**Domestic Scan Proposal Form**

AASHTO is now soliciting proposals for a **Calendar Year 2019 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 SEPTEMBER 28, 2018.**

**IMPORTANT NOTE on How to save your document**: ***LastNameFirst Initial, underscore\_Organization Acronym \_CY2019.***

***Saved Document Name Example: NgetheP\_AASHTO\_CY2019***

***If you have more than one, add a number after first initial: NgetheP1\_AASHTO\_CY2019***

**Domestic Scan Proposal Contact Information**

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| AASHTO Committee | Committee on MaintenanceEquipment Technical Working Group | Date of submission | 9/28/2018 |

**Title of Proposed Scan****:** Equipment Asset Preservation And Protection Teckniques

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

State Departments of Transportation (DOT's) are faced with premature deterioration of equipment fleets due to corrosion, weather damage, environmental exposure (e. g. ultraviolet light, pollution, etc.), rodent damage and vandalism. All states face issues related to deterioration of fleet equipment from exposure to the elements that can be mitigated. Depending on the region of the country, deterioration can be from ultra-violet light, de-icing road chemicals, pollution, and other environmental factors. Northern states are faced with cold weather scenarios where de-icing chemicals promote corrosion and low temperature conditions affect fluid and battery performance. Coastal state’s equipment fleets are also subject to corrosion from salt water exposure. Lastly, equipment that is improperly stored can be negatively impacted through vandalism and animal/rodent damage.

State DOT equipment fleets represent a significant capital investment which requires recurring maintenance and operational expenditures. Fleet assets are vital to the delivery of agency programs, projects and services—especially those associated with emergency response. Maintaining and/or protecting these assets to prevent premature deterioration can reduce costs as well as provide more predictable and expected performance and reliability.

Proactive protection from deterioration could allow for the expected life of the fleet equipment to be achieved which is especially important because most states have significant fleet equipment replacement backlogs. Premature deterioration of fleet equipment places more cost burden on the already underfunded equipment replacement budgets and results in increased repair costs that could be mitigated.

Innovations and best practices to prevent premature deterioration are needed to counter limited and often shrinking fleet budgets sustained by highway maintenance organizations and other DOT fleet customers.

State DOT equipment managers are tasked with identifying preventative maintenance practices to prevent premature deterioration. They are being asked questions like, what are the best protectant coatings, how do different methods of storing equipment affect fleet longevity, and do certain preventative maintenances programs or processes work better than another? Which fleets have implemented successful washing programs and how? What are the best practices for preparing fleet equipment for off season storage? There are many different methods that have been developed over the years to address each of these questions. There would be significant value to State DOT’s to identify which methods have been the most successful.

A scan is needed to discover the most effective and efficient methods to advance fleet equipment asset protection. The hands-on, on-site, and in-person nature of the scan program is uniquely suited to a scan of fleet equipment storage and protection solutions. Frankly, no other approach is better suited and will lead to adoptable solutions given the physical nature of fleet equipment and storage options to be reviewed under this scan proposal. Being in the physical presence of the fleet equipment will spark conversations and lead to valuable discoveries that would not occur without the direct contact with the assets and the managers. A formal scan and accompanying report will accelerate the sharing of these solutions that would otherwise be shared through informal networks.

**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)?

Prior to the scan tour, a survey/questionnaire will be used to help identify fleet operations that are using successful preservation and protection techniques.

During this scan, visits would be coordinated with six to ten fleet operations throughout the country and may include private fleets and/or fleet equipment manufacturers. These visits would include meetings with the equipment management staff, facilities management staff and local organizational level staff, including mechanics and highway technicians. Along with reviewing the processes and facilities, any documentation on financial cost and overall gains in the total cost of ownership would be requested.

In this scan, the following practices will be reviewed:

• Storage (e.g. types of coverings, buildings, construction types, costs, etc.)

• Off seasonal storage preparation practices

• Vandalism prevention and rodent deterrents

• Coatings (e.g. paints, galvanizing, undercoatings, electrical coating/protectants, etc.)

• Washing and Cleaning

 - Procedures for cleaning

 - Wash bay facilities

 - Salt neutralizers

 - Reuse of rinse water

 - Compliance to washing policies

• Inspections

 - Electrical corrosion inspections

 - Body and frame corrosion inspections

 - Ultraviolet light structural deterioration testing for poly storage tanks

• Construction methods, materials or other components (e.g.. frame construction, floor mats, fenders, weather proof plugs, ultraviolet protectants, conversion to non-ferrous metals, stainless steel, aluminum, etc.)

Many States perform well in one or more of the above practices so identifying States that have unique practices that could be adopted broadly is ideal. Following is list of States that have been identified as leaders in equipment preservation by their peers: North Dakota, Utah, Minnesota, Michigan, Pennsylvania, Connecticut, New Jersey, Kansas, Washington and Indiana. During the scan tour of the State facilities, it could prove valuable to take the opportunity to visit city, county or military fleet facilities near the State destinations to explore any preservation techniques they have incorporated into their operations. Since it is only practical to visit 3 to 5 States, the scan survey will be used to shorten the above list to 3 to 5 States to maximize the number of preservation and protection techniques visited during the tour.

**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?)

The anticipated information to be collected during this scan shall include but not be limited to equipment asset preservation and prevention techniques and the associated start-up costs, effectiveness, anticipated benefits, level of implementation effort, and the ongoing maintenance costs. It is anticipated that all of this data will be made available in the final report of this scan. These reports would then be accessible by any Fleet Management Program. This information would then help that program make logical and economic decisions combating equipment deterioration in their fleet.

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

Dissemination of best practices used for asset protection and preservation resulting in lower costs for fleet owners by maximizing useful life and increasing productivity while decreasing vehicle down-time. Additionally, the professional relationships formed by the scan participants and the fleet managers they interact with during this scan project will form an on-going conduit for sharing other best practices and innovations which would potentially lead to information sharing to a wider pertinent audience in need of this information at national conferences like the AASHTO Equipment Management Technical Services Program conference, TRB Equipment Management (AHD60) committee meeting or thru web based training developed by the Equipment Manangement TSP and hosted by TC3.