

TASK ORDER FOR

SPOTSYLVANIA COUNTY CONTRACT AGREEMENT FOR PROFESSIONAL SERVICES

Contract #15-03-12-01

In accordance with the Spotsylvania County Contract Agreement for Goods and Services, the Task Order for Route 1 & 208 Corridor Study made as of _____, 2017 by and between Spotsylvania County, a political subdivision of the Commonwealth of Virginia, ("COUNTY"); and JOHNSON, MIRMIRAN & THOMPSON, INC., a Maryland Corporation, ("CONTRACTOR"), in good standing and duly licensed to do business in the Commonwealth of Virginia.

WITNESSETH:

WHEREAS the COUNTY and the CONTRACTOR entered into an Agreement made as of June 15, 2016, to provide professional engineering design services for various transportation improvement projects in Spotsylvania County ("AGREEMENT"), and

NOW, THEREFORE, the COUNTY and the CONTRACTOR, pursuant to the Agreement, and in consideration of the mutual promises herein contained, and intending to be legally bound, do hereby agree to accept this Task Order and the Scope of Work for "Route 1 & 208 Corridor Study", dated February 14, 2017, and prepared by Johnson, Mirmiran & Thompson, Inc., attached hereto, and made a part hereof, which sets for the Scope of Work to be provided pursuant to this Task Order and encompassing services for the Route 1 & 208 Corridor Study. This Task Order shall not exceed THREE HUNDRED NINETY NINE THOUSAND FIVE HUNDRED THIRTY DOLLARS (\$399,530.00).

Except as provided therein, the AGREEMENT remains unchanged and in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Task Order and Scope of Work for Route 1 & 208 Corridor Study to be duly executed by their duly authorized officials as of the date first written above.

SPOTSYLVANIA COUNTY, VIRGINIA

JOHNSON, MIRMIRAN &
THOMPSON, INC.

By: _____
Mark B. Taylor _____ Dated _____
County Administrator

By: Robert Gallagher 4/26/17
Robert Gallagher Dated
Senior Vice President

Approved as to form:


Deputy COUNTY ATTORNEY

4/27/2017
Dated

Scope of Work

Route 1 & 208 Corridor Study Spotsylvania County

February 14, 2017

Project Approach and Understanding

The I-95/Route 1 interchange (Exit 126 – Massaponax) in Spotsylvania County (the County) has seen explosive growth in traffic over the past 20+ years. Specifically, the Route 1 and 208 corridors through the County consist of multiple critical intersections that face increased traffic demand due to ongoing land development activity in the area and in the greater Fredericksburg region. More land development is anticipated which will increase traffic to/through the area and cause additional congestion for these corridors. With the Route 1 and 208 Corridor Study, the County desires to conduct a comprehensive corridor study by including all modes of transportation to account for this growth and improve the mobility and safety of all road users. The study will evaluate the existing conditions and determine the improvements needed considering the challenges to accommodate existing traffic and future growth. It will seek opportunities to maximize alternate modes of transportation, and provide more efficient routes for local circulation. The study will also include the evaluation of a possible roadway connection between Germanna Point Dr. and Spotsylvania Ave., which requires crossing Massaponax Creek. The County is seeking a feasibility study of this crossing/connection to evaluate the impacts on traffic in the area. Specifically, the study will assess the potential for reducing congestion of Route 1, and it will provide conceptual plans, cost estimates, and environmental assessments. This roadway connection and the multimodal considerations in the corridor study have the potential to link the communities north and south of Massaponax Creek (including Germanna Community College, Spotsylvania Regional Hospital, etc.) through both vehicular and non-vehicular modes, which should reduce traffic on surrounding roadways.

In addition to the new roadway connection, the study will also focus on Routes 1 and 208 within the context of the broader land corridor bounded by two limited access roadways, I-95 (to the east), and Route 17 (to the south). The study will also consider the impacts of the improvements proposed in the Smart Scale applications for *"I-95 Exit 126, Route 1 Southbound onto Southpoint Parkway"* and the intersection of *"Courthouse Road & Hood Drive Improvements"*. Both applications are approved by VDOT and expected to be funded around June 2017. The projects Scorecard are included in Appendix E.

Johnson, Mirmiran & Thompson, Inc. (JMT) will undertake this study as a task order under the existing General Engineering Consulting (GEC) On-Call Contract with the County. A total of nine (9) intersections identified by the County will be included in the corridor study, as follows:

1. Rte. 17 and Germanna Point Dr.
2. Spotsylvania Ave. and Market St.
3. Rte. 1 and Market St.
4. Spotsylvania Ave. and Mine Rd. (recently improved)
5. Rte. 1 and Mine Rd/Hood Dr.
6. Rte. 208 and Hood Dr. (Smart Scale application approved)
7. Rte. 208 and Southpoint Pkwy/Rollingwood Dr.

8. Rte. 1/Jefferson Davis Hwy and Rte. 208-Courthouse Rd/Lafayette Blvd
9. Lafayette Blvd. and Falcon Dr./Mall Dr.

The study is funded in part through the Virginia Department of Transportation (VDOT) Revenue Sharing Program under UPC 107192. It is envisioned that this study will be conducted over an approximate 18-month time period and be near completion to provide sufficient information required to apply for the next round of VDOT Smart Scale projects around September 2018.

Task 1: Study Initiation and Administration

The project management committee will include representatives from the County, VDOT and JMT. The management team will be convened as discussed in this scope to guide the study. VDOT's role will be limited to an advisory role. The study will follow the guidelines outlined in VDOT's *"Arterial Management Plan Methodology,"* dated Aug. 21, 2015.

Task 1.1 Study Kick-off Meeting

JMT will attend and help organize a kick-off meeting with representatives of the County. The purpose of the meeting is to discuss the study objectives, schedule, confirm study approach, corridor conditions and issues, and other related considerations. The County will be responsible for hosting the meeting and coordinating invitations to meeting attendees. JMT will assist the County in developing an agenda for the meeting.

Task 1.1 Deliverables:

- Summary meeting minutes will be prepared by JMT for review and comment by the County. JMT will finalize and distribute to meeting attendees in electronic (PDF) format.

Task 1.2 Ongoing Project Management

JMT will conduct ongoing management tasks throughout the project duration, including:

- Preparation of monthly progress reports detailing work accomplishments for the reporting period, budget status, schedule status, outstanding issues and action items, and overview of upcoming work.
- Bi-weekly (typically) project coordination (including a written progress report), conference calls between the JMT project manager and the County as appropriate.
- Provide overall direction and coordination, monitoring work progress, facilitating team communication, assigning staff, overseeing technical work, and implementing quality control.

Task 1.2 Assumptions:

- Invoices and progress reports will be submitted no less frequently than quarterly, and no more frequently than monthly.

Task 1.2 Deliverables:

- Invoices and written bi-weekly status/progress reports.

- Summary notes of project coordination conference calls.

Task 2: Public Involvement

The Public Involvement Plan will consist of meetings and/or updates with the project management committee and appointed and elected representatives of various committees, boards and commissions. Public meetings are important to this project as a way to gather input from and disseminate information to area residents, businesses, and other stakeholders. These meetings will be held to correspond with key study milestones.

The public involvement plan includes three primary elements:

- Project management committee meetings comprised of representatives of interested agencies, stakeholders and /or organizations.
- Meetings and coordination with the County's Transportation Committee and Board of Supervisors (BOS).
- Meetings at key project milestones.

Task 2.1: Project Management Committee Meetings

JMT will be required to attend meetings with County and VDOT representatives and take meeting notes for up to four (4) meetings. Meeting notes will be reviewed and approved by the County.

Project Management Committee meetings are expected to correspond to the following project activities:

- Study initiation, study goals (Task 1). This will include a review of the County's plans for growth in terms of future land uses and street network, in order to assure that the appropriate future scenarios are considered for the analysis of future baseline conditions.
- Existing and future conditions, corridor vision and goals.
- Potential strategies and evaluation process.
- Evaluation results and Draft recommendations.

Task 2.1 Assumptions:

- Project Management Committee meetings will be scheduled in coordination with other meetings to the extent practical.
- Spotsylvania County will provide suitable meeting locations, coordinate schedules, and issue all meeting invitations.

Task 2.1 Deliverables

- Meeting materials will be prepared by JMT.
- Summary meeting minutes prepared by JMT.

Task 2.2: Meetings and Coordination with Other Committee's, Commission's or Boards

JMT will attend two (2) meetings with the Transportation Committee, one (1) meeting with the BOS and one (1) community meeting which will be advertised to the public (by the County), to provide updates on the study and solicit input. The first Transportation Committee meeting will provide an overview of the study, including study goals, identification of key issues, current and future conditions and initial discussion on potential strategies. The second meeting will focus on the strategy evaluation process, solicit input and draft study recommendations. In addition, JMT may be required to coordinate and attend meetings with VDOT at the same key points in the project to obtain their input, and assure that the project team's analysis methods will address VDOT's needs and concerns. The meetings with community and BOS will be public meetings to disseminate information to area residents, Germanna Community College, businesses and to present a final report. It is JMT's understanding that information for the BOS meeting should be provided at least ten (10) days prior to the scheduled date to meet packet deadlines.

Task 2.2 Deliverables:

- Briefing materials (e.g. – PowerPoint presentations and handouts) 10 days in advance of each meeting.

Task 2.3: Public Involvement Documentation

JMT will prepare and produce a detailed report with background information that includes a summary of the public meetings and a summary of public input and concerns. This information will be utilized in crafting the document and will be included with the final plan.

Task 2.3 Deliverables:

- Public Involvement Document; to be included as the Appendix to the final Study Plan detailing public concerns and comments.

Task 3: Existing and Future Conditions Assessment

Task 3.1 Collect Background Information

JMT will collect available relevant background information for the study corridor related to the tasks for this project. This information will include, but not limited to, the following:

- Relevant regional, state, and county transportation plans, projects, re-zonings, and studies (i.e. Alexanders Crossing Traffic Impact Study, I-95 Exit 126 IMR, Jackson Village Traffic Study, Massaponax Report, etc.)
- GIS data, including layers depicting land use, parcel boundaries, right-of-way, easements, transportation, environment and infrastructure data.
- Available aerial photography of the corridor.
- Other available mapping and channelization plans.
- Recent Average Daily Traffic (ADT) volumes and intersection turning movement counts, if available.

- Most recent related crash data.
- Existing traffic signal timing plans.
- Existing traffic operations models (Synchro), if available and provided by the County.
- Information relating to planned and permitted developments in the corridor.
- Relevant transit route maps and schedules, if applicable.
- Bike routes maps within the study area, such as East Cost Greenway trail maps.

Task 3.1 Assumptions:

- Mapping data will be provided to JMT by the County in ArcMap GIS or AutoCAD/MicroStation compatible formats, as applicable.
- JMT will download requested information from agency websites as available, while the County will provide data that is not published online.

Task 3.2 Traffic Counts/Data Collection

JMT will conduct traffic counts along the corridor as follows:

- Hourly directional traffic volume counts for six (6) locations between the intersections for a period of 5 days (to include 3 weekdays + Saturday & Sunday).
- Turning movement traffic counts at nine (9) key intersections for weekday AM, PM and weekend peak periods.
- Data Collection for capturing traffic pattern in the study area in origin-destination (O-D) formats.

Task 3.2 Assumptions

- The O-D data collection will be considered only if the available travel demand forecasting models (the County's and FAMPO's models) are found to be limited in providing the study area's detailed traffic pattern. JMT will conduct this study if authorized by the County (in writing). Upon written request by the County, JMT will prepare a written task description and man hour estimate for any tasks involved in the study. JMT will commence work on these tasks after receiving written notice to proceed from the County.
- Although the traffic model includes Route 1 from the intersection with Route 17 up to the intersection with Market Street, turning movement counts will not be conducted at the intersections along Route 1, other than the nine (9) intersections identified by the County to be included in the study. See Appendix G for the boundary of the corridor study and included intersections and routes.

Task 3.3 Corridor inventory

JMT will conduct an inventory to complete data collection for existing corridor conditions. The inventory will supplement data collected under task 3.1-3.2, and will include elements such as roadway channelization, approximate lane widths by segment, on-street parking, sidewalk inventory, pedestrian and bicycle facilities and accommodations, bus stops, driveway inventory, and traffic control devices. JMT will also characterize land uses, urban form, environmental resources, and development activity along the corridor as part of the inventory.

Environmental: JMT will complete a preliminary environmental inventory for the corridor project. The preliminary study will identify potential environmental factors along the corridor that could affect the feasibility, cost, design, or schedule of the project in accordance with the environmental quality measures that are part of the *“Arterial Management Plan Methodology”*. The study will summarize the project schedule for environmental approvals and the key environmental issues that could typically influence the design or costs of a project, including environmental documentation required by the funding source, Clean Water Act permitting, 4(f) properties, conservation easements, air and noise studies and potential noise walls, cultural resources, threatened and endangered species, and hazardous materials. Because the project may be using federal or state funds, a NEPA document, Environmental Impact Report/Preliminary Environmental Inventory, or State Environmental Review Process (SERP) might be required for the Project. JMT proposes the following to complete this environmental inventory as described below:

- JMT will conduct an “office based” analysis with limited field verification of the corridor to determine the approximate locations of known wetlands and other waters of the U.S. within the proposed project area. The approximate locations of known wetlands and other waters of the U.S. will be based on existing mapping such as hydric soil and NWI mapping. Up to 2 days of field verification will be completed to confirm/refine the boundaries. A formal wetland delineation will not be performed nor will the boundary be confirmed by the U.S. Army Corps of Engineers. JMT will coordinate with the County to identify approximate impacts to wetlands and streams from the conceptual design and identify approximate mitigation costs and Clean Water Act permitting requirements for the Project. JMT will perform a search of available databases to identify the boundaries of the Chesapeake Bay Resource Protection and Resource Management Areas within the project corridor. JMT will also perform a field check of approximate RPA and Stream Protection Areas boundaries while performing the wetland reconnaissance.
- Because of the number of cultural resources in the vicinity of the project area, JMT will conduct an “office based” archeological/historic architectural analysis with limited field reconnaissance to identify known resources and potential historic resources in the Project corridor. JMT will query the Department of Historic Resources databases for archaeology and architectural resources and coordinate with the National Park Service, and American Battlefield Protection Program to identify potential cultural resource sites that need to be considered. JMT will conduct limited field work with up to 1 day in the field to identify areas of high and low probability for cultural resources. JMT will summarize the results of this Phase 1a cultural resource survey and will develop recommendations and approximate cost for any further studies that may be required.

- JMT will secure a hazardous materials records search for the proposed corridor from a reputable commercial database search firm in conformance with the recommended ASTM search radius. The search will include, but not be limited to, the following state and federal databases: NPL, CERCLIS, RCRA Solid Waste landfills, RCRA TSD facilities, RCRA Corrective Action Sites, PCB sites, Emergency Response Network (ERNS) sites, and DEQ Voluntary Remediation sites. JMT will use the record search to identify hazardous materials sites that could potentially affect the cost or design of the project.
- JMT will identify potential issues regarding threatened and endangered species within the project area through database searches and limited field reconnaissance to look for suitable habitat. JMT will query the following online databases to determine if any threatened or endangered species have been documented within the project area:
 - the Virginia Department of Conservation and Recreation's Division of Natural Heritage;
 - Virginia Center for Conservation Biology
 - the Virginia Department of Game and Inland Fisheries' Virginia Fish and Wildlife Information Service; and
 - the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC)
- JMT will identify aquatic resources associated with the corridor that may require Time-of-Year Restrictions that would prohibit in-stream work during certain times of the year.
- JMT will conduct research and coordination to determine if any 4(f) properties exist along the project corridor and will furnish a list of 4(f) properties. Based on readily available information, JMT will document potential 4(f) properties and conservation lands (VOF properties, 6(f) properties, Virginia recognized conservation lands, Forestry and Agricultural Districts and Historic easements that may require coordination and protection under Section 106 of the National Historic Preservation Act (if federal funding was used) and other relevant environmental laws and regulations).
- JMT will conduct a preliminary analysis of whether noise modeling will be needed for the project and the potential for noise barriers. No modelling will be conducted. Rather this will be a qualitative assessment of the potential for noise modeling and noise barriers.

Task 3.3 Assumptions

- JMT will conduct up to two days of environmental, one day of cultural, and one day of traffic field visits and will additionally rely on aerial photography to complete the corridor inventory.

Task 3.4 Existing Traffic Operations Analysis & Corridor Conditions

JMT will closely coordinate with the County and VDOT staff to evaluate existing traffic operations at key intersections during weekday AM, PM and weekend peak hours. It is anticipated that Synchro/SimTraffic for single intersections and VISSIM for overall corridor analyses will be the primary tools to evaluate traffic operations and develop performance measures. JMT will provide supplementary traffic operations analysis where appropriate using VISSIM/Synchro software, in order to develop intersection levels of

service (LOS), delay and queuing. The assessment will also focus on the following topic areas:

- Corridor setting – Overview description of current land uses, neighborhoods, and environmental features. The relationship between existing and planned land uses and the transportation system in terms of needs, sustainability, context and impacts will be characterized.
- Roadway physical characteristics – Description of the physical characteristics of the corridor, including lane configurations, lane and shoulder widths, sidewalk widths and continuity, curb cuts, entrances/driveways and traffic control. Inconsistencies with current best practices for complete streets and context sensitive design will be identified.
- Evaluate historical land use and traffic patterns within the study area. Evaluate and compare traffic operations and projections from previous studies with the existing conditions.
- Traffic operations – Review of traffic volume and traffic operating conditions during the weekday AM, PM and weekend peak hours, including supplemental Synchro/SimTraffic and VISSIM results. General qualitative discussion of how traffic conditions vary over the rest of the day.
- Safety – Review of crash history and identification of high crash locations. Factors that potentially affect pedestrian safety will be emphasized.
- Assess access management along the corridor and identify potential issues.
- Nonmotorized users and accommodations – Review and assess the quality of bicycle and pedestrian accommodations in the corridor, including their relation to other existing or planned facilities within the County. General description of pedestrian and bicycle activity and assessment of these facilities relative to Complete Street's best practices.
- Transit services – Assessment of existing public transit services and amenities, including bike, walk and auto access to public transit services, such as Virginia Railway Express (VRE) along Route 17.
- Assess study area and develop recommendations from a hydrologic perspective of areas to preserve, and areas where the proposed road will have lesser or limited impacts on natural water systems. This could include recommendations on the optimum locations for potential new river or stream crossings.

Task 3.5 Identify Study Vision and Goals

JMT will work with the stakeholders to develop an overarching vision for the corridor and supporting study goals. The corridor vision will consider transportation, land use, economic, quality of life and similar aspects. It should be consistent with the ongoing planning work in the County to plan and lay out growth. The corridor's needs will be assessed based on discussions with the stakeholders, public input, and County officials.

Task 3.5 Deliverable:

- Digital (Adobe PDF) draft Study Vision and Goals statement.

Task 3.6 Identify Corridor Issues

JMT will prepare a listing and brief description of identified corridor issues based on the Existing and Future Conditions Assessment and community input. Issues will be categorized according to their primary focus, for example:

- Traffic operations, congestion hot spots and capacity deficiencies.
- Bicycle accommodation and safety.
- Pedestrian accommodation and safety.
- Availability and access to public transit services.
- Access and parking.
- Contextual relationship with neighborhoods and environment.
- Plans for growth and development, and their impact on local traffic.
- Land Use.
- Historic Preservation.

In addition, JMT will examine the County's comprehensive plan documents, Capital Improvement Program (CIP) projects, local access ordinances, zoning and subdivision ordinances, and state and local ordinances pertaining to infrastructure.

Task 3.6 Deliverable:

- List and brief description of corridor issues for stakeholders for consideration in development of candidate strategies.

Task 3.7 Future Baseline Conditions Travel Demand Forecasting

Development of the future traffic baseline conditions will be preceded with a review of the land use forecasts for the Route 1 and 208 corridor area with the County, in order to confirm that the land use forecast represents an appropriate scenario for this study. This will include the anticipated changes in land use and traffic due to the connection of Germanna Point Dr. and Spotsylvania Ave.

Task 3.7 Assumptions:

- The forecast year will be a mutually agreed upon by the County and JMT, and will likely be an existing Travel Demand Model forecast year.
- The future baseline traffic volumes will be developed by JMT and used for operational analysis simulation.

Task 3.8 Future Conditions Evaluation

JMT will assess anticipated future corridor conditions based on the information gathered under task 3.1-3.7. The assessment will focus on the following topic areas:

- Corridor setting –General description of planned public and private developments, growth trends and implications of growth in the corridor.
- Describe the impact of potential traffic growth on the corridor and the street network within the study area.
- Traffic operations – Forecast traffic volume and traffic operating conditions during the weekday AM, PM and weekend peak hours for future baseline conditions.
- Roadway Connection – Study the feasibility of connecting Germanna Point Dr. to Spotsylvania Ave. in terms of practicality due to topographical issues, length of the bridge needed, flood levels and cost estimates.
- Network improvements to be built out as land development and roadway/intersection improvements occur, will be analyzed in the future conditions. It will be used to assign traffic to the new network, and test the roadway connection alternative compared with future no-build condition.
- JMT will complete an evaluation of the potential impacts to cultural resources, 4(f) properties and conservation lands, hazardous materials, endangered species/habitat, RPA and RMA, and wetlands/streams, and JMT will describe the potential type of environmental documentation required for the project depending on the funding source. JMT will identify the approximate costs for hazardous materials, environmental permitting, environmental documents and related studies for design and construction including air and noise studies. This cost estimate will be approximate because of the uncertainties associated with environmental issues due to the preliminary nature of the analysis. JMT will summarize the above in a draft technical memorandum for the County's review. JMT will receive County comments and incorporate them into a final technical memorandum that will be included as part of the supporting documents for the "Arterial Management Plan Methodology".

Task 3.8 Assumptions:

- The County will provide JMT with all proffers, proposed developments and land use changes occurred after the kickoff meeting that are not accessible through County and VDOT's website in a timely manner in order to be considered in this study.

- JMT will study the feasibility of the roadway connection of Germanna Point Dr. and Spotsylvania Ave. based on the alignment identified as “*Option 2*” from Massaponax Corridor Traffic Study by Michael Baker as shown in Appendix D.
- This work is based on existing information, office based analysis, and limited field reconnaissance only and will not be adequate or sufficiently detailed to complete the required NEPA documentation or environmental permits for the project.
- The identified costs of environmental studies and compliance will be approximate and will be based on current agency requirements at the time of authorization of this scope and fee.
- Only limited Field work for cultural/archeological investigations are included. No comprehensive Phase 1 cultural resource survey is included in the scope of work.
- Endangered species surveys, wetland delineations and for wetland mapping are excluded.
- Field work for hazardous materials are excluded.
- One meeting with and coordination with the US Army Corps of Engineers, DEQ, DCR, and DHR is included in the scope.

Task 3 Deliverable:

- Digital (PDF) draft of the Existing and Future Conditions chapter of the “Corridor Report”. The final version of this document will be incorporated into a Corridor Concept Plan.
- Materials (handouts, display boards, or similar) describing the existing and future conditions in summary will be prepared to support public meetings with the Planning Commission and Board of Supervisors.

Task 4: Evaluate and Prioritize Strategies

Task 4.1 Develop and Evaluate Strategies

JMT will develop candidate improvement strategies to address the issues of concern identified under task 3.6. These strategies will be reviewed and refined with participation from the Transportation Committee and stakeholders and input received through public involvement. The process will consider applicable design standards as well as best practices for context sensitive design and accommodation of a varied range of users (“complete streets”), and may include combinations of the following actions or elements:

- Improvements in street network connectivity, in concert with planned development changes.
- Completion of a potential Germanna Point Dr. connection to Spotsylvania Ave.
- Traffic operational improvements, including changes to traffic control (signals, signage, timing, etc.).

- Physical changes to the roadways markings, cross sections or channelization.
- Changes to or establishment of nearby connecting or parallel street segments.
- Pedestrian accommodations, including sidewalks, street amenities and crossing improvements.
- Bicycle accommodations, including crossings and shared use paths.
- Transit access improvements, such as bus shelters and pedestrian access.
- Urban design and contextual elements.

Initial strategies will be developed to a conceptual level, relying primarily on text descriptions and rough sketches as appropriate. A description of each strategy will be prepared, including identification of opportunities, potential benefits, and physical, environmental and other constraints. Descriptions will be supplemented by sketch level graphics depicting plan view alignments, cross sections, maps or sketches as needed to illustrate the characteristics of candidate strategies. Final report quality graphics will only be prepared for strategies recommended in the draft Corridor Plan. To the extent practicable, JMT will develop graphics suitable for viewing on a computer screen or iPad for ease of viewing by stakeholders and the general public.

Task 4.1 Assumptions:

- Plans will be developed to a conceptual, planning level and will not involve significant design or engineering.
- Graphical depictions of recommended physical improvements will be prepared over available aerial photography or mapping. No new mapping or surveying will be conducted.

Task 4.2 Develop Evaluation Process and Criteria

Building from the Vision and Goal statement developed under task 3.4, JMT will develop an evaluation process with participation from the stakeholders to gauge corridor performance, other potential benefits and impacts associated with candidate strategies. The evaluation process will use a range of criteria that are directly derived from the study goals and reflect data collected and/or developed for the study. The process will include a combination of quantifiable data derived from the technical analyses, as well as qualitative or semi-quantitative measures that rely on guidance from applicable standards (VDOT, FHWA, and the County) and best practices as described in relevant handbooks such as the FHWA's *"Flexibility in Highway Design"*, *"Sustainable Transportation Planning"*, and ITE's *"Designing Walkable Urban Thoroughfares"*. It is anticipated that this will be a multimodal evaluation that will provide an assessment of conditions for all the roadway users, and will also consider the compatibility with the County's "Comprehensive Plan". This evaluation will also use measures that consider the performance of the entire roadway network.

Task 4.2 Deliverable:

- Digital (Adobe PDF) draft of a brief technical memorandum describing the Evaluation Framework, which will be incorporated as a chapter of the final Corridor Plan (Task 6).

Task 4.3 Evaluation and Selection of Recommended Actions

JMT will evaluate the candidate strategies using the evaluation framework developed under task 4.2. Initial evaluation results will be discussed with the Project Management Committee to confirm/refine ratings as necessary and select draft recommendations. These recommendations will be selected considering their technical merits, support of study goals, and feedback received from the project team, stakeholders, and public input. JMT will also work with the Transportation Committee and stakeholders to prioritize recommendations in terms of near, medium and longer term actions.

This task could require modeling of additional scenarios. Strategies such as the addition of new street connections and intersection improvements and could be confirmed if necessary with Synchro/VISSIM. If options such as roundabouts are considered, JMT will provide traffic operations analysis using a SIDRA or other recommended software approved in VDOT's *"Traffic Operations and Safety Analysis Manual"*.

JMT will finalize descriptions and graphical depictions (i.e. – maps, plan views, cross sections) as appropriate for the recommended actions, which will be presented to the public at BOS meeting, and detailed in the draft corridor plan. The recommendations will also include options for addressing innovative practices that will be appropriate for the study area's current and future context.

JMT will prepare planning level cost estimates for recommended strategies. To the extent possible given the conceptual nature of the strategies at this stage, these costs will be estimated consistent with cost estimating resources that are currently available. Costs will **not** include anticipated ROW acquisition costs, though approximate potential ROW impacts will be identified based on available ROW and property line information. Cost will **not** include the utility relocation required for the alternatives.

Task 4.3 Assumptions:

- Cost estimates will be prepared for major recommendation elements. These estimates should be considered approximations, reflecting the planning level nature of the study and conceptual level of strategy development (i.e. – suitable for project programming, but not based on engineering design).
- Cost estimates for the connection of Germanna Point Dr. and Spotsylvania Ave. will be refined to include the cost estimates of the bridge/structure, hydrological and environmental analyses, and improvements needed along the connected roadways and intersections.

Task 5: Corridor Plan

Task 5.1 Draft Corridor Plan

JMT will prepare a Draft Corridor Plan that summarizes the study findings, including existing conditions, options considered, and improvement recommendations. A clear vision for the future of the corridor and surrounding study area will be presented, detailing a long-term plan of improvements, as well as nearer-term actions that are consistent with the longer-term vision. The plan will rely heavily on graphical representations of proposed improvements, including renderings, visualizations and 3D models, plan views and cross sections, as an effective means to communicate project recommendations to decision makers and the community.

The Plan will include a section covering implementation, which prioritizes recommendations, identifies next steps, develops a proposed implementation timeframe, and includes conceptual (planning-level) cost estimates.

Task 5.1 Assumptions:

- The Draft Corridor Plan will be submitted four (4) or more weeks prior to the public meetings (task 2.2)

Task 5.1 Deliverables:

- A digital version of the Draft Plan in electronic (Adobe PDF) format.

Task 5.2 Final Corridor Plan

JMT will prepare the Final Corridor Plan, which addresses comments received on the Draft Plan.

Task 5.2 Assumptions:

- The recommended strategies finalized in this study will be used as a base for the next round of Smart Scale applications due by September 2018.

Task 5.2 Deliverables:

- Five (5) printed copies of the Final Plan.
- An electronic copy of the Final Plan in electronic (Adobe PDF) format.

Contingency for Additional Services

This scope of work does not include any budget for additional (Contingency) services beyond those which are outlined above. Any additional services will be conducted by JMT only as authorized by the County (in writing) to address additional study needs requested of JMT by the County (i.e. for additional stakeholder meetings, additional data collection/analysis, etc.). Upon written request by the County, JMT will prepare a written task description and man hour estimate for any Contingency tasks. JMT will commence work on Contingency tasks after receiving written notice to proceed from the County.

Project Schedule

The estimated schedule of the tasks for this Project is outlined in the Microsoft Project format and shown in Appendix A. The Smart Scale application for year 2018 is considered as the controlling factor for the scheduling, to make sure the recommended strategies will be used for the application in a timely manner.

Compensation

For this project, JMT will work on a lump sum basis and will be paid the amount of **\$399,530.00**. The man hour estimates and fees are shown in Appendix B. The man hours are used for the purpose of determining the required lump sum fees for each task. All invoicing for the project will be lump sum.

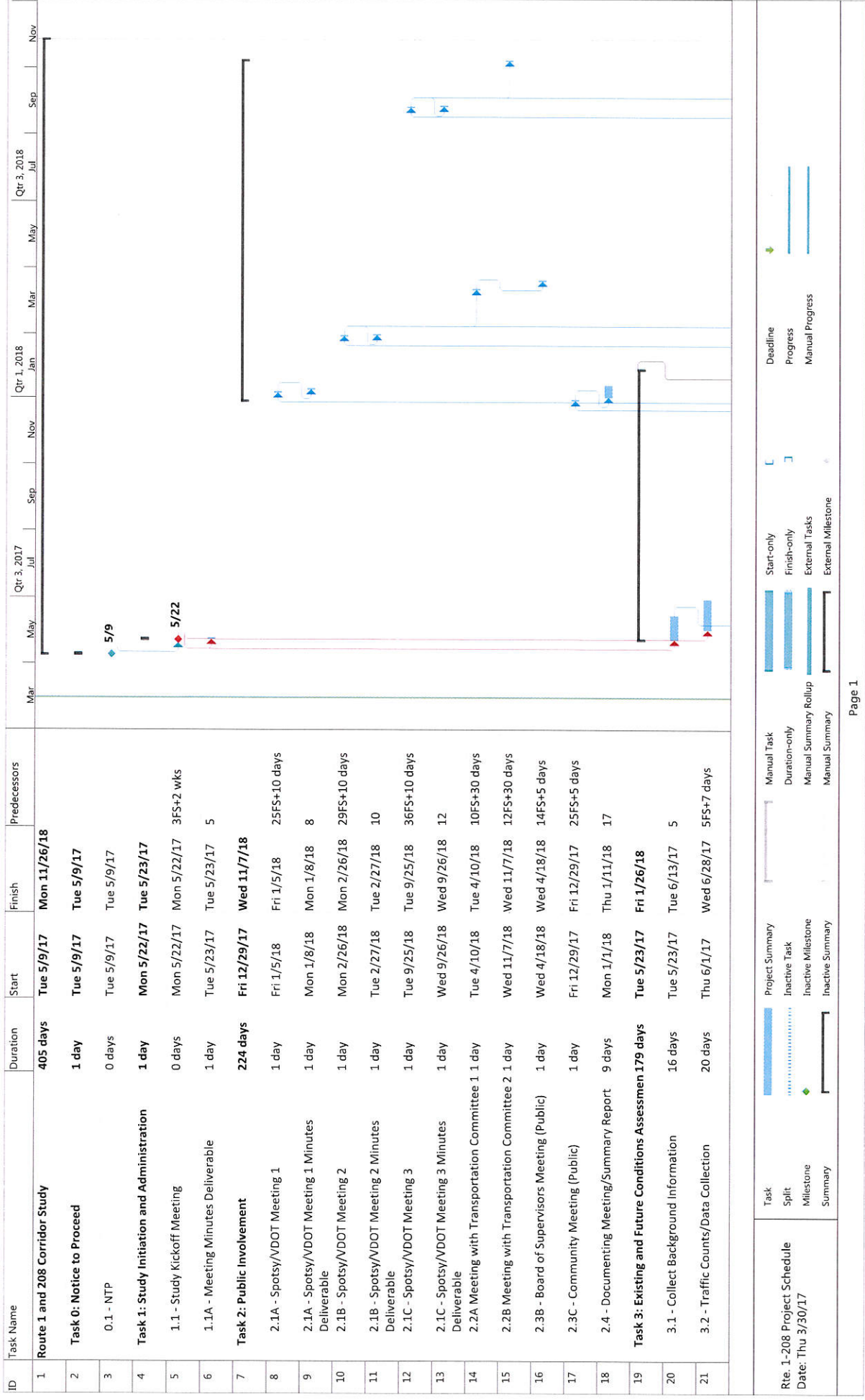
Additional Attachments

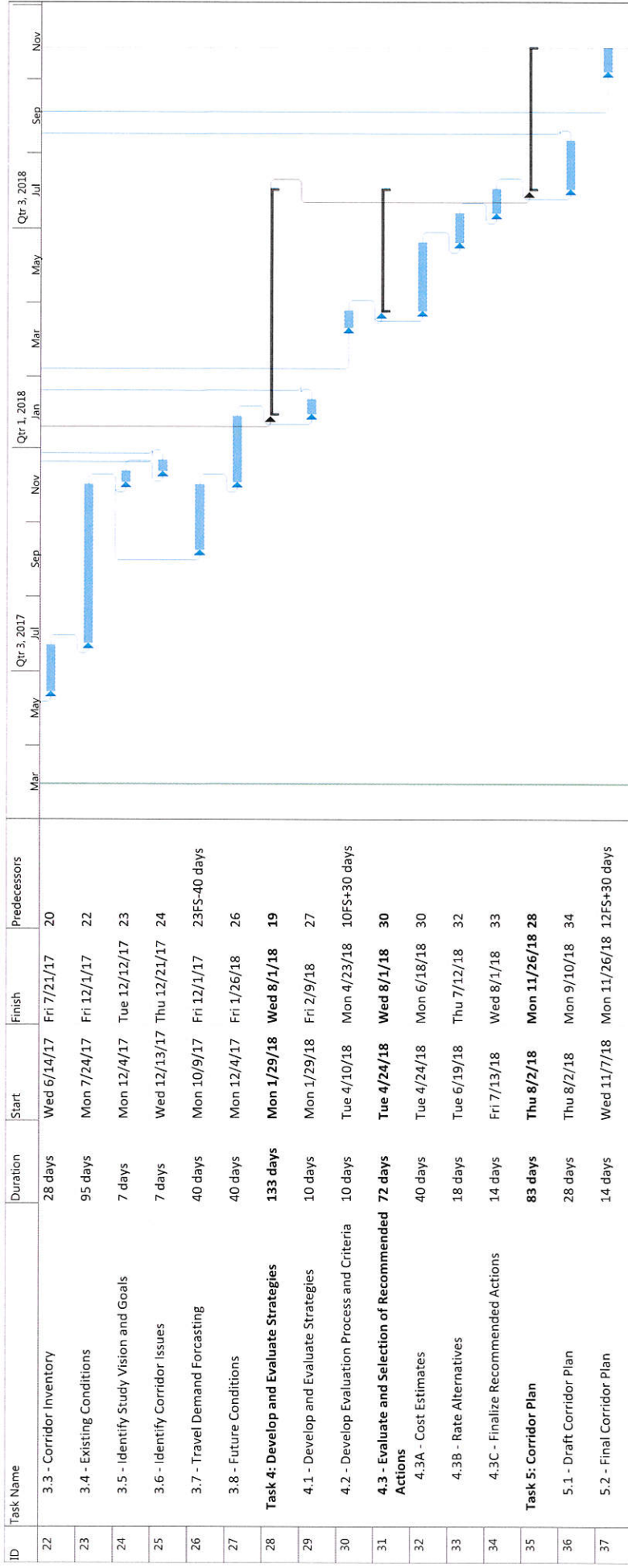
Appendix C includes the minutes from the conference call held for scoping the project between the County and JMT on 1/12/2017.

We look forward to working with you and the County on this important project. If you have any questions or need additional information, please call me at 804.205.5599.

Appendix A

Project Schedule





Rte. 1-208 Project Schedule
Date: Thu 3/30/17

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

Appendix B

Man hour Estimate

Spotsylvania County
County Contract No. 15-03-12-01
JMT Project No. 15-0038-003
Route 1&208 Corridor Study

February 14, 2017
Fee Proposal

BASE SERVICES

Total Direct Labor Costs:	\$381,114
Total Direct Expenses:	<u>\$18,416</u>
Total Estimated Non-Binding Fee (Rounded):	\$399,530

Exclusions:

1. Survey and SUE designations
2. Detailed Design greater than 10 percent engineering
3. Detailed utility location and impact assessment
4. Right of way property assessments
5. Detailed NEPA documentation, field surveys, or environmental permitting
6. Geotechnical analysis
7. Opening year or interim year analysis
8. Walk through of the corridor to look for additional hazardous materials issues.

Spotsylvania County
County Contract No. 15-03-12-01
JMT Project No. 15-0038-003
Direct Labor Costs
February 14, 2017

TASK	Hours					
	PM	Sr Eng	Eng	Tech	Admin	Total
	\$150.00 /hr.	\$125.00 /hr.	\$88.00 /hr.	\$72.08 /hr.	\$55.66 /hr.	Hours
Task 1: Study Initiation and Administration						
Kick-off meeting	10	10	10			30
Bi-Weekly coordination/conference calls	50	50				100
Subtotal						130
Task 2: Public Involvement						
Meeting with VDOT & County (3 meetings)	30	30	30			90
Meeting with Transportation Committee (2 meetings)	20	20	20			60
Meeting with Board of Supervisors (1 meeting) - Public	10	10	10			30
Community meeting (1 meeting) - Public	10	10	10			30
Documenting the meetings/summary report	10	20	40			70
Subtotal						280
Task 3: Existing and Future Conditions Assessment						
Collect Background Information						
Compile from Previous Studies		8	16	16		40
GIS data			8			8
Aerial images			4			4
ADTs			4			4
Crash data			8			8
Traffic signal timing			20			20
Synchro models			4			4
Transit maps/schedules			12			12
Bike route maps			4			4
Development plans			8			8
Subtotal						112
Updated Traffic Counts - Data management						
Directional traffic counts			12	12		24
Turning movement counts			12	12		24
O-D data collection			12	12		24
Subtotal						72
Corridor Inventory Including field visits						
Roadway geometry	8	12	16	16		52
On-street parking			8			8
Sidewalk			12			12
Ped/Bike facilities			8	8		16
Bus stops			4			4
On-ramps			16	8		24
Traffic control devices			40			40
Land use characterize		10	20			30
Cultural Resources	6		60	16	4	86
Environmental Resources	8	25	60	16	4	133
Bridges/Culverts		8	8			16
Subtotal						421
Existing Conditions						
Synchro for intersections	12	25	50			87
VISSIM for the corridor	35	140	100			275
Safety/Crash analysis	10	30	40			80
Access management evaluation	10	20	40			70
Non-motorized accommodation evaluation	10	25	40			75
Public transit evaluation	10	20	30			60
Compare findings w/previous TIAs/Studies	10	10	10			30
Bridges/Culverts	8	16	16			40
Vision and Goals	8	16	16			40
Corridor issues	16	40	50			106
Subtotal						863
Travel Demand Forecasting						
Forecasted land use	30	40	45			115
Forecasted traffic	30	40	50			120
Subtotal						235
Future Conditions						
Cultural resources evaluation of build alternatives	8		40		6	54
Environmental evaluation of build alternatives	10	20	80		10	120
Traffic models evaluations (Future build/connection with Future no-build)	20	80	130			230
Subtotal						404
Task 4: Evaluate & Prioritize Strategies						
Develop and evaluate Strategies	15	40	40			95
Develop evaluation process and criteria	15	40	40			95
Evaluate and selection of recommended actions						
Cost estimates	20	100	150			270
Rate alternatives	30	60	70			160
Finalize recommended actions	20	20	40	80		160
Subtotal						780
Task 5: Corridor Plans						
Draft corridor plan	30	60	80			170
Final corridor plan/report	10	25	40		10	85
Subtotal						255
Total Hours	529	1,080	1,713	196	34	3,552
Total	\$79,350	\$135,000	\$150,744	\$14,128	\$1,892	\$381,114
Direct Expenses						\$18,416
Grand Total						\$399,530

Spotsylvania County
County Contract No. 15-03-12-01

Direct Expenses
February 14, 2017

Expense Type	Amount	Unit	Unit Cost	Total
Peggy Malone & Associates	1	LS	\$15,382.00	\$15,382.00
Mileage	1500	Miles	\$0.540	\$810.00
Environmental databases				\$550.00
Printing				
<i>Report 8.5x11"</i>	150	Pages	5 Copies	\$0.50
<i>Color 11X17 "</i>	50	Pages	5 Copies	\$1.50
<i>Binding</i>	5	Sets		\$4.75
<i>Presentation Boards</i>	10	Boards	10 sq ft	\$9.00
TOTAL				\$18,415.75

Appendix C

Meeting Minutes



Meeting Minutes

Route 1/208 Corridor Study
Project No.: 15-0038-003
January 13, 2017

A Pre-scoping conference call was held at JMT's Richmond Office on 1/12/2017 for the above referenced project. The following people were in attendance:

Name	Organization	Email	Phone
Daniel Cole	County	dcole@spotsylvania.va.us	540-507-7398
John Riley	JMT	JRiley@jmt.com	804-205-5599
Karzan Bahaaldin	JMT	KBahaaldin@jmt.com	804-655-4813
Brian Curtis	JMT	BCurtis@jmt.com	804-267-1256
Ian Frost	JMT	IFrost@jmt.com	804-267-1242

The purpose of this meeting was to discuss the details of the above referenced project to prepare the scope of work, identify study area, and a plan to get funding for building the new road.

The following items were discussed:

- County wants to shift focus of study away from Route 1/Southpoint Pkwy to east side of I-95 and focus on the planned connection of Germanna Parkway to Spotsylvania Ave
 1. New road would cross Massaponax Creek (large elevation drop / floodplain / wetland obstacle)
 2. Alignments for new road originally identified in mid-2000s Massaponax Corridor Study (by Baker / Brian Curtis) – Appendix D
 3. Some County board members are in favor of the new road, some not
- The two major deliverables requested by the County are:
 1. The feasibility study of possible roadway connection of Spotsylvania Ave. and Germanna Dr. as shown in Figure 1. The work consists of crossing Massaponax Creek, environmental considerations, conceptual roadway plans and cost estimates (only Option #2 from Appendix D will be considered)
 2. The Corridor study and capacity analyses of nine (9) intersections. The no-build option (no connection) will also be evaluated in this study
- The nine (9) intersections to be included in the corridor study are as follows:
 1. Rte. 17 and Germanna Dr.
 2. Spotsylvania Ave. and Market St.
 3. Rte. 1 and Market St.
 4. Spotsylvania Ave. and Mine Rd. (recently approved)
 5. Rte. 1 and Mine Rd/Hood Dr.
 6. Rte. 208 and Hood Dr.
 7. Rte. 208 and Southpoint Pkwy/Rollingwood Dr
 8. Rte. 1/Jefferson Davis Hwy and Rte. 208/Courthouse Rd/Lafayette Blvd
 9. Lafayette Blvd. and Falcon Dr./Mall Dr.



- The outcomes of this project might be used for funding applications (HSIP, Smart Scale, CMAQ, etc.)
- The project schedule need to consider the VDOT's Smart Scale application deadline of 2018
- It is expected that the project will include extensive environmental studies and related field work due to anticipated Massaponax Creek crossing involved for the roadway connection option
- No major historical sites expected, however, this point need to be verified with Wanda Parish (The County's Director of Planning) before finalizing scope and fees
- There is a Smart Scale application that involves splitting I-95 southbound off-ramp, adding additional lane to Rte. 1 and improving median opening/access points on Southpoint Pkwy. The County thinks there is a good chance of being approved/funded soon, and so expect them to be considered in the model/study
- Draft cost estimate for the roadway connection can be found in the IMR/corridor studies conducted previously
- The preliminary cost estimate(s) for the roadway connection seem to be insufficient for the project (per the County), which supports conducting a new cost estimate
- Related to this area, a J-ramp IMR was conducted by Kimley-Horn on July 2015 was not approved by FHWA. It will not be included in the project
- Alexander's Crossing and Jackson Village rezoning have proffered construction of new east-west bridge over I-95, south of Exit 126 (timing TBD base on developments hitting thresholds), see Appendix G
- Traffic counts conducted on 2015 are available to be used at intersection # 3, 5, 6 & 7 for weekday AM and PM, and Saturday peak (all the intersections to be evaluated for these peak periods)
- Project assigned budget is \$400,000
- Project is in Supervisor Gary Skinner's District (he seems enthusiastic about the project)
- Project scope and fee development will be similar to Rte. 2/17 Scope of work with the following revisions:
 1. Project understanding
 2. Adding more fees for environmental studies
 3. Stakeholder/public involvement

The above represents a true and accurate account of the discussion during this meeting to the best of my knowledge. If there are any conflicts, misrepresentations, or omissions with the above statements, please contact the undersigned within 14 days of this date.

[Name]

[Date]

Copy:

Daniel Cole	County
John Riley	JMT
Karzan Bahaaldin	JMT
Brian Curtis	JMT
Ian Frost	JMT
Project File	

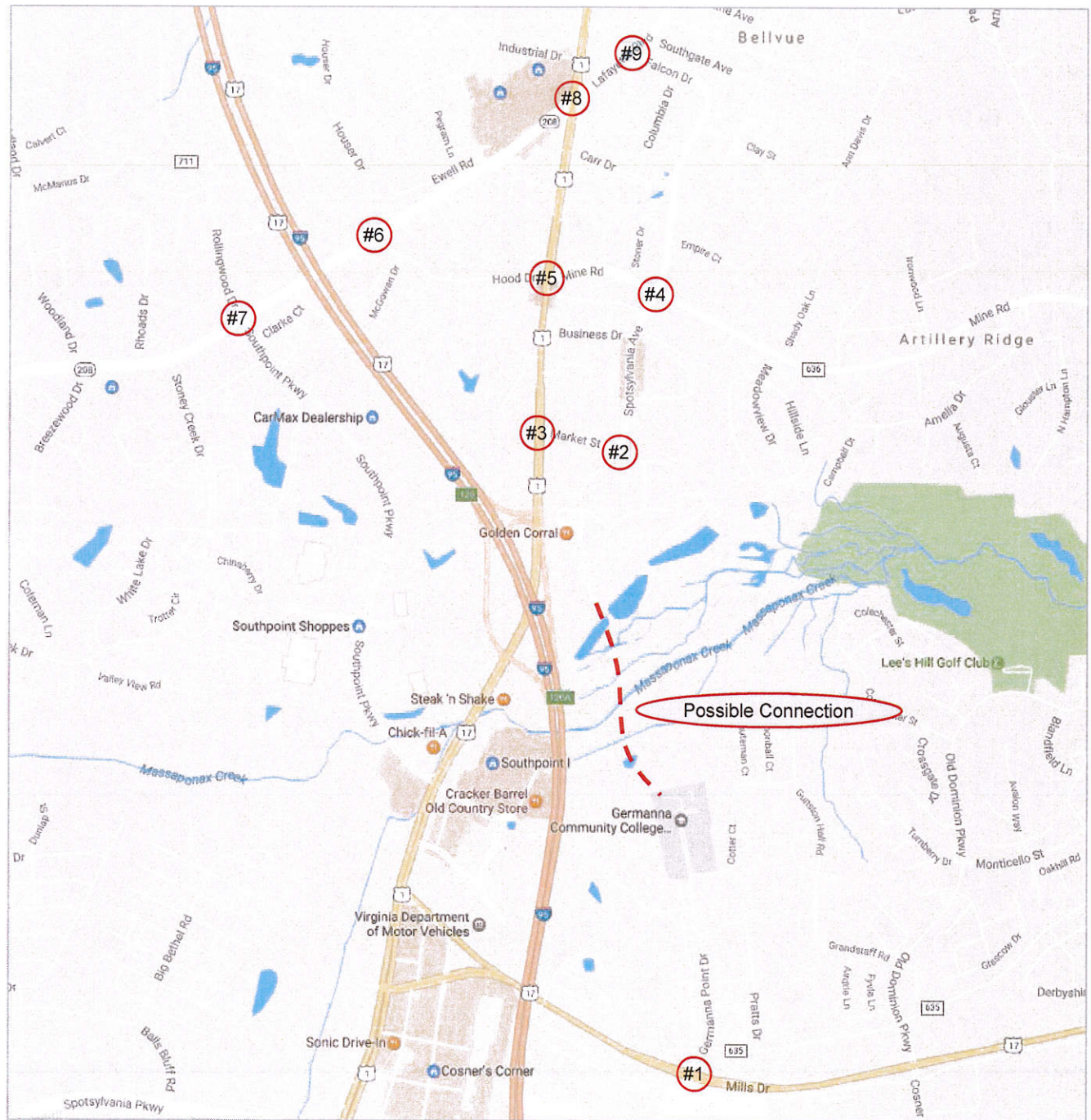
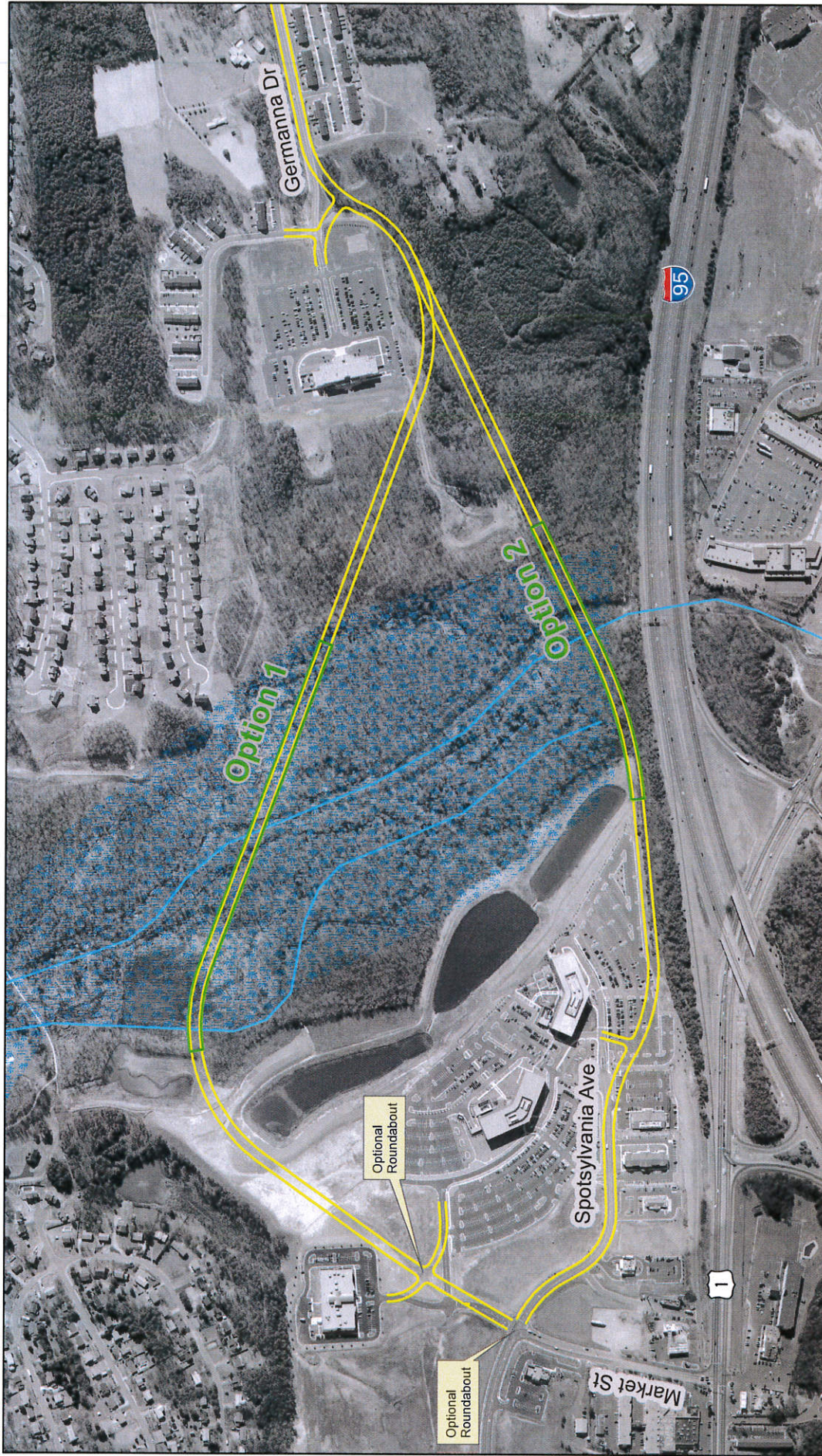


Figure 1: Study Area

Appendix D

Massaponax Corridor Traffic Study – Connection Alignment

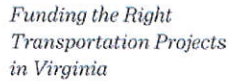


Massaponax Corridor Traffic Study	
Figure 4-8: Spotsylvania Avenue Extension	
Legend	
	Edge of Pavement
	Bridge Structure
	Lake or Pond
	Marsh or Wetland
	River or Stream

Appendix E

Smart Scale Scorecards

Factor	Congestion Mitigation		Safety		Accessibility			Economic Development			Environment		Land Use
Measure	Increase in Peak Period Person Throughput	Reduction in Peak Period Delay	Reduction in Fatal and Injury Crashes	Reduction in Fatal and Injury Crash Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Increase in Access to Multimodal Travel Choices	Square Feet of Commercial/Industrial Development Supported	Tons of Goods Impacted	Improvement to Travel Time Reliability	Potential to Improve Air Quality	Other Factor Values Scaled by Potential Acreage Impacted	Support of Transportation-Efficient Land Development
Measure Value	1,593.3 thousand persons	132.1 thousand person hrs.	8.1 EPDO	69.5 EPDO / 100M VMT	40.1 jobs per resident	40.8 jobs per resident	0 adjusted users	244,166.5 thousand adj sq. ft.	28,465.6 thousand adj daily tons	67,195,630.6 adj. buffer time index	545.4 adjusted points	7.5 scaled points	18,840.4 adjusted jobs & pop.
Normalized Measure Value (0-100)	15.7	4.1	2.5	0.4	1.5	1.5	0	0.9	1.7	1.6	3.2	14.6	16.7
Measure Weight (% of Factor)	50%	50%	50%	50%	60%	20%	20%	60%	20%	20%	50%	50%	100%
Factor Value	9.9		1.4		1.2			1.2			8.9		16.7
Factor Weight (% of Project Score)	45%		5%		15%			5%			10%		20%
Weighted Factor Value	4.5		0.1		0.2			0			0.9		3.3
Project Benefit	9.0												
SMART SCALE Cost	\$12,745,000												
SMART SCALE Score (Project Benefit / SMART SCALE Cost)	7.0												



For more information on how to read a scorecard, [click here](#).

This project will provide intersection improvements to Route 208 (Courthouse Road) and Route 636 (Hood Drive). Hood Drive provides the direct access point to the park and ride for commuters to access I95.

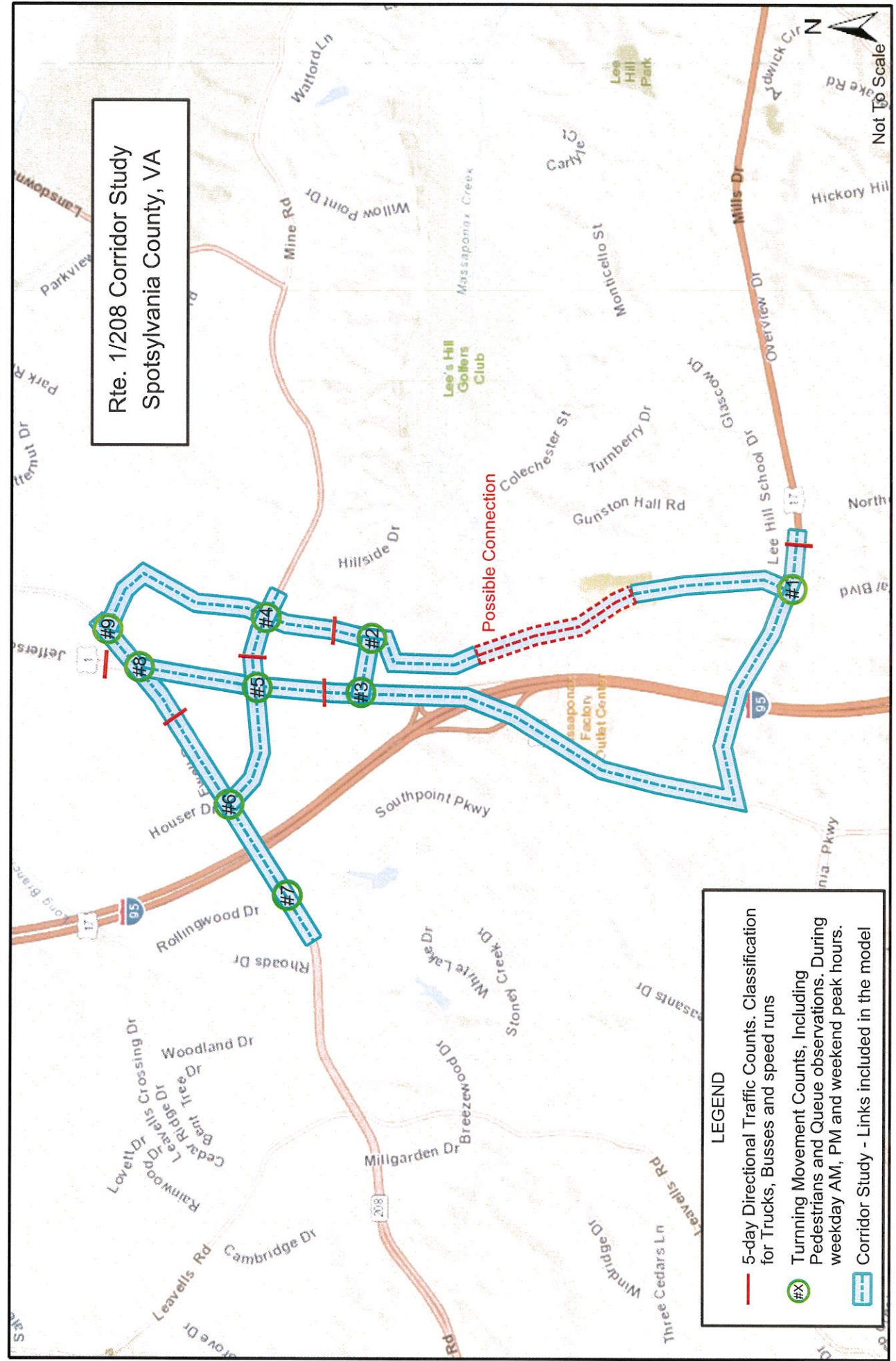
Project Benefit / Total Cost..... 17.8

Factor	Congestion Mitigation		Safety		Accessibility			Economic Development			Environment		Land Use
Measure	Increase in Peak Period Person Throughput	Reduction in Peak Period Delay	Reduction in Fatal and Injury Crashes	Reduction in Fatal and Injury Crash Rate	Increase in Access to Jobs	Increase in Access to Jobs for Disadvantaged Populations	Increase in Access to Multimodal Travel Choices	Square Feet of Commercial/Industrial Development Supported	Tons of Goods Impacted	Improvement to Travel Time Reliability	Potential to Improve Air Quality	Other Factor Values Scaled by Potential Acreage Impacted	Support of Transportation-Efficient Land Development
Measure Value	1,656.8 thousand persons	252.2 thousand person hrs.	5.4 EPDO	194.1 EPDO / 100M VMT	44.2 jobs per resident	44.3 jobs per resident	182.3 adjusted users	374,312.5 thousand adj sq. ft.	11,808.5 thousand adj daily tons	5,070,070.7 adj. buffer time index	182.3 adjusted points	8.3 tscaled points	14,159.8 adjusted jobs & pop.
Normalized Measure Value (0-100)	16.3	7.8	1.6	1.0	1.7	1.7	1.2	1.3	0.7	0.1	1.1	16.2	12.5
Measure Weight (% of Factor)	50%	50%	50%	50%	60%	20%	20%	60%	20%	20%	50%	50%	100%
Factor Value	12.1		1.3		1.6			1.0			8.6		12.5
Factor Weight (% of Project Score)	45%		5%		15%			5%			10%		20%
Weighted Factor Value	5.4		0.1		0.2			0			0.9		2.5
Project Benefit	9.1												
SMART SCALE Cost	\$4,888,655												
SMART SCALE Score (Project Benefit / SMART SCALE Cost)	18.7												

Appendix F

Corridor Study Boundary

Rte. 1/208 Corridor Study Spotsylvania County, VA

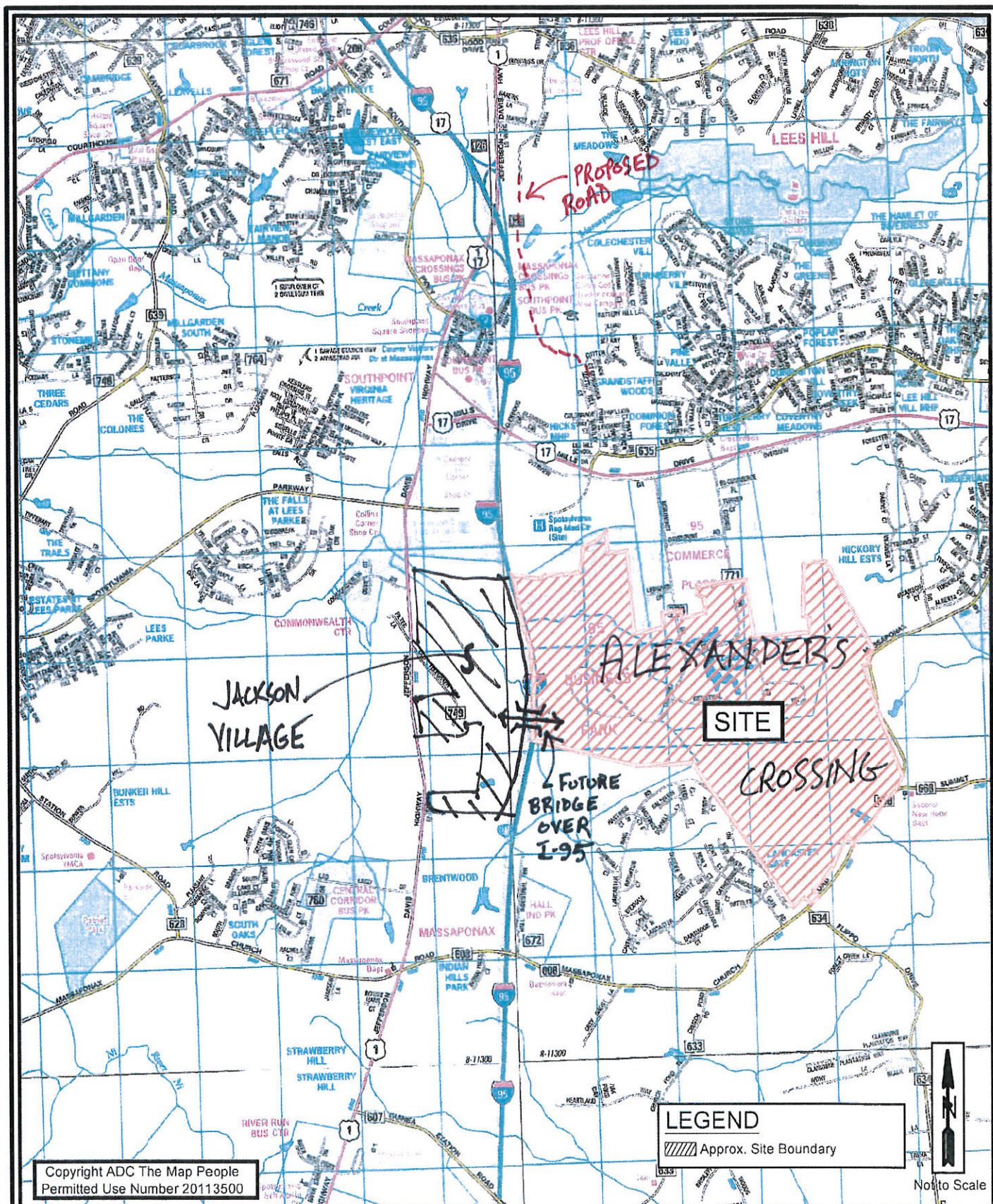


LEGEND

- 5-day Directional Traffic Counts. Classification for Trucks, Busses and speed runs
- Turning Movement Counts, Including Pedestrians and Queue observations. During weekday AM, PM and weekend peak hours.
- Corridor Study - Links included in the model

Appendix G

Alexandar's Crossing & Jackson Village



Bowman
CONSULTING

Site Location Map
Alexander's Crossing
Spotsylvania County, Virginia

Figure 1

Job # 008186-01-002

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