1 Project Understanding

The City of South Burlington, with assistance from CCRPC, is seeking to develop conceptual designs for the Spear Street and Swift Street intersection. This will inform future investments as development occurs in South Burlington. The City recently completed the Pedestrian and Bicycle Feasibility Study, which identifies a preferred alternative for the Spear Street corridor including both a shared use path and bike lanes. The transition from shared use path to bike lanes occurs at the Spear Street & Swift Street intersection, with the shared use path on the north leg of the intersection connecting to the existing path on Swift Street and planned bike lanes on the south leg of Spear Street. While the feasibility study recommended some improvements like narrowing curb radii at Spear Street & Swift Street, this feasibility study will consider additional alternatives such as a roundabout or new alignments that will be compatible with planned bicycle and pedestrian facilities, and ultimately improve pedestrian, cyclist, and vehicular safety at the intersection.

The following are the desired outcomes of this project:

- Identify alternative configurations of the intersection of Spear Street & Swift Street that improve pedestrian, cyclist, and vehicular safety at the intersection.
- Develop conceptual designs and cost estimates to allow South Burlington to make future infrastructure decisions at the intersection.
- Integrate public input from area stakeholders and the community at large with previously conducted feasibility studies to identify alternatives that serve the needs of drivers, cyclists, and pedestrians.

The project will be managed by CCRPC and overseen by a technical committee including:

- Sai Sarepalli, Senior Transportation Planning Engineer, CCRPC
- Paul Conner, Director of Planning & Zoning, City of South Burlington
- Justin Rabidoux, Public Works Director/City Engineer
- Others as CCRPC or City staff may recommend

2 Project Approach

DuBois & King proposes the following scope for the Spear Street and Swift Street intersection feasibility study:

2.1 Project Management & Administration

2.1.1 Kick-off Meeting

DuBois & King will meet with the Project Team to:

- Review the final scope of work, schedule and deliverables.
- Identify project goals
- Confirm study area and planned projects

2.1.2 Technical Committee Meetings & Coordination

D&K will meet virtually 3-4 times with the Host Committee (To be designated by South Burlington) at key intervals to present milestone deliverables. This would likely include a presentation of existing conditions, an alternatives discussion and a presentation of final draft alternatives. Additionally, we will communicate regularly with CCRPC and City of South Burlington staff.

Deliverables: Final Scope of Work, Project Schedule, meeting notes

2.2 Existing Conditions Analysis & Data Collection

2.2.1 Develop GIS Map.

CCRPC will provide D&K with base mapping that will include available natural, historical and cultural resource information. This includes:

- Wetlands and water quality
- Flood Hazard & River Corridor Areas
- Historic Sites and Archeological Resources (if available)
- Section 4(f) (e.g. Land and Water Conservation Fund Lands, Public Recreational Land)
- Fish and Wildlife
- Endangered/Threatened Species/Unique Natural Areas
- Agricultural Lands
- Hazardous Waste Sites
- Existing Public Infrastructure (power, stormwater, etc.)
- Rights of Way

2.2.2 Land Use Context

D&K staff will identify and review existing transportation and land use context and patterns.

2.2.2.1 Site visit.

Conduct a site visit to assess and photograph existing conditions on the road and intersection. This will include existing roadway widths, bicycle and pedestrian infrastructure, and geometry, grades, overhead and subsurface utilities, signing, drainage systems, transit routes and stops.

2.2.2.2 Traffic Data.

D&K will obtain recent and historic traffic counts from CCRPC, including turning movement counts. Review traffic history and growth trends and review crash data. The CCRPC or City of South Burlington will provide D&K with the existing signal timing at the Swift Street and Spear Street intersection.

2.2.2.3 Land Use

D&K will work with the City of South Burlington to understand the land use context of the surrounding area and how it interacts with the project area. We will review local and regional plans for relevant information and identify areas with planned or potential development.

2.2.3 Constraints Analysis

Our objective will be to identify constraints and potential permitting requirements early in the project development process so they can be considered in the alternatives analysis, timeline and cost estimates. Using data collected during the development of the GIS map, D&K will identify potential impacts to:

- Private properties outside of existing available rights of way
- Utilities or infrastructure located within the project area
- Natural resources within the project area

These impacts will be considered as part of the Alternatives Analysis. Note that property boundary surveys will not be conducted to precisely identify property limits, and utilities will not be geo-located.

Deliverables: Base maps, identifying existing natural & cultural (based on available GIS data) resources and constraints.

2.3 Public Engagement

Public engagement is essential to understanding the project area, who is using it, and how. In light of COVID-19, D&K proposes to use an online engagement strategy. Public engagement will focus on understanding the community's experience with the Swift Street and Spear Street intersection as well as specific aspects of the intersection that make people walking, bicycling, or driving feel unsafe.

Dubois & King will partner with CCRPC to guide and implement the public engagement process. CCRPC's role will be to organize and facilitate in-person/virtual meetings (Local Concerns & Alternatives Presentation) with assistance from South Burlington Staff. D& K will provide the following assistance:

2.3.1 Project StoryMap and Online Survey

D&K will create an ArcGIS StoryMap for public engagement that gives background on the project including planned projects and constraints that the project team identifies. The StoryMap will also invite the community to give feedback and share their perspective through an online survey. This input, as well as input collected at the Local Concerns Meeting, will be used to develop the project's Purpose and Need statement.

2.3.2 Purpose and Need

DuBois & King will prepare a draft Purpose and Need Statement for the project. This statement will clearly define the goals and rationale for this study, which will be used as the basis for evaluating the proposed alternatives. The statement will be submitted to the Town and CCRPC for review and comment, which will be revised as appropriate in the final Purpose and Need Statement.

Deliverables: GIS StoryMap, online survey template, Purpose and Need Statement

2.4 Alternatives Development and Analysis

2.4.1 Develop Alternatives

D&K will work with the City and CCRPC to identify up to three potential alternatives which address the Purpose and Need Statement. These alternatives will address intersection geometry and layout, traffic circulation and safety, as well as planned connections for cyclists and pedestrians. Alternatives will incorporate input from the Local Concerns Meeting, the City, CCRPC and any other stakeholder input collected. Each alternative will be designed to meet applicable State and Federal requirements, as well as those of the Americans with Disabilities Act (ADA), where appropriate. If Right of Way issues are identified, CCRPC may lead direct landowner outreach to discuss potentially impacted landowners.

2.4.2 Develop Preliminary Cost Estimates

Construction cost estimates will be prepared for the alternatives based on conceptual designs, using information and costs for similar projects, or VTrans pay items. Quantities will be computed for each item using conceptual alignment alternatives. Unit prices will be obtained from the most current edition of the VTrans Unit Price for preliminary engineering estimates. In addition to construction costs, estimates will include project management, engineering, construction inspection and utility/infrastructure relocations.

2.4.3 Alternatives Online Survey

Once Alternatives have been developed (see task 2.4.1, Develop Alternatives), D&K will utilize the project's StoryMap to develop an alternatives evaluation matrix and present alternative concepts to the community. The StoryMap will invite the community to comment and share their preferences, which will inform the alternatives evaluation.

2.4.4 Refine Alternatives

Based on recommendations from the project team and public input, we will develop recommendations for a preferred alternative. We will hold a meeting with CCRPC and South Burlington staff to review and discuss a preferred alternative.

Deliverables: Three alternative concepts, Story Map with alternatives, Evaluation Matrix and preferred alternative.

2.5 Final Report

D&K will compile the results of all tasks and prepare a draft report. The report will summarize the methods and results of previous tasks, and recommend a preferred alternative. It will also suggest refinements to the conceptual design to be addressed during future design phases, as well as any unresolved issues.

We will submit an electronic copy of the draft version of the Report to CCRPC and South Burlington for review and comment. Upon receipt of all review comments D&K will revise the draft report as is appropriate, and prepare a final Report. D&K will submit an electronic copy of the Final Report to the Town and CCRPC as well as any new data developed via GIS or CADD. D&K will also provide the ArcGIS StoryMap content to the CCRPC.

Deliverables: Final Report, GIS and/or CADD files, traffic analysis files