**Domestic Scan Proposal Form**

AASHTO is now soliciting proposals for **Calendar Year 2020 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 24, 2019.**

**IMPORTANT NOTE on How to save your document**: ***LastNameFirst Initial, underscore\_Organization Acronym \_CY2020***

***Saved Document Name Example: NgetheP\_AASHTO\_CY2020***

***If you have more than one, add a number after first initial: NgetheP1\_AASHTO\_CY2020***

**Domestic Scan Proposal Contact Information**

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| --- | --- | --- | --- |
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| AASHTO Committee |       | Date of submission | 10/24/2019      |

**☐** Please **check** this box if your proposal has been endorsed or is being requested through an AASHTO Committee.

 List the AASHTO Committee(s) that endorsed this proposal:

**Title of Proposed Scan****:**

Use Of Solar Photovoltaic Systems In The Right-Of-Way

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

Over the past few years, several national and international reports have supported the reality that the earth is warming at an ever-quickening pace. It is also understood that a major contributor to this warming is human activity in the post-industrial revolution era, including the use of fossil fuels for transportation. This trend is set to continue unless aggressive steps are taken to reduce human carbon output by the year 2050[[1]](#footnote-1). With this change, state DOTs are experiencing more frequent and intense weather events, thus putting a host of transportation assets at greater risk of failure or providing more frequent temporary disruptions on the transportation system. So how does a DOT curb the effects of climate change? An answer is large scale development of Solar Photovoltaic Systems on state owned right-of way (ROW). With, in most states, the DOT being one of, if not the, largest land owners of untillable property there is significant potential for renewable energy to be produced on the DOT’s ROW.

The problem statement: How does a state DOT design, finance, manage, and maintain a Solar Photovoltaic System?

**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)?

This scan will visit DOTs that have started solar development in ROW projects. DOTs to visit would include the Oregon DOT, Maryland DOT, Utah DOT, and Colorado DOT.

Major questions to be asked of these organizations would include, but are not limited to:

* What avenue did your DOT choose to initiative a solar photovoltaic system?
	+ Power purchase agreement (PPA),
	+ Lease option to an electric company
	+ State purchase and maintenance of solar panels
		- What considerations led to that option?
* What are the level of maintenance and continuous effort for implementing a solar panel program at the DOT?
* How did you choose the location of the solar panels? Did you consider solar on buildings or was access ROW the only location considered for solar production? Selection criteria may include mowing, safety, security, and physical panel maintenance.
* When selecting locations for your solar panels, was the use of native pollinators to reduce the need of mowing considered?
* What funding source did you use to implement the solar project?
* What role did partnerships with other agencies and private industry play in the development of your program?
* What is the cost/benefit of the solar program?
* What safety and security concerns were considered in the placement of the solar panels?
* Have you considered the amount of energy production you would need to offset the cost of energy for your entire agency? Have you calculated how much clean energy production will be needed for your agency to become carbon neutral?
* Where there any incentive programs available?
* What policies at the state and federal level needed to change to smoothly transition DOTs into future solar production?

A task force will be established consisting of Federal Highway Administration (FHWA) officials, DOT/AASHTO stakeholders, and partner agencies such as the Department of Energy, Environmental Protection Agency, and the Economic Development Administration. It would also be the expectation that energy companies be invited to the table to discuss this project. This task force will help guide the policies to be outlined in a guide book.

**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 scan results will be a final report that will read like a “how to” guide for states considering the installation and maintenance of solar in the ROW. The guide book will give a clear step-by-step approach to gaining support amongst the DOT senior staff, finding appropriate funding for the project, where to find state specific regulations, understanding FHWA policies, and how to fully realize the overall cost long term of solar installation. This report will also provide a calculator for state DOTs to identify solar project size based on energy use and a calculator to estimate carbon footprint reduction.

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

This will result in an initial guide on how to initiate a solar panel program for State DOTs. With the instillation of solar in the ROW a DOT could not only find themselves energy independent, but also close to carbon neutral. This is dependent on the size of the program, but certainly any carbon offsets will help to slow the effects of climate change. Hence, slowing the potential for more frequent extreme weather events. Reducing the potential of a catastrophic failure to transportation infrastructure, and saving funds for future projects is a co-benefit that cannot be ignored.

1. <https://www.ipcc.ch/sr15/chapter/spm/> [↑](#footnote-ref-1)