FY 2026 SHA Research Needs

Response to Administrative & Technical Questions

Updated 10/02/2025

Administrative Questions:

Question A1: *Is there a budget limit for proposals?*

Answer: No. However, cost will be factor in the proposal selection process. Most projects selected for funding are $150K – $175K. If a research need requires a long study period and/or a large scope-of-work, it may be justifiable to include a budget above this range.

Question A2: *Will SHA select only one proposal for each research topic or multiple?*

Answer: In general only one proposal will be selected for each research topic. However, in cases where it is deemed to be advantageous to SHA to pursue more than one proposed research plan, multiple selections may occur. That will not be determined until the proposal review phase and will also depend on funding availability.

Question A3: *Can a researcher submit multiple proposals for one research topic?*

Answer: No. Researchers may submit a proposal for more than one research topic but should not submit multiple proposals for the same topic.

Question A4: *Can proposals include a Co-PI or should the Co-PI be listed as part of the Research Team?*

Answer: Yes. While SHA only accepts proposal with one principal investigator, a Co-PI is acceptable if 1.) their percentage of time is significantly less than the PI; 2.) their contribution to the project is meaningful and clear in the proposal; and 3.) the PI agrees to maintain project oversight and accepts responsibility for all work being delivered. Please also list the Co-PI as a member of the Research Team.

Question A5: *Is a team composed of two universities and a consultant admissible? Does the PI need to carry out at least 50% of the work?*

Answer: Yes, this is allowable. Should the proposal be selected, SHA would issue the notice-to-proceed to the PI. The 2nd university and consultant

would both be subs to the PI and therefore, limited to no more than 50% of the direct costs on the proposed budget.

Question A6: *How long is the study period for SHA research projects?*

Answer: Unless otherwise specified in the RFP, the study period for the research is flexible and should be based on the scope-of-work proposed. However, a 12-18 month time frame is generally desirable.

Question A7: *Are there restrictions for font size and page margins?*

Answer: No, there is no restriction on font size or page margins. SHA accepts proposals that communicate a straightforward and professional image.

Question A8: *Does the proposal need to be routed through the university's research administration office?*

Answer: When responding to an RFP, a proposal is not required to be routed through the research administration office. After being selected, the final proposal would have to be routed through the research administration office. PIs should always check with their individual universities for their specific policy.

Question A9: *Is an appendix allowed and will it count towards the page count?*

Answer: Yes to both. An appendix can be included and it will count towards the ten page limit.

Question A10: *Would a full-time faculty who is not on a tenure-track qualify as a PI?*

Answer: Yes, a research professor not on tenure-track qualifies, assuming he/she has the right expertise.

Question A11: *What is the appropriate indirect cost rate?*

Answer: The indirect cost rate is determined by the agreement between SHA and state universities. For example, the indirect cost rate is 26% for the University of Maryland, College Park, and Morgan State University. Please check with your university's office of sponsored research if additional information is needed.

Question A12: *Is there a limit for labor expenses in the budget?*

Answer: Please see QuestionA1 for answer on the total budget. SHA does not have a limit on labor expenses.

Question A13: *When budgeting for a subcontractor, can we include salary in it? Is there a limit on percentage?*

Answer: Yes, you can include a subcontractor and salary. Their role should be clearly identified in the proposal. Should a subcontractor be included, the PI must complete at least 50% of the work (i.e. direct costs) You can find more information on Page 7 of the Guidelines for Proposals.

Question A14: *Will one proposal be definitely selected for each RFP topic? Is it possible that all proposals for a topic are rejected?*

Answer: At SHA, we assess each proposal submitted for the best fit for our objectives and outcomes. we will strive to select one proposal for each RFP topic; however, yes, it is possible that all proposals for a given topic may be rejected. If all proposals are evaluated and rejected as not meeting the research need, SHA reserves the right to:

- revise the research need to clarify the expected outcomes/deliverables,
- reduce the expected outcomes/deliverables,
- readvertise the research need in a separate RFP, and/or
- delete the research need from the available projects.

It is our expectation that all research needs will have a proposal that fits.

Question A15: *Can a consulting company, not a university employee, be the lead of a proposal?*

Answer: No, a consulting company may not be the lead on a proposal submitted through the university. A consultant company may be a subcontractor or Co-PI, but their percentage of the work must be significantly less than the PI and is limited to no more than 50% of the direct costs on the proposed budget.

Question A16: *The Guidelines for Proposals document indicates that proposals may be delivered as an emailed PDF file using the email address research@mdot.maryland.gov. Can PIs hand deliver proposals?*

Answer: *No.* The proposer is required to submit electronically, it must be 10-pages and received with the electronic date/time stamp before the deadline. If it is electronically date/time stamped outside of the deadline, the proposal will not be accepted.

Question A17: *What is the maximum cap for each budget that can be requested for each RFP?*

Answer: Please refer to the response in Administrative Question #1. In general, cost is one of the factors in the proposal decision, selection, and award process. Most projects selected for funding are between $150K – $175K. If a research need requires a long study period and/or a large scope-of-work, it may be justifiable to include a budget above this range.

Technical Questions:

General *Question#1*	***For research that requires field work, if a research team has candidate sites in mind, is there a viable mechanism to confirm suitability and/or access to these sites for our research plan with a representative?***
Answer:	*MDOT SHA recommends including the suggested candidate sites in the proposal and adding a statement that the locations are subject to change pending input and approval from MDOT SHA. Once proposals are selected there will be an opportunity to discuss and finalize the scope-of-work (including details like field sites) with technical staff.*

RFP #01 Invasive species control

No Questions Received

RFP #02 Friction Characterization/Classification of Maryland Asphalt Mixes using Dynamic Friction Testing and Three Wheel Polishing Machine

Question #1	***Does the research team need to perform compaction and DFT testing on the asphalt mixture samples or will these be performed by SHA?" Additionally, how many asphalt mixture samples will be tested, we see in the RFP that "the number of active asphalt mixes used annually on MDOT projects is 15 to 20.***
Answer #1	*The research team will need to perform compaction testing and DFT on the asphalt mixture samples. SHA will not perform any testing. The research team will need to test 3-4 samples of each asphalt mixture – approximate total is 60 to 80 samples of the identified asphalt mixes.*
Question #2	***The study should include both Dynamic Friction Testing (DFT) and Three-Wheel Polishing Machine testing?***
Answer #2	*Yes*
Question #3	***Is it expected that lab testing will be at SHA labs specifically when the Three-Wheel Polishing Machine testing is to be used?***
Answer #3	*Yes*
Question #4	***If lab testing will be conducted at proposer's labs will SHA make available the Dynamic Friction Testing, DFT, (i.e., loan equipment)?***
Answer #4	*Yes, if needed, otherwise, DFT testing will be done at SHA facility.*
Question #5	***Will SHA provide the asphalt slab fabrication setup?***
Answer #5	*Yes, SHA will buy equipment for asphalt slab fabrication using research study fund.*

The asphalt slab fabrication will be done by proposer's staff at SHA facility.

Question #6 ***Will SHA coordinate the provision of asphalt binder, aggregates and/or asphalt mixtures for samples and slab fabrication?***

Answer #6 *Yes*

RFP #03 Wetland and Waterway Mitigation Forecasting Tool

Question #1 ***Please confirm what the final output from the research is intended to be: Is it a software application, plugins on GIS or a website?***

Answer #1 *The expected output for this project is expected to be a geospatial tool developed in coordination with the SHA Office of Information Technology to predict wetland and waterway impacts and associated mitigation needs based off of project location data combined with assumptions on the footprint of various projects.*

RFP #04 *Aquatic Organism Passage Design Methods for Culverts: Effectiveness and Sustainability Phase II*

Question #1 ***Data Access: What culvert inspection records, maintenance history, and ecological/hydraulic databases will the team have access to for Piedmont sites?***

Answer #1 *The available data for each culvert/structure will include design or as-built plans and structure inspection records. If HH and stream morphology studies are available, SHA will also provide these documents, but they are typically not available for older crossings. SHA does not have ecological/hydraulic databases, but part of the project should include the identification of the target aquatic organism (AO) species. There are available resources, such as Maryland Biological Stream Survey (MBSS) reports https://dnr.maryland.gov/streams/pages/mbss.aspx, Stream Health Index Map, and the Chesapeake Fish Passage Prioritization tool, which can help to determine the known, potential, and historic distribution of anadromous fish. The tool can also be used to map and calculate the upstream functional network (or the unobstructed stream habitat above any point) along a blue-line stream.*

Question #2 ***Modeling: What level of detail is expected for hydraulic and morphologic modeling, and are there preferred platforms?***

Answer #2 *Detailed hydraulic and morphologic modeling is not expected as part of this project, but rather to perform visual assessment and extensive field evaluations of the structure configuration and physical and stream flow conditions (depth and velocity) to evaluate the passability of the target species, in addition to plan reviews of the selected sites. General characteristics of the channel upstream and downstream of the culvert, sediment and debris loads, culvert geometry and roadway configuration, and the specific features of the AOP design should be examined to assess the performance*

and sustainability of the AOP design. The assessments should include an evaluation of physical and geomorphic changes at the site by comparing present conditions with the construction or as-built plans, where they were available.

Question #3	***Aquatic Surveys: Are there standardized survey methods SHA expects, and which species/groups should be prioritized?***
Answer #3	*SHA does not have preferred or standardized survey methods for AO; rather, it leaves it up to the research team to identify those to evaluate the effectiveness of each site. The research team is expected to propose, develop, or adopt from other agencies, such as DNR, FWS, a quick survey method to determine AO species at a specific site, and then prioritize which species/groups are important for this particular road crossing.* *The research team should identify the AO species and their classification into different groups, such as endangered, not endangered, invasive, temperature sensitive, oxygen needs, travel characteristics, seasonality, etc. Drone surveys can also be considered where applicable and effective.*
Question #4	***Site Selection: What is the target number of culverts to evaluate, and should we focus on those scheduled for replacement/rehabilitation or use a stratified sample?***
Answer #4	*SHA would like to include at least 50 SHA-owned and constructed sites after 1990, mainly sites designed to accommodate AOP that have been constructed since 2000, in the Piedmont physiographic region. The research team will work together with SHA on the site selection. These are not necessarily sites that are currently scheduled for replacement/rehabilitation, but the results and recommendations of this research could guide their future replacement design.* *The list of sites could include locations where passage barriers have been identified from previously conducted field work, studies, previously developed SHA OOS research projects, such as 14-SP309B4S_Long-Term-Bed-Degradation_Phase-III-1, MD-17-SP409B4H_LTBD_PhaseIII-Part2 available on the SHA website at:* Long-Term Bed Degradation in Maryland Streams (Phase III Part2) *State of the State (SOS) of MD Bridge and Small Structure Inspections, where construction as-built plans are available. The list will also include crossings identified by DNR and USFW where AOP has been evaluated. SHA will also make the research report for Phase I (sites in the Coastal Plains) available to the research team, as well as a list of comments and concerns that should have been considered but could not be addressed.*
Question #5	***Regional Focus: Are there specific Piedmont stream conditions (e.g., gradients, flood recurrence intervals) SHA would like emphasized?***
Answer #5	*No, these are not site selection criteria. A variety of stream gradients, flow regimes, and morphology conditions can be considered in this research.*

Sustainability Metrics: Which measures (e.g., sediment stability, debris blockage

Question #6	***resistance, biodiversity, cost-effectiveness) should guide the comparative analysis?***
Answer #6	*Since the data for construction costs are not easily available, the cost-effectiveness might not be considered in this comparative analysis. The site evaluation should emphasize the crossing/structure's physical and hydraulic conditions, including culvert geometry, roadway configuration, channel stability, and sediment supply, and the AOP design components/features implemented at each site.* *The site assessment should be focused on the following questions:* *1) Was the specific AOP feature effective in passing AOs* *2) Were there any other passage barriers associated with the culvert, or directly upstream and downstream?* *3) Was the culvert AOP design component stable?* *4) Were the upstream and downstream channels stable?* *5) Was the flow capacity of the culvert affected by the AOP design feature?*
Question #7	***Monitoring: Over what timeframe should "long-term sustainability" be evaluated (single season, multi-year, before/after)?***
Answer #7	*This is a one-time evaluation to assess how the site has performed over the years based on the design plans. compared to the current configuration – including the structure's physical and hydraulic conditions and stream stability. In other words, Long-term sustainability is a comparison of the design, current structure, and stream conditions with projections of the AOP functionality into the future years based on the observed issues and site evolution.*
Question #8	***Coordination & Context: How should the team coordinate with SHA engineers and regulators for access, safety, and permitting, and are there broader SHA initiatives (e.g., culvert replacements, nature-based pilots) we should align with?***
Answer #8	*SHA can provide access permission to the structures and areas within the SHA R/W. If any private property needs to be accessed, the researcher will need to obtain permission, and SHA can assist with the property owners' notifications. The research team should follow the safety guidelines used for bridge and small structure inspections. Permitting requirements to access the stream for assessment and a non-invasive survey should not apply. This research aims to assess current AOP practices implemented at the SHA roadway-stream crossings, evaluate the effectiveness of AOP, and identify typical issues and deficiencies and potential improvements. The results and recommendations from the research might be implemented in the potential future structure replacements, and used to develop AOP design guidelines, methodologies, and practices that will be effective and permittable.*

RFP #05 Proof Load Testing of Sign Clips and Railing

Question #1

Testing Expectations

Does SHA anticipate physical testing of extruded panels, sign clips, and accessories, or would a validated finite element analysis (FEA) approach be sufficient to meet the project's intent? If physical testing is required, should the scope focus exclusively on aluminum extruded panels currently in use, or may we propose and evaluate alternative aluminum alloys (e.g., different grades) for comparative analysis?

Figure 1 Bolt Tension Test

Figure 2 Sign Clip Bending Test 1

Figure 3 Sign Clip Bending Test 2

Answer #1

These materials have long been included in various DOT specification books and have been standard in the industry for over fifty years. Our intent is not to change but to determine their optimum capacity for design. We are specifically requesting the official physical testing results for the railing of the currently used extruded aluminum panels (B221, alloy 6063-T6), as well as for the sign clips and stitch bolts.

Question #2

Access to Design Documentation

Will SHA provide access to as-built or design drawings, specifications, and component details for representative sign structures—including panel profiles, clip geometry, bolt sizes and spacing, railing elements, and support framing? For modeling and testing purposes, may we also obtain foundation and base connection details (e.g., anchor rods, base plates, footing types and assumptions)?

Answer #2

By moving the sign supports (I-beams) closer together, we can better control the failure mechanism. The current maximum spacing of seven feet is used primarily for lighting considerations rather than structural requirements. We can provide the panel profiles, clip geometry, stitch-bolt sizes and spacing, railing elements, and support framing and samples as needed.

Since we are seeking the actual physical test data, no modeling or additional testing is required for the foundation and base connection details (e.g., anchor rods, base plates, footing types, and any underlying assumptions).

Question #3

Wind Hazard Modeling

Should the analysis be based directly on the AASHTO 3-second gust wind map, or does SHA envision development or calibration of a Maryland-specific wind hazard model (e.g., incorporating local exposure, topography, or future climate considerations)?

Answer #3

This task requires establishing parameters, designing specific equipment, and developing procedures for each component. For example, I have attached a photo of the tensioning machine jaws used by OMT for testing sign clip bolts, and sign clips

bending test. There is no need for it, as we are only seeking the actual physical test data.

Performance Criteria

Question #4 ***Are there any acceptance criteria or performance thresholds, beyond those specified in AASHTO, that SHA would like us to consider?***

Answer #4 *The developed testing procedures and equipment will be adopted by OMT for future quality assurance testing. We are requesting that the research team confirm/verify if AASHTO has specified a performance threshold for these Tier-2 materials and provide recommendations for a performance threshold if none exists.*

RFP #06 Alternatives to Leased Circuits – Phase II

Question #1 ***Is the final report for Phase I available for consumption?***

Answer #1 *Yes. The document will be shared with proposers by email and is labeled draft; however, it is the final document*

Question #2 ***Is CHART open to other alternatives to commercially available wireless options and licensed public safety bandwidth for last-mile connectivity?***

Answer #2 *Yes, we are. But having run Phase I, we know that we've probably exhausted our options for this approach. In Phase II, our aim is to have researchers go through our report and find if we have missed a great alternative or if new technology has made an appearance in the last several months. We want to ensure that we have thoroughly evaluated all options.*

Question #3 ***Are there ready, shareable, plans or specs for current leased circuits?***

Answer #3 *The Jacobs report does a very good job of explaining how our leased circuits work and provides Schematics. OTMO Telecommunications Master Plan (will also be shared with proposers by email) is another important resource on this. If the Phase II researchers need any more details, they'll have to work directly with the "Radio Shop".*

Question #4 ***What is the evaluation/selection criteria for assessing responses to this RFP?***

Answer #4 *The evaluation and selection criteria are aligned with the objectives and requirements outlined in the RFP. Proposals will be evaluated based on their responsiveness to the RFP, the clarity and detail of the proposed methodology, and the practical feasibility of implementing the anticipated results. Each proposer will also receive feedback regarding the disposition of their submission.*

Question #5 ***For the purposes of comparison, what are SHA's current annual costs for leasing circuits?***

Answer #5 *Leased circuit expenses will vary based on a number of things, including the consideration of Local Access and Transport Area (LATA) boundaries. The Jacobs report does a good job of documenting some representative cost estimates. I don't think we need any additional resource.*

Question #6 ***Are there any other stakeholders we should be considering other than***

	CHART/OTMO?
Answer #6	*For now, we'd like to keep it local within SHA OTMO. So, the short answer to your question is – no.*
RFP #07	**Supervisor's Handbook**
Question #1	***Should it be assumed that SharePoint is the information portal that is currently in use and will SharePoint continue to be used by SHA supervisors for the unforeseeable future?***
Answer #1	*Yes*
Question #2	***What systems are in place to assess supervisor leadership skill sets and development?***
Answer #2	*We have several supervisor training programs that conduct assessments to evaluate supervisor personalities and strengths. 360-degree evaluations are also conducted.*
Question #3	***What resources are used to manage projects? (i.e. project progress; project funds/spending; project success rate)***
Answer #3	*Offices tend to manage projects in siloed databases which house a variety of data. We are seeking the best practices/recommendations for capturing and sharing consistent data among the agency's supervisors.*
Question #4	***Are project supervisors trained on project management?***
Answer #4	*Supervisors are trained in a variety of job-specific subjects. Project management training can differ depending on the division's subject matter and area of expertise. This research should provide best management practice recommendations for supervisors in any discipline.*