

3.3 Local Traffic Analysis

Although a detailed assignment of local road traffic was not performed at this stage of the study, a qualitative review of the new local roadway system under the three alternatives was conducted. The aim of this review was to assess the relative impact the new roads would have on the local roadway system. Intersections that are expected to experience a reduction in traffic volume are seen as positively impacted while those that are expected to experience an increase in traffic volume will be more closely analyzed so that improvements can be made, if necessary, to maintain safe and efficient operation.

For the purposes of this study it should be noted that only existing intersections were analyzed. It was not necessary to analyze the new intersections created as a result of the new local connections since these intersections would be designed to accommodate the forecasted traffic demand.

3.3.1 Local Traffic Analysis of Alternative 6

The major highlights of the local roadway system under this alternative are:

- A new connector from Sunnyside Avenue to Field Street;
- A new connector from West Main Street to Jackson Street; and
- A new connector from Bank Street to South Main Street.

Some of these new connections would have a direct impact on the local roadway system resulting in a net increase or decrease in traffic at some intersections. A discussion of how these improvements would impact local traffic is presented below and also illustrated in Figure A-4.

Sunnyside Avenue-Field Street Connector

The Sunnyside Avenue-Field Street connector would provide a more direct local route from points west of the Naugatuck River to the downtown area. This route would serve as an alternate route for motorists who currently use Freight Street, West Main Street, Bank Street or I-84 to access the downtown area. The impact of this new connector could be a reduction in traffic volumes on Riverside, Freight and Bank Street by about 5-15 percent. Intersections that are anticipated to experience a reduction in volume as a result of this new connection are:

- Freight and Riverside Street intersection;
- Freight and Meadow Street intersection;
- West Main and Riverside Street intersection;
- West Main and Meadow Street intersection;
- Riverside Street and Bank Street intersection;
- South Leonard Street and Bank Street intersection; and

- Bank Street and West Liberty Street intersection.

The new connector would, on the other hand, lead to an increase in traffic volumes at the following intersections:

- Chase Parkway and existing I-84 eastbound entrance ramp intersection;
- Sunnyside Avenue and Highland Avenue intersection;
- Sunnyside Avenue and Draher Street intersection; and
- Grand Street and Field Street intersection.

West Main Street-Jackson Street Connector

This new connector provides a more direct route for motorists from points south to the Waterbury Hospital area. The new route would serve as an alternate route for motorists who currently use Meadow Street to get to and from the Waterbury Hospital area. The net impact of this new connector could be a reduction in traffic volume on Meadow Street by about 30-40 percent. Intersections that are anticipated to experience a reduction in traffic volume as a result of this new connection are:

- Meadow Street and Grand Street intersection;
- Meadow Street and Freight Street intersection; and
- Meadow Street and West Main Street intersection.

3.3.2 Local Traffic Analysis of Alternative 7

The major highlights of the local roadway system under this alternative are:

- A new connector from Sunnyside Avenue to Meadow Street;
- A new connector from West Main Street to South Main Street; and
- A new westbound frontage road from the Interchange 22 exit ramp to Meadow Street.

Some of these improvements would have a direct impact on the local roadway system resulting in a net increase or decrease in traffic at certain local intersections. A discussion of how these improvements would impact local traffic is presented below and also illustrated in Figure A-5.

Sunnyside Avenue-Meadow Street Connector

The new connector from Sunnyside Avenue to Union Street would serve as a more direct travel route to the downtown area from points west. This new connector could lead to a reduction in traffic volumes on Riverside Street, Freight Street and Bank Street by about 5 to 15 percent. Intersections that are anticipated to experience a reduction in volume as a result of this new connection are:

- Freight and Riverside Street intersection;
- Freight and Meadow Street intersection;
- West Main and Riverside Street intersection;
- West Main and Meadow Street intersection;
- Riverside Street and Bank Street intersection;
- South Leonard Street and Bank Street intersection; and
- Bank Street and West Liberty Street intersection.

The new connector would on the other hand lead to an increase in traffic volumes at the following intersections:

- Sunnyside Avenue and Highland Avenue; and
- Sunnyside Avenue and Draher Street.

West Main Street-South Main Street Connector

This new connector provides a more direct route for motorists from points south to the Waterbury Hospital area. The new route would serve as an alternate route for motorists who currently use Meadow Street to get to and from the Waterbury Hospital area. The net impact of this new connector could be a reduction in traffic volumes on Meadow Street by about 30-40 percent. Existing intersections that are anticipated to experience a reduction in traffic volume as a result of this new connection are:

- Meadow Street and Grand Street intersection
- Meadow Street and Freight Street intersection
- Meadow Street and West Main Street intersection

Westbound Frontage Road to Meadow Street

This new route would serve as an alternate route to Grand Street for motorists traveling to Bank Street and its immediate environs. It is estimated that the new frontage road could reduce traffic volumes on Grand Street by about 5-10 percent. Existing intersections that would experience a reduction in traffic volumes as a result of the new frontage road are:

- Grand Street and Bank Street intersection
- Grand Street and Field Street intersection
- Union Street and South Elm Street intersection
- Union Street and Mill Street intersection
- Union Street and Brass Mill Mall Entrance

3.3.3 Local Traffic Analysis of Alternative 8

The major highlights of the local roadway system under this alternative are:

- A new connector from Sunnyside Avenue to South Main Street;
- New interchanges at West Main and Freight Streets;
- A new connector from West Main Street to Washington Avenue;
- A new connector from West Main Street to the Meadow Street area;
- A new westbound frontage road from the Interchange 22 exit ramp to South Main Street; and,
- The conversion of South Leonard Street to two-way south of Washington Avenue.

Some of these improvements would have a direct impact on the local roadway system resulting in a net increase or decrease in traffic at some intersections. A discussion of how these improvements would impact local traffic is presented below and also illustrated in Figure A-6.

Sunnyside Avenue-South Main Street Connector

The new connector from Sunnyside Avenue to South Main Street would serve as major local travel route to the downtown area from points west. This new route would provide a more direct route for motorists who currently use Riverside Street through Freight or Bank Street to get to the downtown area. The analysis shows that this new connector could reduce traffic volumes on Grand Street in particular, by about 5-15 percent. Existing intersections that are anticipated to experience a reduction in volume as a result of this new connection are:

- Grand Street and Bank Street intersection;
- Grand Street and Field Street intersection; and
- Bank Street and West Liberty Street intersection.

The new connector would however lead to an increase in traffic volumes at the following intersections:

- Chase Parkway and existing I-84 eastbound entrance ramp intersection;
- Sunnyside Avenue and Highland Avenue intersection; and
- Sunnyside Avenue and Draher Street intersection.

Westbound Frontage Road to South Main Street

Since this westbound frontage road forms at grade intersections with Baldwin Street, South Main Street, and Bank Streets, it provides an alternate route to Grand Avenue. Thus motorists from the Interchange 22 westbound exit ramp can use the frontage road instead of Grand Street to travel to the downtown area and points south of it. It is estimated that the new frontage road could reduce traffic volumes on Grand Street by

about 10-20 percent. Existing intersections that would experience a reduction in traffic volumes as a result of the new frontage road are:

- Grand Street and Bank Street intersection;
- Grand Street and Field Street intersection;
- Union Street and South Elm Street intersection;
- Union Street and Mill Street intersection; and
- Union Street and Brass Mill Mall entrance.

New Interchanges at West Main and Freight Streets

The new highway connections at West Main Street and Freight Street would serve as the gateway to the downtown area and ultimately lead to an increase in volume on these streets. It is anticipated that traffic volumes on West Main could increase by about 15-25 percent as result of the new I-84 connections while Freight Street could experience approximately 50-60 percent increase in volume as a result of the new connections to Route 8. Intersections that are anticipated to experience an increase in traffic volume due to the new highway connections are:

- West Main Street and Meadow Street intersection; and
- Freight Street and Meadow Street intersection.

3.3.4 Summary of Local Traffic Analysis

Table 3-1 gives a breakdown of existing intersections that would experience an increase or decrease in traffic volume as a result of the new roadway connections.

Table 3-1
Existing Intersections with Anticipated Net Increase/Decrease in Traffic

Intersection	Alternative 6	Alternative 7	Alternative 8
West Main Street/Riverside Street NB	☑	☑	
West Main Street/Riverside Street SB	☑	☑	
West Main Street/Meadow Street	☑	☑	⊖
Freight Street/Riverside Street SB	☑	☑	
Freight Street/Meadow Street	☑	☑	⊖
Meadow Street/Grand Street	☑	☑	
Grand Street/Field Street	⊖	☑	☑
Grand Street/Bank Street		☑	☑
Grand Street/South Main Street		☑	☑
Union Street/South Elm Street		☑	☑
Union Street/Mill Street		☑	☑
Union Street/Brass Mill Mall		☑	☑
Bank Street/West Liberty Street	☑	☑	☑
Bank Street/Riverside Street	☑	☑	
South Leonard Street/Bank Street	☑	☑	
Chase Parkway/Sunnyside Avenue	⊖		⊖
Sunnyside Avenue/Draher Street	⊖	⊖	⊖
Sunnyside Avenue/Highland Avenue	⊖	⊖	⊖

Legend

- ☑ Decrease in intersection volume
⊖ Increase in intersection volume

For each alternative, the number of existing intersections that would experience a net increase or decrease in traffic volume as well as the number of existing intersections that would be improved to accommodate the forecasted traffic demand was tallied. These results are summarized in Table 3-2. It is clear from Table 3-2 that for each alternative, there would be more intersections experiencing a net decrease in traffic volume than an increase. Of the three alternatives, Alternative 8 would result in the most improvements to the local roadway system.

Table 3-2
Impact of New Local Connections on Downtown Intersections

	Number of Intersections anticipated to		Existing Intersections to be Improved
	Increase in Volume	Decrease in Volume	
Alternative 6	4	9	7
Alternative 7	2	15	5
Alternative 8	5	7	14