**Domestic Scan Proposal Form**

AASHTO is now soliciting proposals for a **Calendar Year 2017 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, 2016.**

**IMPORTANT NOTE on How to save your document**: ***LastNameFirst Initial, underscore\_Organization Acronym \_CY2017.***

***Saved Document Name Example: VitaleM\_AASHTO\_CY2017***

***If you have more than one, add a number after first initial: VitaleM1\_AASHTO\_CY2017***

**Domestic Scan Proposal Contact Information**

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| AASHTO Committee | T-20 | Date of submission | 9/15/2016 |

**Title of Proposed Scan****:** Design And Construction Management Practices Of Large Size Roadway Tunnel Projects

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

The findings of this project will be proactively integrated into follow-up technology transfer activities. The Domestic Scan will create a coordinated infusion of knowledge into the practice and planning of Tunnel Projects with large diameter TBM or other construction methods in all regions of the United States.

Currently in the US there are tunnel construction projects (The Boaton Central Artery, The Devil's Slide Tunnel in California, The Port of Miami Tunnel, The Alaskan Way Viaduct replacement Tunnel, Atlanta Highway Tunnel, The new Midtown Tunnel in Virginia) which will be using large diameter TBM or other construction methods to build highway tunnels in the US. The construction and management of these projects will be challenging. Each method of construction will have to be designed and built to address the individual geotechnical issues at each location.

Special challenges associated with large tunnels are:

• Design challenges such as settlement, tunnel lining and erection, segment tolerance and connections, innovations in the design and materilas;

• Construction challenges such as wear and abrasion of cutting tools and other parts such as cutter-head rim, screw conveyor, slurry pumps, employee safety during operation and inspection of the tunnel construction. Methods to avoid damage to adjacent structures, how to keep horizontal and vertical alignment, construction site organization;

• Construction management challenges such as contract practices to avoid claims and maintain project costs and keeping schedule on track, geotechnical baseline reports, and commisioning.

**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 construction of tunnel projects with large diameter TBM and other construction methods. The information collected will allow States to consider tunnel construction options for future highway projects with a better understanding of the construction risks and cost escalations.

**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 already identified in the 2005 International Tunnel Scan, and 2009 Domestic Tunnel Domestic Scan on Best Practices for Roadway Tunnels Design, Construction and Maintenance. One of the objectives will be to identify specialized technology and standards used in monitoring settlement to ensure optimal performance during construction. 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 large tunnel projects. The information collected will allow States to consider different large tunnel construction methos for future highway projects with a better understanding of the construction risks of building large diameter tunnels.

Findings from the international tunnel design and construction practices will facilitate the development of AASHTO guidance and standards for roadway tunnels in the United States. With a national inventory on tunnels, and better information on existing tunnel attributes, 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 tunnel security, traffic and emergency operations, maintenance and inspection best practices, that will likely go along with future design and construction standards. The Domestic Scan will include cost estimating for both new tunnel construction and existing tunnel maintenance and repairs for planning purposes.