

Table III/E-7

DIRECTIONAL DISTRIBUTION OF SITE-GENERATED TRAFFIC

Saw Mill River Parkway North via Marble Avenue	15%
Saw Mill River Parkway South via Marble Avenue	15%
Marble Avenue North	1%
Franklin Avenue/Route 141 North	1%
Route 120 via Nanny Hagen Road	4%
Chelsea Street/Bradhurst Avenue/Route 100	2%
Taconic State Parkway North via Stevens Avenue ;	16%
Taconic State Parkway South via Stevens Avenue	5%
Taconic State and Bronx River Parkways South via Lakeview Avenue	
Route 22 South via North Broadway and Columbus Avenue	13%
Columbus Avenue (excluding above) South	6%
Sprain Brook Parkway South via Route 100C	18%
and Lakeview Avenue	
Route 100C west via Lakeview Avenue	2%
Knollwood Road/Route 100A via Lakeview Avenue	<u>2%</u>
Total	100%

Note that since this traffic is not office-generated, the distribution is different than that shown for the office occupancy in Table III/E-4.

The site-generated trips were then assigned to the most likely travel routes. In some cases the trips were distributed to more than one approach route.

The resultant assigned 2010 Site-Generated traffic volumes are shown on Figures III/E-8 and III/E-9. The 2010 Build Condition traffic volumes, combining the 2010 No-Build and the site-generated traffic volumes are shown on Figures III/E-10 and III/E-11.

d. Capacity Analysis

Traffic conditions at the 15 Signalized intersections and 11 unsignalized intersections specified in the Scoping Document have been analyzed using the methodology in the 2000 Edition of the Highway Capacity Manual² and Highway Capacity Software, HCS+ Release 5.2.

² Highway Capacity Manual, HCM2000, Transportation Research Board, Washington, D.C., 2000

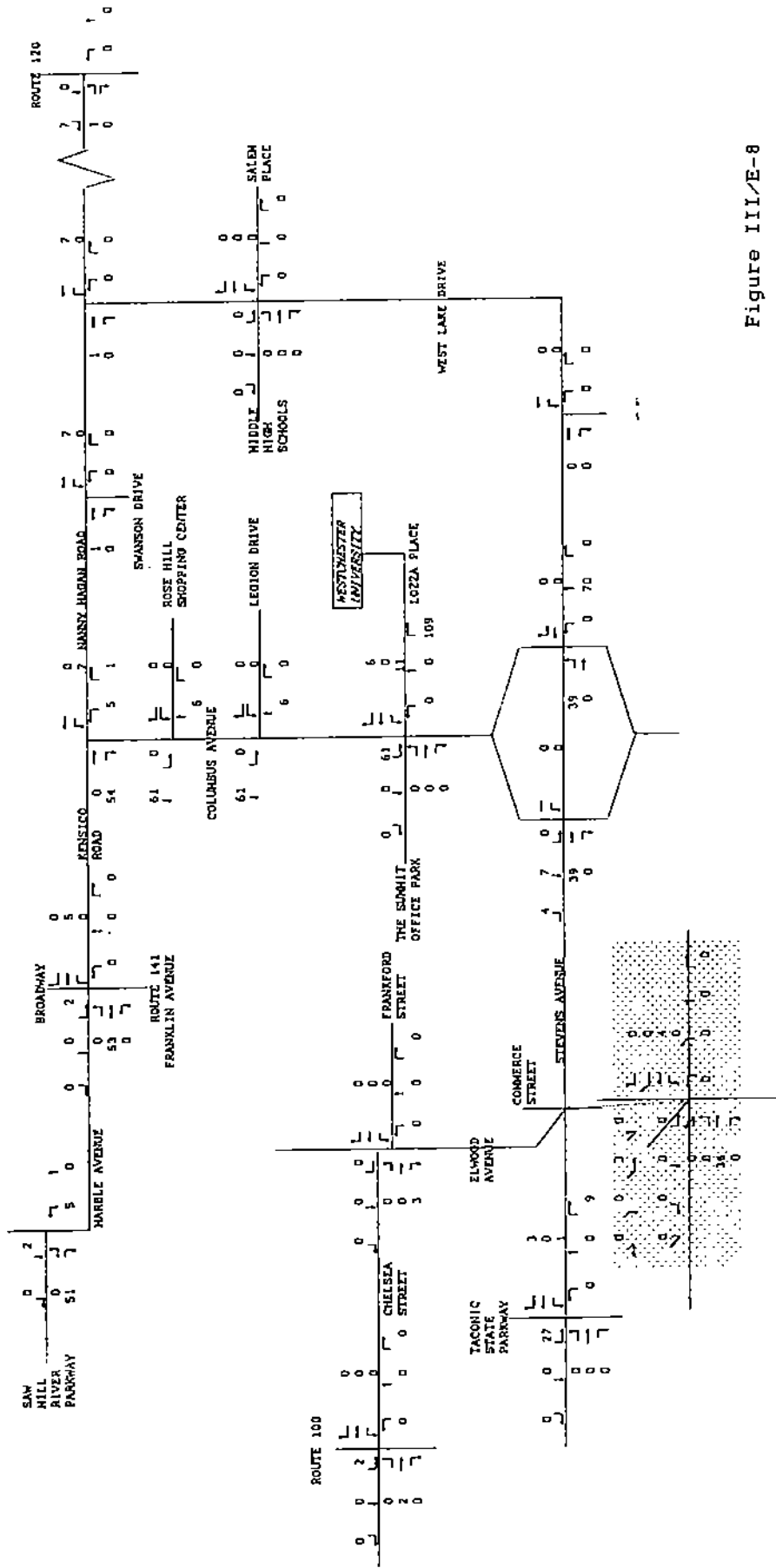


Figure III/E-8
 SITE-GENERATED TRAFFIC
 WEEKDAY A.M. PEAK HOUR

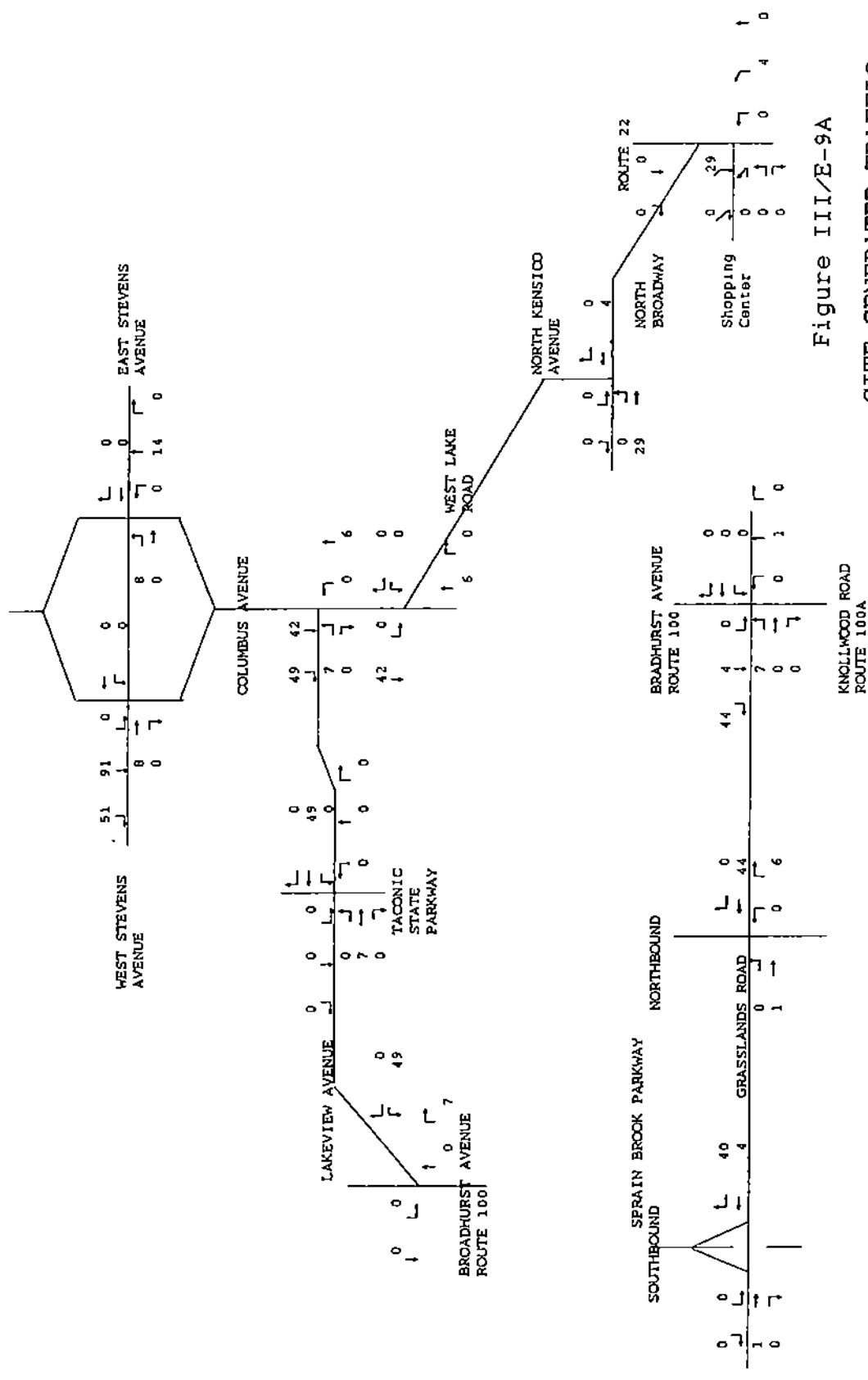


Figure III/E-9A

SITE-GENERATED TRAFFIC
WEEKDAY P.M. PEAK HOUR

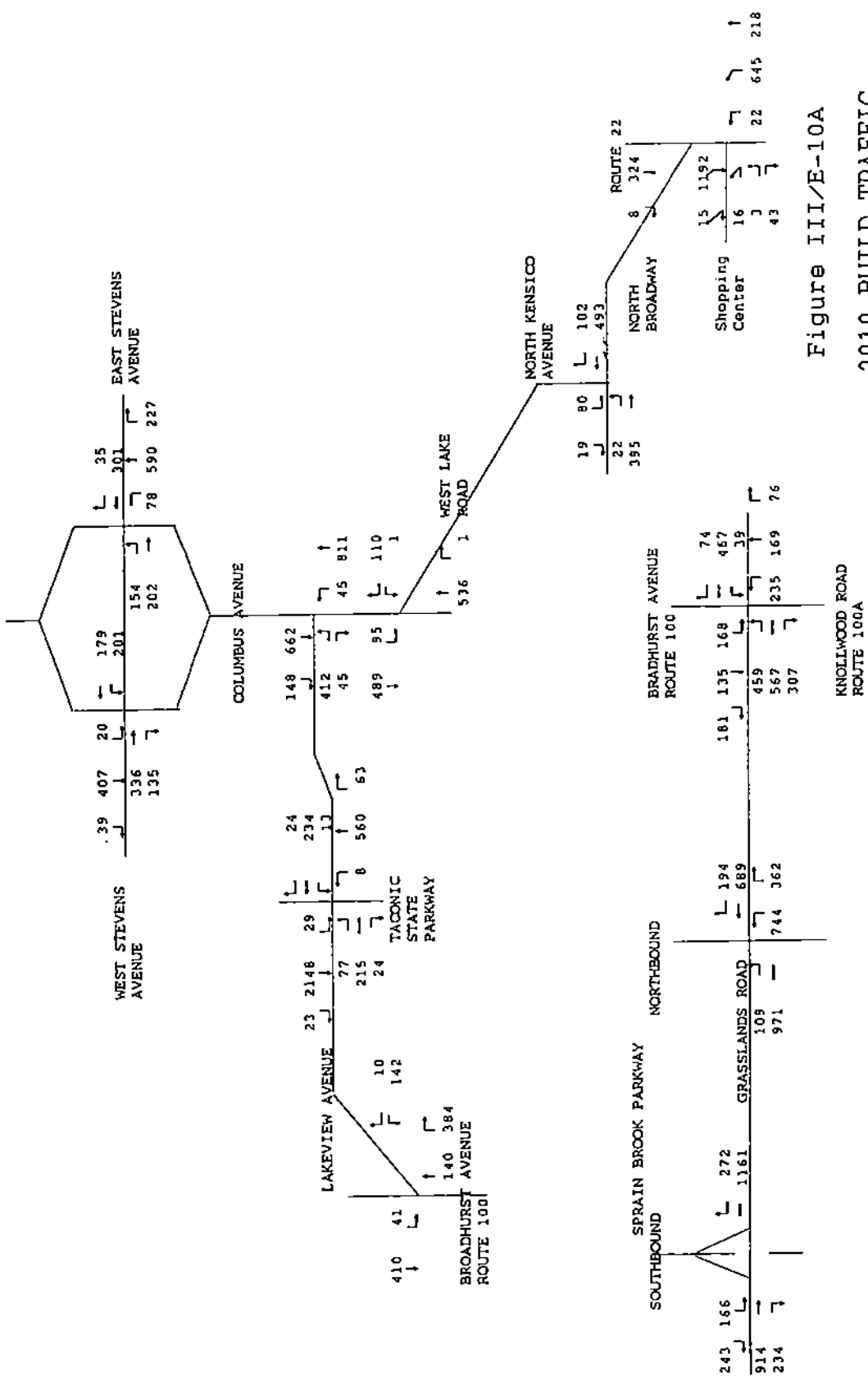


Figure III/E-10A

2010 BUILD TRAFFIC
WEEKDAY A.M. PEAK HOUR

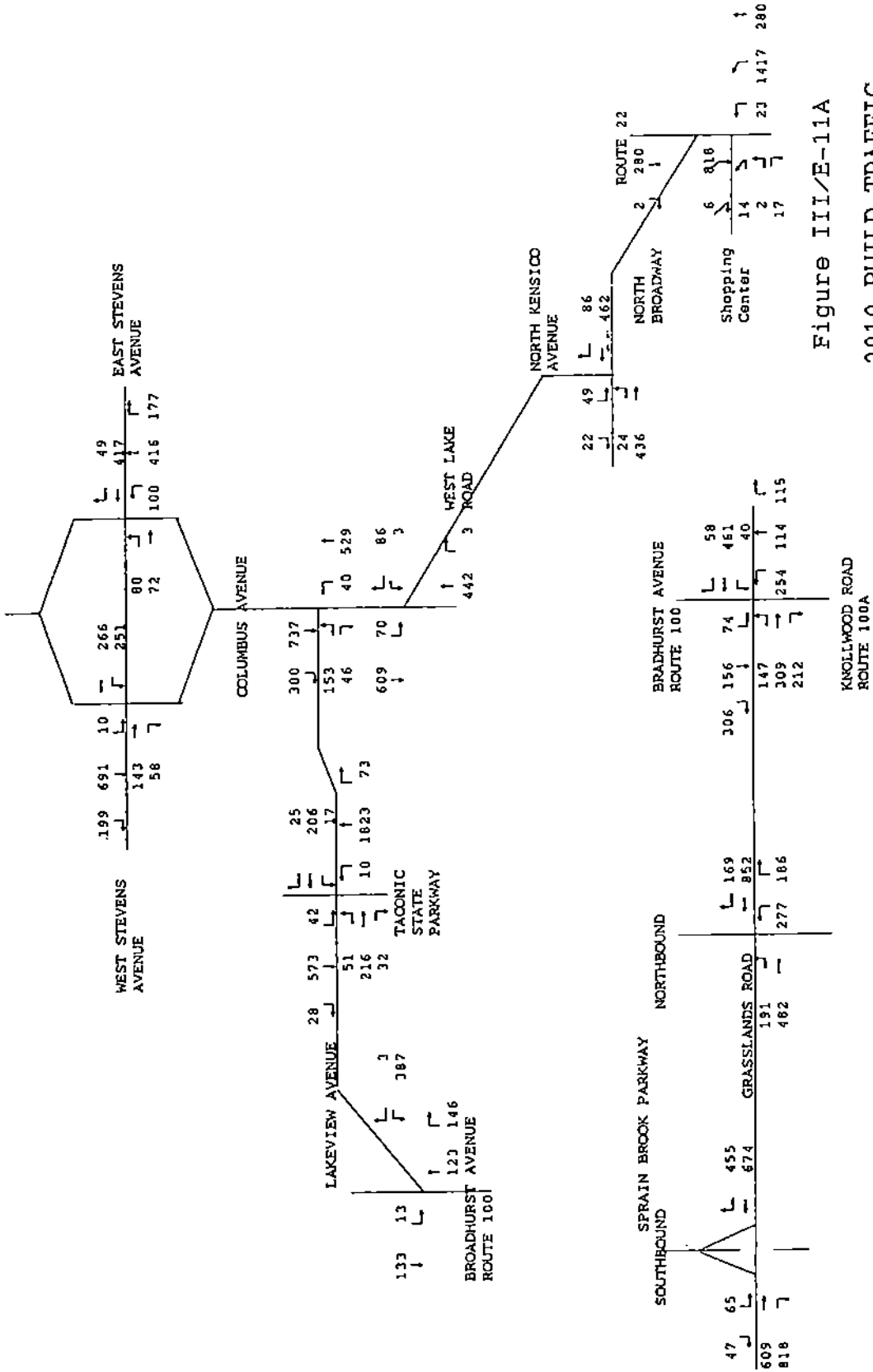


Figure III/E-11A

2010 BUILD TRAFFIC
WEEKDAY P.M. PEAK HOUR

1. Methodology for Capacity Analysis

Signalized Intersections. Level of service for a signalized intersection is defined in terms of the average control delay per vehicle during a peak 15 minute analysis period. Control delay is the total delay at a signal, and includes initial deceleration, queue move-up time, stopped and final acceleration delays. Six levels of service, from A to F, have been established as measures of vehicle delay. These levels and their related delay times are as follows:

<u>Level of Service</u>	<u>Control Delay in Seconds per Vehicle</u>
A	Less than or equal to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

The following definitions of the six levels of service are derived from the Highway Capacity Manual:

Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.

Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing longer average delay times.

Level of Service C indicates higher delays which may result from fair progression and/or longer queue lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level of Service D reflects the influence of congestion becoming more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high Volume to Capacity (V/C) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.

Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.

Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with over-saturation, i.e., when arrival flow rates exceed the capacity of the intersection, but may also occur with poor progression and long cycle lengths.

Both the V/C ratio and the level of service procedures are required to describe the operating conditions at a signalized intersection.

Unsignalized Intersections. For three-way ("T") or four-way unsignalized intersections where Stop control is provided only on the minor cross street, the through traffic on the major road, under typical operating conditions, has a continuous right of way and is not affected by the minor street traffic flows. For these unsignalized intersections, therefore, the analysis considers the level of operation of individual traffic movements turning into and out of the minor road rather than the operational characteristics of the intersection as a whole.

The levels of service for the affected movements within an unsignalized intersection are defined in terms of the average stopped delay per vehicle. These levels, and their associated delay times, are as follows.

<u>Level of Service</u>	<u>Stopped Delay in Seconds per Vehicle</u>
A	Less than or equal to 10 seconds
B	>10 to 15 seconds
C	>15 to 25 seconds
D	>25 to 35 seconds
E	>35 to 50 seconds
F	Greater than 50 seconds

If side street volumes and delays become excessive (generally Level of Service F as described above), drivers use shorter gaps between vehicles on the main road to enter the traffic stream. Safety and traffic flow conditions on the main road can be affected.

The results of the capacity analyses are presented in Table III/E-8 for the eight signalized intersection under the jurisdiction of the New York State Department of Transportation and the seven intersections under the jurisdiction of the Westchester County Department of Public Works, and in Table III/E-9 for the eleven unsignalized intersections. These results are discussed below. A summary of the factors and assumptions used in the capacity analyses, and the computer printouts for the A.M. and P.M. peak hours for each of the 26 intersections analyzed, are included in DEIS Appendix 2, "Traffic Report Appendices" (see Appendix D).

e. **Assessment of Intersection Operations**

The following section includes assessments of the operation of each of the intersections in the study area, including:

- Descriptions of the individual intersections. More detailed descriptions of the physical layouts are included in DEIS Appendix 2, "Traffic Report Appendices" (see Appendix A). The existing signal timings and those suggested as mitigating measures can be found in the Capacity Calculation Worksheets included in DEIS Appendix 2, "Traffic Report Appendices" (see Appendix D).