TRAFFIC SIGNAL COORDINATION PLAN FOR DOWNTOWN NEW MILFORD, CT

INTRODUCTION

New Milford's downtown and related Route 7 corridor represent the second most congested traffic system in the Housatonic Valley Planning Region. Its congestion problems are well known to local, regional and Connecticut Department of Transportation (CONNDOT) officials. These signalized intersections have never been evaluated as a system with the goal of upgrading signal hardware and introducing coordination that would improve system efficiency and thereby improve ambient air quality.

Downtown New Milford is the focus of heavy traffic volumes. Routes 67 and Route 202 travel through the downtown and provide access from locations north and south of New Milford. As a result, traffic circulation in the downtown area has been a primary concern for the Region. Several studies have been undertaken in the downtown to understand the origin and destination of vehicles traveling through the downtown and investigate alternatives to improve traffic circulation.

The purpose of this study is to develop a coordination concept for integrating signalized intersections along Bridge Street that operate independently and that have no coordination at present.

DESCRIPTION OF DOWNTOWN ROADWAYS

Route 7

Route 7 does not run through downtown New Milford and is located to the west of the Housatonic River and the downtown area. Its cross section provides one travel lane in each direction and turning lanes at the Bridge Street intersection.

Bridge Street (Route 202/Route 67)

Bridge Street provides the main access into downtown New Milford from Route 7 on the west, Route 67 on the east, and Route 202 on the north. Its cross section varies from two to four lanes with turning lanes provided at several locations. Its intersection with Route 7 is signalized with a fully actuated controller. Signals are also located at its

intersection with West Street, Railroad Street/Middle Street, and West Main Street/South Main Street. Its intersection with Route 67/Route 202 is controlled by STOP signs, but will be signalized in the future and turn lanes will be added.

East Street (Route 202)

East Street connects Route 67 and Bridge Street with Elm Street. It has primarily a two lane cross section. The East Street (Route 202)/Elm Street intersection is signalized. There are no turn lanes provided at the East Street/Elm Street intersection.

Main Street West/Main Street East

Main Street West and Main Street East form a one-way couplet in downtown New Milford. Main Street West operates one-way south between Elm Street and Bridge Street while Main Street East operates one-way north between Bridge Street and Elm Street. Main Street East provides access to the New Milford Town Hall and other businesses in downtown New Milford. The Bridge Street/Main Street West/South Main Street intersection is signalized.

Elm Street

Elm Street is a two-lane east-west roadway in downtown New Milford between Main Street West and East Street.

Railroad Street

Railroad Street is a north-south roadway in downtown New Milford which connects Bridge Street to points north. The New Milford Railroad Station is located on Railroad Street. The Route 202/Railroad Street/Middle Avenue intersection is signalized and has a railroad pre-emption phase at the railroad crossing located west of the intersection. The Railroad Station is a non-functional station at this time.

West Street

West Street is a two-way north-south roadway off the south side of Bridge Street in downtown New Milford. The Route 202/West Street intersection operates under a flashing signal operation and is located just west of the at-grade railroad crossing. The Route 202/Railroad Street/Middle Avenue and Route 202/West Street intersections operate under the same traffic signal controller.

South Main Street

South Main Street is located off the south side of Bridge Street opposite Main Street West. It is a two-lane roadway providing connection to downtown New Milford from areas located south of Bridge Street.

Grove Street

Grove Street is two-lane roadway oriented in a north-south direction. Grove Street intersects Route 67 just south of the Route 202/East Street/Bridge Street intersection. The Route 67/Grove Street intersection is not currently signalized.

EXISTING (2001) TRAFFIC VOLUMES

A detailed traffic counting program was undertaken by Wilbur Smith Associates (WSA) on Wednesday, November 7, and Thursday, November 8, 2001. Traffic counts were conducted during the weekday P.M. peak period (4:00 to 6:00 P.M.) at the following locations in downtown New Milford:

- Route 7 (Kent Road) and Route 67/202 (Bridge Street);
- Route 67/202 and Young's Field Road;
- Route 67/202 and West Street;
- Route 67/202 and Railroad Street/Middle Street;
- Route 67/202 and Main Street West/South Main Street;
- Route 67/202 and Main Street East;
- Route 67 and Route 202/East Street;
- Route 202 and Church Street;
- Route 202 and Elm Street/Elm Street Extension;
- Main Street East and Elm Street;
- Elm Street/Bennitt Street and Aspetuck Avenue/Main Street West; and,
- Housatonic Avenue and Wellsville Avenue/Bennitt Street/Railroad Street.

Figure 1 represents the existing (2001) P.M. peak hour traffic volumes in the study area during the P.M. peak hour condition. These volumes generally range from about 120 vehicles per hour on Wellsville and Aspetuck Avenues at Housatonic Avenue and Bennitt Street respectively to about 1,200 vehicles per hour northbound on Route 7 at Bridge Street and eastbound on Bridge Street at Young's Field Road.

Table 1 shows weekday two-way peak hour traffic volumes at selected locations along Bridge Street during the P.M. peak hour.

Table 1
Existing (2001) Two-way P.M. Peak Hour
Traffic Volumes along Bridge Street

Location	P.M. Peak Hour Traffic Volumes	
	Eastbound	Westbound
Bridge Street		
West of Housatonic River	1209	977
West of West Street	924	920
West of Railroad Street	879	877
West of W. Main Street	705	702
West of E. Main Street	1057	436
West of Route 67/East Street	695	507

Source: Based on turning movement counts conducted by WSA in November, 2001.

As indicated in Table 1, the P.M. peak hour traffic volumes are generally higher in the eastbound direction than the westbound direction. In addition, the two-way traffic volumes are higher at the western end of Bridge Street compared to the eastern end near the Route 67/East Street intersection.

ORIGIN AND DESTINATION SURVEYS

To better plan for traffic signal improvements in the Downtown New Milford area, a vehicle origin and destination survey was conducted during the weekday peak 7:00 A.M. to 9:00 A.M. period on Wednesday, April 10, 2002. The origin and destination pattern was obtained by recording license plate information at various locations, then looking for matches.

The following four locations were part of the origin and destination survey:

1. The traffic origin point at Route 202 north of Elm Street where license plates were recorded in the southbound direction;

2. Main Street West north of Route 67/202, with license plates recorded in the southbound direction;

3. Route 67/Grove Street south of Route 202, with license plates recorded in the southbound direction; and,

4. To the southwest across the Housatonic River on Route 7 north and south of Veterans Bridge, where license plates were recorded after turning in both the northbound and southbound directions.

The origin point for the survey, Location 1 above and as shown by the red circle on Figure 2, was as noted on the north edge of the Downtown at the Route 202/Elm Street intersection. All license plate data was recorded in the southbound direction from that point. The license plate data collected at Location 1 was then matched with Locations 2, 3, and 4 to estimate travel patterns thru the Downtown.

Figure 2 shows the results of the origin and destination survey after adjusting the sample size to 100%. Various color bands as shown in Figure 2 depicting paths from the origin point reveal the following information:

- The "**Red Band**" indicates that approximately 30% of the southbound traffic which originates at the Route 202/Elm Street intersection traverses west through Elm Street and then stops in Downtown New Milford;

- The "**Orange Band**" indicates that of the 36% of origin point traffic destined towards Route 7 and not passing thru the heart of Downtown via Main Street West, 12% uses the Bennitt Street/Railroad Street/Bridge Street combination to do so and the remaining 24% uses the combination of East Street/Bridge Street;

- The "**Yellow Band**" indicates that approximately 6% of origin point traffic destined towards Route 7 travels through Downtown New Milford without stopping. Combined with the 36% from the Orange Band above, this is a total of 42% of traffic from the origin point seeking Route 7;

- The "**Purple Band**" indicates that approximately 16% of origin point traffic proceeds directly down East Street towards Route 67/Grove Street. Once there, most of this traffic, 88%, turns right to continue south on Grove Street, while the remaining 12% continues on Route 67 southeasterly; and,

- The "**Green Band**" indicates that approximately 12 % of the origin point traffic is destined towards Route 67/Grove Street via Elm Street/Main Street/Bridge Street. This is a more round about route to the same destination as reached by the Purple Band traffic above. Once there the split is 83% for Grove Street and 17% for Route 67 southeasterly, similar to the split for the Purple Band.

Table 2 below shows the percent of total traffic associated with each band (sample size proportioned to 100 percent)

Table 2
Origin and Destination Survey Total

Band	Percent
Red Band	30
Orange Band	36
Yellow Band	6
Purple Band	16
Green Band	12
Total	**100**

Source: Based on Origin and Destination survey conducted By WSA on April 10, 2002.

In overview, **42%** of the southbound traffic on Route 202 from north of Elm Street is oriented towards Route 7. Note that of this total, for westbound traffic on Bridge Street the split at Route 7 is 19% to Route 7 north and 81% to Route 7 south.

Approximately **30%** of the southbound traffic on Route 202 from north of Elm Street currently travels through Main Street West into Downtown New Milford where the trips end.

Then approximately **28%** of the southbound traffic on Route 202 is oriented due south towards Route 67 and Grove Street.

The three percentages in bold above total to 100%.

OVERVIEW OF SIGNALIZATION

Table 3 gives the spacing between signalized intersections along the Route 202 corridor (Bridge Street and East Street) in New Milford.

Table 3
Signalized Intersection Spacing on the Route 202 Corridor

Signalized Intersection	State Milepost No.	Signal Spacing (1)	Signal System (2)	Signal Revision Date (3)	Accident Rate (4) (5)
Route 202/Route 7	19.27	-	-	1999	0.38
Route 202/West St./Railroad St./Middle St.	19.55	1615'	A1	1999	**1.35**
Rt. 202/Main St. West/S. Main St.	19.64	500'	A2	1999	0.48
Route 202/Route 67/Grove St. (Proposed signal)	19.77	700'	-	Proposed	**1.13**
Route 202/Elm St./Elm St. Extension	20.07	1590'	-	2001	0.67

Note: (1) Traffic signal spacing was obtained from travel time run data collected by Wilbur Smith Associates.
(2) "A" denotes Signal System 1.
(3) Represents the year the signal was last revised.
(4) Accidents per million vehicle miles of travel.
(5) Bolded values indicate that this intersection is listed on the Suggested List of Surveillance Study Sites (SLOSSS).
Source: Wilbur Smith Associates

All signalized intersections are state-owned. The Route 202/West Street/Railroad Street/Middle Street and Route 202/W. Main Street/S. Main Street intersections are coordinated. A 90 second cycle is provided at the two intersections.

The Route 202/West Street and Route 202/Railroad Street/Middle Street intersections operate from the same controller. There is an existing at-grade railroad crossing at this location that triggers a railroad pre-emption phase when trains cross Route 202. When the railroad pre-emption phase is actuated, a clearance phase is initiated in the eastbound direction to clear traffic on the railroad tracks. Following the clearance phase, traffic movements are allowed along Railroad Street and Middle Street with turn restrictions to traffic oriented towards the railroad tracks. After the train passes through the intersection, the traffic signal returns to its normal operation.

In addition, the Bridge Street eastbound left turn phase and a restricted right turn phase on southbound Railroad Street allow left turns from the Municipal Parking Lot.

EXISTING SIGNAL HARDWARE AND EQUIPMENT

Existing signal hardware and equipment information were recorded along Bridge Street and East Street corridors. The following observations were obtained from the field surveys:

- All intersections along the Bridge Street and East Street corridors have span wire mounted signals:

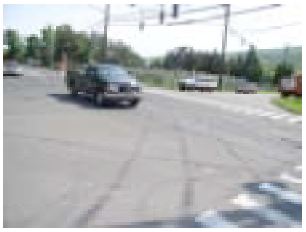
- The following is a list of controllers at various intersections along the corridor:

  - Route 7/Bridge Street (Route 202) – ***Crouse Hinds (Series 300)***
  - Bridge St./West Street/Railroad St./Middle Street – ***Eagle Signal (EPAC 300)***
  - Bridge Street/South Main Street/Main Street West – ***Model 1880 E***
  - East Street (Route 202)/Elm Street – ***Series 314***

- Vehicle detection is provided on Bridge Street and side-street approaches at all intersections;

- Pedestrian phases are provided at the following intersections:

  - Bridge St./West Street/Railroad St./Middle Street;
  - Bridge St./S. Main St./Main Street West; and,
  - East Street (Route 202)/Elm Street.



  The pedestrian phases are exclusive and are activated based on a push-button.

- An audible pedestrian phase is provided at the Bridge Street/S. Main Street/Main Street intersection; and,

- There are no emergency pre-emption installations at the intersection locations.

FUTURE ROADWAY PROJECTS

Various roadway improvement projects are proposed along Route 202 to improve traffic flow in the area. Some of the projects under consideration are listed below:

1. Route 7/Route 202
   The Route 7/Route 202 intersection is three-way and is located west of downtown New Milford. Under the proposed roadway improvement plan, Peagler Hill Road will form the fourth leg into the intersection from the west. In addition, the travel lane on Route 202 westbound from the Veterans Bridge will be aligned with the outside left turn lane at the intersection. As a result of the proposed configuration at the Route 7/Route 202 intersection, the Peagler Hill Road and Route 202 approaches will have a split-phased signal operation. This will result in a four phase operation at the intersection. This project is part of State Project No. 95-220 which is ready for construction.

2. Route 67/Route 202/Grove Street
   The Route 67/Route 202 intersection (Bridge Street and East Street) has STOP controls on the Route 202 southbound and the Route 67/Route 202 eastbound approaches. The Route 67/Grove Street intersection also has STOP control on the Grove Street approach. Under the proposed roadway improvement plan, Grove Street will be realigned to meet Route 67 and Route 202 and form a four-way intersection. A traffic signal is proposed at this location. This improvement will eliminate the two existing Route 67/Route 202 and Route 67/Grove Street intersections.

   The Bridge Street (Route 202) approach will provide two exclusive left turn lanes to East Street (Route 202) in the eastbound direction and a shared through and right turn lane. The Prospect Street (Route 67) approach will provide exclusive left and right turn lanes and a through lane. The East Street (Route 202) approach will provide exclusive left and right turn lanes and a through lane. The realigned Grove Street approach will provide an exclusive left turn and a shared through and right turn lane.

   The Preliminary Design of this project is complete and a Draft Environmental Assessment is completed. The preliminary design has been modified to incorporate public comments. Presently, a Draft Copy of the Final Design Environmental Assessment is being provided by the Town, ConnDOT, and FHWA.

3. Route 202/Elm Street
   The Route 202/Elm Street intersection is signalized and there is a single lane on each of the four approaches. Under the proposed roadway plan, an exclusive left turn lane will be provided on the Elm Street eastbound approach to improve traffic operations and safety. The Town of New Milford indicated that a preliminary design plan was provided to CONNDOT for review in 2002.

4. Route 7 Widening Projects
   Route 7 in New Milford is undergoing major widening projects beginning at the Brookfield bypass north to Route 67/Route 202 intersection. These projects are broken down into smaller projects as indicated below:

   - Project No. 95-220 – Additional lanes on Route 7 from Pickett District Road to Route 67/Route 202 (currently in construction);

   - Project No. 95-226 – Additional lanes on Route 7 from New Milford Plaza to Pickett District Road (currently in construction);

   - Project No. 95-227 – Additional lanes on Route 7 from Lanesville Bypass Road to New Milford Plaza (currently in construction);

   - Project No. 95-219 – Additional lanes on Route 7, construct Still River Road bypass from Pickett District Road (currently in semi-final design);

   - Project No. 95-228 – Additional lanes on Route 7 at intersection of Cross Street and Candlewood Road south (currently in semi-final design);

   - Project No. 95-229 – Additional lanes on Route 7 from Candlewood Lake Road south to Brookfield bypass (currently in semi-final design); and,

   - Project No. 95-230 – Additional lanes on Route 7 between the Brookfield bypass and Cross Road (currently in semi-final design).

EVALUATION OF COORDINATION POTENTIAL

The coordination potential of a roadway corridor depends on criteria such as roadway characteristics, corridor flow characteristics, traffic operations, safety, and traffic signal spacing. These criteria for the Route 202 corridor downtown New Milford are described in the following sections.

Roadway Characteristics

Route 202 (Bridge Street) in New Milford is primarily a two lane road with a varying cross-section of two to three lanes throughout its entire length between Route 7 to Elm Street. At intersections along the Route 202 corridor, turn lanes are provided to facilitate efficient traffic operations and improve safety.

Corridor Flow Characteristics

The 1999 average daily traffic volume in the Route 202 corridor was recorded between 14,800 to 25,100 vehicles per day. The 2001 P.M. peak hour traffic volumes are generally higher in the eastbound direction than the westbound direction along various locations on the Bridge Street corridor as indicated in Table 1 of this report.

In addition, 2001 two-way traffic volumes are higher in the western end (2,186 vehicles per hour) of Bridge Street compared to the eastern end (1,302 vehicles per hour) near the Route 67/East Street intersection.

Traffic Operations

The average travel speed in the Route 202 corridor in the northbound direction is approximately 15 to 20 miles per hour in the northbound and southbound directions. The posted speed limit on Route 202 is 30 miles per hour.

Running speeds in the corridor (speeds between intersections excluding stops) ranged from 20 to 25 miles per hour.

Safety

The accident rates (accidents per million vehicle miles traveled) ranged from 0.38 to 1.35 at the signalized intersections. The Route 202 corridor has 3 locations listed on the SLOSSS. Of the 3 locations, 2 are intersections and one is a segment. According to a recent Danbury news article, the Route 67/Route 202 and Route 67/Grove Street intersections are in the top 6 percent of the SLOSSS ratings.

Traffic Signal Spacing

The traffic signal spacing in the Bridge Street corridor through New Milford ranges from 500 to 1,615 feet.

CORRIDOR RECOMMENDATIONS

There is potential to coordinate all signalized intersections along Bridge Street based on signal spacing and traffic flows through the downtown area. Figure 3 illustrates coordination concept for the Bridge Street corridor.

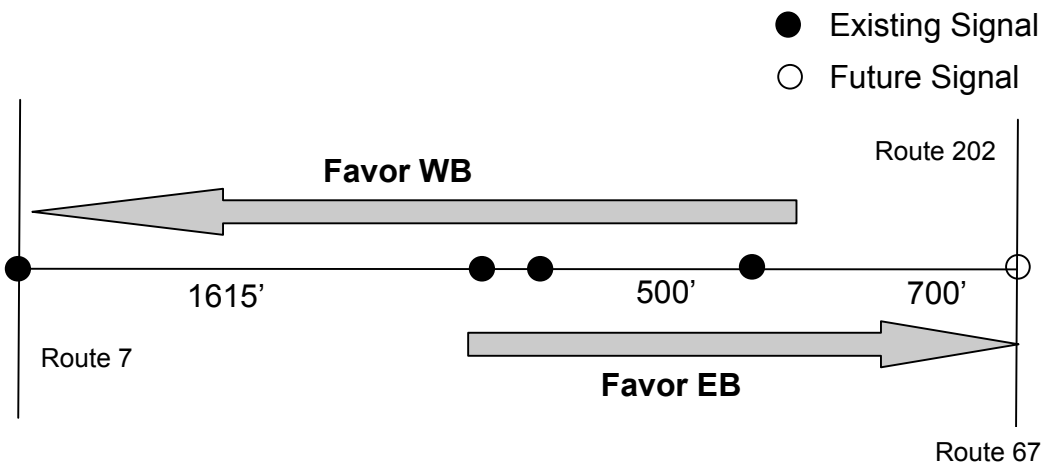


Figure 3. Coordination Concept for Bridge Street

As shown in the figure, in the eastbound direction, traffic enters Bridge Street at the Route 7 intersection from several directions and traverses through the corridor. Once the traffic enters Bridge Street, it is important to move it through the Bridge Street corridor until the end of the corridor at the new signal at Bridge Street/Route 67/Grove Street intersection. Therefore, eastbound coordination should be provided between the Bridge Street/West Street and Bridge Street/Route 67/Grove Street intersection.

In the westbound direction, traffic enters the system from several directions at the Bridge Street/Route 67/Route 202 intersection and will continue in a westerly direction towards the Bridge Street/Route 7 intersection. In this case, westbound coordination should be provided between the Bridge Street/W. Main St./S. Main St. and Bridge Street/Route 7 intersections. Overall, the progression was established to favor the eastbound and westbound movements towards Route 7. This is because the traffic entering Bridge Street from the Route 7/Route 202 and Route 7/Route 67 intersections is approximately equally divided among the several approaches.

To achieve eastbound and westbound coordination along Bridge Street, the following are needed:

- Operate all intersections as semi-actuated in operation;
- Time based coordination may be provided as an alternative to physical inter-connect;
- Provide a common background cycle (or possibly several cycles) for signal operation during all time periods;
- Achieve a minimum 20 second through band each way;
- Consider a new traffic signal at the Bridge Street/West Street intersection; and,
- Maintain the existing railroad pre-emption operation.

The Elm Street/East Street intersection should continue to operate independently.

TIME SPACE DIAGRAM

Figure 4 shows a time-space diagram for the suggested coordination concept. It assumes operation on a 90 second cycle with a 30 mile per hour progressive speed. With other cycle lengths, the specific “offsets” can be modified to retain this progressive speed. Since traffic enters Bridge Street in all directions at its eastern and western ends, the progressions are shown only between West Main Street and Route 7 westbound, and between Railroad Street and East Street eastbound. The through bands between these locations are approximately 28 seconds westbound and 40 seconds eastbound.

Traffic signal timing and phasing was based on existing timing patterns and modified to reflect semi-actuated operations on a 90 second cycle. At the Route 7/Route 67/Bridge Street intersection, a short eastbound phase was introduced to serve the fourth leg (Peagler Hill Road) of the intersection. At the Bridge

Street/Route 67/East Street intersection, proposed signal phasing and timing were used as inputs.

DOWNTOWN SYNCHRO MODEL

SYNCHRO is a traffic engineering tool commonly used for highway capacity and signal coordination analysis. SYNCHRO was used to assess the effectiveness of the coordination concepts presented. Existing (2001) P.M. peak hour traffic volumes were entered into the SYNCHRO software. The existing conditions were calibrated using the results of the Origin and Destination Survey. As a result of this calibration, a base network model was developed for this study.

A "Before" and "After" analysis was conducted to compare the benefits of traffic signal coordination. The "Before" condition represents a traffic network without any signal coordination while the "After" condition represents a traffic network with signal coordination and the Bridge Street coordination concept.

Table 3 provides a comparison of the "Before" and "After" analysis on Bridge Street during the P.M. peak hour condition based on existing traffic volumes.

Table 4
Comparison of SYNCHRO Performance Measures on Bridge Street (Route 202) Existing Weekday P.M. Peak Hour Condition

Performance Measure (Average per vehicle)	Bridge St. Eastbound		Bridge St. Westbound	
	Before	After	Before	After
Vehicle Miles Traveled (VMT)	465	465	474	474
Vehicle Hours Traveled (VHT)	34	31	31	28
Number of vehicles	6020	5980	6080	5990
Travel Time (in Seconds)	21	19	19	17
Delay Time (in Seconds)	11	9	9	7
Travel Speed (in Miles Per Hour)	14	15	15	17
Number of Stops	1.2	1.1	0.4	0.4

Source: Wilbur Smith Associates.

As indicated in Table 4, average travel time and delay is reduced while average travel speed increases along Bridge Street in the eastbound and westbound directions as a result of traffic signal coordination. In the eastbound direction, average travel speed increases by 7% while in the westbound direction, the average travel speed increases by 13%.

An animation of traffic flow with and without signal coordination was prepared to aid in the design and visually demonstrates that the synchronization will be of value to motorists in downtown New Milford.

Existing traffic volumes were projected to a future year assuming a 10 percent increase in traffic volumes. A future year analysis was conducted incorporating all proposed roadway improvements.

Table 5 provides a comparison of the "Before" and "After" analysis on Bridge Street during the P.M. peak hour condition based on future traffic volumes.

Table 5
Comparison of SYNCHRO Performance Measures on Bridge Street (Route 202) Future Weekday P.M. Peak Hour Condition

Performance Measure (Average per vehicle)	Bridge St. Eastbound		Bridge St. Westbound	
	Before	After	Before	After
Vehicle Miles Traveled (VMT)	512	512	454	521
Vehicle Hours Traveled (VHT)	55	52	33	36
Number of Vehicles	6610	6605	5935	6670
Travel Time (in Seconds)	30	28	20	19
Delay Time (in Seconds)	21	19	11	10
Travel Speed (in Miles Per Hour)	9	10	14	14
Number of Stops	3.0	2.9	0.5	0.4

Source: Wilbur Smith Associates.

In the eastbound direction, average travel speed increases by 10% while in the westbound direction, the average travel speed remains the same.

Figure 5 shows the sensitivity to percent decrease in travel speed with percent increase in traffic volumes along Bridge Street by direction. The sensitivity analysis was based on the results of signal coordination.

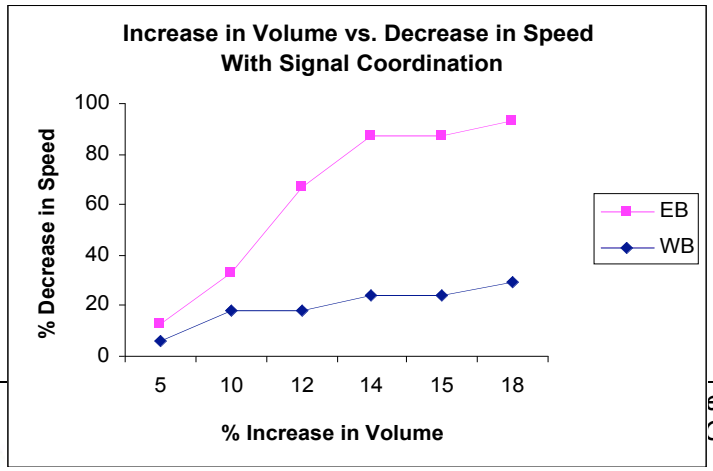


Figure 5. Sensitivity Analysis – % Increase in Volumes vs. % Decrease in Travel Speed

As indicated in Figure 5, for eastbound travel a 10 percent increase in traffic volume results in a 35 percent decrease in travel speeds along Bridge Street. This suggests that with an increase in traffic volumes in the future, Bridge Street corridor may experience congestion and delay along the entire corridor. In order to accommodate future increase in traffic volumes, a bypass roadway to downtown New Milford will be needed. The Town of New Milford is currently investigating the feasibility of an east-west connector road to alleviate congestion in downtown New Milford and provide access to proposed industrial development located north of the downtown.

The animation model in concurrence with field observations indicated that the eastbound left turning traffic from Route 202 queues at the Young's Field Road intersection creating a back-up on the Veterans Bridge. Elimination of the eastbound left turn (or rerouting it) may be required to accommodate future traffic growth.

CONCLUSIONS

The following are the conclusions from the Downtown New Milford Signal Coordination Study:

1. The suggested Bridge Street coordination concept will move traffic efficiently through downtown New Milford. SYNCHRO analyses indicate that average travel time and delay is reduced while average travel speed is increased along Bridge Street in both directions.

2. Time based coordination (TBC) may be provided instead of a physical interconnect;

3. Eastbound left turning traffic from Route 202/Bridge Street queues at the Young's Field Road intersection and causes a back-up on the Veterans Bridge. This will require the elimination of the eastbound left turn (or rerouting it) to accommodate future traffic growth.

4. As traffic volumes increase along the Bridge Street corridor and increase congestion and delay, alternate connections from Route 7 to Route 202 bypassing downtown New Milford will be needed.

5. The proposed roadway improvement projects in Downtown New Milford may affect travel patterns in the area and therefore, may require some changes in timings and coordination.

6. This plan should be submitted to CONNDOT for Federal CMAQ funding for implementation.

NOTE FROM HVCEO STAFF 1/20/2004: This concerns Tables 4 and 5, Comparison of SYNCHRO Performance Measures. Below the titles please add a definition of beginning and ending points and total mileage of the corridor studied. This reference can be in small font, but I feel it is necessary.

The reason I need this is that the corridor as defined in Figure 3 is the combination of the units of 1,615, 500 and 700 feet, for a total of 2,815 feet, or .53 miles. Taking Table 4's Bridge Street eastbound, the travel time is 40 seconds, too fast for .53 miles.

There is certainly some simple explanation for my confusion. Please address near Tables 4 or 5, preferably in the table notes as suggested above.

RESPONSE TO ABOVE FROM WSA: The SYNCHRO Model provides the Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) as performance measures. Both of the measures are based on the number of vehicles processed in the network by the model. Please refer to Table 4 attached with this email. The Vehicle Miles Traveled (VMT) in the existing condition in the eastbound direction was noted as 465 miles under the “Before” condition. The number of vehicles processed by the model was 6020 vehicles. Therefore, the average travel distance is the ratio of 465/6020 = 0.077 miles. This distance is lower than the actual distance of 0.40 miles.

ADDITIONAL 2/4/2004 SUMMARY COMMENT FROM WSA:

Regarding the Bridge Street corridor in New Milford, the information I provided you earlier was based on SYNCHRO’s analysis of the corridor with traffic signal coordination. Tables 4 and 5 indicate approximately a 10 percent reduction in travel time with the traffic signal coordination in place.

Based on the travel time surveys conducted on Bridge Street, the eastbound travel time on Bridge Street between Route 7 and Route 67 was recorded as 115 seconds (approximately 2 minutes) and in the westbound direction as 172 seconds (approximately 3 minutes). Therefore, a 10 percent reduction in travel time with the traffic signal coordination will result in an eastbound travel time of 1.5 minutes and a westbound travel time of 2.5 minutes