SELKIRK BYPASS PUBLIC OUTREACH SESSION & WORKSHOP

March 22, 2007, 6:30 pm

Becker School, Rte 9W, Town of Bethlehem, New York

WORKBOOK

What's Inside?

WORKBOOK PURPOSE AND INTRODUCTION

1. What is the purpose of this workbook?

The purpose of this workbook and accompanying rating and comment sheet is twofold:

To provide the community and other stakeholders with:

- technical information gathered thus far for the three Selkirk Bypass alignment alternatives (Northern, Central, Southern).
- a draft set of principles to be used in guiding selection of a preferred bypass alternative. The preferred alternative will then be moved forward into the next phase of more specific environmental analysis and project development to be undertaken by NYSDOT.

To receive back from the community and other stakeholders:

- comments on the technical information and analysis.
- comments on other issues that may have been missed but should be explored.
- comments on the general location of each the alternative alignments.
- ratings of these alternatives.
- comments on and ratings of the draft set of guiding principles.

2. What is the Route 9W Corridor Study and how does the Selkirk Bypass relate to it?

Building on the Town of Bethlehem's Comprehensive Plan and the New York State Department of Transportation's (NYSDOT's) project development work for the Selkirk Bypass, the Route 9W Corridor Study will develop a transportation plan that gives the corridor a transportation system that works well for all users, is supportive of the town's economic development goals, and respects and strengthens residential neighborhoods along the corridor.

Through this study, the Town together with the study advisory committee is examining the various Bypass alternatives and seeking community input working toward development of community consensus on the most appropriate location of a Selkirk Bypass. As the study progresses later this spring and summer, this will be followed by creation of a corresponding concept level plan along with a cost-benefit analysis to determine the road's financial feasibility.

AGENDA

SELKIRK BYPASS PUBLIC OUTREACH SESSION & WORKSHOP

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A.W. Becker School, Rte 9W, Town of Bethlehem, New York

1. **Introduction/Structure and Purpose of Working Groups: Instructions**

2. **Break out into Working Groups:**

   Northern Alternative Alignment

   Central Alternative Alignment

   Southern Alternative Alignment

Go to your assigned Working Group: Facilitators will move from group to group so that each Working Group gets 3 information/discussion sessions one each on the generalized Northern, Central and Southern Alternative Alignments.

3. **Reconvene to fill out Ratings Sheet and hand in/Any additional Comments**

4. **Next Steps**

MAP 11” x 17”, digital orthophoto showing northern (red), central (yellow), southern (orange) general alignment alternatives

ALTERNATIVES ANALYSIS TABLE DISPLAYING VARIOUS STATISTICS FOR EACH SELKIRK BYPASS ALTERNATIVE

Route 9W Corridor Study	Selkirk Bypass Alternatives Analysis			March 2007	
	Northern Alignment	Central Alignment		Southern Alignment	
Statistics	Alternative Alignment	NYSDOT Proposed Route	Alternative Alignment Option	NYSDOT Proposed Route	Alternative Alignment
Mapped Route Color	RED	YELLOW		ORANGE	
Length	2.0 Miles	2.2 Miles	2.0 Miles	1.0 Miles	1.1 Miles
# of Properties Crossed	8	11	7	6	7
# of Homes within 500 ft.	8	14	30	27	8
Steep Slope Disturbance	2 Significant Crossings	5 Significant Crossings	1 Significant Crossing & 3 Minor Crossings	1 Significant Crossing	1 Significant Crossing
Wetland Disturbance	2 Crossings: 400 ft & 125 ft	3 Crossings: 1000 ft, 300 ft, & 300 ft	2 Crossings: 200 ft & 600 ft	1 Crossing: 275 ft	2 Crossings: 275 ft & 575 ft
Number of new bridges	3 - stream, RR & Thruway	5 - 3 stream, Thruway & RR	2 - stream and RR	1 - RR	2 - RR & Thruway
Number of local roads crossed	1 Crossing	2 Crossings	1 Crossing & 1 Overlay	Overlays Route 396	0
Proximity to other notable uses	Passes close to Senior Housing	None	600 ft to Grade School, passes through water treatment plant site	Close to Gas Distribution Center	Passes through Gas Distribution Center Site
Reduces truck traffic on Maple Ave. (Under most alternatives trucks would not be allowed on Maple Ave., except for local deliveries)	Yes	Yes	Yes	Yes, except on eastern end btwn Bypass & NY 144	Yes
Increase in traffic on other roadway segments, including[1]:					
Bender Lane	No	No		No	
Feura Bush Road	Yes	No		Yes	
Beacon Road	No	No		No	
Wemple Road	Yes	Yes on segment from 9W to the west, westbound only. No on other segments.		No	
Creble Road	No	Yes		No	
NY 144	Yes from Glenmont Rd south	Yes from new Interchange at Creble Rd south		Yes	
NY 396	Yes on segment from 9W to the west. No on other segments.	Yes on segment from 9W to the west. No on other segments.		Yes from 9W to the west, new Bypass segment & btwn Bypass & NY 144.	Yes on segment from 9W to the west & new Bypass segment.
Can a New Interchange be accommodated?	Yes	Yes	Possible, but very restricted	NA	NA
Increase or Decrease in traffic on 9W[1]	Large decrease north of Wemple Rd.	Large decrease between Delmar Bypass and Creble Rd; increase south of Creble Rd.		Small decrease between Delmar Bypass and NY 396; small increase south of NY 396.	
Comparison of length of PM Pk Hr truck trips to/from (as measured by VMT and VHT):	Change in VMT/Change in VHT compared to current trips				
Creble Rd area, west of Rte 9W	decrease/decrease	decrease/decrease		increase/no change	
NY 396 west of 9W/Callanan Industries	increase/decrease	decrease/decrease		increase/decrease	
Distance from Route 9W/Creble Road Intersection[2]	1.0 Miles	0 Miles	0.1 Miles	2.15 Miles	2.15 Miles
Proximity to commercially or industrially zoned lands?	Substantial MED and some Rural Hamlet	Substantial MED and Rural	Substantial MED and Rural	Substantial MED and Rural, some Rural Hamlet	Substantial MED and Rural, some Rural Hamlet

Notes:
VMT - vehicle miles traveled is an indication of operating costs
VHT - vehicle hours traveled provides a travel time measure

1 - assumptions based on overall traffic impact, 2006 trips
2- truck travel patterns indicate most travel to/from S.Bethlehem via 396 west & Creble Rd. Assuming the Creble Rd corridor is

DRAFT STATEMENT OF GUIDING PRINCIPLES TO ASSIST IN EVALUATION OF SELKIRK BYPASS ALIGNMENT ALTERNATIVES

- Improve livability and quality of life of Maple Avenue neighborhood by removing tractor-trailer through traffic

- Establish sustainable economic development opportunities in the Route 9W Corridor area that are consistent with the Town's Comprehensive Plan and amended zoning law.

- Reduce the traffic burden on Route 9W to lessen the need for capital improvements to that road, allowing increased reliance on management actions to meet needs.

- Minimize impacts on existing residents, businesses and environmental resources in the corridor.

- Create the opportunity for a cost effective option that has strong potential for stimulating desired private sector investment and participation in meeting the stated guiding principles.

DISCUSSION OF POTENTIAL ECONOMIC DEVELOPMENT POTENTIAL FOR EACH SELKIRK BYPASS ALTERNATIVE

1. ***Southern Alignment:*** This alignment was originally designed to meet one objective, safety. While it does traverse lands that are zoned for industrial use, it does not materially improve the marketability nor create better access to a significant amount of acreage. This area is constrained by existing rail lines, some wetlands and steep slopes, and a lack of support services. This alignment also requires truck traffic to go southerly on Rt. 9W from Creble Road, a negative for traffic heading northerly on the Thruway. There is limited potential for private sector participation in the capital improvements required to implement this alternative.

2. ***Central Alignment:*** This alignment allows for turn free, direct access of truck traffic from Creble Road to the Thruway. It also provides for new access to hundreds of acres of developable land between 9W and the Thruway. This alternative is slightly south of the limits of existing development pressure and growth. It is reasonable to project that by the time this alternative could be constructed, there will be growth and development pressure immediately nearby. This alignment has great potential to attract private sector participation in the capital improvements required, as major developers will be very interested in the significant new accessibility and marketability of this area of Town. Although there are constraints in this area (wetlands, steep slopes, crossings), there is significant developable land and the potential for extension of the new road east of the Thruway to Rt. 144 would allow for orderly growth and planning for development of the river corridor as well. With a Thruway interchange, access to the Selkirk Rail Yards and the Heavy Industrial Zone between Routes 9W and 32 would be greatly enhanced making this area more attractive for new industrial investment.

3. ***Northern Alignment:*** This alignment requires truck traffic to move northerly and against grade to the by-pass in the vicinity of Jericho Road. This might have a negative effect on the competitive position of truck-dependent business in the Selkirk Rail Yards area. This area is already subject to development pressures but its limited access to the interstate system at present diminishes the marketability of this area for non-residential development. This alternative would provide access to substantial undeveloped lands that are appropriately zoned for clean industrial and mixed-use development. This alternative is similar to the Central alignment with regard to its ability to attract private sector participation in the capital improvements, and its potential for further extension to Rt. 144 and the river corridor.

PRIMER ON TRAFFIC MODELING

The comprehensive evaluation of alternative improvement plans involves the quantitative test of those plans. This requires the preparation of forecasts of travel in the town and the total transportation system of the county, and the region. Such quantitative testing, accomplished through simulation of area traffic, is essential to the design of an integrated transportation system -- a system in which the capacity and operation of the component parts are carefully related to one another and to existing and probable future travel demands.

CDTC evaluated the impacts of the development growth in the Route 9W corridor using the CDTC STEP Model. The CDTC Systematic Traffic Evaluation and Planning (STEP) Model is a travel demand model which utilizes VISUM software. The simulation of travel is based on the premise that the magnitude and pattern of travel is a stable function of the characteristics of the land use pattern and of the transportation system. In travel simulation modeling, those aspects of land use development and of the regional transportation system demand are identified, quantified, and correlated with travel through the analysis of origin-and-destination, land use, and transportation system data. It has been demonstrated that the relationships between land use and the transportation system and attendant travel remain reasonably stable over time, thus enabling the forecast of future travel patterns based upon a future land use development pattern. By considering the future distribution and intensity of land use activity in a corridor and in the surrounding communities as the major factor influencing future traffic patterns, a transportation plan could be developed which would not only serve the existing traffic patterns in the area, but which would also serve the new pattern that will evolve with changing development.

Transportation models are generally structured to analyze the flow of vehicles over highways throughout a specified geographic area. The geographic area is divided into smaller subareas, called traffic analysis zones (TAZ). The street networks are identified by points of intersection, termed "nodes" and segments between nodes, termed "links". Given the necessary transportation system characteristics and knowledge of population and employment location, the sequence of travel simulation occurs in three steps:

1. **Trip Generation:** In which the total number of vehicle trips generated in each zone of a study area is determined using existing relationships between land use and travel. The output from this step is the total number of vehicle trip ends --- that is, trips entering and leaving each zone

of the study area. The total number of trips is dependent upon the trip generation rate used.

2. **Trip Distribution:** Given a street system and knowledge of the location of trips, a model will distribute trips, that is, calculate how many trips are produced in one location and attracted to another. Like Newton's Law of Gravity, from which the technique is derived, the number of trips between each origin and destination pair is inversely proportional to the travel time between each origin and destination and proportional to the attractiveness of one destination relative to all other destinations. This process results in an estimated trip table for all the zones in the region. For a given zone, the trip table estimates where each trip will come from or go to.

3. **Traffic Assignment:** In which the interzonal trips are assigned to existing and proposed highway facilities. The output of this step is the number of vehicles utilizing each link of the arterial street and highway system. The decision which route a vehicle takes is based on a process that seeks to minimize delay or travel time, including considerations of link capacity and congestion effects. The highway network includes all urban and rural Interstates, arterials and collectors in the CDTC four county area.

Figure 1 schematically illustrates these three steps for a simple model structure. This illustration shows that: (1) in the first step of trip generation, 100 trips are produced in Zone 1; (2) in the second step, 20 percent of the 100 trips produced in Zone 1 have been distributed to Zone 7, for example; in the third step of trip assignment that the 20 vehicle trips going from Zone 1 to Zone 7 have been assigned to each link in the path that goes from A to D to G to H to I to J. Repeating the process until all zone-to-zone pairs have been accounted for results in an estimate of the traffic demand on each link in the network.

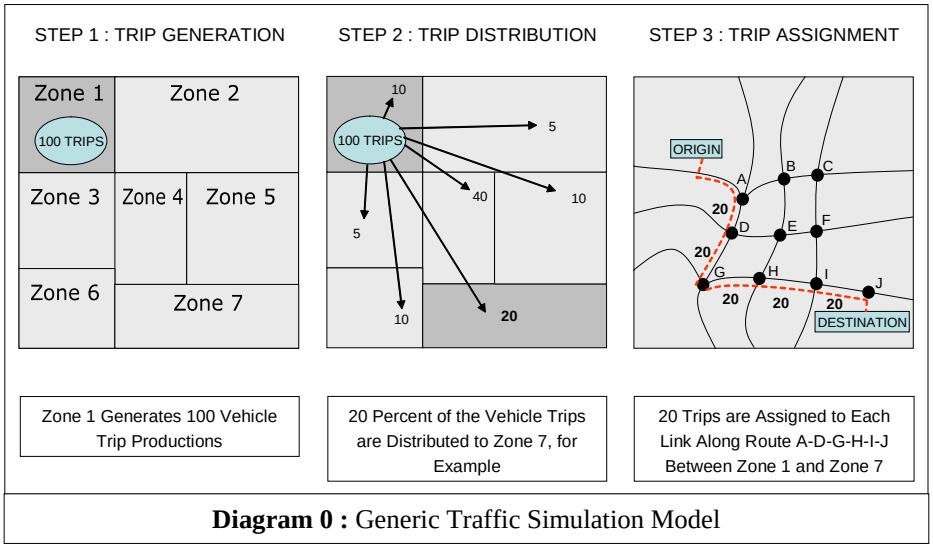


Diagram 0 : Generic Traffic Simulation Model

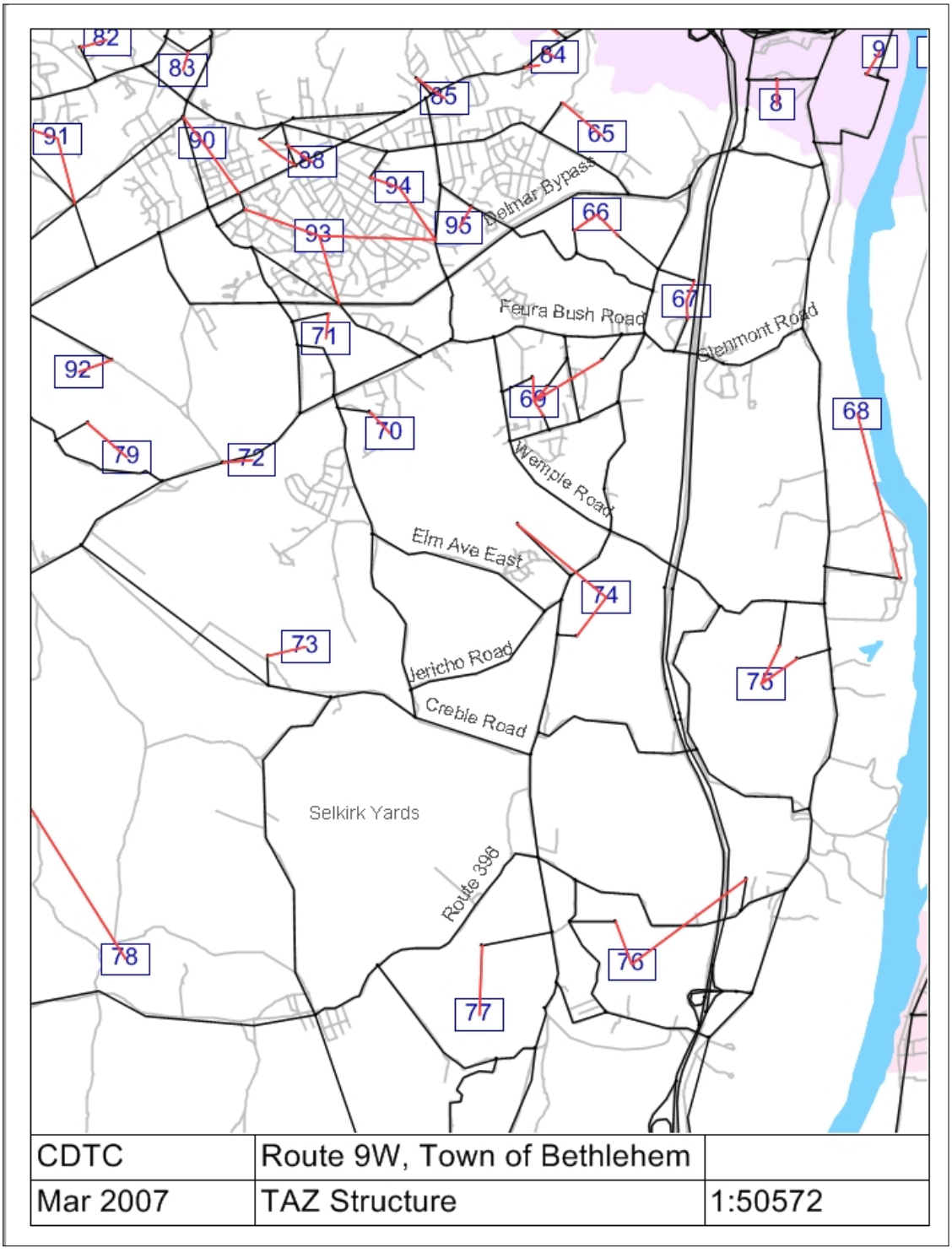
Using this simulation procedure, it is possible to test and verify the workability and efficiency of any proposed transportation system improvement. The quantitative assignment of existing and future traffic demand to the network will reveal areas where traffic levels are above or below capacity and provide the basis for network modification, ultimately resulting in a practical and efficient transportation system plan for which development costs can be calculated.

Town of Bethlehem STEP Model

The CDTC staff, in consultation with the town planning department, developed a corridor version of CDTC's STEP model for use in evaluating future traffic conditions in the town of Bethlehem. The structure of the model was based on CDTC's regional STEP model which contains 950 zones containing the origins and destinations of all trips on the region's major street system and a highway network with over 6,600 links representing the entire functionally classified highway system plus selected local streets of significance to overall traffic flow. The STEP Model was refined in the Bethlehem area, including the addition of more network detail, comparison of simulated volumes to recent traffic counts, and the addition of trip generation expected under different development scenarios.

The following map shows the STEP model network and zone structure for the town of Bethlehem. The Bethlehem version of the STEP model includes 38 traffic analysis zones representing the entire town, including 12 zones within the Route 9W corridor study area. The STEP model generates traffic forecasts for the PM peak hour, generally the critical design period for highway facilities. If necessary, corresponding AM peak hour and daily flow can be derived from STEP model results using traffic count factoring procedures developed by CDTC staff. Calibration of the model involved adjustments to the traffic assignments through corrections to speeds, travel paths, and other model parameters until estimated traffic flow was simulated to actual traffic counts.

MAP OF CDTC'S STEP MODEL NETWORK FOR THE US 9W CORRIDOR

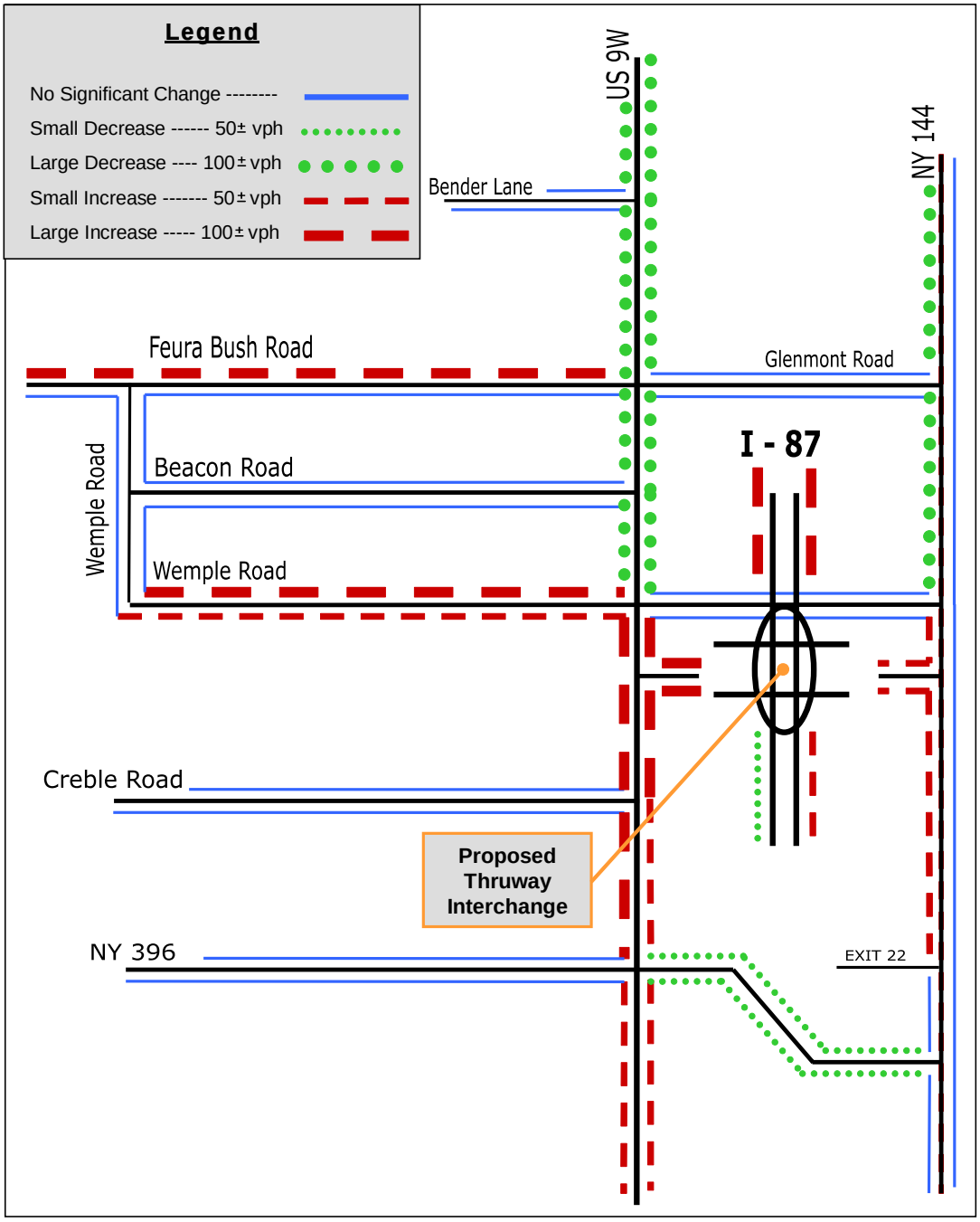


VISUAL REPRESENTATION OF MODELED TRAFFIC CHANGES ATTENDANT TO THE NORTHERN ALIGNMENT

Figure 1 -- Northern Alternative : Wemple Road Area Option

PM Peak Traffic Impact of a New Thruway Interchange in the Vicinity of Wemple Road

Under 2006 Traffic and Land Use Conditions



NARRATIVE ON MODELED TRAFFIC CHANGES ATTENDANT TO LOCATING THE SELKIRK BYPASS IN THE WEMPLE ROAD AREA
(NORTHERN ALIGNMENT)

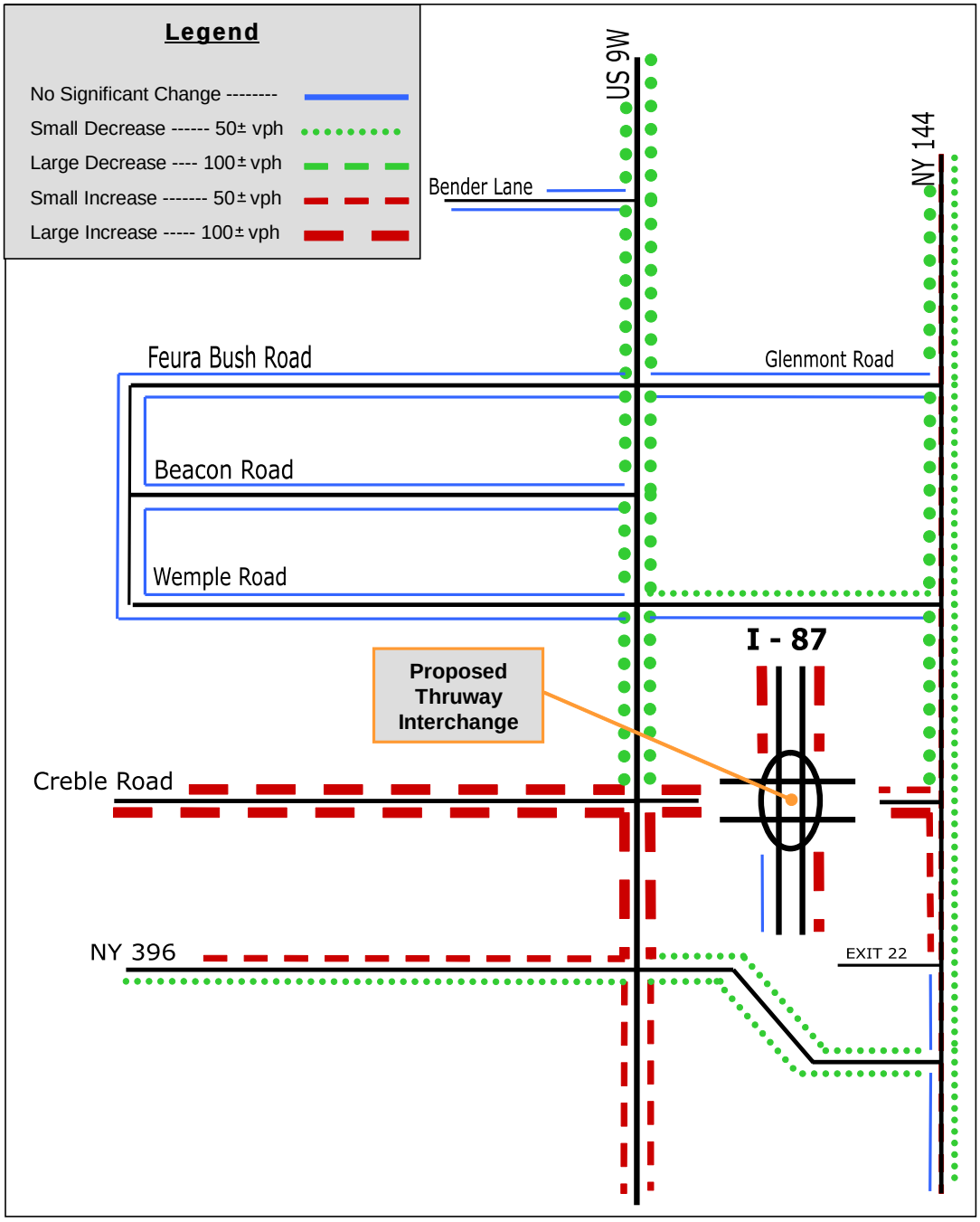
- A new road and interchange in the vicinity of Wemple Road would be expected to lower traffic demand on the northern section of US 9W and NY 144.
- A new thruway interchange in the vicinity of Wemple Road will make the Thruway a more attractive route for travel to/from Glenmont and Delmar, especially for neighborhoods and businesses along the Feura Bush Road and Elsmere Avenue corridors. The model shows that traffic will increase on Feura Bush and Wemple Roads.
- To a lesser degree, access to South Bethlehem via the Thruway will improve as well, shifting traffic to the southern portion US 9W. An alignment that intersects US 9W at Jericho Road (CR 53) will increase traffic levels on Jericho Road.
- Trucks currently using Maple Avenue are primarily oriented to South Bethlehem and the CSX rail yard. Making this new road the truck route will shift freight traffic to a more direct route. Based on the information available to the study team, vehicle miles traveled will decrease by about 11 percent from current travel conditions. Vehicle hours traveled would decrease by about 50 percent. Decreasing VMT and VHT will lower freight operating costs in the corridor.

VISUAL REPRESENTATION OF MODELED TRAFFIC CHANGES ATTENDANT TO THE CENTRAL ALIGNMENT

Figure 2 -- Central Alternative : Creble Road Option

PM Peak Traffic Impact of a New Thruway Interchange in the Vicinity of Creble Road

Under 2006 Traffic and Land Use Conditions



NARRATIVE ON MODELED TRAFFIC CHANGES ATTENDANT TO LOCATING THE SELKIRK BYPASS IN THE CREBLE ROAD AREA
(CENTRAL ALIGNMENT)

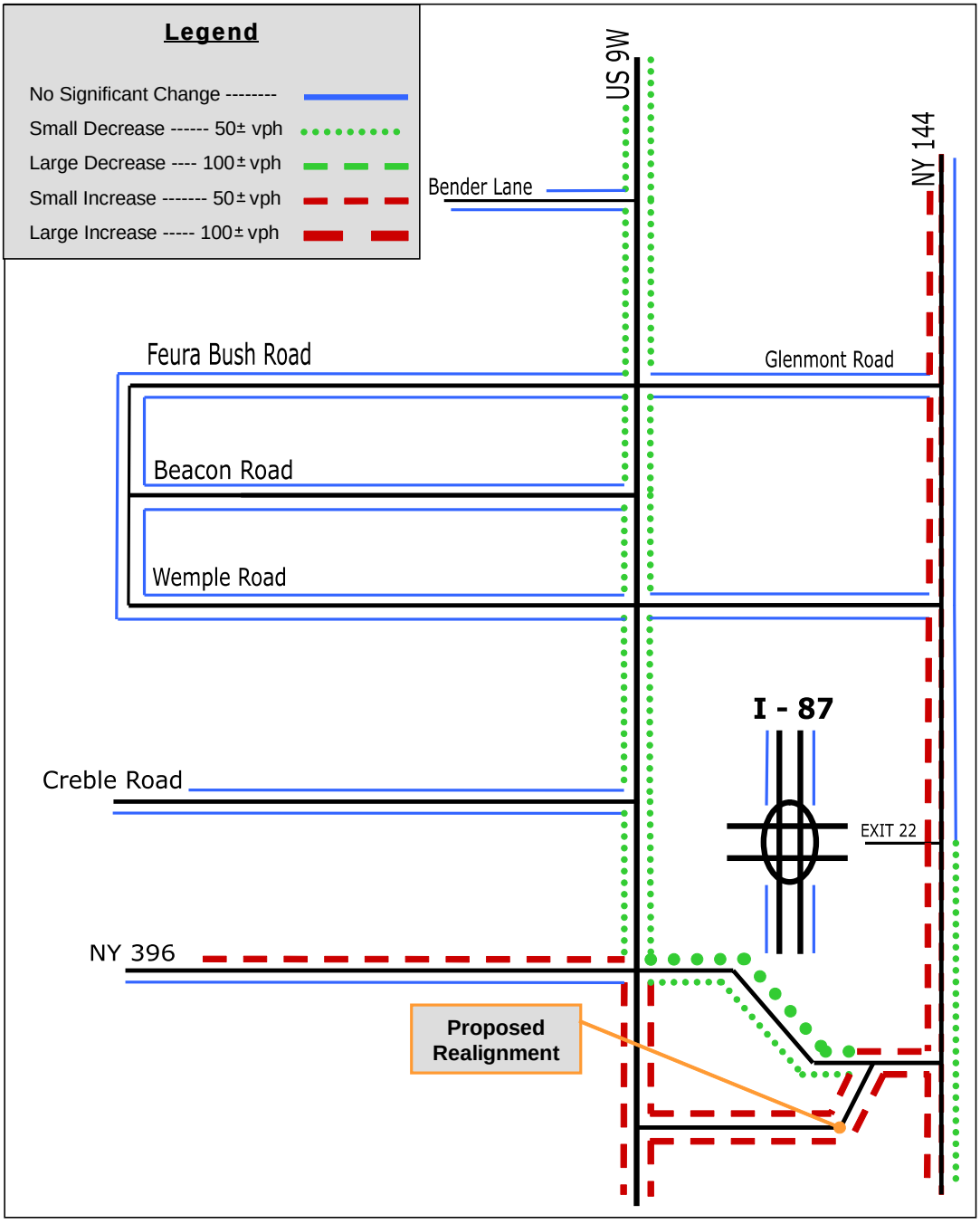
- With a new interchange in the vicinity of Creble Road, the Thruway becomes a more attractive travel route for trips destined to South Bethlehem and points south than US 9W or NY 144.
- Because there will be a direct connection to Creble Road from the Thruway and NY 144, traffic is expected to increase on that road; traffic is also likely to increase somewhat on NY 396 west of US 9W.
- Automobile traffic levels will not change much on Maple Avenue. However, because truck traffic makes up a large proportion of traffic on Maple Avenue and because all truck traffic will be prohibited from using Maple Avenue, overall traffic will decrease.
- Locating a new road/interchange at Creble would have a marginal traffic impact on other roadways. Changes would be very small, in the order of $\pm$ 25 vehicle trips.
- Trucks currently using Maple Avenue are primarily oriented to South Bethlehem and the CSX rail yard. Making this new road the truck route will shift freight traffic to a more direct route. Based on the information available to the study team, vehicle miles traveled will decrease by about 35 percent from current travel conditions. Vehicle hours travelled would decrease by about two-thirds. Decreasing VMT and VHT will lower freight operating costs in the corridor.

VISUAL REPRESENTATION OF MODELED TRAFFIC CHANGES ATTENDANT TO THE SOUTHERN ALIGNMENT

Figure 3 – Southern Alternative : Maple Avenue (NY 396) Realignment

PM Peak Traffic Impact of <u>Realigning</u> Maple Avenue South of Existing NY 396

Under 2006 Traffic and Land Use Characteristics



NARRATIVE ON MODELED TRAFFIC CHANGES ATTENDANT TO REALIGNING MAPLE AVENUE (NY 396) *(SOUTHERN ALIGNMENT)*

- Realigning Maple Avenue will increase the accessibility of South Bethlehem. Small traffic increases along NY 144 and NY 396 and small decreases along most of US 9W would be expected.
- Under the alternative shown in Figure 3, trucks will be removed from most but not all of Maple Avenue. The section of Maple Avenue between the Texas Gas site and NY 144 will continue to be part of the truck route. An alternative that aligns the new road south of the hamlet would remove trucks from Maple Avenue entirely.
- Trucks currently using Maple Avenue are primarily oriented to South Bethlehem and the CSX rail yard. Making this new road the truck route will shift freight traffic to a less direct route. Based on the information available to the study team, vehicle miles traveled will increase by about 16 percent from current travel conditions. However, vehicle hours traveled would decrease by about 30 percent primarily due to faster speeds along the new roadway. Increasing VMT will increase freight operating costs in the corridor.

EXAMPLE RATINGS SHEET AND INSTRUCTIONS

Step One: In row A, please provide us with your home hamlet, neighborhood or street address if you are unsure of your hamlet/neighborhood.

Step Two: Please have a look at the guiding principles, thinking of each principle independently, please rate how important each principle is to you.

- If you believe the principle is of *critical importance* write a **1** in column B.
- If you believe the principle is *important but not critical,* write a **2** in column B.
- If you believe the principle to be *not important,* write a **3** in column B.

Step Three: From what you have learned this evening and your personal opinion, please think about how well each Selkirk Bypass Alternative will achieve the corresponding principle. Please write a **1**, **2**, or **3** for each alternative.

A. *Home Hamlet/Neighborhood:* _____

B. Importance of Principle	**Guiding Principles**	**C.** Rate Alternatives		
		1 - Best Achieves		
1 - Critical Importance		**2** - Should Achieve		
2 - Important, Not Critical		**3** - Does Not Achieve		
3 - Not Important		**Southern**	**Central**	**Northern**
	Improve Livability and Quality of Life of Maple Avenue Neighborhood by Removing Tractor-Trailer Through Traffic			
	Establish Sustainable Economic Development Opportunities Consistent with the Town's Comprehensive Plan and Amended Zoning Law			
	Reduce Traffic Burden on Route 9W to Lessen Need for Capital Improvements, Allowing Increased Reliance on Management Actions			
	Minimize Impacts on Existing Residents, Businesses and Environmental Resources in the Corridor			
	Create the Opportunity for a Cost Effective Option with Strong Potential for Stimulating Desired Private Sector Investment and Participation			
According to Your Opinion, Rate the **Individual** Importance of **Each** Principle		*According to Your Opinion,* Rate the **Relative** Ability of **Each** Alternative to Achieve the Principle		

Instructions for Completing this Form

A. *Home Hamlet/Neighborhood* = Fill in the area where you live (i.e. Glenmont, Selkirk, or Street Address, etc...)

B. *Importance of Principle* = Fill in 1, 2 or 3 according to your opinion

C. *Rate Alternatives* = Fill in a rating of 1, 2 or 3 for each alternative depending on how you think it meets each principle

Please Provide any Additional Notes or Observations on the Back of this Sheet