Town of Essex
Transportation Action Grant:
Susie Wilson Road
Corridor Improvement Plan
and
Financing Options

March 23, 2010

Prepared in Association with
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Susie Wilson Road Corridor Improvement Plan & Financing Study

This report was developed for the Town of Essex by VHB Pioneer as part of the Town's Transportation Action Grant (TAG) project funded by a grant from the Chittenden County Metropolitan Planning Organization.

Executive Summary

The Susie Wilson Road Corridor Improvement Plan and Financing Study represents an updated list and cost estimates of measures recommended by the Town of Essex to improve both access management and capacity in and through the corridor from VT Route 15 to the intersection with Kellogg Road and the Circumferential Highway. This report is part of a series of studies undertaken through a Transportation Action Grant (TAG) from the CCMPO that identifies ways for the Town to link innovative funding and planning strategies to the transportation improvements required to support the goals and needs of the Town of Essex.

The Susie Wilson Road corridor, as both a hub for local businesses and a through road for substantial commuter traffic, requires investments both to improve capacity and enhance access management. This study updated a 1995 report to reflect the current status of improvements in the corridor; recommends several new improvements; provides updated cost estimates for all improvements; and evaluates a number of alternative financing strategies that may, in combination and over time, be implemented to fund and carry out the improvement plans. The recommended capacity and access management improvements, and associated estimated costs, are:

Finally, the Financing Analysis for the corridor has evaluated different methods of helping the Town fund these required improvements. The Analysis recommends consideration of a Special Assessment District wherein all properties and new development would contribute a share, proportional to the taxable value of the property, of financing the cost of these improvements. This District could be combined with other methods such as development-related traffic mitigation or annual contributions by the Town to ensure that the improvements are funded and carried out over time. The analysis also suggested that as an alternative, the Town may consider assessing a Development Impact Fee per new, additional vehicle trip end (VTE) for all uses in the corridor, in a manner similar to the VTE fee assessed on new development and redevelopment in the Essex Town Center area.
1. Introduction

1.1 Purpose of the Report

The Town of Essex commissioned the Susie Wilson Road Corridor Improvement Plan and Financing Study in order to update the descriptions and cost estimates for recommended roadway and access management improvements, and to evaluate different options for funding these improvements.

Susie Wilson Road (Figure 1, Location Map) is both a crucial transportation link and commercial artery in the Town of Essex, Vermont. Connecting VT Route 15 with the Circumferential Highway (I-289), Susie Wilson Road acts as a significant commercial corridor, a local collector for residential and traffic from the neighborhoods flanking it to the north and south, and as a through road for commuter traffic coming from the Circ Highway to Route 15, which is a major commuter conduit into Winooski and Burlington. Susie Wilson Road is the access point for several shopping centers, lodging properties, and commercial parks, with a substantial concentration of employment and economic activity along both sides and on adjacent Kellogg Road (Figure 2, Land Use).

Any time a roadway serves multiple functions and relatively large traffic volumes as Susie Wilson Road does, conflicts will occur between accommodating through traffic, and accommodating and supporting local traffic. To deal with these types of conflicts, upgrades to the transportation system must address both access management issues, such as limiting curb cuts and reducing turning-movement conflicts, and also capacity, improving the roadway’s ability to move the anticipated volumes of traffic through the corridor. These two types of improvements require different approaches to funding. While capacity improvements can be funded in part through impact fees and can be eligible for State or Federal transportation funds, access management improvements typically cannot be funded with these sources. More often, these projects are accomplished as parcels are developed or redeveloped, or through local bonding or budget initiatives.

This report was intended to link the suite of access management and capacity improvements needed for Susie Wilson Road to a variety of potential funding strategies that might, in combination and over time, be sufficient to carry out these improvements. The report explored both conventional and less typical approaches to funding, including the potential to create different types of geographically-based or development-based fees in combination with other sources. The recommendations of this report are intended to help the Essex Select Board and Town staff in evaluating options and choosing the best combination of approaches to begin implementing the improvements needed in the Corridor.
Figure 1: Location Map

March 23, 2010

Legend
Parcel Boundary
1.2 Corridor Improvement Update Process

This study included a targeted update of the 1995 Susie Wilson Road Corridor Improvement Study prepared by Lamoureux & Dickinson. A number of the corridor improvements identified in that study have been completed, notably improvements to the Susie Wilson Road/VT Route 15 intersection and installation of new signal systems through much of the corridor. Improvements still needed that were in the 1995 study include completing the signal system, and installation of a jughandle turn at the Susie Wilson Road/Kellogg Road intersection. This update recommends several new cross-parcel connections (Figure 3, Recommended Improvements) that would improve access management (and to a limited extent capacity) by providing secondary routes for traffic moving between the businesses and shopping centers that front on Susie Wilson Road.

1.3 Funding Options

Based on an analysis of the needed roadway improvements and the existing and expected development in the Susie Wilson Road corridor area, this study concluded that the best option for locally-based, equitable financing would be a Special Assessment District to fund the Susie Wilson Road improvements. Three options for a financial formula for the Special Assessment District were examined: one based on the floor area of enclosed building space on each property; one based on the total assessed value of each property; and one based on the assessed value of structures on each property. Each has its own strengths and weaknesses. The analysis is described in Section 3 of this report.

The report recommends that the Town consider either the use of a Special Assessment District based on the assessed value of the structures in the Susie Wilson Road corridor area, with credits given for prior payments or contributions to roadway improvements; or the use of a vehicle trip-end based development impact fee that would be assessed for projects that have obtained approval to increase the projected number of vehicle trip ends coming to a property within the corridor area.

1.4 Companion Studies

As part of the Transportation Action Grant from the Chittenden County Metropolitan Planning Organization (CCMPO) which funded this study, the Town of Essex also commissioned a Lighting Plan for Susie Wilson Road, an update of the Town’s recreation path impact fee, an evaluation of the Town’s policies and costs related to new development on gravel roads, and an update of the improvement plan and recommended impact fee for the Essex Town Center area at the junction
of VT Route 15 and the Circ Highway. Like this Susie Wilson Road study, each of these companion studies is intended to provide an action plan for transportation improvements.

The Town Center Impact Fee Update looked at the status of traffic improvements, the remaining development potential at the center, and recent approvals to determine whether an impact fee adjustment was warranted. The evaluation concluded that unless and until the Town makes significant changes in the zoning and plan for the area that would substantially increase the densities and development patterns in the Town Center area, the current fee and recommended list of traffic and transportation improvements should continue to be applied.

The Lighting Plan recommends a series of improvements to the corridor’s existing lights, including the addition of several lights and a changeover of all lights to a Light Emitting Diode (LED) fixture, in order to improve traffic and pedestrian safety, increase lighting uniformity, and enhance the corridor’s appearance. In 2009, the Town secured American Recovery and Reinvestment Act (ARRA) funding to begin the recommended lighting improvements. The remaining costs associated with completing the Lighting Plan are included in this report. As part of the lighting plan, a series of recommended zoning strategies and amendments were provided to the Planning Commission for their consideration, to provide enhanced management of lighting as new development and redevelopment occur.

The Recreation Path Impact Fee study evaluates the Town’s current and planned levels of service (expressed in terms of the number of miles of constructed path per 1,000 residents), and recommends a traditional impact fee be imposed to support completion of additional recreation path projects. This action would require Select Board adoption of a revised impact fee ordinance in order to implement the fee.

Finally, the Gravel Road Fee Analysis evaluates the financial impact to the Town of Essex of additional residential development off of the Town’s network of gravel roads, and evaluates different ways that the Town could assign a share of that cost to new development. This is a unique evaluation and considers the transportation function of different gravel roads in Essex; the traffic impact of introducing new residential developments with access onto gravel roads; the ongoing cost to the Town both to maintain gravel roads in a serviceable condition, and to pave segments of gravel roads; and different methods of assigning a share of the future public cost to new residential units.
2. Corridor Improvement Plan Update

VHB Pioneer has updated the 1995 Susie Wilson Road Corridor Improvement Study, prepared by Lamoureux & Dickinson Engineers, to reflect work completed to date on the identified improvements, the status and updated cost of identified improvements that have not been completed, and the potential scope and cost of additional improvements that could support better access management and traffic improvements.

Five prospective improvements are recommended, with a total estimated cost in 2009 dollars of $445,000:

1. Connector between the Recycling Center and adjacent bank
2. Connector between Morse Drive and David Drive
3. Connector between Ewing Drive and the Lowe’s
4. Kellogg Road intersection improvements
5. Connector between David Drive and the Bagel Market

In addition, the Lighting Study for the corridor recommends three actions to improve lighting conditions, visual quality, and traffic safety in the corridor: Replacement of all Town- and Green Mountain Power-owned light fixtures with a uniform LED (Light Emitting Diode) fixture, the addition of the same LED fixture to all GMP-owned poles that do not currently have a light fixture in place, and the addition of two new Town-owned lights with the same LED fixture at the intersection of Kellogg Road and Susie Wilson Road. The first portion of this study was included with a bid package in December, 2009 to replace signals; the cost of the GMP portion of the lighting plan is estimated at $30,350 and the addition of two new Town-owned lights at $7,000.

Finally, the Financing Analysis for the corridor has evaluated different methods of helping the Town fund these required improvements. The Analysis recommends consideration of a Special Assessment District wherein all properties and new development would contribute a share, proportional to the taxable value of the property, of financing the cost of these improvements. This District could be combined with other methods such as development-related traffic mitigation or annual contributions by the Town to ensure that the improvements are funded and carried out over time.

2.1 Corridor Plan Update Process

At the request of the Town of Essex, VHB Pioneer worked with the Town to update the June, 2005 Corridor Improvement Plan for Susie Wilson Road and to prepare updated cost estimates. The 2005 Study evaluated several upgrades to the corridor transportation system that would improve mobility and access management along Susie Wilson Road. During the intervening five years, some improvements were completed. Some improvements are on-going, and some
improvement plans need to be updated to reflect the current land use and traffic conditions along the corridor.

2.2 Status of 2005 Identified Improvements

Of the seven improvements listed in the 2005 Study, four have been substantially completed, and one - the raised median at Pinecrest Drive - has been eliminated from the plan based on discussions with the Town. The 2005 identified improvements are:

1. Improvements to the VT 15/Susie Wilson Road Intersection
2. Improvements to the Ewing Drive intersection
3. Improvements to the Bagel Market drive intersection
4. Improvements to the David Drive/Susie Wilson Road Intersection
5. Improvements to the Kellogg Road intersection
6. Coordination of the traffic signals from VT 15 to Kellogg Road
7. Creating a raised center median from Pinecrest Drive to Kellogg Road

One of the improvements cited in the 2005 Study was to modify the signalized intersection at Susie Wilson Road and VT Route 15 (#1 above) to provide dual right turn lanes from Susie Wilson Road to VT Route 15 westbound. This project was completed in the summer of 2009. One element of the proposed improvement plan was the elimination of the modified jug handle at the channelized right turn from VT Route 15 westbound to Susie Wilson Road. This modified jug handle was maintained as part of the VT Route 15 and Susie Wilson Road reconstruction. However, the construction of Joshua Drive (adjacent to the Rite Aid and Auto Value) and its connection to Pinecrest Drive, provides the alternative to the modified jug handle described in Improvement #2 for the subject intersection.

The second improvement cited in the 2005 Study was to construct a traffic control signal at the intersection of Susie Wilson Road and David Drive/Market Drive (#4 above). The plan called for protected left turns from Susie Wilson Road with exclusive left turn lanes. This project has been completed. The intersection includes an omni-directional antenna near the cabinet, assumed to be for signal coordination with the intersection at Susie Wilson Road and Kellogg Road.

Traffic signal coordination has been substantially completed in the corridor as well. There is an outstanding need to add vehicle detector loops in the area of the Kellogg Road intersection in conjunction with other identified improvements.

Based on conversation with the Town of Essex Planning Department, it has been determined that the installation of a raised center median (#7 above) along Susie Wilson Road between Pinecrest Drive and Kellogg Road is no longer desirable. Therefore, this improvement has been removed from further consideration at this time.
2.3 2010 Updated Improvements

VHB Pioneer worked with the Town to identify any new or modified improvements that should be included in a Corridor Plan for Susie Wilson Road. In addition to the update of the improvements identified in 2005, this study identified and recommends four additional cross-parcel connections that should be considered along the Susie Wilson Road corridor to improve access management and circulation. These are recommended to be added to the corridor improvement program, and cost estimates have been prepared for the construction portion of each. However, any cross-parcel connection relies upon securing land or easements from private property owners. This may be addressed through the development review process, and may also require supportive policy changes in the Town Plan and zoning regulations. Nonetheless, the Town is encouraged to include these as objectives for the Corridor.

Table 1 below shows the status of the 2005 and 2010 recommended improvements.

<table>
<thead>
<tr>
<th>Improvement/Location</th>
<th>2005 Recommendation</th>
<th>2010 Status/Recommendation</th>
<th>2010 Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>VT 15/Susie Wilson Road intersection</td>
<td>Modify intersection</td>
<td>Substantially completed; continue to recommend elimination of jughandle</td>
<td>$5,000</td>
</tr>
<tr>
<td>Susie Wilson Road at David Drive/Market Drive</td>
<td>Signalize intersection</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>Susie Wilson Road at Pinecrest Drive/Kellogg Road</td>
<td>Install raised median</td>
<td>No longer recommended</td>
<td></td>
</tr>
<tr>
<td>Traffic Signal System Interconnection and Improvements</td>
<td>Coordinate from VT 15 to Kellogg Road</td>
<td>Substantially completed; vehicle detector loops still needed at Kellogg Road; recommend installation</td>
<td>$85,000</td>
</tr>
<tr>
<td>Susie Wilson Road/Kellogg Road intersection</td>
<td>Create jughandle turn; install vehicle detector loops</td>
<td>Create jughandle and complete signal</td>
<td>$135,000</td>
</tr>
</tbody>
</table>

New cross-parcel connectors:

4  Bank/Recycling Center/ Fort Ethan Allen Gate

5  Morse Drive/David Drive

6  Bagel Market/David Drive

7  Lowe's/Ewing Drive
TABLE 1: 2005 and 2010 Recommended Improvements

<table>
<thead>
<tr>
<th>Improvement/Location</th>
<th>2005 Recommendation</th>
<th>2010 Status/Recommendation</th>
<th>2010 Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional improvements:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting</td>
<td>Implement two-stage lighting plan</td>
<td>$30,3501</td>
<td></td>
</tr>
</tbody>
</table>

Specific descriptions of the objectives of each recommended improvement follow and are shown on Figure 3:

1. **Improvements to the Susie Wilson Road/Vermont Route 15 Intersection**: While this intersection currently functions at close to capacity, major improvements are not expected in the immediate future. Nonetheless, some improvement to turning movements can be achieved by eliminating the jug-handle feature which allows westbound traffic to make u-turns. With the current geometry, cars attempting this maneuver frequently obstruct the normal traffic lanes, thus adding to congestion. By eliminating the jug-handle and causing traffic to use Joshua Drive to reverse directions, this hazard can be eliminated.

2. **Signal Coordination along Susie Wilson Road from Vermont Route 15 to Kellogg Road, and along Kellogg Road**: While some of the signals along Susie Wilson Road and Kellogg Road are presently interconnected with three separate sub-systems, the lack of complete interconnections causes the total system to operate at less than maximum efficiency. This can be improved by connecting the three existing subsystems and revising the cycle lengths and timing based on current traffic volume information.

3. **Susie Wilson Road/Kellogg Road Intersection**: The geometry of this intersection is difficult and does not offer a convenient means of reversing direction from north-bound to south-bound. In addition, the lack of vehicle detectors causes the signals to operate at less than peak efficiency, particularly during off-peak hours. This can be remedied by installing additional detectors, creating a deceleration lane, and a jug-handle north of Blair Road.

4. **Bank/Recycling Center/Fort Ethan Allen Gate Connector**: There is a vacant parcel at the northwest corner of VT Route 15 and Susie Wilson Road that is effectively landlocked due to access restrictions along both VT Route 15 and Susie Wilson Road. However, if a cross-parcel connection were provided between the bank, the recycling center, and ultimately...

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1 The lighting costs are described in detail in the report "Town of Essex Transportation Action Grant: Lighting Study," prepared by VHB with AP Franco Associates and dated August, 2009.
Figure 3 - Proposed Improvements

Sources: Background Orthophoto NAIP (2008); Roads (2009), Hydrology (2008) and Parcel Boundary (2008); data provided by VCEI (2009); Proposed improvements by VHBP (2010).

Legend
- Proposed Improvement
- Parcel Boundary
- Stream

1. Susie Wilson Road and Kellogg Road:
   Upgrade signal detection system
   Upgrade signal system hybrid connection
   along Susie Wilson Road and Kellogg Road

2. David Drive and Lode Star:
   Cross-parcel connection between
   David Drive and Lode Star

3. David Drive and Market:
   Cross-parcel connection between
   David Drive and Market parking lot

4. Lowe's Plaza:
   Cross-parcel connection between
   Lowe's Plaza and Ewing Drive

5. Corner Property (VT 15 to Susie Wilson Rd):
   Cross-parcel connection between
   Corner property and Recycling property

6. Market St, and Susie Wilson Rd:
   Remove junk and debris from hard
   surface drainage ditches
the redesigned Fort Ethan Allen gate, this parcel could be attractive for development. The cross-parcel connection would require several private agreements and close coordination with the regulatory authorities due to the adjacent stream crossing. In order to avoid the use of the internal roadway on the Lowes parcel for access to adjacent undeveloped parcels, a connector from the Bank to Susie Wilson Road and the Recycling Center in the Fort Ethan Allen area is proposed. This will allow traffic to use the proposed traffic signal at Fort Ethan Allen’s eastern gate.

5. **David Drive/Morse Drive Connector:** Both David Drive and Morse Drive roadways are currently culs-de-sac. To improve internal circulation, a connector between the parking lot at the end of David Drive and Morse Drive is proposed. There is a small section of trees that separate Morse Drive from the businesses at the north side of the cul-de-sac at David Drive. If this connection were made, some traffic could be diverted away from the Susie Wilson Road and Kellogg Road intersection and would provide alternative access to the cul-de-sacs at David Drive and Morse Drive.

6. **Bagel Market Parking Lot/David Drive Connector:** Traffic attempting to exit the Bagel Market by turning left onto Susie Wilson Road frequently experiences significant delays. This can be reduced by creating a connector from the parking lot to David Drive, allowing traffic to utilize the signalized intersection at David Drive to enter Susie Wilson Road. A connection between the Bagel Market and David Drive is recommended to continue to provide an alternative to multiple conflicting turning movements onto Susie Wilson Road.

7. **Ewing Drive/Lowes Connector:** Traffic attempting to exit Ewing Drive by turning left onto Susie Wilson Road frequently experiences significant delays. This can be reduced by creating a connector from Ewing Drive to the Lowes plaza, allowing traffic to utilize the signalized intersection at Lowes to enter Susie Wilson Road.

**Lighting**

Lighting quality and evenness has been a persistent issue in the Susie Wilson Road corridor for many years. Many of the streetlights are old, low-performing Mercury Vapor lights which provide very poor light levels and are energy-inefficient. As part of the Lighting Study funded through the TAG grant, a street lighting survey was conducted in June, 2009 and December, 2009 along the Susie Wilson Road corridor by ViB and by AP Franco & Associates. Representatives from Green Mountain Power also attended the December site visit and provided information. This survey identified additional improvements that could be considered along the corridor. The improvements, which are outlined in the Lighting Study report submitted to the Town, consist of two phases:
1. Upgrade of Town-owned lighting at Susie Wilson Road/Kellogg Road
   1a. Replacement of the Town-owned light fixtures at the Susie Wilson Road/Kellogg Road intersection with light emitting diode (LED) fixtures
   1b. Addition of two new light poles with the same LED fixture to improve lighting levels and safety
2. Replacement of all GMP-owned lights with the same LED fixture, and addition of the same LED fixture to all existing GMP poles in the corridor.

2.4 Cost Estimates

Updated improvement plans and cost estimates were prepared in 2010, and are listed in the table above. Detailed descriptions are included as Appendix A. Each of the cost estimate sheets includes a description of the purpose for the improvement, the improvement work proposed, current status of the improvement, and a cost estimate for the described work in 2010 dollars. Several of the alternatives have the costs broken out into categories such as engineering costs, construction costs, and right-of-way acquisition costs, although most acquisition costs are unknown as no formal negotiations are underway.

The cost estimate for Phase 2 of the lighting improvements, which is documented in detail in the Lighting Study, is $30,350. Phase 1a was to have been included in bid documents for work done under a separate ARRA grant in December, 2009; Phase 1B is estimated at $7,000, though the extent of site work and utility connections needed to support the new light fixtures requires verification.

3. Financing Options

3.1 Study Methodology

Providing financing for the needed improvements on Susie Wilson Road is an ongoing issue. While the Town has worked successfully to implement improvements both with VTrans and with property developers such as Lowe’s, there is a need to ensure that a stable, equitable funding source is developed so that the improvements to Susie Wilson Road can be implemented over time. Relying entirely on development-based contributions from landowners or on VTrans projects is unlikely to ensure that the recommended improvements can be fully implemented.

This study identified several potential approaches to funding the planned roadway improvements in the Susie Wilson Road area:
• Tax Increment Financing,
• Development Impact Fees, and
• Several variations of Special Assessment Districts.

While all three of these funding mechanisms are enabled in Vermont law, the approaches in this report went beyond the standard applications and looked at more creative methods that could provide greater equity, acceptability, and revenue generation if applied locally.

Based on an analysis of the needed roadway improvements and the existing and expected development in the area, it is recommended that a Special Assessment District be created to fund the Susie Wilson Road improvements. Three variations of the Special Assessment District were examined: one based on the floor area of enclosed building space on each property, one based on the total assessed value of each property, and one based on the assessed value of structures on each property. All have their own strengths and weaknesses. However, as discussed below, because of the statutory limitations on Tax Increment Finance (TIF) districts at this time, only Special Assessment Districts and Development Impact Fees were assessed in depth in this report.

The report concludes by recommending that the Town pursue either the use of a Special Assessment District based on assessed structural value, with credit for prior road improvement payments, or the use of trip end based development impact fee. It should be noted that SADs are not subject to the statutory constraints placed on impact fees, and can be used to fully fund all of the planned roadway improvements that serve the area.

3.2 Funding Methods Explored

In the Town of Essex, Vermont, the area around Susie Wilson Road and Kellogg Road has evolved as a major development center, being home to hotels, food service establishments, and various business establishments. This development is expected to continue and be supplemented with some higher density residential development.

While most of the basic road infrastructure is already in place, there are some deficiencies, and a number of needed improvements have been identified. While Susie Wilson Road and Kellogg Road both serve as regional collectors, and see substantial volumes of through traffic, the improvements identified generally serve to improve access and circulation to existing developments and businesses in the corridor, and provide access to the relatively few undeveloped lots in the area. Because improvements to mobility in the corridor will specifically benefit these property owners, it is felt that the cost of these improvements should be borne by the development in the area, and not by the entire Town as a general revenue expense.

Unlike water and sewer improvements, road improvements cannot easily be funded by user charges because it is difficult to isolate individual vehicles in order to assess the charge. Thus, some other approach was needed. A search of the available literature resulted in the
identification of three basic approaches to equitably apportion the costs of infra-structure improvements among the properties that will benefit from those improvements—Tax Increment Financing (TIF), Development Impact Fees (DIF), and Special Assessment Districts (SAD).

**Tax Increment Financing (TIF) Districts.** In many cases an infrastructure project is intended to enable new development which could not occur without the infrastructure improvements. The new development adds to the municipality’s property tax base and thus generates an increment in property tax revenues. TIF is a mechanism for capturing some or all of that increment in tax revenues and directing it towards paying for the infra-structure investment that enabled the development. The TIF does not change the local tax rate or the taxes paid by the new development; it simply diverts the tax revenue increment from other government services to the infrastructure project. TIF relies on the increment in tax revenues generated by new development. In areas that are substantially built-out, the amount of this increment may be limited.

In Vermont there are two separate local property taxes that are potentially re-allocated TIF: the local municipal property tax, and the education property tax (which includes both a local and a statewide component). In the Town of Essex, the local municipal tax rate accounts for only 23.2 percent of the total tax rate. It appears that Vermont municipalities have the ability to create a TIF district and redirect the increment in municipal property tax revenues to pay for the needed infrastructure at any time, in accordance with 24 V.S.A., Chapter 53, Sub-Chapter V2. Before a municipality may establish a TIF for the purposes of diverting education property tax revenue increments towards infra-structure funding, it must first obtain approval from the Vermont Economic Progress Council (VEPC), in accordance with 32 V.S.A., Chapter 135. At present only a limited number of municipalities may be awarded VEPC approval. The approval criteria are quite rigorous and are based on the amount and quality of development that will be enabled by the proposed infrastructure improvements. The assumption is that the new development will not occur unless the improvements are implemented.

Since the Susie Wilson Road area is largely developed, it is not felt that TIF is particularly applicable. It is also felt that it is unlikely that the area would qualify for VEPC approval under current statutes. Thus, the TIF option was not explored further.

**Development Impact Fees (DIF).** Development Impact Fees are levied on new development to offset the cost of providing infrastructure needed to address the increased demand from the development (per 24 V.S.A., Chapter 131). Development impact fees may be applied on a municipal wide basis to fund infra-structure improvements that serve the entire community, or may be applied to a smaller district or area which will specifically benefit from the

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2 Fred Kenney of the Vermont Economic Progress Council (VEPC) has indicated that VEPC are not sure that a TIF solely for municipal tax revenues can be implemented without VEPC approval.
proposed infrastructure improvement. In either case, to ensure that there is a direct connection and equity between the fees assessed and the impact of the development, only that portion of an infrastructure project that provides increased capacity to accommodate new development can be eligible for DIF funding. The fees are collected when new development obtains zoning permits.

There are a number of disadvantages to DIFs in funding planned corridor improvement projects. Since the timing of new development is uncertain, the flow of DIF revenues is also difficult to predict. Infra-structure projects that accommodate demands from development outside of the host municipality are not covered by DIFs, nor are infra-structure projects aimed at remedying existing service deficiencies. Thus, DIF revenues are unlikely to cover 100 percent of the cost of an infrastructure project.

In communities that adopt development impact fees, under Vermont law it is necessary to develop a formula for impact fees that specifically link the demands from development to the cost for the infra-structure improvement. For transportation infra-structure, this is typically expressed as a cost (or fee) per PM Peak Hour trip generated by new development. If the DIF revenues are not spent on the planned improvement within six years of being collected, these revenues must be returned to the parties who owned the development project at the time the fees were collected.

Special Assessment Districts (SAD). A third method of financing geographically-specific improvements is a Special Assessment District (SAD). Under Vermont law, a municipality may establish a Special Assessment District to fund specific infrastructure improvements that principally benefit the properties within a defined district, in accordance with 24 V.S.A., Chapter 87. A SAD must be approved by a majority of the voters of the municipality unless the owners of all properties located in the proposed district agree to the special assessment. The amount of the assessment assigned to each property may be based on a property’s assessed value, frontage, lot area, floor area, or any other measure that effectively links the amount of the assessment to the benefits received by the property. Any such assessment applies to the property as it exists at the time the special assessment district is established, and will continue to apply to those properties in subsequent years as new development takes place, until all costs for the specified infrastructure improvements have been paid, or until any expiration date included with the establishment of the special assessment. Thus, the SAD will generate an initial annual cash flow that grows as new development takes place.

3.3 Evaluating Capacity Improvements

For purposes of evaluating funding mechanisms, the Susie Wilson Road corridor and area was defined as the industrial, commercial, and mixed use area surrounding the intersection of Susie Wilson Road and Kellogg Road (Figure 4, Susie Wilson Road Corridor Area). The area extends
Figure 4, Susie Wilson road corridor area
Figure 4: Susie Wilson Road Corridor Area

March 23, 2010

Legend
- Market Place
- David Lane
- Susie Wilson Road
- Pinecrest Drive
- Susie Wilson Road Area - Building Impervious
- Impervious Cover - Other
- Parcels of Interest
- Parcel Boundary

Sources: Aerial Imagery provided by CCMP (2004); and USDA (2008); Impervious cover analysis done by VHB Pioneer (2009); Roads, Property data provided by VCGI (2009)

Prepared by: SIMASAT
along Susie Wilson Road almost to the intersection with Vermont Route 15, and along Kellogg Road to the Town boundary. Primary access to the area is from the west on Kellogg Road, from the north on the Susie Wilson Road Bypass, and from the south where Susie Wilson Road intersects with Vermont Route 15. As this area has evolved, traffic volumes have increased and various improvements have been implemented. Deficiencies remain, however, and a series of improvements has been identified as necessary to improve access to the area and circulation within the area. As discussed in Section 2 of this report, some improvements principally deal with access management, and some create capacity for new development and traffic.

Table 2 provides the most recent cost estimates for each of these improvements, along with the consultants’ assessment of the degree to which each will serve local traffic (i.e. traffic either starting or ending in the surrounding area), and the degree to which each will create additional capacity to accommodate future development. These assessments represent the consultants’ best professional judgment from experience preparing traffic and corridor studies and transportation engineering programs.

As shown, the seven roadway improvement projects are estimated to cost a total of $550,000 (excluding costs of any right-of-way acquisition, which could be substantial if not done through a development review process). As shown in the right hand column of the table, only a small portion of these expenditures will actually create additional capacity to accommodate traffic from future development.

While the timing of these improvements has not yet been established, this analysis will assume that they are to be implemented over the coming decade. It is further assumed that a reserve fund can be established for revenues dedicated to constructing those improvements. An average annual contribution to such a reserve fund of $55,000 over the ten year period would cover the estimated costs, excluding right-of-way.
TABLE 2: 2010 RECOMMENDED IMPROVEMENTS and COST ESTIMATES

<table>
<thead>
<tr>
<th>Improvement Name</th>
<th>Estimated Cost</th>
<th>Percent for local traffic</th>
<th>Percent for new dev.</th>
<th>Cost for new local traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. VT 15/Susie Wilson Road Jug-handle removal</td>
<td>$5,000</td>
<td>45%</td>
<td>10%</td>
<td>$225</td>
</tr>
<tr>
<td>2. Signal Coordination and Interconnect</td>
<td>$85,000</td>
<td>45%</td>
<td>40%</td>
<td>$15,300</td>
</tr>
<tr>
<td>3. Kellogg Rd/Susie Wilson Rd Intersection Upgrade</td>
<td>$135,000</td>
<td>45%</td>
<td>40%</td>
<td>$24,300</td>
</tr>
<tr>
<td>4. Bank/Recycling Center/Fort Ethan Allen Gate Connector</td>
<td>$122,000</td>
<td>100%</td>
<td>40%</td>
<td>$48,000</td>
</tr>
<tr>
<td>5. David Drive/Morse Drive Connector</td>
<td>$55,000</td>
<td>100%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td>6. Bagel Market/David Drive Connector</td>
<td>$61,000</td>
<td>0%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td>7. Ewing Drive/Lowe’s Connector</td>
<td>$67,000</td>
<td>45%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>$550,000</strong></td>
<td></td>
<td></td>
<td><strong>$88,625</strong></td>
</tr>
</tbody>
</table>

3.4 Projected Growth in the Corridor Area

The improvements recommended for Susie Wilson Road are clearly intended to improve access to and circulation within developments within the Susie Wilson Road area. As such, it is reasonable that the properties that will benefit directly from the improvements be asked to fund a share of the improvements. Since it is the intent to raise the revenues to fund the proposed roadway improvements by assessing development in the area to be served by the improvements, it is first necessary to delineate a service area which contains the properties that are most likely to benefit from the proposed improvements. The second step is to determine how much additional growth in terms of traffic and development is expected to occur, so that the amount of potential new impact and revenue from Development Impact Fees or a Special Assessment District can be estimated.

Several different evaluations of the Susie Wilson Road corridor area were undertaken to accomplish this. The area shown in Figure 4 includes parcels on Andrew Avenue, Bushey Lane, David Drive, Ewing Place, Gauthier Drive, Joshua Drive, Kellogg Road, Market Place, Morse Drive, New England Drive, Pearl Street (one vacant lot adjacent to Susie Wilson Road), Pinecrest Drive
(lots 2-25), Susie Wilson Road (lots 2-57), and Turcotte Road. Altogether the area contains some 200 parcels occupying almost 240 acres.

A tabulation undertaken by VHB Pioneer based on recent aerial photos indicates that the area contains a total of 1,671,225 square feet of building space. Michael Munson, with the assistance of the Town of Essex GIS staff, has determined that the area has a 2009 total (land plus structures) assessed value of $102,753,800. Similarly, the assessed value of structures in the area is $81,382,600.

Staff at the Chittenden County Metropolitan Planning Organization (CCMPO) was asked to examine traffic volumes in the area, to estimate the portion which originates or terminates in the area, and to estimate the number of trips expected to be generated within the area by anticipated new development. This analysis indicates that approximately 45 percent of traffic in the area starts or ends in the area (local trips), that about 10 percent start and end elsewhere in the Town of Essex, and that roughly 35 percent are through trips that neither start nor end in the area. In addition, it was estimated that local P.M. Peak Hour Trip Ends would increase by 122 over the coming decade.

It is noted that an earlier build-out study by Lamoureux & Dickenson estimated that at full build-out the area would see an additional trip generation of approximately 800 P.M. Peak Hour Trip ends. For the purposes of this study, it is assumed that the proposed improvements will be able to accommodate future growth for no more than two decades, and that just over 30 percent of full build-out will occur within that time frame. Thus, a total of 250 additional P.M. peak hour vehicle trip ends was assumed.

As discussed in Section 3.2, it was determined that the Susie Wilson Road area and associated roadway improvements was very unlikely to satisfy Vermont’s criteria for approval of a Tax Increment Financing district. Thus, only the Development Impact Fee approach and three variations of a Special Assessment District approach (one using an assessment on non-residential floor area, one using an assessment on total assessed value, and one using the assessed value of structures) are examined in the following two sections.

3.5 Financing Approaches: Development Impact Fees

**Development Impact Fees (DIF):** In accordance with 24 V.S.A., Chapter 131, a municipality may levy DIFs on new development to capture that portion of the cost of infrastructure improvements that provide the capacity that is needed to accommodate anticipated new development at the same level of service provided for existing development. DIF revenues may not be used to remedy existing deficiencies.
To evaluate the applicability and effectiveness of DIFs to this area, it is important to look at the level of service currently provided to existing development. The Susie Wilson Road area is largely built-out, with only a few undeveloped parcels. The basic roadway system (Susie Wilson Road and Kellogg Road) functions reasonably well. There is congestion at the Susie Wilson Road/Vermont Route 15 intersection, but any new, major improvements there are far in the future. Most deficiencies relate to individual turning movements or internal access. Of the seven roadway improvement projects planned for this area, listed in Tables 1 and 2, only four will create additional capacity to accommodate future development. Of the estimated total construction cost of $550,000, only $88,625 (16.1 percent) would thus be eligible for DIF funding. The remaining 83.1 percent would require funding through other, non-impact fee sources.

Calculating a DIF for the Susie Wilson Road Corridor

Calculating the appropriate DIF for traffic generated by new construction or redevelopment in the corridor is based on the ratio of the future and past capital costs of providing the existing level of infrastructure conditions, divided by the number of projected new trip ends. Credits must then be deducted recognizing that all properties have been paying a share of the ongoing cost of past capacity improvements through municipal taxes. This formula has been upheld and widely used as a fair means of allocating a share of the capital cost to the public of providing traffic capacity and access for each new trip end that will take advantage of that capacity. The formula is roughly as follows:

\[
\frac{\text{Cost of New Capacity Improvements} + \text{Ongoing Bond Cost of Past Capacity Improvements}}{\text{Anticipated Number of New Trip Ends}} \times \text{Credit for past payments}
\]

The estimated future cost of creating capacity, from the prior section, is $88,615 for the share of the new improvements that creates capacity as opposed to managing the traffic already in the corridor. To that $88,615 of actual construction costs for planned roadway improvements must be added the remaining Town debt for the earlier capital improvements, which created the capacity presently available in the corridor. This is estimated by the Essex Department of Public Works at $103,000. This yields a total of $191,625 ($88,615 + $103,000).

At the same time, some projects have already received local approvals which include commitments of payments for roadway improvements. The Public Works Director estimates these commitments at $67,931. This must be deducted since the money will go towards the same improvements. This results in a net of $123,694 to be covered by development impact fees on anticipated future development.

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3 Communication from the Public Works Director, February 2, 2010.
4 Ibid.
To assess a fee per individual vehicle trip end (VTE) created by the new development, the public capital costs must then be divided by the number of anticipated new trip ends. In this case, the portion of the Town’s cost that represents creation of new capacity is $123,694, and the anticipated number of new VTEs estimated by the CCMPO is 250. Thus, the basic DIF would be $494.78 per P.M. Peak Hour Trip End: ($123,694) / 250 = $494.78

Calculating a Credit for Past Payments

From this base DIF, the municipality must deduct any credits required to reflect that a share of past property tax payments paid on the land being developed would have gone towards the ongoing municipal bond cost of past improvements in the corridor. A preliminary analysis using the same approach used in the Town’s Recreation Impact Fee Analysis indicates that the credits would amount to approximately 20 percent of the base fees, leaving a net impact fee of $395.82 per P.M. Peak Hour Trip End: $494.78 x 80% = $395.82

Potential Revenue Generation from DIFs

In the case of Susie Wilson Road, DIFs would be an eligible funding source for a portion, but not all of, the costs of the identified improvements. A key disadvantage to DIFs is that these revenues are only collected when a zoning permit for new development is obtained. Since it is impossible to predict when new development will occur and at what rate, this makes DIFs an unpredictable funding source.

However, based on recent trends in Essex, it is reasonable to assume that development and redevelopment in the Susie Wilson Road corridor might generate, on average, 12.2 new PM peak hour VTEs per year. If this assumption is made, the annual revenues would be $4,947.75 per year. This represents less than 10 percent of the average of $55,000 per year needed to fill a reserve fund to cover the cost of all of the planned improvements, but is still an option that can be considered by the Town.

3.6 Financing Options: Special Assessment Districts

The other method considered to allocate the costs of improvements to the corridor is a Special Assessment District (SAD). More flexible than DIFs, these districts allow a municipality to allocate costs that accrue to a specific geographic area in different ways that can be tailored to the area’s conditions, business and land use patterns, and needs.

When a municipality establishes a SAD, it delineates an area containing properties that will benefit from a specified set of public improvements, and levies a special assessment on those properties. The revenues generated by the special assessment must be held separate from other revenue streams, and must be dedicated to paying for construction of the specified improvements.
Methods of Establishing a Special Assessment Charge

Vermont Statute allows municipalities to base the special assessment on any measure that fairly and proportionally relates the benefits to the charges. Three variations of SADs, each using a different measure, will be discussed here. The three measures are:

- The amount of non-residential floor area on each parcel;
- The total assessed value of each parcel; and
- The assessed value of the structure(s) on each parcel.

For each variation, an estimate of the assessment needed to generate an average of $55,000 per year (the amount assumed to be necessary to fund a reserve fund for constructing all of the identified roadway improvement projects) was generated. In addition, some evaluation of the pros and cons of each measure is provided.

Developing Credits in a Special Assessment District

It is important to note that a special assessment would be levied against all properties in the assessment district, including those that have already made substantial contributions (cash or in-kind) to roadway improvements in the area, and others which have not yet been constructed but which have committed to substantial roadway improvement contributions. For such properties, the special assessment would represent a double payment. In such cases it is imperative that credits against the special assessment be established to offset the previous or promised contributions. It is recommended that annual credits against the special assessments be established at ten percent of the amount of the previous or promised contribution for each of ten years following that investment, but with the limitation that a credit may not exceed the amount of the special assessment on the subject property in any year (in other words, in no case must the municipality issue a refund to the property owner based on prior contributions paid).

Option 1: Assessment on Non-Residential Floor Area

As noted above, the area delineated as the Susie Wilson Area contains an estimated total of 1,671,225 square feet of non-residential floor area. If a special assessment were to be applied to that total with the intention of raising $55,000 per year, the assessment would need to be $0.033 per square foot of floor area. As new development takes place, the total floor space in the area would increase. If the assessment rate stayed constant, the annual revenues would increase, potentially in a manner sufficient to deal with project cost inflation.

Advantages and Disadvantages: As in all special assessment districts, this revenue stream would begin as soon as the district is established, so the reserve fund could begin accumulating funds at that time. The advantage of basing the special assessment on floor area is that it only affects developed properties that are generating some revenue for the property owners.
There are two disadvantages to this approach. First, by focusing on non-residential floor area, residential development is not liable for any of the costs of the roadway improvements. Since much of the anticipated development in the area is expected to be residential, this approach would limit the available revenues and place a greater than proportional burden on commercial properties. It would, of course, be possible to include residential floor area in such a formula, but the impact on housing costs and availability would need to be considered.

The second disadvantage of this approach is that the published tax records of the Town do not seem to include floor area. Thus, it would be necessary to undertake a careful survey of existing properties to establish the baseline, and to incorporate floor area records for all new development.

**Option 2: Assessment on Total Assessed Property Value**

In this variation, the assessment would be based on the total assessed value of properties in the district (land and structures), including both residential and non-residential properties. The special assessment would work exactly like a normal property tax, and the special assessment would function essentially as a surcharge on each property that supports completion of area-specific improvements.

In the Susie Wilson Road area, the total assessed value of all properties is estimated to be $102,753,800. If a special assessment were to be applied to that total, with the intention of raising $55,000 per year, the assessment would need to be $0.0535 per $100 of assessed value.

In 2009 the effective total tax rate on non-residential properties in the Town of Essex was $1.7304. A special assessment at the rate of $0.0535 per $100 would represent an increase of three percent to the base tax rate. As new development takes place, the total floor space in the area would increase. If the assessment rate stayed constant, the annual revenues would increase, perhaps enough to cover cost inflation.

**Advantages and Disadvantages:** This variation has the advantage of assessing both residential and non-residential development. This value is routinely maintained in the Town’s tax records for every tax parcel. The disadvantage is that it will represent an impact on the undeveloped properties that presently are not producing any revenues for the property owners.

**Option 3: Special Assessment on Assessed Value of Structures Only**

In this variation, the assessment is based on the assessed value of structures located on properties in the district, including both residential and non-residential structures. In the Susie Wilson Road area, the assessed value of all structures is estimated to be $81,382,600. If a special assessment were to be applied to that total value, with the intention of raising $55,000 per year, the assessment would need to be $0.0676 per $100 of assessed structure value. Again, as new

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5 As reported on the web site of the Vermont Division of Property Valuation and Review.
TOWN OF ESSEX TRANSPORTATION ACTION GRANT
SUSIE WILSON ROAD CORRIDOR IMPROVEMENT PLAN AND FINANCING OPTIONS

development takes place, the total assessed value of structures in the area would increase. If the assessment rate stayed constant, the annual revenues would increase, potentially enough to cover cost inflation.

This variation results in a slightly higher assessment rate than the variation based on total assessed value, but avoids an undue effect on undeveloped parcels and treats residential and non-residential properties equally. In addition, this value is routinely maintained in the Town’s tax records for every tax parcel, both residential and non-residential, making it simple to administer.

Table 3 summarizes the assessment rates that would be required to raise $55,000 per year under each option.

<table>
<thead>
<tr>
<th>Option: Charge based on...</th>
<th>Amount required to raise $55K annually</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>% increase over 2009 base tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SF of non-residential area</td>
<td>$0.033/SF</td>
<td>Affects only revenue-generating properties, revenues grow as development occurs</td>
<td>Requires survey to administer; burden falls on commercial, no residential contribution</td>
<td>1.9%</td>
</tr>
<tr>
<td>2 Total assessed value</td>
<td>$0.0535/$100</td>
<td>Treats all properties equally; easy to administer</td>
<td>Affects undeveloped/ non income-producing properties</td>
<td>3.1%</td>
</tr>
<tr>
<td>3 Assessed value of structures only</td>
<td>$0.0676/$100</td>
<td>Treats all properties equally; easy to administer; avoids effects on non-income producing properties</td>
<td>Higher rate than others</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

3.7 Conclusions and Recommendations

The analysis in this report suggests that the Essex can consider the use of a Special Assessment District and/or a Development Impact Fee as means of developing a sufficient reserve fund to implement the recommended Susie Wilson Road improvements over a period of roughly ten years. The timing of different development projects in the corridor, some of which could help
implement the recommended improvements, and the availability of other transportation improvement funds will obviously affect both the timing and the ultimate amount of revenue that must be raised through these sources.

The use of the Development Impact Fee (DIF) approach will not generate all of the revenues needed to fund the proposed roadway improvements. DIF applies only to new development, and DIF revenues can only be used to fund added capacity to accommodate that new development. In this case, only a small part of the planned improvement projects will create added capacity.

The use of a Special Assessment District (SAD) has the advantage of being applied to existing development as well as future development, both of which will benefit from the roadway improvements. Further, by basing the assessment on assessed structural value instead of total assessed value or floor area, the assessment will apply to both non-residential and residential development, but will not apply to undeveloped properties.

if the DIF approach is preferred, the Town should complete additional analyses to establish the appropriate criteria to prevent multiple payments, and implement the fee either as a traffic mitigation fee due upon granting of Subdivision or Site Plan Approval (current practice) or as an Impact Fee in accordance with 24 V.S.A., Chapter 131.

If the SAD approach is pursued, it should be based on the assessed value of structures on parcels within the district, and should include provision for credits against the assessment to offset previous or promised contributions to roadway improvements in the area.

To carry out either of these recommendations, the Town should first carefully confirm the delineation of the proposed district and carefully identify all parcels contained within it. This will enable the careful calculation of the needed special assessment rate or the identification of all properties subject to the DIF. The Town should then proceed to bring the matter to a public vote (if required) in accordance with statutory requirements. Either approach should remain in place only long enough to generate the funds specified for constructing the identified roadway improvement projects in the Susie Wilson Road area.
Appendix A: Susie Wilson Road Improvement Cost Estimates
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED LIGHTING - Susie Wilson Rd. Phase II</td>
<td>$30,350.00</td>
</tr>
<tr>
<td>Bank - Recycling Center connector</td>
<td>$122,000.00</td>
</tr>
<tr>
<td>Morse &amp; David Connector</td>
<td>$55,000.00</td>
</tr>
<tr>
<td>Ewing - Lowes Connector</td>
<td>$67,000.00</td>
</tr>
<tr>
<td>Kellogg Intersection Improvements</td>
<td>$120,000.00</td>
</tr>
<tr>
<td>David Drive - Bagel Works connector</td>
<td>$61,000.00</td>
</tr>
<tr>
<td></td>
<td>$475,350.00</td>
</tr>
</tbody>
</table>
Preliminary Cost Estimate

Susie Wilson Road Corridor Improvements
Essex, Vermont

Concept: Bank Connector Road to Recycling Property

By: G. Bakos

Date: 12/09/09

VHB Project: 57337

Item Description | Quantity | Unit | Unit Price | Amount
--- | --- | --- | --- | ---
Earthwork
Earth Borrow | 0 | CY | $12.00 | $0.00 (1)
Rock Excavation | 0 | CY | $25.00 | $0.00 (2)
Common Excavation | 300 | CY | $10.00 | $3,000.00 (3)
Pavement
Pavement | 160 | Ton | $90.00 | $14,400.00 (4)
Subbase | 470 | CY | $30.00 | $14,100.00 (5)
Sand Borrow | 0 | CY | $20.00 | $0.00 (6)
Subtotal Cost of Roadway Items (1+2+3+4+5+6) |  |  |  | $33,500.00 (7)
Cost Factor (Urban) |  |  |  | 2.25 (8)
Factored Roadway Cost (7x8) |  |  |  | $75,375.00 (9)
Special Roadway Items:
Guardrail | 0 | LM | $30.00 | $0.00
Landscaping | 1 | LS | $5,000.00 | $5,000.00
Drainage Improvements | 1 | LS | $15,000.00 | $15,000.00
Special Roadway Items Total: |  |  |  | $20,000.00 (10)
Total Cost of Roadway Items (9+10): |  |  |  | $95,375.00 (11)
Structure Items
Bridge construction | 0 | SF | $300.00 | $0.00 (12)
Walls | 0 | SF | $50.00 | $0.00 (13)
Total Cost of Bridge Items (12+13): |  |  |  | $0.00 (14)
Traffic and Safety
Traffic and Safety Items | 260 | LF | $3.00 | $780.00 (15)
Special T & S Items | 0 | LS | $0.00 | $0.00 (16)
Total Cost of T & S Items (15+16): |  |  |  | $780.00 (17)
Construction Subtotal (11+14+17) |  |  |  | $96,155.00
Preliminary Engineering (12%) |  |  |  | $11,538.60
Right of Way Acquisition |  |  |  | $0.00
Construction Engineering & Contingencies (15%) |  |  |  | $14,423.25 (20)
Rounded Preliminary Cost Estimate Total (18+19+20) = |  |  |  | $122,000.00
## Preliminary Cost Estimate

### Susie Wilson Road Corridor Improvements

**Essex, Vermont**

**Concept:** Morse - David Connector Road

**By:** G. Bakos

**Date:** 12/09/09

**VHB Project:** 57337

### Roadway Items

Length of new road = Approx. 100’

Assume basic 24’ wide curbed roadway connector.

Assume 4” pavement with 24” base.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earth Borrow</td>
<td>0</td>
<td>CY</td>
<td>$12.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Rock Excavation</td>
<td>0</td>
<td>CY</td>
<td>$25.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Common Excavation</td>
<td>200</td>
<td>CY</td>
<td>$10.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Pavement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pavement</td>
<td>65</td>
<td>Ton</td>
<td>$90.00</td>
<td>$5,400.00</td>
</tr>
<tr>
<td>Subbase</td>
<td>180</td>
<td>CY</td>
<td>$30.00</td>
<td>$5,400.00</td>
</tr>
<tr>
<td>Sand Borrow</td>
<td>0</td>
<td>CY</td>
<td>$20.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Subtotal Cost of Roadway Items (1+2+3+4+5+6): $13,250.00 (7)

Cost Factor (Urban): 2.25 (8)

Factored Roadway Cost (7x8): $29,812.50 (9)

Special Roadway Items:

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guardrail</td>
<td>0</td>
<td>LM</td>
<td>$30.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Landscaping</td>
<td>1</td>
<td>LS</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Drainage Improvements</td>
<td>1</td>
<td>LS</td>
<td>$10,000.00</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>

Special Roadway Items Total: $13,000.00 (10)

Total Cost of Roadway Items (9+10): $42,812.50 (11)

### Structure Items

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge construction</td>
<td>0</td>
<td>SF</td>
<td>$300.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Walls</td>
<td>0</td>
<td>SF</td>
<td>$500.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Total Cost of Bridge Items (12+13): $0.00 (14)

### Traffic and Safety

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic and Safety Items</td>
<td>100</td>
<td>LF</td>
<td>$3.00</td>
<td>$300.00</td>
</tr>
<tr>
<td>Special T &amp; S Items</td>
<td>0</td>
<td>LS</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Total Cost of T & S Items (15+16): $300.00 (17)

### Construction Subtotal (11+14+17)

$43,112.50

### Preliminary Engineering (12%)

$5,173.50

### Right of Way Acquisition

$0.00

### Construction Engineering & Contingencies (15%)

$6,466.88 (20)

### Rounded Preliminary Cost Estimate Total (18+19+20) = $55,000.00
Preliminary Cost Estimate
Susie Wilson Road Corridor Improvements
Essex, Vermont

Concept: Ewing Drive - Lowes Connector Road
Date: 12/09/09
By: G. Bakos

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roadway Items</strong></td>
<td></td>
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<tr>
<td>Length of new road = Approx. 120'</td>
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<tr>
<td>Assume basic 24' wide curbed roadway connector. Assume 4&quot; pavement with 24&quot; base.</td>
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<tr>
<td>Earthwork</td>
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<tr>
<td>Earth Borrow</td>
<td>100</td>
<td>CY</td>
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<td>LM</td>
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Preliminary Cost Estimate
Susie Wilson Road Corridor Improvements
Essex, Vermont

Concept: Kellogg Road / Susie Wilson Intersection
Date: 12/09/09
By: G. Bakos
VHB Project: 57337

Roadway Items
Length of new road = Approx. 220' - Jughandle / tapers, etc.
Assume basic 22' wide curbed ramp for jughandle.
Assume 6" pavement with 24" base.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
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<td>Earthwork</td>
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</tr>
<tr>
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<td>$1,200.00</td>
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<tr>
<td>Rock Excavation</td>
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<td>0</td>
<td>SF</td>
<td>$300.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Walls</td>
<td>0</td>
<td>SF</td>
<td>$50.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Cost of Bridge Items (12+13):</td>
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<td>Traffic and Safety Items</td>
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<td>LF</td>
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<td>$600.00</td>
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<td>LS</td>
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<td>$5,000.00</td>
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<tr>
<td>Total Cost of T &amp; S Items (15+16):</td>
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<td></td>
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<td>Preliminary Engineering (12%)</td>
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<tr>
<td>Right of Way Acquisition</td>
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<td>$0.00</td>
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<td>$120,000.00</td>
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</table>
# Preliminary Cost Estimate

## Susie Wilson Road Corridor Improvements

**Essex, Vermont**

### Concept: David Drive to Bagel Works Connector

**By:** G. Bakos

**Date:** 12/09/09

**VHB Project:** 57337

## Roadway Items

- **Length of new road =** Approx. 180'
- **Assume basic 24' wide curbed roadway connector.**
- **Assume 4" pavement with 24" base.**

#### Earthwork

<table>
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<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Borrow</td>
<td>0</td>
<td>CY</td>
<td>$12.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Rock Excavation</td>
<td>0</td>
<td>CY</td>
<td>$25.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Common Excavation</td>
<td>320</td>
<td>CY</td>
<td>$10.00</td>
<td>$3,200.00</td>
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#### Pavement

<table>
<thead>
<tr>
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<th>Quantity</th>
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<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$90.00</td>
<td>$9,900.00</td>
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<tr>
<td>Subbase</td>
<td>320</td>
<td>CY</td>
<td>$30.00</td>
<td>$9,600.00</td>
</tr>
<tr>
<td>Sand Borrow</td>
<td>0</td>
<td>CY</td>
<td>$20.00</td>
<td>$0.00</td>
</tr>
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</table>

**Subtotal Cost of Roadway Items (1+2+3+4+5+6):** $22,700.00

#### Cost Factor (Urban)

2.25

**Factored Roadway Cost (7x8):** $51,075.00

#### Special Roadway Items:

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
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<th>Unit Price</th>
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</thead>
<tbody>
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<td>$0.00</td>
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<tr>
<td>Landscaping</td>
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<tr>
<td>Drainage Improvements</td>
<td>1</td>
<td>LS</td>
<td>$10,000.00</td>
<td>$10,000.00</td>
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</tbody>
</table>

**Special Roadway Items Total:** $12,000.00

### Structure Items

- **Bridge construction**
- **Walls**

#### Traffic and Safety

<table>
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<tr>
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<th>Unit</th>
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<th>Amount</th>
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**Total Cost of T & S Items (15+16):** $540.00

### Construction Subtotal (11+14+17)

$63,615.00

### Preliminary Engineering (12%)

$7,633.80

### Right of Way Acquisition

$0.00

### Construction Engineering & Contingencies (15%)

$9,542.25

### Rounded Preliminary Cost Estimate Total (18+19+20) =

$81,000.00
Appendix B: Susie Wilson Road Alternative Financing Study

Susie Wilson Road Alternative Financing Study
Prepared by Michael J. Munson
TOWN OF ESSEX

ALTERNATIVE FINANCING APPROACHES FOR ROAD IMPROVEMENTS IN THE SUSIE WILSON ROAD AREA

Prepared by
Michael J. Munson, Ph.D., FAICP
And VHB Pioneer

February 8, 2010
Executive summary: At the request of the Town, the consultants have identified several potential approaches to funding the planned roadway improvements in the Susie Wilson Road area: Tax Increment Financing, Development Impact Fees, and several variations of Special Assessment Districts. Based on an analysis of the needed roadway improvements and the existing and expected development in the area, it is recommended that a Special Assessment District be created to fund these improvements. Three variations of the Special Assessment District were examined, one based on the floor area of enclosed building space on each property, one based on the total assessed value of each property, and one based on the assessed value of structures on each property. All have their own strengths and weaknesses. The analysis is described in the following report. The report concludes by recommending that the Town pursue either the use of a Special Assessment District based on assessed structural value, with credit for prior road improvement payments, or the use of trip end based development impact fee.

1.0 Introduction

In the Town of Essex, Vermont, the area around Susie Wilson Road and Kellogg Road has evolved as a major development center, being home to hotels, food service establishments, and various business establishments. This development is expected to continue and be supplemented with some higher density residential development. While most of the basic road infrastructure is already in place, there are some deficiencies, and a number of needed improvements have been identified. While Susie Wilson Road and Kellogg Road both serve as regional collectors, the improvements identified generally serve to improve access and circulation to existing development and the relatively few undeveloped lots. For this reason, it is felt that the cost of these improvements should be borne by the development in the area, and not by the entire town.

The Town has retained the engineering firm of V.H.B., Pioneer, along with consultant Michael J. Munson, Ph.D., FAICP, to identify and explore alternative approaches to funding these improvements other than the traditional use of general fund revenues.

Unlike water and sewer improvements, road improvements cannot easily be funded by user charges because it is difficult to isolate individual vehicles in order to assess the charge. Thus, some other approach was needed. A search of the available literature resulted in the identification of three basic approaches to equitably apportion the costs of infrastructure improvements among the properties that will benefit from those improvements—Tax Increment Financing (TIF), Development Impact Fees (DIF), and Special Assessment Districts (SAD).

A. Tax Increment Financing (TIF) Districts. In many cases an infrastructure project is intended to enable new development which could not occur without the infrastructure improvements. The new development adds to the municipality’s property tax base and thus generates an increment in property tax revenues. TIF is a mechanism for capturing some or all of that increment in tax revenues and directing it towards paying for the infrastructure investment that enabled the development. The TIF does not change the local tax rate or the taxes paid by the new development; it simply diverts the tax revenue increment from other government services to the infrastructure project. TIF relies on the increment in tax revenues generated by new development. In areas that are substantially built-out, this increment may be limited.
In Vermont there are two separate local property taxes that are potentially impacted by TIF: the local municipal property tax, and the education property tax (which includes both a local and a statewide component). In the Town of Essex, the local municipal tax rate accounts for only 23.2 percent of the total tax rate. It appears that Vermont municipalities have the ability to create a TIF district and redirect the increment in municipal property tax revenues to pay for the needed infrastructure at any time, in accordance with 24 V.S.A., Chapter 53, Sub-Chapter VI. Before a municipality may establish a TIF for the purposes of diverting education property tax revenue increments towards infrastructure funding, it must first obtain approval from the Vermont Economic Progress Council (VEPC), in accordance with 32 V.S.A., Chapter 135. At present only a limited number of municipalities may be awarded VEPC approval. The approval criteria are quite rigorous and are based on the amount and quality of development that will be enabled by the proposed infrastructure improvements. The assumption is that the new development will not occur unless the improvements are implemented.

Since the Susie Wilson Road area is largely developed, it is not felt that TIF is particularly applicable. It is also felt that it is extremely unlikely that the area would qualify for VEPC approval. Thus, the TIF option was not explored further.

B. Development Impact Fees (DIF). These are fees levied on new development to offset the cost of providing infrastructure needed to address increased demand from the development (per 24 V.S.A., Chapter 131). Only the portion of infrastructure projects that actually provide increased capacity to accommodate new development are eligible for DIF funding. The fees are collected when new development obtains zoning permits. Since the timing of new development is uncertain, the flow of DIF revenues is also difficult to predict. Infrastructure projects that accommodate demands from development outside of the host municipality are not covered by DIFs, nor are infrastructure projects aimed at remedying existing service deficiencies. Thus, DIF revenues are unlikely to cover 100 percent of the cost of an infrastructure project.

Development impact fees may be applied on a municipal wide basis to fund infrastructure improvements that serve the entire community, or may be applied to a smaller district or area which will specifically benefit from the proposed infrastructure improvement.

It is necessary to develop a formula for impact fees that specifically link the demands from development to the cost for the infrastructure improvement. For transportation infrastructure, this is typically expressed as a cost (or fee) per PM Peak Hour trip generated by new development. If the DIF revenues are not spent on the planned improvement within six years of being collected, they are to be returned to the then owners of the development from which they were collected.

C. Special Assessment Districts (SAD). A municipality may establish a Special Assessment District to fund specific infrastructure improvements that benefit primarily the properties

Fred Kenney of Vermont Economic Progress Council (VEPC) has indicated that they at VEPC are not sure that a TIF solely for municipal tax revenues can be implemented without VEPC approval.
within the district, in accordance with 24 V.S.A., Chapter 87. A SAD must be approved by a majority of the voters of the municipality unless the owners of all property located in the proposed district agree to the special assessment. The assessment may be based on assessed value, frontage, lot area, floor area, or any other measure that effectively links the amount of the assessment to the benefits received by the property. The assessment will apply to the property as it exists at the time the special assessment is established, and will continue to apply to those properties in subsequent years as new development takes place, until all costs for the specified infrastructure improvements have been paid, or until any expiration date included with the establishment of the special assessment. Thus, the SAD will generate an initial annual cash flow that will grow as new development takes place.

The remainder of this report will focus on the Development Impact Fee (DIF) and Special Assessment District (SAD) approaches.

2.0 The Susie Wilson Road Area:

The Susie Wilson Road area is the industrial, commercial, and mixed use area surrounding the intersection of Susie Wilson Road and Kellogg Road. The area extends along Susie Wilson Road almost to the intersection with Vermont route 15, and along Kellogg Road to the Town boundary. Primary access to the area is from the west on Kellogg Road, from the north on the Susie Wilson Road Bypass, and from the south where Susie Wilson Road intersects with Vermont Route 115. As this area has evolved, traffic volumes have increased and various improvements have been implemented. Deficiencies remain, however, and a series of improvements has been identified as necessary to improve access to the area and circulation within the area.

A. Proposed Improvements: Based on previous studies and discussions with the Public Works Director, the following roadway projects are included in this analysis:

- Improvements to the Susie Wilson Road/Vermont Route 15 Intersection: While this intersection currently functions at close to capacity, major improvements are not expected in the immediate future. Nonetheless, some improvement to turning movements can be achieved by eliminating the jug-handle feature which allows westbound traffic to make u-turns. With the current geometry, cars attempting this maneuver frequently obstruct the normal traffic lanes, thus adding to congestion. By eliminating the jug-handle and causing traffic to use Joshua Drive to reverse directions, this hazard can be eliminated.

- Ewing Drive/Lowes Connector: Traffic attempting to exit Ewing Drive by turning left onto Susie Wilson Road frequently experiences significant delays. This can be reduced by creating a connector from Ewing Drive to the Lowes plaza, allowing traffic to utilize the signalized intersection at Lowes to enter Susie Wilson Road.

- Bagel Market Parking Lot/David Drive Connector: Traffic attempting to exit the Bagel Market by turning left onto Susie Wilson Road frequently experiences significant delays. This can be reduced by creating a connector from the parking lot to David Drive, allowing traffic to utilize the signalized intersection at David Drive to enter Susie Wilson Road.
- **Susie Wilson Road/Kellogg Road Intersection**: The geometry of this intersection is difficult and does not offer a convenient means of reversing direction from north-bound to south-bound. In addition, the lack of vehicle detectors causes the signals to operate at less than peak efficiency, particularly during off-peak hours. This can be remedied by installing additional detectors, creating a decel lane, and a jug-handle north of Blair Road.

- **Signal Coordination Along Susie Wilson Road From Vermont Route 15 to Kellogg Road, and along Kellogg Road**: While some of the signals along Susie Wilson Road and Kellogg Road are presently interconnected (three separate sub-systems), the lack of complete interconnections causes the total system to operate at less than maximum efficiency. This can be improved by connecting the three existing subsystems and revising the cycle lengths and timing based on current traffic volume information.

- **Connector Between the Bank and the Recycling Center**: In order to avoid the use of the internal roadway on the Lowes parcel for access to adjacent undeveloped parcels, a connector from the Bank to Susie Wilson Road and the Recycling Center in the Fort Ethan Allen area is proposed. This will allow traffic to use the proposed traffic signal at Fort Ethan Allen’s eastern gate.

- **David Drive/Morse Drive Connector**: Both David Drive and Morse Drive roadways are currently culs-de-sac. To improve internal circulation, a connector between the parking lot at the end of David Drive and Morse Drive is proposed.

Table 1, on the following page, provides the most recent cost estimates for each of these improvements, along with the consultants’ assessment of the degree to which each will serve local traffic (i.e. traffic either starting or ending in the surrounding area), and the degree to which each will create additional capacity to accommodate future development. As shown, the seven roadway improvement projects are estimated to cost a total of $550,000 (excluding costs of any right-of-way acquisition. As shown in the right hand column of Table 1, only a small portion of these expenditures will actually create additional capacity to accommodate future development.

While the timing of these improvements has not yet been established, this analysis will assume that they are to be implemented over the coming decade. It is further assumed that a reserve fund can be established for revenues dedicated to constructing those improvements. An average annual contribution to such a reserve fund of $55,000 over the ten year period would cover the estimated costs.
TABLE 1

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<th>Percent for new dev.</th>
<th>Cost for new local traffic</th>
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<td>45%</td>
<td>10%</td>
<td>$225</td>
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<td>Jug-handle removal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ewing Dr./Lowes Connector</td>
<td>$87,000</td>
<td>45%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td>3. David Dr./Morse Dr. Connector</td>
<td>$55,000</td>
<td>100%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td>4. Kellogg Rd/Susie Wilson Rd</td>
<td>$135,000</td>
<td>45%</td>
<td>40%</td>
<td>$24,300</td>
</tr>
<tr>
<td>Intersection upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Signal Coordination and Interconnect</td>
<td>$85,000</td>
<td>45%</td>
<td>40%</td>
<td>$15,300</td>
</tr>
<tr>
<td>6. Bagel Market/David Dr. Connector</td>
<td>$81,000</td>
<td>0%</td>
<td>0%</td>
<td>$0</td>
</tr>
<tr>
<td>7. Bank/Recycling Center Outlet</td>
<td>$122,000</td>
<td>100%</td>
<td>40%</td>
<td>$48,800</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>$550,000</strong></td>
<td></td>
<td></td>
<td><strong>$88,625</strong></td>
</tr>
</tbody>
</table>

B. The Service Area: These improvements are clearly intended to improve access to and circulation within developments within the Susie Wilson Road area. As such, it is reasonable that the properties that will benefit from the improvements be asked to fund the improvements. Since it is the intent to raise the revenues to fund the proposed roadway improvements by assessing development in the area to be served by the improvements, it is first necessary to delineate a service area which contains the properties that are most likely to benefit from the proposed improvements. A map of this area is shown on page 7. The area includes parcels on Andrew Avenue, Bushey Lane, David Drive, Ewing Place, Gauthier Drive, Joshua Drive, Kellogg Road, Market Place, Morse Drive, New England Drive, Pearl Street (one vacant lot adjacent to Susie Wilson Road), Pinecrest Drive (lots 2-25), Susie Wilson Road (lots 2-57), and Turcotte Road. Altogether the area contains some 200 parcels occupying almost 240 acres. A tabulation undertaken by V.H.B. Pioneer based on recent aerial photos indicates that the area contains a total of 1,671,225 square feet of building space. Michael Munson, with the assistance of the Town’s G.I.S. staff, has determined that the area has a current (2009) total (land plus structures) assessed value of $102,753,800. Similarly, the assessed value of structures in the area is $81,382,600.

Staff at the Chittenden County Metropolitan Planning Organization (CCMPO) were asked to examine traffic volumes in the area, to estimate the portion which originates or terminates in the area, and to estimate the number of trips expected to be generated within the area by anticipated new development. This analysis indicates that approximately 45 percent of traffic in the area starts or ends in the area (local trips), that about 10 percent start and end elsewhere in the Town of Essex, and that roughly 35 percent are through trips that neither start nor end in the area. In addition, it was estimated that local P.M. Peak Hour Trip Ends would increase by 122 over the coming decade. It is noted that an earlier build-out study by Lamoureux & Dickenson estimated that at full build-out the area would see an additional trip generation of approximately 800 P.M. Peak Hour Trip ends. For the purposes of this study, it is assumed that the proposed improvements will be able to accommodate future growth for no more than two decades, and that just over 30 percent of full build-out will...
occur within that time frame. Thus, a total of 250 additional P.M. Peak Hour Trip Ends is assumed.

### MAP 1

SUSIE WILSON ROAD STUDY AREA

3.0 Evaluating The Financing Approaches:

As noted above, it was determined that the Susie Wilson Road area and associated roadway improvements was very unlikely to satisfy the Vermont criteria for approval of a Tax Increment Financing District. Thus, only the Development Impact Fee approach and three variations of a Special Assessment District approach (one using an assessment on non-residential floor area, one using an assessment on total assessed value, and one using the assessed value of structures) are examined here. It should be noted that SADs are not subject to the statutory constraints placed on impact fees, and can be used to fully fund all of the planned roadway improvements that serve the area.

A. Development Impact Fees (DIF): In accordance with 24 V.S.A., Chapter 131, a municipality may levy DIFs on new development to capture the portion of the cost of infrastructure improvements that provide the capacity needed to accommodate anticipated new development at the same level of service provided for existing development. DIF revenues may not be used to remedy existing deficiencies. The Susie Wilson Road area is largely
TOWN OF ESSEX

ALTERNATIVE FINANCING APPROACHES

built-out—with only a few undeveloped parcels. The basic roadway system (Susie Wilson Road and Kellogg Road) functions reasonably well. There is congestion at the Susie Wilson Road/Vermont Route 15 intersection, but major improvements there are far in the future. Most deficiencies relate to individual turning movements or internal access. Table 1 shows seven roadway improvement projects planned for this area. Of these, only four will actually create additional capacity to accommodate future development. Of the estimated total construction cost of $550,000, only $88,625 (16.1 percent) is actually eligible for DIF funding. The remaining 83.1 percent must be funded from non-impact fee sources.

To the $88,615 of actual construction costs for planned roadway improvements must be added the remaining Town debt for earlier improvements. This is estimated at $103,0002. This yields a total of $191,625. At the same time, some projects have already received local approvals which include commitments of payments for roadway improvements. The Public Works Director 3 estimates these commitments at $67,931. This must be deducted since the money will go towards the same improvements. This results in a net of $123,694 to be covered by development impact fees on anticipated future development.

The basic impact formula is created by dividing the Town’s cost for creating additional capacity by the anticipated number of new trips. In this case, the portion of the Town’s cost that represents creation of new capacity is $123,694, and the anticipated number of new trips is 250. Thus, the basic DIF would be $494.78 per P.M. Peak Hour Trip End. From this must be deducted any credits required to eliminate double payment if taxes paid by the new development were used for the specified improvements. A preliminary analysis using the same approach used in the Town’s Recreation Impact Fee Analysis indicates that the credits would amount to approximately 20 percent of the base fees, leaving a net impact fee of $395.82 per P.M. Peak Hour Trip End.

DIF revenues are only collected when a zoning permit for new development is obtained. It is impossible to predict just when new development will occur, but if it is assumed that it generate, on average 12.2 new P.M. Peak Hour Trip ends per year, the annual revenues would be $4,947.75 per year—well below the average of $55,000 per year needed for the reserve fund to cover all of the planned improvements.

B. Special Assessment District (SAD): When a municipality establishes a SAD, it delineates an area containing properties that will benefit from a specified set of public improvements, and levies a special assessment on those properties. The revenues generated by the special assessment are dedicated to paying for construction of the specified improvements. Vermont statutory provisions allow municipalities to base the special assessment on any measure that works to relate the benefits to the charges. Three variations of SADs, each using a different measure, will be discussed here. The three measures are: Non-residential floor area on each parcel; Total assessed value of each parcel; and Assessed structure value on each parcel. For each variation, an estimate of the assessment needed to generate an average of $55,000 per year (the amount assumed to be necessary to fund a reserve fund for

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2 Communication from the Public Works Director, February 2, 2010.
3 Ibid.
constructing all of the identified roadway improvement projects) was generated. In addition, some evaluation of the pros and cons of each measure is provided.

It is important to note that a special assessment will be levied against all properties in the assessment district, including those that have already made substantial contributions (cash or in-kind) to roadway improvements in the area, and others which have not yet been constructed but which have committed to substantial roadway improvement contributions. For such properties, the special assessment would represent double payment. In such cases it is imperative that credits against the special assessment be established to offset the previous or promised contributions. It is recommended that annual credits against the special assessments be established at ten percent of the amount of the previous or promised contribution for each of ten years following that investment, but that the credit not exceed the amount of the special assessment on the subject property in any year.

- Special Assessment on Non-Residential Floor Area: As noted above, the area delineated as the Susie Wilson Area contains an estimated total of 1,671,225 square feet of non-residential floor area. If a special assessment were to be applied to that total with the intention of raising $55,000 per year, the assessment would need to be $0.033 per square foot of floor area. As new development takes place, the total floor space in the area would increase. If the assessment rate stayed constant, the annual revenues would increase—perhaps enough to cover inflating costs.

As in all special assessment districts, this revenue stream would begin as soon as the district is established, so the reserve fund could begin accumulating funds at that time.

The advantage of basing the special assessment on floor area is that it only affects developed properties that are generating some revenue for the property owners.

There are two disadvantages. First, by focusing on non-residential floor area, residential development is not liable for any of the costs of the roadway improvements. Since much of the anticipated development in the area is expected to be residential, this seems inappropriate. It would, of course, be possible to include residential floor area, but this may place an undue burden on affordable housing. The second disadvantage of this approach is that the published tax records of the Town do not seem to include floor area. Thus, it would be necessary to undertake a careful survey of existing properties to establish the baseline, and to incorporate floor area records for all new development.

- Special Assessment on Total Assessed Value: In this variation, the assessment is based on total assessed value of properties in the district, including both residential and non-residential. The special assessment would work exactly like a normal property tax.
In the Susie Wilson Road area, the total assessed value of all properties is estimated to be $102,753,800. If a special assessment were to be applied to that total, with the intention of raising $55,000 per year, the assessment would need to be $0.0535 per $100 of assessed value. In 2009 the effective total tax rate on non-residential properties in the Town of Essex was $1.7304. The special assessment represents an increase of three percent to that tax rate. As new development takes place, the total floor space in the area would increase. If the assessment rate stayed constant, the annual revenues would increase—perhaps enough to cover inflating costs.

This variation has the advantage of assessing both residential and non-residential development. This value is routinely maintained in the Town’s tax records for every tax parcel. The disadvantage is that it will impact undeveloped properties which are not producing any revenues for the property owners.

• Special Assessment on Assessed Value of Structures, only: In this variation, the assessment is based on the assessed structure value on properties in the district, including both residential and non-residential.

In the Susie Wilson Road area, the assessed value of all structures is estimated to be $81,382,600. If a special assessment were to be applied to that total, with the intention of raising $55,000 per year, the assessment would need to be $0.0676 per $100 of assessed structure value. Again, as new development takes place, the total assessed value of structures in the area would increase. If the assessment rate stayed constant, the annual revenues would increase—perhaps enough to cover inflating costs.

This variation results in a slightly higher assessment rate than the variation based on total assessed value, but avoids impacting undeveloped parcels. In addition, this value is routinely maintained in the Town’s tax records for every tax parcel, both residential and non-residential.

4.0 Conclusions and Recommendations:

This analysis suggests that the use of a Tax Increment Financing (TIF) District will be unlikely to generate the funds required to finance the roadway improvements planned for the Susie Wilson Road area. The area is too built out for either of those approaches to be effective. In addition, it is deemed unlikely that the Susie Wilson Road area would qualify for TIF approval by the Vermont Economic Progress Council under current statutory provisions.

The use of the Development Impact Fee (DIF) approach will not generate all of the revenues needed to fund the proposed roadway improvements. DIF applies only to new development, and DIF revenues can only be used to fund added capacity to accommodate that new development. In this case, only a small part of the planned improvement projects will create added capacity.

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4 As reported on the web site of the Vermont Division of Property Valuation and Review.
An alternative approach is the use of a Special Assessment District (SAD). This approach has the advantage of being applied to existing development as well as future development, both of which will benefit from the roadway improvements. Further, by basing the assessment on assessed structural value instead of total assessed value or floor area, the assessment will apply to both non-residential and residential development, but will not apply to undeveloped properties.

It is recommended that the Town Of Essex pursue either the use of a Development Impact Fee (DIF) the use of a Special Assessment District (SAD) to fund the planned roadway improvements in the Susie Wilson Road area.

- If the DIF approach is preferred, the Town should complete additional analyses to establish the appropriate credits to prevent double payments, and implement the fee either as a traffic mitigation fee due upon granting of Subdivision or Site Plan Approval (current practice) or as an Impact Fee in accordance with 24 V.S.A., Chapter 131.

- If the SAD approach is pursued, it should be based on the assessed value of structures on parcels within the district, and should include provision for credits against the assessment to offset previous or promised contributions to roadway improvements in the area.

To carry out either of these recommendations, the Town should first carefully confirm the delineation of the proposed district and carefully identify all parcels contained within it. This will enable the careful calculation of the needed special assessment rate or the identification of all properties subject to the DIF. The Town should then proceed to bring the matter to a public vote (if required) in accordance with statutory requirements. Either approach should remain in place only long enough to generate the funds specified for constructing the identified roadway improvement projects in the Susie Wilson Road area.