Memorandum

To: Christine Forde, CCRPC

Date: February 5, 2016

Project #: 88013.86

From: David Saladino, P.E., AICP

Re: **Technical & Cost Proposal**
Hinesburg Rd / Tilley Drive Area Land Use & Transportation Plan – Phase I & II

This proposal outlines the background, proposed scope of work, and budget to develop a comprehensive Land Use and Transportation Plan to accommodate existing and future development in the general vicinity of VT 116, Kennedy Drive, Tilley Drive, Kimball Avenue, and Community Drive in South Burlington, Vermont ("Project").

Project Overview & Study Area

This Land Use and Transportation Plan ("Plan") will evaluate existing land uses and potential transportation alternatives to address the long-term, multi-modal transportation improvements required to accommodate a potentially significant level of development within and adjacent to the Project area. The Plan will also develop the framework for a Transportation Improvement District for all or a portion of the Project area to help share the overall financial burden of public transportation infrastructure improvements.

The primary goal of this Plan is to find the most cost effective transportation solutions that will coordinate with and support planned development in the area in a compact, pedestrian-friendly, and mixed-use manner. The Plan will also provide input to the developers on site designs that will achieve the most walking, biking, and transit use. The Plan will be implemented through a number of means, including guidance to the private sector for use in development proposals, potential amendments to City ordinances, and guidance for future State and City capital planning and transportation grant applications.

While the focus of the Plan is on accommodating future development potential in the area adjacent to Hinesburg Road (VT 116), Tilley Drive, Kimball Avenue, Kennedy Drive, and Community Drive, the Project study area covers a broader area to capture the full transportation implications of the development scenarios. As such, the Plan will build off the recent Williston Road Transportation Network Study as well as ongoing efforts to advance the South Burlington City Center project.

As shown in Figure 1 on the following page, the Project Study Area is located primarily in South Burlington and is generally bounded by Williston Road, Kimball Avenue, and Marshall Avenue to the north, South Brownell Road and VT 116 to the east, Cheesefactory Road to the south, and Dorset Street to the west. Within this Study Area, twelve intersections have been identified for detailed analysis as shown in Figure 1. In addition to these study intersections, it is anticipated that the Project will include scenarios that integrate new I-89 access as well as potential new east-west connectors between VT 116 and Dorset Street.

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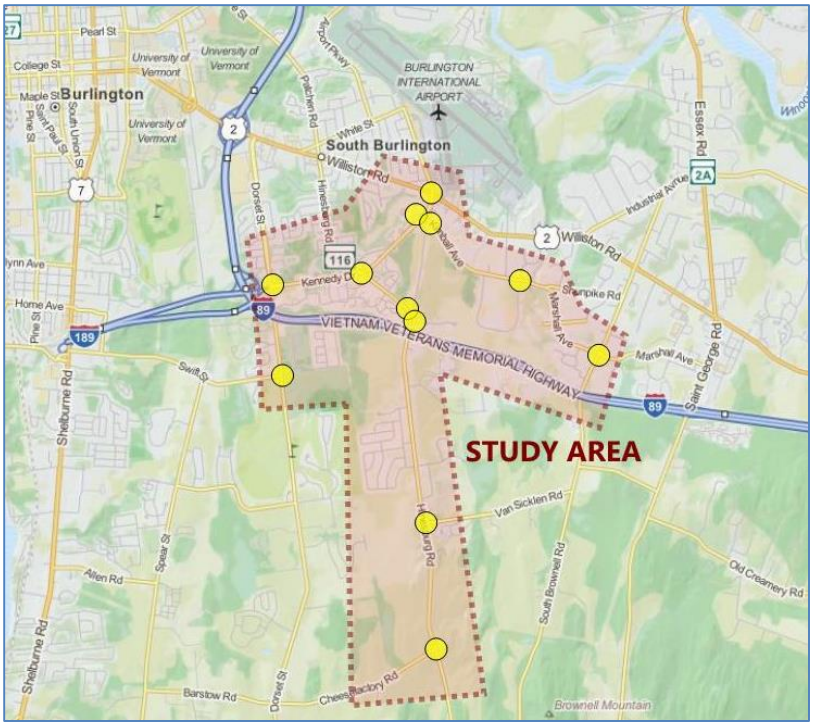
Figure 1: Study Area



Scope of Work

This section provides an overview of the Scope of Work for Phase I and Phase II efforts. This scope is intended to meet the requirements of FHWA's PEL process.

PHASE 1: Existing Conditions and Transportation Needs Assessment – FY 2016

Task 1 – Project Initiation

- City of South Burlington City Council to Review Plan Objective: City staff to provide report to City Council and confirm the Council's and public understanding of goals and objectives of Plan.
- Technical Working Group Meeting #1 – Kick-off Meeting: VHB will prepare for and attend a kick-off meeting with the Technical Working Group[1] to review the Plan goals, schedule, and milestones. A key outcome of this

[1] *Technical Working Group to include representatives from the City of South Burlington, the CCRPC, VTrans, CCTA, and FHWA. FHWA will likely not participate in the Phase I effort but will be represented in Phase II*

meeting will be to confirm or refine the Study Area boundaries and study intersections as well as identify the specific potential development areas that will be included in the analysis.

Deliverables: Meeting agenda, meeting notes

Task 2 – Existing Conditions

- Data Collection: For scoping purposes, we have assumed that the CCRPC will collect AM and PM peak hour turning movement count data at the twelve study intersection identified in Figure 1 and provide the data to VHB in electronic format. VHB will assemble existing and proposed transit routes through and adjacent to the Study Area, the latest transit ridership figures for stops within and adjacent to the Study Area, and any existing bicycle and pedestrian infrastructure in the Study Area (to be extracted from the mapping being prepared for the Chittenden County Active Transportation Plan).
- Traffic Model Development: VHB will develop a Synchro model that includes all of the primary (non-interstate) roads and study intersections identified in the defined Study Area shown in Figure 1. Current lane configurations, geometries, and signal timings will be integrated into the model.
- Traffic Analysis: VHB will assemble the AM and PM peak hour turning movement counts for the twelve study intersections and adjust them to 2016 Design Hour Volume conditions. These volumes will be loaded into the Synchro traffic model to evaluate base year No Build traffic performance at the study intersections. VHB will generate a technical memorandum summarizing the 2016 No Build traffic characteristics including delay, Level of Service, volume-to-capacity ratio and queue lengths. This technical memorandum will be circulated to the Technical Working Group for review and comment.
- Environmental and Cultural Resource Identification: VHB will review available information on databases maintained by the Vermont Agency of Natural Resources ("ANR") and Vermont Division for Historic Preservation ("DHP") to determine what environmental and cultural resources are known to be present within the areas that may be considered for alternatives for Interstate access improvements. This task does not include field reconnaissance.
- Review of Existing Land Use Permits and Conditions: VHB will review Act 250 Land Use Permits ("LUPs") for existing or proposed developments within or immediately adjacent to the Study Area to understand the breadth of potential, proposed, or authorized future development and what assumptions, projections, and/or conditions these authorizations contain with respect to existing and future development and traffic conditions. The LUPs also will be evaluated for background information regarding environmental and cultural resources within the Study Area. This task includes the development of a brief technical report summarizing the results of the preceding resource identification and review of the LUPs. This report will include recommendations for outreach to Plan stakeholders, including state and federal agencies and regulators.

Deliverables: Technical Memorandum #1: Existing Conditions Traffic Analysis Result; Technical Memorandum #2: Natural Resources Inventory and Summary of Existing Environmental Permits and Implications for Plan Development

Task 3 – Future Conditions – No Build

- Development & Real Estate Advisory Group Meeting #1: VHB will meet with up to five area property owners, developers, and/or real estate representatives as well as City planning staff to understand the anticipated development potential within the Study Area and categorize the development in terms of location, likelihood, timeline, density, and mix of uses. At these meetings, we will look for opportunities to identify synergies between the individual development proposals such as potential internal connector roads, bicycle/pedestrian connections between parcels, land use designs that will best support walking, biking, and transit usage.
- Future Land Use Matrix: VHB will develop a land use matrix and map identifying the location, density, arrangement (i.e. efficient use of land, compact, transit & pedestrian friendly) and use type for development anticipated to occur within the next 10 and 20 years both within the Project Study Area and in adjacent areas that would affect traffic within the Study Area. At this point, we envision this development scenario to include the following projects: the UVM Medical Center real estate acquisition, development on the O'Brien Farm, infill development in Technology Park, development south of I-89 west and east of VT116, and the South Burlington City Center development. The resulting land use matrix and associated map will be circulated to the Technical Working Group for review and input.
- Estimate Future Trip Generation: Trip generation estimates will be developed based on the future development scenarios established in the previous step for 2025 and 2035. These estimates will consider potential "internal capture" resulting from the proposed mixture of uses and will be developed for both the weekday morning and evening peak hours.
- Evaluate Future No-Build Traffic Performance: VHB will distribute trips generated by the identified development onto the surrounding roadway network based on existing travel patterns and knowledge of local and regional travel patterns. Background traffic will be grown to 2025 and 2035 conditions using an agreed-upon growth rate, based on recent traffic volume trends and input from the City and CCRPC staff. The No Build Synchro network will be updated to include the South Burlington City Center road network connections. The 2025 and 2035 AM & PM peak hour traffic volumes (i.e. background traffic plus development-generated trips) will be evaluated using the Synchro traffic model and resulting traffic performance indicators (i.e. delay, LOS, v/c, and queuing) will be developed and summarized in a technical memorandum.

Deliverables: Technical Memorandum #3: 2025 & 2035 No Build Traffic Analysis Results

Task 4 – Public Meeting & Phase I Wrap-Up

- City Council/Public Meeting: VHB will prepare for and lead a presentation before the South Burlington City Council to summarize the work completed to date: existing conditions, nature of proposed/pending development, potential trip generation from development, and future No Build traffic conditions. The presentation will highlight the key transportation-related issues in the area and will solicit input on potential solutions to address the traffic generated by the proposed development.

- Development & Real Estate Advisory Group Meeting #2: VHB will meet with area property owners, developers, and/or real estate representatives to update the group on the work completed to date, including the future No Build traffic conditions and the summary of issues and potential solutions.
- VTrans Meeting #1: VHB will prepare for and meet with VTrans staff to present highlights of the work completed to date, including the future No Build traffic conditions and the summary of issues and potential solutions.
- Summary of Issues and Potential Solutions: To wrap-up Phase I, VHB will prepare a brief summary of transportation issues and potential transportation and land use solutions and environmental impacts/constraints to serve as a starting point for Phase II activities (assuming there is a gap in the schedule).

Deliverables: Meeting materials, Meeting notes, Summary of Issues & Solutions memo

PHASE 2: Land Use and Transportation Plan – FY 2017

Task 5 – Purpose and Need Statement

- Develop Draft Purpose & Need Statement: Based on the foregoing Tasks and in consideration of potential transportation solutions posited by Project stakeholders (and assuming that one or more solutions will include modifications to Interstate access and review under the National Environmental Policy Act or "NEPA"), VHB will develop a draft Purpose and Need Statement and circulate to members of the Technical Working Group. The Purpose and Need will be the basis for the evaluation of alternatives and selection of the preferred alternative(s).
- Technical Working Group Meeting #2: The draft Purpose and Need for the Project will be discussed. This meeting will include a preliminary discussion of the anticipated NEPA scoping process for the Project, assuming the level of documentation required will be an Environmental Impact Statement ("EIS").
- Develop Final Purpose & Need Statement: The draft Purpose and Need Statement will be revised based on Technical Working Group input and approved by City Council, VTrans, and FHWA.

Deliverables: Draft and Final Purpose & Need Statements

Task 6 – Evaluation of Build Alternatives

- Technical Working Group Meeting #3: VHB will prepare for and lead a meeting with the project Technical Working Group to review existing (2016) and future (2025 & 2035) No Build traffic results and to identify transportation system alternatives and performance targets.
    - Transportation System Alternatives: We have assumed that up to four transportation system alternatives will be evaluated. We anticipate that these alternatives will include a combination of infrastructure elements (e.g. enhanced interstate access, east-west connector between VT 116 and Dorset Street, and internal connectors between Tilley Drive, Old Farm Road, Kennedy Drive, Kimball

Avenue, and Community Drive) and transportation demand management measures (e.g. transit supportive infrastructure and increased service, employer-based TDM requirements, etc.). We will coordinate with CCTA on the potential opportunities (and constraints) to providing enhanced transit service in this area in the future.

- Land Use Design Alternatives: We will also examine alternative land use designs on the proposed development sites to increase the ability of residents and employees to use transit, bike, or walk.
- Evaluation Criteria: While we anticipate that traditional traffic performance metrics and cost factors will be used to evaluate the various alternatives, we will also seek to define a broader set of objective land-use, environmental, and multi-modal criteria to aid in selecting a preferred alternative.

- Sketch-Level Review of Enhanced Interstate Access Alternatives: VHB will investigate potential layout options for enhanced interstate access alternatives to confirm that viable interchange configurations are possible given current built conditions. This assessment will be sketch-level only and will build off previous planning efforts for Exit 12B and Exit 13 to determine what kind of interchange designs can be accommodated in these locations without significant impacts to adjacent buildings, natural resources, and/or private properties.
- Estimate 2025 & 2035 Build Traffic Volumes: The future land use assumptions, trip generation estimates, and new road connections developed in the previous steps will be coded into the CCRPC Regional Model (2025 and 2035 model years) to estimate future year traffic volumes within the study area for each of the identified alternatives. This modeling effort will build upon the recent modeling work conducted in support of the Williston Road Phase I Transportation Network Study. It is likely that the Traffic Analysis Zones in this sub-area will need to be subdivided to gain the geographic coverage and data resolution needed for this study. Using a spreadsheet estimation model, VHB will translate the resulting link volume changes from the model output into a revised set of turning movement volumes for the study intersections to coincide with each of the identified alternatives.
- Develop 2025 & 2035 Traffic Models: The No Build Synchro model will be revised to incorporate the new network links identified for each alternative in 2025 and 2035. The 2025 and 2035 traffic volumes developed in the previous step will be loaded into the network and specific intersection control and geometric characteristics will be refined iteratively to accommodate the anticipated future traffic volumes. Traffic simulations using SimTraffic will be utilized to estimate queuing and intersection operations during the 2025 and 2035 Build scenarios.
- Resource Agency Meeting: VHB will arrange for and lead a presentation summarizing the work completed to date, including a brief discussion of the existing conditions, the Non Build analysis, and the Build Alternatives. The goal of this meeting is to obtain information from the Resource Agencies regarding any particularized concern regarding any Build Alternative, understand expectations regarding future involvement in the Project and potential permitting considerations, and amass up-to-date information regarding known resources within the Study Area. There will be a second meeting with the Resource Agencies to review the draft alternatives evaluation results and gain their input.

- Alternatives Evaluation: The Build alternatives will be evaluated using the Synchro model and other tools based on the identified system performance metrics to populate an alternatives evaluation matrix. Graphics depicting the significant characteristics of the four alternatives will also be developed for use in comparing the alternatives. Alternatives will be evaluated using the broad set of criteria identified above. The results of the alternatives evaluation will be summarized in a technical memorandum.

Deliverables: Technical Working Group Meeting #3 meeting materials and notes, Resource Agencies Meetings #1 and 2 meeting materials and notes, Technical Memorandum #4: Alternatives Evaluation,

Task 7 – Identify Draft Preferred Alternative

- Technical Working Group Meeting #4: VHB will prepare for and lead a meeting with the project Technical Working Group to review the results of the Alternatives Evaluation. The primary goal of the meeting will be to recommend a draft preferred alternative (or package of improvements), land use design changes, and TDM measures. Additionally, the Technical Working Group will be asked to identify priority improvements along with potential phasing opportunities.
- Alternatives Presentation to City Council – VHB will present the Alternatives Evaluation and the recommended draft preferred alternative (or package of improvements) to South Burlington City Council in a public meeting to seek input from the public and City Council.

Deliverables: Technical Working Group Meeting #4 meeting materials and notes, Preliminary Preferred Alternative

Task 8 – Develop 2035 Area Plan

- 2035 Area Vision Graphic: Based on the identified land development and preferred transportation network improvements, VHB will develop a rendered graphic depicting a vision for the study area in 2035. We have assumed that this graphic will include conceptual-level alignment details for a new I-89 interchange or new streets (if recommended) and will be developed in AutoCAD and rendered either by hand or a graphics design software package. This graphic will help both professional staff and the public envision what the project area could look like based on the assumptions and analysis laid out in this study.
- Develop Refined Cost Estimates: VHB will develop refined cost estimates for the components of the preferred alternative. The cost estimates will include estimates for design and construction.
- Development & Real Estate Advisory Group Meeting #3: VHB will meet with area property owners, developers, and/or real estate representatives to present the draft recommendations developed within the 2035 Area Plan.
- VTrans Meeting #2: VHB will prepare for and meet with VTrans staff to present highlights from the Draft 2035 Area Plan.
- Draft Plan Presentation to South Burlington City Council and the Public: VHB will prepare and present highlights from the Draft 2035 Area Plan to the South Burlington City Council and Public for comment. A 30 day public comment period will be provided. The comments will be addressed in the Final Plan.

- Develop 2035 Area Plan: VHB will develop a draft 2035 Area Plan that includes the content from Technical Memoranda #1-3, a description of the preferred alternative, and recommended implementation plan. The draft plan will be circulated for review and comment by the Technical Working Group. VHB will produce a final Area Plan incorporating input from the Technical Working Group. VHB will produce up to five, full-color, bound final reports along with an electronic PDF copy of the final report.
- Final Plan Presentation to South Burlington City Council and the Public: VHB will prepare and present highlights from the Draft 2035 Area Plan to the South Burlington City Council for endorsement of the Plan.

Deliverables: 2035 Area Vision graphic, 2035 Area Plan

Task 9 – Develop Transportation Improvement District (TID) Framework

- Develop TID Framework Memorandum: VHB will develop a technical memorandum outlining the key elements for a potential Transportation Improvement District to cover the core study area. This framework will outline the anticipated development characteristics, projected trip generation figures, transportation system improvement components and costs, and potential transportation impact fee approach (e.g. per trip, per square foot, etc.). The framework memorandum will also identify any programmatic or policy-level actions that would be needed to implement a TID in this area – such as incorporating the major transportation system improvements into the VTrans Capital Program and implementing potential revisions to the City's traffic impact fee regulations.

Deliverables: Technical Memorandum #5: Transportation Improvement District Framework

Schedule – Phase I

Assuming a Notice to Proceed is issued by February 1, 2016, we anticipate Phase I of the project advancing according to the schedule outlined below:

- Project Kick-off: February/March 2015
- Existing Conditions Assessment: February – March 2016
- Future Conditions – No Build: April - May 2016
- Meetings & Phase I Wrap-up: June - July 2016

A schedule for Phase II can be developed once a start date can be confirmed more clearly.