

## Alternative Transportation Crossing Study for Interstate 89, Exit 14 Interchange



Proposal developed for the City of  
South Burlington and the Chittenden  
County Regional Planning Commission  
August 29, 2016





**Stantec Consulting Services Inc.**  
55 Green Mountain Drive, South Burlington VT 05403-7824

August 29, 2016

**Attention: Christine Forde**  
Chittenden County Regional Planning Commission  
110 West Canal Street, Suite 202  
Winooski, VT 05404

Dear Christine,

**Reference: Alternative Transportation Crossing Study for Interstate 89, Exit 14 Interchange**

As you requested, Stantec is pleased to provide this detailed scope and fee estimate for scoping services for the referenced project. The attached is our proposal summarizing the scope of work, task list and fee.

We are prepared to initiate this work upon your authorization. Should you have any questions, comments or require clarification on this scope and fee, please contact me.

Regards,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "Greg G. Goyette".

Gregory G. Goyette, PE  
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# 1 Project Description

The City of South Burlington (City) has received funding through the Chittenden County Regional Planning Commission (CCRPC) to study the feasibility of an alternative transportation crossing of Interstate 89 (I-89) in the vicinity of the Exit 14 interchange. South Burlington, through their Comprehensive Plan, recognizes the need for a safer, more efficient crossing of I-89 to connect the University of Vermont (UVM) Campus and neighborhoods located on the west side to the existing and planned development on the east side. The existing facilities crossing I-89 consist of six lanes for motor vehicles and sidewalk and on-road bicycle lanes immediately adjacent to these lanes. The interchange was primarily designed for moving motor vehicles efficiently and at speeds not typically compatible with bicycle and pedestrian uses. A new facility or mode of transportation would ultimately serve as the primary option for those who wish to cross I-89 using something other than a single occupancy vehicle, and would need to have independent utility absent of other possible development in the area. The study's focus will be to understand existing conditions, identify origins and destinations of potential users, develop and evaluate alternative methods and alignments for crossing I-89, and recommend crossing method(s) and an alignment that the City could rely on in the future. Figure 1 depicts the approximate limits of the study area.



Figure 1 - Approximate Study Area Limits (Source: Google Maps)

## 2 Study Area Scope and Approach

The following utilizes the standard scope provided by the CCRPC for scoping projects. Stantec has included additional detail to clarify the scope for this project.

### A. Meeting to Identify Project Advisory Committee and Stakeholders

**Scope:** Stantec will meet with CCRPC and City of South Burlington staff to identify members of a Project Advisory Committee and key project stakeholders.

The **Project Advisory Committee (PAC)** will meet regularly to review project goals, objectives, process, timeliness and deliverables and make decisions on the direction of the study.

**Project stakeholders** are representatives of the community who's input will shape alternatives developed and final recommendations, and who's support will be important for advancing the project into engineering and construction. Stakeholders will be engaged through one-on-one or group meetings, as determined by the City.

Potential PAC members include:

- City of South Burlington – Ilona Blanchard, Paul Conner, Justin Ravidoux
- CCRPC – Christine Forde, Peter Keating
- Stantec – Greg Goyette, Sean Neely
- Vermont Agency of Transportation – Jesse Devlin, Nick Meltzer
- UVM Transportation Research Center

Potential project stakeholders include but may not be limited to:

- Adjacent or impacted property owners
- University of Vermont/Chittenden Area Transit Management Association (CATMA)
- Green Mountain Transit Authority (GMTA)
- University of Vermont Medical Center
- City of Burlington
- East Terrace Neighborhood group
- Local Motion
- Hospitality Group
- South Burlington Business Association

**Approach/Assumptions:** It is assumed one meeting is required to identify the PAC and stakeholders, and the CCRPC will schedule and host the meeting. Stantec will provide presentation materials and meeting notes. In addition, Stantec will review existing conditions information with the PAC, determine if more information should be collected, and discuss the merits of including additional stakeholders or PAC members.

**Deliverables:** Meeting agenda, presentation of existing information and meeting notes.

### B. Compile Existing/Future Conditions Data & Develop a Base Map

**Scope/Approach/Assumptions:** Using the available high resolution orthophotos, Stantec will develop an existing conditions base map. The map will include available GIS layers as obtained

from the City/CCRPC and Vermont Center for Geographic Information (VCGI). These may include tax parcels, existing easements if readily available, environmental resources, stormwater, hazardous waste sites, and utilities. Infrastructure deficiencies will be identified. Stantec will review and summarize long-range transportation plans and planned developments that may affect location of the possible facilities as provided by the City. Stantec will also solicit GMTA and CATMA plans for the area and indicate existing and/or proposed transit routes, facilities and stops.

To assist in defining the alternatives and their impacts, Stantec will initially rely on available LIDAR data to the extent feasible. If more accurate survey is required, Stantec will reach out to Vermont Survey and Engineering (VSE) to prepare a scope and fee for on-the-ground field survey, a digital base map and digital terrain model for the project area. An estimated budget of \$8000 has been included for this work. The budget will be refined once the survey area has been identified.

Stantec will also research the existing and offered easements and rights-of-way within the project area. The existing easements and right-of-way (ROW) will be shown on the base mapping (Task I). Stantec will contact the South Burlington Public Works Department, Burlington Electric Department (BED), Green Mountain Power (GMP), Champlain Water District (CWD), Fairpoint, Comcast, Level 3, Sovernet, First Light, and Vermont Gas Systems requesting information on any of their existing facilities in the project area. Using the information provided, the general location of the existing facilities will be shown on the base mapping. It is assumed additional field survey to provide utility elevations, such as pipe inverts, will not be required at this time. Stantec will also reach out to CCRPC and VTrans to determine if bicycle and pedestrian counts are available within the study area.

**Deliverables:** Existing conditions map, existing conditions summary report, PAC meeting agenda and notes

## C. Coordination with UVM Transportation Research Center

**Scope:** The PAC will meet with the UVM Transportation Research Center (TRC) to determine what data they have available, if any, that identifies origins/destinations of potential users. A kickoff meeting will be held with UVM TRC representatives to review goals of the study and available data. Stantec will review the data and summarize it for TAC review. It is anticipated that this initial work would be completed prior to the Local Concerns Meeting (Task E) so that the information can be presented at the meeting.

**Deliverables:** Meeting agenda and notes, data summary

## D. Initial Project Stakeholder Meetings

**Scope:** A series of project stakeholder meetings will be held to gather input on existing deficiencies, origins/destinations of existing and potential users, concerns with the project, and potential alternatives. This outreach will be completed before the Local Concerns Meeting so that the input will inform possible questions from this meeting. It is assumed that Stakeholder meetings would be completed in one day.

**Deliverables:** Meeting agenda and notes, final summary of stakeholder comments and concerns

## E. Local Concerns Meeting

**Scope:** Stantec will organize and facilitate a local concerns meeting to review existing conditions information and gather input on existing deficiencies, origins/destinations of existing and potential users, concerns with the project, and potential alternatives. This input will be valuable for developing a clear understanding of the purpose and need of the project. This meeting will be hosted by the CCRPC and the City of South Burlington with local officials invited.

**Approach/Assumptions:** Stantec will develop a meeting agenda and a slide presentation in close coordination with the CCRPC Project Manager to facilitate the Local Concerns Meeting. The names and addresses of all people, including adjacent property owners, to be notified will be provided by the City and CCRPC. Notice of the meeting including announcements via social media platforms will be distributed by the City. The presentation will include an existing conditions plan illustrating collected information and examples of other modes/facilities currently being considered or in-use in other locales. This information will be reviewed with the Project Advisory Committee and edited for the Local Concerns Meeting. The presentation and agenda will include pertinent discussion items such as: existing traffic operations, safety, crash prone conditions, transit, bicycles, pedestrians, etc. The goal is to facilitate an organized solicitation of concerns regarding existing conditions and potential crossing modes and alignments.

The Stantec team shall prepare minutes of the meetings and distribute them to the Project Advisory Committee and the CCRPC Project Manager. Comments received from anyone not present at the meetings such as ones received via the comment section on the project website or other social media platforms, will be attached to the minutes of the meetings. The meeting minutes will focus on the comments received and required action items. Comments will be organized by topic for easy referencing.

**Deliverables:** Meeting agenda, slide presentation, and meeting minutes.

## F. Purpose and Need

Following the Local Concerns meeting, Stantec will develop a draft Purpose and Need statement for this project. Stantec understands the importance of the Purpose and Need statement as it is used to identify and evaluate alternatives and assist in developing the final recommendations. Based on past experience with scoping projects, the needs portion typically points out existing issues revealed during the information collection and local concerns tasks. The Purpose and Need Statement will be distributed to the CCRPC Project Manager and the Project Advisory Committee for review. It will be revised as necessary to obtain consensus from members of the PAC. Once finalized by the PAC, the Purpose and Need Statement will be presented to the Planning Commission for approval.

**Deliverables:** Draft and revised Purpose and Need Statement.

## G. Develop Conceptual Alternatives

**Scope:** In cooperation with City and CCRPC staff, the consultant will identify potential alignment and crossing method alternatives utilizing existing conditions information, the origin/destination study, input from the community, and the purpose and need statement for guidance. The consultant will show potential alignments on the project base plan and develop typical sections for different crossing methods that show basic dimensions and, if applicable, where the alignment could be located within existing road rights of way and easements.

**Approach/Assumptions:** A working session will be held with the PAC to identify alternative alignments and methods. Stantec will summarize all alignments and methods identified in the meeting and conduct a cursory evaluation of all alternatives. The cursory evaluation will be summarized in an evaluation matrix. A meeting will be held with the PAC to review all alternatives and select alternatives that are worth for further development, evaluation, and presentation to project stakeholders and the community for additional input. The cursory evaluation of alternatives will include consideration for the following:

- Purpose and need
- Independent utility
- Future planned developments
- Number of potential users accommodated
- Compatibility with other transportation modes/long-term transportation plans
- Environmental impact
- Engineering and construction cost
- Right-of-way acquisition
- Operations and maintenance cost

Stantec will prepare a narrative summary of reasons for either discarding or selecting alternatives for further evaluation. The summary will be added to the evaluation matrix. Stantec will prepare presentation graphics showing alignments of the alternatives remaining for further consideration. For purposes of preparing a project budget, it is assumed that up to four alternatives will be selected for further development and evaluation.

Once alternatives are analyzed and alternative sketches are developed, Stantec will meet with project stakeholders to solicit ideas, issues, and concerns. Stakeholder comments will be summarized and shared with the PAC.

After stakeholder meetings, Stantec in coordination with the CCRPC and the City will conduct a 2-hour public workshop to review alternatives and solicit ideas, issues, and concerns. After a brief presentation, the workshop will divide into groups that are facilitated by the Stantec Team, CCRPC and City staff as necessary. The group will review the potential alternatives, brainstorm variations and derive what features, elements or improvements are most important to the group. Stantec team members will summarize results and consider the input when making final recommendations (Task K).

**Deliverables:** Agenda and meeting notes with Project Advisory Committee, stakeholder comment summary, draft and revised alternative plans and evaluation matrix, conceptual cost estimate of alternatives selected for public presentation, workshop agenda, presentation and meeting notes.

## **H. Identify Natural and Cultural Resource Constraints and Permitting Requirements**

**Scope:** Review natural and cultural resource issues including wetlands, surface waters, flora/fauna, endangered species, storm water, hazardous material sites, forest land, historic, archaeological and architectural resources, 4(f) and 6(f) public lands, and agricultural lands. Identify potential impacts on these resources and permitting requirements, including the potential for review under Act 250. When possible, documentation from appropriate state and federal agencies (e.g. Agency of Natural Resources, Department of Fish and Wildlife, Army

Corps of Engineers) will be included to summarize the extent to which resources may or may not be impacted. The consultant will identify any permits that will likely be needed for the project.

An estimate of new, redeveloped and existing contributing surface areas will be included as well as an assessment of what will be required to obtain a stormwater discharge permit. An estimate of the area of disturbance that will result from the project will be included to assess the extent of mitigation that will be required under the National Pollutant Discharge Elimination System (NPDES) permit.

Once alternatives have been narrowed down by the PAC, Stantec will reach out to a qualified subconsultant to identify potential impacts that the alternatives have to historic and archaeological resources. For the Historic resources, a reconnaissance-level survey will be performed. For Archaeology, an "Archaeological Resources Assessment" which involves no excavations, will be performed to determine where and how much of a proposed project area has "archaeologically sensitive" land. An estimated budget of \$5000 has been included for this work. The budget will be refined once the study area has been further refined through alternatives development.

**Approach/Assumptions:** The area of identification will be limited to the area shown on the project location plan. The identification method for each resource is as follows:

- Wetlands: Field review, functional assessment and report.
- Archaeological and historic sites/districts: Will be further defined once preferred alternative is selected.
- Air & Water Quality: this task would typically assess the 10-year increase in the Average Annual Daily Traffic (AADT) and the report would note any additional steps needed to address air quality in the instance the 10-year increase in the AADT exceeds 10,000 vehicles as allowed per Memorandum of Agreement with VANR. Given the nature of this project, it is assumed this assessment is not applicable. Regarding adjacent streams, their status of impairment will be noted for consideration for stormwater treatment.
- Noise Sensitive Land Uses: Existing residential and lodging facilities will be noted on the mapping. Given the bicycle and pedestrian nature of this project, it is assumed a noise analysis is not required.
- Fish and Wildlife Habitats: The results of research and field review will be shown on the mapping.
- Endangered / Threatened Species: The results of research and field review will be shown on the mapping.
- Community Character (local aesthetics): Any scenic views and valued aesthetics will be noted on the mapping.
- Socio-economic Characteristics: Local and regional plans will be reviewed and pertinent portions noted.
- Agricultural land: The results of research and field review will be shown on the mapping.
- Land and Water Conservation Funds lands (Section 6(f)): Stantec will review the latest listing posted on the relevant websites and any lands will be noted on the mapping.

- Public and Recreation Land (Section 4(f)): Based on field review and input from communities, these lands will be noted on the base mapping.
- Stormwater: Impervious areas will be estimated and potential stormwater treatment, evaluation and summary or permits and regulations will be completed.

**Deliverables:** Results of field and research reviews to be incorporated into existing conditions.

## I. Identify Right-of-way

**Scope:** Compile right-of-way and property ownership information along the alignment of the proposed project. This information should identify public/private ownership and any existing easements or restrictions (e.g. Act 250 permits) on affected property. Right-of-way information will be mapped on the same base mapping as the existing conditions.

**Approach/Assumptions:** Stantec will provide the existing and offered easements rights-of-way by performing a cursory research of City records and tax mapping. Research will not be completed to the level required to meet Federal Highway Administration (FHWA) requirements at this time. The intent of the research is to understand approximate ROW impacts if the project were to be constructed. It is not intended to develop exact square footage calculations of easements or land acquisitions. The City will provide the names of the property owners in the project area. Stantec will include this information on the plans.

**Deliverables:** Documentation of research and right-of-way for base map.

## J. Identify Utility Conflicts

**Scope:** Identify and discuss all public and private underground and overhead utilities (water, sewer, fiber optics, electric, TV, cable, phone) in the project area. Include a preliminary assessment of whether any relocation will be required and indicate if the relocations may occur outside of the existing Rights of Way. For underground utilities, an assessment should be made of whether they will be impacted by construction of the proposed improvements. The assessment will include identification of owners of potentially impacted utilities.

**Approach/Assumptions:** Stantec will provide a project plan to area utility companies asking for what existing facilities or proposed expansion or relocation plans they have in the project area and request any location information and condition information they have. This information along with the aerial line information will be shown on the plans (Task B). Impacts to existing facilities will be identified and summarized.

**Deliverables:** Summary of utility impacts.

## K. Alternatives Evaluation

**Scope:** The proposed alternatives presented to the community, including the no build alternative, will be evaluated and the results summarized in a final alternatives matrix. The matrix will include transportation impacts (traffic, bike and pedestrian), resource impacts, right-of-way impacts, utility impacts, ability to meet the project purpose and need, estimated cost and any other factors that will help the community evaluate the alternatives being considered. The socio-economic impact or benefit of alternatives will be noted. Stantec will meet with the PAC to review the alternatives and develop final recommendations for City Council consideration.

**Approach/Assumptions:** A draft will be developed and provided by Stantec to the PAC for review prior to meeting with the PAC. Comments will be incorporated for the subsequent presentation to the City Council. The provided information will also include a draft scoping report describing the project, existing conditions, and alternatives.

**Deliverables:** Project Advisory Committee meeting. Project Advisory Committee recommendation on preferred alternative, evaluation matrix, and draft scoping report.

## **L. Develop Preliminary Cost Estimates**

**Scope:** The consultant will develop preliminary cost estimates for further planning, design, construction and maintenance cost of the final alternatives. Cost estimates shall include preliminary bid item quantities. Per foot or lump sum costs will not be an acceptable substitute. The long term alternatives estimates will be based on the assumption that the project will be constructed using a combination of Federal and local funding and will be managed by the local community. The cost estimates will include amounts for construction, engineering, municipal project management and construction inspection.

**Approach/Assumptions:** Stantec will utilize the VTrans Estimator database and recent bid results to develop a cost estimate for the recommended improvements. Cost estimates prepared to compare alternatives will be order of magnitude estimates and will not be carried out to the same level of detail as the recommended improvements cost estimate. The cost estimate will be conducted in tandem with the Alternatives Evaluation and be presented to the Project Advisory Committee as part of the alternatives matrix at their meeting under Task K.

**Deliverables:** Cost estimates for alternatives.

## **M. Final Recommendations Presentation**

**Scope:** Stantec, City and CCRPC staff will present the final recommendations to the City Council. The outcome of this meeting should be approval of the recommendations by the City Council.

**Approach/Assumptions:** The presentation is planned to be in PowerPoint format.

**Deliverables:** Presentation in PowerPoint format and meeting notes from alternatives presentation

## **N. Report Production**

**Scope:** Using information gathered from the activities outlined above and from the meetings with the City and CCRPC, submit draft and final scoping reports outlining the findings of the study.

**Approach/Assumptions:** It is proposed the report sections be developed as the work is completed. For instance, the Existing Conditions sections and Proposed Alternatives section will be completed prior to the public workshop to review alternatives. This will allow a draft document to be used to update parties interested on the project status. It will also facilitate input on alternatives.

## O. Project Team

The proposed Stantec Project Team includes:

Gregory Goyette, PE – Project Manager  
 Chris Gendron, PE – Project Engineer  
 Sean Neely – Staff Engineer  
 David DeBaie, PE – Senior Traffic Engineer  
 Polly Harris, Environmental Specialist  
 UVM Archeology and Hartgen Archeological Associates – Archeology and Historic  
 Vermont Survey and Engineering – Survey, Base Mapping, and Utilities

## 3 SCHEDULE

The following schedule milestones are proposed for the study. Exact dates may vary based on PAC and Stakeholder availability and regular City Council schedule.

September 6, 2016:	Meet with City and CCRPC to identify PAC/Stakeholders
September 6-September 9:	Meet with UVM TRC to discuss available data
September 17:	Draft Existing Conditions Summary and Project Base Map completed
September 19-24:	Meet with PAC to review Existing Conditions Summary
September 26-30:	Update Existing Conditions Summary
October 3-7:	Meet with Stakeholders to review existing conditions
October 17-21:	Local Concerns Meeting
October 28:	Draft Purpose and Need Statement submitted to PAC for review
November 4:	Final Purpose and Need Statement completed
November 7-11:	Present Purpose and Need Statement to Planning Commission
November 14-18:	Working meeting with PAC to identify initial alternatives
December 12-16:	Meet with PAC to review and finalize alternatives for public presentation
January 25-29, 2017:	Meet with PAC to review alternatives prior to public workshop
February 15-19:	Meet with project stakeholders to review alternatives
February 22-26:	Public workshop to review alternatives
March 18:	Final recommendations submitted to PAC
April 4-8:	Present final recommendations to City Council
April 22:	Final report submitted to City and CCRPC

## 4 TASK / LABOR ITEM / COST

The task labor hours estimate can be found on the following pages.