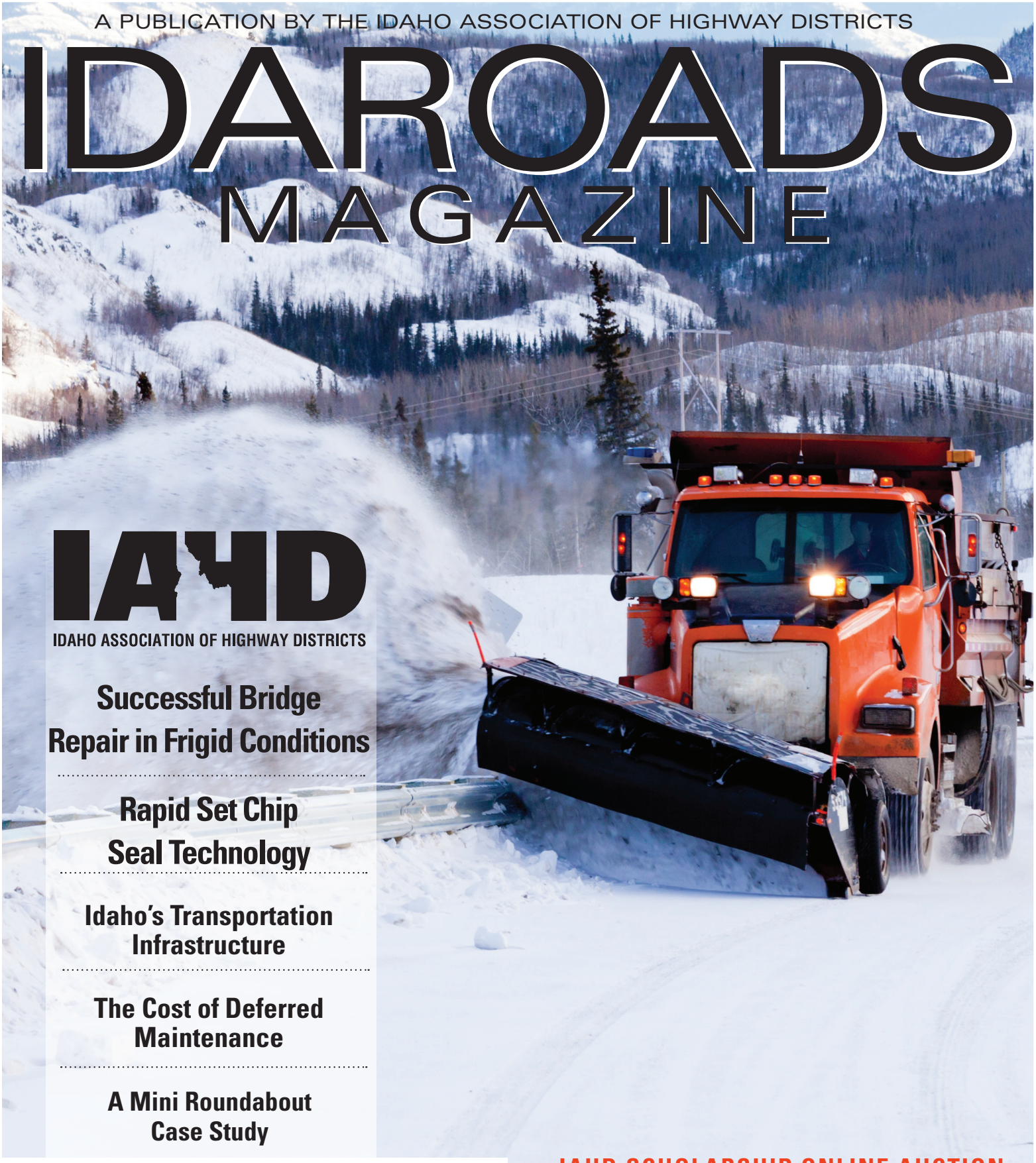
A PUBLICATION BY THE IDAHO ASSOCIATION OF HIGHWAY DISTRICTS

IDAROADS MAGAZINE



IAHD
IDAHO ASSOCIATION OF HIGHWAY DISTRICTS

IAHD SCHOLARSHIP ONLINE AUCTION

NOVEMBER 10-20, 2020

REGISTER AT

CHARITYAUCTION.BID/IAHDSCHOLARSHIP

Convention Edition 2020

TABLE OF CONTENTS

Aggregate and Steel Working Together

Powered by Hilfiker supplies and new welded wire reinforced soil (WWRS) technology, American Geotechnics designs perfect solutions for your bridge abutment needs. WWRS abutments are a new type of bridge abutment made of inextensible steel, constructed using conventional equipment. Single L-shaped units eliminate the need for connections between the wall facing and soil reinforcement components. These robust, low-cost abutments simplify wall installation and save you money.

WWRS abutments are...

- A most economical type of bridge abutment
- Perfect for single span bridges and canal crossings
- Designed according to AASHTO's robust criteria for 75+ years of service

Talk to an expert today!
Call American Geotechnics at (208) 658-8700
Located in Boise, Coeur d'Alene, and Idaho Falls

AMERICAN GEO TECHNICS

CONTECH® STRUCTURAL PLATE | BridgeCor® | CON SPAN® E-SERIES | BEBO® Arch Systems | STEADFAST BRIDGES® | CONTINENTAL BRIDGE | BIG R® BRIDGE

Idaho Contech Bridge Team:

Northern Idaho

Doug Myers
dmyers@conteches.com
253-797-8293

Kirsten Voorhees
kvoorhees@conteches.com
208-755-6574

Southern Idaho

Randy Gaskill
rgaskill@conteches.com
970-396-6866

Chad Kitchen
ckitchen@conteches.com
801-851-0420

Bringing bridge solutions to life in Idaho with clear spans from 5′ to 300′

Try our exclusive online tool DYOB® - Design Your Own Bridge®

CONTECH®
ENGINEERED SOLUTIONS

www.ContechES.com | 800-338-1122

ANNUAL ROAD AND STREET REPORT-DEFERRED MAINTENANCE "CONVERTING A NECESSARY EVIL INTO USEFUL TOOL"

BY STEPHEN F. FREIBURGER, PE PARAGON CONSULTING, INC.

Have you ever asked yourself why Line 85 Deferred Maintenance was added to the Annual Road & Street Report? If not, you should have!

The Deferred Maintenance Report was added to the Annual Road and Street Report in 2015 with the express purpose of providing information to the Idaho Legislature of the need for increased funding for maintaining the existing local roadway network. To prevent further degradation of this network, we needed to identify the statewide funding shortfall by comparing the funding need to the funding allocated.

In short, deferred maintenance is the amount of needed work that a local highway jurisdiction can't do because of inadequate funding.

At this point, I'm sure many of you are saying to yourselves, "So what, I've turned in my report, LHTAC has totaled up the numbers, and the legislature can see what the shortfall is." My response is, "not necessarily."

Based on a review of the Annual Road and Street Report data provided by LHTAC earlier this year, it appears the current data significantly underestimates the amount of statewide deferred maintenance since numerous agencies stated that they did not include labor and equipment in their reports. It is also troublesome that many agencies are not basing their reports on their transportation plans and a "needs-based" asset management plan. A systematic analysis of an agency's deferred maintenance can be a useful tool to verify that their funds are being utilized to their most significant effect.

Therefore, in order to improve the data from the Annual Road and Street Report, Idaho Local Highway Jurisdictions should strive to provide more comprehensive and consistent information. The following procedure is offered as a method for Local Highway Jurisdictions to provide the data to LHTAC for more accurate and consistent reporting of their annual deferred maintenance. It will also improve the Jurisdiction's effectiveness in completing their annual maintenance activities.

FIGURE 1-PMS GUIDELINES

Pavement Condition Index Maintenance Guidelines	
PCI	Recommendation
100 - 85	Reactive Maintenance
85 - 65	Preventative maintenance-Crack Seal, Chip Seal, etc.
65 - 35	Surface Overlay, Rehabilitation
Under 35	Full Depth Reconstruction

For a Jurisdiction to successfully analyze their maintenance expenditures, it is first necessary to have a transportation plan that identifies the agency's policy in terms of necessary maintenance. For example, the transportation plan identifies the level of maintenance for roadways based on a condition survey, as in the guidance for paved roads, shown in figure 1.

FIGURE 2-ANNUAL COST ANALYSIS

Summary by Action	Miles	Lane-Miles		Total Cost ($)		Annual Cost ($/yr)
Reactive Maintenance (85-100)	1.000	2.00		$ 800		$ 1,000
Preventative Maintenance (65-85)	10.500	21.00		$ 271,250		$ 44,000
Rehabilitation (40-65)	46.000	92.00		$ 11,125,000		$ 1,304,000
Reconstruct (0-40)	4.250	8.50		$ 1,675,000		$ 365,000
Totals	**61.750**	**123.50**		**$ 13,072,050**		**$ 1,714,000**
Five Yer Annual Cost						**$ 8,570,000**

Once the policy is set and the condition survey is completed, the agency can then identify their "needs-based" annual maintenance costs, as shown in Figure 2.

FIGURE 3-DEFERRED MAINTENANCE ANALYSIS

Road & Street Report Maintenance Data (Actual Expenditures)									Projected Maintenance Costs (Identified Expenditures from Asset Management Plan)			
Line	Item	2015	2016	2017	2018	2019	5 yr ave	5 yr sum	Annual Cost	Annual Differed Cost	5 yr Cost	5 yr Differed Cost
30	RECONST. ROADS	-	-	-	349,956	970,680	660,318	1,320,636	1,669,000	(1,008,682)	8,345,000	(7,024,364)
31	RECONST. BRIDGES & CULVERTS	-	-	-	-	19,791	19,791	19,791	10,000	9,791	50,000	(30,209)
32	RECONST. RAILWAY CROSSING	-	-	-	-	-		-				
33	RECONST. OTHER	-	-	-	24,585	-	24,585	24,585	4,917	19,668	24,585	-
34	TOTAL RECONSTR.	-	-	-	374,541	990,471	704,694	1,365,012	1,683,917	(979,223)	8,419,585	(7,054,573)
35	MAINT. CHIP/SEAL OR SEAL COAT	66,638	103,025	110,055	68,382	149,812	99,582	497,912	44,000	55,582	220,000	277,912
36	MAINT. PATCHING	85,677	132,849	156,057	135,847	28,451	107,776	538,881	1,000	106,776	5,000	533,881
37	MAINT. WINTER MAINT.	35,376	28,484	24,050	21,854	62,357	34,424	172,121	34,424	-	172,121	-
38	MAINT. GRADING BLADING	24,048	18,003	19,006	17,086	79,165	31,462	157,308	171,950	(140,488)	859,750	(702,442)
39	MAINT. RAILWAY CROSSING	-	-	-	-	-		-	1,500		7,500	(7,500)
40	MAINT. OTHER	-	-	-	-	17,256	17,256	17,256	5,000	12,256	25,000	(7,744)
41	TOTAL ROUTINE MAINT	211,739	282,361	309,168	243,169	337,041	290,500	1,383,478	257,874	34,126	1,289,371	94,107
	Total	211,739	282,361	309,168	617,710	1,327,512	995,194	2,748,490	1,941,791	(945,097)	9,708,956	(6,960,466)
										Annual Differed Cost		(1,392,093.20)

Once this analysis is completed for all the agency's assets (i.e., paved roads, gravel roads, bridges, signs, culverts, etc.), the agency can complete its deferred maintenance analysis, as shown in figure 3.

As noted in the analysis, in figure 3, the agency in question was able to budget $2,700,000 for its maintenance over the past five years. Conversely, they had a "needs-based" assessment of $9,700,000 for the five-year period. This resulted in a five-year deferred maintenance shortfall of $7,000,000 (or $1,400,000 per year).

This analysis also indicates that until 2018 the agency directed their funds toward preventative maintenance activities such as chip seals and patching instead of the rehabilitation and reconstruction identified in their transportation plan and asset management program. While reducing patron complaints in the short term, expenditures of funds into an improper maintenance category do nothing to prevent the roadway system's continued degradation.

While this reallocation of funds does not offset the lack of adequate funding available to this local highway jurisdiction, it will demonstrate, when used correctly, that they are utilizing their funds most efficiently. Using consistent methodologies on a statewide basis will enable IAHD, IAC, and AIC to assure the legislature their member agencies are being good stewards of the funds provided.

In summary, to justify increases in local highway funding, it is necessary for all local highway jurisdictions to provide accurate and consistent "needs-based" deferred maintenance reports to LHTAC so the Idaho Legislature can see the genuine need for funding of the local highway system in Idaho.

Stephen is the President of Paragon Consulting, Inc. He has over 30 years' experience assisting local highway jurisdictions with their system management and engineering needs. If you have any questions related to deferred maintenance, please contact him at (208) 921-8491 or email him at sfreiburger@paragonfbk.com.

IDAHO'S TRANSPORTATION INFRASTRUCTURE: MOVING IDAHO FORWARD

IDAHO'S TRANSPORTATION SYSTEM AND INFRASTRUCTURE ARE VITAL TO THE STATE'S ECONOMY. The state's vast network of critical infrastructure, from its roads and bridges to the systems that support transit, bikes, and pedestrians, enables personal freedom and spurs responsible growth in employment, job creation, business retention, and property development. However, Idaho must determine how to properly fund this essential system to ensure it is maintained and accommodates the state's unprecedented growth. In 2010, a task force appointed by Governor C.L. "Butch" Otter and led by then Lieutenant Governor Brad Little began addressing these issues. In 2011 the group released a report, *Modernizing Transportation Funding in Idaho*. Since then, the Idaho legislature has passed revenue enhancements, while the state's population has grown significantly. These changes have spurred a diverse group of stakeholders to re-examine Idaho's transportation infrastructure and identify alternatives available to meet the needs of the state now and in the future. These stakeholders engaged Idaho Policy Institute, a nonpartisan research organization, to conduct an independent analysis for this report.

POPULATION GROWTH
14%
2010-2019

31%
INCREASE IN REGISTERED VEHICLES
2010-2018

ANNUAL REVENUE ENHANCEMENT
over $130 MILLION
SINCE 2015

BY THE NUMBERS

FREIGHT BY TRUCK
24,227 REGISTRATIONS

256 million tons of products are transported annually on Idaho roads

BIKES/PEDESTRIANS

Nearly 27,000 of Idaho's commuters walk or bike to work

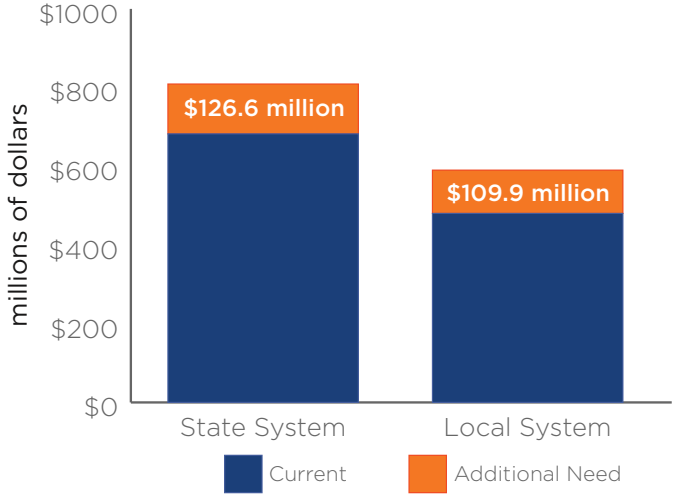
TRANSIT

3.7 million passenger trips are taken each year on public transportation

PASSENGER VEHICLES
1.8 MILLION REGISTRATIONS

The average Idahoan drives 12,480 miles per year on Idaho's roads

ESTIMATED REVENUE REQUIREMENTS



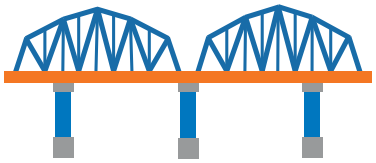
$241.8 MILLION

Idaho needs an *additional $236.5 million per year* in revenue in order to meet preservation and restoration goals of the state and local systems. If funding is not available and maintenance is deferred, then this annual figure compounds making the funding requirement significantly larger in the future.

At least an *additional $5.3 million per year* is needed to maintain existing transit equipment and infrastructure.

This additional revenue requirement does not include equipment replacement or unfunded expansion and related operations for all infrastructure (road, bridge, bike, pedestrian, and transit).

CONSEQUENCES OF DEFERRED MAINTENANCE



239 of **3,761** bridges greater than 20 feet in span are in poor condition

$427 annual cost per motorist of driving on infrastructure in need of repair

ALTERNATIVES FOR CONSIDERATION

Modernizing how Idaho funds the maintenance and operations of its transportation system and provides for safety and capacity enhancement requires examination of current funding mechanisms and close consideration of new alternatives. In some cases, efficiencies could be gained through re-prioritizing maintenance and restoration and facilitating transit-oriented development, but additional funding is still necessary to meet the transportation needs of the state.

FUNDING AND FINANCING ALTERNATIVES	
Current User Fees	Modify Fuel Tax
	Modify Registration Fees
New User Fees	Implement Road Usage Charge/Vehicle Miles Traveled Fee
	Implement Tolling
Statewide Funding	General Fund Use
	Modify Sales Tax
Local Funding	Expand Local Option Tax
	Modify Impact Fee Structure
Financing	Expand Public-Private Partnerships
	Enable State Infrastructure Bank
Expand Modes	Dedicate Funding for Transit
	Dedicate Funding for Bike/Ped

CONCLUSION

Idaho must identify the most effective, safe, and efficient ways to address transportation needs of its growing population. It must also provide the infrastructure essential to a healthy economy that attracts and retains businesses. This requires maintenance of the current transportation system and identifying and securing the technology, operations, regulations, funding, financing, and energy required to modernize it. However, revenue instability continues to hinder the ability to maintain the system in a state of good repair and prevent any expansion efforts or significant operational changes. This applies not only to roads and bridges, but also public transportation and bicycle and pedestrian infrastructure. By engaging Idaho residents and key transportation stakeholders, Idaho can move toward determining the alternative revenue and financing sources best equipped to both support the state's transportation infrastructure and modernize it. This effort is critical to Idaho's future economic competitiveness and vitality.

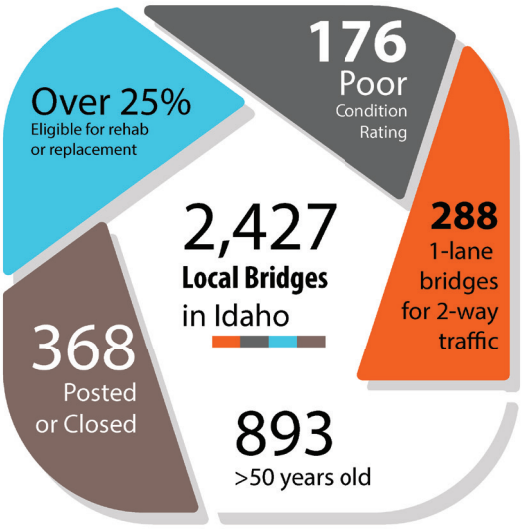
BOISE STATE UNIVERSITY
IDAHO POLICY INSTITUTE

Updated 14 August 2020
Lantz McGinnis-Brown, Research Associate
Gabe Osterhout, Research Associate
Emily Pape, Research Assistant
Vanessa Crossgrove Fry, PhD, Interim Director

FY2018 data was utilized for this report. All underlying data and citations are available at boisestate.edu/sps-ipi/

BRIDGE MAINTENANCE AND LOW-COST PRESERVATION

BY AMANDA LAMOTT, P.E. LHTAC TAP ENGINEER AND SCOTT WOOD, P.E. LHTAC FEDERAL-AID ENGINEER



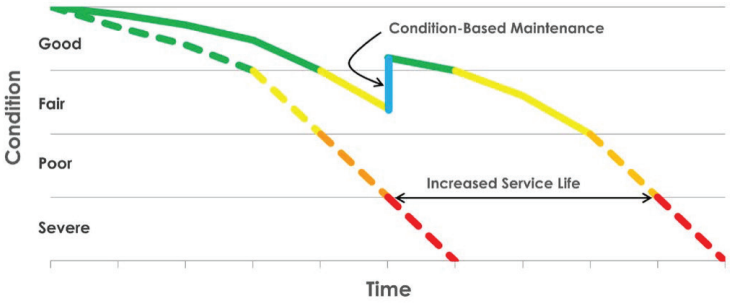
Why is Bridge Maintenance and Preservation Important? Bridge replacements are expensive and funding is limited. Idaho's bridges are aging and deteriorating faster than we can replace them. On average, LHTAC helps replace 2-4 bridges annually with federal funds and another 10 bridges with other funding sources. However, as of August 2020, over 893 bridges are over 50 years old and over 25% are eligible for rehab or replacement and those numbers continue to climb. Bridge preservation and maintenance is more important than ever to delay or reduce the deterioration of our existing bridge inventory and keep the existing bridges lasting longer.

CONSIDER A PROACTIVE VS. REACTIVE APPROACH

One of the biggest challenges preventing many local jurisdictions from carrying out bridge preservation projects is dedicating resources to work on a "good bridge." The public isn't calling in and complaining about good bridges – they just want something done about the bridges in critical condition. Another challenge facing locals is the knowledge of when and where to apply bridge preservation techniques. However, the more funding spent on preservation today will save money for the jurisdiction when maintaining their bridge inventory as a whole. One way to think about bridge preservation is to compare it to vehicle maintenance. A car will last longer and run smoother if you regularly change the oil and rotate the tires. However, if you fail to do those things, then you are faced with an engine rebuild and tire replacement sooner than necessary. The same goes for bridges – regularly performing low cost treatments to the bridge will keep your structure in good condition and extend its life.

The graph below shows that if you regularly maintain your bridge and apply a preservation treatment to the structure before the bridge condition dips from fair condition to poor, it can have a substantial impact on the service life of your structure. Inexpensive, well-timed investments in your bridges can help you keep your "good bridges" in good or fair condition and help buy you time to replace the poor bridges in your inventory.

Solid-colored lines = With Preservation (cyclical and condition-based maintenance)
Dashed-colored lines = Without Preservation



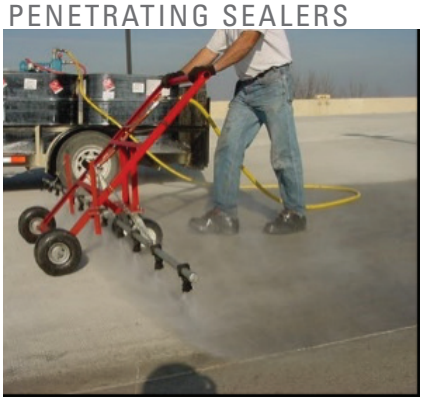
BRIDGE MAINTENANCE

Hands down, the cheapest and easiest way to preserve and maintain your bridge is by washing it regularly. Accumulation of debris and contaminants can impact the functionality and durability of the structure over its service life. Bridge cleaning activities include sweeping the bridge deck to dispose of dry debris, cleaning the bearings and expansion joints, and pressure washing the bridge deck. Also ensure that water is properly draining off of the bridge. Do this on a regular basis for your entire bridge inventory to extend the service life of your structures.

CONCRETE PATCHING

Patching spalled asphalt and concrete in bridge decks is critical to slowing deterioration of your bridge. Subjecting concrete to freeze/thaw cycling will cause the spall to grow in size and speed up corrosion of the rebar in the deck. Spalled concrete and rutting on bridge decks also causes additional impact from vehicles to the bridge producing more stress to the structure. Concrete patching and riding surface maintenance should be performed on an ongoing basis as deterioration develops.

PENETRATING SEALERS



This treatment will soak into the surface of the deck and protect the concrete from moisture and chlorides. It does not impact the slip/skid resistance or fill in cracks. This can be done with local forces and is a low-cost way to protect decks in good condition.

BRIDGE DECK CRACK SEALING

Routine crack sealing will prevent the intrusion of moisture, de-icing chemicals and other damaging effects. It's most effective when placed on the bridge early in its life, after the initial cracking, prior to the bridge's first winter, but is beneficial throughout the life of the structure. Re-seal the deck on a cycle, approximately every 5-7 years.

EXPANSION JOINT MAINTENANCE

A bridge expansion joint is designed to provide a gap to a ccommodate movements of a bridge superstructure (girders & deck). These movements are generally caused by live traffic, expansion and contraction due to temperature, etc. Joints protect the components of the bridge below the deck from water runoff, chemicals, and debris. Inspect bridge joints routinely and repair or remove deteriorated or damaged sections of joints – including the surrounding concrete.

INSPECTION NOTES

At a minimum, bridges in good condition are inspected every four years in compliance with the National Bridge Inspection Standards (NBIS) requirements. The Idaho Transportation Department (ITD) handles bridge inspection for local bridges (structures over 20 ft. in length) and the work is done with federal funding earmarked for local bridge replacement. The federal match is provided from the local share of the Highway Distribution Account (HDA). The annual cost of local bridge inspections is roughly $1.9M. Most of Idaho's bridges are on a two-year inspection cycle, but as bridges deteriorate, the frequency of inspection increases to an annual inspection, and bridges in critical condition can require inspection every 6 months. As our bridge inventory ages and deteriorates, the cost to inspect Idaho's bridges also increases.

All bridge inspection reports have notes from the bridge inspector on maintenance suggestions. This can be anything from guardrail repair, to concrete patching on the deck, to rip rap placement to prevent additional scour. A good place to start if you're trying to determine what maintenance to perform on a specific structure is by reading your inspection report notes. If you can't find the inspection report that was emailed or mailed, contact LHTAC. We can assist in accessing these inspection reports.

BRIDGE DECK PRESERVATION

Bridge decks sustain the most rigorous conditions. Decks withstand traffic wear and tear which can cause cracking and rutting, exposure to snow, rain, and ice results in corrosion of the reinforcement and spalling. It's also what the travelling public often notices most as they travel across a deteriorated bridge. Luckily, it's relatively easy and inexpensive to preserve bridge decks compared to other bridge component improvements.

Full deck replacement is costly and requires long-term traffic disruption. But if caught in time, bridge deck preservation can be inexpensive, performed with your own forces, and cause minimal traffic disruption. The most common bridge preservation treatments are deck seals and thin overlays. These should be applied to bridges in relatively good condition.

THIN POLYMER OVERLAY SYSTEM

Applying a thin polymer overlay is beneficial because of its ultra-low permeability to protect the deck concrete from the moisture, de-icing chemicals, and every day wear and tear caused by traffic. It provides a durable, skid-resistant wearing course for a concrete bridge deck. Once a bridge shows signs of cracking, moisture and other contaminants can soak into the deck and the deterioration process begins. It is best to overlay the deck before this process starts. This can easily be completed with maintenance crews.

ASPHALT OVERLAY

It's not always beneficial to apply an asphalt overlay on your bridge deck as you are paving your roadway on either side of a structure. Bridge girders are designed to support a specific dead load (weight of the structure) and every inch of

asphalt overlay on your deck reduces the capacity of the structure. Applying a couple of asphalt overlays and chip seals to the deck over the years isn't uncommon and can add up to a tremendous amount of additional weight to the structure that it wasn't designed to carry. Asphalt is also prone to potholing which can contribute to additional stress on a bridge. If you prefer to keep an asphalt bridge surface, consider removing all or a portion of existing asphalt overlay to lighten the load on the bridge prior to applying a new asphalt surface.

OTHER LOW-COST PRESERVATION/ MAINTENANCE SOLUTIONS

- Scour is the number one cause of a bridge collapse. Once a portion of the abutment or pier is scoured or undermined, the damage will worsen much more quickly. It's important to repair scour and erosion early before it becomes a larger and more expensive problem later.
- Routine blading of gravel roads is important to prevent rock from piling up unevenly on the structure. This helps the superstructure operate under the loads it was designed for.
- Bridge rails are often hit and damaged. For safety reasons, railings and barriers need to be immediately repaired or replaced.
- Current steel girders utilize weather steel and require much less maintenance. However, older steel bridges need to be routinely painted on a regular basis to prevent rust and corrosion. Existing rust should be removed and treated to the fullest extent possible prior to repainting.

Amanda LaMott works for the Local Highway Technical Assistance Council with a focus on the Safety program & the Transportation Alternatives Program (TAP). Prior to LHTAC, she spent eight years working for the Idaho Transportation Department in the bridge group, construction management, and planning. In her free time, she enjoys biking, hiking in the foothills and skiing with her husband and two young boys.

Scott Wood, PE worked as a consulting bridge engineer for 20 years prior to joining LHTAC in 2019. He is currently a federal-aid engineer at LHTAC and is also assisting with Idaho's local bridge program.

More Information
For more information about bridge preservation and maintenance, visit the FHWA's Bridge Preservation Page download the FHWA Bridge Preservation Guide). The LHTAC website also has some good resources – from interactive bridge maps to help you find information about the structures in your jurisdiction to asset management guidance. Additionally, LHTAC staff are always available to help answer questions or collaborate to find solutions to your bridge concerns.

SUCCESSFUL BRIDGE REPAIR IN FRIGID CONDITIONS

BY GEOSTABILIZATION INTERNATIONAL | BRYAN WAVRA | 503.999.4187 | BRYAN@GSI.US | WWW.GEOSTABILIZATION.COM

Our passion is to develop and install innovative solutions that protect people and infrastructure from the dangers of geohazards.

Figure 1: Weather conditions at the project's start. In early 2020, the Idaho Transportation Department needed to stabilize the retaining wall abutments for the North Bridge Street bridge at the Egin Canal in St. Anthony, Idaho to enable the owner to complete their excavation project before the canal could be opened for the season. Owned by the Egin Bench Canals, Inc., the canal delivery system provides irrigation water to about 400 farmers in southeastern Idaho. The original masonry rock wall abutments were gradually deteriorating and required stabilization before excavation could be performed to increase the canal's capacity.

Figure 2: Rock wall abutment. The project scope involved providing a shotcrete (sprayable concrete) surface over the original rockery walls for stabilization. The walls and underlying excavation faces were stabilized in approximately 5-foot lifts using soil nails and shotcrete until encountering bedrock approximately 10 feet below the bottom of the walls. At the same time, the wing walls at all four abutment corners were stabilized with a soil nail and shotcrete facing. Additional riprap was then placed at the toe upon completion to provide additional protection against erosion.

If these parameters weren't challenging enough, the project had to be completed within an eleven working day window for the canal to be opened on time. Additionally, the temperatures during this period were an average high of 37 degrees and average low of 11 degrees. Not optimal conditions for curing concrete!

Figure 3: Rock wall has been encased in shotcrete. Note the flat drain boards that will extend the length of the excavated wall. Dozer is removing the dirt to so the canal can be enlarged underneath the bridge.

Once the canal under the bridge was dammed at both ends and the area dewatered, an array of self-drilling SuperNails™ were installed into the abutment wall amongst the rockery. Next, flat drain panels were secured to the wall before a reinforcing metal frame was appended to the soil nails. Then, shotcrete was applied to the face and blankets placed over the surface to assist curing during freezing temperatures. At night the space beneath the bridge was closed off with additional blankets and a large space heater was used to facilitate concrete curing. Care was taken during this process to preserve the existing culvert outlet on the north abutment.

Figure 4: The excavation has been completed, the soil nails installed, and the entire abutment wall is now being covered with a shotcrete facing. Note the metal frame attached to the soil nails and the drain boards.

Once the original abutment walls were stabilized, an excavation contractor utilized dozers to remove the material underneath the bridge down to the bedrock to increase the channel's depth. The basalt bedrock surface was unpredictable with random vertical walls in critical locations which revealed fractures in the excavated face. Care was taken to prevent the wall's collapse before it could be stabilized. Self-drilling SuperNails™ were installed into the excavated wall. The same drainboard installed in front of the previously faced rockery wall was lowered in place before the metal framework was secured to the soil nails.

Figure 5: Enclosing the area beneath the bridge to trap heat generated by the heaters that assist the shotcrete in its curing process process.

When the time came to shotcrete this lower section, the project's tight time constraints came into play. The concrete needed to be sufficiently cured before it could be exposed to the canal's water, or the wall integrity would be compromised. With the frigid temperatures, the team chose to utilize a two-prong approach. After putting blankets on the curing shotcrete, they enclosed the area beneath the bridge and placed industrial heaters to increase the enclosed area's temperature to approximately 48 degrees. Everything proceeded as planned until a massive rainstorm during the second to last night started to fill the dammed area with water before the final lift had finished curing. Quick action allowed the heaters to be moved to higher ground underneath the bridge, and the curing process proceeded unabated.

Figure 6: Shotcrete has cured, and the crew is de-mobilizing from the site. Note the shotcrete process included the bridge's wingwalls.

Bryan is GeoStabilization's Northwest Project Development Engineer and has represented GeoStabilization's northwest in a geotechnical engineering and project development capacity since 2010. During his tenure Bryan h as been involved in over 150 geohazard mitigation sites throughout Oregon, Washington, Montana, and Idaho. Prior to joining GSI, Bryan completed ten years of geotechnical consulting services to a variety of public and private entities.

Figure 7 : Canal in operation.

Shared Strength · Trusted Care

Self Funded Health Benefits for Idaho Public Agencies

The III-A is a Trust of 74 Idaho Public Agencies - including 6 Highway Districts

Idaho Cities formed the III-A Trust in 2011 to combat the excessive annual medical rate increases delivered by the insurance industry. We have a proven reputation of providing enhanced, progressive benefits for Idaho public employees. We control costs for our Agencies by self-funding our benefit plans. Participation in our self-funded Trust represents a meaningful opportunity for reducing and stabilizing the cost of employee health benefits.

Our Enhanced, Progressive Benefits Distinguish the III-A:

- **6 Medical Plan Options, along with 3 Dental and Vision Plans**
- **Innovative Wellness & Mental Health Programs**
- **24/7 Medical Telehealth**
- **30 Physical Therapy, 18 Chiropractic & 100 Acupuncture visits per year**
- **Hearing Aid & Hearing Protection coverage**
- **10 visit EAP benefit – in-person or video counseling**
- **Air Ambulance coverage**
- **$20,000 Employee Life Insurance Policy**
- **Optional Retiree Coverage**

Over the last 5 years, the III-A average Medical & Prescription renewal rate was:

1.3%

For more information, contact:
Amy Manning, III-A Executive Director
208-317-2814
AmyManning@iii-a.org

iii-a.org

TRUCK PACKAGES
AND HIGH PERFORMANCE PRODUCTS

Downey-Swan Lake Highway District - Henke & Owen Equipment

Custer County

Bonneville County

Teton Conty - Henke & Owen Equipment

PLOWS / WINGS / SCRAPERS / SPREADERS

Custer County

Blaine County

Independent Highway District

Contact Patrick Silvey
913.680.9648
psilvey@henkemfg.com

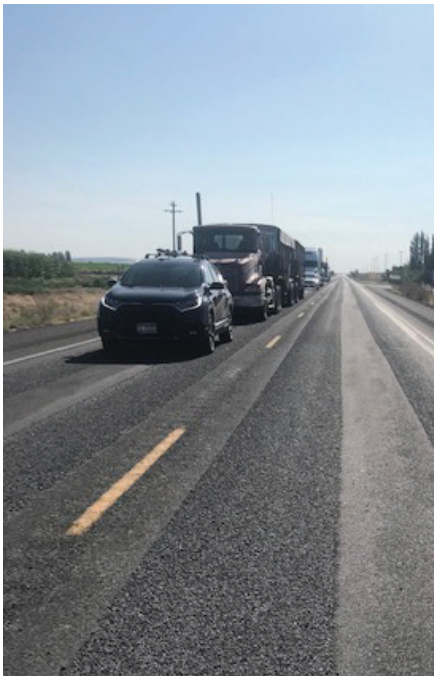
HENKE®

VISIT OUR YOUTUBE CHANNEL TO SEE VIDEOS OF PRODUCTS IN ACTION

henkemfg.com

VERY RAPID SET CHIP SEAL TECHNOLOGY FILLS RUTS, FACILITATES FAST RETURN OF TRAFFIC

BY STEPHEN VAN DE BOGERT



BACKGROUND:

Good tire traction and high surface friction are essential to driver safety during winter months as snow and ice cover roadways. In the Pacific Northwest, studded tires, which are commonly used to help improve traction, are a major cause for rutting and overall deterioration of asphalt pavements.

CHALLENGE:

Until recently, hot mix asphalt overlays or grinding and inlaying with new hot mix had been the only viable solutions for rut filling in the region. Over time, for budget and logistics reasons, chip sealing became a popular option to address this regional distress. During the chip sealing process, a CRS-2P (cationic rapid set) emulsion was sprayed on the roadway followed by the application of chips/aggregate to seal the road and prevent moisture intrusion and other distresses. The downside of this process was loose aggregate that couldn't be swept off the road until after the seal had strengthened. The typical 8- to 12-hour wait time before sweeping traditional chip seals was an inconvenience both to maintenance departments and the driving public, and the loose aggregate had the potential to become dislodged and damage windshields or result in loss of tire traction. Public dissatisfaction over the process had become enough to remove chip seals from many agencies' toolboxes — until now.

SOLUTION:

With decreasing budgets and deteriorating roads, engineers and maintenance representatives from transportation agencies needed to find a more efficient method for rut filling, including reconsidering the use of chip seals. Realizing agencies' need to fill ruts effectively, with budget and time constraints in mind, Ergon Asphalt & Emulsions' Western Region, formerly Western States Asphalt Group, developed a new, cost-effective chip seal emulsion that would break much faster — Cationic Very Rapid Setting Polymer Modified Emulsion (CVRS-2P). This solution eliminates the long wait time before sweeping can be performed, helping to eliminate broken windshields. This very rapid set emulsion cuts return-to-traffic time from eight to 12 hours down to less than two hours with warm day applications generally in well under 1 hour. With the clear benefits of CVRS-2P over conventional emulsions the use of CVRS-2P has also been adapted for use in full lane width chip sealing.

APPLIED WITH STANDARD EQUIPMENT: The CVRS-2P chip seal application is a fairly easy process. Crews that have used traditional chip seals in the past will have no problems using CVRS-2P. This new technology can be applied using standard chip seal equipment, so no extra application costs are incurred by making the switch.

TRIAL PROJECT:

In 2016, the Washington Department of Transportation (WSDOT) conducted the first CVRS-2P application tests on three roadways with three different blends of CVRS, including a 10-mile stretch of rut fill chip sealing of I-90 west of Ritzville, Washington. On I-90, CVRS-2P was applied at 0.40 gallons per square yard, followed by the application of 3/8-inch cover aggregate followed by a choke sand. The contractor, Central Washington Asphalt, was able to sweep any loose aggregate just 25 minutes after the chip seal application. Since the success of this project, WSDOT has applied a number of CVRS-2P full width and rut fill chip seals throughout their network. For the 2020 chip seal season, the Northcentral and Eastern WSDOT regions have had contractors apply this solution to over 80 lane miles of roadways for rut repairs alone. Additionally, over 200 lane miles of full width chip seal utilizing CVRS-2P emulsion were completed in Washington and Oregon this year.

BEST PRACTICES:

The following are a few best practices for design and equipment to ensure exceptional performance results:

- A McCleod Chip Seal Design should be performed prior to application with the aggregate to be used on the project, to ensure there is no flushing.
- The distributor should be set up with the center 3 feet of the distributor bar shut off. The 3-foot sections on either side of the center section should be the only sections used. On the inside and outside edges of these sections, the end nozzles should be turned 90 degrees from normal. This concentrates the emulsion application on those edges and reduces the tendency for shedding of aggregate on the edge.
- The chip spreader should be set up to match the application pattern used by the emulsion distributor truck.
- Chip seal trucks make excellent rollers for compaction following application. Their wheels follow exactly in the rut pattern. Additionally, both pneumatic and steel rollers are recommended on the project. The pneumatic rollers follow the contour of the rut and do an excellent job increasing chip embedment. The steel rollers tend to bridge over the rut itself but do a good job of compacting and, in some cases, crushing the aggregate that was applied outside of the rut. This decreases the potential of windshield damage due to dislodging of aggregate.
- For added security against aggregate loss, the application of 2 to 4 pounds of clean 1/4-inch minus choke sand is recommended. This can be done immediately following chip seal application, prior to the pneumatic and steel roller action. The sand acts as an emulsion break enhancer and, upon application, wedges in between the larger chips, keeping them from rolling over as traffic moves across the surface.

- Most rut fill chip seals utilize 3/8-inch chips; however, for deeper repairs, larger chip gradations can be used. When using the larger chips, the use of choke sand is vital in order to hold these chips in place.

A PROVEN SOLUTION:

Chip seal rut repair on its own is a great tool to add to your road preservation and maintenance toolbox, and it works very well for adding new wear surface to ruts, filling them fully or partially (depending on rut depth) and sealing the underlying pavement against water intrusion. Please note: This technique should not be used when the ruts are the result of low-density mix or mix that is exhibiting plastic flow and building corresponding high points outside of the rut. These types of ruts must be addressed with other methods, such as the removal and replacement of the pavement.

With the addition of CVRS-2P, agencies in the Northwest can both repair studded tire worn ruts and apply full width chip seals more economically and efficiently, cutting construction risks, time and costs while reaping the high-performance benefits of polymer modification. For additional information about this innovative new chip seal emulsion, contact:

Stephen Van De Bogert has a 37-year career in marketing and technical assistance related to paving asphalts, emulsions and specialty maintenance techniques in the Midwest, Western and Northwest United States. He is a graduate of the University of Wisconsin and is an instructor on proper sealing and maintenance procedures to organizations and construction crews. Stephen works with agencies to correctly understand and apply maintenance products and develop specifications to improve maintenance effectiveness and reduce costs.

Your Cutting Edge Experts

WINTER® EQUIPMENT is proud to announce that **SEMI SERVICE** will be our official distributor for Idaho. With their new location in Caldwell, ID, our industry leading cutting edges and wear parts are available with Semi Service's outstanding quality and customer service.

Please contact your Semi Service or Winter Equipment Representative for your cutting edge needs.

MARC BEDILLION
Winter Equipment
Territory Manager
mbedillion@winterequipment.com
440.321.5872 MOBILE
800.294.6837 EXT 113

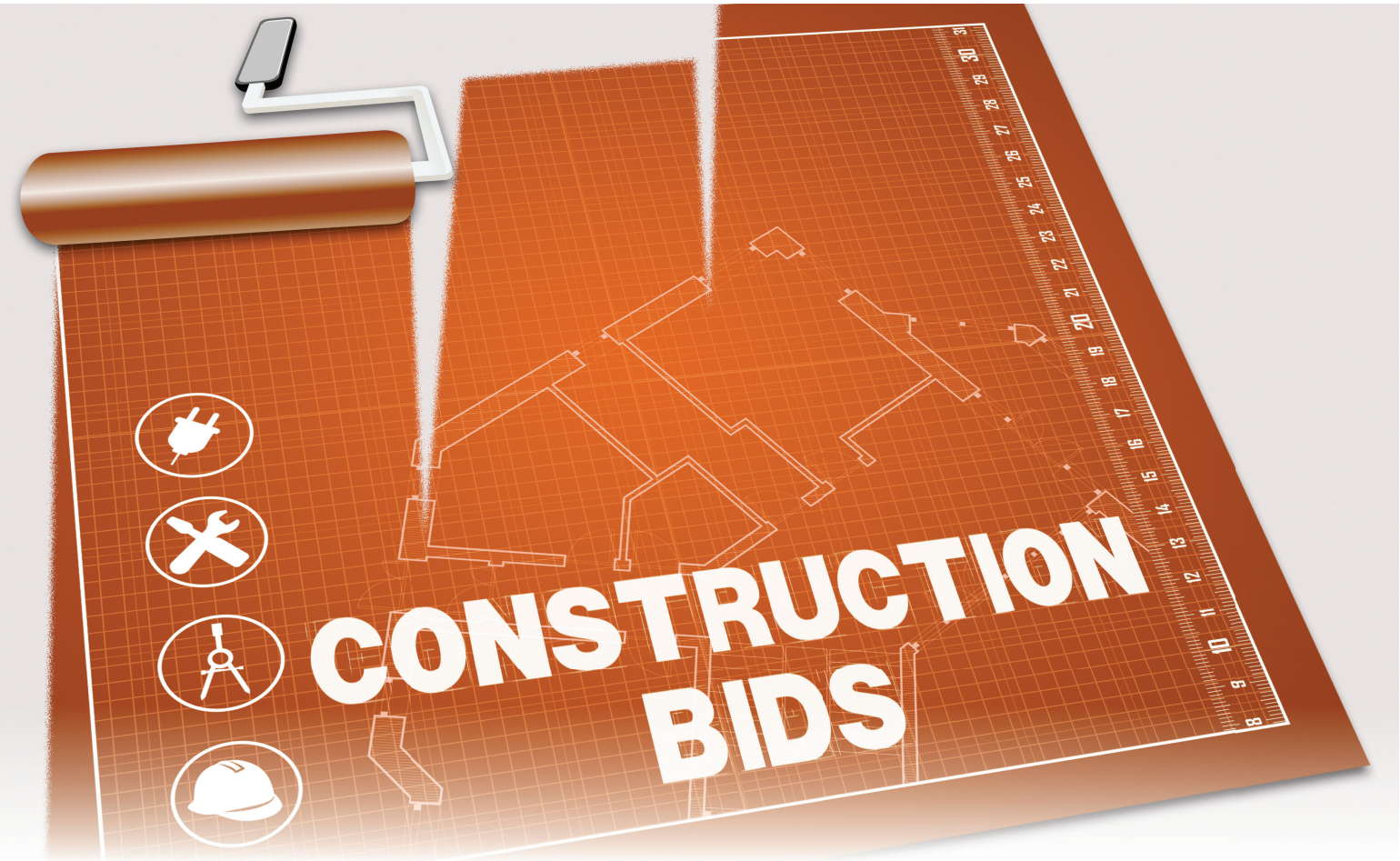
RICH ERICKSON
Semi Service
General Manager
rerickson@semiservice.com
208.576.0201 MOBILE
208.614.6400 OFFICE

Winter® Equipment
1900 Joseph Lloyd Parkway,
Willoughby, Ohio 44094
WinterEquipment.com

Semi Service — New Location:
3820 Skyway Street
Caldwell, ID 83605
SemiService.com

LOCAL ADVERTISEMENT OF PROJECTS

BY BRIAN WRIGHT, P.E. LHTAC SAFETY ENGINEER AND GARRICK NELSON, P.E. CONSTRUCTION ENGINEER



Construction is a necessary and ongoing task for all Local Highway Jurisdictions (LHJs). This article will focus on the use of a contractor to construct a public works project and the applicable State of Idaho Purchasing Laws and Statues that need to be followed.

In order to have a successful construction project we need to:

- Provide enough information (plans, specifications, and cost estimate);
- Set expectations (contract);
- And identify constraints (schedule, milestones, permits, etc.) for the contractor.

We also need to know the estimated cost of construction to determine the appropriate bid process and to compare with the actual incoming bids. Typically, these documents should be prepared by a licensed professional engineer. Idaho Code 54-1218 states a professional engineer must prepare the plans, specifications, and estimate for any public works construction project greater than $10,000 in value. However, when proceeding with your engineer or some standard documents you have already had prepared, this article will give you a good framework.

Provide the Information

Starting with the plans - we need to show the contractor, with as much detail as necessary, what we want constructed and where to construct it. The level of plan details should depend on the complexity of the project. For a chip-seal project, a simple annotated aerial photo could work. For a new road, a horizontal alignment with stationing, vertical profile, cross section, and survey data would be needed at a minimum.

The construction specifications will primarily consist of the Idaho Standards for Public Works Construction (ISPWC). Anything not listed in the ISPWC, or that needs to be selected or modified from the standard specifications will need to be detailed in the Supplemental Specifications. Items that are typically modified include the LHJ's preference for asphalt mix, aggregate sizing, and pipe materials. Items such as signal equipment and light poles

typically have their own specification to match the LHJ's requirements. The Supplemental Specifications need to clearly describe the item, list material requirements, detail the construction method, describe the method of measurement, and include basis of payment.

The Idaho Transportation Department Standard Specifications for Highway Construction are also available for LHJs. However, ancillary work such as utility installation and replacement (i.e. water and sewer) not as comprehensive in ITD specifications. Also, these specifications are much more detailed and restrictive due to federal aid requirements for roadway construction. The ITD Specification may result in a more costly project overall and may not lend themselves to local work.

Owner Expectations

The expectations of the LHJ are outlined in the construction contract. Many of the general requirements and procedures are contained in the ISPWC Section 100 – General Conditions. The General Conditions detail the majority of the roles and responsibilities on the project and should be included as an attachment or by reference in the contract.

The Engineers Joint Contract Documents Committee (EJCDC) has a set of standardized construction documents and contracts that can be utilized by an LHJ for a fee. The EJCDC documents are the basis of the most commonly used documents in public works construction. If your LHJ has utilized a consultant engineer in the past and they provided a contract for bidding, you have likely used EJCDC's forms. The library and cost of the EJCDC construction forms can be found at: https://www.ejcdc.org/product-category/construction-related-documents/ If you need a specific form, LHTAC may be able to provide as suitable document for your use. Please contact us if you need assistance.

The contract will also state the bonding and insurance requirements for the project. There are two bonds typically associated with public works construction; a performance bond, and a payment bond (surety bond). A performance bond protects the LHJ against a contractor failing to deliver the work as specified in the contract. A payment bond protects the LHJ against non-payment claims made by material suppliers and subcontractors working for the contractor. The contractor's insurance should name the LHJ as an additional insured and provide coverage in excess of the contract amount.

Project Specific Constraints

The constraints of the project should be detailed in the project bid documents. This could include irrigation district permits, right-way-permits from ITD for detour routes, first possible start date, last possible completion date, construction phasing, liquidated damages, etc. There are many factors that can affect the schedule and cost of a construction project and every effort should be made to identify and share those factors with potential bidders.

Estimated Construction Cost

The estimated cost of construction must be determined before any contractor is solicited to construct the project. Without a construction estimate it is impossible for the LHJ to determine if there is sufficient budget available to cover the contract or the bid method required by Idaho law. The blank version of the construction estimate is also commonly used as the bid schedule in the contract.

Bidding a Project

Based on the estimated cost of construction, there are three (3) levels of bidding requirements in Idaho:

1. Less than $50,000

LHJ selects the preferred contractor to complete the work.

2. Between $50,000 and $200,000

Utilize the Request for Quote (RFQ) process where at least three (3) qualified contractors are solicited for the project. (I.C. § 67-2805)

- Typical quote package would include the project plans, a bid schedule, and any non-standard specifications (if used).
- Allow at least three (3) business days for contractors to respond.
- Document attempt to obtain quote if you don't receive a response back.
- Award project to lowest responsive bidder.

3. Over $200,000

Utilize the competitive sealed bid process using either Category A or B procedures. Category B involves a prequalification step and will not be covered in this article but can be found under I.C. § 67-2805.

- Category A – Public advertisement and opening of bids (I.C. § 67-2805)
- Typical bid package would include the project plans, specifications, bid schedule, contract, and any special instructions.
- Two (2) notices in the LHJ's official local newspaper: one (1) published at least fourteen (14) days before the bid opening, AND 1 published seven (7) days before the bid opening.
- Award project to lowest responsive bidder.

Awarding the Project

A responsive bidder must meet all of the requirements in the bid solicitation and have the necessary class and type of public works license(s) for the project. If any requirement has not been met, the bid can be deemed non-responsive and will no longer be considered by the LHJ.

More information on license classes and types can be found at: https://dbs.idaho.gov/programs/public-works-contractors/.

The lowest responsive bidder is awarded the construction contract and the LHJ should issue a Letter of Intent to Award and a blank copy of the contract as soon as possible. The contractor should return the signed contract along with the required bonds and insurance information.
Now the LHJ can execute the contract, returned a signed copy to the contractor, then construction can finally begin.

Administer the Contract

Once you have awarded the bid, and secured the appropriate bonds and insurance, it is time to administer the contract. Contract administration can be a very detailed process depending on the complexity and duration of a project. For the sake of time, we will discuss this topic from the 10,000-foot level.
The first step is to issue the Notice to Proceed. This puts the contractor on notice to commence with the project. During this time, you may also want to hold a preconstruction conference with the appropriate project stakeholders (subcontractors, utilities, local agency contacts). The contractor should be prepared to discuss their project schedule during this meeting. From this point forward, the schedule is your guiding document to completing the contract on time. This meeting should also detail the "when" and "how" the contractor will be receiving payment for work completed. Your project specifications should be clear as to what is required of the contractor to be paid for an item. The remainder of contract administration revolves around adhering to project milestones and collecting the appropriate documentation for the project.

Below is an example checklist from the State of Idaho Purchasing Desk Manual:

	Requisition/Budget Authority
	Copy of the RFQ, ITB or RFP (as well as all amendments).
	Documentation of advertisement/attempts to obtain quotes/bids/proposals; and copies of vendor Bids/Proposals.
	Documentation of attempt to obtain responses from at least 3 Idaho vendors (with a significant Idaho economic presence).
	All vendor correspondence related to the procurement.
	Documentation of how the successful vendor was selected, including all scoring sheets, evaluator rights/responsibilities and privacy/conflict of interest forms; and any other notes or forms used by anyone involved in scoring or ranking the responses or in determining the successful vendor.
	Copies of letters of intent with fax confirmation (for formal procurements).
	Copy of the resulting Contract/Purchase Order.
	Documentation of all required approvals.
	Documentation of payments and deliverables (including final payment/acceptance).
	Documentation of contractor performance/satisfaction.
	Bond Release form (if necessary)
	Completed contract closeout checklist

This checklist is a good example of the project documents to maintain through project closeout. These documents should be kept in the LHJ's files for no less than 5 years. These records routinely are subject to public records requests, and are also useful for future reference by the LHJ. The completed plans should be kept indefinitely as record drawings. Record drawings are extremely valuable for the next improvement in future years.

Questions
The Local Highway Technical Assistance Council (LHTAC) is here to assist Idaho LHJs throughout the bidding process. Feel free contact LHTAC at 208-344-0565 or at LHTAC@LHTAC.org.

Garrick Nelson is a Construction Engineer for LHTAC and previously worked for the City of Meridian Public Works. He provides technical assistance to local highway jurisdictions and manages projects to improve the local road system in the State of Idaho. He is a native Idahoan and enjoys everything this great state has to offer.

A MINI-ROUNDABOUT CASE STUDY: LOW-COST INTERSECTION SOLUTION

BY STEPHEN LEWIS, PE, PTOE & NATHAN CLEAVER, PE, KELLER ASSOCIATES, INC.

THE PROBLEM: The rural T-intersection on Crowley Road (45th East) and 17th Street in Ammon, Idaho was experiencing half-mile-long queues during peak hours. 17th Street was stop-controlled, while Crowley Road was a free-flowing through movement. Drivers turning onto Crowley found it very difficult to find gaps in the Crowley traffic and 15-minute waits were reported. Both Crowley Road and 17th Street are 40mph roadways. Crowley Road is a major arterial and 17th Street is a minor arterial. The south and west legs of the intersection are within Ammon City limits while Bonneville County controls the north approach. A canal parallels Crowley Road, on the east side, south of the intersection and crosses under the north leg and continues running north along the west side of Crowley Road.

Knowing that development was occurring in the area, the City obtained right-of-way to construct a dedicated right-turn lane on 17th Street. The City suspected that the additional lane would not provide much relief but funding for a traffic signal or full-size roundabout was not available. Several City Council members drove this intersection daily and the intersection was a regular discussion item on the Council's agenda.

In 2018 and 2019, Keller Associates held mini-roundabout seminars throughout Idaho. In the spring of 2019, Ammon's Public Works Director, Tracy Bono, PE, attended one of these seminars at ITD District 6. Tracy immediately identified the Crowley Road and 17th Street intersection as a possible candidate for a mini-roundabout.

WHAT ARE THEY:

Mini-roundabouts are characterized by a traversable small-diameter central island and possibly mountable splitter islands. According to FHWA, mini-roundabouts offer most of the benefits of regular roundabouts with the added benefit of a smaller footprint. They are best suited to environments where speeds are already low and constraints would preclude the use of a larger roundabout with a raised central island.

Mini-roundabouts are common in the United Kingdom and France and are emerging in the United States. FHWA has published design standards for mini-roundabouts.

TRAFFIC CAPACITY:

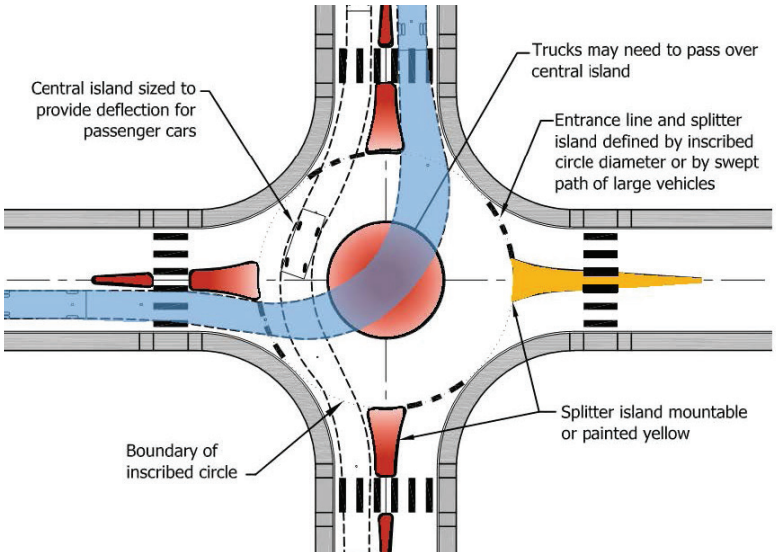
The National Cooperative Highway Research Program (NCHRP) Report 672, states without analysis mini-roundabouts can be built on a typical four-legged intersection with volumes under 15,000 ADT (peak hour volumes of 1,500 vehicles per hour). A standard single-lane roundabout and three-lane traffic signal (one lane each direction plus left turn lane) have capacities of up to 25,000 ADT (2,500 vehicles per hour). Using advanced traffic modeling software, Keller Associates has compared the traffic capacity of several intersections types (mini-roundabouts vs standard single-lane roundabouts vs three-lane traffic signals). Our analysis of mini-roundabouts at these intersections indicate that traffic volumes up to 19,000 ADT (1,900 vehicles per hour) could be achieved. In comparison, an all-way stop has the capacity of up to 12,000 ADT (1,200 vehicles per hour).

COST: Mini-roundabouts can be constructed for as little as $25,000, but generally range between $50,000-$150,000. Several factors influence costs such as existing pavement conditions,

splitter island length, length of curbing, lighting, and right-of-way. When mini-roundabout construction costs are compared to a standard single-lane roundabout ($800k-$1.3M) or a three-lane traffic signal ($500k-$800k), the construction cost of a mini-roundabout is significantly less. Five or more mini-roundabouts could potentially be constructed for every traffic signal installed.

WHERE AND WHERE NOT TO BUILD:

Mini-roundabouts should generally be built on two-lane or three-lane roadways with speed limits of 35-mph or lower. If located on higher-speed roadways, the splitter islands should be lengthed and designed to reduce vehicle entry speeds similar to a standard roundabout. Trucks normally do not have a problem traversing through a mini-roundabout, since the truck can drive directly over the center island. However, placing a mini-roundabout at an intersection with 20% trucks or more during the peak should be avoided. Mini-roundabouts should not be placed where U-turn truck movements are expected (similar to a traffic signal). In the United Kingdom, mini-roundabouts are not recommended on intersections with less than 500 vehicles an hour or when the side street has less than 10% of the overall intersection volume.



INTERVIEWS WITH CITY OFFICIALS:

After the construction, several individuals were interviewed regarding the Crowley and 17th mini-roundabout. They included Mayor Sean Coletti, City Administrator Micah Austin, and Public Works Director Tracy Bono, PE.

QUESTION: How much did the mini-roundabout cost? ANSWER : All together including design, construction, and the addition of lighting and tiling a portion of the canal, we spent about $170,000.

QUESTION: Why did you pursue the idea of a mini-roundabout? ANSWER: A mini-roundabout fit within our right-of-way, budget, and it provided a long-term solution.

QUESTION: Did you have any apprehension going into the project? ANSWER : Yes, farm road with historically higher speeds, concerned that people would “blow through” the intersection. Concerned about snow removal in the winter. Concerned about the lateness in the season and the short timeframe for construction.

QUESTION: How do you think it operates? ANSWER: Traffic queues are gone! Center island has tire marks as you’d expect. I drive it daily, I haven’t heard any complaints. City council members who drive it every day love it.

QUESTION: What issues or changes would you make? ANSWER: Install lighting and additional advanced warning signs. We had to install solar lights and they are adequate. We are seeing damage to the asphalt edges, either provide wider shoulders or install additional curbing.

QUESTION: Any problems with snow removal or ice? ANSWER: No, we use standard plows and brine. The center island is sloped to drain and the rolled curb has worked well with snowplows.

QUESTION: Will you construct any more? ANSWER: Yes! We have identified three additional intersections where we will construct mini-roundabouts.

If you would like to learn more about mini-roundabouts or have other traffic or roadway needs, please call Steve Lewis or Nathan Cleaver with Keller Associates at 208.288.1992.

ROBINSON & AMITY ROUNDABOUT PROJECT

BY ERIC R. SHANNON, P.E. NAMPA HIGHWAY DISTRICT NO. 1

The intersection of Robinson Rd. & Amity Rd. is located within the Nampa Highway District No. 1, and is located about one mile east of Nampa, Idaho. Robinson Rd. and Amity Rd. are arterial roadways with daily traffic volumes of 4000 vehicles and 8800 vehicles respectively. Prior to 2019, the intersection was an all-way-stop, and was a point of congestion, as well as having one of the highest crash rates in the district.

The district programmed a roundabout project for the intersection in 2016. Design work and right-of-way acquisitions were done in 2017 and 2018. The roundabout design included an offset to the southwest to avoid a residence on the northeast. Three property acquisitions were required, at a total cost of approximately $52,000.

The district performed the construction work with its own forces, only contracting out the electrical, concrete and paving work. The intersection was closed, and construction started on February 4, 2019.

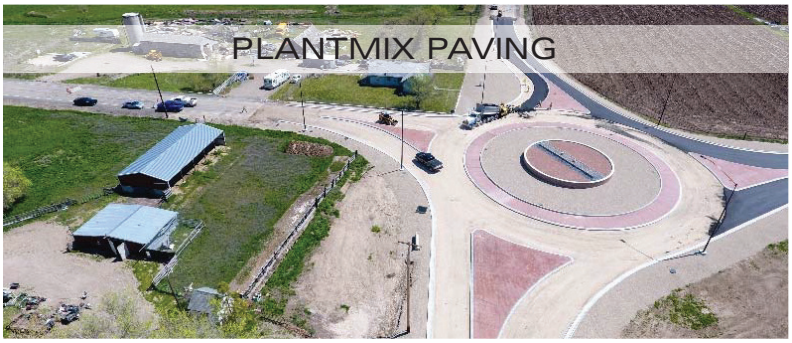
The sequence of work consisted of removing old pavement, clearing and grubbing, utility moves, irrigation pipe work, earth work and grading, placing of ballast section, curb and gutter, paving, pavement markings, and finally setting a unique art piece in the "zero maintenance" center island.


REMOVING OLD PAVEMENT


CLEARING AND GRUBBING


CURB & GUTTER


PREPARING BALLAST SECTION


PLANTMIX PAVING


APPLYING PAVEMENT MARKINGS

THE INTERSECTION WAS REOPENED TO TRAFFIC ON MAY 2, 2019, FOR A TOTAL CONSTRUCTION DURATION OF LESS THAN THREE MONTHS! THE TOTAL CONSTRUCTION COST WAS $850,000.

Eric Shannon has 26 years' experience in highways. His career highlights include District Engineer for the Nampa Highway District, partner in a private engineering firm, ITD District 3 Engineer, and Resident Engineer for construction of the Wye Freeway Interchange in Boise.

STRIKE DAM CUTOFF ROAD PROJECT

BY MOUNTAIN HOME HIGHWAY DISTRICT AND PENNY MEYERS

The Strike Dam Cutoff Road project was locally sponsored by the Mountain Home Highway District.

Strike Dam Cutoff Road is a major rural collector primarily servicing recreational, residential, farmers, ranchers, students, school buses, multiple businesses, and the Mountain Home Air Force Base. The two-lane unpaved roadway stretches from M.P. 100.00 to M.P. 107.20, located between SH 167 and CJ Strike Dam Reservoir Recreational Area. Vehicles traveling to the reservoir have elected to use Hayland and Rim roads rather than the Strike Dam Cutoff Road because of the paved surface of these roadways, even though it is 13.4 miles further.

The ultimate purpose of this project was to improve safety and comfort for motorists and accommodate access and system linkage to the CJ Strike Reservoir Recreational Area from SH 167. The original scope of work consisted of paving the entire existing gravel roadway from M.P. 100.00 to M.P. 107.20. This included evaluating and remedying sight distances which were shorter than American Association of State Highway and Transportation Officials (AASHTO) recommendations and improve safety features within the steep grades.

In 2005, the Mountain Home Highway District applied for a Surface Transportation Program (STP) Rural Program Grant, for $2,788,54.00. Unfortunately, when the project started construction the scope of the project had to be reduced because the cost was split into three phases: Phase I – M.P. 100.00 to 100.40, to improve SH 167 intersection portion, Phase II – M.P. 100.40 to 103.50, to improve rolling terrain portion, and Phase III – M.P. 103.50 to 107.20, to improve the steep grade portion. Phase I was given priority due to improvements in sight distance at the intersection of SH 167. Phase III was

given priority because it contained the majority of other safety concerns consisting of steep grades and tight curves. Design work started on the Strike Dam Cutoff Road in 2006, and Phase I and Phase III were constructed in 2010, leaving Phase II from M.P. 100.40 to 103.50 with a gravel road.

In 2015 the Mountain Home Highway District applied for a FY2018 Local Highway Safety Improvement Program grant for Phase II on Strike Dam Cutoff Road for $361,000.00. This section of gravel road has had multiple accidents and improving sight distance between this area would eliminate accidents on Strike Dam Cutoff Road. Design work started in 2018 and construction started 2019, which included improving safety features within five steep grades located between M.P. 100.8 to M.P. 104.1. Blasting was used to improve the vertical and horizontal alignment of the road and the roadway was constructed back to the existing gravel section and paved by the Mountain Home Highway District. Unfortunately, the cost was greater than anticipated and the Mountain Home Highway District and LHTAC had to come up with additional funds to accomplish this project.

In 2017, the Mountain Home Highway District applied for the FY19 Local Rural Highway Investment Program (LRHIP) grant for $100,000.00 to help with the expenses of paving Phase II of Strike Dam Cutoff Road at $673,254.40 after the improvement were completed with the FY2018 Local

Highway Safety Improvement Program grant. Receiving this grant, the District was able to pave Phase II which consisted of 6.6-lane miles.

The ultimate purpose of this project was to improve safety, which is extremely important to the Mountain Home Highway District. The District has set a goal of "safer roadways for the travelers and their families," and with the help of LHTAC and the multiple grants received, this project was successfully accomplished.

Penny Meyers has worked for the Mountain Home Highway District since 1999 as the District Administrator, before that Simplot Land and Livestock and West One Bank. Penny helped formed The Elmore Regional Transportation Planning Committee in 2005 and has held the Secretary position ever cents. She attended BSU, has three adult children, two grandsons and one granddaughter on the way.

THE VALUE OF ROADWAY SAFETY AUDITS

BY BRENT JENNINGS, P.E

Highway crashes in Idaho continue to take a serious toll that results in death and serious injury on all Idaho roadways and remains an important public health and economic issue. In fact, the 2019 annual crash report prepared by the Idaho Transportation Department's Office of Highway Safety estimates the total economic cost of crashes for 2019 was over $4.1 billion. This amounts to $2,295 for every person in Idaho. A commitment to improve highway safety for the elimination death and serious injury is made by both the Idaho Transportation Department (ITD) and the Local Highway Technical Assistance Council (LHTAC).

Idaho's current effort reflects support for new safety tools such as Roadway Safety Audits, which serve to bring an improved understanding of crash cause and countermeasures approaches safety in a proactive manner. But what is a Roadway Safety Audit (RSA) anyway?

AN RSA IS A FORMAL SAFETY PERFORMANCE EXAMINATION OF AN EXISTING OR FUTURE ROADWAY OR INTERSECTION BY AN INDEPENDENT AUDIT TEAM. THE RSA TEAM CONSIDERS THE SAFETY OF ALL ROAD USERS, QUALITATIVELY ESTIMATES AND REPORTS ON ROAD SAFETY ISSUES AND OPPORTUNITIES FOR SAFETY IMPROVEMENT.

Depending on the size of the project RSAs, if planned appropriately, require less than 1 week to conduct and are shown to be a good return on investment. This investment is a unique opportunity to draw upon the depth and breadth of knowledge represented by a diverse RSA team and is an excellent opportunity to reflect upon and document engineering decisions made regarding safety.

RSAs build on other road safety improvement strategies and techniques already in place and do not replace them. Experience shows that effective road safety programs should exercise an optimal balance between reactive and proactive strategies, based on local conditions. Local Public Agencies implementing RSAs should view them as one of an integrated range of tools intended to further the goals and objectives of a comprehensive road safety program.

Most Local Public Agencies have established traditional safety review processes through their high hazard identification and correction programs. This is thought of as a "reactive" type of program. However, an RSA and a traditional safety review are different processes and it is important to understand the difference.

DIFFERENCES BETWEEN RSA AND TRADITIONAL SAFETY REVIEWS

Roadway Safety Audit	Traditional Safety Review
Performed by a team independent of the project	The safety review team is usually not completely independent of the design team
Performed by a multi-disciplinary team	Typically performed by a team with only design and/or safety expertise
Considers all potential road users	Often concentrates on motorized traffic
Accounting for road user capabilities and limitations is an essential element of an RSA	Safety reviews do not normally consider human factor issues
Always generates a formal RSA report	Often does not generate a formal report
A formal response report is an essential element of an RSA	Often does not generate a formal response report

Confusing RSAs with the quality control of design is the most common misinterpretation of the role and nature of an RSA. It is interesting to note that compliance with design standards, while important, does not necessarily result in an optimally safe road design and, conversely, failure to achieve compliance with standards does not necessarily result in a design that is unacceptable from a safety perspective.

THE AIM OF THE RSA IS TO ANSWER THESE TWO VERY IMPORTANT QUESTIONS:

- What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances?
- What opportunities exist to eliminate or mitigate identified safety concerns?

I AM INTERESTED IN CONDUCTING AN RSA, BUT HOW DO I GET STARTED?

Integration of RSAs into a Local Public Agency's road safety program requires several equally important elements:

- Management commitment
- An agreed-upon policy
- Informed project managers
- An ongoing training program
- Skilled auditors.

In conducting an initial RSA it is very important to have an experienced leader. RSA champions, who will devote time and energy to driving the RSA implementation forward and who are empowered by management to do so, are critical to getting and keeping a successful RSA program started and going.

Generally, a "top down" strategic approach is recommended for introduction of RSAs into an agency. For example, a Local Public Agency may pilot one or more RSA projects, adopt the audit process, and develop a policy on RSAs. Through an agreed process of regulation, funding, or encouragement this policy is then implemented. Local Public Agencies must make their own decisions about what projects to audit and when to audit them based on local issues and priorities.

SO IN A GENERAL SENSE, WHAT ARE THE "STEPS" INVOLVED IN CONDUCTING AN RSA?

Remember the RSA is a formalized process. In a general sense here is a summary of what the eight step process looks like.

STEP ONE: Identify project or existing road segment to be audited

As a result of this step, the project under design or existing road segment to be audited is determined and the parameters of the RSA are set.

STEP TWO: Select an RSA Team

As a result of this step, an independent, qualified, and multidisciplinary team of experts suitable for the specific RSA is selected.

STEP THREE: Conduct a pre-audit meeting and review project information

This meeting brings together the project owner, the design team, and the RSA team to discuss the context and scope of the RSA and to review all the project information available.

STEP FOUR: Perform field reviews under various conditions

The objective of project data review is to prepare for the field visit. The field visit is used to get further insight into the projtect or existing road and to further verify/identify areas of concern.

STEP FIVE: Conduct audit analysis and prepare report of findings

The safety issues are identified and prioritized and suggestions are made for reducing the degree of safety risk. The RSA results are then made available in a formal RSA report.

STEP SIX: Present audit findings to Project Owner/Design Team

The audit team reports the key findings, both orally and in writing, to the project owner and design team in order to faclitate the understanding of RSA findings.

STEP SEVEN: Prepare formal response

The formal response from the project owner outlines what actions the owner will take in response to each safety issue listed in the RSA report and why some issues will not be addressed.

STEP EIGHT: Incorporate findings in the project when appropriate

This final step ensures the corrective measures outlined in the response report are completed as described and in the time frame documented.

IN SUMMARY THE BENEFITS OF AN RSA PROGRAM ARE:

- Highway safety is addressed proactively
- Audited designs should produce fewer, less severe crashes
- Identification of low-cost/high value improvements that results on a good return on investment
- Promotion of a "safety culture" within an organization
- Provision of continuous advancement of safety skills and knowledge
- Feedback on safety issues for future projects
- Savings of money, time, and most importantly lives.

If your Local Road Agency is interested in starting or conducting an RSA you are invited to contact LHTAC to discuss your project needs. A small amount of funds from the Local Highway Safety Improvement Program may be used for Road Safety Audits. Contact LHTAC to discuss your potential RSA application prior to submittal. LHTAC hopes to hear from you as we all work together to eliminate death and serious injury on all of Idaho's roadways.

Brent Jennings, P.E. worked at the Idaho Transportation Department (ITD) for 31 years and retired in May 2015 as Director of the Office of Highway Safety. During his time at ITD Brent worked in highway construction administration and in highway traffic safety. Currently Brent is the principal of Jennings Consulting, LLC and performs consultant services nationwide for highway traffic safety and construction engineering management organizations.

OVER 60 YEARS OF
PERMANENT POTHOLE REPAIR.

GUESS THAT MAKES US "THE BOSS".

We've outlasted the competition because UPM® mix outlasts the others—literally. Not only does it stay in the repair longer than our competitors, 90% of the time, it outlasts the surrounding pavement—no need to go back again and again to re-repair! **Once and done, we guarantee it!**

800-441-4880

The makers of **UPM**® mix

Unique® **Paving Materials** Corp.

UniquePavingMaterials.com

TRUCKING UPDATE

BY KEVIN KUTHER, P.E. AND LHTAC SAFETY MANAGER

In the State of Idaho, many origins or destinations for delivery by trucks are located on the local roadway system. These routes must be utilized by the trucking industry to travel to designated State routes. In the event that a truck exceeds the legal limit for height, width, or weight, an over legal permit must be issued to allow for the completion their deliveries. It is the Local Highway Jurisdiction's (LHJ's) responsibility to evaluate and issue over legal trucking permits on the local system if requested and warranted. The Local Highway Technical Assistance Council (LHTAC) has reviewed Idaho codes to identify different items that an LHJ should consider when determining if a permit should be issued.

A specific type of over legal permit that requires special consideration by an LHJ is the issuance of 129,000-pound (129K) permits. These permits are only valid on specific routes designated by the State or the LHJ. If an LHJ receives a request to issue a 129K permit on a route under its jurisdiction, that LHJ must first evaluate and approve the requested route before an issued permit to utilize that route is valid. The Idaho Transportation Department (ITD) is required to notify the LHJ if a request has been made for a State route within the boundaries of the LHJ.

LHTAC continues to be successful with efforts to coordinate LHJs with the shipping industry in Idaho. These efforts include providing outreach to LHJs regarding the processes involved with over-legal permitting of trucks on the local system. We are focused on providing information regarding all trucking permits and assistance with all trucking related issues. This includes providing assistance to LHJs when evaluating possible 129Ktruck routes and considering issuing applicable permits to utilize these routes.

OUTREACH UPDATE

LHTAC Staff have met with regional transportation groups to educate and facilitate communication on the topic of truck routes. LHTAC has worked with permitting staff from ITD to provide joint presentations showing the benefit of providing a contiguous freight network, as well as the importance of communication with the trucking industry representatives in their areas. Coordination with the industry, as well as neighboring jurisdictions, is a tool that can assist LHJs with maintaining the safety and reliability of their routes now and in the future.

OPT-IN PROCESS

These presentations have also outlined the opt-in process with ITD. LHJs have the ability to enter into an agreement to allow ITD to issue over-legal trucking permits on behalf of their jurisdiction. Execution of this agreement allows ITD to issue permits on approved routes identified and approved by each individual LHJ. ITD provides permit holders with maps that clearly define the routes that are acceptable to utilize while operating under the requirements of each issued permit.

The authority to make decisions regarding each route still remains with each LHJ. Each Jurisdiction maintains the authority to indicate criteria specific to each route (i.e. time of day or season a permit is valid). The agreement does not authorize ITD to issue permits on local routes that have not already been approved. After an agreement is finalized, LHJs retain the ability to continually monitor the status of each route and make changes to the status at their discretion. Utilizing ITD's permit system allows LHJs to notify permit holders of bridge postings, spring breakup limits, and construction activities. This provides permit holders with information that allow drivers to make better decisions in regards to getting to their ultimate destination.

To date, ITD has entered into agreements with 28 Local Highway Jurisdictions. LHTAC staff is working on completing an additional 6 agreements. Note that 5 jurisdictions have formally decided to issue their own permits, and have declined to opt-in.

AVAILABLE FINANCIAL ASSISTANCE

Idaho Code 49-1004B created a fund to assist LHJs with the cost of analyzing 129,000-pound truck routes. This fund is supported by an additional $5.00 fee collected for all permits issued to trucks transporting loads over the legal limit of 105,500 lbs. LHJs that issue these permits are to remit this fee to ITD on a monthly basis. If an LHJ has executed the opt-in process, ITD will collect this additional fee as part of issuing the permit.

This law indicates that each LHJ may request the initial cost of this analysis (up to $5,000) be paid by the requesting shipper. An additional $5,000 may be available using this fund. LHTAC and ITD entered into a Memorandum of Agreement (MOA) to define the roles and responsibilities of LHTAC and ITD in regards to the administration of these funds
As previously indicated, an LHJ may charge the applicant up to $5,000 for the cost of the analysis. LHTAC is available to provide LHJs assistance with determining the level of effort required to complete an analysis. Further, if the proposed route contains structures greater than 20 feet in length, LHTAC and ITD may also be able to provide assistance with the assessment of those structures. Assessment of the existing road surface condition, off-tracking requirements, and a safety evaluation must also be considered prior to an LHJ making a determination.

ROUTE CONSIDERATION PROCESS

It is important to note that if an LHJ receives a formal written 129K route request from a shipper, they have 150 days to issue a formal determination. To assist LHJs with defining expectations and timelines for 129k route analysis and determination, LHTAC drafted a list of standard procedures.

These are available on our website https://lhtac.org/resources/trucking/. To comply with Idaho Code, the Idaho Standards for Public Works Construction (ISPWC) references;

"For standards related to the process of submittal, analysis, review, and approval of 129,000-pound truck routes, refer to the standards available through the Local Highway Technical Assistance Council (LHTAC) and the "Guide to Assist Idaho Local Highway Jurisdictions in Evaluating Route Requests for Trucks up to 129,000 pounds" available by request on LHTAC's website. http://lhtac.org/."

LHTAC staff is committed to providing LHJs with the technical assistance required to make an informed decision. LHTAC compiled useful information pertaining to trucking and 129K route permitting on our website at: https://lhtac.org/resources/trucking/.

Originally from Greencreek, Idaho, Kevin has lived in the Boise Area for the last 20 years. A 2007 Civil Engineering graduate of Boise State University, Kevin has served as a Safety Engineer and Manager for LHTAC since 2014. In that time LHTAC has administered over 170 local safety projects exceeding 64 million dollars in allocated funds. Kevin and his family enjoy camping, fishing, and most outdoor activities.

GOVERNMENTAL FAILSAFE COVERAGE

FIXED OPERATING COST WITH TOTAL RISK COVERAGE

You count on your Cat® machines to get the job done, day in and day out. Governmental Failsafe offers the only coverage designed specifically for new Cat equipment — giving you the highest level of repair cost protection available.

BENEFITS INCLUDE:

- Filter kits shipped to an address of your choosing, at the time needed, based on machine hours.
- Oil samples and results, to build trends to reduce opportunity of unplanned failures.
- Annual machine inspection completed by Caterpillar Certified Technician.
- Support from 260 Cat Technicians including 95 Field Technicians to keep your machines operating.
- Travel time and mileage coverage to perform warrantable failures.

+ MORE

CONTACT WESTERN STATES CAT TODAY TO LEARN MORE ABOUT GOVERNMENTAL FAILSAFE

800-852-2287
WesternStatesCat.com
WE'RE READY WHEN YOU ARE.

WESTERN STATES CAT

BETTER SAFE THAN SORRY

ICRMP SUGGESTIONS FOR KEEPING CLAIMS DOWN. JIM MCNALL, RISK MANAGEMENT SPECIALIST ICRMP

Idaho's Highway districts along with other public agencies have had a strange and difficult year dealing with the challenges of COVID. The realities of changing schedules, having some employees out to deal with childcare or other required leave, while still maintaining Idaho's roads and keeping employees safe, have provided new challenges that none of us were prepared for. With the current status of on again off again school and day care situations around the state, we will continue to face some of these challenges.

Tammy Middleton – (208) 246-8204, email tmiddleton@icrmp.org
Carl Ericson – (208) 246-8209, email cericson@icrmp.org
Jim McNall – (208) 246-8222, email jmcnall@icrmp.org

My purpose here aside, from COVID issues is to have an overview of claims submitted to ICRMP from our highway district members and discuss what you can do to reduce the number and severity of those claims. Over the past 5 years we have received about 600 claims from highway districts with a total payment of just over 3 million dollars. Driving related claims are by far the most frequent and account for over a third of the cost, followed by employment related claims which are much lower in frequency but very expensive. The remainder of roughly one third of the total claims paid are from a variety of issues that I will discuss later.

Driving related claims include auto liability, where one of your insured vehicles hits or damages others, either as personal injury or damage to property. Additionally, collisions frequently damage your vehicle which although a property claim is still driving related. Collectively, driving incidents are among the most preventable with proper attention to drivers and ongoing reminders. **Following are a list of steps you can take to reduce these incidents**:

- Have a vehicle use policy adopted by the commissioners that includes driver requirements and expectations as well as what to do when drivers are involved in a collision.
- Driver selection – hire drivers that have a good driving record. Conduct background checks to include traffic violations such as speeding and failure to yield. These are driving habits that are difficult to overcome. Also check with previous employers about work hab its and their ability to get along with others.
- Driver training – your drivers probably know how to drive but ongoing training can help them focus on what they already know – reminders always help!
- Driver supervision is an ongoing challenge. Supervisors are busy and do not always take time to notice and correct dangerous habits such as backing without looking first, backing incidents are a common claim.
- Crash/near miss review committee. Using crash or near miss discussions as a learning opportunity is an effective way to help drivers improve. Make it a point to discuss not only liability but whether this was a preventable incident. Look at not only the driver's actions, but other issues as well such as signage and supervisors making unreasonable schedules.

- Accident reporting. We have discovered that even in minor incidents involving public drivers, there may be accusations that are not factual. One of the best ways to keep accusations honest is to have law enforcement investigate collisions whenever possible.

Employment claims are another area where there are opportunities to greatly lessen the overall cost. These include allegations of wrongful termination including unlawful discrimination or employment actions taken in violation of whistleblower or retaliation protection.

Steps your district should take to lessen this liability include:

- Have a personnel policy and keep it updated. These should be reviewed by the board, ideally on an annual basis. Use the policy for training on employee expectations, what they need to do, and what they need to avoid.
- Provide ongoing training, not only on how to do their jobs better but include regular training on avoiding harassment, discrimination, and how to interact with the public.
- Supervisors should receive additional training on their role to include documentation, effective communication with employees and their responsibilities under the policy.
- Before disciplinary actions are taken that result in termination or any change that reduces pay supervisors should not take immediate action and should consult with the district's legal counsel and with ICRMP. (see contact information above)

The last or "miscellaneous" category involves a variety of claims including building and equipment property losses and general liability claims regarding allegations of improper maintenance of roads and traffic signs.

Some of these and what you can do include:

- Buildings – make sure your buildings are on the ICRMP policy. Keep roofs clear of heavy snow and ice and regularly inspect for proper fire prevention.
- Heavy equipment – theft of your graders, backhoes, trucks, and other property is not common but can be very expensive. Keep doors locked and park in visible location. I have received many questions over the years asking if it's ok to park a grader near a rural residence – yes, this is better than in the gravel pit where no one can see what is going on.
- Signage - Have signs placed according to the MUTCD and document when maintenance or replacement occurs. We often see allegations that missing or damaged signs resulted in motorists getting in collisions.
- Construction zones are another area where signage and employee awareness can lessen liability. Employees need to be constantly on the lookout for motorists not following posted warnings - rules are for others, not for me.
- Allegations from district residents that projects either encroached on their property or perhaps redirected run off water onto their property. These situations will always happen but clear advance communication with residents may lessen conflicts of this type.

Our staff at ICRMP is here to assist our members by providing sample forms and policies on our website (icrmp.org), taking your calls to assist with risk management questions, and providing in person training on request. We hope to be able to attend and provide training for you at your association conferences and regional meetings soon.

Jim has been with the Idaho Counties Risk Management Program for 27 years and has worked in both Risk Management and Claims. He currently serves as ICRMP Risk Management Specialist, and in that role provides training and risk management advice to ICRMP's 980 local government members throughout Idaho.

AUDIT PREPARATION TIPS

BY MARY W. RICHTER, CPA

Every governmental agency in Idaho, including highway districts, with expenditures over $100,000 are required to get a financial statement audit. Even if your auditor assists with drafting the financial statements, these financial statements are the responsibility of the District. As a consulting CPA and former auditor, I assist several governmental agencies including highway districts in closing the fiscal year-end and preparing for the audit. I have found having a well-formed plan reduces the stress and work associated with this process. In this article, I will share some of the steps and tips my clients and I have found useful.

1. AN AUDIT BINDER/FOLDER

Many of the clients I work with have found having an audit binder/folder increases the efficiency of the year-end close process whether it is digital or hard copy. Most include copies of workpapers from the previous year, closing journal entries, and notes for the current fiscal year. Any unusual transactions or happenings having an effect on the financial numbers can be organized here throughout the fiscal year.

2. A CHECKLIST

It is helpful to have a checklist which outlines the process and helps breaks the process into steps. A copy of an example checklist is provided. This will help provide a pathway to follow and provide a visual of the plan.

3. A CONTROL WTB

A copy of your unadjusted working trial balance can be used as a control. This could be in Excel or hard copy. As each account is verified or adjusted, the amount is adjusted here. This gives you a check figure for your final adjusted balances and helps easily identify accounts still needing attention.

4. TIE TO PRIOR YEAR FIRST

One of first things you should do at fiscal year-end is ensure the prior year-end working trial balance is still in agreement with the prior year audit figures. Even if you find an error or need to void a check from a previous fiscal year, these changes will have to be handled in the current fiscal year. After an audit is issued, there are specific ways altering prior years needs to be handled.

5. AUDITOR WORKSHEETS IN EXCEL/WORD UPDATE

It is worth having a conversation with your auditor to see if there are workpapers the District could update for them. There could be some workpapers in Excel or Word where efficiency or cost savings could potentially exist if the District updates workpaper and the auditor just verifies. These worksheets might be similar to ones the District is already preparing for year-end close and can perform double duty.

KEEPING THESE STEPS AND TIPS IN MIND CAN HELP THE AUDIT PROCESS RUN SMOOTHLY AND REDUCE THE STRESS AND WORK ASSOCIATED WITH THIS PROCESS.

6. REVIEW VARIANCES

Performing an analytical review comparing the current year under audit to the prior year can help identify areas the auditor might inquire for further details on. It can also help identify areas were maybe a mistake or an adjustment is needed.

7. CLASS/TRAINING ON READING GOVERNMENTAL FINANCIAL STATEMENTS

As the District is responsible for the Financial Statements, the Board of Commissioners, Clerks, and Management should have training on Governmental Financial Statements. A couple of ways to ensure this, is to have either the auditor, pre-auditor, or a consultant do a workshop at the District's facility or have everyone attend a class. One of the benefits of having someone come to the facility for training, is the ability to base the training on the District's actual financial statements.

8. START YOUR ADJUSTMENTS BEFORE YEAR-END

In gathering documents for support for accruals at year-end especially Prepaid Expenses and Accounts Payable, it is helpful to start collecting them prior to year-end. During the fiscal year as bills are being processed, these documents can either be scanned in or organized together in your audit binder/folder. This will add efficiency at year-end and ensure transactions are not missed.

9. GATHER RECORDS PRIOR TO AUDITOR VISIT

As experience is gained with audits, you will start to realize there are certain documents an auditor will request each year. An example might be the invoices for any large equipment purchases or debt payments. Having these documents pulled and available along with the other documents requested by the auditor can assist with efficiency.

10. KEEP YOUR DEPRECIATION SCHEDULE CLEAN

Keeping the depreciation schedule clean is relatively easy for additions and sales of assets as these transactions generally go through the office. The trickier area is when equipment is disposed of without selling. Having a fiscal year end inventory review can help. Remember there is a difference between the internal inventory listing of assets and a deprecating fixed assets list.

Mary is a consulting CPA to governmental agencies, including highway districts. She assists governments in closing the fiscal year, accruals and GASB adjustments, audit preparation, Board of Commissioners and staff trainings, and is an all-around accounting resource for governments. As a former governmental auditor, she is a natural liaison between governmental agencies and their auditors.

THE FOLLOWING IS AN EXAMPLE AUDIT PREPARATION CHECKLIST. IT IS NOT MEANT TO BE A COMPLETE LISTING OF ALL THE STEPS AND PROCEDURES NEEDED TO BE READY FOR ANY INDIVIDUAL ORGANIZATION. IT IS MEANT TO BE A GUIDE TO HELP YOU START PLANNING FOR AUDIT.

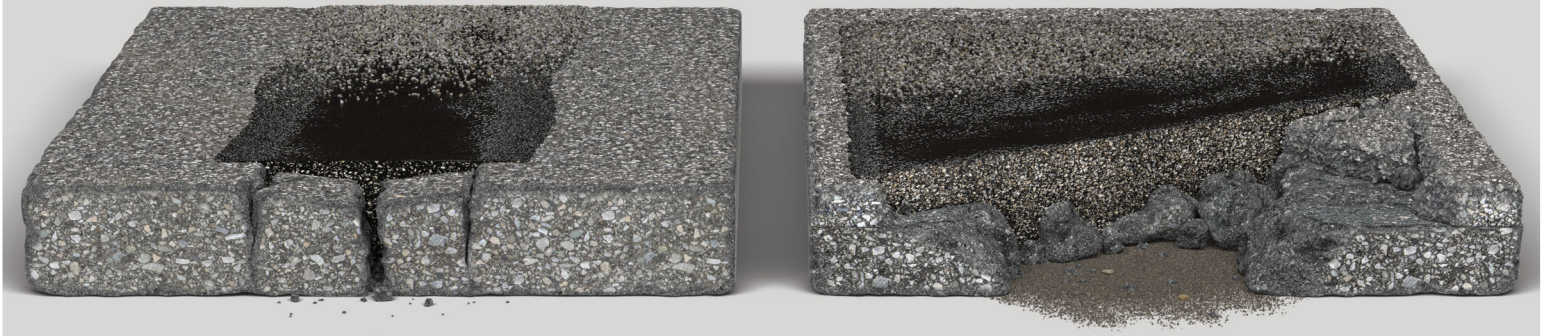
EXAMPLE AUDIT PREP CHECKLIST

- ☐ The prior fiscal year agrees with the prior year audit
  - ☐ Grouping schedule from the prior year from auditor
- ☐ Print a trial balance or financial statements for the current fiscal year
- ☐ Cash accounts agree to the 9/30 bank reconciliation
  - ☐ Interest payments for the fiscal year been recorded including LGIP accounts
  - ☐ Are any bank accounts over FDIC limits
  - ☐ Any restrictions to cash
- ☐ Accounts receivable agrees to any subledgers or supporting documents
  - ☐ Has the highway user receivable been recorded?
- ☐ Any prepaid expenses (usually insurance)
- ☐ LID receivable
- ☐ Property tax receivable and deferred tax calculation
- ☐ Inventory listing agrees to supporting documentation
- ☐ Accounts payable accounts agree to subledger or supporting documentation
  - ☐ If the payable will be reimbursed is the receivable recorded
- ☐ Accrued payroll calculation including payroll taxes and PERSI
- ☐ Compensated absence calculation (i.e. vacation) including payroll taxes and PERSI
- ☐ Any other debt including leases, bond payments, etc.
- ☐ PERSI information for GASB 68 disclosure
- ☐ Fixed asset schedule with depreciation calculations
  - ☐ Have crew review for any disposals
- ☐ Revenue accounts compare to prior year research large variances
- ☐ Grant revenue documents should be reviewed and pulled for auditor
  - ☐ Completeness (any receivable for reimbursement grants)
  - ☐ Any single audit requirements (federal dollars of $750,000)
  - ☐ Track expenses by grant by project
- ☐ Miscellaneous Income needs to be identified
- ☐ Expense accounts compare to prior year research large variance
- ☐ Review Maintenance and Repair accounts for amounts that should be in capital outlay
- ☐ Group and total capital outlay expenses by asset
- ☐ Review CIP (Construction in Progress) for any completed projects or new projects

PAVEMENT REPAIR UPGRADED

MAXWELL PRODUCTS

GAP|MASTIC™ & GAP|PATCH™



REPLACEMENT **IS NOT** THE ONLY OPTION. IT'S JUST THE **EXPENSIVE** ONE.

GAP products provide flexibility far beyond that of traditional pavement, creating an upgraded repair designed specifically to accommodate base defects and excess movement. This makes them a versatile, effective, long-term solution to a multitude of pavement defects previously only remedied with the extreme cost and effort of removing and replacing.

GAP MASTIC REPAIR

- Easy/fast application
- Fills/seals cracks and voids
- Stabilizes pavement
- Restores ride quality
- Permanent and cost effective

MAXWELLPRODUCTS.COM 800.266.2090

LHTAC UPDATE 2020

BY JEFF R. MILES, P.E. LHTAC ADMINISTRATOR

STAFF HARD AT WORK

By now you have attended dozens of meetings, presentations, updates and speeches that clearly outline that these are different and tough times. What is important is how we behave and perform when we have a challenge in front of us. I can sincerely report to you the LHTAC staff continues to outperform expectations even during these unprecedented times, flexing to work from home with the myriad of challenges that brings.

When we learned there was a possibility of additional Federal-aid and/or stimulus funds, I asked staff to deliver everything we could to create a list to compete for funds. We do this routinely every year to finish out our fiscal year, but we do not always receive additional funds. Typically, we have $6M to $8M already available to finish out a fully funded year. However, with staff and consultant efforts we produced a list of $71M dollars of projects and designs ready for additional funds. Additionally, $16M for Cherry Lane Bridge in Lewiston has been submitted for advertisement and the $8M Federal Bridge Grant is on track for delivery.

We were successful in getting 102.3% of our normal funding and the extra project that money funded is alread being advertised. We will use our "ready" projects to advertise with as much federal funds that become available at the beginning of the next federal fiscal year (October 2021). We will continue to have a strong list of projects available for stimulus, grants, or additional funding if it becomes available.

ADJUSTMENTS

LHTAC has built a strong reputation through communicating and in-person meetings with locals. This has been problematic in the past months, however, through video conferencing we have had great results actively attending transportation group meetings statewide and providing nearly the same level of service as before. In some cases, we have even exceeded our typical attendance through these tools. We have carefully watched our budget and adjusted where necessary. We have enhanced our digital systems to cover our new processes in these virtual times. We are ready to partner and assist all local highway agency with their needs. We will continue to use local feedback to improve our technical assistance and training outreach.

We are finishing up an update to our stewardship agreement with ITD that will give us even more latitude to move forward on federally funded projects with our own expertise.

INVEST ACT

The current Federal-aid highway bill expired September 30, 2020. As is typical, we will get a continuing resolution and funding for approximately 3 months. This is a hard way to do business. The federal legislators are working on a new act called INVEST. Its current form contains a 20% increase in funding. We are ready to put these funds to work.

SMALL STRUCTURES INVENTORY

Our small bridge/structures inventory is online and available for your use. This inventory captures culverts and small bridges between 10 and 20 feet. It helps us understand our statewide needs and inform the legislature as to the size of the local system. I hope to identify funds to direct at the repair and replacement of these small bridges.

LOCAL BRIDGES

We recently offered both an in-person and virtual training on GRS-IBS innovative bridge solutions We also presented on low-cost modular bridge replacements and bridge preservation methods. Our hope is to help locals slow the deterioration of our local bridge system and find ways to use what bridge funds there are in the most efficient way possible. We are on track with our first bridge bundling grant, building 8 bridges across the state and hope to submit for others - helping more of our local jurisdictions.

WHEREVER WE GO FROM HERE... LHTAC IS READY

Finally, I look to the coming months and we are ready to do business, provide services, deliver training, and design and build highway projects in our new environment. LHTAC is ready to adjust and adapt to meet our schedules whatever the new conditions dictate.

Jeff Miles began working in highway construction in college, spending summers on the survey crew for the Idaho Transportation Department. While completing his studies at Idaho State University he also spent time programming computers for ITD. After graduating, Jeff led a successful 33-year career with The Idaho Transportation Department working in several sections and districts, and in a number of management positions. In 2011 he joined LHTAC as the Deputy Administrator and later became the Administrator.

T2 CENTER UPDATE

BY LAILA KRAL, P.E. AND LHTAC DEPUTY ADMINISTRATOR

The past six months have been beyond challenging in this uncertain time. The T2 Center has had to adapt to varied guidance, (which at times felt like it was changing weekly), while striving towards training the local road employees of Idaho. More than once we have had to take a step back and evaluate what is planned, what is cancelled, and how to continue to meet the needs of our local agencies.

As you are aware, the Pocatello Safety Fest scheduled for April 14-16, 2020 and our spring in-person classes were cancelled. The T2 Center attempted to supplement the spring schedule by advertising outside training opportunities and offering a select few instructor-led virtual courses. This spring and summer gave us an opportunity to test out LHTAC hosted virtual training events and work with other Local Technical Assistance Programs (LTAPs) across the U.S. who was also adapting its training formats. We have been able to collaborate and learn through other LTAP Center's experiences.

This fall, and possibly into spring of 2021 you will see a variety of training options through the LHTAC T2 Center.

- In-Person Traditional Training Courses – Class size may be reduced to allow for social-distancing and masks will be required to meet Governor and/or local health department guidance.
- Instructor-led Live Virtual Courses – Classes will be held online through the ZOOM platform with local instructors that you may recognize from previous in-person courses, along with some new instructors. Some courses will be split up into multiple days (or sessions) to limit the amount of class hours at one time.
- Virtual Courses from Other LTAP Centers – The T2 Center has partnered with other LTAP Centers for specific trainings and we will continue sharing opportunities to take classes directly offered through other LTAP centers.
- Self-Paced Online Courses – The T2 Center will continue to share courses offered by our National Partners including the National Highway Institute (NHI), Transportation Curriculum Coordination Council (TC3) and others. Most of the courses are free to local agency employees.

The training opportunities listed on the next page will provide advancement within the T2 Road Scholar and Road Master Programs. To receive credit please keep your completion certificate. If you are unsure of how many credits, or for what class your online option may replace, please reach out to the T2 Center at 208-344-0565 or idahot2@lhtac.org.

If you subscribe to our email, you should receive information on all of the training opportunities above. Additionally, every Monday LHTAC emails "Tailgate Talks." These are brief safety talks highlighting a specific topic for the week. We hope these weekly prompts help motivate safety in your workplace. While the T2 Center is sharing one per week, there are many more available at https://nltapa.org/information-exchange/nltapa-tailgate-talks/.

The 2021 Pocatello Safety Fest is tentatively scheduled forApril 6-8, 2021. The planning committees for each of the Idaho Safety Fest Events: Boise, Idaho Falls, Lewiston, Pocatello, Post Falls, and Twin Falls will be meeting in September to discuss options for in-person, virtualT2T and hybrid combination events in 2021. The T2 Center will update you as we know more.
There undoubtedly is no playbook we can reference for how to deal with the uncertainty that has befallen us in 2020. If you have any requests for training, or suggestions on how we can provide better service, please don't hesitate to contact us. We will continue to focus on serving you, the local highway jurisdiction employees.

Laila grew up in Troy, Idaho before moving to Boise to attend college. She graduated from Boise State University with a degree in Civil Engineering. She worked in the private industry for close to 10 years before joining the Local Highway Technical Assistance Council. She is the LHTAC Deputy Administrator and manages the T2 Training Center and LRHIP grant program. She is married with two young daughters.

OFFICE OF INNOVATIVE PROGRAM DELIVERY

Transportation Training Available

GET STARTED TODAY!

As new and innovative ways to manage highway construction programs enter the transportation landscape, so does the need to keep your transportation staff's knowledge up to date. The staff training necessary to prepare for the future, however, can be difficult for local and tribal transportation agencies to afford.

Luckily, there are **no-cost trainings available** in need-to-know transportation topics, many of which can be done anywhere, any time. Learn more about the options to find the ideal fit for your agency's needs.

National Highway Institute (NHI)

*Recommended for **engineers** and **construction workers***

- 180+ online courses available.
- NO-COST access!
- NHI training for local and tribal transportation staff is sponsored by the Federal Highway Administration's Center for Local Aid Support.

Enter your government email when accessing NHI course offerings.

HOT TOPICS

Introduction to Safety Inspection of In-Service Bridges | Chip Seal Best Practices | Pipe Installation, Inspection, and Quality | Introduction to a Transportation Asset Management Plan | Hot In-Place Recycling

BROWSE COURSES AND REGISTER

http://bit.ly/nhitraining

TC3 – Transportation Curriculum Coordination Council, through AASHTO

*Recommended for **engineers** and **construction workers***

- 190+ online training modules.
- NO-COST access!
- TC3 training for local and tribal transportation staff is sponsored by the Federal Highway Administration's Center for Local Aid Support.

*Enter your government email and promotion code **D5X3-B3D9-52CB-4XCX** to access TC3 course offerings.*

HOT TOPICS

Flexible Pavement Preservation Treatment Series | Improving the Daily Diary | Change Orders, Claims, and Dispute Resolutions | Flagger Training | Pavement Markings | Proper Plowing Techniques | Flexible Pavement Preservation Treatment Series: Crack Sealing and Fillings | Basic Construction Surveying

BROWSE COURSES AND REGISTER

http://bit.ly/tc3training

FAQs

Who is eligible? NO-COST training is available only to employees of local governments or tribes. Sponsorship does not extend to private companies or academia.

How do I register? You can enroll in the web-based training through the registration links listed above.

Why do I need to use my government email to register? Your eligibility for no-cost access is authenticated by your government email address.

Is there a limit on the number of courses I may take? There is no limit—learn away!

May I share this with colleagues? Of course! Please email us if your colleague would like an electronic copy of this flyer.

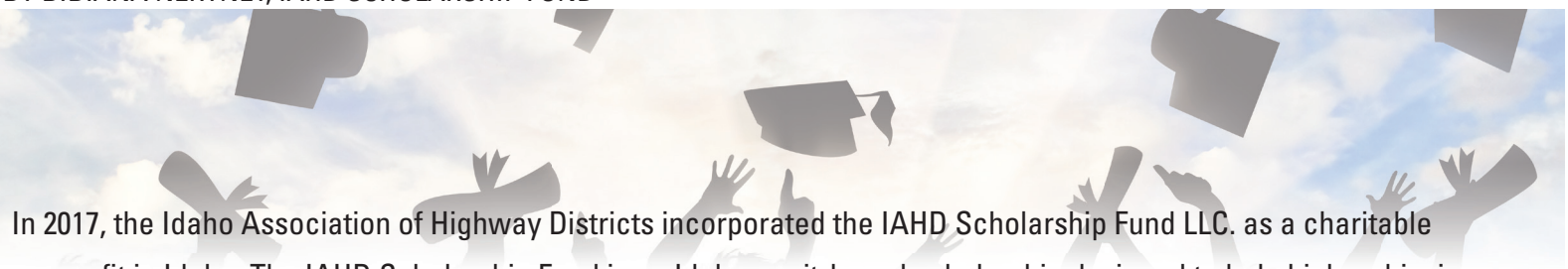
For more information:
Center for Local Aid Support | CLAS@dot.gov | 720-963-3522

Credits toward professional development hours (PDHs) or continuing education units (CEUs) are provided on a course-by-course basis.

U.S. Department of Transportation
Federal Highway Administration

SHAPING THE FUTURE

BY BIBIANA NERTNEY, IAHD SCHOLARSHIP FUND



In 2017, the Idaho Association of Highway Districts incorporated the IAHD Scholarship Fund LLC. as a charitable nonprofit in Idaho. The IAHD Scholarship Fund is an Idaho merit-based scholarship designed to help high-achieving students from predominantly underserved rural communities attend college or a vocational school. In 2020, seventeen $1,000 scholarships were awarded to deserving students throughout the state.

Eligible students are children and grandchildren of highway district employees and commissioners. Students must have a cumulative 2.5 GPA or higher to be eligible and complete a questionnaire describing how they will use their education to benefit their community. The application process begins in January and students awarded scholarships are notified in March.

Fundraising has typically taken place during the annual Transportation Convention in the form of a live and silent auction at the kickoff dinner. Unfortunately, the 2020 convention planned in Boise had to be cancelled due to COVID 19.

In an effort to continue to provide scholarships and keep the fund healthy, the IAHD Scholarship Board of Directors has decided to take fundraising virtual this year with an online auction.

THE AUCTION WILL BE HELD NOVEMBER 10-20, 2020 AND WE INVITE YOU TO PARTICIPATE. WITH GENEROUS DONATIONS FROM MEMBERS AND PARTNERS WE HOPE TO RAISE $25,000.

It's easy and fun to participate as a bidder. Simply go to charityauction.bid/IAHDscholarship and sign up as a bidder, browse the items and place a bid. You never know what treasure you might find just in time for the holidays.

A big thank you to our donors. Your generosity will provide over 20 scholarships for the 2021-22 school year.

For more information on the auction contact info@iahd.com. Bibiana is a board member for the IAHD Scholarship Fund and Communications Director for the Idaho Association of Highway Districts. She can be contacted at bibiana@iahd.com.

I WONDER WHAT THAT SIGN MEANS?

BY DAN GORLEY PE

As we are headed for our favorite campground with our new truck and RV, my wife asks, "honey, is it safe to drive over that bridge? Do you know what that sign means?"

I explained to her that these black-and-white signs are regulatory signs, similar to speed limit signs. The numbers on the signs are maximum limits that should not be exceeded for the driver's safety, the safety of others on or near the bridge, and for the ability of the bridge to remain open for some, but not all, travelers.

Federal law allows for bridges to remain open for some travelers if the bridge can safely handle a vehicle weighing 3 tons (6,000 pounds) or more. Otherwise, the bridge must be closed.

A bridge that has been posted with weight-limit signs cannot safely carry all legal vehicle loads. Engineering analysis has determined that the bridge cannot safely carry vehicles heavier than the posting, without causing damage. BEFORE CROSSING THE BRIDGE, the driver must know the vehicle's gross vehicle weight and weight of each individual axle.

After explaining this to my wife she says "Honey, let's turn around!"

The ITD graph explains more on bridge load posting signs.

Dan has been with the Idaho Transportation Department for 17 years. He is currently the Bridge Asset Management Engineer. Dan received his Civil Engineering degree from Idaho State University. Prior to working for ITD, Dan served over twelve years in the United States Air Force. Some of his experiences with bridges include; program management, design, research, maintenance, load rating, inspection, planning, and project management.

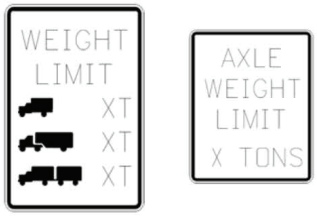
IDAHO BRIDGE LOAD POSTING SIGNS EXPLAINED

(INTENDED AUDIENCE: TRAVELING PUBLIC)

A bridge that has been posted with weight limit signs cannot safely carry all legal vehicle loads. Engineering analysis has determined that the bridge cannot safely carry vehicles heavier than the posting, without causing damage. BEFORE CROSSING THE BRIDGE, the driver must know the vehicle's gross vehicle weight and weight of each individual axle. The signs are "Regulatory Signs" and enforceable.

If a Bridge Is Restricted for Vehicle Weights, The Bridge Will be Signed 1 of 2 ways Using These Signs:

CONFIGURATION #1: R12-5 Sign in Combination with R12-2 Sign - OR- CONFIGURATION #2: R12-1 Sign



CONFIGURATION #1 EXAMPLE

R12-5

R12-2

Single Unit Truck
Gross Truck Weight is Limited to 8 Tons or 16,000 lbs (Unless Axle Limit Controls).

Tractor-Trailer Combination Gross Truck Weight for Semi Tractor-Trailer Combination is Limited to 14 Tons or 28,000 lbs (Unless Axle Limit Controls).

Truck Trailer Combination
Gross Truck Weight for Semi Tractor Trailer Combination is Limited to 15 Tons or 30,000 lbs (Unless Max Axle Controls).

Axle Limit - Max Weight for Any One Axle is 3.1 Tons or 6,200 lbs. This Limit May Control Over the Total Gross Limit of The Vehicle Depending on Number of Axles.

CONFIGURATION #2 EXAMPLE

R12-1

Any Vehicle
Gross Truck Weight for ANY Vehicle is Limited to 10 Tons or 20,000 lbs.

THE 3 TRUCK SILHOUETTES on a Weight Limit Sign represent the type of truck rather than number of axles because every possible vehicle configuration cannot be represented. These typical configurations show easily recognizable vehicles. *(See Page 2 for typical trucks represented by each truck type.)*