AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO

PAUL TROMBINO III, PRESIDENT
DIRECTOR, IOWA DEPARTMENT OF TRANSPORTATION

BUD WRIGHT, EXECUTIVE DIRECTOR

444 NORTH CAPITOL STREET NW, SUITE 249, WASHINGTON, DC 20001
(202) 624-5800 • FAX: (202) 624-5806 • WWW.TRANSPORTATION.ORG

DATE: July 1, 2016

AASHTO TECHNICAL SERVICE PROGRAM INVOICES

Mr. Malcolm Dougherty
Director
California Department of Transportation
1120 N Street, MS 49
Sacramento, California 95814
Malcolm.Dougherty@dot.ca.gov

Dear Mr. Dougherty, Malcolm

One of the most important ways in which AASHTO serves each member department and their staff is through the provision of Technical Service Programs (TSPs). Technical Service Programs provide benefits to the member departments of transportation through the pooling of resources and expertise from across the country. This letter is to encourage your participation in funding the following AASHTO Technical Service Programs administered through AASHTO's Engineering and Technical Services Division and AASHTO's Program for the Environment (invoices attached). Other TSPs will be presented to you and your staff under separate correspondence.

Individual FY 2017 invoices are enclosed with this letter seeking voluntary contributions from your department to support the development and continued operation of each of these critical programs. Similar invoices are rendered each fiscal year. For more information on the Technical Service Programs, please see the enclosed descriptions, visit the TSP webpages, and select the link to the informational brochures.

Technical Service Program	Abbreviation
AASHTO Innovative Initiative (formerly the Technology Implementation Group (TIG))	A.I.I.
AASHTO Product Evaluation Listing	APEL
Development of AASHTO Materials Standards	DAMS
Environment Technical Assistance Program	ETAP
Equipment Management Technical Services Program	EMTSP
Highway Safety Policy and Management Technical Service Program	SAFETY
Load and Resistance Factor Design (LRFD) Bridges and Structures Specification Maintenance	LRFDSM
National Transportation Product Evaluation Program	NTPEP
Operations Technical Service Program	OPERATIONS
Resilient and Sustainable Transportation Systems Technical Assistance Program	RSTS
Snow and Ice Cooperative Program	SICOP
Transportation and Civil Engineering Program	TRAC
Transportation Curriculum Coordination Council	TC3
Transportation System Preservation Technical Service Program	TSP2

As AASHTO continues to move forward with the implementation of its Strategic Plan, we remain diligent in seeking your input on where AASHTO can provide maximum value to each of its member departments through TSPs.

In the meantime, if you have questions about any of these technical service program invoices or the services associated with these programs, please contact Keith Platte, Associate Program Director for Project Delivery, by email kplatte@aashto.org or call him at 202-624-3697.

AASHTO would appreciate your response by October 1, 2016; and thanks you for your continued support and interest.

Sincerely,

Bud Wright
Executive Director

Enclosures

CC: Member Department: California
Associated AASHTO Committees

BW:mav

Malcolm:

Thanks as always for your leadership. I hope you and staff will take a close look at these TSPs and consider what could best support your needs.

Regards,
Bud

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FEDERAL I.D.#: 53-0204654

I N V O I C E

July 1, 2016

BILLED TO:

Mr. Malcolm Dougherty
Director
California Department of Transportation
1120 N Street, MS 49
Sacramento, CA 95814

Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
AASHTO Innovation Initiative		$ 6,000
Total for California Department of Transportation		$_____

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Director
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Sacramento, CA 95814

Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
AASHTO Product Evaluation Listing (APEL)		$ 1,200
Total for California Department of Transportation		$_____

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1120 N Street, MS 49
Sacramento, CA 95814

Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
Development of AASHTO Materials Standards (DAMS)		$ 5,000
Total for California Department of Transportation		$_____

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Sacramento, CA 95814

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Environment Technical Service Programs	**Order #**	**AMOUNT**
Environment Technical Assistance Program (ETAP)		$ 8,000
Total for California Department of Transportation		$_____

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Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
Equipment Management Technical Services Program (EMTSP)		$ 3,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
Highway Safety Policy and Management Technical Service Program (SAFETY)		$ 10,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
Load and Resistance Factor Design (LRFD) Bridges and Structures Specification Maintenance (LRFDSM)		$ 10,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
National Transportation Product Evaluation Program (NTPEP)		$ 17,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
Operations Technical Service Program		$ 15,000
Total for California Department of Transportation		$_____

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Environment Technical Service Programs	**Order #**	**AMOUNT**
Resilient and Sustainable Transportation Systems (RSTS)		$ 10,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
Snow and Ice Cooperative Program (SICOP)		$ 4,000
Total for California Department of Transportation		$_____

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Engineering Technical Service Programs	**Order #**	**AMOUNT**
Transportation and Civil Engineering (TRAC) Program		$ 14,000
Total for California Department of Transportation		$_____

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California Department of Transportation
1120 N Street, MS 49
Sacramento, CA 95814

Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
Transportation Curriculum Coordination Council (TC3)		$ 20,000
Total for California Department of Transportation		$_____

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Support AASHTO's FY 2017 participation in all Engineering Technical Service Programs.

Engineering Technical Service Programs	**Order #**	**AMOUNT**
Transportation System Preservation (TSP2)		$ 20,000
Total for California Department of Transportation		$_____

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AASHTO Innovation Initiative http://aii.transportation.org/
(Formerly known as the Technology Implementation Group, TIG)
Associated AASHTO Committees: Standing Committee on Highways, Research Advisory Committee

AASHTO Innovation Initiative actively seeks out advancements in transportation technology and invests time and money to accelerate their adoption by agencies nationwide. Each year, the program selects highly valuable (but largely unrecognized) procedures, processes, software, devices, or other innovations that have been adopted by at least one agency, are market ready, and are available for use by other interested agencies. The purpose of the Initiative is to share information with AASHTO member agencies, local agencies, and their industry partners to improve the nation's transportation system. While the program's name has changed, its primary objective has stayed the same. A.I.I. has also partnered with FHWA to assist with the implementation efforts of EDC.

To date, more than 40 transportation agency innovations have been adopted by members through the program. These include now-common advances such as e-Construction, the TowPlow, Plans on Demand and the ARC-GIS Online-based geospatial transportation mapping platform known as UPLAN.

$6,000 per year

AASHTO Product Evaluation Listing (APEL) http://apel.transportation.org/
Associated AASHTO Committee: Subcommittee on Materials

APEL is a web-based technical service program that serves as a clearinghouse for state-level evaluation as well as testing of new and/or proprietary engineered transportation products. The program allows manufacturers to submit products online for evaluation by an independent testing facility contracted through AASHTO. The resulting report is available to all state agencies through the APEL system. This process saves the states individual resources used for evaluation of proprietary products and saves the manufacturer time and expense for evaluation by multiple state agencies.

APEL also serves as a web-based listing that details individual state evaluations and certification of new products. Use of the online reviews permits states to streamline new product evaluation processes and lower the evaluation costs.

The APEL Council, which works with the National Transportation Product Evaluation Program, is charged with program guidance and development.

$1,200 per year

Development of AASHTO Materials Standards (DAMS) http://materials.transportation.org
Associated AASHTO Committees: Subcommittee on Materials

The DAMS program supports the development of new materials standards and test methods as well as providing support for technical revisions and updates to current standards. The financial contributions provide additional resources in the form of independent technical writers to help write new standards or make major revisions to current standards.

The funds assist in expediting the development of these important documents and allow the subcommittee members to better manage the limited volunteer time they have for subcommittee work.

$5,000 per year

Environment Technical Assistance Program (ETAP) http://scoe.transportation.org/
Associated AASHTO Committee: Standing Committee on Environment

The Environmental Technical Assistance Program (ETAP) is a critical resource for state departments of transportation that provides cost-effective services and timely information to assist state DOTs with addressing environmental challenges. The goal of ETAP is to supply AASHTO members with the tools and resources necessary to enhance their department's program delivery, environmental streamlining, and environmental stewardship. ETAP allows AASHTO staff to collaborate with the state DOTs and other topical experts to develop comments on relevant proposed federal legislation, regulations, and guidance. ETAP also provides opportunities for partnership building and collaborative problem solving among state and federal transportation and environmental organizations.

ETAP supports national meetings for members on important environmental topics (E.g. stormwater, air quality). ETAP provides members of the Standing Committee on Environment the ability to participate in environmental conferences of national importance. ETAP supports the development of comment letters to federal agencies on proposed rules and guidance, including topics such as stormwater, wetlands, air quality, and historic resources. All contributing members of ETAP receive Bloomberg BNA's Transportation/Environment Alert. This weekly newsletter highlights the latest developments in the field of transportation and environmental management, compliance, and stewardship, including federal legislative and administrative actions, State DOT case studies, and AASHTO program updates.

$8,000 per year

Equipment Management Technical Service Program (EMTSP) http://www.emtsp.org/
Associated AASHTO Committee: Subcommittee on Maintenance

On average, State DOT fleets comprise a significant asset investment, ranging from 5,000 to 8,000 pieces of equipment with replacement costs of approximately $400 million. Annual expenditures can reach upwards of $80 million per year and are a large portion of all public works agencies' budgets and expenses. The effectiveness of such equipment fleet operations affects the public agencies' ability to adequately perform normal activities and successfully respond to emergency events. In addition, the rate of advancement of technology associated with roadway construction and maintenance equipment is so rapid that it is nearly impossible for individual public agencies to stay abreast of the latest technologies, evaluate these technologies, and implement the most cost-effective technologies to gain the advantages that they could provide.

The Equipment Management Technical Service Program keeps current data pertaining to new types of equipment along with advancing innovation and technology directly related to equipment fleets. This program also helps advance asset management principles in the management of these fleets. This information is disseminated throughout the state DOTs to reduce costs of maintenance operations.

$3,000 per year

Highway Safety Policy and Management Technical Service Program (SAFETY)
Associated AASHTO Committees: Standing Committee on Highway Traffic Safety and Subcommittee on Safety Management

AASHTO member departments coordinate and cooperate with numerous public safety agencies and highway safety partners to develop and implement programs for improving safety on all public roads. The Highway Safety Policy and Management TSP supports these State DOT efforts, as well as

AASHTO's highway safety efforts, including support for the continued development of the Highway Safety Manual and the "Toward Zero Deaths" initiative. It also supports staff efforts to revise and implement other safety-related publications, coordinate and cooperate with other public safety agencies and highway safety partners to develop and implement programs, and coordinate AASHTO input into the publications of other organizations, with the ultimate goal of reducing highway fatalities and injuries.

$10,000 per year

Load and Resistance Factor Design Bridges and Structures Specification Maintenance (LRFD)
http://bridges.transportation.org

Associated AASHTO Committees: Subcommittee on Bridges and Structures

This technical service program supports maintenance of the LRFD specifications, as well as other related bridge standards and specifications. Funding is also used to cover mid-year meetings for technical committees working on publication changes, for special studies on various design issues, and for AASHTO staff support to the Subcommittee on Bridges and Structures.

In recent years, the program has paid for technical assistance and support contracts in the areas of seismic design, wind load issues, and bridge preservation for the Subcommittee on Bridges and Structures, as well as research and software development on bridge management (element level inspection). The program also funded a series of training webinars on the newly published *LRFD Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. In FY18, the program will deliver the 1st Edition of the *LRFD Tunnel Design & Construction Specifications*, the 8th edition of *the LRFD Bridge Design Specifications*, as well as new editions of 3 additional bridge titles.

$10,000 per year

National Transportation Product Evaluation Program (NTPEP) http://www.ntpep.org/

Associated AASHTO Committees: Research Advisory Committee, Subcommittee on Materials, Construction, Bridges & Structures, Maintenance and Traffic

This program generates independent, unbiased data for AASHTO member departments to utilize for product qualifications. Conservatively, the program generates $3,000,000 of test data each year, saving member departments hundreds of man-hours of product qualification testing and manufacturing audits. NTPEP was established by the AASHTO Board of Directors in 1994 to cooperatively test manufactured transportation products that are of common interest to all member departments and share the results from these laboratory and field evaluations. By pooling the physical and professional resources of member departments, NTPEP is able to provide coordinated evaluations on various products and manufacturing processes in the areas of traffic safety, construction, and maintenance.

The program is evaluated every four years for financial viability, its effectiveness, the funding mechanisms to support it, and the need for its continuance. NTPEP is run through a joint funding concept between participating Industry and AASHTO members, with revenue from industry being used primarily for auditing or testing of and reporting on their products, and with voluntary member dues used primarily for support services to administer NTPEP.

$17,000 per year

Operations Technical Service Program http://www.transportationops.org/
Associated AASHTO Committee: Subcommittee on Transportation Systems Management and Operation

A voluntarily-funded technical service program (TSP) to support the new National Operations Center of Excellence (NOCoE) was established by the AASHTO Board of Directors in May 2014. This TSP is an outcome of the MOU signed between AASHTO, ITE, ITS America, and FHWA, which launched NOCoE in January 2015 and formally established an ongoing collaboration between these organizations. Through its technical service offerings, NOCoE was successful in its year-one vision of helping transportation systems management & operations (TSM&O) professionals utilize state-of-the-art, real-time proactive management techniques to improve safety and system reliability, combat congestion, and better serve the traveling public.

The services offered by NOCoE include its website (transportationops.org), bi-weekly webinars, virtual and face-to-face peer exchanges (seven held in 2015-2016 to date, with another six in planning), a biweekly newsletter to the practitioner community, and an annual summit intended to address challenges and opportunities that the TSM&O community faces. The inaugural Summit, held in June 2016, is themed on workforce development, and will facilitate a unified strategic direction within the TSM&O community, to which organizations can look in guiding their own planning. NOCoE has also begun addressing how best it can play a role to support activities in the areas of TSM&O research, connected and automated vehicles, freight operations, and security and emergency management.

In addition to contributions from the AASHTO member states (approximately $15,000 per year per state), FHWA is expected to commit $500,000 per year to fund NOCoE's operations.

$15,000 per year

Resilient and Sustainable Transportation Systems (RSTS) http://climatechange.transportation.org/
Associated AASHTO Committee: RSTS Steering Committee

Extreme weather events disrupt service, damage expensive infrastructure, and necessitate more frequent maintenance. In 2013, nine disaster events occurred in the U.S. each resulting in more than $1 billion in losses. Together, these events caused 123 deaths and $23 billion of damages. In response to the increase in extreme weather events, transportation agencies are stepping in to manage both the rising costs of extreme weather and the public's expectation of rapid transportation system recovery following these events. The Resilient and Sustainable Transportation Systems (RSTS) Technical Assistance Program provides timely information, tools, and technical assistance to assist AASHTO members in maintaining resilient transportation systems in the face of increasingly frequent extreme weather events, infrastructure vulnerabilities, energy demands, and diminishing resources.

The Program is a critical resource for State DOTs to better understand how to respond to and prepare for increasingly frequent and more severe extreme weather events and to understand the range of strategies to reduce energy consumption. Responding to and preparing for extreme weather events is a challenge that requires interdisciplinary solutions. This Program provides assistance to transportation practitioners across transportation disciplines and modes including: planning, asset management, highway and bridge design, hydrology/hydraulics, materials, construction, operations and emergency response, maintenance, and the environment.

Some of the benefits of RSTS membership include:

- a bimonthly newsletter with articles describing projects, programs, state practices, and technical information related to responding and adapting to extreme weather events and strategies for reducing energy consumption
- breaking news stories on important presidential announcements, critical publications, or new

proposed legislation related to extreme weather and energy;
- case studies that include lessons learned and best practices from the State DOTs responding to an extreme weather event;
- travel support to RSTS-sponsored events and meetings.

$10,000 per year

Snow and Ice Cooperative Program (SICOP) http://www.sicop.net/
Associated AASHTO Committee: Subcommittee on Maintenance

The Winter Maintenance Technical Service Program/SICOP is a pooled-fund effort established by AASHTO in 1994 in which all member departments, as well as APWA and NACE, are invited to participate. The objective of the WMTSP/SICOP is to identify a series of high-priority winter maintenance research and technology transfer projects, and fund them using pooled funds. Additionally, if warranted, member departments, APWA, and NACE are invited to contribute additional pooled funds to SICOP to support one or more specific projects in which they have a special interest. The projects chosen thus far have been selected through workshops attended by representatives of the participating states and then approved by the WMTSP Committee.

SICOP provides invaluable listserv services to the winter maintenance community through the website. Over 800 winter maintenance professionals from state DOTs, counties, cities, and the private sector use the services of the listserv daily. They often obtain answers to difficult operational questions about implementing new and emerging technologies by simply posting their query on the listserv and getting opinions from other practitioners. Message strings that have lasting value for the participants are archived for easy retrieval and future use.

$4,000 per year

Transportation and Civil Engineering (TRAC) Program http://mmsd.transportation.org/trac_rides/
Associated AASHTO Committee: Standing Committee on Finance and Administration

Established as an ongoing AASHTO student outreach program, Transportation and Civil Engineering (TRAC) was initiated to encourage students in grades 5 through 12 to pursue higher education in civil engineering and transportation followed by careers in those fields. The TRAC program works by providing schools with curriculum enhancements in the form of hands-on activities that demonstrate engineering and transportation principles. A bridge-building competition is held each year at the AASHTO Spring Meeting to engage the best student teams across the country in technical presentations and interaction with leaders in civil engineering.

Roadways into Developing Elementary Students (RIDES) provides a curriculum that introduces younger elementary students to engineering and transportation careers through activities that emphasize classification, sequencing, and graphing process skills. Additionally, it teaches these young students about varying forms of energy focusing on Newton's Laws; helps them make the connection between various modes of transportation and the environment; and links simple machines, humans, and transportation to energy types, propulsion, and "fuel types."

Contributing to the program helps support the administrative functions associated with the program, and allows states to request one training session on each program per year. Corporate sponsorships also help to defray the cost of the program to the states.

$14,000 per year

Transportation Curriculum Coordination Council (TC3) http://tc3.transportation.org/
Associated AASHTO Committees: Standing Committee on Highways; Subcommittees on Construction, Maintenance and Materials

TC3 was established as a technical service program in 2013 to continue the work of FHWA's pooled fund project of the same name. More than 100,000 individuals – in both the public and private sectors – have been trained through TC3 courses in the past 5 years. Goals for this program include improving training opportunities for transportation technical workers and applying innovative measures to reduce duplication of effort and cost to state and local transportation agencies.

The TC3 combines resources from state and industry partners to develop standardized technical training materials for the construction, materials, and maintenance front-line workforce. TC3 has selected online courses as the primary means of delivering and maintaining relevant training tailored to the workforce of the transportation industry. TC3 provides states with the following benefits:

- Cost savings: TC3 allows states to cost effectively train staff with quality and relevant course material, saving money and avoiding duplication.
- Innovation: Courses provided by TC3 are developed through a collaboration of national best practices and content matter experts.
- Skilled workforce: TC3 is dedicated to helping protect against the loss of knowledge and preparing the workforce for advancements in technologies through quality training.

The funds contributed to the TC3 program are used primarily for curriculum hosting and management, administrative and operating costs, expenditures to cover new course development, and preparation for the transition to a self-funded program.

$20,000 per year

Transportation System Preservation Technical Service Program (TSP2) http://www.tsp2.org/
Associated AASHTO Committee: Subcommittee on Maintenance

TSP2 supports the research, technical, and program needs of the member states in the development and implementation of their own preservation programs for both pavement and bridges. AASHTO, in collaboration with the National Center for Pavement Preservation, initially implemented this technical service program to assist states with their pavement preservation efforts, including the establishment of regional pavement preservation partnerships. This template was then used to expand TSP2 to include bridge preservation issues.

An Oversight Panel guides the implementation and operation of the TSP2 program, including representation from the AASHTO Subcommittees on Bridges and Structures, Maintenance, Materials, and Asset Management, and Design's Joint Technical Committee on Pavements, as well as members from each of the AASHTO regions. Voluntary contributions fund technical support staff for the operation of the TSP2, as well as regional groups for both Bridge and Pavement Preservation. The program also supports the website for bridge and pavement preservation as a clearinghouse for preservation, technical support and preservation news. TSP2 has proven to be a successful program and, in this increasingly tight economy, participation in this program helps the State DOTs preserve not only their pavements but their bridges as well.

$20,000 per year