Scope of Work

Route 116/Hinesburg Growth Center Corridor Study

Town of Hinesburg and CCRPC

Project Approach and Understanding

Route 116 through Hinesburg had seen substantial changes in the past 15 years, including land development focused in the village growth center, increases in through-traffic volumes due to growth and development south of the village, and several intersection improvement projects to address safety issues. This corridor study will be a comprehensive evaluation of Route 116 through Hinesburg's growth center, and include all modes of transportation. It will examine the opportunities for accommodating planned village growth and addressing current traffic congestion through enhancements in street connectivity. It will also seek opportunities to maximize alternate modes of transportation, and provide more efficient alternate routes for local circulation.

This study will be closely coordinated with CCRPC's modeling staff, who will be developing a corridor simulation model using TransModeler software, an extension to the CCRPC TransCAD regional model. We understand that CCRPC staff will set up a corridor model of the study area to evaluate traffic flow and operations, including measures that may include corridor travel times, levels of service, volume-to-capacity ratios, VMT and VHT. We also understand that CCRPC is in the process of collecting turning movement counts this spring, so that a complete set of counts is assembled before the initiation of a resurfacing project in the study area, scheduled to begin in May 2013.

Task 1: Study Initiation and Administration

The project management team will include representatives from the Town of Hinesburg, CCRPC and D&K. In addition, a steering committee with representatives appointed by the Town of Hinesburg will be convened to guide the study.

Task 1.1 Study Kick-off Meeting

D&K will organize and attend a kick-off meeting with the Steering Committee to discuss the study objectives, schedule, confirm study approach, corridor conditions and issues, and other related considerations.

Task 1.1 Deliverables:

- Summary meeting minutes will be prepared and distributed.

Task 1.2 Ongoing Project Management

D&K will conduct ongoing management tasks throughout the project duration, including:

- Preparation of progress reports detailing work accomplishments for the reporting period, budget status, schedule status, outstanding issues and action items, overview of upcoming work.
- Biweekly (typically) project coordination conference calls between the Consultant project manager, CCRPC and others as appropriate.
- Provide overall direction and coordination to the consultant team, monitoring work progress and budget, facilitating team communication, assigning staff, overseeing technical work, and implementing quality control.

Task 1.2 Assumptions:

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

Task 1.2 Deliverables:

- Invoices and progress reports.
- Summary notes of project coordination conference calls.

Task 2: Public Involvement

The Public Involvement Plan is designed in the spirit of the CCRPC's Public Participation Plan. The plan is predicated on an effective public involvement and outreach campaign that involves transportation stakeholders and the broader public early in the process, checks in with them frequently, and then supports an outreach effort to present the final plan. The intent of the public involvement effort is to foster a spirit of inclusiveness and ownership of the Corridor Study that will provide a strong foundation for the Town of Hinesburg through the implementation phases ahead.

The public involvement plan includes four primary elements:

- A Study Steering Committee comprised of representatives of interested agencies and organizations.
- Meetings and coordination with the municipality's Planning Commission and Board of Selectmen.
- Website with study information and notices (hosted by CCRPC, with materials to post provided by D&K).
- Public Meetings at key project milestones

Task 2.1: Steering Committee Meetings

D&K will attend and take meeting notes for four (4) Steering Committee Meetings. Meeting notes, once reviewed and approved by the Town of Hinesburg and CCRPC, will be posted on the project website.

With input from the first Steering Committee meeting, the Consultants will further refine the Public Involvement Plan for this project, including meeting dates and locations, meeting format design, website design, and publicity efforts.

Steering committee meetings are expected to correspond to the following project activities:

- Study initiation, study goals (tasks 1). This will include a review of Hinesburg's plans for its growth center 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 (tasks 3 and 4).
- Potential strategies and evaluation process (tasks 5.1 and 5.2).
- Evaluation results and Draft recommendations (task 5.3).

Task 2.1 Assumptions:

- Steering Committee meetings will be scheduled in coordination with other meetings (public meetings, agency briefings) to the extent practical.
- CCRPC or project municipality will provide suitable meeting locations.

Task 2.1 Deliverables:

- Meeting materials.
- Summary meeting minutes prepared by the Consultant.

Task 2.2: Meetings and Coordination with Local Boards

D&K will attend two (2) meetings of Hinesburg's Planning Commission or Board of Selectmen, which will be advertised to the public, to provide updates on the study and solicit input. The first 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 and draft study recommendations. In addition, D&K will coordinate and attend meetings with VTrans at the same key points in the project to obtain their input, and assure that our analysis methods will address their needs and concerns.

Task 2.2 Deliverables:

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

Task 2.3: Project website

The bulk of information exchange will occur via the project website, linked to and hosted by the CCRPC site. The site will feature, at a minimum, project information including background reports, Steering Committee information and meeting notes, public meeting notices and notes, and a link to send comments, questions, and concerns to the project team. This information will be posted for others to

view (as long as it is project-related). This information will also be captured for inclusion in the final study report.

Task 2.3 Assumptions:

- D&K will work with CCRPC staff to develop the website template and content, which will be provided to CCRPC for hosting.

Task 2.3 Deliverables:

- Website template and content.

Task 2.4: Public Meetings

Public meetings are important to this project as a way to gather input from and disseminate information to area residents, businesses, and other stakeholders. Hinesburg has several ongoing projects that have included public meetings, in particular the recent growth center visioning process, funded with a municipal planning grant. Because of this high level of recent public engagement focused on the growth center, it is appropriate to have two public meetings for this project rather than three. These meetings will be held to correspond to the following key study milestones:

- Public Meeting #1 (Workshop format summarizing the Study Introduction, Corridor Issues, Existing Conditions, and focusing on Vision and Goals and Identification of Strategies).
- Public Meeting #2 (Presentation and comment on Draft Plan).

Task 2.4 Assumptions:

- D&K will secure a site for the meetings (working with CCRPC and the municipality), welcome attendees upon entry, provide sign-in sheets, comment sheets, arrange audio/visual needs, and set up refreshments.
- Meeting agendas and materials will be prepared by D&K and submitted to the CCRPC Project Manager no less than one week in advance of the meetings for approval.
- D&K will develop publicity materials including press releases, post card mailings, calendar listings and/or articles in the newspaper and in the electronic media. D&K will work with CCRPC and the municipality to use a variety of creative means to spread the word, including listings in the Front Porch Forum, distributing flyers, and posting an announcement on the project website.
- D&K will create and maintain a database of all stakeholders, participants, and those who express interest in the project for ongoing publicity.

Task 2.4 Deliverables:

- Meeting agendas and materials (handouts, displays, etc. as appropriate).
- Meeting notes in electronic format and other formats requested by participants. Per Vermont Open Meeting Law, meeting notes will be available on the project website within five days following the meeting.
- Comment sheets with response to each comment.

Task 2.5: Public Involvement Documentation

D&K will prepare and produce a detailed report with background information that includes a summary of the Public Involvement Plan process 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 2.5 Deliverables:

- Appendix to the final Study Plan (task 6) detailing public involvement efforts

Task 3: Existing and Future Conditions Assessment

Task 3.1 Collect Background Information

D&K will collect available relevant information from CCRPC, the municipality, and VTrans. Such information will include the following (as available):

- Relevant municipal, regional, and state transportation plans, projects, and studies (digital format where available). These will include, but not be limited to, the following:
    - Hinesburg Village Transportation Study - 1998
    - Route 116 Corridor Study (D&K) – 2004
    - West Side Road Feasibility Study – 2004
    - Crosswalk Study - 2004
    - Hinesburg Center Road Feasibility Study – 2005
    - Park and Ride Scoping Study – 2006
    - Hinesburg VT 116 Sidewalk Feasibility Study – 2006
    - Road Safety Audits -2008
- GIS data, including layers depicting land use, parcel boundaries, right-of-ways, easements, transportation, environment and infrastructure data.
- Available aerial photography of the corridor.
- Other available mapping and channelization plans (electronic format when available).
- Most recent Average Daily Traffic (ADT) volumes and intersection turning movement counts (AM and PM peak hours).
- Most recent VTrans High Crash Location report and related crash data.
- Traffic signal timing plans (where not included in available Synchro network).
- Existing traffic operations models (e.g. Synchro).
- Information relating to planned and permitted developments in the corridor.
- Relevant transit route maps and schedules.
- Information on the hydrology and water quality of the study area and surroundings, to include the following:
    - stormwater infrastructure

- impervious surfaces
- hydrology and water quality data, and
- geomorphology of the LaPlatte watershed in the study area.

Task 3.1 Assumptions:

- Mapping data will be provided in ArcMap GIS or AutoCAD compatible formats, as applicable.
- D&K will download requested information from agency websites as available, while CCRPC and other agencies will provide data that is not published online.

Task 3.2 Corridor inventory

D&K will conduct an inventory to complete data collection for existing corridor conditions. The inventory will supplement data collected under task 3.1, 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. D&K will also characterize land uses, urban form and development activity along the corridor as part of the inventory.

Task 3.2 Assumptions:

- D&K will conduct one field visit and will additionally rely on aerial photography to complete the corridor inventory.

Task 3.3 Existing Conditions Traffic Operations Analysis

D&K will closely coordinate with CCRPC staff to evaluate existing traffic operations at key intersections during weekday AM and PM peak hours. It is anticipated that TransModeler, run by CCRPC staff, will be the primary tool to evaluate traffic operations and develop performance measures. D&K will provide supplementary traffic operations analysis where appropriate using Synchro software (version 7), in order to develop intersection levels of service (LOS), delay and queuing. This will be useful to provide documentation to VTrans on the comparison between TransModeler and Synchro results.

A supplemental scope of work for traffic operation analysis will be provided by CCRPC staff.

Task 3.4 Future Baseline Conditions Traffic Operations Analysis

Development of the future traffic baseline conditions should be preceded with a review of the land use forecasts for the Route 116 corridor area with the Town, and potentially the project steering committee, in order to confirm that the model's land use forecast represents an appropriate scenario for this study. CCRPC will run the regional model with this forecast, and link to TransModeler for detailed operations and performance analysis. Traffic operations for future baseline conditions will be assessed in a manner consistent with task 3.3.

Task 3.4 Assumptions:

- The forecast year will be a mutually agreed upon by the Consultant and CCRPC, and will likely be the Travel Demand Model forecast year.
- The future baseline traffic volumes will be developed by CCPRC using the regional travel demand model, and brought into TransModeler for detailed operational analysis and simulation. The volumes will also be provided to D&K for use in supplemental traffic analyses.

Task 3.5 Existing and Future Conditions Evaluation

D&K will assess current and anticipated future corridor conditions based on the information gathered under task 3. The assessment will focus on the following topic areas:

Existing Conditions

- 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 travel 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 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 AM and PM peak hours, including TransModeler (by CCRPC) and supplemental Synchro/SimTraffic (by D&K) 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 municipality and Chittenden 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 transit services.
- -Assess study area and develop recommendations from a hydrologic perspective of areas to preserve, and areas where development 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 that would result from the envisioned street network.

Future Conditions

- 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.

- Network improvements Hinesburg's mapped road network, to be built out as land development occurs, will be analyzed in the future conditions. TransModeler will be used to assign traffic to the new network, and test alternatives.
- Traffic operations – Forecast traffic volume and traffic operating conditions during the AM and PM peak hours for future baseline conditions.

Task 3.5 Deliverable:

- Digital (pdf) draft Existing and Future Conditions chapter of Corridor Report. The final version of this document will be incorporated into the Corridor Concept Plan (task 6).
- Materials (handouts, display boards, or similar) describing existing conditions in summary will be prepared to support public meeting #1 (task 2.4).

Task 4: Corridor's Vision, Goals and Strategies

The corridor's needs will be assessed based on discussion with the steering committee, public and stakeholder input, the municipality, and previous studies.

Task 4.1 Identify Study Vision and Goals

D&K will work with the Steering Committee 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 Town of Hinesburg to plan and layout the village growth center, and be informed by recent activities such as the Visioning study.

Task 4.1 Deliverable:

- Digital (pdf) draft Study Vision and Goals statement.

Task 4.2 Identify Corridor Issues

D&K will prepare a listing and brief description of identified corridor issues based on the Existing and Future Conditions Assessment (task 3) and community outreach. 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.
- Transit.
- Access and parking.
- Contextual relationship with neighborhoods and environment.
- Water quality and hydrologic issues that will be affected by development.
- Plans for growth and development, and their impact on local and commuter traffic.

Task 4.2 Deliverable:

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

Task 4.3 Develop and Evaluate Strategies

D&K will develop candidate improvement strategies to address the issues of concern identified under task 4.2. These strategies will be reviewed and refined with participation from the Steering Committee and input received through the public involvement process (Task 2). 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 and changes at locations such as the Cheese Factory site and the proposed Hannafords store.
- Completion of the planned West Side and Center Street corridors.
- Traffic operational improvements, including changes to traffic control (signals, signage, etc.).
- Physical changes to the roadway cross section or channelization.
- Changes to or establishment of nearby connecting or parallel street segments.
- Changes to policy or development standards (e.g. – access management, complete streets policies, parking regulations, etc.).
- Pedestrian accommodations, including sidewalks, street amenities, crossing improvements.
- Bicycle accommodations, including crossings.
- Transit access improvements, such as bus shelters, pedestrian access.
- Urban design and contextual elements, including innovative stormwater management practices.
- Additional concepts from previous studies that are worthy of consideration.

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.

Task 4.3 Assumptions:

- Concepts 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 5: Evaluate and Prioritize Strategies

Task 5.1 Develop Evaluation Process and Criteria

Building from the Vision and Goal statement developed under task 4.1, D&K will develop an evaluation process with participation from the Steering Committee 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 (VTrans, FHWA, Town of Hinesburg) 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*. We anticipate that this will be a multimodal evaluation, that will provide an assessment of conditions for all the street users, and will also consider the compatibility with Hinesburg's growth center plan and vision. This evaluation will also use measures that consider the performance of the entire street network of the growth center, enabled by the use of TransModeler.

We will also assess alternative strategies in terms of potential water quality impacts, based on impervious surfaces, and potential development patterns (i.e. it will not just be the street network but the type of development the network would support that will have water quality impacts). This will use GIS and develop indicators to provide an understanding of the relationships between the street network, development patterns that are supported by them, and options for addressing stormwater.

Task 5.1 Deliverable:

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

Task 5.2 Evaluation and Selection of Recommended Actions

D&K will evaluate the candidate strategies using the evaluation framework developed under task 5.1. Initial evaluation results will be discussed with the Steering 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, Steering Committee, and public involvement efforts. D&K will also work with the Steering Committee to prioritize recommendations in terms of near, medium and longer term actions.

This task will also likely require modeling of additional scenarios with TransCAD and/or TransModeler, in close coordination with CCRPC. Strategies such as the addition of new street connections and intersection improvements should be tested with TransModeler, and confirmed if necessary with Synchro. If options such as roundabouts are considered, D&K will provide traffic operations analysis using aaSIDRA.

D&K will finalize descriptions, graphical depictions (i.e. – maps, plan views, cross sections) as appropriate for the recommended actions, which will be presented to the public at the third public

meeting and detailed in the draft corridor plan. The recommendations will also include options for addressing stormwater management using innovative practices that will be appropriate for the study area's current and future context.

D&K 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 available from VTrans. Costs will not include anticipated ROW acquisition costs, though approximate potential ROW impacts will be identified based on available ROW and property line information.

Task 5.2 Assumptions:

- Cost estimates will be prepared for major recommendation elements (up to 10 items). 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).

Task 6: Corridor Plan

Task 6.1 Draft Corridor Plan

D&K 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 and visualizations, 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 6.1 Assumptions:

- The Draft Corridor Plan will be submitted four (4) or more weeks prior to the third public meeting (task 2.3)

Task 6.1 Deliverables:

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

Task 6.2 Final Corridor Plan

D&K will prepare the Final Corridor Plan, which addresses comments received on the Draft Plan.

2.2

Task 6.2 Deliverables:

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