NOTEWORTHY PRACTICES GUIDE WINNERS

Recognizing proven lifesaving achievements by public agencies from across the country

> Jointly sponsored by the Federal Highway Administration and the Roadway Safety Foundation



U.S. Department of Transportation

Federal Highway Administration

2019 National Roadway Safety Awards

Recognizing life-saving engineering solutions that agencies have integrated into their roadway safety programs.

- Effectiveness
- Innovation
- Efficient Use of Resources

LETTER FROM THE FEDERAL HIGHWAY ADMINISTRATION

am delighted to join the Roadway Safety Foundation (RSF) in announcing the winners of the 2019 National Roadway Safety Awards competition. Every two years, the Federal Highway Administration and RSF ask public agencies from across the country to share with us their efforts to save lives on their communities' roads. Those who do so most successfully while demonstrating innovation, effectiveness, and efficient use of taxpayer resources are honored with this prestigious award. This guide is a showcase of collaboration, teamwork, and passion for safety.

I encourage you to read through this Noteworthy

Practices Guide, which summarizes each winning project and provides contact information for those who would like to learn more. In line with the missions of FHWA and RSF, each project must include an infrastructure or engineering component to be considered for an award, though you'll see that our exceptional group of honorees has gone above and beyond. From community outreach efforts, to integration with law enforcement, to novel ways of executing contracts, this guide is a showcase of collaboration, teamwork, and passion for safety. It is our hope that many of these projects will generate interest from other agencies.

Regardless of where we live or how we get around, all Americans deserve a safe and efficient transportation system. Our thanks to all of our 2019 award applicants for showing us how they are working to achieve that goal, and a big congratulations to our distinguished group of winners!

Thomas D. Everett

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LETTER FROM THE ROADWAY SAFETY FOUNDATION

or two decades, the Roadway Safety Foundation and the Federal Highway Administration have come together to recognize stellar examples of one of the most important functions of any level of government: protecting the lives of its citizens. The public agencies honored in the 2019 National Roadway Safety Awards have achieved this objective through some combination of improving infrastructure and operations on their roads, or finding innovative ways to plan, develop, deliver, and evaluate projects more efficiently. We owe them an immense debt of gratitude.

This year, we've recognized eight projects in six states, including winners in Virginia, Florida, South Dakota, Missouri, and Arizona, and an Honorable Mention in Garfield County, Washington. From the Sunbelt to the Snowbelt, our winners have shown that

From the Sunbelt to the Snowbelt, our winners have shown that innovative and cost-effective approaches to problem-solving can save lives. innovative and cost-effective approaches to problem-solving can save lives and deliver important transportation projects for their communities.

We could not sustain the National Roadway Safety Awards program without the generous support and input of our partners at the Federal Highway Administration, nor the dedication of our volunteer Blue Ribbon panel of judges that evaluates each of the applications. We are honored to have such outstanding partners, and are grateful for the opportunity to collaborate on this program. I'd also like to thank all of the agencies that applied for an award this year – the winners represent just a fraction

of the outstanding work that is being done day in and day out on behalf of America's road users. I hope that those who were not selected for an award this year will not be discouraged, and will instead keep an eye out for the 2021 call for nominations!

My thanks and congratulations to all!

Gregory Cohen, P.E.

Executive Director Roadway Safety Foundation

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TABLE OF CONTENTS

INFRASTRUCTURE AND OPERATIONAL IMPROVEMENTS CATEGORY (I&O)

	Missouri: US 63 Road Safety Assessment and Safety Improvements
	Arizona: Wrong-Way Driving Detection System7
	South Dakota: Application of High Friction Surface Treatment (HFST)
	in Winter Road Conditions8
P	ROGRAM PLANNING, DEVELOPMENT, AND EVALUATION CATEGORY (PPDE)
	Florida: Design-Build Push Button Contract9
	Virginia: Data- and Technology-Driven Strategic Guardrail
	Management Program 10

HONORABLE MENTION

Garfield County, WA: Road Safety Improvement Program	13
THE 2019 BLUE RIBBON PANEL	14
ABOUT OUR SPONSORS	14

Examples of winning entries from past competitions can be found at www.roadwaysafety.org/programs/national-roadway-safety-awards

WINNER (I&O): US 63 Road Safety Assessment and Safety Improvements

The Safety Concern: Four fatal and eight severe-injury crashes at three at-grade intersections along US 63.

The Solution: Median U-Turn implementation to reduce potential for severe right-angle collisions. **The Result:** 50% crash reduction at the locations and no fatal crashes in over four years.

n 2012, three atgrade intersections along US 63 – a four-lane expressway in central Missouri - were identified for improvements by a multi-disciplinary team of engineers, technicians, law enforcement officers, and others who were performing Road Safety Assessments (RSA) on the route between Columbia, MO and the lowa state border. The three intersections to be



Median U-turn in Clark (intersection of US 63 and Routes B/P)

is traditionally a left turn onto the expressway. The concept is intended to eliminate right-angle crashes, which are typically more severe and more often lead to fatal or serious injuries than other crash types. This design had previously been used in Missouri with overall success, but was unfamiliar to drivers in the North Missouri region. An extensive public involvement campaign educated stakeholders, including business leaders,

improved were those with the highest crash severity of the 11 initially studied: at Hinton Road north of Columbia in Boone County, Routes B and P near Clark in Randolph County, and Route M near Atlanta in Macon County. Among the numerous severe-injury crashes at these locations were four fatal collisions that took place prior to the sites being upgraded.

To address the problem, project teams in the Missouri Department of Transportation's (MoDOT) Central and Northeast Districts developed and implemented a solution to improve safety: following extensive public outreach, the team proposed construction of "Median U-Turn" intersections at all three locations.

Median U-Turn intersections eliminate side road crossing and side road left turn movements at intersections on four-lane expressways. The intersections require side road traffic to turn right, merge into oncoming traffic, then merge to a median deceleration and U-turn movement to cross or make what city and county officials, statewide elected officials, and the general public, on the need for improvements and the benefits of the Median U-Turn concept.

The three intersection projects were awarded in combination to a single contractor in April 2014 and constructed through that summer and fall. Award costs for each intersection were between \$650,000 and \$1.43 million – substantially lower than the estimated \$5,000,000 - \$7,000,000 that traditional interchange improvements would have been at each location.

Following construction, the three intersections have been monitored for performance, and results have been overwhelmingly positive. Overall crashes were reduced by 50 percent, and fatal and serious-injury crashes were completely eliminated.

Agency: Missouri Department of Transportation

Project Contact: Paula Gough, District Engineer Email: <u>paula.gough@modot.mo.gov</u> Phone: (573) 248-2490

WINNER (I&O): Arizona's Wrong-Way Driving Detection System

The Safety Concern: 116 wrong-way driving (WWD) fatalities in Arizona from 2004 – 2016, including a near doubling in WWD deaths between 2015 and 2016.

The Solution: A first-in-the-nation WWD detection system using thermal camera technology.

The Result: Notification to authorities within 5 seconds of a WWD being detected, and immediate alerts to right-way drivers who are in the area.

rom 2004 – 2014, 91 people were killed in wrong-way crashes across Arizona. In the two years 2015 and 2016, the number of serious injuries and fatalities due to wrongway drivers more than doubled, from 16 to 37, and amplified media attention brought new public concern to the issue. The crashes were following patterns – 75 percent were occurring at night, most collisions occurred in left lanes



Wrong-Way Pilot DMS Display to Right-Way Drivers

ADOT installed a first-in-the-nation wrong-way driving (WWD) detection system using thermal camera technology.

app, and immediate notification to law enforcement and traffic operators in ADOT's Traffic Operations Center (TOC). Previously, wrong-way driver alerts relied on 911 calls, which are often contradictory and unreliable. The data now show law enforcement being notified within 5 seconds of the system detecting a wrong-way driver.

Since January 2018, there

between the hours of 10 p.m. and 3 a.m., and about 75 percent of the drivers were impaired. Highway safety officials realized more had to be done to reduce the risk associated with wrongway drivers.

In 2017, ADOT installed a first-in-the-nation wrong-way driving (WWD) detection system using thermal camera technology. All the hardware used for the pilot system is commercially available, off-the-shelf technology that has been used for decades in the transportation industry. The WWD system takes these time-proven components and assembles them in a new and innovative way.

Installed along a 15-mile stretch of I-17 in central Phoenix, the \$4 million system consists of 90 FLIR thermal cameras positioned throughout the corridor to detect wrong-way vehicles, illuminated "WRONG WAY" signs for enhanced notification to the wrong-way driver, geofenced alerts of incoming danger to right-way drivers through overhead boards and the ADOT Alerts have been 10 wrong-way vehicle entries onto the mainline of I-17. Law enforcement was alerted immediately to the location on I-17 and within minutes arrived in the area. Eighty-six wrong-way drivers have either self-corrected before entering the freeway or used the frontage road, and have not caused crashes. The system is also compiling data on WWD patterns to inform future engineering design developments. Interest in the system has been high, and ADOT has hosted traffic engineers from California, Texas, Rhode Island, North Carolina, Florida, Utah and Colorado who wanted to see it in action. ADOT also supported public engagement through its "Drive Aware, Get There" public outreach campaign to support the launch of the WWD detection system and educate drivers about minimizing risk.

Agency: Arizona Department of Transportation (ADOT)

Project Contact: Brent Cain, Division Director Email: <u>bcain@azdot.gov</u> Phone: (602) 712-4728

WINNER (1&O): South Dakota's Application of High Friction Surface Treatment (HFST) in Winter Road Conditions

The Safety Concern: One third of road departure crashes in South Dakota (which account for a majority of the state's fatal and serious injury crashes) occur on horizontal curves, even though horizontal curves make up less than 10% of South Dakota's road network.

The Solution: The first demonstration of high friction surface treatment (HFST) as a successful countermeasure in winter road conditions.

The Result: A 77-80% crash reduction at the test project locations, yielding a 12:1 benefit-cost ratio.



HFST applied at horizontal curve on US Highway 14A through Boulder Canyon west of Sturgis, South Dakota.

"This project has demonstrated that the use of High Friction Surface Treatments are a great tool for enhancing our facilities with the goal of reducing crashes and fatalities. We were very excited with the results of the project and will be using the treatment on other locations in the state where appropriate. I applaud our employees' efforts in finding innovations that are cost effective and strive to meet our goal of providing 'Better lives through better transportation.'" — Joel Jundt, Deputy Secretary, SDDOT

igh Friction Surface Treatment (HFST) has been used widely across the US to treat road departure crashes at horizontal curves with wet road conditions as a contributing factor. However, South Dakota has five times more roadway departure crashes involving winter road conditions than wet road conditions, and discovered that HFST had not been tested as a treatment for this crash type. Moreover, one third of roadway departure crashes occur on horizontal curves, even though horizontal curves account for less than 10 percent of the system.

Due to the over-representation of road departure crashes at horizontal curves with winter road conditions as a contributing factor, it was decided to use HFST in an innovative way to address this safety need. In 2014, South Dakota completed a test project using HFST at four horizontal curves with dramatic results. A three year before and after crash analysis for the targeted crash type showed an 80 percent crash reduction; if the Winter Severity Index is applied, the total crash reduction is 77 percent. Given the success of the project, in 2017 SDDOT expanded it to 15 locations in the Black Hills area of the state. For the five years prior to the project, these 15 sites averaged a total of 21 winter road condition crashes, including seven injury/fatal crashes, per year. Through two winter seasons after the project, there were nine crashes and one possible injury, for a total crash reduction of 78 percent and a benefit-cost ratio of the project of 12:1.

Given the success of the project, in 2017 SDDOT expanded it to 15 locations...

Ultimately, the innovative use of HFST in South Dakota is anticipated to save \$18M in societal crash costs – a tremendous benefit to the residents of South Dakota and those visiting or just passing through.

Agency: South Dakota Department of Transportation (SDDOT)

Project Contacts: Andy Vandel, Highway Safety Engineer Email: <u>andy.vandel@state.sd.us</u> Phone: (605) 773-4421

WINNER (PPDE): Florida's Design-Build Push Button Contract

The Safety Concern: Many traffic safety improvement projects are too large for FDOT's in-house maintenance teams, but not appropriate for major 5-year work plans, hence a long delay in getting from "concept to concrete".

The Solution: An innovative combination of two contractual mechanisms: design-build contracts and push-button contracts.

The Result: A nearly 75% reduction in the length of time to get projects implemented, preventing approximately 55 crashes in the first year.

he traditional design/ bid/build process that is typical of transportation projects often takes approximately 36 months to go from "concept to concrete." The Design-Build Push Button (DBPB) contract, developed by a team of Florida Department of Transportation (FDOT) employees in the District office in the Tampa Bay Region, is an innovative program designed to accelerate the process of constructing traffic safety improvements.

The innovative DBPB contractual approach addressed the inherent inefficiencies of the typical contractual process for these traffic safety improvement projects by combining the efficiencies of design-build

contracts (in which designer is working in close coordination with the construction team) with the time savings of push-button contracts (in which pre-selected push-button contractor is able to quickly get to work since all of the contractual paperwork is already in place). In the design-build scenario, the designer and the construction contractor are working together on the same team, so there are no misunderstandings about the what and the how of the project. The project also gets built faster, as construction activities can begin while some parts of the plan are still being finalized. In the



I-275 NB Off Ramp and SB On Ramp at 31st St

"From its inception, the goal has been focused on getting safety improvements quickly from 'concept to concrete.' Through this contract, safety improvements can be constructed in just a few months, rather than taking three or more years as is typical through the traditional design, bid, build process. Each day we save in getting these safety improvements built translates into lives being saved." — David Gwynn, P.E. - District Seven Secretary, FDOT push-button scenario, significant time savings are realized from having pre-approved contractors on stand-by who can quickly be mobilized to do certain types of work.

The DBPB program is a partnership of FDOT and the Federal Highway Administration's (FHWA) Florida Division, and has been highly effective in achieving the goal of quickly getting safety improvements implemented. In the first year of the program (2017-2018), it is estimated that over 55 crashes were avoided by reducing safety improvement implementation time from three years to 310 days. Using FDOT's estimate of the societal costs of crashes involving injury to be an average of \$152,866 per crash, the total estimated societal benefit realized in the first year of the DBPB contract is \$8,407,630.

Given the success of this first-of-its-kind contractual arrangement designed specifically to accelerate construction of safety improvements in order to move toward zero deaths, FDOT will be expanding the use of DBPB throughout the state, and Florida's FHWA Division Office has promoted it to other Divisions as well.

Agency: Florida Department of Transportation (FDOT)

Project Contact: Matt Nance, Safety Studies Engineer Email: <u>matthew.nance@dot.state.fl.us</u> Phone: (813) 975-6747

WINNER (PPDE): Data- and Technology-Driven Strategic Guardrail Management Program in Virginia

The Safety Concern: Roadway departure crashes account for approximately two-thirds of Virginia's highway fatalities, yet the state lacked an efficient way to manage one of its most important assets to combat this crash type: guardrails.

The Solution: An innovative data- and risk-based strategic guardrail management program.

The Result: Successful management of the state's 7,400 miles of guardrail, and prioritized improvements to the lowest-functioning guardrails/end terminals in the locations with highest crash risk.

n Virginia, approximately two thirds of fatalities are the result of roadway departure crashes. Various national research studies indicate that having appropriate guardrail can produce a crash reduction factor of up to 40 percent for roadway departure crashes. Therefore, the repair, replacement, and/or upgrade of guardrail systems is critical to the safety of the traveling public.



The Virginia Department of Transportation (VDOT) main-

tains the third largest state-maintained highway system and one of the largest guardrail networks in the nation, with approximately 7,400 miles of guardrail and 150,000 terminals. Like many other states, VDOT faces many challenges managing this very complicated program, including aging assets, lack of inventory and information on condition, intense regulatory and media interest in guardrail safety and performance, changing guardrail standards, and limited funding for guardrail repair and upgrades.

To meet these challenges, in 2016, VDOT established a new data- and risk-based strategic guardrail management program and leveraged data and technology to drive institutional changes in policy, inventory, process, and supporting management tools. For instance, leveraging technology, VDOT collected a complete statewide guardrail terminal inventory with detailed manufacturer and product information within a few months and at a nominal cost. A new Guardrail

Guardrail teams assess a high priority guardrail using the VDOT Guardrail Tracker

Tracker Tool allows data collection and communication via a single, agency-wide, cloud-based GIS platform. It also supports activities across the guardrail lifecycle, from initial warrant assessment, design, project delivery, maintenance, and eventual upgrade and/or removal.

VDOT also moved from the traditional paving corridor-driven investment approach and now prioritizes investment across the full network through an innovative framework that integrates crash and roadway geometry, guardrail condition, and paving project data. This risk- and performance-based

approach allows VDOT to identify and improve guardrail assets with the highest safety benefits, maximizing limited resources. Other program highlights also include real-time performance measures through Business Intelligence (BI) tools, mobile field data collection, and a robust knowledge management program.

Through these innovations, VDOT has measurably improved life-cycle management of guardrail and its return on investments, better protecting the safety of the traveling public in Virginia by improving hundreds of the lowest-functioning guardrail terminals at the highest-risk locations across the state, including the top 10th percentile Interstate crash locations.

Agency: Virginia Department of Transportation (VDOT)

Project Contact: Vanloan Nguyen, Assistant State Traffic Engineer Email: <u>vanloan.nguyen@dot.virginia.gov</u> Phone: (804) 786-2918

WINNER (PPDE): "Alert Today Florida" Bicycle/Pedestrian Initiative

The Safety Concern: From 2008 – 2011, Florida suffered the highest pedestrian and bicycle fatality rates in the United States.

The Solution: Development of a comprehensive Bicycle/Pedestrian Focused Initiative branded "Alert Today Florida".

The Result: 18 lives saved, 324 injuries prevented, and more than a \$200 million savings for the state.

Based on crash data from the National Highway Traffic Safety Administration (NHTSA), Florida had the highest pedestrian and bicyclist fatality rates in the US from 2008–2011. Pedestrian and bicycle safety is a major concern and has been elevated to one of the highest priorities in Florida.

To develop and implement effective and sustainable solutions to improve pedestrian and bicycle safety in Florida, the Florida Department of Transportation (FDOT) developed Florida's Bicycle/ Pedestrian Focused Initiative in 2011 to lead all efforts to improve pedestrian and bicycle safety in the state. The campaign was branded "Alert Today Florida" in 2012. In 2013, FDOT developed Florida's Pedestrian and Bicycle Strategic Safety Plan



Participants fill out surveys and/or pledges to receive a pedestrian and bicycle safety bag of educational information.

"Alert Today Florida has increased awareness in motorists of the importance of sharing the road safely with vulnerable road users, and the high visibility enforcement campaign has helped to achieve this change. Great inroads in our communities have been made by the program's focus on education and enforcement." — Mr. L. K. Nandam, P. E., District One Secretary, FDOT

Where HVE operations and educational activities took place ... a total of 18 lives were saved, and 324 injuries and 338 pedestrian and bicycle crashes were avoided.

(PBSSP) and formed the Florida Pedestrian and Bicycle Safety Coalition to vigorously implement the plan. Alert Today Florida adopted a data-driven approach to use available resources to achieve the most tangible results, focusing on engineering, education, enforcement, and emergency medical services, while prioritizing areas with the highest representation of traffic crashes resulting in serious and fatal injuries to pedestrians and bicyclists. From 2013 to the present, under Alert Today Florida, major pedestrian and bicycle safety-related engineering projects, educational outreach events, paid media advertisements, and High Visibility Enforcement (HVE) activities have been implemented statewide, especially in priority areas. Based on available official crash data, between 2016–2017 and 2015–2016, there was a 5.14 percent reduction in pedestrian and bicyclist fatalities, a 4.60 percent reduction in injuries, and a 3.88 percent reduction in crashes on selected highcrash corridors in the top 15 high priority counties where HVE operations and educational activities took place. A total of 18 lives were saved, and 324 injuries and 338 pedestrian and bicycle crashes

were avoided. The estimated cost savings for Florida was more than \$209 million.

Agency: Florida Department of Transportation (FDOT)

Project Contact: Trenda McPherson, State Bicycle/Pedestrian Safety Program Manager Email: <u>trenda.mcpherson@dot.state.fl.us</u> Phone: (850) 414-4025

WINNER (PPDE): Virginia's Pedestrian Safety Action Plan (PSAP)

The Safety Concern: Between 2012 and 2016, over 450 pedestrians died and another 8,000 were injured while walking across or along public roads in Virginia.

The Solution: VDOT created a PSAP to better understand Virginia's pedestrian safety concerns, recommend policy changes, and identify and fund locations for pedestrian safety projects.

The Result: The PSAP report and online map were completed in May 2018 and, in November 2018, VDOT awarded \$8 million to 25 pedestrian safety projects at PSAP-identified locations across Virginia.

Pedestrian safety is a major concern in Virginia. Between 2012 and 2016, over 450 pedestrians died and over 8,000 were injured while walking along or across Virginia's public roads. Over 90 percent of Virginia's pedestrian crashes occur when the pedestrian is crossing the street. More than half (62% of crashes)



Pacific Avenue, Virginia Beach PSAP Improvements

areas where pedestrian safety may need attention and resource investment. At the workshops, VDOT announced \$8 million dollars in initial funding for infrastructure projects at the locations identified in the plan. The funding was available for pedestrian crossing improvements using

occur at mid-block pedestrian crossings.

In the spring of 2018, the Virginia Department of Transportation (VDOT) released its first statewide Pedestrian Safety Action Plan (PSAP), a national model focusing on sites where safety countermeasures should be considered to improve pedestrian safety. The PSAP process, led by VDOT and a stakeholder team, evaluated all public road segments in Virginia to determine locations with a history of, or potential for, pedestrian safety concerns. This evaluation demonstrated the interaction between the built environment and pedestrian safety.

During the summer of 2018, VDOT hosted a series of workshops across the Commonwealth to walk VDOT, local agency staff and contractors through the final report and interactive website and mapping tool, introducing them to the priority pedestrian corridors and crash clusters in their respective areas.

The educational workshops fostered partnerships with local agencies by quickly identifying low-cost, high-benefit pedestrian safety countermeasures. To be eligible for the funding, proposed projects had to target road locations on a priority pedestrian corridor or in a crash cluster identified by the PSAP. VDOT prioritized projects that could be completed quickly, by 2019 or early 2020.

Fifty-nine candidate PSAP projects valued at over \$43 million were submitted to VDOT within weeks of the funding announcement. After evaluating submittals, in November 2018, VDOT announced the award of the \$8 million to 25 projects. VDOT will continue to monitor projects that received funding. The team expects a reduction in pedestrian crashes at locations where PSAP countermeasures are installed.

Agency: Virginia Department of Transportation (VDOT)

Project Contact: Mark A. Cole, State Highway Safety Engineer Email: <u>mark.cole@vdot.virginia.gov</u> Phone: (804) 786-4196

HONORABLE MENTION: Garfield County Road Safety Improvement Program

The Safety Concern: Rural Garfield County, WA lacked a data-driven, systematic process for identifying and prioritizing road safety improvement needs on county roads.

The Solution: Development of the Garfield County Road Safety Improvement Plan (RSIP). **The Result:** A dozen projects completed, ongoing, or planned which have resulted in a 16% drop in crashes county-wide.

espite a commitment to work with Federal and State Agencies to make roadway safety a top priority and move "Towards Zero Deaths" (TZD), Garfield County, WA lacked a data-driven, systematic process for identifying and addressing crash patterns and safety improvement needs on the county roadway network. This was of particular concern for Garfield County, which is a small rural jurisdiction with limited resources to invest in capital projects. Fully committing to goals set forth for the TZD initiative required establishment of a plan that identified feasible goals, applicable countermeasures, and efficient processes to prioritize investments.





Full striping (centerline and fog lines), system wide sign evaluation and upgrades, delineators, vertical panels, guardrail, roadside hazard mitigation, alignment correction, sight distance improvements.

To pursue the goals of the TZD initiative, Garfield

County developed the Garfield County Road Safety Improvement Plan (RSIP), which serves as the cornerstone of a long-term, comprehensive safety program for the County's rural roadway system. The RSIP examines historical crash data and highlights contributing factors for crashes, and provides a framework to collect data, analyze crash patterns, screen the rural roadway network for safety needs, identify low-cost countermeasures applicable throughout the entire roadway network, target locations for safety improvements, and develop a process for prioritizing investments.

Subsequently, plans for collecting data in a systematic manner have been established, two projects have been completed since initial development of the Safety Plan, two ongoing programs have been created to address roadside and clear zone issues, and eight projects have been included in the County's Planned Safety Projects list. Preliminary examination of crash data for the entire County indicates a 16 percent drop in crashes. As more projects initiated in the Safety Plan are completed, crash and other relevant data will be tracked to determine effectiveness of specific applied countermeasures.

Local Agency: Garfield County, WA

Project Contact: Walter G. Morgan, PE, County Engineer Email: <u>garfeng@co.garfield.wa.us</u> Phone: (509) 843-1301

Consulting Agency: Skillings Connolly, Inc.

Project Contact: Floraliza Bornasal, Ph.D., Traffic Engineer Email: <u>Ibornasal@skillings.com</u> Phone: (360) 491-3399

2019 NOTEWORTHY PRACTICES GUIDE

THE 2019 BLUE RIBBON PANEL

Our sincere thanks to this year's blue ribbon panel. Each of the judges below dedicated significant time and energy to evaluate the pool of applicants on the basis of innovation, effectiveness, and efficient use of resources. Without their contributions, the Awards program could not succeed.

Bruce Hamilton, MPH

Managing Director Roadway Safety Foundation

Ivan Horodyskyj, P.E. NOVA District Traffic Engineer Virginia Department of Transportation

Bernardo Kleiner Senior Program Officer – Transportation Safety Specialist Transportation Research Board (TRB)

Norah Ocel, PE Safety Partnerships Manager Federal Highway Administration

ABOUT THE SPONSORS

The Federal Highway Administration

The FHWA Office of Safety's mission is to exercise leadership throughout the multidisciplinary highway community (engineering, law enforcement, education and emergency medical service) to make the Nation's roadways safer for all users by significantly reducing highway fatalities and serious injuries through a data-driven approach.

The current focus approach to safety includes the following areas: Roadway Departure, Intersections, and Bicycle and Pedestrians.

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The Roadway Safety Foundation

The Roadway Safety Foundation is a 501(c)(3) nonprofit charitable and educational organization solely dedicated to reducing the frequency and severity of motor vehicle crashes by improving the safety of America's roadways. To this end, the RSF focuses on improving the physical characteristics of roadways, such as design and engineering, operating conditions, removal of roadside hazards, and effective use of safety features.

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