## II. EXISTING CONDITIONS

This chapter examines the study area's existing road system and traffic conditions, traffic and transit patterns, pedestrian and bicycle facilities, land use and environmental conditions. The findings presented here became the baseline conditions used throughout the study. These conditions were utilized in the full buildout analysis and in the development of land use scenarios and transportation improvements.

## A. ROAD SYSTEM AND TRAFFIC CONDITIONS

The three major travel corridors in the study area are Route 6, Route 202/35 and the Bear Mountain Parkway (BMP). These three roadways extend between Route 9 on the west, in the City of Peekskill, and the Taconic State Parkway on the east. Route 6 and Route 202/35 pass through downtown Peekskill. The BMP begins at Route 9 south of Annsville Circle and skirts the north side of downtown.

East of Peekskill, the roads serve different geographic areas. Route 6 travels northeasterly through Cortlandt and Yorktown. Route 202/35 travels across the southern portion of the study area in Cortlandt and Yorktown. The BMP travels from the northwest in Peekskill to the southeast, crossing Route 6 in Cortlandt. Its terminus is at the Route

202/35 intersection in Cortlandt. The BMP Extension begins to the east in Yorktown at Route 202/35 near Stoney Street and connects to the Taconic State Parkway. Route 202/35 connects the two segments of the BMP.

Route 6, Route 202/35 and the BMP experience congestion and delays during the AM and PM peak periods. The AM peak period congestion and delays are in both directions on the BMP, westbound towards Route 9 and eastbound toward the Taconic State Parkway. On Route 6 and Route 202/35, the congestion is typically in one direction - eastbound toward the Taconic State Parkway in the AM peak and westbound from the Taconic in the PM peak. Some of these delays become quite extensive and, as a result, drivers seek alternate routes on secondary roads that travel through residential areas. Some of these secondary roads provide the only access to some areas and, therefore, serve as main routes, linking with the three major east/west corridors.

The secondary roadways were not designed to accommodate the current volumes of traffic. This has resulted in an increase of travel times on the alternative routes and an increase in traffic in residential areas. Consequently, travel times within the study area have become nearly the same no matter which route is chosen by a motorist.

Existing traffic operating conditions at 24 intersections were analyzed to identify problems and to serve as the basis for defining potential improvements to address those problems. The intersections are identified in Figure 4. Of the intersections, 20 were on the three major travel corridors and

## II. Existing Conditions

Figure 4. Study Intersections

four were on secondary roads in the study area.
As described below, it was found that 19 of the 24 intersections are failing (Level of Service E or F ) under current conditions.
"Level of Service (LOS)" is a quantitative measure that refers to the overall quality of traffic flow at an intersection, ranging from a very good LOS A to a very poor/failing LOS F. Descriptions of these service levels, and the associated delays, are provided below:

LOS A - The highest level of service. Under this condition, approaches to the intersection seem quite open, turning maneuvers are easily made and drivers encounter very smooth operations. At signalized and unsignalized intersections, average vehicle delays are less than 10 seconds.

LOS B - Very good/stable operation. At signalized intersections, average vehicle delays are between $10-20$ seconds. At unsignalized intersections, average vehicle delays are between 10-15 seconds.

LOS C - Stable operation, however at times, back-ups of a few vehicles may occur. Drivers begin to feel restricted, although not uncomfortably so. At signalized intersections, average vehicle delays are between 20-35 seconds. At unsignalized intersections, average vehicle delays are between 15-25 seconds.

LOS D - Traffic periodically becomes restrictive and unstable. Vehicle delays may be substantial for short durations during the peak periods. At other times, clearance of backed-up vehicles does occur eliminating excessive queuing (backups). At signalized intersections, average vehicle delays are 35-55 seconds. At unsignalized intersections, average vehicle delays are 25-35 seconds.

LOS E - An intersection at maximum capacity. It may be considered failing because it does not meet traffic demands. At signalized intersections, average vehicle delays are between 55-80 seconds. At unsignalized intersections, average vehicle delays are between 35-50 seconds.

LOS F - Over capacity (failing) conditions. The intersection is fully congested. For unsignalized intersections, only nominal gaps in mainline flow exist, making it difficult to traverse or enter mainline traffic. At signalized intersections, average vehicle delays exceed 80 seconds. At unsignalized intersections, average vehicle delays exceed 50 seconds.

The three major travel corridors and key off corridor roadways are further described below. The LOS during the peak PM hour for the 24 key intersections are also provided.

## 1. Route 6 Corridor

The Route 6 corridor is shown on Figure 7. Its key sections are:
a. Downtown Peekskill. Route 6 is Main Street in the

## II. Existing Conditions

Figure 5. Aerial of Route 6 Corridor


March 2004
downtown. The road consists of two travel lanes with onstreet parking. Although it is designated as a state touring route, it is maintained by the City of Peekskill. The corridor is signalized with closely spaced intersections that lack signal coordination and turning lanes. This situation, coupled with heavy truck traffic, causes significant congestion and delays during the peak travel periods. The existing Levels of Service at key study intersections are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 2 | Route 6 and Nelson Avenue | E |
| 3 | Route 6 and Division Street | C |
| 4 | South Street and Washington Street | D |
| 5 | Route 6 and Broad Street | F |
| 6 | Division Street and Central Street | B |

b. Beach Shopping Center. Route 6 becomes a 4-lane signalized facility with no on-street parking east of downtown Peekskill. The road is maintained by the City of Peekskill within the city limits. Congestion is not an issue along this section of Route 6.

| Intersection <br> No. | Level of <br> Service |  |
| :---: | :---: | :---: |
| 7 | Route 6 and Dayton Avenue | B |

c. Cortlandt Town Center. Route 6 serves the primary commercial corridor of the Town of Cortlandt, including the Cortlandt Town Center. The road is maintained by the State
of New York. While this is a heavy commercial corridor, the traffic operates relatively smoothly. This is a result of upgrades to signals and to the use of access management techniques, such as shared driveways, that have been implemented. In addition, prior capacity constraints along this section of Route 6 have been removed since the creation of four travel lanes and separate turn lanes. However, better signal coordination and new left turn restrictions could improve traffic flow and safety during peak hours. The current Level of Service at key study intersections is:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 10 | Route 6 and Locust Avenue | C |
| 11 | Route 6 and Westbrook Drive | D |

d. Mohegan Lake. Further to the east, Route 6 returns to a two-lane facility at its intersection with Lexington Avenue. The land use along Route 6 east of Lexington Avenue follows a traditional hamlet pattern in which many buildings have very short setbacks from the road edge. The mix of neighborhood business uses and high through traffic results in the greatest traffic congestion in the study area. Traffic is delayed considerably in the peak hour in each primary travel direction as it is confined to the two lane facility. This section of Route 6 is maintained by the State of New York. The Level of Service at the key intersection along this section is:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 12 | Route 6 and Lexington Avenue | E |

e. Shrub Oak. East of Mohegan Lake, Route 6 becomes a 4-lane arterial facility with a center median and left turn lanes provided at key signalized intersections. Traffic through this segment operates with very little delay. However, many intersecting side streets carry traffic from Putnam Valley, northeast Cortlandt and Yorktown neighborhoods to the north of Route 6 that is moving toward the Taconic State Parkway and other destinations. These vehicles can experience long delays and congestion as they enter Route 6 along this segment. Many of these drivers access Route 6 via Strawberry Road, a residential street connecting to Lexington Avenue. The existing LOS for key study intersections in this subarea are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 23 | Route 6 and Strawberry Road | E |
| 24 | Route 6 and Barger Street | D |

## 2. Route 202/35 Corridor

The 5.5 mile Route 202/35 corridor is shown on Figure 6. Its key intersections are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 8 | Route 202/35 and Lafayette Avenue | D |

a. Downtown Peekskill. After its split from Route 6 in Peekskill, Route 202/35 is a two-lane facility with multiple curb cuts. The roadway is maintained by the City of Peekskill. There are a limited number of signalized
intersections. No significant issues were raised regarding these intersections during the study.
b. Hudson Valley Hospital Center. An issue was raised during the study regarding traffic in the vicinity of the hospital center on Route 202/35 in Cortlandt near the Peekskill border. The entrance to the hospital is located to the west of the hospital exit which is located near Lafayette Avenue, on the opposite side of Route 202/35. In addition, multiple unsignalized key intersections exist by the hospital site. Route 202/35, which is maintained by the State of New York, is only two lanes wide in this area. Although the Lafayette Avenue intersection was found to operate at an acceptable LOS, there are safety concerns due to westbound through traffic utilizing the shoulders to avoid vehicles turning left onto Lafayette Avenue.
c. Crompond. Route $202 / 35$ is a two-lane road through Cortlandt and western Yorktown that experiences steady traffic. East of the intersection with the Bear Mountain Parkway, traffic on Route 202/35 increases significantly because the Bear Mountain Parkway ends/begins at this point as it joins Route 202/35. There are a limited number of signalized intersections.

The volume of traffic compared to roadway capacity is problematic on Route 202/35 in this area. Delays occur during peak periods (eastbound in the a.m. peak period and westbound in p.m. peak period). In addition, delays occur when drivers make turning movements into driveways of the many businesses located along Route 202/35. Other delays

Figure 6. Aerial of Route 202/35 Corridor


Westchester
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放
are caused by left turning movements at traffic signals. Significant delays also occur on the intersecting side streets such as Croton Avenue. The existing LOS for the two key intersections are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 9 | Route 202/35 and BM Parkway | E |
| 17 | Route 202/35 and Lexington Avenue | F |

d. Bear Mountain Parkway Triangle. Route 202/35 has three lanes between Pine Grove Road and the Taconic State Parkway with channelized intersections to accommodate turning movements. Traffic volumes are high along this section due to three primary factors: east/west through traffic which includes traffic that also utilizes the BMP to access Route 9 and the Bear Mountain Bridge, the corridor's role as a main commercial area and the road's function as a distributor of local traffic to/from the Taconic State Parkway. Traffic congestion occurs when vehicles traveling through the area to connect with other roads conflicts with vehicles destined for businesses located along Route 202/35. The LOS at the key study intersections are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 18 | Route 202/35 and Stoney Street | F |
| 19 | BM Parkway Ext and Stoney Street | D |
| 20 | Route 202/35 and Pine Grove Avenue | F |
| 21 | Route 202/35 and Mohansic Street | F |
| 22 b | Route 202/35 and Taconic Parkway | F |

## 3. Bear Mountain Parkway Corridor

The Bear Mountain Parkway corridor is shown on Figure 7. It extends approximately 4 miles southeast from Route 9 to Route 202/35. It has an interchange with Route 6 east of the City of Peekskill. It is maintained by the State of New York for its entirety. Extending east from the intersection of Route 9 to the interchange with Division Street, the Parkway is a two-lane limited access facility. From its interchange with Division Street to its eastern terminus at Route 202/35 in Cortlandt, the Parkway is a 4-lane facility. The Parkway serves as a bypass around downtown Peekskill as well as a through route in combination with the Route 202/35 and Route 6 corridors.

The two locations where the parkway experiences delay are at each end, Route 9 and Route 202/35. Due to the fact that most of the facility is 55 mph , the speed at which vehicles arrive at these intersections is a safety concern. In addition, the intersections' inability to process the arrival volumes cause long queues at the intersections. The LOS at these intersections are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 1 | Bear Mountain Parkway and Route 9 | F |
| 9 | BM Parkway and Route 202/35 | E |

The BMP Extension extends 0.9 miles between Route 202/35 and the Taconic State Parkway in Yorktown. It is not

Figure 7. Aerial of Bear Mountain Parkway Corridor

connected to the westerly section of the Bear Mountain Parkway. In addition to its terminus at Route 202/35, the BMP Extension has one other intersection, also unsignalized, at Stoney Street, immediately north of Route 202/35. (See Bear Mountain Parkway Triangle discussion.)

A four mile long right-of-way was reserved many years ago for the unbuilt section of the BMP. It parallels the north side of Route $202 / 35$ and is owned by the State of New York. The proposed connection of the BMP through this right-of-
way has been discussed for many years. The land is considered to have environmental constraints including wetlands, floodplains, aquifer recharge areas and sensitive habitats. One aim of this study was to identify a consensus regarding the potential for constructing a BMP connection.

## 4. Off Corridor Roadways

Since the major routes in the study area experience delays, drivers often use secondary roads as alternate routes. In addition, several local roads serve as main traffic routes due

to a lack of State highways.
a. Northeast Cortlandt and Adjacent Yorktown. The northeast quadrant of Cortlandt, along with northwest Yorktown, experience some of the most pronounced impacts of major traffic flow on secondary roads. See Figure 8. The primary impacts are on the Oregon/Red Mill/Strawberry Roads corridor, on Foothill Road and on Mill Street. The Oregon/Red Mill/Strawberry Roads corridor parallels Route 6 approximately one mile to the north. Foothill Road connects Putnam Valley with Red Mill Road. Mill Street connects Putnam Valley with Route 6 between Mohegan lake and Shrub Oak. The land use along these roads consists predominately of single-family residential neighborhoods. The roadways provide local access and are rural in character. In light of these characteristics, the volume of traffic is problematic.

Sources of the traffic are the neighborhoods in the area as well as the residents and businesses of Putnam Valley, located directly to the north. Significant commuter traffic from Putnam Valley utilizes all of these roads. The LOS at the study intersections in this area are:

| Intersection <br> No. | Intersection | Level of <br> Service |
| :---: | :---: | :---: |
| 13 | Westbrook Drive/Oregon Road | C |
| 14 | Oregon Road, Lockwood Rd and Old Oregon Rd | C |
| 15 | McArthur Road and Red Mill Road | B |
| 16 | Lexington Avenue and Strawberry Road | C |

The Westbrook Drive/Oregon Road intersection (13) operates
at an overall LOS of C. However, the Red Mill Road leg of this intersection is failing during the peak p.m. hour and safety has long been a concern at this intersection. The Town of Cortlandt was evaluating in 2004 the feasibility of utilizing a "round-a-bout" at this intersection in order to safely facilitate traffic flow, eliminate the peak p.m. LOS problem on Red Mill Road and improve the overall LOS of this five leg intersection to $B$.
b. North/South Connections. Due to areas of congestion on the three major east/west corridors, traffic utilizes north/ south roadways to move between the corridors. None of these north/south roadways are State highways and none were constructed or designed to handle significant through volume traffic. The two roadways most impacted are the town roads, Lexington Avenue and Stoney Street, linking Route 6 and Route 202/35. Truck traffic also utilizes these secondary streets to access the Cortlandt Town Center and commercial sites along both Route 202/35 and Route 6. Additional diverted traffic uses other local roads to avoid corridor and intersection congestion.

## B. TRAFFIC AND TRANSIT PATTERNS

Where does all of the traffic come from? It's a basic question that requires an answer in order for effective long term roadway improvements to be identified. The answer may also indicate that changes in land use policies need to be considered.

## 1. Origin and Destination Survey

An origin and destination survey was conducted to identify the percentage of traffic in the corridor that is "through traffic." Through traffic was defined in this study as a trip that passes through the study area and has both its origin and destination outside of the study area. The information gathered through the "O\&D" survey also provided the necessary data to develop a corridor level traffic model for the study area.

In order to obtain a valid statistical sample of the current travel patterns, four survey stations were set up at the perimeter of the study area. This setup allowed through trips to be captured as well as locally generated trips destined for outside the study area. The four sites were:

- Station 1: Annsville Road (Route 9) on Peekskill/ Cortlandt border (West/Southbound traffic surveyed)
- Station 2: Main Street (Route 6 and Route 202/35) and Decatur Avenue in Peekskill (Eastbound traffic surveyed)
- Station 3: Route 202/35 east of Lexington Avenue in Yorktown (Westbound traffic surveyed)
- Station 4: Route 6 east of Mill Street in Yorktown (Westbound traffic surveyed)

Stations 1 and 2 were surveyed on Tuesday June 13, 2000 and Stations 3 and 4 were surveyed on Wednesday June 17, 2000. The survey stations operated from 6:30 am-9:30 am and 4:30 pm-7:00 pm. The stations were surveyed in the
peak direction for both the AM and PM peak hours. The motorist was asked to provide:

- Address at start of trip
- Address at end of trip
- Trip Purpose


## 2. Survey Findings on Vehicle Trips

Extrapolated to a 24 -hour basis, the survey results found that only $9.9 \%$ of all trips that passed through the survey stations were through trips. All other trips had one or both end points within the study area, contradicting a common assumption that the area's traffic problems are created by vehicles passing through the study area. Trips with both end points in the study area comprised $28 \%$ of all trips. Of the trips with only one end in the study area, $31.2 \%$ were external to internal and $28.0 \%$ were internal to external. Internal to external trips were the largest trip category in the AM peak at $34.8 \%$ while the external to interior trips were the largest in the PM peak, also at 34.8\%.
a. Through Trips. As noted above, the survey found that of all trips that passed through the survey stations in a 24hour period, only $9.9 \%$ were through trips. The percentage of through trips in the AM and PM peak periods for all trip purposes was $9.4 \%$ and $10.2 \%$ respectively. On a trip purpose basis, commuter trips (the journey between work and home) that pass through the study area made up 10.4\% of all commuter trips in the AM peak and $11.7 \%$ of all commuter trips in the PM peak.

The survey also found that the level of through trucking in the study area is low, making up $7.6 \%$ of all truck trips in a 24-hour period through the survey stations.

Internal Generated Trips. In the AM peak, $63.2 \%$ of all trips began within the study area with $28.4 \%$ ending at another location in the study area and $34.8 \%$ ending outside of the study area. In the PM peak, a lower $55 \%$ of all trips originated in the study area and these trips were nearly equally split between trips with end points in the study area (27.2\%) and trips with end points out of the study area (27.8\%).

On a trip purpose basis, commuter trips (the journey between work and home) beginning in study area made up $58.7 \%$ of all commuter trips in the AM peak and $55.4 \%$ of all commuter trips in the PM peak. Of all commuter trips that began in the study area, $45 \%$ ended within the study area in both the AM peak and the PM peak - a percentage that may come as a surprise in an area perceived even by residents to be a suburban "bedroom" community. In fact, 26.0\% of all commuter trips were found to begin and end in the study area.

On a 24 -hour basis, $66.0 \%$ of all "Shopping" trips began within the study area with $36.8 \%$ ending at a location in the study area and $29.2 \%$ ending outside the study area. Considering the retail opportunities available within the study area, it is somewhat surprising to find that $44.2 \%$ of all shopping trips are to destinations outside of the study area.

With regard to trucks, the survey found that $58.2 \%$ of all truck trips in a 24 -hour period had an origin in the study area with $24.0 \%$ traveling to another location in the study area and $34.2 \%$ traveling to a location outside of the study area.
c. External to Internal Trips. On a 24 -hour basis, $31.2 \%$ of all trips are from outside the study area to locations within the study area. That figure is slightly higher than trips from the study area to outside points ( $30.8 \%$ ) and higher than trips that begin and end in the study area (28.0\%). In the AM peak, $30.9 \%$ of all commuter trips (the journey between work and home) were trips from outside locations to points within the study areas. In the PM peak, this share increased to $33 \%$ of all commuter trips. Of all "Shopping" trips on a 24-hour basis, $28.5 \%$ were trips from outside the study area to retail destinations within the study area.

Of all truck traffic, $34.1 \%$ were truck trips that began outside of the study area and ended at destinations within the study area.

## 3. Travel Flow Characteristics

Data from the origin and destination survey was used to identify travel flow characteristics within the study area. First, a more detailed analysis of origins and destinations was established to assign trip ends to one of 45 "Traffic Analysis Zones" (TAZ) within the study area or one of eight directions outside of and around the perimeter of the study area. This breakdown allows movement within the study area to be

Figure 9. Trips Between Work and Home 6:30 am to 9:30 am


Figure 10. Trips Between Work and Home $4: 30$ pm to 7 pm


Figure 11. Trips Between Home and Shopping 4:30 pm to 7 pm


Figure 12. Total Truck Trips Over 24 Hours


Figure 13. Total Trips Over 24 Hours

better understood. The data also became a component of the traffic modeling.

For purposes of presentation, the 45 TAZs were combined into six districts as shown on Figures 9 to 13. These figures show travel flow in simple line graphics. It is important to note these travel flow diagrams are not intended to show travel on particular roads. Rather, the diagrams represent the travel volumes between districts and to external directions.

In all cases, the path with the highest travel demand is between District 5 (Yorktown North) and District 3 (Cortlandt North), essentially along Route 6. However, more strikingly when reviewed together, the figures underscore the finding that there is a high demand in the study area created by internally generated trips. The volumes to and from external points are low and do not equal the volumes between the internal districts.

For Trips Between Work and Home in the AM peak (Figure 9), Route 6 between Districts 3 and 5 and Route 202/35 between District 6 (Yorktown South) and District 4 (Cortlandt South) exhibit the highest volumes. The next highest volumes are found between Districts 3 and 1 (Peekskill), between Districts 4 and 1 and between Districts 1 and external direction 14 (Route 9 South).

In the PM peak (Figure 10), Trips Between Work and Home have the highest demand along the path from Route 9 South, through Peekskill, through Cortlandt to Yorktown along the

Route 6 corridor.
The highest volumes for Trips Between Home and Shopping in the PM peak are between Districts 3 and 5 in the Route 6 corridor (Figure 11). There are also high volumes between Districts 11 (Route 6 East) and 5.

## 4. Truck Connections

Figure 12 shows the pattern of truck movement volumes through the study area.

Trucks over 10,000 pounds are prohibited from using the Bear Mountain Parkway between 7am and 7pm due to safety considerations. As a result, trucks traveling between Route 9 and sites within the study area are diverted through downtown Peekskill on Route 6 . This has negatively impacted the quality of life in the downtown by increasing noise and pollution. In addition, the BMP truck restriction encourages trucks approaching from the north to use Highland Avenue in Peekskill to enter the study area. Trucks also utilize Highland Avenue to travel to Oregon Road and Westbrook Drive in order to access the commercial development on Route 6 including the Cortlandt Town Center.

## 5. Transit Service

Two bus transit systems (Westchester County Bee-Line and Putnam Transit) and one passenger rail system (Metro-North Railroad) provided service in the study area as of January
2003. These services operate at headways (frequency of service) that vary by weekday, weekend and time of day.
a. Westchester County Bee-Line Bus Service. The Bee-Line bus system is operated by the Westchester County Department of Transportation. As shown on Figure 14, there are five routes in the study area:

Route 14 - Local service operating between Peekskill and White Plains via Ossining primarily along Route 9A. Average weekday ridership in the study area was 500 passengers in 1998.

Weekday Service: 19 runs in each direction
5:45 am - 11:57 pm, 30-minute headways peak times;

60-minute headways off peak
Saturday Service: 17 runs in each direction
5:55 am - 10:10 pm, 60-minute headways
Sunday Service: 5 southbound; 6 northbound runs
10:20 am - 8:28 pm, 120-minute headways
Route 15 - Local service operating between Peekskill and White Plains via Yorktown primarily along Routes 35, 118, 100 and 9A. Average weekday ridership in the study area was 250 passengers in 1999. There is no Sunday service.

Weekday Service: 8 runs southbound; 7 runs northbound
6:20 am - 7:02 pm, 60-minute headways peak; 120-
minute headways off peak
Saturday Service: 4 runs in each direction 9:26 am - 8:33 pm, 180-minute headways

Figure 14. Westchester and Putnam County Transit


Route 16 - Local service operating between Peekskill and Yorktown via Route 6. Average weekday ridership in the study area was 350 passengers in 1998.

Weekday Service: 18 runs in each direction 5:45 am - 10:15 pm, 60-minute headways
Saturday Service: 15 eastbound runs and 16 westbound runs 6:45 am -10:27 pm, 60-minute headways
Sunday Service: 9 runs in each direction 9:30 am - 8:00 pm, 60-minute headways

Route 17-Express service operating as the North County Express weekdays only from Peekskill to White Plains in the morning and from White Plains to Peekskill in the evening primarily via Routes 9 and 9A. Average weekday ridership in the study area was 90 passengers in 1998.

Weekday Service: 3 runs in each direction 6:25 am - 8:50 am and 4:10 pm-6:20 pm, 40-minute headways

Route 18 - A feeder service operating weekdays only to and from the Peekskill Metro-North station south to Buchanan and east through the city of Peekskill to the Cortlandt town line. Average weekday ridership in the study area was 70 passengers in 1998.

Weekday Service: 15 runs 5:52 am - 7:25 pm, 30-minute headways
b. Putnam Transit System. The Putnam County transit system (PART) operates two routes that originate and terminate in Putnam County yet serve parts of the study area. These two routes operate along Route 6. There is no Sunday service.

Route 2 - Operates from Putnam Plaza in Carmel to the Jefferson Valley Mall in Jefferson Valley just to the east of the study area. The route travels through Mahopac, Baldwin Place and Mahopac Falls. Average ridership was 106 passengers per day in April 2002.

Weekday Service: 7 runs in each direction 6:00 am - 8:00 pm, 120-minute headways
Saturday Service: 5 runs in each direction 8:00 am - 6:00 pm, 120-minute headways

Route 4 - Operates from Putnam Plaza to Poughkeepsie Galleria. It travels through the study area on Route 6 from the Jefferson Valley Mall to Westbrook Drive, then continues on Westbrook Drive and Oregon Road into Philipstown. Average ridership was nine passengers per day in April 2002.

Monday/Wednesday/Friday Service: 1 run Departs Putnam Plaza 9:00 am; returns 4:40 pm
c. Metro-North Railroad. Passenger rail service is available near downtown Peekskill on Metro-North Railroad's Hudson Line. The station is located along the Hudson waterfront adjacent to the city's Riverfront Green Park. The Hudson Line also provides service at the Cortlandt and

Croton-Harmon stations south of the study area in the Town of Cortlandt. The line accesses lower Westchester County and Grand Central Terminal in mid-town Manhattan as well as locations north to Poughkeepsie. Amtrak services are available at the Croton-Harmon Station.

The City of Peekskill manages a permit parking program at the station for city residents. Parking is free on weekends and holidays. Bee-Line bus service is coordinated with the train arrival/departure schedule.

## C. PEDESTRIAN AND BICYCLE ENVIRONMENT

The functionality, safety and attractiveness of an area's pedestrian and bicycle facilities are increasingly recognized as an indicator of quality of life. Such facilities are no longer seen as urban features that have little role in suburbs or in areas outside of downtowns. The presence of pedestrian and bicycle options also increases mobility for people of all ages.

## 1. Sidewalks

Sidewalks generally do not exist in the study area outside of downtown Peekskill and a few commercial/mixed use areas. Most residential areas do not have sidewalks.

There is an extensive sidewalk system in Peekskill's downtown. Buildings are generally built at the edge of the sidewalk creating an attractive pedestrian environment. A
sidewalk extends along the south side of Route 6 from the downtown eastward to the Beach Shopping Center at Dayton Avenue.

There is a sidewalk on the north side of Route 6 west of the Cortlandt Town Center. A sidewalk is provided on the south side of Route 6 from a short distance west of the Cortlandt Town Center to Mohegan Lake.

In the hamlet of Mohegan Lake, sidewalks are located on both the north and south sides of Route 6. The sidewalks end do not extend east of the hamlet along Route 6.

There are sidewalks along East Main Street in the hamlet of Shrub Oak.

## 2. Bicycle Lanes

There were no designated bicycle lanes within the study area as of January 2004. Biking is generally conducted along the shoulders of both Route 6 and Route 202/35 as well as other area roads. Residents of Yorktown have suggested that bicycle routes be included along Route 202/35.

The Mid-Hudson South Region Bicycle and Pedestrian Master Plan (June 2001) recommends that both Route 6 and 202/35 corridors be developed with on-road bicycle facilities (dedicated lanes and signage). The plan also recommends the signing of East Main Street in Shrub Oak as a bike route.

Figure 15. Proposed Pedestrian and Bicycle Routes


## 3. Off-Road Trails

The Camp Smith Trail (for hiking only) in the northwest section of Cortlandt is the only dedicated off-road recreational trail in the study area. However, there are several recommended projects in the Mid-Hudson South Region Bicycle and Pedestrian Master Plan (June 2001). In addition, planning and implementation is underway to construct Westchester County Hudson RiverWalk and additional segments of off-road trails.
a. RiverWalk. An overall plan for the creation of RiverWalk was prepared by Westchester County in 2003. As
envisioned, RiverWalk would create a continuous trail (with sections appropriate for bicycle use) from the Putnam County line south to the New York City border. In the study area, RiverWalk would incorporate the Camp Smith Trail and the City Peekskill's Annsville Trail, which extends south from Annsville Circle, across Annsville Creek to North Water Street. RiverWalk will continue south on new trail segments alongside Peekskill's waterfront to connect with the Cortlandt Shoreline Trail, which extends south of Peekskill to Ossining.
b. Yorktown Greenway Trail. The Town of Yorktown has received a grant from NYS Hudson River Valley Greenway to study bicycle/pedestrian needs and connections.
c. Taconic State Parkway Crossing. As part of the reconstruction of the Taconic State Parkway, the NYS Department of Transportation will be constructing a bridge over the Parkway which will serve as a link to other parts of Yorktown and to the North County Trailway.
d. Bear Mountain/Yorktown Heights Trail. This 12.0 mile off-road facility is to be located in Peekskill, Cortlandt and Yorktown. The trail would extend along the Bear Mountain Parkway to the Taconic State Parkway.
e. Catskill Aqueduct Trail. This 3.9 mile off-road facility is to be in Cortlandt and Yorktown, extending south from the Bear Mountain Parkway to Mohansic County Park.

## D. LAND USE

Land uses and patterns of development within the study area vary significantly by municipality and by subregion. Overall, the study area is less densely populated and has less commercial development than central and southern Westchester County. As of 1999, there were approximately 18,000 housing units in the area. Peekskill contains the area's only urban center. Community character in both the towns of Cortlandt and Yorktown ranges from suburban to semi-rural with the majority of the land in both of these communities zoned for single family residential use. With the exception of the Hudson Valley Hospital Center and public schools, the study area's largest employment sites are the largest retail centers - the Beach Shopping Center in

Peekskill, the Cortlandt Town Center in Cortlandt and the B. J.'s/Staples Plaza in Yorktown. However, many people work at the many small businesses located throughout the area.

The land use characteristics of the seven subregions or neighborhoods in the study area are described below. For locations, see Figure 2.

## 1. Downtown Peekskill

Downtown Peekskill is the only urban portion of the study area. It is historic in character and is the core of the City's commercial, shopping, civic and government functions. The downtown is also home to the artists' district. This subregion has the highest concentration of mixed uses and greatest density in the study area. The uses include single family residences, apartments, retail, offices, civic uses (e.g., City Hall, schools and library) and parkland. The downtown has many multi-story buildings in office and residential use. Buildings abut or are in close proximity with each other along many of the streets. The zoning districts include Central Business District and General Commercial. See Figure 16.

The area along Route 6 and Route 202/35 from the riverfront to Broad Street forms the core of the downtown area. This area is served by a grid street system, on-street parking and parking structures as well as an extensive sidewalk system.
The historic character of Peekskill's downtown is one of the prime assets for the City's long-term economic revitalization.


Figure 16. Downtown Peekskill

It is also an area in which new businesses want to invest and shoppers and tourists want to visit. The downtown was designated a local historic district by the City in March 2001. Subsequently, the City's downtown has been designated a National Register Historic District. The City enacted Design Guidelines for the Downtown Peekskill Historic District in 2002 for the purpose of maintaining the character of the area.

A predominately residential area surrounds the downtown business district. The residential areas are predominantly single-family homes with some mixed commercial uses along Division Street and Main Street. There is a limited amount of manufacturing and light industrial south of Route 6. At certain times, Main Street is the only route available to trucks for entering the study area from the north/south Route 9.

The three major corridors in the study area have their west end points at Route 9 along the Hudson River in Peekskill. Main Street is designated as Route 6, 202 and 35 through the downtown from Route 9 to Division Street where Route 202/35 turns to the southeast.

## 2. Beach Plaza Shopping Center Area

The Beach Plaza Shopping Center, undergoing a major renovation in 2003, anchors the east side of the City of Peekskill. In its vicinity along Route 6 are a mix of office, retail, residential and parkland uses, each with independent driveway access to Route 6 . The pattern and density of development is suburban, unlike the downtown. Residential developments in this subregion are served by curvilinear streets and cul-de-sacs, often without connections between adjacent developments. See Figure 17.


Figure 17. Beach Plaza Shopping Center Area


Figure 18. Cortlandt Town Center Area

## 3. Cortlandt Town Center Area

This subregion consists of Cortlandt's primary commercial corridor which serves local and regional demand for retail services. The Cortlandt Town Center is at the core of development with other large, stand-alone retailers, smaller automobile-oriented businesses and other stores and offices located along Route 6. See Figure 18. The Cortlandt Town Center replaced and expanded the former Westchester Mall. It features several "big-box" stores (including the first WalMart store in Westchester County), an 11 screen movie theater plus smaller stores and restaurants served by an internal driveway that runs parallel to Route 6.

Properties along Route 6 to the west of the Cortlandt Town Center are developed predominantly with highway commercial uses. This type of development is oriented towards motorists with large parking areas in the front of the commercial establishments. Some former residences have
been converted to commercial or professional office uses in this section. There is also a school on the north side of Route 6.

There are moderate-density, suburban style single family residential neighborhoods to the north of Route 6. These neighborhoods are accessed from side streets off of Route 6. The area south of Route 6, between the Cortlandt Town Center and the Bear Mountain Parkway, includes an


Figure 19. Northeast Cortlandt
extensive wetland as well as a large area protected as permanent open space.

This subregion is located in the Peekskill Hollow Brook watershed, which is the source of water supply for the City of Peekskill. Major access to the Cortlandt Town Center Area subregion is from Route 6 itself, the Bear Mountain Parkway, Westbrook Drive and Lexington Avenue.

## 4. Northeast Cortlandt

The primary land use in the northeast section of the Town of Cortlandt is single family residential. There are a limited number of neighborhood commercial uses along Oregon Road. This area is bounded on the north by Peekskill Hollow Brook and the Town of Putnam Valley in Putnam County, on the west by Oregon Road, on the south by Red Mill Road and on the east by the Town of Yorktown. The "Northeast Quadrant Traffic Study," prepared by TRC Raymond Keyes Associates in 1996, recommended improving traffic safety and intersection operations for the large volume of through traffic while protecting the residential character of this area.
See Figure 19.

## 5. Mohegan Lake

The Mohegan Lake hamlet in the Town of Yorktown includes a mix of retail, professional office and residential uses. It has developed in a linear pattern along Route 6 and along the Mohegan Lake waterfront. Residential development includes single family homes and town homes with internal street systems. There are institutional uses (including a school and
nursing home) along Lexington Avenue north of Route 6. Along Route 6, the hamlet is pedestrian oriented in scale with sidewalks on both sides of the road and many buildings located adjacent to the sidewalks. See Figure 20.


Figure 20. Mohegan Lake
Mohegan Lake itself is a large natural resource. Historically, it was attractive to native Americans for its abundance of wildlife. The area became attractive to farmers, "colonists" looking for alternative lifestyles and summer tourists. Large cattle and dairy farms operated on the east side of the lake while summer colonies and hotels flourished along the shoreline. The Mohegan Lake area was connected to Peekskill via trolley in the early part of $20^{\text {th }}$ century. A small
business hamlet developed along what would be designated Route 6.

The challenge facing Yorktown is how to enhance the charm of the small town business hamlet with its small proprietorships, permit traffic to move through the area in an acceptable fashion and protect and enhance the quality of life for the adjacent residential areas. Land use and transportation decisions in this subregion must be mindful of the significant natural resources.

## 6. Bear Mountain Parkway Triangle

The Bear Mountain Parkway Triangle encompasses the land bounded by Route 202/35, the Taconic State Parkway and the Bear Mountain Parkway Extension. See Figure 21. Much of the land in this subregion is undeveloped. Current zoning permits a mix of commercial and residential uses. Residences in this area have a rural aspect to them. The land has rolling terrain, forested areas and is crossed by Hunterbrook, a meandering trout spawning stream that discharges to the New Croton Reservoir of the City of New York water supply system. Lots with frontage on Route 202/35 have been disturbed or developed and sections of Sherry Brook have been piped.

Given its location, this subregion offers opportunity for formation of a new village-style hamlet with a mix of housing, commercial and institutional uses. Such a hamlet would create a gateway to the existing business area along Route 202/35 to the west and would establish an alternative


Figure 21. Bear Mountain Parkway Triangle
to the auto-oriented quality of the area today. The need to protect the Hunterbrook is paramount to Yorktowners. The nearby Sylvan Glen Park Preserve and other lands in the vicinity warrant protection.

There is a large retail plaza on the south side of Route 202/35 at Stoney Street that includes several "big box" and smaller stores. There are a number of smaller-scale retail uses and a county homeless shelter along Route 202/35
east of the shopping plaza. The lots along Old Crompond Road to the south of Route 202/35 are developed with lowdensity single-family residences. Further west along Route 202/35 are several retail uses located on the south side of Route 202/35. This area also includes a number of car dealerships. The uses are separated from one another and are served by independent driveways. There is no uniform design or style of development in this strip commercial area.

The area north of Route 202/35 is predominantly vacant and is zoned for single-family residences. However, access to the properties is constrained by the right-of-way reserved for the Bear Mountain Parkway and by Hunterbrook.

## 7. Route 202/35

The Route 202/35 subregion in the Town of Cortlandt extends along Route 202/35 (also known as Crompond Road) from the City of Peekskill east to the Lexington Avenue intersection. See Figure 22. This subregion includes the hamlet of Crompond, which contains converted residential cottages along with other single and two-family

Figure 22. Route 202/35

homes. Small commercial operations are located along the south side of Crompond Road. This corridor is surrounded by wooded hillsides and is located in the Hunterbrook drainage basin of the New York City watershed. North of Crompond Road is the New York State right-of-way for the potential future completion of the Bear Mountain Parkway. Changes in land use policy and traffic patterns may be needed to lessen adverse impacts on residential areas and natural resources in this subregion. Such changes could also be directed to lessen impacts to commercial areas as well to improve aesthetics and economic integrity.

## E. ENVIRONMENT

Figure 23 highlights environmentally sensitive areas in northwest Westchester County. Several initiatives are underway in all or part of the study area that address particular environmental topics.

In 2003-2004, the towns of Yorktown, Cortlandt, New Castle and Putnam Valley are cooperating on a study of the area's biodiversity, led by the Metropolitan Conservation Alliance (MCA). The study will identify areas that contain a rich variety of species and offer methods to insure that they continue to exist for generations to come, in their current habitats. MCA has conducted mapping and field work. The land use policies recommended by this Plan are influenced by, and should complement, the recommendations of the biodiversity study for species and habitat protection. In addition, Yorktown and Cortlandt have received a grant from Hudsonia Ltd. for biodiversity training.

The towns of Cortlandt and Yorktown are two of the ten Westchester County municipalities preparing the Comprehensive Croton Watershed Water Quality Protection Plan ("The Croton Plan") in cooperation with Westchester County. This Plan, to be completed in draft form in 2004, is to present an analysis of water quality conditions and threats in the Croton Watershed and an outline of measures that be taken at every level of government and in the private sector to prevent degradation or improve water quality. Many of the recommendations will relate to land use, impervious surfaces and stormwater management. The southern half of the study area in Yorktown and the southeast section of Cortlandt are within the Croton Watershed.

## F. BUILDOUT UNDER CURRENT ZONING

As part of the depiction of existing conditions, an inventory was assembled in 2000 of all development applications subdivisions and site plans - that were being processed by municipal boards in the three municipalities. The collected data are summarized in Figure 24. A total of 31 residential subdivisions were identified which, in total, proposed the creation of 1,794 new dwelling units. The survey also identified 33 non-residential development proposals, most of minor scope and involving renovation of existing space.

A forecast of the remaining potential for development under existing zoning was then prepared. The "buildout" analysis examined potential development for all vacant and underutilized parcels as identified by the three municipalities.

Figure 23. Sensitive Environmental Areas


Figure 24. Development Projects the Application Stage (2001)


Figure 25. Concentration of Issues and New Development


## II. Existing Conditions

This buildout analysis illustrated that a significant amount of new development could occur in the study area, approximately an additional 1,600 dwelling units beyond those already proposed and an additional 2.4 million square feet of commercial floor area. Stakeholders and the public raised substantial concern regarding the identified buildout potential and the possible impacts such development could have on transportation, community character and the environment.

## G. CONCENTRATION OF ISSUES

Combining the information gathered on existing conditions, the advice and ideas of the Stakeholders Committee and comments made at public workshops, it is possible to graphically show a "concentration of issues" for the study area. This is shown in Figure 25.


Public input was the basis for identifying the 50 early action items.

