

## **SCOPE OF WORK**

### **PHASE I: PROJECT INITIATION**

It has been determined that the Regional Connectors' Study would best be conducted through a multi-phased approach. Phase 1 will result in the establishment of goals and objectives for the remainder of the study and include the development of a draft scope for Phase 2. All work will be closely coordinated with the Working Group which will sign off on key items to be used in this phase of the study. Phase 1 entails the following 5 tasks.

#### **Task 1 – Develop and Initiate Engagement Program**

Engagement will be conducted throughout the entire study. A study Engagement Program will be developed to set the framework for study-long engagement. Early engagement is intended to assist in the establishment of the goals and objectives of the study, the foundation of which can be laid by identifying the values for each locality and agency involved in the study, which will be gleaned in one-on-one interviews. A project website will be established and a public survey will be conducted. The four subtasks of the Phase I engagement program are outlined below:

##### **Subtask 1.1.A – Conduct One-On-One Interviews with Local Governments**

The MBI team will conduct one-on-one interviews with representatives from:

- City of Chesapeake;
- City of Franklin;
- City of Hampton;
- Isle of Wight County;
- James City County;
- City of Newport News;
- City of Norfolk;
- City of Poquoson;
- City of Portsmouth;
- Gloucester County;
- Southampton County;
- City of Suffolk;
- City of Virginia Beach;
- City of Williamsburg; and
- York County.

##### **Subtask 1.1.B – Conduct One-On-One Interviews with other Local Agencies**

- Coastal Virginia Tourism Alliance;
- Elizabeth River Crossings;
- Federal Highway Administration;
- Hampton Roads Chamber;

- Hampton Roads Economic Development Alliance;
- Hampton Roads Military and Federal Facilities Alliance (HRMFFA);
- Hampton Roads Transit;
- Suffolk Transit;
- US Air Force - Langley/Fort Eustis Joint Operation;
- US Army Corps of Engineers;
- US Coast Guard;
- US Navy - NAS Oceana/Dam Neck Annex;
- US Navy – Little Creek/Ft Story Joint Operation;
- US Navy - Naval Station Norfolk;
- US Navy - Yorktown Naval Weapons Station;
- Virginia Department of Rail and Public Transportation;
- Virginia Department of Transportation;
- Virginia Peninsula Chamber of Commerce;
- Virginia Port Authority; and
- Williamsburg Area Transit Authority (WATA).

Draft interview questions will be developed by the MBI team and forwarded to HRTPO and the Working Group for review and comment. Once finalized, the interviews will be conducted by a group of 3 MBI team members who will conduct 2 interviews a day to minimize travel expenses. Therefore, the 35 interviews will be conducted in a total of approximately 17 days. However, due to anticipated scheduling challenges of the representatives, we anticipate the interview period to be spread out over 8 weeks, which means the MBI team will average approximately two days of interviews per week over an 8-week period. Where practical, interviews will be conducted jointly (i.e. Williamsburg, James City County, and York County and Isle of Wight County, Southampton County, and City of Suffolk)

The interview results will be recorded and summarized.

**Meetings:**

- 35 one-on-one interviews at representatives' locations

**Deliverables:**

- Interview minutes

**Duration:**

- 8 weeks

**Subtask 1.2 – Prepare Study Engagement/Outreach Plan**

The MBI team will develop a study engagement plan to gain/build trust through public involvement that is honest, transparent, and demonstrates a sincere interest in community values. It is important to provide early and continuing opportunities to share information with, and/or gather input from, a wide range of stakeholders throughout each phase of project delivery.

Techniques/methods that will be focused on when completing the study engagement plan include:

- Identify potential impacts/issues
- Identify stakeholders to the project that are affected, and or will have an influence on the project that don't already have representation on the Steering Committee or the Working Group.
  - Government (Federal, state, and local)
  - Civic Organizations
  - Federal and State Transportation officials
  - Neighborhood Communities (also include Title VI and Environmental Justice)
  - Special Interest Groups
  - Public and private businesses
  - NGOs
  - Media Outlets
  - General Public
- Provide guidance to meet all requirements and standards
- Identify methods to best distribute project information/updates
  - Person to person (interviews, public meetings, workshops, door to door)
  - Paid advertising (newspapers, online ads)
  - Printed communications (factsheets, brochures, newsletters, postcards)
  - Survey (pre, mid, post)
- Define methods, roles and responsibilities of those involved
- Document all engagement activities throughout the duration of the project

Public engagement strategies and methods will blend expertise in planning and environmental processes with a broader understanding of community, character, and place. These strategies and methods will comply with regulatory requirements, but also actively listen, inform, and educate the public during the planning of projects in their communities.

Outreach to minority, low income, mobility-limited, and limited-English speaking communities will also be a key element in the Engagement Plan. A structured environmental justice (EJ) and Title VI outreach method will be employed that is based around the belief that poverty or limited-English proficiency (LEP) should never be a barrier to meaningful engagement.

**Meetings:**

- Discovery meeting to gather information
- Plan Presentation (2 people)

**Deliverables:**

- Engagement/Outreach Plan

**Duration:**

- 8 weeks

### **Subtask 1.3 – Develop and Maintain Study Website**

The MBI team will design and develop the study website in coordination with HRTPO and the Working Group to support the communication and outreach goals determined in the Engagement Program. The MBI team will maintain the study website, including copy and graphic elements, and manage the website through monthly and/or milestone updates which reflect information shared at Engagement Program events. The information will be maintained in accordance with any existing HRTPO website guidelines and using Associated Press style. This task will include metric analysis and reporting.

#### **Assumptions:**

- Website content is written in plain-talk in accordance with HRTPO website guidelines and using AP style.
- The MBI team will perform monthly updates to the project website for the duration of the project.
- Updates to the project website are required after each Engagement Event or meeting. Draft summaries will be due to HRTPO within seven (7) calendar days of each event.

#### **Meetings:**

- Kickoff Meeting to develop Creative Brief (3 people)
- Wireframe Review (3 people)
- Design Review (3 people)

#### **Deliverables:**

- Creative brief
- User personas
- Mood boards
- Wireframes
- Designed pages (*3 – 4-page templates; up to 2 rounds of revisions*)
- Content: copy, images, graphics
- Development and test site (*assumes the MBI team will host site*)
- Monthly project website content updates: text, meeting summaries, photos, etc.
- Statistics on usage

#### **Duration:**

- 12 weeks

### **Subtask 1.4 – Develop and Conduct Regional Survey**

The MBI team will conduct a statistically valid, addressed-based sample, multi-method (paper and online) survey of a minimum of 1,000 residents from the Hampton Roads area.

Our use of multi-method surveys (paper and online) is in part a result of the challenges facing telephone survey research in regard to very low response rates and the high costs associated with the need to include cell-only and cell-mostly households. Multi-method surveys have some unique advantages,

perhaps most importantly that they allow the respondent the ability to see the questions and time to think before answering, thereby providing more valid data. In addition, the multi-method surveys result in high response rates and reduced non-response bias.

In consultation with HRTPO and the Working Group, the MBI team will:

- Develop survey questions (maximum length of 12 minutes to complete).
- Pre-test the survey questions with five residents.
- Create a scannable paper questionnaire layout.
- Print, fold, and mail a cover letter and paper questionnaire to a proportionate, random sample of 10,000 residential addresses within the Hampton Roads area.
- Program an online version of the survey using PRR's professional level Survey Gizmo online survey platform.
- Send a follow-up reminder postcard five days after the initial mailing.
- Assign a unique ID to each address (and print it on the cover letter and questionnaire) to ensure that no more than one survey is completed from any household. This unique ID will also be needed to gain access to the online survey version.
- Track the demographics of survey respondents and use the Precision Sample online panel to target under-represented population segments as needed and ultimately end up with a sample that represents the demographics of the Hampton Roads area.
- Scan completed paper questionnaires for data entry and merge paper questionnaire and online survey data.
- Prepare a topline results report within 48 hours of having a clean data file.
- Download the data into SPSS or STATA for in-depth analysis.
- Prepare a draft and final key findings report.

Based on our extensive multi-method survey experience, we anticipate a 10%-20% response rate for this survey, which assuming an initial mailing of 10,000 questionnaires, would result in a minimum of 1,000 completed questionnaires for an overall margin of error of +/-3.1% at the 95% confidence level.

The MBI team will collaborate with HRTPO staff and VDOT regarding the questions to be included in the survey since both agencies are also conducting surveys for other studies/projects and duplication of effort should be avoided to the greatest extent possible.

**Meetings:**

- Draft Technical Memorandum review meeting at HRTPO

**Deliverables:**

- Final Technical Memorandum

**Duration:**

- 10 weeks

Total duration of Task 1 is 13 weeks.

## **Task 2 – Evaluate Regional Travel Demand Model**

The MBI team will review available documentation describing the HRTPO model, recent or in-progress updates, and associated performance. The review will include an examination of currently available base and future year model sets reflecting the updates and the MBI team will execute the model set(s), mechanically verifying results, the implementation of updates as described in the documentation, as well as model performance. In addition to verifying model performance as documented, the MBI team will also compare performance to standards defined in the VTM Policies and Procedures Manual.

The MBI team will review and summarize the current model structure, modeling procedures, software, hardware, run scripts, and data flows. Based on its review, the MBI team will describe the types of analysis that the model process is currently capable of supporting, and a package of recommended enhancements necessary to accommodate the analysis needs of the Regional Connectors' Study. In concert with feedback from HRTPO staff, the MBI team will identify potential enhancements and extensions to the modeling process that will broaden and/or integrate the model's analysis capabilities to address study needs. The list of potential model enhancements will be prioritized by the MBI team. The MBI team will outline the steps and actions needed to implement each enhancement.

The MBI team will also assess the data underlying the HRTPO model for its adequacy in sustaining the performance of the model and for use in developing the identified potential model enhancements and extensions. The MBI team's data assessment will [a] identify shortcomings, if any, of existing data, [b] prioritize needed data collection, and [c] describe alternative data collection methods for cost-efficiently updating the underlying model data. The MBI team will prepare a preliminary cost estimate and schedule for acquiring data needed to develop recommended model enhancements.

While this review may recommend further modification and testing of the model sets, services in Phase I of this study shall be confined to an examination and review of updates to the HRTPO model as documented and produce a list of recommended enhancements for implementation in a subsequent study phase. The MBI team will summarize review findings and recommendations in a technical memorandum. After allowing HRTPO sufficient time to review the draft recommendations, two MBI team members will meet with HRTPO staff at the HRTPO office to discuss and finalize model modifications.

### **Meetings:**

- Draft Recommendation Memo review meeting at HRTPO

### **Deliverables:**

- Final Recommendations Memorandum

### **Duration:**

- 5 weeks

### Task 3 – Determine Scenario Planning Effort

Four members of the MBI team will attend a meeting with HRTPO staff at the HRTPO office to discuss inputs, methodology, anticipated outcomes, and roles in developing the scenario planning process. The intent of the meeting is to ensure HRTPO staff and MBI team members do not have overlapping scopes of work and to emerge with a clear understanding of what needs to be done and by whom.

**Meetings:**

- Coordination meeting at HRTPO

**Deliverables:**

- Meeting minutes and a memorandum of understanding of roles and outcomes

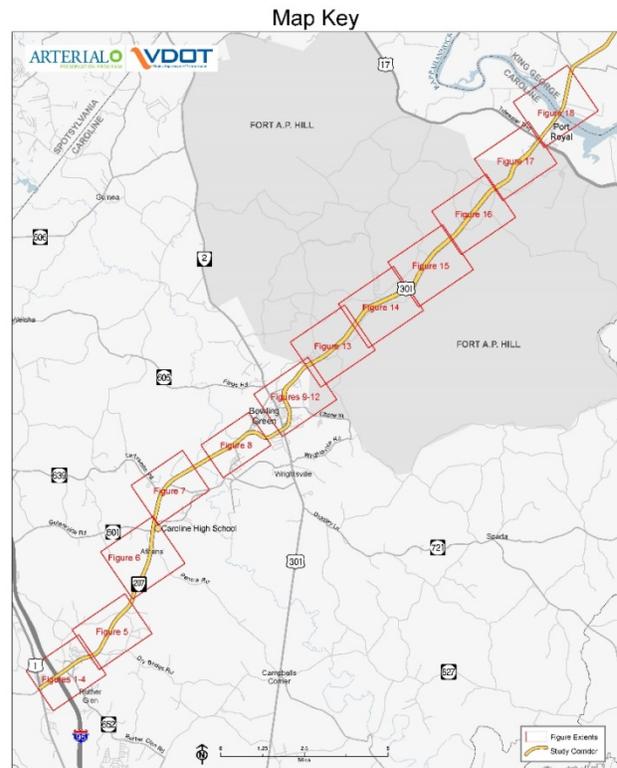
**Duration:**

- 2 weeks

### Task 4– Update Existing Conditions Information

The approach to updating existing conditions information seeks to avoid an enormous traffic data collection effort and follow-on microscopic operations analysis, which would be very costly. The existing conditions assessment will use Big Data sources such as Streetlight, INRIX, and other sources. The roadways to be analyzed in the study area will be divided into segments that include an interchange and the surrounding approaches to develop one-page summaries (one-pagers) that will present the results of the existing conditions assessment for the area shown. The roadways will be freeways listed in the Request for Proposals (RFP). Depending on interchange proximity, or if two interchanges work as one system, it may be necessary to group multiple interchanges to a single one-pager.

The one-pagers will cover all segments and interchanges for each study roadway and an overall study area map will be developed for quick reference to any specific area. An example of a quick reference area map is shown below from a previous study.



### **Existing Conditions Operational Assessment**

As previously noted, each figure referenced on the study area map will have a corresponding one-pager. The one-pager will be developed in full color and include an aerial or map of the roadway network and graphical depictions of the results for each component of the existing conditions assessment. The components reported for each area one-pager will include:

- AM and PM peak hour speeds (INRIX)
- AM and PM peak hour travel times (Streetlight)
  - The travel times will be calculated for all movements of each interchange to and from the edge of each one-pager. This will allow the travel times for trips that span multiple one-pagers to be calculated through simple addition.
- Crash data and rates (TREDS)
- Congestion levels for the AM and PM peak hours
- Express lane assessment to the extent possible
- Daily and peak period traffic volumes

Each one-pager will also include text boxes pointing to notable items within each area. These may include, but are not limited to:

- Key contributors of congestion
- Specific locations with high crash rates and potential causes
- Express lane junction points

### **Origin/Destination Analysis**

In addition to the one-pagers described above, an origin/destination matrix will be developed for the major trip generators and trip attractions described in the Hampton Roads Crossing SEIS along with any other generators or attractions suggested by the Working Group. This matrix will include four data items for each origin/destination pair:

1. Free-flow travel time
2. Congested travel time (AM peak hour)
3. Congested travel time (PM peak hour)
4. Percentage of heavy vehicles

Based on the specific use for each O/D pair, a reader will be able to quickly assess:

- Commuting travel times between each O/D pair for each peak hour
- If the route is used for freight movement
- Travel times during non-peak hours

Items included in the SEIS existing conditions assessment that will not be updated as part of this task include:

- Geometric Deficiencies
- Transit operations
- Economy
- Evacuation
- Military Connectivity

The metrics used to define baseline conditions were selected because they can be reproduced for future scenarios using the regional travel demand model and appropriate post-processing techniques and model scripts. The results of the baseline condition analysis will be documented in a technical memorandum. After a meeting to discuss review comments, the memorandum will be finalized.

**Meetings:**

- Draft technical memorandum review meeting at HRTPO office.

**Deliverables:**

- Technical memorandum with one-pagers in an appendix.

**Duration:**

- 10 weeks

## **Task 5 – Present Findings at Working Group Meetings**

Two members of the MBI team will attend three meetings of the Working Group. The meetings will be scheduled for the second Friday of each month at 11:00 at the HRTPO office. Meetings will be attended in July, August, and September. (The study will only be one week old at the time of the potential June meeting so it is anticipated that no meeting will be attended that day.)

**Meetings:**

- Three Working Group meetings at HRTPO

**Deliverables:**

- Power Point presentations
- Goals and Objectives of Phase 2
- Draft scope for Phase 2

**Duration:**

- 15 weeks