

**NORTHERN VIRGINIA TRANSPORTATION AUTHORITY
REQUEST FOR PROPOSALS**

Project Title: TransAction Update and Six Year Program Update including Transportation-Related Technical and Communications Services

Request RFP No. 2021-03

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Electronic copies of RFP: <https://thenovaauthority.org/about/business-opportunities/>

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| <u>Issue Date:</u> | November 12, 2020 |
| <u>Written Questions Due:</u> | November 17, 2020 at 12:00 PM (noon) |
| <u>Register for Pre-Proposal Conference:</u> | November 17, 2020 at 5:00 PM |
| <u>Optional Pre-Proposal Conference:</u> | November 18, 2020 at 11:00 AM |
| <u>Offeror Registration Required:</u> | November 20, 2020 at 5:00 PM |
| <u>Proposal Due Date/Time:</u> | December 11, 2020 at 12:00 PM (Noon) |
| <u>Location:</u> | NVTA 3040 Williams Drive, Suite 200 Fairfax, VA 22031 |

DESCRIPTION OF WORK: The Northern Virginia Transportation Authority (NVTA) is requesting proposals from qualified firms to assist in updating TransAction, the region's long-range transportation plan and its Six Year Program, including transportation-related technical and communications services. Request for Proposal (RFP) tasks include the identification of regional transportation needs, analysis of multimodal regional projects using an appropriate travel demand model, sensitivity analysis, a public engagement program and project ranking process. These tasks are described fully in Section C: Scope of Work.

REGISTRATION OF INTEREST: Offerors are required to register their interest in submitting a proposal to ensure receipt of updates to this RFP, notice of changes in critical dates and NVTA responses to questions and any other addenda. Interest may be registered by submitting an email to TransAction@thenovaauthority.org. The email must contain the company name, address, telephone number and email address of one person to serve as the point of contact for registration purposes. If more than one contact is submitted the first person listed will be used as the point of contact.

OPTIONAL PRE-PROPOSAL CONFERENCE: An optional pre-proposal conference will be conducted via WebEx on November 18, 2020 at 10:00 AM. Attendance is not required, but pre-registration is necessary in order to receive the WebEx invitation. Please register by sending an email to TransAction@thenovaauthority.org by 5:00pm on November 17, 2020. The purpose of this conference is to allow potential Offerors an opportunity to ask questions and receive answers about this solicitation. You are encouraged to submit written questions to be discussed at the conference in advance to TransAction@thenovaauthority.org to help ensure more complete answers. Questions also may be presented at the meeting. Responses will be posted at <https://thenovaauthority.org/about/business-opportunities/>. Any changes or clarifications resulting from this conference will be issued in a written addendum to the solicitation.

ORAL PRESENTATIONS: Oral presentations with top-ranked firms are tentatively scheduled to be held remotely via WebEx during week beginning January 4, 2021.

TYPE OF CONTRACT: Cost Reimbursement, subject to maximum. The final cost of the contract will be determined after a review of cost proposals and contract negotiations.

NOTICE OF AWARD: Notice of contract award(s) made as a result of this solicitation is expected to be on or about February 11, 2021.

PERIOD OF PERFORMANCE: The performance period of this contract is approximately six years, or until a contractor for the next updated has been selected.

COVID-19: Health and safety of Authority members, citizens, stakeholders, consultant team members, and staff will be paramount during the procurement process and throughout the conduct of the work. An appropriate mix of in-person and virtual meetings will be necessary during the COVID-19 pandemic, and adjustments will be made as necessitated by circumstances, including guidance by health authorities, government mandates, and building managers.

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SECTION A

BACKGROUND

Background

Northern Virginia experiences the worst traffic congestion in the Commonwealth of Virginia and is consistently ranked among the most congested regions in the United States.

Northern Virginia's transportation network is critical to the economic vitality of the region and the quality of life of our residents. Businesses are attracted to Northern Virginia because of our well-educated and highly-qualified workforce, business-friendly environment and proximity to the federal government. Meanwhile, people choose to live and work in Northern Virginia for the broad range of employment opportunities, first-rate school systems, and diverse mix of leisure, entertainment and cultural attractions. As a result, Northern Virginia is attractive to residents, businesses, workers and visitors alike. However, in order to continue to be an attractive destination to live, work and play, our transportation system must work regionally and comprehensively to connect people and places.

The Northern Virginia Transportation Authority (NVTA, or the Authority) plays a critical role in funding multimodal projects that address the region's transportation needs. To be eligible for funding in the Authority's Six Year Program, projects must be included in the region's current long range transportation plan, referred to as TransAction, which is updated every five years. Updating the current version of the plan, adopted in October 2017, and supporting future biennial updates to the Authority's Six Year Program, are the primary subjects of this RFP. In addition to the specific tasks noted in the Section C Scope of Work, NVTA anticipates issuing additional task orders for related technical and communications tasks may be requested during the period of performance.

About the Authority

In July 2002, the Virginia General Assembly created the NVTA. NVTA's nine member jurisdictions are the counties of Arlington, Fairfax, Loudoun, and Prince William, and the cities of Alexandria, Fairfax, Falls Church, Manassas and Manassas Park. NVTA's primary responsibilities include funding of regional projects and maintaining Northern Virginia's Long Range Transportation Plan.

The Authority governing body is comprised of 17 members; nine are mayors or chairs (or their designees) of the nine cities and counties that are members of the Authority; two are members of the House of Delegates; one is a State Senator; and two are citizens appointed by the Governor. In addition, the Director of Virginia's Department of Rail and Public Transportation and the Commonwealth Transportation Commissioner, or designee, and a representative of the five towns which maintain their own roads (Dumfries, Herndon, Leesburg, Purcellville, and Vienna) serve as non-voting members.

HB 2313 (2013), Virginia's landmark transportation funding legislation, provides the NVTA with dedicated transportation revenues to address the decades-long backlog of regional transportation projects. The revenues collected are divided into two funds: Local Distribution Funds (30%) and Regional Revenue Funds (70%). The Authority has adopted revenue projections which on average will total \$304 million per year from FY2020 through FY2025.

Local Distribution Funds are distributed directly to individual NVTA member jurisdictions based on the revenues collected in the jurisdiction and may be used as follows:

- Urban or secondary road construction;
- Capital improvements that reduce congestion;

- Projects included in NVTA’s long range transportation plan or other transportation capital improvements which have been approved by the most recent long range transportation plan adopted by the Authority; and
- Public transportation purposes, to include transit operational costs.

Regional Revenue Funds may be used for regional projects that:

- are included in NVTA’s long range transportation plan; and
- have also been evaluated as part of the HB 599 (2012) process, as subsequently amended by HB 1468 (2019), requiring NVTA to evaluate all significant transportation projects:
 - rate and evaluate a minimum of 25 projects for congestion reduction and emergency evacuation; and
 - conduct the rating and evaluation process at least every 4 years.

The TransAction update shall incorporate the requirements of HB 599/HB 1468, and the subsequent project ratings will be referred to as TransAction project ratings. More information can be found on NVTA’s website.¹

Note: offerors, including the successful consultant, will not be required to make legal interpretations of the Virginia Code with respect to the scope of work.

¹ <https://thenovaauthority.org/legislation/>

SECTION B
INSTRUCTIONS TO OFFERORS

1. PURPOSE OF RFP/SCOPE OF WORK:

The purpose of this RFP is to procure technical consulting services to update the TransAction Long Range Transportation Plan for Northern Virginia to support future updates of the Authority's Six Year Program, and to provide similar technical and communications services for other NVTA initiatives. In addition, the successful consultant will work with NVTA staff to establish NVTA's in-house transportation modeling capabilities, including training and support. A detailed scope of work follows in Section C.

- 2. EXPLANATION TO OFFERORS:** A request for any explanation desired by an Offeror regarding the meaning or interpretation of this RFP, specification, or other solicitation documents should be submitted by 12:00 Noon on November 17, 2020. At its discretion, NVTA may respond to questions presented at the Proposal Conference at a later date in order to allow for a well determined reply. Please email questions and requests for clarification to TransAction@thenovaauthority.org.

It shall be the obligation of the Offeror to exercise due diligence to discover and to bring to the attention of NVTA, at the earliest possible time, any ambiguities, inconsistencies, or conflicts in or between any of the technical or contractual provisions in the RFP.

Any change made by NVTA will be in the form of an amendment to the RFP and will be furnished to all prospective Offerors registered with NVTA. All Changes and clarifications will be emailed to the registered point of contact for each firm.

- 3. WRITTEN COMMUNICATIONS:** NVTA will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in this RFP, the specifications or related documents or amendments thereto.
- 4. PROPOSAL PREPARATION COSTS:** This RFP does not commit NVTA to an award, or to pay any costs associated with the preparation and/or submission of any proposal. NVTA will not reimburse any costs incurred by Offerors in responding to this RFP or in competing for the contract award.
- 5. SUBMISSION OF PROPOSAL AND PROTECTION OF PROPRIETARY INFORMATION:** A proposal package including a separately bound technical proposal and separately bound cost proposal, (one original document of each) is required. Additionally, a USB flash drive with a separate electronic copy of the technical and cost proposal are required. NVTA prefers Adobe file format for both files. The proposal package is due not later than 12:00 PM (noon) on December 11, 2020. NVTA reserves the right to reject any and all proposals received after that time. NVTA also reserves the right to waive irregularities. Separate paper and electronic technical and price proposals must be submitted. The USB flash drive required above must contain only one file of the technical proposal, one file of the cost proposal and one Excel file with the Price Proposal summary table.

Submit proposal package to NVTA's Contract Manager for the project:

Ms. Peggy Teal, Assistant Finance Officer

Northern Virginia Transportation Authority
 3040 Williams Drive, Suite 200
 Fairfax, VA 22031

A proposal may be mailed or delivered in person to NVTA prior to the due date. Delivery of proposals can be made between 9:00 A.M. and 4:00 P.M., on regular business days Monday through Friday. Note: proposals must arrive at or before 12:00 PM (noon) on December 11, 2020.

Consistent with state statutes, NVTA will provide all reasonable precautions to ensure that proprietary information remains within the review process. The Offeror shall attach to any proprietary information the following legend and identify the specific reason(s) for this designation as permitted in the Code of Virginia:

Specific data as indicated are furnished pursuant to RFP # 2021-03 and shall not be disclosed outside of NVTA, be duplicated, or used, in whole or in part, for any purpose other than to evaluate the proposal. The reasons for protecting these data are defined in the Code of Virginia. This restriction does not limit NVTA's right to use information contained in these data if it is or has been obtained by NVTA from another source.

Except for the foregoing limitation, NVTA may duplicate, use and disclose in any manner and for any purpose whatsoever and have others do so, all data furnished in response to this RFP.

6. **PROPOSAL ACCEPTANCE PERIOD:** The proposal shall be binding upon the Offeror for 120 calendar days following the proposal submission date. Any proposal on which the Offeror shortens the acceptance period may be rejected, although the acceptance period may be extended by mutual agreement between NVTA and the Offeror.
7. **AWARD OF THE CONTRACT:** NVTA will award the contract on the basis of the evaluation factors included in the RFP to the Offeror deemed to be fully qualified and best suited among those submitting responsive and responsible proposals. Negotiation will be conducted with at minimum the top two ranked Offerors. Offerors are cautioned to ensure that all representations in the proposal are complete and accurate.

After negotiations have been conducted with each Offeror so selected, NVTA shall select the Offeror, which, in NVTA's opinion, has made the best proposal and shall award the contract to that Offeror. NVTA may cancel this RFP or reject a proposal at any time prior to an award, and is not required to furnish a statement of the reason why a particular proposal was not deemed to be the most advantageous. The award document will be a contract incorporating by reference all the requirements, terms and conditions of this RFP, Contract Provisions, and the Consultant's Technical and Cost Proposal as agreed upon by NVTA, plus such other terms and conditions as may be mutually agreed.

8. **DELAYS IN AWARD:** Delays in award of a contract, beyond the anticipated starting date, may result in a change in the contract period indicated in the solicitation. If this situation occurs, NVTA reserves the right to award a contract covering the period equal to or less than the initial term indicated in the solicitation.
9. **AWARD FOR ALL OR PART:** Unless otherwise specified, NVTA may, if it is in the best interest of NVTA to do so, after negotiation, award all or part of the proposal to any Offeror whose proposal is the most responsible and responsive and whose proposal meets the requirements and

criteria set forth in the Request for Proposals with respect to the items in question. Specifically, alternative subcontractors for Public Engagement (Tasks 1.7, 2.5, and 3.2) may be requested.

10. REJECTION OF PROPOSALS: NVTA expressly reserves the right to reject any or all proposals or any part of a proposal, and resolicit the services in question, if such action is deemed to be in the best interest of NVTA.

11. SINGLE PROPOSAL: If a single conforming proposal is received, a price and/or cost analysis of the Proposal shall be made by NVTA.

- It should be recognized that a price analysis through comparison to other similar contracts shall be based on an established or competitive price of the elements used in the comparison.
- The comparison shall be made to the cost of similar projects and involve similar specifications.

12. PROTEST OF AWARD: An Offeror wishing to protest a decision to award a contract must submit the protest, in writing, to the NVTA Executive Director, no later than 14 calendar days after the public decision by the Authority to award the contract. The protest must include the basis for the protest and the relief sought. Within 14 calendar days after receipt of the protest, the Executive Director of NVTA will issue a written decision stating the decision on the protest and the reasons for the action taken. This decision is final. Further action, if desired by an Offeror, must be taken by instituting action as provided by the Code of Virginia.

13. COMPETITIVE NEGOTIATION

- a. General - This procurement will be conducted using the procedures of competitive negotiation of technical proposals.
- b. Interviews and Negotiations - After receipt of initial proposals, written or oral discussions will be conducted with at least the two highest rated responsive Offerors to the extent necessary to rank order the proposals, resolve uncertainties and consider any revisions. Basic questions will not be left for later agreement during price revisions or other supplemental proceedings.

All Offerors selected to participate in negotiations will be offered an equal opportunity to submit technical or other revisions as required. Complete agreement on all basic requirements shall be the objective of these negotiations.

- c. Complete Proposals – Offerors are urged to ensure that price and technical proposals are full and complete.
- d. Best and Final Offer – Once negotiations are complete with at least two Offerors notice will be provided of the specified time and date to submit their Best and Final Offer. The Best and Final Offer shall be each Offeror’s most favorable price proposal for the technical proposal which has been clarified and agreed to during negotiations.

15. REQUIREMENTS OF THE SEPARATE TECHNICAL AND PRICE PROPOSALS:

Technical and price proposals are required for the TransAction update and the three Six Year Program updates. Other tasks will be negotiated with the successful consultant on an as-needed basis.

The technical proposal shall include:

- a) Title Page - show the name of the Offeror's firm, local address, telephone number, email address, name of contact person and date.
- b) Table of Contents.
- c) Letter of Transmittal summarizing the proposal.
- d) Technical Approach (**30 page maximum**):

Offerors are requested to allocate approximately 90 percent of the 30-page maximum to Phases 1 thru 3 of the TransAction update, and the balance to the project task groups for the three Six Year Program updates.

This section should describe the project understanding, proposed technical approach, proposed approach to public engagement/communications, proposed approach to establishing NVTA in-house modeling capabilities, and management plan. The proposal must address in depth the Offeror's plans to meet the requirements of each of the phases/tasks and activities outlined in the "Scope of Services" of this RFP, including the staffing levels required to complete each task, and the relative effort that each member of the proposed project team will devote to the project. This section must include a phase-by-phase, task-by-task/sub-task-by-sub-task schedule of the time required to complete the project, supported by the proposed hours the Offeror agrees to commit to each task. This schedule must identify the major milestones, project deliverables, and estimated total time to complete each task, allowing sufficient time for public engagement, reviews by NVTA staff and NVTA's committees, and adoption of TransAction by the Authority no later than its regular meeting in November 2022. The schedule shall include progress reporting and project meetings with adequate time for the NVTA Project Manager to review and approve Consultant deliverables.

Each Offeror shall cover all of the requirements of the work as given in Section C of this RFP # 2021-03; the Contract Terms and Conditions, and any other contract documents described in Sections F and G; and provide sufficient specific information to effectively demonstrate the Offeror's technical capability to perform all work required under these specifications. The Offeror shall submit information to enable NVTA to ascertain how the proposal will meet the specifications contained herein and in accordance with the Evaluation Criteria.

The consultant shall explain how they will approach the tasks and identify any options that they believe will be necessary to complete the project and meet the needs of the NVTA.

All deliverables and intermediate work products will be reviewed by NVTA staff. Selected deliverables will be reviewed by the Authority's committees – the Regional Jurisdiction and Agency Coordinating Committee (RJACC), the Planning and Programming Committee (PPC), the Planning Coordination Advisory Committee (PCAC), and the Technical Advisory Committee (TAC.) In addition, NVTA's TransAction Modeling Group will be utilized for specific modeling topics.

The consultant should assume that at least one team member will attend the monthly NVTA, PPC, PCAC, and TAC meetings for the duration of the project, which are typically held in public at NVTA on a weekday evening except during August, when these committees do not normally meet. The consultant should assume that its project manager and at least one other team member will attend the monthly RJACC

meetings, which are held at NVTA during normal business hours. Approximately four times a year, coincident with key milestones, the consultant should assume that its project manager and at least three other team members will attend a half-day work session with RJACC members. The consultant should assume that relevant key staff will meet with NVTA’s TransAction Modeling Group, which meets as-needed to discuss specific modeling topics.

Public information and participation are critical to this project and should be considered integral to each task. While the parties to the process vary greatly, consistency is essential in communicating effectively. Public engagement will incorporate a flexible combination of in-person and virtual meetings, in addition to other forms of engagement, such as online surveys and social media.

e) Project Staffing (Qualifications and Experience)

This section must include the qualifications of the key personnel that will be assigned to this project. At a minimum, the proposal should designate a project manager, and include the organization, functional discipline, and responsibilities of project team members.

Resumes of no more than two pages each should be provided for all key personnel proposed.

The Offeror should clearly state if it is proposing to subcontract any of the work herein. The names of subcontractors are to be provided and by proposing such firm(s) or individuals, the Offeror assumes full liability for each subcontractor’s performance.

f) Firm(s) Experience and Capabilities

The purpose of this section is to provide NVTA with an overview description of the Offeror’s company plus the Offeror’s commitment to performing the services set forth in the RFP. The Offeror must also specify, in a similar manner, the qualifications of any subcontractors to be used in this proposed project.

Offerors shall identify a minimum of four projects performed over the last five years, similar or equivalent in size and scope to the work described in the solicitation. **Project descriptions, limited to two pages each**, should describe relevant work previously performed by the Offeror and proposed subcontractors. In addition to a concise description of the technical work performed under the contract, project descriptions should include the name of the client, contact person, title, address, phone number, and direct email address. Project descriptions should also provide the contract number and contract value and the time period of performance.

In addition to the above, the Offeror shall provide a list of contracts within the past five years, if any, on which failure to complete the work within the specified time resulted either in the assessment of damages or contract termination.

g) A list of names, titles, telephone numbers and email addresses of persons authorized to conduct negotiations.

h) Acknowledgment of receipt of all NVTA amendments to this RFP in the Technical proposal.

i) Attachments

- Attachment A: RFP Submission Form.
- Attachment B: NVTA Insurance Coverage Required.
- Attachment C: Disadvantaged Business Enterprise Statement.

Attachment D: Schedule of Disadvantaged Business Enterprise Participation Statement.

- j) Price Proposal (Separately Bound from the Technical Proposal) which includes:
 - a. Title page – name of the firm, local address, telephone number, fax, email, name of contact person and date.
 - b. Exhibit showing an estimate of the hours to be worked by named individuals, their firms, and their hourly rates broken down by task and the associated total costs including all estimated out-of-pocket costs and fees. Costs in the fully burdened labor rate must include all items such as professional time, travel, data processing, forms, printing, other expenses included in the proposed cost. The Offerors should explain and provide details of any conditions which might increase or reduce the cost of the proposed services.
 - c. Price Summary Table
 - d. The completed table noted in the Price Proposal section.

16. PROPOSAL EVALUATION: NVTA will use the best value selection method as the basis for award. The technical proposals will be evaluated by a selection panel comprising NVTA staff, regional jurisdiction and/or agency staff. The selection panel will take a best value approach to evaluating proposals. Recommendations made by this selection panel will be reviewed by the NVTA’s Chief Financial Officer (CFO). Upon review of the recommendations by the CFO, the cost proposals will be provided to the selection panel. The selection panel will use a best value approach to make a final recommendation to enter negotiations with at least the top two ranked firms for final presentations and negotiations. Once the negotiation process is complete and the selected vendors have submitted their best and final offers, the selection panel will meet again to make a selection recommendation to the CFO prior to presentment to NVTA’s Executive Director. The Chief Financial Officer will present the proposed selection to the NVTA Finance Committee. Upon review by the NVTA Finance Committee, the Executive Director, in turn, will make a recommendation to NVTA’s governing body, which must act to approve the contract award.

DBE Inclusion is encouraged. Offerors should document DBE inclusion in Attachments C and D. The maximum 5 points noted below will be awarded for 10% participation. Based on the tasks documented on Attachment D points will be prorated on the amount of DBE/SWaM participation on tasks assigned by the Offeror.

Selection Criteria and Weighting

| | |
|--|------------|
| Proposed Technical Approach | 45 points |
| Proposed Approach to Public Engagement/Communications | 20 points |
| Relevant Recent Experience of Team (and references) | 10 points |
| Relevant Recent Experience of Key Staff | 10 points |
| Proposed Approach to Establishing NVTA In-House Modeling | 5 points |
| Project Understanding/Management | 5 points |
| DBE/SWaM Inclusion | 5 points |
| Total | 100 points |

17. QUALIFICATIONS OF OFFERORS: NVTA may make such reasonable investigations as deemed proper and necessary to determine the ability of the Offeror to furnish the item(s) and the Offeror shall provide NVTA all such information and data for this purpose as may be requested. NVTA reserves the right to reject any proposal if the evidence submitted by, or investigation of,

such Offeror fails to satisfy NVTA that such Offeror is properly qualified to carry out the obligations of the contract and to provide the services and/or goods contemplated therein.

18. **REVISIONS PRIOR TO DATE SET FOR RECEIPT OF PROPOSALS:** NVTA reserves the right to revise or amend RFP # 2021-03 prior to the date set for receipt of proposals. Such revisions and amendments, if any, will be announced by an amendment or amendments to this RFP. Copies of such amendments as may be issued, will be furnished to all registered prospective Offerors and will be posted on NVTA's website. If the revisions and amendments require material changes, the date set for receipt of proposals may be postponed by such number of days that, in the opinion of NVTA, will enable Offerors to revise their proposals. In such cases, the amendment will include an announcement of the new date for receipt of proposals.
19. **ACKNOWLEDGEMENT OF AMENDMENTS:** Offerors are required to acknowledge receipt of all amendments to this RFP in the Technical proposal. Failure to acknowledge all amendments may cause the proposal to be considered not responsive to this RFP.
20. **KEY PERSONNEL:** Certain, skilled, experienced, professional and/or technical personnel are essential for successful accomplishment of the work to be performed under the contract. These are defined as "Key Personnel" and are those persons whose resumes were submitted as part of the technical proposal for evaluation. Key personnel are expected to work on the contract for its duration, so long as they continue to be employed by the Consultant, unless removed from work on the contract with the consent of, or at the request of, the NVTA.
21. **ADDITIONAL INFORMATION:** NVTA reserves the right to ask any Offeror to clarify its offer.
22. **CONFLICT OF INTEREST:** The successful Offeror and their officers and employees shall comply with the provisions of the Virginia Conflict of Interest Act (Section 2.1-639.1 et. seq., VA Code Ann.), the terms of which are incorporated herein by reference.

NVTA is intent on avoiding conflicts of interest associated with the award of the contract(s). To these ends, Offerors must identify existing and prospective contractual relations they have (or could have) which could present sources of conflict as part of the proposal submission.
23. **DISADVANTAGED BUSINESS ENTERPRISE (DBE):** Where it is practicable for any portion of the awarded contract to be subcontracted, the Offeror is encouraged to offer such business to minority and/or women-owned businesses.
24. **NONDISCRIMINATION:** Offeror shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, disability, or faith-based organization.
25. **INSURANCE CHECKLIST:** A checklist of required insurance coverage is Attachment A and identified as "NVTA Insurance Coverage Required". Items marked "X" are required to be provided. A certificate of insurance indicating these coverages should accompany the offeror's response to the RFP. A copy of the declarations page is acceptable for errors and omissions insurance. If insurance is incomplete, the Offeror should provide a letter from its insurance agent stating that the Offeror is eligible to obtain insurance to the prescribed limits, should a contractual offer be extended. Technical proposals must note any desired exceptions to the insurance coverage. Offerors may submit proposed alternatives.

26. CONTRACT MANAGER, PROGRAM MANAGER, PROJECT MANAGER AND PROJECT OFFICER: For this project, the following individuals will serve as managers and officer:

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| <p><u>Contract Manager</u> Peggy Teal Assistant Finance Officer NVTA</p> | <p><u>Project Officer</u> Michael Longhi Chief Financial Officer NVTA</p> |
| <p><u>Program Manager</u> Keith Jasper Principal NVTA</p> | <p><u>Project Manager</u> Sree Nampoothiri Senior Transportation Planner NVTA</p> |

The NVTA’s Project Officer’s role is to ensure legal and regulatory compliance during the procurement, and throughout the period of performance, and to manage the approval and issuance of new task orders in conjunction with NVTA’s Program Manager. The Project Officer will also provide financial oversight of the Contract Manager.

The NVTA’s Contract Manager’s role is to manage financial and contract administration elements of the contract, in coordination with NVTA’s Project Manager, including payment requests.

The NVTA Program Manager’s role is to provide technical oversight and guidance to the NVTA Project Manager and the successful Offeror’s Project Manager, including initial review of project deliverables.

The NVTA Project Manager’s role is day-today management and coordination with the successful Offeror’s Project Manager, including scope, schedule, budget adherence, progress reporting, and approval of reimbursement requests.

27. PROCUREMENT SCHEDULE

Please note that dates are tentative and may change without notice.

| <u>Date</u> | <u>Activity</u> |
|--------------------------------------|------------------------------|
| November 12, 2020 | Issue RFP |
| November 17, 2020 at 12:00PM (Noon) | Written Questions on RFP Due |
| November 18, 2020 at 11:00 AM | Pre-proposal Conference |
| December 11, 2020 at 12:00 PM (Noon) | Proposal Due Date |
| December 23, 2020 | Short-listed firms notified |
| Week beginning January 4, 2021 | Oral Presentations |
| February 11, 2021 | NVTA Approval of Award |
| Week beginning March 1, 2021 | Kick-off meeting |

28. NOTICE OF AWARD: The successful Offeror will be notified in writing by mail or otherwise that its proposal has been accepted and that it is to be awarded the contract. The notice of award should not be construed as a “Notice to Proceed” unless specifically stated in the notice of award.

29. **EXECUTION OF CONTRACT:** The successful Offeror shall execute the contract and furnish the Insurance Certificates to NVTA within 10 calendar days after the Notice of Award has been issued. The contract will be in writing and shall be executed in the number of copies required by NVTA. The award document will be a contract incorporating by reference all the requirements, terms and conditions of this RFP, Contract Provisions, and the Consultant's Technical and Cost Proposal as agreed upon by NVTA, plus such other terms and conditions as may be mutually agreed.

SECTION C

SCOPE OF WORK

TransAction Update Development Approach and Philosophy

TransAction is a needs-based, data-driven plan that, among other things, includes a Project List containing multi-modal, regional transportation projects. This Project List represents the initial eligibility filter for projects that can be funded through NVTA's Six Year Program. Since TransAction is a fiscally and geographical unconstrained plan, inclusion of a project in the TransAction Project List is not a guarantee of future funding by NVTA, but TransAction will support the evaluation of projects under funding consideration.

The development of TransAction primarily relies upon an integrated approach to technical analysis and public engagement – the consultant will be heavily involved in both components. The development of TransAction will be conducted in three sequential phases. While the three phases are sequential, with relatively inflexible start/end dates, task activities within each phase will advance simultaneously on multiple fronts. Activities related to technical analysis and public engagement will vary from phase to phase but will be inter-dependent within each phase.

The development philosophy for the TransAction update will be driven by the approved vision and goals (see below description of vision and goals). Two complementary approaches will be used to develop and evaluate TransAction:

- Traditional performance-based planning approach, using quantitative, model-based analysis with weighted performance measures.
- 'Core Value' approach that incorporates a more holistic/overarching review for each 'core value', e.g. safety, equity, sustainability, and integrated multimodal system. While the 'core value' approach can still be data-driven, it will take a broader, region-wide view as to how well TransAction addresses each core value. As such, the 'core value' approach may help identify additional candidate regional projects.

Both approaches will incorporate public engagement and stakeholder inputs.

TransAction will take account of transportation needs that are derived in three ways:

- Travel demand in an intermediate and outer horizon years, taking account of collaborative planning forecasts for population and employment;
- Analysis of future travel conditions, taking account of transportation projects that are fully funded but not yet implemented; and
- Extensive public and stakeholder engagement, including focus groups, surveys, polls, town hall meetings, and other engagement opportunities.

Regional transportation projects will be identified, and their performance evaluated against the transportation needs. TransAction will identify and evaluate project packages in various geographic footprints, e.g. the region as a whole, in eleven major corridors, and associated corridor segments. It is not the intent of TransAction to evaluate individual projects, although a small number of 'mega' projects with an estimated project cost in excess of \$500 million may be subject to additional scrutiny. Such additional scrutiny may include development of project packages comprising combinations of mega projects and other complementary regional transportation projects.

That said, NVTA considers, and has demonstrated through previous funding programs, that the scope/scale of a project is not the only indicator of potential regional impact. For example, first/last mile connections, transportation technology, and projects that integrate multiple modes may also have

a strong regional impact, particularly when approached from a multi-jurisdictional/multi-agency perspective.

TransAction will address uncertainty in future forecasts through the use of scenario (sensitivity) analysis. Scenarios will be developed that represent alternate futures, covering topics such as transportation technology, climate change, and potential shifts in the scale of work from home arrangements and other pandemic-related behavioral changes. Scenario analysis is important to NVTA as, in a fiscally constrained environment, the Authority wishes to avoid investment obsolescence, where the value of its investments in some regional transportation projects may not be fully realized.

The extent to which NVTA's investments in regional transportation projects can address regional transportation-related needs is somewhat constrained. While NVTA's two primary responsibilities are transportation planning and programming, other factors beyond NVTA's immediate influence may affect transportation system performance in Northern Virginia. The regional economy, household income, housing availability and affordability, location of planned future commercial and residential developments, education levels and access to education, personal preferences, and a host of external factors are inter-related and influence travel behaviors to varying degrees for different people. However, the Authority may choose to consider and adopt common policy positions on transportation and other issues in response to analyses conducted as part of TransAction.

Public and stakeholder engagement are critical components of TransAction that vary between each of the three phases. During Phase 1, public engagement will focus on identifying transportation needs and priorities. During Phase 2, public engagement will focus on incrementally releasing contextual information and analytical findings. During Phase 3, public engagement will focus on inviting formal feedback through a public hearing and open house. Notwithstanding the three development phases, public engagement and outreach will be continuous throughout the development of TransAction, including newsletters, briefings (digital and in-person), website/social media, and regular interaction opportunities such as polls, surveys, and other initiatives.

NVTA places a high value on the use of visualizations to communicate all aspects of the TransAction development process.

TransAction Vision and Goals

The current TransAction vision, adopted by the NVTA in December 2015, states:

In the 21st century, Northern Virginia will develop and sustain a multimodal transportation system that enhances quality of life and supports economic growth. Investments in the system will provide effective transportation benefits, promote areas of concentrated growth, manage both demand and capacity, and employ the best technology, joining rail, roadway, bus, air, water, pedestrian, and bicycle facilities into an interconnected network that is fiscally sustainable.

The corresponding TransAction goals are:

1. Enhance quality of life and economic strength of Northern Virginia through transportation
2. Enable optimal use of the transportation network and leverage the existing network
3. Reduce negative impacts of transportation on communities and the environment

Since TransAction is only updated every five years, it is appropriate to review the vision statement at the beginning of each update cycle. The vision statement is currently under review, and anticipated to be approved in December 2020. As of November 2, 2020, the proposed TransAction vision states:

Northern Virginia will plan for, and invest in, a safe, equitable, sustainable, and integrated multimodal transportation system that enhances quality of life, strengthens the economy, and builds resilience.

Goals, objectives, and measures (and associated weights) will be subject to approval of the proposed vision statement, and will not be confirmed until 2021.

Six Year Program Update Development Approach

As mentioned above, the TransAction Project List represents the initial eligibility filter for projects that can be funded through NVTA's Six Year Program. Since TransAction is a fiscally and geographical unconstrained plan, inclusion of a project in the TransAction Project List is not a guarantee of future funding by NVTA, but TransAction will support the evaluation of projects under funding consideration during each Six Year Program update cycle (every two years).

Following adoption of the TransAction update by the Authority in November 2022, two subsequent Six Year Program updates will be based on the Project List associated with this TransAction update, and will be supported by the successful Offeror through this contract:

- FY2024-2029 Six Year Program (Call for Regional Transportation Projects – CfRTP – in July 2023)
- FY2026-2031 Six Year Program (CfRTP in July 2025)

Additionally, the FY2022-2027 Six Year Program (CfRTP – in July 2021) will be supported by the successful Offeror through this contract. Because the development schedules for this TransAction update and the FY2022-2027 Six Year Program update coincide, the FY2022-2027 Six Year Program will be developed using the Project List included in the current TransAction plan (adopted in October 2017) in combination with the transportation model developed as part of this contract.

Phases and tasks are as follows:

TransAction Update

Phase 1 (thru October 2021)

- | | |
|-------------------|--|
| Task 1.1: | Finalize Work Plan |
| Task 1.2: | Develop Model Strategy |
| Task 1.3: | Implement Model Strategy |
| Task 1.4: | Develop Project List ('Bottom Up') |
| Task 1.5: | Develop TransAction Objectives, Measures, and Weights |
| Task 1.6: | Define Scenarios for Sensitivity Analysis |
| Task 1.7: | Public Engagement |
| Task 1.8: | Identification of Regional Transportation Needs |
| Task 1.9: | Develop Project List ('Top Down') |
| Task 1.10: | Website Management |

Phase 2 (November 2021 thru April 2022)

- Task 2.1: Analysis**
- Task 2.2: Sensitivity (Scenario) Analysis**
- Task 2.3: Ranking of Projects**
- Task 2.4: Benefit/Cost Analysis**
- Task 2.5: Public Engagement**

Phase 3 (May 2022 thru November 2022)

- Task 3.1: Preparation of the Update**
- Task 3.2: Public Engagement**
- Task 3.3: Re-Evaluation Analysis**

Task groups 4 thru 6 below cover three updates to NVTAs Six Year Program. Based on unfolding regulatory interpretations, the scope for Task Groups 4 – 6 maybe refined no less than three months prior to the estimated start date. Consultant and NVTAs may agree to an amended scope on each Task, or these Tasks (singularly or entirely) will be removed from RFP 2021-03 with no cost or penalty to either party.

Work associated with the Six Year Program updates will use the transportation model developed in Task 1.3. Offerors should note the schedule overlap between Phases 2 and 3 of the TransAction Update and the FY2022-2027 Six Year Program update.

Six Year Program Updates**Task Group 4 FY2022-2027 (Fall 2021 thru Summer 2022)**

- Task 4.1: Develop modified base network for ‘Long Term Benefit’ analysis**
- Task 4.2: Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results**
- Task 4.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTAs and applicants’ staff**
- Task 4.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years**
- Task 4.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years**
- Task 4.6: Conduct system-wide model runs for TransAction project ratings and post-process results**
- Task 4.7: Public Engagement**

Task Group 5 FY2024-2029 (Fall 2023 thru Summer 2024)

- Task 5.1:** Review base network for ‘Long Term Benefit’ analysis
- Task 5.2:** Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results
- Task 5.3:** Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTa and applicants’ staff
- Task 5.4:** Conduct individual model runs (and re-runs) for each candidate project for base and horizon years
- Task 5.5:** Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years
- Task 5.6:** Conduct system-wide model runs for TransAction project ratings and post-process results
- Task 5.7:** Public Engagement

Task Group 6 FY2026-2031 (Fall 2025 thru Summer 2026)

- Task 6.1:** Review base network for ‘Long Term Benefit’ analysis
- Task 6.2:** Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results
- Task 6.3:** Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTa and applicants’ staff
- Task 6.4:** Conduct individual model runs (and re-runs) for each candidate project for base and horizon years
- Task 6.5:** Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years
- Task 6.6:** Conduct system-wide model runs for TransAction project ratings and post-process results
- Task 6.7:** Public Engagement

Phase 1: Identification of Needs/Priorities and Development of ‘No Build’ Networks (3/2021 thru 10/2021)**Task 1.1: Finalize Work Plan**

Objective: to develop a comprehensive, integrated, safe, and transparent approach to update the TransAction long range transportation plan for Northern Virginia, including technical components, public engagement, and project management/coordination activities.

The project kick-off meeting is anticipated to take place (remotely or in-person) on March 1, 2021 at NVTA's offices. If held remotely, the consultant is responsible for arranging this meeting using an appropriate meeting platform, and for preparing a draft meeting summary to NVTA's Project Manager within one week. All key staff shall participate in the kick-off meeting.

The primary agenda items for the kick-off meeting will be project work plan (all key staff), NVTA communication protocols (all key staff), and model strategy (relevant key staff).

Within two weeks of project kick-off, the consultant shall refine and finalize the project work plan. Key components of the work plan include:

- Overall project approach, recognizing how this may vary throughout the three TransAction phases and subsequent Six Year Program updates. The consultant shall identify an approach for addressing potential intermediate methodology review points. Where appropriate, the consultant may suggest additional sub-tasks and deliverables.
- The work plan shall demonstrate how the TransAction and Six Year Program updates will be completed on time and within budget, while achieving NVTA's objectives and adhering to COVID-19 directives and safe working practices. It shall address project oversight, phase/task management, and project/task/deliverable schedule, including inter-dependencies between tasks. It will include any assumptions regarding the role of NVTA staff
- The work plan shall include the consultant's approach for preparing all required documents, including review cycles/timing, format, and an overall structure for the draft and final plans.
- The work plan shall include a quality assurance component that addresses how the accuracy and consistency of work products will be assured.
- The work plan shall describe the consultant's approach to scheduling and hosting all meetings, including providing draft meeting summaries to NVTA's Project Manager within one week of each meeting or event (including stakeholder and citizen events).
- The work plan shall describe the overarching approach to public and stakeholder engagement throughout the three phases, recognizing the need to be agile with respect to whether meetings and events are in-person or virtual.
- The work plan shall provide an overall strategic communications approach, tactics, potential themes and schedule, including online engagement tools and social media calendar development, throughout all three phases.
- The work plan shall provide an overall strategic approach to developing and maintaining a cohesive look and feel between the Authority's main website² and the TransAction website³, and eventually merging the two sites into one redesigned main website where all NVTA-related materials, initiatives and program information, including TransAction updates, will be hosted, as reflected in 1.10.
- Summary of best practices related to public engagement successes.
- The work plan shall describe the consultant's approach to communications, including use of the TransAction website, social media channels and supplementing videos, advertising, promotions and events, and working with TV, radio, print and digital media outlets, as well as social media influencers. It will be essential to coordinate all communications activities with NVTA's Project Manager and NVTA's Communications & Public Affairs Manager, and to recognize the lead times for review and approval of all communications by, or on behalf of, NVTA's Executive Director.

² <https://thenovaaauthority.org/>

³ <https://nvtatransaction.org/>

Audiences for communications will generally fall into one of the following categories, and must be tailored accordingly:

- Northern Virginians, community organizations, and NVTA stakeholders such as NVTA partners and the transportation and business communities;
- Relevant NVTA committees and Authority members;
- Governing bodies of NVTA's member jurisdictions and other legislative leaders;
- Relevant staff from jurisdictions neighboring Northern Virginia; and
- NVTA staff, and staff from NVTA's member jurisdictions and regional bodies.

The consultant shall develop and maintain a project website, or be involved in the development of a refreshed website with TransAction as a supplementing element to the larger site which the consultant shall maintain, and identify appropriate online engagement tools, including social media, for continuous public education and engagement. Online engagement tools include, but are not be limited to, surveys/polling via social platforms or via an online engagement/survey platform. The consultant shall implement strategies such as:

- Promote results via graphical visualizations for Facebook, Twitter and LinkedIn;
- Live-polling on Twitter;
- Create and maintain a Facebook Group page (including user agreement development, offering Messenger option and development of automated responses for quick-touch answers to common questions) focused on all things TransAction;
- Explore potential for Instagram account creation and launch only if it reaches the right people and makes strategic sense;
- Social media advertisement development and placement as part of a strategic and targeted campaign resulting;
- Create social graphics for various platforms to promote public engagement and encourage advocacy amongst stakeholders;
- Create social kit for NVTA staff, Authority members and key stakeholders, etc. and graphics for public's use
- Create short videos (including animation) for social use

This is the "age of the individual," so the more targeted each strategy can get, the better. This includes making it easy to provide feedback. Keeping engagement up and developing content that keeps messaging in the present during a long-term period is key. A cohesive strategic campaign throughout the public engagement duration, with main theme(s), is a must.

The project website will be ADA accessible with a corresponding email address to make project information widely available and keep the public up-to-date on progress and upcoming engagement opportunities. The consultant shall implement steps necessary to provide access for people with hearing impairments. The project website will also include a comment form whereby interested citizens can submit their comments, suggestions and inquiries.

The consultant shall describe its plan for advertising meetings and events to generate interest among stakeholders and the public.

Throughout the TransAction update process, the consultant shall make every effort to include all impacted populations including transit-dependent populations, people with disabilities and those with Limited English Proficiency (LEP). Particular languages include Spanish and Korean. Alternative formats should also be made available with sufficient notice.

Outreach materials shall be consistent with NVTA branding. A clear and concise writing style should be used in all outreach materials.

Online engagement tools and the project website will become the property of NVTA.

In conjunction with NVTA's project manager, the consultant shall be responsible for the preparation of press releases, media advisories, informational graphics, tele-press or video briefings, and other mechanisms to communicate with the public via the media. Media contact is required at key project milestones: to announce the kick-off, to advertise the public hearings and workshops, and to publicize the final NVTA endorsement of the update. While the consultant may respond to general project questions from the media, the consultant will not serve as the project spokesperson. All policy questions will be directed to NVTA's Project Manager.

Communication approaches will vary depending on the content and complexity of each message and the intended audience. Live-streaming may be an option to consider.

The consultant shall build upon NVTA's existing contact database, and maintain a mailing list and email list of individuals with whom contact is made during the update process.

NVTA's Project Manager will have sole discretion to decide whether any action in any task is necessary, e.g. which committees review which deliverables. To the extent possible, these will be documented in the work plan.

The consultant shall accomplish this task by working collaboratively with NVTA's Program Manager and Project Manager.

Deliverables:

- Project kick-off meeting;
- Draft work plan (within one week of kick-off meeting);
- Final work plan (within two weeks of kick-off meeting).

Task 1.2: Develop Model Strategy

Objective: to identify a model development strategy and implementation plan for the TransAction update, including building NVTA's in-house modeling capabilities, that takes account of the factors outlined below.

Within four weeks of project kick-off, the consultant shall develop and finalize a model development strategy. The NVTA is agnostic to the recommended modeling platform. The general philosophy for the core TransAction model is that it be sufficiently granular to realistically simulate travel demand on multiple modes across the entire Northern Virginia region, including travel within, into and out of the region, as well as through the region. Travel demand shall be consistent with cooperative planning forecasts used by the Transportation Planning Board (TPB), for a current year, a horizon year of 2045, and an intermediate horizon year of 2025 or 2030. The model network shall be more granular than that used in TPB's current travel demand model, covering all existing surface modes, i.e. roadways including express lanes and general purpose lanes, inter-city rail, commuter rail, metrorail, transit, waterborne travel, and regional bike/pedestrian facilities. To the extent possible, the model should include emerging modes, such as Transportation Network Companies, shared mobility devices, and connected/autonomous vehicles. The model must differentiate between different types of roadway intersection, e.g. unsignalized, signalized, ramp meters, roundabouts, and grade-separated and for different roadway types including managed lanes with variable tolls, high-occupancy lanes, bus lanes and protected bike lanes, and bike/pedestrian-only connectors. Although TransAction emphasizes the movement of people, it should not overlook freight movements by road and rail, including as a consequence of online shopping for goods, food deliveries, etc.

Offerors may assume that model data from the current TransAction model (using the TRANSIMS model platform) will be provided to the successful offeror. In preparing technical and price proposals, offerors should include sufficient resources to review such model data and determine how to use this data as part of their model development strategy, noting any constraints or assumptions made. The consultant shall include a comparison of the capabilities of TRANSIMS with other modeling platforms, and provide a justification as to how their recommended strategy will meet NVTA's requirements.

In addition to the core TransAction model, offerors may propose additional modeling tools for sub-regional modeling of multimodal project packages, for example in TransAction corridors or corridor segments.⁴ Further, offerors may propose sketch planning and other tools for 'off-model' analysis and comparisons of alternate strategic approaches.

Since performance measures will be used to evaluate the impact of individual or groups of projects on system performance, the model must be able to support such analyses. Offerors are highly recommended to review the performance measures used in the current version of TransAction as an example of what may be required in this update.⁵

The core model must be ready to use by the end of Phase 1 to support evaluation of candidate projects for NVTA's FY2022-2027 Six Year Program. This entails a validated model with a 'No Build' network for the current, intermediate, and 2045 horizon years.

The successful offeror will support NVTA staff to develop an in-house modelling capability that enables NVTA staff to apply the selected modeling tools to initiate new model runs, conduct analyses such as select link analyses, plot bandwidth volumes, compare scenarios, etc. To emphasize, NVTA's in-house modeling capabilities will use the same modeling platform as that proposed for the TransAction (and Six Year Program) analyses. Ease of use by NVTA staff must be taken into account when proposing a modeling platform. Important considerations include 'on the job training' by shadowing the successful offeror, availability of independent training opportunities for NVTA staff, intuitive user interfaces, and existence of user groups.

Even though NVTA has no current in-house modeling tools, offerors may assume NVTA staff have an intermediate capability level in using transportation simulation models, and familiarity with model development and validation. At least two, but no more than four, NVTA staff will be directly involved in modeling-related work.

The consultant shall accomplish this task by working collaboratively with NVTA's Program Manager and Project Manager, and NVTA staff. The model development strategy must include a schedule and milestones consistent with the work plan outlined in Task 1.1.

Note: for the purposes of pricing this task, offerors should identify and price model options, licenses, external training, maintenance costs, etc. in their price proposals. However, the actual cost of these items will be borne directly by NVTA. As noted above, offerors must not include price information in their technical proposals.

Deliverables:

- Draft model strategy and implementation plan (within two weeks of kick-off meeting);
- Final model strategy and implementation plan (within four weeks of kick-off meeting).

⁴ <https://nvtatransaction.org/wp-content/uploads/2017/10/TransActionPlan.pdf> (see page 5 for details on corridor segments)

⁵ <https://nvtatransaction.org/wp-content/uploads/2017/10/TransActionPlan.pdf> (see page 3 for performance measures)

Note: approval of the Task 1.2 deliverables by the NVTA Project Manager is a pre-requisite for advancing to Task 1.3.

Task 1.3: Implement Model Strategy

Objective: to implement the model strategy approved under Task 1.2.

The consultant shall implement the approved model strategy, providing opportunities for NVTA staff to be involved wherever practicable. However, the primary focus of this task is the creation of a core, validated regional model, with corresponding ‘No-Build’ networks, by no later than the end of Phase 1, i.e. October 31, 2021.

Each ‘No Build’ network represents the transportation system as it corresponds to the current year, intermediate horizon year, or the outer horizon year. For the intermediate and outer horizon years, fully funded projects are assumed to be implemented and functional, consistent with relevant state, regional, local, or transit capital programs. Fully funded projects shall be included in the transportation system network for the intermediate and outer horizon years as appropriate, related to their expected year of opening. ‘No Build’ networks will extend beyond Northern Virginia with sufficient granularity to represent travel patterns affecting Northern Virginia.

Note: Projects that are unfunded or partially funded shall not be included in a ‘No Build’ network, even if they have a reasonable expectation of being fully funded. Instead, they shall be included in the ‘Build’ networks for the intermediate and outer horizon years, as appropriate. Unfunded and partially funded projects that are included in the TransAction plan that is ultimately adopted by the Authority will be included in the corresponding TransAction Project List. Projects that are included in the TransAction Project List become eligible for funding by NVTA during its subsequent Six Year Program cycles, which incorporates a data-driven competitive process. Identification of unfunded and partially funded projects is addressed under Task 1.4 and Task 1.9.

The consultant shall conduct model validation to recognized industry standards, and should anticipate several meetings with NVTA’s TransAction Modeling Group, comprising modeling experts from NVTA, jurisdictions, and regional agencies. The TransAction Modeling Group will provide independent guidance to the NVTA Project Manager.

Deliverables:

- Draft validation report;
- Final validation report;
- Regional model, incorporating the following TransAction ‘No-Build’ networks:
 - Current year – this will include all fully implemented projects in the current year.
 - Intermediate year – this will use the current year ‘No-Build’ network with additional projects that will be fully implemented by the intermediate year (likely 2030).
 - 2045 – this will use the intermediate year ‘No-Build’ network with additional projects that will be fully implemented by 2045.
- Any other data created to support Task 1.3, together with an inventory describing the data files.

Approval of the Task 1.3 deliverables by the NVTA Project Manager is a pre-requisite for using the model to evaluate any ‘Build’ networks in subsequent tasks.

Task 1.4: Develop Project List ('Bottom Up')

Objective: to identify and screen candidate regional projects.

NVTA staff is coordinating with jurisdiction and agency staff to review the current TransAction Project List in order to identify projects that are implemented and functional, under construction, or fully funded. Through these interactions, NVTA staff is also identifying additional 'bottom up' projects, i.e. projects that are included in approved local plans, such as Comprehensive Plans and Transit Development Plans. Identification of these 'bottom up' projects does not automatically designate them as regional projects for inclusion and analysis during development of the TransAction plan update.

The consultant shall work with NVTA staff to document and, where necessary, review all relevant local plans prepared either regionally or by affected jurisdictions, including relevant plans for the Commonwealth of Virginia, adjacent jurisdictions in Northern Virginia, adjacent states, and the District of Columbia. Building on the efforts of NVTA staff and review of relevant plans, the consultant shall prepare a database of candidate regional projects. For each candidate regional project, the consultant shall include a planning level estimate of the full cost of the project, if such an estimate is not available from sponsoring jurisdictions or agencies.

Projects funded using NVTA's regional revenue funds must be included in TransAction, and must be regionally significant. The consultant shall develop a methodology to identify attributes that may support the determination as to whether a proposed project is regional in nature (versus local). Such attributes may potentially include but are not limited to:

- Number of vehicles or persons using a facility affected by the project;
- Importance of a facility to the region's economy;
- Whether the project passes through multiple jurisdictions, or can be applied at a regional scale;
- Extent to which a project connects jurisdictions, activity centers, and modes;
- Consistency with NVTA core values, such as safety, equity, and sustainability.

The target deadline for identification of candidate 'bottom up' projects is June 30, 2021, following adoption of the Commonwealth's Six Year Improvement Program by the Commonwealth Transportation Board. This will allow up to four months to confirm which candidate regional transportation projects will be included in the development of 'Build' networks.

NVTA staff and the consultant shall jointly develop a project numbering system that is consistent with the current TransAction Project List.

Deliverables:

- Technical memorandum detailing the transportation plans that have been reviewed, and any conflicts or assumptions in terms of transportation projects or strategies among the reviewed plans that will need to be addressed in subsequent tasks.
- Interim list of candidate 'Bottom Up' projects.
- Technical memorandum describing methodology to define regional projects.
- Database and interactive map of 'bottom up' candidate regional transportation projects, including information in a consistent format to NVTA's project dashboard⁶, such as project number, title and brief description, project location, project sponsor, primary mode, supporting modes, and planning level estimate of full project cost. Over time, the database

⁶ See NoVA Gateway: <https://novagateway.org/>

will be expanded to include characteristics of individual projects, such as traffic volume or ridership, and other data that will support subsequent project screening and evaluation.

- Technical memorandum summarizing highlights and key details of how candidate regional projects will be coded into the various ‘Build’ or ‘No Build’ networks. The technical memorandum shall include simple visualizations to summarize coding details.
- Any other data created to support Task 1.4, together with an inventory describing the data files.

Task 1.5: Develop TransAction Objectives, Measures, and Weights

Objective: to identify Develop TransAction Objectives, Measures, and Weights.

Using the corresponding objectives and measures from the current version of TransAction as a starting point, and feedback from public engagement and NVTA’s committees, the consultant shall develop proposed objectives and measures for the subsequent review by NVTA’s committees and approval by the Authority. In developing the proposed objectives and measures, the consultant shall consider the complementary approaches to evaluation using the performance-based planning and ‘core values’ approaches.

These performance measures must support the TransAction vision and goals as approved by the Authority. Ideally, there will be no more than 7-8 performance measures, which may necessitate a prioritization approach. The consultant shall coordinate with the NVTA Project Manager to ensure that the overall approach and performance measures are compliant with the requirements of House Bill 599 (2012).

Similarly, the corresponding performance measure weights will follow a process of feedback and review, prior to recommendation to, and approval by, the Authority.

Deliverable:

- Technical Memorandum detailing development of recommended objectives, performance measures, and weights

Task 1.6: Define Scenarios for Sensitivity Analysis

Objective: to define scenarios that will enable the evaluation the performance of regional projects under a range of alternate futures (scenarios.)

Note: Task 1.6 will define scenarios, but the analytical work to evaluate their impact will be conducted in Task 2.2.

Scenarios are not intended to represent preferred or predicted outcomes. Instead, the scenarios are intended to facilitate an understanding of the sensitivity of projects to a range of possible alternate futures. By defining discrete alternate future scenarios, and using these scenarios to evaluate the performance of the TransAction plan, it is possible to better understand the sensitivity of TransAction to these scenarios. In so doing, this addresses uncertainty in the plan development process over the long term. This in turn will potentially enable the Authority to make better investment decisions in future updates to its Six Year Program. Potentially, scenario analysis may also inform a need for identification and inclusion of additional candidate regional projects.

The consultant shall, at a minimum, develop four core scenarios that are sufficiently different from each other and from the ‘baseline’ scenario embodied in the future horizon year networks. It is envisioned that these four scenarios could address:

- Transportation technology, including dynamic incentivization, dynamic multi-modal information systems, and connected/autonomous/shared/electric (CASE) vehicles;
- Road usage charges (potentially varying by vehicle type, roadway type, vehicle occupancy, time of day, and congestion levels);
- Climate change impacts, such as sea/river level rise, excessive heat, and inland inundation; and
- Post-pandemic ‘New Normal’ encompassing higher levels of work from home and online shopping.

The consultant may develop additional scenarios, including hybrid scenarios based upon the core scenarios.

Offerors shall describe their proposed technical approach and preliminary schedule for developing scenarios. Citizen and stakeholder engagement associated with the development of scenarios must be reflected in the proposed approach to Task 1.7.

Scenarios developed must be grounded in practicality, and may consider potential infrastructure, technology, service, or other changes, such as but not limited to the addition of focused sets of new transportation projects, changes to the technologies or costs involved in day-to-day transportation, or more efficient distribution of trips.

Scenarios may include modifications to collaborative planning forecasts. However, since local jurisdictions set land use policies and NVTa has no such authority, scenarios should not rely exclusively on redistributing the location of jobs or housing. The consultant shall confer with NVTa staff with respect to any proposed scenarios with land use assumptions that differ from current plans, assumptions, and forecasts.

The consultant shall accomplish this task by reviewing relevant approaches used in other metropolitan regions in Virginia and elsewhere, including relevant academic research and guidance.

Deliverables:

- Technical Memorandum describing a detailed methodology for identifying and selecting core scenarios. The consultant should anticipate the possibility that a limited number of additional hybrid or follow-on scenarios may need to be developed;
- Technical Memorandum describing each of a minimum of four core scenarios, and any related hybrid or follow-on scenarios;
- Technical Memorandum describing how the three core scenarios will be incorporated in the analysis of regional transportation projects that will be conducted in Task 2.2. This may include evaluation of individual projects, groups of projects (in the same corridor, for example), and all projects combined.

Task 1.7: Public Engagement / Communications Support

Public Engagement

Objective: to meaningfully engage with a diverse cross section of Northern Virginians to enrich the development of the TransAction update, and to educate the public using communications that are targeted, timely and effective.

During Phase 1, public engagement will focus on identifying transportation needs and priorities. The consultant shall accomplish this through multiple, creative, interactive, inclusive, coordinated formats during late spring and summer 2021, as listed below. For each format, the consultant is encouraged to identify creative and interactive techniques, and shall identify potential dates, locations/venues, anticipated audience/participants, engagement opportunities, specific challenges, and related

mitigations. The consultant shall facilitate all events and prepare a draft summary document for each within one week of the event.

- ‘Tracking survey’ of public perceptions will use previous iterations of this survey⁷ to gauge recent trends on various topics related to Northern Virginians’ feelings on various transportation topics. The survey, which has previously sampled at least 600 Northern Virginians, must be representative of population distribution and other key socio-economic variables across the region. Offerors should base their pricing on 1,000 respondents.
- Focus groups enable structured discussions with small groups of Northern Virginians on specific transportation topics. The focus groups are intended to provide information early in the TransAction development process that will subsequently guide the development of TransAction. The focus groups can dive more deeply into specific topics than is the case with other forms of public engagement. However, due to the necessarily small size of each group, typically comprising 10-15 adults, at least eight focus groups will be needed to ensure a reasonable representation of a cross-section (geographic, socio-economic) of Northern Virginians. The focus groups may be executed in multiple waves, with the second and subsequent waves exploring topics that surface during earlier waves. In addition to transportation needs and priorities, it is anticipated the focus groups will explore perceptions on a range of topics including alternate futures, core values, factors that influence travel behaviors, and preferences for future public engagement. The consultant shall consider logistical arrangements for the focus groups, including whether they are executed in-person or remotely.
- Online surveys and polls will be executed in multiple waves. Surveys will be more in-depth and structured, while polls will gauge responses to specific questions. Surveys and polls will build upon the results of the focus groups and explore other relevant topics. As well as providing information to the consultant team, surveys and polls provide an opportunity to raise awareness of TransAction, and should be coordinated with other outreach activities. The consultant shall utilize an appropriate online engagement/survey platform.
- Open houses provide an informal forum to discuss transportation needs and priorities on a one-to-one basis. The consultant shall plan for a combination of public in-person and virtual events. For in-person events, venues must be selected that offer good accessibility by multiple modes, including transit hubs/stations, for a broad cross section of Northern Virginians. It is envisioned that at least one in-person event will be held in each of NVTA’s nine member jurisdictions. For virtual events, engagement may include live polls, gamification techniques, and other crowdsourcing approaches. The consultant shall identify and adopt industry best practices to ensure reasonable participation levels. The consultant shall prepare a presentation on work to date and will deliver this presentation at each open house.
- Stakeholder events are targeted at organizations rather than individuals. As such, their format may be different to public open houses, e.g. invitation-only, more structured, topic specific. NVTA’s stakeholders broadly include business associations, environmental groups, and community orientated groups. It is envisioned that at least one event (in-person or virtual) will be held for each of the three identified stakeholder groups, and a further three events for as yet unspecified stakeholder groups. The consultant shall work with the NVTA Project Manager to develop a list of categorized stakeholders to be invited to these events.
- Other events fall into one of two categories – pop-up events and festivals/fairs. In general, both categories are only effective in-person, and opportunities may therefore be limited for such events while gatherings are restricted or banned due to the pandemic. The purpose of these events is to ‘go to the people’ rather than expect them to come to us. In so doing, it is

⁷ <https://nvtatransaction.org/2020/02/19/nvtas-2019-transportation-perception-survey-results/>

envisioned that there will be more public interaction opportunities than for traditional public open houses, albeit in a potentially less controlled environment. From an execution standpoint, the overall approach is similar to public open houses, i.e. brief one-on-one discussions, live interaction opportunities, informal feedback through comments, and establishing a contact list for ongoing engagement opportunities. Pop-up events may occur in high foot-traffic locations, e.g. shopping malls, transportation hubs, campuses. At festival/fairs, the presence typically requires rental of a booth space for the duration of the event. The consultant shall identify potential locations and events, and the associated permitting requirements and lead times associated with each.

The consultant shall be responsible for making all event arrangements, handling logistics including signage for interior and exterior of venues, documenting the meeting and public comments, and providing necessary supplies, including electronic data collection devices, any large-scale plotted maps, flip chart paper, easels and markers, and information materials. Materials in alternative formats, including recorded and large print, sign language interpreters (ASL or Exact Sign English) and translators for non-English speakers and devices for people with hearing impairments need to be made available upon request. Light refreshments (water, coffee and cookies) and incentives for the public to attend may also be included. Linking to social platforms may be a tool to consider.

The consultant shall also be responsible for event advertising and promotion through such means as public service announcements, press releases, transit ads, direct mailers/canvassing of communities, social media, and web-based announcements. Each event should enable key perspectives to be represented, including but not limited to employers, business organizations such as Chambers of Commerce, users of and advocates for all transportation modes (roads, transit, slugging/carpooling, and bicycle and pedestrian facilities), smart growth advocates, environmentalists, Gen-Zs, seniors, persons with limited English proficiency, and persons with disabilities. The consultant should budget suitable incentives to achieve the attendance goals, including both the number and diversity of attendants. Bi-lingual marketing materials a plus. Tagging on to already-existing community and advocacy group meetings, including relevant conferences, is an acceptable option.

Deliverables:

- Detailed public engagement plan for Phase 1, by early spring 2021;
- Public engagement events as noted above, to be conducted during late spring and summer 2021;
- Draft and final event summaries, including tabulations and analysis of public comments, within one week of each event;
- Technical Memorandum summarizing the events and detailing the relevant outputs for incorporation into future tasks;
- Project website with an associated strategy for documenting comments received via the website and integrating those comments into the update process; and
- Supplementing graphics to support market research findings, including “micro-moments” showcasing specific elements of a survey’s findings as a way to tease bigger findings on social.
- Thought-leadership pieces that leverage findings and tie into current news. These could be utilized on platforms such as LinkedIn and shared with the media for publication consideration, e.g. inter-relationship between strong regional economy, business location factors, highly educated workforce, housing availability/affordability and their impacts on transportation options and choices.

- Range of state-of-the-art systems and traditional communication tools, including at a minimum electronic and hard copy format newsletters and polling capabilities that are mobile device friendly;
- Catalog of information releases including social media;
- Creation of social media calendars for strategic post timing and planning and tie-ins to timely events and special holidays;
- Monthly summary of public engagement activities, including data analytics for online activity across all platforms, and a three-month look ahead to future activities;
- Database of stakeholder contacts, potentially with several thousand contacts. Identify which agencies are releasing reports at the same time and coordinate outreach efforts, as to avoid any confusion. Consider including community groups that can advise on cultural tips, how to best reach target minority populations, which platforms to utilize to communicate, etc.;
- Presentation slides sharing information and showing impacts, with supplementing audio, created for website posting; and
- Short videos (potentially animated) that hit various audiences, e.g. show why public should stay interested in long-term planning/projects; show business audiences and legislators economic impacts/demonstrating how NoVA transportation system affects regional prosperity.

Task 1.8: Identification of Regional Transportation Needs

Objective: to identify the regional transportation needs for Northern Virginia up to the year 2045.

TransAction will take account of regional transportation needs that are derived from three sources:

- Travel demand in an intermediate and outer horizon years, taking account of collaborative planning forecasts for population and employment;
- Analysis of future travel conditions, taking account of transportation projects that are fully funded but not yet implemented (Task 1.3); and
- Extensive public and stakeholder engagement, including focus groups, surveys, polls, town hall meetings, and other engagement opportunities (Task 1.7).

The consultant shall identify and document regional transportation needs related to each of the three sources listed above.

The consultant shall gather necessary demographic and land use information to assess trends that will affect transportation demand in Northern Virginia, including:

- The MWCOG/TPB Household Travel Survey, incorporated into the travel demand model used in analyzing the transportation networks;
- The most up-to-date population, household and employment projections to 2045 adopted by the TPB;
- The most recently available TPB and Commonwealth transportation plans;
- Census data;
- Research findings related to the transportation impacts of the pandemic;

- Demographic trends incorporated into relevant recent regional plans that further inform transportation demand in Northern Virginia; and
- Relevant information associated with Regional Activity Centers.

The consultant shall note any inconsistencies or gaps, i.e. where transportation needs do not appear to be met.

Deliverables:

- Technical memorandum documenting the demographic and land use patterns and related, relevant trends for the region;
- Technical memorandum that summarizes the regional transportation needs for Northern Virginia, combining the findings from this task with those from Tasks 1.3 and 1.7.

Task 1.9: Develop Project List ('Top Down')

Objective: to identify and screen candidate regional projects.

In addition to the 'Bottom-up' candidate regional transportation projects identified in Task 1.4, the consultant shall identify a further list of new projects and/or groups of projects to be considered for inclusion in the TransAction update, taking account of the findings in Task 1.8. All projects must meet the definition of a regional project as outlined in Task 1.4. These projects are referred to as 'Top-down' signifying that they will likely be multi-jurisdictional in nature or may include regional transportation technology or other approaches to address identified regional transportation needs. The consultant shall work with relevant jurisdictions and agencies to ensure that cost estimates are verifiable and on a consistent basis.

Deliverable:

- Project list, including planning estimates of project cost for each project (Top-down) that is consistent with and complementary to the interim list of candidate 'Bottom Up' projects developed in Task 1.4.
- Updated technical memorandum describing methodology to define regional projects, if different to Task 1.4.
- Updated database and interactive map of 'bottom up' candidate regional transportation projects, including information in a consistent format to NVTAs project dashboard⁸, such as project number, title and brief description, project location, project sponsor, primary mode, supporting modes, and planning level estimate of full project cost. Over time, the database will be expanded to include characteristics of individual projects, such as traffic volume or ridership, and other data that will support subsequent project screening and evaluation.
- Technical memorandum summarizing highlights and key details of how candidate regional projects will be coded into the various 'Build' or 'No Build' networks. The technical memorandum shall include simple visualizations to summarize coding details.
- Any other data created to support Task 1.9, together with an inventory describing the data files.

Task 1.10: Website Management

⁸ See NoVA Gateway: <https://novagateway.org/>

Objective: to create and maintain a cohesive look and feel between NVTA’s websites and eventually merge site content onto one website.

In order to develop and maintain branding/visual consistency between the main, regularly updated NVTA business website⁹, and the TransAction website¹⁰, which has only had minimal updates since the last TransAction update, this task will align the two sites. The consultant shall develop a strategy/implementation plan to streamline both websites for a cohesive look and feel. The plan must include a proposed schedule that ensures coordination with other public engagement tasks.

Following approval of the plan by NVTA’s Project Manager and NVTA’s Communications & Public Affairs Manager, the consultant shall merge the two websites with a redesign of the main business website, to address the following but not limited to:

- Host all NVTA content, programs and initiatives such as NVTA TransAction on the same site for a user-friendly experience;
- Merge subscriber lists for both websites and enhance analytical capabilities associated with the merged subscriber list;
- Consolidate the large quantity of content available in various locations on the websites and create a more streamlined filing system for easier search capabilities;
- Allow for content updates, such as meeting date changes, to update across the entire website with just a click of the button;
- Provide an intuitive archiving system for dated content and/or previous event/meeting items and streamlined dropdown menu options;
- Offer a section for public engagement and participation opportunities, as well as public meeting information announcements/postings; streamlined with event calendar postings to be more prominent on webpage;
- Merge TransAction, Authority and Committee Meetings information, and details about the membership and structure of each, all under one area, rather than under various dropdown menus;
- Access to digital communications materials, such as presentations, graphics, newsletters, videos and social live feeds;
- Development of FAQs that can be created as a dropdown format and searched by topic; and
- Create a reorganized newsroom and dedicate an area on the homepage for prominently displayed announcements.

The consultant shall work with the NVTA Project Manager and NVTA Communications & Public Affairs Manager on maintaining and updating the TransAction content as new materials are developed.

Deliverables:

- Strategic Plan for creating a cohesive look and feel between the two website; and
- Redesigned main business website where all TransAction and other NVTA-related information will be hosted.

Phase 2 Analysis of Corridor/Segment Packages (November 2021 thru April 2022)

⁹ <https://thenovaaauthority.org/>

¹⁰ <https://nvtatransaction.org/>

Task 2.1: Analysis

Objective: evaluate the extent to which the regional transportation projects identified in Tasks 1.4 and 1.9 meet the regional transportation needs identified in Task 1.8, using the model developed in Task 1.3 and the approved weighted measures listed in Task 1.5 and the detailed methodology developed in this task.

The consultant shall identify project packages in various geographic footprints, e.g. the region as a whole, in eleven major corridors, and associated corridor segments. It is not the intent of TransAction to evaluate individual projects in detail, although a small number of ‘mega’ projects with an estimated project cost in excess of \$500 million may be subject to additional scrutiny. Such additional scrutiny may include development of project packages comprising combinations of mega projects and complementary, but less expensive, regional transportation projects.

That said, NVTA considers, and has demonstrated through previous funding programs, that the scope/scale of a project is not the only indicator of potential regional impact. For example, first/last mile connections, transportation technology, and projects that integrate multiple modes may also have a strong regional impact, particularly when approached from a multi-jurisdictional/multi-agency perspective. To this end, the consultant shall include a disaggregated analysis of the regional performance of ‘modal layers’ including:

- Private autos;
- Transit services (bus rapid transit, commuter bus, express bus, local bus);
- Passenger rail services (Metrorail, VRE, MARC, Amtrak);
- Other forms of shared mobility such as vanpools, carpools, taxis, Transportation Network Companies;
- Freight (road and rail);
- Bicycle/pedestrian network, including shared mobility devices;
- Waterbourne; and
- Transportation technologies.

From this analysis of modal layers, the consultant shall identify interconnection hubs, including parking facilities, stations, transit nodes, and airports, to gain a deeper understanding of how well the multi-modal transportation system performs, and to identify missing or under-performing interconnection hubs.

The consultant shall specify sufficient model runs to be able evaluate project packages for intermediate and outer horizon years. An underlying assumption is that both ‘No Build’ and ‘Build’ networks will be used to assess impacts.

The consultant shall identify how well the regional transportation projects address the regional transportation needs, and identify significant missing gaps or system under-performance. Subsequently, the consultant shall identify additional regional transportation projects to mitigate these.

The analysis will include the development of a TransAction (formerly HB 599) project rating for each project, using a methodology to be developed with the NVTA Project Manager and, subsequently, and discussed with NVTA’s committees.

Deliverables:

- Technical Memorandum specifying project packages for each corridor segment and for selected mega projects (including multiple packages for some segments/mega projects for comparative purposes), including visualizations;
- A series of model outputs based on agreed-upon project packages for 2035 and 2045 ‘Build’ and ‘No Build’ networks;
- Technical Memorandum summarizing the coding and results of each individual model output, including visualizations;
- Technical Memorandum summarizing the results of the analysis of modal layers and interconnections, including visualizations;
- Technical Memorandum detailing the impact of the regional transportation projects on the regional transportation needs, including visualizations, and identifying additional candidate regional projects to address any gaps.
- Any other data created to support Task 2.1, together with an inventory describing the data files.

Task 2.2: Sensitivity (Scenario) Analysis

Objective: evaluate the sensitivity of the analysis to alternate futures.

The consultant shall replicate much of the analysis conducted in Task 2.1 for each of the scenarios, using the same ‘Build’ and ‘No-Build’ networks, enabling a comparison between the expected outcomes and the alternate futures. This analysis is intended to provide an enhanced understanding of the robustness of the analysis of the expected outcomes. This in turn may influence NVTAs approach to future funding programs.

Deliverable:

- Technical Memorandum summarizing the scenario analysis and key findings, including visualizations.
- Any other data created to support Task 2.2, together with an inventory describing the data files.

Task 2.3: Ranking of Projects

Objective: Illustrate the relative effectiveness of projects proposed in TransAction, in order to guide potential prioritization for future Six Year Program update cycles. Evaluate the sensitivity of the analysis to different weights for performance measures.

The consultant shall develop a post-processing approach that details the impact of each project packet, and estimates a weighted score for each project. The consultant shall coordinate with the NVTAs Project Manager to ensure that the analysis of individual projects is consistent with the House Bill 599 (2012) process for evaluating and rating regionally significant projects – TransAction project ratings. The ranking process may include:

- The types of projects which are most effective in meeting identified transportation needs;
- The types of projects that are most urgently needed;
- The cost of the transportation projects relative to their congestion and other impacts; and
- Other factors as identified in consultation with the NVTAs Project Manager.

In developing the ranking scheme, the consultant shall use input from the public and regional stakeholders (collected during Task 1.7). The consultant shall demonstrate how the vision, goals and objectives of the TransAction update will be presented and discussed with the public, and how the input received will be incorporated into the final plan. This approach should be implemented as outlined in Task 9.

The consultant shall make a limited number of additional model runs (at least three) to assess the sensitivity of the ranking analysis to different weights for some performance measures.

Deliverables:

- Technical Memorandum summarizing the project rankings for each ‘Build’ network, including visualizations;
- Technical Memorandum summarizing the sensitivity analysis for performance measure weights, including visualizations.
- Any other data created to support Task 2.3, together with an inventory describing the data files.

Task 2.4: Benefit/Cost Analysis

Objective: to provide an understanding of the benefit/cost relationship for project packages.

The consultant shall propose a methodology to analyze the benefit/cost relationship for each project package using the planning level project cost estimates developed during Phase 1. For its funding programs, NVTa using congestion reduction relative to cost as a component of its decision-making process. For its assessment of economic impact, NVTa uses additional measures of benefit. The consultant shall work with NVTa’s Project Manager to finalize a detailed methodology, prior to conducting the benefit/cost analysis

Deliverables:

- Technical Memorandum summarizing the benefit/cost methodology;
- Technical Memorandum summarizing the benefit/cost analysis.
- Any other data created to support Task 2.4, together with an inventory describing the data files.

Task 2.5: Public Engagement

Objective: to meaningfully engage with a diverse cross section of Northern Virginians to enrich the development of the TransAction update, to educate the public using communications that are targeted, timely and effective.

During Phase 2, public engagement will focus on incrementally releasing information on contextual and analytical findings.

The consultant shall continue to maintain the project website, and utilize appropriate online engagement tools, including social media, for continuous public outreach and engagement.

The consultant shall produce a series of brief articles summarizing key components of the TransAction process, status, findings, visualizations, and upcoming opportunities to participate. These articles will be drawn from Technical Memoranda, which will be posted on the project website after review and approval by the NVTa Project Manager.

The consultant shall support the planning and execution of a half-day work session for Authority members. The purpose of the work session will be to seek feedback from Authority members on the key findings of the analysis and to interactively identify potential regional transportation policy areas including for consideration in the Authority’s legislative program for the 2023 General Assembly session. The work session will provide Authority members an opportunity to provide inputs to, and guidance on, the future public comment process during Phase 3.

The consultant shall make every effort to include all impacted populations including transit-dependent populations, people with disabilities and those with Limited English Proficiency (LEP). Particular languages include Spanish and Korean. Alternative formats should also be made available with sufficient notice.

Outreach materials shall be consistent with NVTAs branding. A clear and concise writing style should be used in all outreach materials.

Online engagement tools and the project website will become the property of NVTAs.

Deliverables:

- Project website with an associated strategy for documenting comments received via the website and integrating those comments into the update process;
- Series of brief articles summarizing key components of the TransAction process, status, findings, visualizations, and upcoming opportunities to participate;
- Authority work session;
- Technical Memorandum summarizing public comments, and related database of comments in a format agreed with the NVTAs Project Manager; and
- Monthly summary of public engagement activities, including data analytics for online activity across all platforms, and a three-month look ahead to future activities.

Phase 3 Reporting, Review, and Finalization (May 2022 thru November 2022)

Task 3.1: Preparation of the Update

Objective: to prepare draft and final versions of the TransAction update document. The TransAction update document must be both easy to read and convenient to use as a reference document.

The final TransAction update will comprise of five components:

- Standalone high quality Executive Summary comprising up to twenty pages, including associated maps, tables, and other figures. It is envisioned the Executive Summary will be printed two-sided, in full color, and staple bound. The consultant may suggest alternative formats. A print run of 500 copies is anticipated following adoption by the Authority.
- Standalone high quality Project List to accompany the Executive Summary, comprising an indexed list of projects by corridor, including associated maps, tables, and other figures. It is envisioned the Project List will be printed two-sided, in full color, and staple bound. As a minimum, the Project List will include (for each project) a project reference number, project title, brief project description, summary of primary and supporting modes, and estimated project cost. The consultant may suggest alternative formats. A print run of 500 copies is anticipated following adoption by the Authority.
- Detailed Technical Report that uses Technical Memoranda as source material. A print run of 100 copies is anticipated following adoption by the Authority.

- Standalone summary brochure comprising a single page printed two-sided in full color. A print run of 1,000 copies is anticipated following adoption by the Authority.
- Narrated, high quality presentation highlighting the key findings of TransAction.

All documents will be uploaded to the TransAction website, and will incorporate search, navigation, and readability features to ensure a high degree of accessibility to a wide audience.

The consultant will supply the master copies of camera-ready documents and electronic files of all documents, including relevant GIS, data, photos, and graphic files, to the NVTAs Project Manager.

All materials will become the property of NVTAs.

Commencing in Task 1.1, and continuing throughout Phases 1 and 2, the consultant shall establish and adhere to a production schedule for each chapter of the detailed Technical Report. Each chapter will be based on source material from corresponding Technical Memoranda. To the extent possible, chapters will be prepared as the work progresses, and reviewed by the NVTAs Project Manager together with other designated reviewers. At least one week, and preferably two weeks, shall be scheduled for each review. Larger or more detailed drafts may require longer review times. Low quality drafts are acceptable for most drafts, which will be shared electronically for review rather than in print.

The consultant shall prepare presentations and supporting documents at the direction of NVTAs Project Manager, to share with NVTAs committees. The consultant shall attend committee meetings as directed.

When compiled, additional reviews will be needed for complete versions of draft final deliverables.

Deliverables:

- Draft updates (multiple versions for internal review and external review, including NVTAs committees);
- Draft Public Comment version for the TransAction Open House and Public Hearing;
- Final Public Comment version for the TransAction Open House and Public Hearing;
- Final Draft version for review and approval by NVTAs;
- Final version (after approval by NVTAs);
- Hard and soft copies, brochures, electronic media, and fact sheets;
- Electronic data and files, including GIS data.

Task 3.2: Public Engagement

Objective: to inform Northern Virginians on the TransAction update, encourage engagement and to enable them to provide formal comments.

During Phase 3, public engagement will focus on more inviting formal feedback through a public hearing and open house.

As part of the formal public comment process, NVTAs will host an Open House and Public Hearing. The consultant shall support the NVTAs Project Manager to plan, execute, and document these events.

Deliverables:

- Public Comment plan and required legal notices/advertisements;
- Draft TransAction plan for public review;

- Open House and Public Hearing at NVTA or held virtually;
- Technical Memorandum providing tabulation and analysis of public comment (from all sources) during the official public comment period, including visualizations, and associated database in a format agreed with NVTA’s Project Manager;
- Additional analysis (Task 3.3) and updates to the draft TransAction Plan, prior to formal adoption;
- Support TransAction-related messaging as necessary;
- After adoption, video (potentially animated) that sums up TransAction activities in a fun and succinct way, as well as the creation of digital social media graphics.

Task 3.3: Re-Evaluation Analysis

Objective: update the analysis as necessary following the public comment process (Task 3.2).

The consultant, in conjunction with the NVTA Project Manager, shall rerun the analysis and ranking as necessary in response to any comments that would justify such reruns.

Deliverables:

- Technical memorandum detailing additional model runs;
- Updated model outputs;
- Updated visualizations.
- Any other data created to support Task 3.3, together with an inventory describing the data files.

Six Year Program Updates

FY2022-2027 Six Year Program (Fall 2021 thru Summer 2022)

Task 4.1: Develop modified base network for ‘Long Term Benefit’ analysis

Objective: to establish a base network against which the impact of NVTA’s regional investments will be compared.

HB 2313 (2013) requires that, in the long term, NVTA’s nine member jurisdictions receive a ‘benefit’ that is approximately equal to the share of revenues attributed to each locality. The consultant, in conjunction with the NVTA Project Manager, shall finalize a detailed methodology to accomplish this requirement, including the format of outputs used for subsequent analysis by NVTA. NVTA prepared a preliminary methodology for the FY2020-2025 Six Year Program update that uses two different modeling/analytical approaches to establish a range of impacts. Consistent with the detailed methodology, the consultant shall develop a base network, referred to as the Long Term Benefit (or LTB) base network, that does not include any projects funded by NVTA’s regional revenues. This revenue stream commenced in FY2014, starting on July 1, 2013. The LTB base network will be similar to the TransAction base network, develop under Task 1.3.

Deliverables:

- Technical memorandum detailing analytical methodology for estimating Long Term Benefit;
- LTB base network; and
- Technical memorandum summarizing base year model outputs, including visualizations.

Task 4.2: Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results

Objective: to establish an LTB ‘Build’ network to estimate the impact of NVTA’s regional investments.

The consultant, in conjunction with the NVTA Project Manager, shall identify a list all projects funded (fully or partially) by NVTA’s regional revenues, and add these to the LTB base network to create an LTB ‘Build’ network. There are approximately 100 such projects. The consultant shall use the LTB base and ‘Build’ networks to estimate the impact of NVTA’s regional revenues using the methodology finalized in Task 4.1. The consultant shall support the NVTA Project Manager as needed to post-process the model outputs to enable LTB to be estimated for each locality.

Deliverables:

- Technical memorandum detailing projects funded using NVTA regional revenues and a summary of coding for each project, including visualizations;
- LTB ‘Build’ network;
- Technical memorandum summarizing LTB estimates, including visualizations.

Task 4.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTA and applicants’ staff

Objective: to prepare data needed to analyze individual candidate projects.

For each Six Year Program update, eligible applicants use NVTA’s password-protected online application portal to submit funding requests. NVTA will provide access credentials to the consultant in order to access application information. NVTA does not control the number of applications, and does not currently set any application limits. The consultant should assume there are approximately 30 such projects applications representing a range of projects including roadway and intersection enhancements, transit enhancements, bike/pedestrian facilities, and transportation technology projects.

The consultant shall participate with the NVTA Project Manager in reviews of the project applications, including one-on-one meetings with project applicants (assuming 15 applicants). These meetings are intended to clarify applications and identify a consistent approach to evaluating the projects.

The consultant shall prepare a summary of coding information for each project.

Deliverables:

- Summaries of meetings with project applicants; and
- Technical memorandum providing a summary of coding for each project, including visualizations.

Task 4.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

Objective: to analyze individual candidate projects to determine congestion reduction relative to cost.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the congestion reduction relative to cost index for each candidate project. Using the model networks developed in Task 1.3, the consultant

shall develop ‘Build’ networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed using the previously approved performance measures.

On completion of the initial analysis, the consultant shall review the findings with NVTA staff and the corresponding applicant staff. This review shall include simple visualizations showing how the project affects volumes, speeds, crowding, etc. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff and the corresponding applicant staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Summaries of meetings with project applicants;
- Technical memorandum detailing analyses (including re-runs) for each project, including visualizations;
- ‘Build’ networks for each project;
- Technical memorandum summarizing post-processing results, including visualizations; and
- Support NVTA committee meetings as needed.

Task 4.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

Objective: to analyze groups of candidate projects to determine congestion reduction relative to cost.

While Task 4.4 considered each candidate project individually, Task 4.5 will group selected candidate projects for further analysis. The consultant shall coordinate with the NVTA Project Manager to identify up to five groups of projects that may have synergistic or duplicative impacts.

The consultant shall conduct a model-based analysis for each group of projects. The purpose of this analysis is to support the NVTA Project Manager to better understand how synergistic or duplicative impacts may affect NVTA’s overall project evaluation. The consultant shall repeat the approach described in Task 4.4.

On completion of the grouped project analysis, the consultant shall review the findings with NVTA staff. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analyses (including re-runs) for each project group, including visualizations;
- ‘Build’ networks for each project group; and
- Technical memorandum summarizing post-processing results, including visualizations.

Task 4.6: Conduct system-wide model runs for TransAction project ratings and post-process results

Objective: to analyze individual candidate projects to determine TransAction (formerly HB 599) project ratings.

The consultant, in conjunction with the NVTA Project Manager, shall finalize a detailed methodology to accomplish this requirement that builds upon work conducted during Phase 2 of TransAction and modified to reflect the specific candidate projects for the Six Year Program.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the TransAction project rating for each candidate project. Using the model networks developed in Task 1.3, the consultant shall develop ‘Build’ networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed using the previously approved performance measures. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analytical methodology for estimating TransAction project ratings;
- Technical memorandum detailing analyses for each project, including visualizations; and
- ‘Technical memorandum summarizing post-processing results, including visualizations.

Task 4.7: Public Engagement

Objective: to inform Northern Virginians on the FY2022-2027 update, encourage engagement and to enable them to provide formal comments.

Public engagement will focus on more inviting formal feedback through a public hearing and open house.

As part of the formal public comment process, NVTA will host an Open House and Public Hearing. The consultant shall support the NVTA Project Manager to plan, execute, and document these events.

Deliverables:

- Public Comment plan and required legal notices/advertisements;
- List of candidate projects and related information for public review;
- Open House and Public Hearing at NVTA or held virtually;
- Technical Memorandum providing tabulation and analysis of public comment (from all sources) during the official public comment period, including visualizations, and associated database in a format agreed with NVTA’s Project Manager;
- Support Six Year Program-related messaging as necessary;
- After adoption, video (potentially animated) that sums up Six Year Program activities in a fun and succinct way, as well as the creation of digital social media graphics.

FY2024-2029 Six Year Program (Fall 2023 thru Summer 2024)

Task 5.1: Review base network for ‘Long Term Benefit’ analysis

Objective: to review the base network developed in Task 4.1 against which the impact of NVTA’s regional investments will be compared.

The consultant, in conjunction with the NVTA Project Manager, shall review the methodology for estimating Long Term Benefit that was finalized in Task 4.1. Consistent with the detailed methodology, the consultant shall review the Long Term Benefit (or LTB) base network, and modify it should the methodology necessitate this.

Deliverables:

- Technical memorandum detailing revised analytical methodology for estimating Long Term Benefit, if needed;
- LTB base network; and
- Technical memorandum summarizing base year model outputs, including visualizations.

Task 5.2: Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results

Objective: to establish an LTB ‘Build’ network to estimate the impact of NVTA’s regional investments.

The consultant, in conjunction with the NVTA Project Manager, shall identify a list all projects funded (fully or partially) by NVTA’s regional revenues, and add these to the LTB base network to create an LTB ‘Build’ network. This will include the approximately 100 such projects used for Task 4.2, together with any additional projects since that task was completed. The consultant shall use the LTB base and ‘Build’ networks to estimate the impact of NVTA’s regional revenues using the methodology finalized in Task 5.1. The consultant shall support the NVTA Project Manager as needed to post-process the model outputs to enable LTB to be estimated for each locality.

Deliverables:

- Technical memorandum detailing projects funded using NVTA regional revenues and a summary of coding for each project, including visualizations;
- LTB ‘Build’ network;
- Technical memorandum summarizing LTB estimates, including visualizations.

Task 5.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTA and applicants’ staff

Objective: to prepare data needed to analyze individual candidate projects.

For each Six Year Program update, eligible applicants use NVTA’s password-protected online application portal to submit funding requests. NVTA will provide access credentials to the consultant in order to access application information. NVTA does not control the number of applications, and does not currently set any application limits. The consultant should assume there are approximately 30 such projects applications representing a range of projects including roadway and intersection enhancements, transit enhancements, bike/pedestrian facilities, and transportation technology projects.

The consultant shall participate with the NVTA Project Manager in reviews of the project applications, including one-on-one meetings with project applicants (assuming 15 applicants). These meetings are intended to clarify applications and identify a consistent approach to evaluating the projects.

The consultant shall prepare a summary of coding information for each project.

Deliverables:

- Summaries of meetings with project applicants; and
- Technical memorandum providing a summary of coding for each project, including visualizations.

Task 5.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

Objective: to analyze individual candidate projects to determine congestion reduction relative to cost.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the congestion reduction relative to cost index for each candidate project. Using the model networks developed in Task 1.3, the consultant shall develop ‘Build’ networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed using the previously approved performance measures.

On completion of the initial analysis, the consultant shall review the findings with NVTA staff and the corresponding applicant staff. This review shall include simple visualizations showing how the project affects volumes, speeds, crowding, etc. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff and the corresponding applicant staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Summaries of meetings with project applicants;
- Technical memorandum detailing analyses (including re-runs) for each project, including visualizations;
- ‘Build’ networks for each project;
- Technical memorandum summarizing post-processing results, including visualizations; and
- Support NVTA committee meetings as needed.

Task 5.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

Objective: to analyze groups of candidate projects to determine congestion reduction relative to cost.

While Task 5.4 considered each candidate project individually, Task 5.5 will group selected candidate projects for further analysis. The consultant shall coordinate with the NVTA Project Manager to identify up to five groups of projects that may have synergistic or duplicative impacts.

The consultant shall conduct a model-based analysis for each group of projects. The purpose of this analysis is to support the NVTA Project Manager to better understand how synergistic or duplicative impacts may affect NVTA's overall project evaluation. The consultant shall repeat the approach described in Task 5.4.

On completion of the grouped project analysis, the consultant shall review the findings with NVTA staff. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analyses (including re-runs) for each project group, including visualizations;
- 'Build' networks for each project group; and
- Technical memorandum summarizing post-processing results, including visualizations.

Task 5.6: Conduct system-wide model runs for TransAction project ratings and post-process results

Objective: to analyze individual candidate projects to determine TransAction (formerly HB 599) project ratings.

The consultant, in conjunction with the NVTA Project Manager, shall finalize a detailed methodology to accomplish this requirement that builds upon work conducted during Phase 2 of TransAction and modified to reflect the specific candidate projects for the Six Year Program.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the TransAction project rating for each candidate project. Using the model networks developed in Task 1.3, the consultant shall develop 'Build' networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed using the previously approved performance measures. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analytical methodology for estimating TransAction project ratings;
- Technical memorandum detailing analyses for each project, including visualizations; and
- 'Technical memorandum summarizing post-processing results, including visualizations.

Task 5.7: Public Engagement

Objective: to inform Northern Virginians on the FY2024-2029 update, encourage engagement and to enable them to provide formal comments.

Public engagement will focus on more inviting formal feedback through a public hearing and open house.

As part of the formal public comment process, NVTA will host an Open House and Public Hearing. The consultant shall support the NVTA Project Manager to plan, execute, and document these events.

Deliverables:

- Public Comment plan and required legal notices/advertisements;
- List of candidate projects and related information for public review;
- Open House and Public Hearing at NVTA or held virtually;
- Technical Memorandum providing tabulation and analysis of public comment (from all sources) during the official public comment period, including visualizations, and associated database in a format agreed with NVTA's Project Manager;
- Support Six Year Program-related messaging as necessary;
- After adoption, video (potentially animated) that sums up Six Year Program activities in a fun and succinct way, as well as the creation of digital social media graphics.

FY2026-2031 Six Year Program (Fall 2025 thru Summer 2026)

Task 6.1: Review base network for 'Long Term Benefit' analysis

Objective: to review the base network developed in Task 5.1 against which the impact of NVTA's regional investments will be compared.

The consultant, in conjunction with the NVTA Project Manager, shall review the methodology for estimating Long Term Benefit that was finalized in Task 5.1. Consistent with the detailed methodology, the consultant shall review the Long Term Benefit (or LTB) base network, and modify it should the methodology necessitate this.

Deliverables:

- Technical memorandum detailing revised analytical methodology for estimating Long Term Benefit, if needed;
- LTB base network; and
- Technical memorandum summarizing base year model outputs, including visualizations.

Task 6.2: Conduct system-wide model runs for 'Long Term Benefit' and post-process results

Objective: to establish an LTB 'Build' network to estimate the impact of NVTA's regional investments.

The consultant, in conjunction with the NVTA Project Manager, shall identify a list all projects funded (fully or partially) by NVTA's regional revenues, and add these to the LTB base network to create an LTB 'Build' network. This will include the approximately 100 such projects used for Task 4.2, any projects that were added in Task 5.2, together with any additional projects since Task 5.2 was completed. The consultant shall use the LTB base and 'Build' networks to estimate the impact of NVTA's regional revenues using the methodology finalized in Task 6.1. The consultant shall support the NVTA Project Manager as needed to post-process the model outputs to enable LTB to be estimated for each locality.

Deliverables:

- Technical memorandum detailing projects funded using NVTA regional revenues and a summary of coding for each project, including visualizations;
- LTB ‘Build’ network;
- Technical memorandum summarizing LTB estimates, including visualizations.

Task 6.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTA and applicants’ staff

Objective: to prepare data needed to analyze individual candidate projects.

For each Six Year Program update, eligible applicants use NVTA’s password-protected online application portal to submit funding requests. NVTA will provide access credentials to the consultant in order to access application information. NVTA does not control the number of applications, and does not currently set any application limits. The consultant should assume there are approximately 30 such projects applications representing a range of projects including roadway and intersection enhancements, transit enhancements, bike/pedestrian facilities, and transportation technology projects.

The consultant shall participate with the NVTA Project Manager in reviews of the project applications, including one-on-one meetings with project applicants (assuming 15 applicants). These meetings are intended to clarify applications and identify a consistent approach to evaluating the projects.

The consultant shall prepare a summary of coding information for each project.

Deliverables:

- Summaries of meetings with project applicants; and
- Technical memorandum providing a summary of coding for each project, including visualizations.

Task 6.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

Objective: to analyze individual candidate projects to determine congestion reduction relative to cost.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the congestion reduction relative to cost index for each candidate project. Using the model networks developed in Task 1.3, the consultant shall develop ‘Build’ networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed using the previously approved performance measures.

On completion of the initial analysis, the consultant shall review the findings with NVTA staff and the corresponding applicant staff. This review shall include simple visualizations showing how the project affects volumes, speeds, crowding, etc. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff and the corresponding applicant staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Summaries of meetings with project applicants;
- Technical memorandum detailing analyses (including re-runs) for each project, including visualizations;
- ‘Build’ networks for each project;
- Technical memorandum summarizing post-processing results, including visualizations; and
- Support NVTA committee meetings as needed.

Task 6.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

Objective: to analyze groups of candidate projects to determine congestion reduction relative to cost.

While Task 6.4 considered each candidate project individually, Task 6.5 will group selected candidate projects for further analysis. The consultant shall coordinate with the NVTA Project Manager to identify up to five groups of projects that may have synergistic or duplicative impacts.

The consultant shall conduct a model-based analysis for each group of projects. The purpose of this analysis is to support the NVTA Project Manager to better understand how synergistic or duplicative impacts may affect NVTA’s overall project evaluation. The consultant shall repeat the approach described in Task 6.4.

On completion of the grouped project analysis, the consultant shall review the findings with NVTA staff. The consultant shall re-run any analyses for which any errors, inconsistencies, or omissions are identified, and again share the findings with NVTA staff. Following agreement on the robustness of these analyses, the consultant shall conduct post-processing analyses. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analyses (including re-runs) for each project group, including visualizations;
- ‘Build’ networks for each project group; and
- Technical memorandum summarizing post-processing results, including visualizations.

Task 6.6: Conduct system-wide model runs for TransAction project ratings and post-process results

Objective: to analyze individual candidate projects to determine TransAction (formerly HB 599) project ratings.

The consultant, in conjunction with the NVTA Project Manager, shall finalize a detailed methodology to accomplish this requirement that builds upon work conducted during Phase 2 of TransAction and modified to reflect the specific candidate projects for the Six Year Program.

The consultant shall conduct a model-based analysis for each project application. The purpose of this analysis is to support the NVTA Project Manager to estimate the TransAction project rating for each candidate project. Using the model networks developed in Task 1.3, the consultant shall develop ‘Build’ networks for each project in an intermediate horizon year (2025 or 2030) and the outer horizon year 2045. These networks will be used to model the impacts of each project, and post-processed

using the previously approved performance measures. The consultant shall coordinate with the NVTA Project Manager to ensure the format of outputs used meets the requirements for subsequent analysis by NVTA.

Deliverables:

- Technical memorandum detailing analytical methodology for estimating TransAction project ratings;
- Technical memorandum detailing analyses for each project, including visualizations; and
- ‘Technical memorandum summarizing post-processing results, including visualizations.

Task 6.7: Public Engagement

Objective: to inform Northern Virginians on the FY2026-2031 update, encourage engagement and to enable them to provide formal comments.

Public engagement will focus on more inviting formal feedback through a public hearing and open house.

As part of the formal public comment process, NVTA will host an Open House and Public Hearing. The consultant shall support the NVTA Project Manager to plan, execute, and document these events.

Deliverables:

- Public Comment plan and required legal notices/advertisements;
- List of candidate projects and related information for public review;
- Open House and Public Hearing at NVTA or held virtually;
- Technical Memorandum providing tabulation and analysis of public comment (from all sources) during the official public comment period, including visualizations, and associated database in a format agreed with NVTA’s Project Manager;
- Support Six Year Program-related messaging as necessary;
- After adoption, video (potentially animated) that sums up Six Year Program activities in a fun and succinct way, as well as the creation of digital social media graphics.

SECTION D

PAYMENTS TO CONSULTANT

1. **PAYMENT TERMS:** Monthly progress payments will be made to the firm receiving the contract award (hereinafter known as Consultant) by NVTA for work performed satisfactorily according to project milestones. The Consultant should submit monthly progress reports simultaneously with its invoices. NVTA will retain a 10% contingency from each invoice submitted. Payment for amounts withheld shall be made at the end of the project within 45 days of receipt and acceptance of all products by NVTA.
2. **INVOICES:** A copy of all invoices for services delivered and accepted shall be submitted by the Consultant as directed below:
Invoices will be submitted electronically to the NVTA Project Manager. The NVTA Project Manager will review the invoices for correctness and appropriateness prior to recommending payment to the NVTA Contract Manager.

All contract payments will be made by ACH or wire transfer.

Invoices, at a minimum, shall contain the following information:

- a. Name, Address, Email, Telephone and Fax Number of Consultant
 - b. NVTA Contract Number
 - c. Invoice Number
 - d. Date of Invoice
 - e. Description of Services Rendered, Tied to Relevant Deliverable(s)
 - f. Hours by Employee Keyed to Specific Tasks in the Scope of Work, with Associated Costs and Fees, Plus Documented Expenses.
 - g. Total Invoice Amount
 - h. Consultant's Signature
 - i. Federal Employer Identification Number
3. **TAXES:** The NVTA excise tax exemption registration number will be furnished upon request.
 4. **LIQUIDATED DAMAGES:** Even if no specific amount of liquidated damages will apply NVTA reserves the right to obtain appropriate compensation for delays beyond the contractual schedule that are attributable to Consultant performance.
 5. **AVAILABILITY OF FUNDS:** It is understood and agreed between the parties herein that NVTA shall be bound thereunder only to the extent of the funds available or which may hereafter become available for the purpose of this contract.
 6. **PAYMENT TO SUBCONTRACTOR:** A Consultant is hereby obligated:

- a. To pay the subcontractor within seven days of the Consultant's receipt of payment from NVTA for the proportionate share of the payment received for work performed by the subcontractor under the contract; or
- b. To notify NVTA and the subcontractor, in writing, of the Consultant's intention to withhold payment and the reason.

The Consultant is obligated to pay the subcontractor interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the Consultant that remain unpaid seven days following receipt of payment from NVTA, except for amounts withheld as stated in Section (b) above. The date of mailing of any payment by U.S. mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. Consultant's obligation to pay an interest charge to a subcontractor shall not be construed to be an obligation of NVTA.

Consultant agrees to return any retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment may occur only for good cause following written approval of NVTA. This clause applies to both DBE and non-DBE subcontractors. Work may be credited toward DBE goals only when payments are actually made to DBEs.

7. **AUTHORIZED FUNDING:** If at any time Consultant has reason to believe that the costs to NVTA that will accrue in the performance of the contract/task order(s) in the next succeeding 30 days, when added to all other payments previously accrued, will exceed 75% of the then current total authorized funding, Consultant shall notify NVTA to that effect, advising of the estimate of additional funds required for completion of the contract/task order. NVTA shall not be obligated to reimburse Consultant for any work performed, if in the performance thereof the total funding then allotted to the contract/task order will be exceeded.

NVTA shall not be obligated to pay the Consultant any amount in excess of the ceiling price reflected in the contract and/or task order until the NVTA Project Officer shall have notified the Consultant in writing that the price has been increased and shall have specified in the notice a revised price that shall constitute the price for performance under this contract/task order. When and to the extent that the price set forth in the contract and/or task order has been increased, any hours expended and material costs incurred by the Consultant in excess of the price before the increase shall be allowable to the same extent as if the hours expended and material costs had been incurred after the increase in the price.

SECTION E

CONSULTANT TERMS AND CONDITIONS

1. **CONTRACT REQUIREMENTS:** NVTA follows Virginia procurement laws. Accordingly, all applicable federal and state requirements will apply. Consultants are expected to be familiar with these requirements. NVTA will provide a contract containing these provisions for execution by the Consultant. Consultants should not expect to use their own standard contracts for this engagement.

This solicitation is subject to the provisions of the Commonwealth of Virginia Vendors Manual and any changes or revisions thereto, which will be incorporated into the contract in their entirety. A copy of the manual is accessible on the Internet at www.dgs.state.va.us/dps and “Manuals.”

The final contract will contain provisions similar to those set forth below.

2. **APPLICABLE LAW AND COURTS:** Any contract resulting from this solicitation shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth. The Consultant shall comply with applicable federal, state, and local laws, rules and regulations.
3. **PRECEDENCE OF TERMS:** In the event of an inconsistency between the Request for Proposal, the Contract Terms and Conditions, other included documents, or federal and state procurement law, the inconsistency shall be resolved by the following order of precedence:
 - a) Virginia’s Public Procurement Act, as amended
 - b) Contract Terms and Conditions
 - c) Request for Proposal (RFP)
 - d) Consultant’s Accepted Technical and Cost Proposal
4. **OBLIGATION OF CONSULTANT:** By accepting the award, the Consultant agrees that it has satisfied itself from a personal investigation of the conditions to be met, that the obligations herein are fully understood, and no claim may be made nor will there be any right to cancellation or relief from the contract because of any misunderstanding or lack of information.
5. **ASSIGNMENT OF CONTRACT AND SUBCONTRACTING:** Contract/task order(s) shall not be assignable by the Consultant in whole or in part without the written consent of NVTA. In the event that the Consultant desires to subcontract some part of the work specified herein, the Consultant shall furnish to NVTA the names, qualifications and experience of the proposed subcontractors. The Consultant shall, however, remain fully liable and responsible for the work to be done by his subcontractor(s) and shall assure compliance with all requirements of the contract.
6. **CONSULTANT RESPONSIBILITIES:** Consultant shall be responsible for completely supervising and directing the work under this contract and all subcontractors that it may utilize, using its professional skill and attention in accordance with the normal degree of care and skill of

other reputable Engineers providing similar services on similar projects of like size and nature at the same time in the Washington DC metropolitan area. Subcontractors who perform work under this contract shall be responsible to the Consultant. Consultant agrees that it is as fully responsible for the acts and omissions of its subcontractors and of persons employed by the Consultant as it is for the acts and omissions of its own employees.

7. **NO CLAUSE 7**

8. **CONTRACTUAL DISPUTES AND CLAIMS:** In accordance with Section 2.2-4363, VA Code Ann., this provision shall be followed for consideration and handling of all disputes and claims by the Consultant under this contract. Section 2.2-4365, VA Code Ann. is not applicable to this contract. Under no circumstances is this section an administrative appeals procedure governed by Section 2.2-4365, VA Code Ann. because Section 2.2-4365, VA Code Ann. is not applicable to this procurement.

Notice of the intent to submit a claim setting forth the basis for any claim shall be submitted in writing within ten days after the occurrence or the event giving rise to the claim or within ten days of discovering condition giving rise to the claim, whichever is later. In no event shall any claim arising out of this contract be filed after submission of the request for final payment by the Consultant.

Claims by the Consultant with respect to this contract shall be submitted in writing in the first instance for consideration by the Contract Manager. The decision of the Contract Manager shall be rendered in writing within 30 days from the receipt of the claim from the Consultant. If the Consultant is not satisfied with the decision or resolution of the Contract Manager, the Consultant may file a formal dispute with regard to the claim with the Project Officer within 30 days of the decision of the Contract Manager. The Project Officer shall reduce his/her decision to writing and shall mail or otherwise furnish a copy of his/her decision to the Consultant within 30 days of the receipt of the claim from the Consultant. The decision of the Project Officer shall be final and binding.

Should any decision-maker designated under this procedure fail to make a decision on a claim within the time period specified, then the claim is deemed to have been denied by the decision-maker. Pending a final determination of a claim, the Consultant shall proceed diligently with the performance of the work under this contract.

In accordance with the provisions of Section 2.2-4363, VA Code Ann., full compliance with this dispute and claim resolution procedure set forth in this Section shall be a precondition of the filing of any lawsuit by the Consultant against the NVTA arising out of the contract.

9. **DEFAULT:** In case of failure to deliver goods or services in accordance with the contract terms and conditions, NVTA, after due oral or written notice and the failure of the Consultant to so cure in a commercially reasonable time as set forth in the written notice, may procure them from other sources and hold the Consultant responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies that NVTA may have.
10. **TERMINATION FOR CONVENIENCE OR DEFAULT:** NVTA may terminate this contract, or any portion of it, by serving a written notice of termination on the Consultant. The notice shall state whether the termination is for convenience of NVTA or for the default of the Consultant. If the termination is for default, the notice shall state the manner in which the Consultant has failed to perform the requirements of the contract. The Consultant shall account

for any property in its possession paid for from funds received from NVTA, or property supplied to the Consultant by NVTA. If the termination is for default, NVTA may fix the fee, if the contract provides for a fee, to be paid the Consultant in proportion to the value, if any, of work performed up to the time of termination. The Consultant shall promptly submit its termination claim to NVTA and the parties shall negotiate the termination settlement to be paid the Consultant.

If the termination is for the convenience of NVTA, the Consultant shall be paid its contract close-out costs, and a fee, if the contract provided for payment of a fee, in proportion to the work performed up to the time of termination.

If, after serving a notice of termination for default, NVTA determines that the Consultant has an excusable reason for not performing, such as strike, fire, flood, events which are not the fault of and are beyond the control of the Consultant, NVTA, after setting up a new work schedule, may allow the Consultant to continue work, or treat the termination as a termination for convenience.

The Consultant shall include provisions for termination for convenience of NVTA in any subcontract, and shall specifically include requirements that subcontractors make all reasonable efforts to mitigate damages which may be suffered. Failure to include such provisions shall bar the Consultant from any recovery from NVTA whatsoever of loss or damage sustained by a subcontractor as a consequence of termination for convenience.

11. **ANTITRUST:** By entering into a contract, Consultant conveys, sells, assigns, and transfers to NVTA all rights, title and interest it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by NVTA under said contract.
12. **ACCESS TO RECORDS:** The Consultant agrees to provide NVTA access to any books, documents, papers and records of the Consultant that are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

Consultant agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case the Consultant agrees to maintain same until NVTA or its duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. The Consultant agrees to permit NVTA to reproduce project documents by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

13. **TESTING/INSPECTION:** NVTA reserves the right to conduct any test/inspection it may deem advisable to assure supplies and services conform to specifications.
14. **RELEASES, LICENSES, PERMITS AND AUTHORIZATIONS:** It is the Consultant's responsibility to obtain all releases, licenses, permits and other usage authorizations for all matters within its ordinary sphere of activity, including photographs, copyrighted materials, artwork or any other property or rights belonging to third parties obtained by the Consultant for use in performing services for NVTA, and shall save NVTA harmless from all claims, demands, expenses (including reasonable attorney's fees), liabilities, suits, and proceedings (including any brought in or before any court, administrative body, arbitration panel or other tribunal) against or involving NVTA on account of or arising out of such use. NVTA shall obtain the same for any such items obtained by NVTA which are used by the Consultant and hold the Consultant harmless.

15. **WARRANTY:** All materials and equipment furnished by the Consultant shall be fully guaranteed against defects in material and workmanship in accordance with the most favorable commercial warranties the Consultant gives any customer for such supplies or services.
16. **RIGHTS IN DATA:** The term “subject data,” as used herein means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under this contract. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to, computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term “subject data” does not include financial reports, cost analyses, and similar information incidental to contract administration.

All “subject data” first produced in the performance of this contract shall be the sole property of NVTA. The Consultant agrees not to assert any rights at common law or equity and not to establish any claim to statutory copyright in such data. Except for its own internal use, the Consultant may not publish or reproduce subject data, in whole or in part, or in any manner or form, nor authorize others to do so without the written consent of the NVTA, until such time as the NVTA may have either released or approved the release of such data to the public.

17. **PATENT RIGHTS:** If any invention, improvement, or discovery of the Consultant or any of its subcontractors is conceived or first actually reduced to practice in the course of this contract, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Consultant agrees to provide immediate notice and a detailed report to NVTA.
18. **IMMIGRATION REFORM AND CONTROL ACT OF 1986:** Consultant certifies that it does not and will not, during the performance of this contract, employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986.
19. **INDEMNIFICATION:**
 Consultant shall not seek to hold liable NVTA, or any of its officers, agents and employees for any claims of any nature whatsoever arising out of this contract or arising out of the activities funded in whole or in part by the contract. Consultant agrees to defend the NVTA, its officers, agents, servants and employees (hereinafter individually and collectively referred to as "Indemnitees"), from all suits, claims, demands, actions, or proceedings, and to the extent permissible by law, indemnify and hold harmless the Indemnitees from:
- a. All damages of liability, including costs, expenses and attorney fees, to the extent caused by any negligent, reckless or wrongful act, error, or omission or the willful misconduct of Consultant or any person or organization for whom Consultant is responsible, and arising out of the performance of professional services under this Agreement; and
 - b. All liability, loss, damage, claims, demands, costs and expenses, including, in part, court costs and attorney fees, based upon any act, omission, or occurrence of Consultant or any person or organization for whom Consultant is responsible, to the extent arising out of, in connection with, resulting from or caused by the performance or failure of performance of any work or services other than professional

services under this Agreement, or from conditions created by Consultant's performance or non-performance of said work or services.

Consultant agrees to maintain adequate insurance to protect NVT A and its officers, agents, and employees from liability arising out of this contract.

20. **ETHICS IN PUBLIC CONTRACTING:** Consultant certifies that its proposal is made without collusion or fraud and that he/she has not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer or subcontractor in connection with their proposal, and that he/she has not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

Consultant also must ensure that there is no real or perceived conflict of interest during the term of the contract.

21. **DEBARMENT STATUS:** By submitting this proposal, the Consultant certifies that it is not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor is it an agent of any person or entity that is currently so debarred.

Consultant further certifies that it is not debarred, suspended, declared ineligible, or voluntarily excluded from participating in contracts with the federal government, and that it will refrain from awarding any subcontract to a debarred or suspended subcontractor. In addition, Consultant agrees to comply with the requirements of Executive Orders Nos. 12549 and 12689, "Debarment and Suspension," 31 USC Section 6101 note; and U.S. DOT regulations on debarment and suspension at 49 CFR Part 29.

22. **CIVIL RIGHTS:** Consultant certifies to NVT A that it will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans with Disabilities Act, and §2.2-4311 of the Virginia Public Procurement Act (VPPA). The following requirements apply to the underlying contract:

- (1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and federal transit law at 49 U.S.C. § 5332, Consultant agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, Consultant agrees to comply with applicable federal implementing regulations and other implementing requirements.
- (2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:
 - (a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, Consultant agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity,

Department of Labor," 41 C.F.R. Parts 60 et seq. (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable federal statutes, executive orders, regulations, and federal policies that may in the future affect construction activities undertaken in the course of the project. Consultant agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, Consultant agrees to comply with any implementing requirements.

- (b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and federal transit law at 49 U.S.C. § 5332, Consultant agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, Consultant agrees to comply with any implementing requirements.
- (c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, Consultant agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, Consultant agrees to comply with any implementing requirements.

Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Consultant, in all solicitations or advertisements for employees placed by or on behalf of Consultant, will state that Consultant is an equal opportunity employer. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.

- (2) Consultant will include these Civil Rights provisions above in every subcontract or purchase order over \$10,000 and all subcontracts financed in whole or in part with federal assistance, modified only if necessary to identify the affected parties.

23. **DISADVANTAGED BUSINESS ENTERPRISE (DBE) / Virginia Small, Women-owned, and Minority-owned Business (SWaM):** If the Offeror is certified as a DBE or Virginia SWaM, document certification in Attachment D. Otherwise, where it is practicable for any portion of the awarded contract to be subcontracted, the Consultant is encouraged to offer such business to minority and/or women-owned businesses.

Consultant or his/her subcontractor shall not discriminate on the basis of race, color, sex, gender, national origin or ethnicity in the performance of this contract. Consultant will be required to submit a schedule of DBE use on a quarterly basis. Consultant is required to maintain records and documents of payments to DBE's/SWaM's for three years following the performance of the contract and will make these records available to NVTA upon request.

Consultant or its subcontractors agree to ensure that disadvantaged business enterprises as defined in 49 C.F.R. Part 26 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with funds provided under this agreement. In this regard, NVTA and its Consultants shall take all necessary and reasonable steps to ensure that disadvantaged business enterprises have the maximum opportunity to compete for and perform contracts.

Consultant, its agents, employees, assigns or successors, any persons, firms, or agency of whatever nature with whom it may contract or make agreement, in connection with this contract shall cooperate with NVTA and shall use their best efforts to ensure that disadvantaged business enterprises shall have the maximum practicable opportunity to compete for subcontract work under this contract.

24. **NON-DISCRIMINATION AGAINST FAITH-BASED ORGANIZATIONS:** NVTA does not discriminate against faith-based organizations in procuring supplies and services.
25. **INSURANCE REQUIREMENTS:** A checklist of required insurance coverage is attached and identified as "NVTA Insurance Coverage Required." Items marked "X" are required to be provided. A certificate of insurance indicating these coverages must accompany the bid submission. A copy of the declarations page is acceptable for errors and omissions insurance. If insurance is incomplete, the prospective Consultant should provide a letter from its insurance agent stating that the prospective Consultant is eligible to obtain insurance to the prescribed limits, should a contractual offer be extended. No contract shall be finalized and no work shall commence until NVTA's insurance requirements are met.

Consultant agrees to include the provisions of the foregoing clause in every subcontract or purchase order so that the provisions will be binding upon each subcontractor or vendor.

1. Consultant shall be responsible for its work and every part thereof, and for all materials, equipment, and property of any and all description used in connection therewith. Consultant assumes all risks of direct and indirect damage or injury to any person or property wherever located, resulting from any action, omission, commission, or operation under the contract, or in connection in any way whatsoever with the contracted work.
2. Consultant shall, during the continuance of all work under the contract provide and agree to maintain the following unless omitted from the attached "Insurance Checklist":
 - a. Workers' Compensation and Employers' Liability insurance under the Commonwealth of Virginia statutory requirements, to protect the firm from any liability or damages for any injuries (including death and disability) to any and all of its employees, volunteers, or subcontractors, including any and all liability or damage which may arise by virtue of any statute or law in force within the Commonwealth of Virginia, or which may be hereinafter enacted.
 - b. General Liability insurance in the amount prescribed by NVTA, to protect the Consultant, its subcontractors, and the interest of NVTA, against any and all injuries to

third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the contract or in connection with the contracted work. The General Liability insurance shall also include the Broad Form General Liability endorsement, in addition to coverages for explosion, collapse, and underground hazards, where required. Completed Operations Liability coverage shall continue in force for one year after completion of work.

- c. Automobile Liability insurance, including property damage, covering all owned, non-owned, borrowed, leased, or rented vehicles operated by the Consultant. In addition, all mobile equipment used by the Consultant in connection with the contracted work, will be insured under either a standard Automobile Liability policy, or a Commercial General Liability policy.
3. Liability insurance may be arranged by General Liability and automobile Liability policies for the full limits required, or by a combination of underlying Liability policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.
 4. The Consultant agrees to provide insurance issued by companies admitted within the Commonwealth of Virginia, with the Best's Key Rating of at least A:VI.
 5. NVTA shall be named an additional insured in the General Liability policies and stated so on the Certificate.
 6. The Consultant will provide an original, signed Certificate of Insurance, evidencing such insurance and such endorsements as prescribed herein, and shall have it filed with the NVTA Assistant Finance Officer before a contract is executed and any work is started.
 7. The Consultant will secure and maintain all insurance policies of its subcontractors, which shall be made available to NVTA on demand.
 8. The Consultant will provide on demand, certified copies of all insurance coverage on behalf of the contract within 10 days of demand by NVTA. These certified copies will be sent to NVTA from the Consultant's insurance agent or representative.
 9. No change, cancellation, or non-renewal shall be made in any insurance coverage without a 30 day written notice to the NVTA Contract Manager. The Consultant shall furnish a new certificate prior to any change or cancellation date. The failure of the Consultant to deliver a new and valid certificate will result in suspension of all payments until the new certificate is furnished to the NVTA Contract Manager.
 10. Insurance coverage required in these specifications shall be in force throughout the contract term. Should the Consultant fail to provide acceptable evidence of current insurance within five days of written notice at any time during the contract term, NVTA shall have the absolute right to terminate the contract without any further obligation to the Consultant, and the Consultant shall be liable to NVTA for the entire additional cost of procuring the incomplete portion of the contract at time of termination.
 11. Compliance by the Consultant and all subcontractors with the foregoing requirements as to carrying insurance shall not relieve the Consultant and all subcontractors of their liabilities and obligations under this hearing or under any other section or provisions of the contract.

12. Contractual and other liability insurance provided under the contract shall not contain a supervision, inspection, or services exclusion that would preclude NVTA from supervising and/or inspecting the project as to the end result. The Consultant shall assume all on-the-job responsibilities as to the control of persons directly employed by it and of the subcontractors and any person employed by the subcontractor.
 13. Nothing contained herein shall be construed as creating any contractual relationship between the subcontractor and NVTA. The Consultant shall be as fully responsible to NVTA for the acts and omissions of the subcontractors and of persons employed by them as it is for acts and omissions of persons directly employed by it.
 14. Precaution shall be exercised at all times for the protection of persons (including employees) and property.
 15. Consultant and all subcontractors and sub-subcontractors are to comply with the Occupational Safety and Health Act of 1970, Public Law 91-956, as it may apply to the contract.
 16. If the Consultant does not wish to meet the specifications of these insurance requirements, alternate insurance coverage proposed by the Consultant, may be considered by the NVTA Project Officer.
26. **CHANGES:** By written notice to the Consultant, NVTA may from time to time make changes within the general scope of the contract, in the services to be provided by the Consultant, the method or place of delivery, or the place of performance. Changes may also be made by mutual agreement between the parties in writing. The Consultant shall promptly comply with the notice and shall perform all services in conformity to the notice.

If any such change causes an increase or decrease in the Consultant's cost of performance or the time required for performance, an equitable adjustment in the contract price and/or the time allowed for performance of the contract shall be negotiated and the contract modified accordingly by written supplemental agreement. Any claim by the Consultant for adjustment under this clause must be asserted by written notice to NVTA within 30 days from the date of receipt by the Consultant of the change notice. If the parties fail to agree to an adjustment, the question of an increase or decrease in the contract price or time allowed for performance shall be resolved in accordance with the procedures for resolving disputes provided by the disputes clause of the contract, or if there is none, in accordance with the disputes provision of the Commonwealth of Virginia's Vendor's Manual. Neither the existence of a claim, a dispute, submission of the dispute or the dispute resolution process, litigation or any portion of this provision or changes shall excuse the Consultant from promptly proceeding with performance of the contract as changed by the notice.

SECTION F.

REQUIRED ATTACHMENTS

Attachment A: RFP Submission Form.

Attachment B: NVT A Insurance Coverage Required.

Attachment C: Disadvantaged Business Enterprise Statement.

Attachment D: Schedule of Disadvantaged Business Enterprise Participation Statement.

Separately Bound: Cost Proposal

ATTACHMENT A

RFP SUBMISSION FORM

A. SUBMITTING BUSINESS ENTITY IDENTIFICATION & OWNERSHIP DISCLOSURE

Company: _____

Contact Person: _____

Email: _____

Title: _____

Address: _____

Telephone No.: _____

Indicate which of the following apply:

Corporation _____

Partnership _____

Sole Proprietor _____

Small Business _____

Organized under the laws of the State of _____

Principal place of business located at _____

Complete if appropriate:

Disadvantaged Business Enterprise (DBE) _____

Certified by _____

B. VIRGINIA CONFLICTS OF INTEREST & PUBLIC PROCUREMENT

This solicitation is subject to the provisions of Section 2.2-3100 et. seq., of the Code of Virginia (1950), as amended, (The Code), the Virginia State and Local Government Conflict of Interests Act, and Sections 2.2-4300 et. seq. of the Code, the Virginia Public Procurement Act.

The Offeror (____) is (____) is not aware of any information bearing on existence of any potential conflicts of interest or violation of ethics in public contracting. If yes, explain.

C. OTHER INFORMATION

1. General character of work performed by your firm:

2. Has your firm every failed to complete any work awarded to you? If yes, explain.

3. Has your firm ever defaulted on a contract? If yes, explain.

4. Indicate the names of subcontractors, if any, proposed for this project, anticipated role, anticipated level of effort, address, phone number, and contact person. Indicate if the subcontractor is a certified Disadvantaged Business Enterprise (DBE) and by whom they are certified.

5. Please indicate if your firm, subcontractor or any persons associated therewith in the capacity of owner, partner, director, officer or any other position involving the administration of federal funds:

- is currently under suspension, debarment, voluntary exclusion, or determination of ineligibility of any federal agency;
- has been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the last three (3) years;
- has a proposed debarment pending; or
- has been indicted, convicted, or had a civil judgment rendered against it or them by a court competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Any of the above conditions will not necessarily result in denial of award, but will be considered in determining Offeror responsibility. For any condition noted, indicate to whom it applies, initiating agency, and date of action. Providing false information may result in federal criminal prosecution or administrative sanctions.

D. CERTIFICATION

I certify that this proposal is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a proposal for the same services, materials, supplies or equipment, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of the State and Federal law and can result in fines, prison, sentences, and civil damage awards.

I hereby certify that the responses to the above representations, certifications, and other statements are accurate and complete. I agree to abide by all conditions of this Request For Proposal and certify that I am authorized to sign for the Proposer.

Signature _____ Date _____

Name (Printed) _____ Title _____

ATTACHMENT B

NORTHERN VIRGINIA TRANSPORTATION AUTHORITY
INSURANCE COVERAGE REQUIRED

Items marked "X" are required to be provided if award is made to your firm. See specification section entitled "Insurance Requirements." Consultant's Insurance Agent shall mark a "check" ("Yes" or "No") as to availability of insurance. Note: If you have answered "No" to any of the requirements, provide written explanation on a separate sheet.

| | | COVERAGE REQUIRED | LIMITS (FIGURES DENOTE MINIMUM) |
|-----|-----|-------------------|---|
| Yes | No | Required | |
| ___ | ___ | <u>X</u> | 1. Workers' Compensation and Employers' Liability; Admitted in Virginia |
| ___ | ___ | | Employer's Liability |
| ___ | ___ | | All States Endorsement |
| ___ | ___ | | USL&H Endorsement |
| ___ | ___ | | Voluntary Compensation |
| ___ | ___ | <u>X</u> | 2. General Liability |
| ___ | ___ | | Products |
| ___ | ___ | | Complete Operations |
| ___ | ___ | | Contractual Liability |
| ___ | ___ | | Personal Injury |
| ___ | ___ | | Independent Contractors |
| ___ | ___ | | XCU Prop. Damage Excl. Deleted |
| ___ | ___ | <u>X</u> | 3. Automobile Liability |
| ___ | ___ | | Owned, Hired & Non-Owned |
| ___ | ___ | | Motor Carrier Act End. |
| ___ | ___ | <u>X</u> | 4. Professional Errors and Omissions |
| ___ | ___ | | 5. Garage Liability |
| ___ | ___ | | 6. Garage keepers' Legal Liability |
| ___ | ___ | | 7. Fire Legal Liability |
| ___ | ___ | | 8. Other Insurance: [adapt for project] |
| ___ | ___ | <u>X</u> | 9. NVTa named as additional insured on General Liability (This coverage is primary to all other coverages NVTa may possess) |
| ___ | ___ | <u>X</u> | 10. 30 day cancellation notice required |
| ___ | ___ | <u>X</u> | 11. Best's Guide Rating - A:VI or Better, or Equivalent |
| ___ | ___ | <u>X</u> | 12. The Certificate must state Bid/RFP # and Bid/RFP Title |
| ___ | ___ | <u>X</u> | 13. Umbrella Liability |

OFFEROR AND INSURANCE AGENT STATEMENT

We understand the Insurance Requirements of these specifications and will comply in full if awarded this Contract.

OFFEROR

INSURANCE AGENCY

SIGNATURE

SIGNATURE

**ATTACHMENT C
DISADVANTAGED BUSINESS ENTERPRISE STATEMENT**

NVTA is committed to an active effort to involve Disadvantaged Business Enterprises (DBE) and certified Virginia Small, Women-owned, and Minority-owned Businesses (SWaM) in contracting opportunities, to increase competition. To ensure that DBE's/SWaM's have the maximum practicable opportunity to compete for contract and subcontract work, we ask that you describe below, how your organization would include the use of DBE's/SWaM's in fulfilling the RFP requirements.

Complete Attachment D for each DBE/SWaM you plan to utilize during the contract period.

**ATTACHMENT D
SCHEDULE OF DISADVANTAGED BUSINESS ENTERPRISE (DBE/SMAM)
PARTICIPATION**

Name of Offeror

Project Name

Name of DBE/SMaM Contractor

DBE/SWaM Point of Contact

Address

Phone Number

Type of Product/Services Provided/SOW Tasks and contract items noted below

| General Requirement Reference (such as SOW C.2) | Percent of Total Task | Percent of Contract |
|--|-----------------------|---------------------|
| | | |
| | | |
| | | |

(Use additional lines as needed)

Please attach a copy of your DBE/SMaM Contractor designation from a Federal or Commonwealth of Virginia Agency.

The undersigned will enter into a formal agreement with the above DBE/SWaM Contractors for work listed in the schedule conditioned upon execution of a contract.

Offeror Date

Separately Bound Price Proposal

PRICE PROPOSAL SUMMARY TABLE
RFP # 2021-03
Northern Virginia Transportation Authority
TransAction Update

Offerors are required to complete the following Price Proposal Summary table in Excel for all tasks listed below. This table must be included in the written price proposals and the Excel file included on the required USB flash drive. This table is NOT a substitution for a full cost proposal as described in the RFP. A soft copy of the table is available on the Authority's web site.¹¹

Task 1.1: Finalize Work Plan

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.1: _____

Task 1.2: Develop Model Strategy (see additional price item at end of table)

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.2: _____

Task 1.3: Implement Model Strategy

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.3: _____

¹¹ <https://thenovaauthority.org/about/business-opportunities/>

Task 1.4: Develop Project List ('Bottom Up')

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.4: _____

Task 1.5: Develop TransAction Objectives, Measures, and Weights

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.5: _____

Task 1.6: Define Scenarios for Sensitivity Analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.6: _____

Task 1.7: Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.7: _____

Task 1.8: Identification of Regional Transportation Needs

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.8: _____

Task 1.9: Develop Project List ('Top Down')

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.9: _____

Task 1.10: Website Management

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 1.10: _____

Task 2.1: Analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 2.1: _____

Task 2.2: Sensitivity (Scenario) Analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 2.2: _____

Task 2.3: Ranking of Projects

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 2.3: _____

Task 2.4 Benefit/Cost Analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 2.4: _____

Task 2.5 Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 2.5: _____

Task 3.1: Preparation of the Update

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 3.1: _____

Task 3.2: Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 3.2: _____

Task 3.3: Re-Evaluation Analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 3.3: _____

Task 4.1: Develop modified base network for 'Long Term Benefit' analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.1: _____

Task 4.2: Conduct system-wide model runs for ‘Long Term Benefit’ and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.2: _____

Task 4.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTa and applicants’ staff

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.3: _____

Task 4.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.4: _____

Task 4.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.5: _____

Task 4.6: Conduct system-wide model runs for TransAction Project ratings and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.6: _____

Task 4.7: Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 4.7: _____

Task 5.1: Review base network for 'Long Term Benefit' analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.1: _____

Task 5.2: Conduct system-wide model runs for 'Long Term Benefit' and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.2: _____

Task 5.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVT A and applicants' staff

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.3: _____

Task 5.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.4: _____

Task 5.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.5: _____

Task 5.6: Conduct system-wide model runs for TransAction Project ratings and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|-----------------|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |

| | | | | | |
|-----|---|--|--|--|--|
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.6: _____

Task 5.7: Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 5.7: _____

Task 6.1: Review base network for 'Long Term Benefit' analysis

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.1: _____

Task 6.2: Conduct system-wide model runs for 'Long Term Benefit' and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.2: _____

Task 6.3: Review project applications, develop model coding for candidate projects (estimated 30 projects), and review with NVTa and applicants' staff

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|-----------------|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |

| | | | | | |
|-----|---|--|--|--|--|
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.3: _____

Task 6.4: Conduct individual model runs (and re-runs) for each candidate project for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.4: _____

Task 6.5: Conduct limited number of model runs (and re-runs) for groups of projects (estimated five groups) for base and horizon years

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.5: _____

Task 6.6: Conduct system-wide model runs for TransAction Project ratings and post-process results

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|---------------|---|------|-------|--|-------|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.6: _____

Task 6.7: Public Engagement

| | Person Assigned | Role | Hours | Full Burden Rate including Travel Cost | Total |
|--|-----------------|------|-------|--|-------|
| | | | | | |

| | | | | | |
|---------------|---|--|--|--|--|
| Consultant | | | | | |
| Subcontractor | | | | | |
| DBE | | | | | |
| | Other direct costs not included in above estimate | | | | |

Subtotal Task 6.7: _____

Additional Pricing Item (NVT A will pay these items directly)

Task 1.2: Develop Model Strategy

| | One-time costs | Annualized recurring costs | Comments/further explanation |
|---|----------------|----------------------------|------------------------------|
| * One-time Software/licenses | | | |
| * Recurring (state frequency) Software/licenses | | | |
| * Other recurring costs | | | |
| Total | | | |
| External training (per person) | | | |

Note (*): Assume sufficient licenses for five users