**Domestic Scan Proposal Form**

AASHTO is now soliciting proposals for a Calendar Year 2016 US Domestic Scan Program (NCHRP Panel 20-68A).

Selected scan topics will be investigated by one of three ways: (type 1) site visits to three to six locations for approximately a two week period or less, by webinar; (type 2) peer exchange; or (type 3) conducted by a group of eight to 12 transportation professionals with expertise in the selected topic area. Proposed topics should meet the following criteria:

* Address an important and timely need for information by transportation agencies;
* Are of interest to a broad national spectrum of people and agencies;
* Are complex and also “hands-on,” meaning they lend themselves particularly well to exploration through on-site visits; and
* Are sufficiently focused that the tour participants are able to investigate and understand key issues in the limited time available on the tour.

Before submitting your proposal it is highly recommended that you read [**What Makes a Good Scan Topic Proposal**](http://www.domesticscan.org/what-makes-a-good-scan-topic-proposal)[**http://www.domesticscan.org/what-makes-a-good-scan-topic-proposal**](http://www.domesticscan.org/what-makes-a-good-scan-topic-proposal)

This form is designed to collect the full length of your proposal. Sections requiring essays have unlimited space for you to use. Contact information has some limited text. ***Use your TAB🡪 key to advance to the area where you need to complete information.***

**Proposals should be returned no later than OCTOBER 15, 2015.**

**IMPORTANT NOTE on How to save your document**: LastNameFirst Initial, underscore\_Organization Acronym \_CY2016.

Saved Document Name Example: VitaleM\_AASHTO\_CY2016

If you have more than one, add a number after first initial: VitaleM1\_AASHTO\_CY2016

**Domestic Scan Proposal Contact Information**

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| Name | BIJAN KHALEGHI | Address | 7345 Linderson Way SWOlympia, WA 98512 |
| Title | State Bridge Design Engineer | E-mail | khalegb@wsdot.wa.gov |
| Member Department | Washington State DOT | Telephone number | 360-522-2846 |
| AASHTO Committee | T-4, T-10  | Date of submission | 10/31/2021 |

**Title of Proposed Scan****:** Performance evaluation of concrete bridge decks constructed with innovative designs, materials, and construction methods.

**Problem Statement** (What topic is to be examined? What drives the need for the scan? Why now?)

Deterioration of concrete bridge decks due to corrosion of steel reinforcement has limited the service life and increased the maintenance cost of bridge structures. Concrete bridge decks deteriorate faster than any other bridge component because of direct exposure to environment, deicing chemicals, and ever-increasing traffic loads. The magnitude of cracking and delamination of concrete bridge decks due to corrosion is a major problem when measured in terms of rehabilitation costs and traffic disruption. Steel reinforcement are often protected from elements causing corrosion or replaced with alternative non-corrodible materials in new structures.

Many alternatives such as fiber-reinforced concrete mixes, performance based concrete mixes, FRP composite reinforcement, modified curing regiments, deck sealers, shrinkage reduce admixtures, partial or full precast decks, prestressed concrete have been recently used to improve bridge deck longevity and to reduce the life cycle costs.

This domestic scan provides an overview of recently implemented deck alternative materials, design methodology, construction and curing regiments, and other parameters affecting concrete deck longevity used by transportation agencies in the United States and abroad.

**Scan Scope** (What specific subject areas are to be examined? Which cities and states might be visited? Which agencies/organizations (including specific departments or types of staff if applicable)?

The Domestic Scan will identify best practices and lessons learned from design and construction of bridge decks using different materials and construction practices in different environmental conditions and exposures. The information collected will allow States to improve bridge deck performance with a better understanding of suitability of different alternatives to transportation projects. Furthermore, it is important to assess the short- and long-term performance of bridge decks and to improve–validate the current design guidelines under different service loading and environmental conditions.

**Anticipated Scan Results** (What key information is to be gained? What information is to be shared after the scan? Who would the audience be for this information?)

This Domestic Scan will augment information in Design, Construction and Maintenance of bridge decks in different environmental conditions and loading exposures. One of the objectives will be to identify specialized technology and standards used in monitoring performance to ensure optimal design and construction practices. The Domestic Scan findings will be published and made available for AASHTO consideration in advancing tunnel guidance and standards.

**Benefits Expected** (Including potential impacts on current technology or procedures)

The Domestic Scan will identify lesson learned from construction of bridge deck projects in the USA and abroad. The information collected will allow States to consider future highway projects with a better understanding of the construction using innovative and improved deck construction.

Findings of this scan will facilitate the development of AASHTO bridge design and construction specifications. With a national inventory on bridge decks, and better information on existing practices, we will be in a better position to identify tunnel infrastructure needs with respect to safety and security.

States will have better information to assess programmatic needs such as program level cost, scope and schedule for improving bridge deck design, construction, maintenance and inspection best practices, that will likely go along with future design and construction standards. The Domestic Scan will include cost estimating for innovative bridge deck constructions for planning purposes.