

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
CATSKILL/DELAWARE UV FACILITY**

4.7.	SOCIOECONOMIC CONDITIONS.....	1
4.7.1.	Introduction.....	1
4.7.2.	Baseline Conditions	1
4.7.2.1.	Existing Conditions.....	1
4.7.2.1.1.	Eastview Site.....	1
4.7.2.1.2.	Study Area	2
4.7.2.2.	Future Without the Project.....	14
4.7.2.2.1.	Without Croton Project at Eastview Site	15
4.7.2.2.2.	With Croton Project at Eastview Site	20
4.7.3.	Potential Impacts.....	21
4.7.3.1.	Potential Project Impacts	22
4.7.3.1.1.	Without Croton Project at the Eastview Site	22
4.7.3.1.2.	With Croton Project at the Eastview Site	31
4.7.3.2.	Potential Construction Impacts	35
4.7.3.2.1.	Without Croton Project at the Eastview Site	35
4.7.3.2.2.	With Croton Project at the Eastview Site	37
4.7.4.	Potential Impacts of Relocating the Hammond House	38
	FIGURE 4.7-1. SOCIOECONOMIC ANALYSIS EASTVIEW SITE.....	5
	TABLE 4.7-1. EXISTING PROPERTY TAX PAYMENTS (2004 DOLLARS).....	2
	TABLE 4.7-2. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE.....	6
	TABLE 4.7-3. 2000 DISTRIBUTION OF OCCUPATIONS IN STUDY AREA.....	8
	TABLE 4.7-4. MEANS OF TRANSPORTATION TO WORK IN 2000 STUDY AREA	9
	TABLE 4.7-5. MEDIAN SALE PRICES FOR SINGLE-FAMILY RESIDENCES, 1993 TO 2002.....	10
	TABLE 4.7-6. CITY WATER AND SEWER SYSTEM BILLING.....	13
	TABLE 4.7-7. POPULATION PROJECTIONS.....	16
	TABLE 4.7-8. POPULATION PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS.....	16
	TABLE 4.7-9. LABOR FORCE AND EMPLOYMENT PROJECTIONS	18
	TABLE 4.7-10. LABOR FORCE AND EMPLOYMENT PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS	18
	TABLE 4.7-11 PROJECTED BASE WATER CHARGES FOR THE FUTURE WITHOUT PROJECT WITHOUT CROTON AT EASTVIEW SITE (CROTON PROJECT AT THE MOSHOLU SITE) ^{1,2,3}	19
	TABLE 4.7-12 ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE WITHOUT THE PROJECT WITH CROTON AT EASTVIEW SITE ^{1,2}	21
	TABLE 4.7-13. UV FACILITY: ESTIMATED PROPERTY TAXES/PILOTS FROM EASTVIEW SITE – MOUNT PLEASANT.....	23
	TABLE 4.7-14. UV FACILITY: ESTIMATED PROPERTY TAXES/PILOTS FROM EASTVIEW SITE – GREENBURGH	23
	TABLE 4.7-15. UV FACILITY: TOTAL ECONOMIC BENEFITS DURING OPERATION, WESTCHESTER COUNTY	24

TABLE 4.7-16. UV FACILITY: ESTIMATED CAPITAL AND OPERATION & MAINTENANCE (O & M) COSTS.....	26
TABLE 4.7-17 ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE WITH THE PROJECT WITHOUT CROTON AT EASTVIEW SITE	28
TABLE 4.7-18. DISTRIBUTION OF HOUSING UNITS IN NEW YORK CITY, 2000	28
TABLE 4.7-19. UV FACILITY: POTENTIAL IMPACT ON CITY RENTER MEDIAN MONTHLY GROSS RENT ¹	29
TABLE 4.7-20. UV FACILITY: POTENTIAL IMPACT ON CITY OWNER MEDIAN MONTHLY COST ¹	30
TABLE 4.7-21. UV FACILITY: POTENTIAL IMPACT ON RENTER MEDIAN MONTHLY GROSS RENT ¹	31
TABLE 4.7-22. UV FACILITY: POTENTIAL IMPACT ON UPSTATE OWNER MEDIAN MONTHLY COST ¹	31
TABLE 4.7-23. ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE WITH THE PROJECT WITH CROTON AT EASTVIEW SITE.....	32
TABLE 4.7-24. UV FACILITY: POTENTIAL IMPACT ON CITY RENTER MEDIAN MONTHLY GROSS RENT ¹	33
TABLE 4.7-25. UV FACILITY: POTENTIAL IMPACT ON CITY OWNER MEDIAN MONTHLY COST ¹	34
TABLE 4.7-26. UV FACILITY: POTENTIAL IMPACT ON RENTER MEDIAN MONTHLY GROSS RENT ¹	35
TABLE 4.7-27. UV FACILITY: POTENTIAL IMPACT ON UPSTATE OWNER MEDIAN MONTHLY COST ¹	35
TABLE 4.7-28. TOTAL ECONOMIC BENEFITS DURING CONSTRUCTION, WESTCHESTER COUNTY	36

4.7. SOCIOECONOMIC CONDITIONS

4.7.1. Introduction

This section assesses the potential socioeconomic impacts of the proposed Catskill/Delaware Ultraviolet Light Disinfection Facility (UV Facility) during construction and operation. Potential socioeconomic impacts include direct and indirect displacement. Direct displacement is the geographical dislocation of existing populations, employment or facilities at the Eastview Site. Indirect displacement is the displacement of existing populations, employment or facilities due to changes in taxes, property values, living conditions or water rates that could potentially result from the proposed project.

The methodology used to prepare this analysis is presented in [Section 3.7, Data Collection and Impact Methodologies, Socioeconomic Conditions](#). Detailed tables containing U.S. Census data used for this analysis at the tract and block group level are presented in [Appendix A](#).

4.7.2. Baseline Conditions

4.7.2.1. Existing Conditions

4.7.2.1.1. Eastview Site

The Eastview Site is located in the Towns of Mount Pleasant and Greenburgh, in central Westchester County, New York (see [Figure 4.2-1](#)). The approximately 149-acre site is bisected by Grasslands Road (Route 100C), which serves as the border between the Town of Mount Pleasant and the Town of Greenburgh. To the north of Route 100C and within the Town of Mount Pleasant, is the north parcel of the Eastview Site, which contains about 83 acres or 56 percent of the total acreage. The remaining 66 acres or 44 percent of the property lie within the south parcel in the Town of Greenburgh.

The Eastview Site was purchased by the City of New York in the early 1900's and equipped with connections to both aqueducts in anticipation of the potential future need for a water treatment facility.

The Eastview Site is currently undeveloped, with the exception of: (1) Delaware Shaft No. 19, situated on the eastern side of the north parcel with an access road off Route 100C; (2) the existing Catskill Connection Chamber (CCC), situated on the eastern side of the north parcel with an access road off Route 100C; (3) an electrical substation (owned and maintained by Con Edison), situated on the south side of Route 100C; (4) Con Edison's electrical transmission lines that run alongside the eastern edge of the south parcel; (5) a small NYCDEP laboratory building on the south parcel; and (6) the historic Hammond House, a private residence situated on the north parcel along Route 100C.

For fiscal year (FY) 2003, the Eastview Site generated total property tax payments (expressed in 2004 dollars) of approximately \$497,476; \$306,668.¹ was collected for the north parcel in

¹ Town of Mount Pleasant Tax Collector's Office and Town of Mount Pleasant Assessor's Office, 2004.

Mount Pleasant and \$190,808² was collected for the south parcel in Greenburgh. The tax revenues included about \$140,139 for the County (including the County sewer and refuse districts), \$59,896 for Mount Pleasant, \$59,470 for Greenburgh, and \$237,972 for the Pocantico Hills School District (see [Table 4.7-1](#)).

TABLE 4.7-1. EXISTING PROPERTY TAX PAYMENTS (2004 DOLLARS)

	North Parcel (Mount Pleasant)	South Parcel (Greenburgh)	Total
Westchester County	68,975.75	36,674.77	105,650.52
Saw Mill Valley Sewer District	12,938.99	6,886.15	19,825.15
County Refuse District	9,568.00	5,095.22	14,663.22
Town Tax	33,894.55	53,600.51	87,495.16
Local Fire District (Valhalla/North Elmsford)	8,231.91	5,869.19	14,101.10
Mt. Pleasant Refuse	9,818.52	N.A.	9,818.52
Mt. Pleasant Library	4,803.78	N.A.	4,803.78
Mt. Pleasant Consolidated Lighting District	1,696.49	N.A.	1,696.49
Valhalla Ambulance	1,450.36	N.A.	1,450.36
Pocantico Hills School District	155,289.95	82,682.04	237,971.99
Total	306,668.32	190,807.98	497,476.29

The County and Town tax revenues generated by the Eastview Site represented 0.07 percent of the County's 2003 tax levy on real property (\$351 million in 2003 dollars which is equal to approximately \$365 million in 2004 dollars). The school taxes generated by the site represented approximately two percent of the district's total tax levy for 2003/2004 (\$12.6 million in 2003 dollars, which is equal to \$13.1 million in 2004 dollars).

4.7.2.1.2. Study Area

The north parcel of the Eastview Site is surrounded by Grasslands Reservation to the north, east, and west, and Route 100C to the south. The south parcel in Greenburgh is bordered on the east by a residential neighborhood on Taylor Road and on the south and west by a commercial office park (Cross Westchester Executive Park). In addition, to the southwest is a portion of the Elmsford Distribution Center, multiple commercial/retail establishments along Saw Mill River Road (Route 9A), and residential uses. Additional residential uses are located to the east on the other side of the Sprain Brook Parkway. The Eastview Site is accessible from several arterial roadways, including the Sprain Brook Parkway to the east and Route 9A to the west, both north-south roadways. A complete description of the existing land uses in the study area is presented in [Section 4.2, Land Use, Zoning, and Public Policy](#).

² Town of Greenburgh Assessors Office, 2004.

The study area contains portions of four census tracts (Tracts 109.01, 110, and 119.01, and 119.02) in Westchester County (Figure 4.7-1), all of which fall within approximately one-half mile around the project site. Where necessary, the study area was adjusted to conform to census tract and block group boundaries. This one-half mile study area was chosen to conform to the study area used for the land use analysis, which includes the areas where potential effects from the proposed project would be most likely to be felt. Approximately 3,157 people and 666 households were located within the study area in 2000 (see Eastview Study Area in Table 4.7-2). The majority of these households are located in the southern and eastern portions of the study area. Compared to Westchester County, the study area had a population density roughly three-quarters that of Westchester County's in 2000 (Table 4.7-2). This lower population density is partially attributed to the dominant commercial and industrial character of the study area.

In addition to the half mile study area to assess the effect of the project on the immediate vicinity of the project site in regards to potential displacement, effect on property values, property taxes, jobs, and indirect economic effects, an analysis was undertaken to determine the effect to NYC water consumers, both upstate and in-City.

Following a stagnant period of growth between 1970 and 1990, the 2000 U.S. Census reported that Westchester County's population increased 5.6 percent between 1990 and 2000. Hispanics and immigrants account for much of that increase.⁴ In 2000, Hispanics accounted for 15.6 percent of the population in Westchester County compared to 9.9 percent in 1990.⁵ The African-American population also increased slightly from 13.1 to 14.2 percent during this period. By comparison, the study area contained a smaller percentage of whites (46.0 percent) and a larger percentage of African-Americans (40.4 percent) in 2000 (Table 4.7-2). The racial makeup of the block groups within the study area was very heterogeneous. For instance, percentages of white populations ranged from a low of 36.1 (block group 1 in tract 110) to a high of 93.6 percent (block group 3 in tract 119.02) (see Appendix A).

Although the County's overall population increased by approximately 5.6 percent during the period of 1990 and 2000 (Table 4.7-2), the study area's population experienced a decline of approximately 185 persons, or approximately 5.5 percent of the study area population. As discussed in Section 4.2, Land Use, Zoning, and Public Policy, the land uses comprising the study area are predominantly institutional, with much of the residential population living within institutional housing; newly constructed projects in the study area have been entirely institutional or commercial (see Table 4.2-3). The growth trend of the study area during the 1990 to 2000 period has shown an increase in institutional and commercial uses of the study area, resulting in a decline in the area's overall population.

There has been a trend of an aging population in Westchester County. The County's elderly population has increased from 74,828 in 1960 to 128,964 in 2000.⁶ In 2000, approximately 14

⁴ Westchester County Department of Planning (WCDP). 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY.

⁵ WCDP. 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY.

⁶ WCDP. 2000. Westchester County Megatrends. WCDP. White Plains, NY; and 2000 U.S. Census.

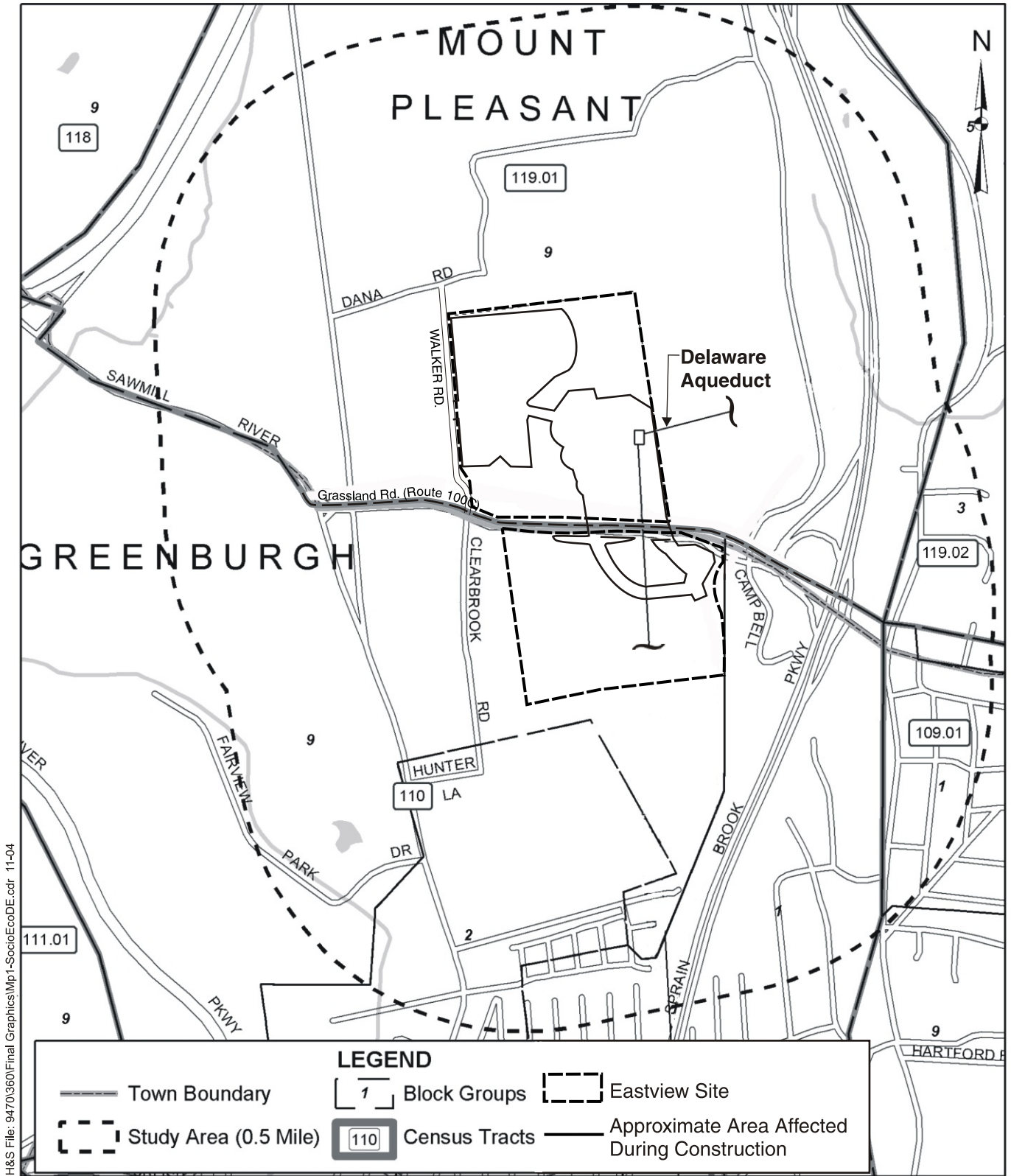
percent of the County's population was age 65 or older. The block groups in the study area were fairly homogenous with respect to percentages of population in various age groups with the exception of block group 9 in tract 119.01, which had a significantly higher percentage of residents between ages 20 and 44 (see [Appendix A](#)). This particular block group includes several institutions on Grasslands Reservation, including the County's Correctional Complex and Juvenile Detention Center, and Blythedale Children's Hospital, located to the east of the Reservation across the Sprain Brook Parkway.

Economic trends in Westchester County from 1989 to 1999 included a slight decrease in median household income (MHI).⁷ Similarly, the study area's MHI decreased by approximately 13 percent during this same time period (see [Appendix A](#)). In the study area, MHI ranged greatly from a low of \$16,912 in block group 9 in tract 119.01 to a high of \$124,029 in block group 9 in tract 109.01 (see [Appendix A](#)). Although the County experienced a significant increase in persons living below the poverty line between 1990 and 2000, the number of people living in poverty in the study area dropped over 31 percent during the same period ([Table 4.7-2](#)). Even though the number of people living in poverty in the study area decreased from 1990 to 2000, data from the 2000 U.S. Census indicates that the study area's unemployment rate increased from 5.2 percent in 1990 to 5.8 percent in 2000 ([Table 4.7-2](#)). Block group 9 in tract 119.01 experienced the most dramatic increase (from 8.4 percent in 1990 to 30.4 percent in 2000) during this same period (see [Appendix A](#)).

As discussed above and in more detail in [Section 4.2, Land Use, Zoning, and Public Policy](#), the predominant land use categories comprising the study area are nonresidential, although there exist several residential institutional facilities. As a result, the study area's demographic profile is characterized by a disproportionate number of persons living in group quarters. These include residential institutional facilities such as the Hebrew Hospital Home of Westchester, the Margaret Chapman School for disabled children, the Westchester County Correctional Complex, and the Woodfield Cottage Juvenile Detention Center. While 1.2 percent of the total Westchester County population resides in group quarters, 37.5 percent of the study area population resides in group quarters.⁸

⁷ In making this comparison, 1989 MHI was adjusted to 1999 dollars based on the New York MSA Consumer Price Index for 1999.

⁸ U. S. Department of Commerce, Bureau of Census, 2000.



H&S File: 9470360\Final Graphics\Mp1-SocioEcoDE.cdr 11-04

Socioeconomic Conditions: Study Area for Demographic Analysis Eastview Site

Catskill/Delaware UV Facility

Figure 4.7-1

TABLE 4.7-2. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (Categories Differ By Feature)					
Population Change and Density, 1990-2000	Geographic Unit	1990 population	2000 population	Percent Change 1990-2000	2000 Density (persons/sq. mi.)		
	Eastview Study Area ¹	3,342	3,157	-5.5	1,468		
	Westchester County	874,866	923,459	5.6	2,134		
Change in Number of Households, 1990-2000	Geographic Unit	1990	2000	Percent Change 1990-2000			
	Eastview Study Area ¹	594	666	12.1			
	Westchester County	320,030	337,142	5.3			
Racial Composition, 2000 % of Total	Geographic Unit	White	Black	American Indian²	Asian or Pacific	Other	Hispanic or Latino³
	Eastview Study Area ¹	46.0	40.4	0.2	6.6	6.8	12.3
	Westchester County	71.3	14.2	0.3	4.5	9.7	15.6
Age Composition, 2000 % of Total	Geographic Unit	Age 0-4	Age 5-9	Age 10-19	Age 20-44	Age 45-64	Age 65+
	Eastview Study Area ¹	4.5	4.0	12.9	48.8	17.4	12.4
	Westchester County	7.0	7.4	12.8	35.5	23.5	14.0
Change in Median Household Income, 1989-1999	Geographic Unit	1989⁴	1999	Percent Change 1989-1999			
	Eastview Study Area ¹	\$68,416	\$66,103	-3.3			
	Westchester County	\$65,603	\$63,582	-3.1			
Change in No. of People Below Poverty Line, 1990-2000	Geographic Unit	1990	2000	Percent Change 1990-2000			
	Eastview Study Area ¹	398	272	-31.8			
	Westchester County	58,164	78,967	35.8			

TABLE 4.7-2. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (Categories Differ By Feature)					
Change in Unemployment Rate, 1990-2000	Geographic Unit	1990	2000	Percent Change 1990-2000			
	Eastview Study Area ¹	5.2	5.8	12.4			
	Westchester County	4.8	4.4	-8.3			
Units in Structure, 2000 % of Total	Geographic Unit	1 Unit Structure	2 to 4 Units in Structure	5+ Units in Structure			
	Eastview Study Area ¹	61.2	8.1	30.6			
	Westchester County	50.2	17.7	32.1			
Owner-Occupied Housing Units and Vacancy Rates	Geographic Unit	Percent Owner-Occupied Units 1990	Percent Owner-Occupied Units 2000	Percent Change 1990-2000	Percent Vacant 2000 (based on total units)		
	Eastview Study Area ¹	71.2	63.6	-10.7	1.4		
	Westchester County	59.7	60.1	0.8	3.5		
Age of Housing Stock, 2000 % of Total	Geographic Unit	Less than 10 Years Old	10 to 19 Years Old	Over 20 Years Old			
	Eastview Study Area ¹	7.0	6.0	87.0			
	Westchester County	5.4	7.5	87.1			
Year Householder Moved into Unit, 2000 % of Total Householders	Geographic Unit	Moved in from 1995 to 2000	Moved in from 1990 to 1994	Moved in from 1980 to 1989	Moved in from 1979 or earlier		
	Eastview Study Area ¹	49.1	10.8	14.3	25.7		
	Westchester County	41.4	15.7	17.4	25.5		
Comparison of Median Housing Value, 1990-2000	Geographic Unit	1990 Median Value⁵	2000 Median Value	Percent Change 1990-2000			
	Eastview Study Area ¹	\$289,408	\$234,264	-19.1			
	Westchester County	\$371,852	\$285,800	-23.1			

TABLE 4.7-2. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (Categories Differ By Feature)					
Comparison of Median Monthly Rent, 1990-2000	Geographic Unit	1990 Median Rent⁵	2000 Median Rent	Percent Change 1990-2000			
	Eastview Study Area ¹	\$884	\$923	4.4			
	Westchester County	\$1,319	\$782	-40.7			

Notes:

1. For block groups partially in a study area, the population was based on the percentage of the block group within the study area.
2. Category appeared as “Native American” in 1990 Census.
3. Category appeared as “Hispanic” in 1990 Census.
4. Adjusted to 1999 dollars based on the New York MSA CPI for 1989 (130.6) and 1999 (177.0).
5. Adjusted to 2000 dollars based on the New York MSA CPI for 1990 (138.5) and 2000 (182.5).

Source: U.S. Department of Commerce, Bureau of Census; 1990 and 2000.

Based on field observation, a majority of the households within the study area are single-family dwelling units. However, multi-family units and apartment buildings are also located within the study area. Residences with five or more units, for instance, constitute approximately 80 percent of block group 9 in tract 119.01 (see [Appendix A](#)). In 2000, the study area had a slightly higher percentage of owner-occupied housing units (64 percent) as compared to Westchester County (60 percent) ([Table 4.7-2](#)). Similar to Westchester County, the majority of the housing units (roughly 87 percent) in the study area were built prior to 1980 ([Table 4.7-2](#)). A majority (60 percent) of the study area residents had moved into their year 2000 residence within the previous ten years ([Table 4.7-2](#)). In 2000, the study area had a median housing value of \$234,264 ([Table 4.7-2](#)).

In 2000, the distribution of the workforce (including residents between the age of 16 and 65) in the study area was similar to that of Westchester County ([Table 4.7-3](#)). The largest occupational sector for the study area consisted of management, professional, and related occupations. This sector made up approximately 48 percent of the study area’s work force. Driving alone was the primary means of transportation to work for the study area’s work force ([Table 4.7-4](#)). Based on 2000 U.S. Census data, the residents in the study area are well educated. In 2000, approximately 85 percent of the residents in the study area were high school graduates or above. This compares to approximately 84 percent for Westchester County. Block group 9 in tract 119.01 had the lowest percentage of high school graduates with 63 percent (see [Appendix A](#)).

TABLE 4.7-3. 2000 DISTRIBUTION OF OCCUPATIONS IN STUDY AREA

Occupation	Percent of Study Area Work Force	Percent of Westchester County Work Force
Management, professional, and related occupations	47.7	45.6
Service occupations	11.8	14.3
Sales and office occupations	23.1	26.2

TABLE 4.7-3. 2000 DISTRIBUTION OF OCCUPATIONS IN STUDY AREA

Occupation	Percent of Study Area Work Force	Percent of Westchester County Work Force
Farming, fishing, and forestry occupations	0.0	0.1
Construction, extraction, and maintenance occupations	9.2	7.2
Production, transportation, and material moving occupations	8.2	6.6

Source: U.S. Department of Commerce, Bureau of Census, 1990 and 2000.

TABLE 4.7-4. MEANS OF TRANSPORTATION TO WORK IN 2000 STUDY AREA

Travel Mode	Percent of Study Area Work Force	Percent of Westchester County Work Force
Drive Alone	66.1	61.6
Car Pool	12.5	9.5
Bus	3.7	5.1
Street Car	0.0	0.1
Subway or El	0.3	1.6
Railroad	9.9	13.1
Ferry Boat	0.0	0.0
Taxi	0.0	0.6
Motorcycle	0.0	0.0
Bicycle	0.0	0.1
Walk	3.9	4.0
Other	0.0	0.5
Work at Home	3.6	3.8

Source: U.S. Department of Commerce, Bureau of Census, 2000.

Property Value. The Westchester County Department of Planning's (WCDP) *Databook 2001* provided the average selling price for single-family residential units by municipality annually from 1993 to 2000.⁹ In addition, average selling prices for 2001 and 2002 were obtained from the WCDP. Table 4.7-5 shows the average selling prices within the two towns in the study area and Westchester County based on the WCDP data (all dollars were adjusted to 2004 dollars for comparison purposes). Data were only available for single-family homes. Average prices in the Town of Mount Pleasant were higher than those for the Town of Greenburgh. In 2002, the latest full year for which data are available, the median sale price in Mount Pleasant was \$498,469. Between 1993 and 2002, the median sale price for single-family homes in Mount Pleasant increased approximately 41 percent, somewhat lower than the County growth rate of 54 percent for the same period.

⁹ Westchester County Department of Planning (WCDP). 2001. *Databook 2001: Westchester County*, New York. WCDP. White Plains, NY.

In Greenburgh, the 2002 median sale price was \$471,669. Sale prices in the town rose by 51 percent between 1993 and 2002, slightly lower than the County-wide growth rate of 54 percent. In comparison, the median sale price for single-family homes in all of Westchester County was \$562,787 in 2002.

As shown in **Appendix A**, median housing values in the block groups in the study area in 2000 varied with a low of \$145,300 for block group 9 in tract 110 and a high of \$330,600 for block group 9 in tract 109.01. Median values in the study area were less than the median value of \$285,800 for Westchester County as a whole. Exceptions were block groups 1 and 9 in tract 109.01. The decreasing trend for median housing values based on 2000 U.S. Census data does not reflect the increasing trend for median sale prices based on WCDP data.

TABLE 4.7-5. MEDIAN SALE PRICES FOR SINGLE-FAMILY RESIDENCES, 1993 TO 2002

Year	Median Sale Price ¹		
	Town of Mount Pleasant	Town of Greenburgh	Westchester County
1993	\$352,840	\$312,230	\$366,154
1994	\$344,587	\$331,584	\$360,842
1995	\$386,820	\$328,480	\$363,673
1996	\$357,439	\$301,973	\$351,276
1997	\$370,053	\$343,857	\$361,321
1998	\$359,937	\$328,831	\$379,192
1999	\$408,228	\$366,098	\$400,964
2000	\$428,332	\$375,838	\$458,776
2001	\$472,776	\$447,486	\$494,654
2002	\$498,469	\$471,669	\$562,787

Notes:

¹ All dollars were adjusted to 2003 dollars for comparison purposes based on the New York MSA Consumer Price Index (CPI) for 2003 (197.8), then further inflated at 4 percent to 2004 dollars.

Source: WCDP. 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY; and Westchester County Board of Realtors website, www.wcbr.net.

Socioeconomic Conditions of Businesses. As discussed in **Section 4.2, Land Use, Zoning, and Public Policy**, the study area consists of a range of land uses and development densities. The study area contains part of one of the County’s largest office and employment areas; the Route 9A corridor. The corridor is bounded to the west by the Saw Mill River Parkway, to the south by the Cross Westchester Expressway, to the east by the Sprain Brook Parkway, and to the north by the crossing of the Saw Mill and Sprain Brook Parkways. The business and employment base is dominated by institutional and health-related industries, as well as laboratories, research, light industrial, and general office services, as well as a mix of retail businesses and restaurants.

In 1996, the latest year for which data are available, the Route 9A corridor contained almost 4.8 million square feet of office space; one million square feet of warehouse, laboratory, and light

assembly; and 500,000 square feet of retail.¹⁰ At that time, in 1996, the vacancy rate in the study corridor was relatively low (10 percent) when compared to the County-wide rate of 21 percent. As discussed in [Section 4.2, Land Use, Zoning, and Public Policy](#), the further development of these business categories is anticipated to continue. No current vacancy data aggregated specifically for the study area is available, although the Westchester County vacancy rate has fallen to 12.9 percent.¹¹ It is likely that vacancy in the Route 9A corridor is lower than the County-wide rate. For example, the current vacancy rate of the Landmark at Eastview office park (Landmark property) is 5 percent.¹²

Water Rate Structure. This section summarizes the current water rate structure for City and upstate customers of the New York City Water Supply System. This information is used to assess the potential socioeconomic indirect displacement effects from increased water rates due to the construction of the proposed project at the Eastview Site.

Financing Mechanisms for New York City Department of Environmental Protection (NYCDEP) Capital Improvements. The New York City Water and Sewer System are financially self-sustaining; i.e., the costs of paying for system costs and operations are supported by water and sewer charges. Costs (operating expenses and debt service on the bonds) are estimated annually for the entire system and water and sewer rates are adjusted accordingly to provide annual operating revenues sufficient to cover the costs and maintain debt service coverage of at least 115 percent. Therefore, residential, commercial, and industrial users of the water supply system would pay for the capital and operating costs of the proposed project through their water charges.

There are two primary sources of financing available to fund the construction of NYCDEP capital improvement projects: (1) the New York City Municipal Water Finance Authority (“Authority”), and (2) the New York State Drinking Water Revolving Fund Program (SRF).

The Authority is authorized to issue bonds to fund the construction of capital improvement projects. The bonds are payable solely from, and secured by, a pledge of gross revenues from the New York City Water Board. Fixed Rate Water and Sewer System revenue bonds issued by the Authority currently carry an interest rate of approximately five percent, and are typically repaid over a period of 30 years. The variable rate bonds issued by the Authority have recently been yielding approximately one percent. Capital improvement projects with multi-year construction schedules, such as the proposed project, are financed with Authority bonds issued about four times per year in amounts necessary to cover the anticipated construction cost in any given year.

New York State makes lower-cost financing available to municipalities around the state for capital improvement projects related to drinking water. The state receives an annual grant from the U.S. Environmental Protection Agency (USEPA) that provides seed money for construction of facilities related to drinking water. Under a matching fund provision, the state is required to

¹⁰ WCDP. 1996. Route 9A Bypass Study Area, an Overview of Development and Transportation. Westchester County Department of Planning. White Plains, NY.

¹¹ CB Richard Ellis, Westchester County Office Market Index Brief, Fourth Quarter 2003.

¹² LCOR, March 15, 2004.

contribute an amount equal to 20 percent of the grant as additional funding. The state invests the seed money, and uses the proceeds to subsidize the interest rate on bonds that it issues through the SRF to finance municipal projects. Municipalities repay the proceeds of the SRF bonds to the state, thus creating a “revolving fund” that can be used for future projects. Interest rates under the SRF program are currently less than bonds issued by municipalities. Rates vary; however, recent net interest rates are typically in the range of three to four percent, with a repayment period of 20 years. Wastewater-related projects, including improvements to wastewater treatment plants in the watershed, are eligible for SRF loans for a term of 30 years. As with some municipal bonds, the SRF program includes funding for several water projects from around the State in a single bond issue.

The proceeds of bonds are typically used to finance the cost of the capital improvement program, to fund certain reserves and to pay costs of issuance, including the premium for bond insurance.

Total Debt Service Payable from Current Revenues. Major investments have been made in the City’s water and sewer infrastructure since the 19th century. Some ongoing capital improvement projects include: (1) the Water Quality Preservation Program, which provides for improvements to the upstate watersheds, and includes a land acquisition program and the upgrade of non-City owned wastewater treatment plants; (2) the construction of portions of a new water tunnel (City Tunnel No. 3) from the Hillview Reservoir to Manhattan, Brooklyn, and Queens to create a more flexible system and provide an alternative water supply system in the event of a disruption of any of the tunnels (Stage 1 of the tunnel construction became operational in 1998); (3) trunk distribution and main replacement; and (4) wastewater treatment plant upgrades and construction in compliance with consent decrees.

It is anticipated that New York City Water and Sewer Systems would make debt service payments in the amount of \$757.2 million in FY 2005. Debt service would be paid from current water and sewer user payments, interest earnings, and miscellaneous revenues.

Existing Rates for City Customers. There are approximately 824,000 water and sewer accounts in the City, the vast majority of which receive both water and sewer service. Approximately 752,000 of the accounts are metered accounts, and annual charges are calculated on actual water usage. Sewer charges are computed as a percentage of water charges. The remaining 72,000 accounts are flat rate accounts and charges are assessed based on building type, the number of housing units in the building, and the number of water-using fixtures in the building. In addition, certain institutions are exempt from payment of water and sewer charges, including religious institutions, certain educational and charitable institutions, homes for the aged, hospitals, and other nonprofit or charitable corporations. In FY 2004, there were approximately 4,000 accounts that are entirely or partially exempt from water and sewer charges. In FY 2004, water and sewer payments for City customers were approximately \$1.67 billion. User payments are projected to increase to \$1.71 billion in FY 2005.¹³

There are 12 major categories of water and sewer system customers. As indicated in [Table 4.7-6](#), which shows the respective percentage of billings in each category, 65 percent of the user

¹³ NYCMWFA. 2004. New York Municipal Water Finance Authority, Water and Sewer System Revenue Bonds, Fiscal 2005 Series A₂. New York City Municipal Water Finance Authority. New York, NY.

payments that support the water and sewer system come from residential customers.¹⁴ The water rate effective in FY 2004 is \$1.52 per hundred cubic feet (ccf). Sewer rate constitutes 159 percent of the water charge.¹⁵ This represents an annual water and sewer charge of \$526 per 100,000 gallons of usage.

TABLE 4.7-6. CITY WATER AND SEWER SYSTEM BILLING

Classification	Percent of Billings (%)
Single-family dwellings	9.6
Two-family dwellings	10.3
Walk-up apartments	19.0
Elevator apartments	25.7
Factories and Industrial Buildings	5.2
Stores	8.3
Office Buildings	5.6
Utility Properties	2.8
Loft Buildings	2.6
Hospitals and Health Facilities	1.5
Hotels	2.3
Other	7.1
Total	100.0

Source: NYCMFWA. 2001. Fiscal Year 2001 Comprehensive Annual Financial Report. New York City Municipal Water Finance Authority. New York, NY.

Existing Rates for Upstate Customers. Water is provided to customers north of the City on a wholesale basis. The City delivers water to central locations, and municipalities or water districts subsequently distribute the water to their individual customers. For the period 1991 through 2000, the City provided an average of approximately 44,600 million gallons per year, or 122.2 million gallons per day, to upstate municipalities or water districts. The total averaged approximately 8.65 percent of all water supplied both in-City and to upstate municipalities or water districts. The percentage of water supplied to upstate municipalities or water districts has increased in recent years, reaching a high of 9.6 percent in 1999.

Rates for water supply service to upstate municipalities or water districts for monthly water consumption equal to or less than the City's per capita water consumption are determined in accordance with the Water Supply Act of 1905, which states that rates (hereinafter referred to as the "regulated rate") shall be based on the system's actual cost of service. Charges to upstate municipalities or water districts are established on the basis of actual total cost of water to the City after deducting the capital and operating costs incurred within the City limits for the distribution and delivery of water to City customers. The sale of water and the regulated rate for that sale are regulated not only by state law, but also by individual agreements between the City and upstate municipalities or water districts. Each contract establishes a system for metering the water sales to individual municipalities or water districts and the application of a specific charge

¹⁴ NYCMWFA. 2001. Fiscal Year 2001 Comprehensive Annual Financial Report. New York City Municipal Water Finance Authority. New York, NY.

¹⁵ New York City Water Board.

per unit of metered volume. According to information from the New York City Municipal Water Finance Authority, in most cases per capita consumption in the upstate municipalities or water districts is less than that of City customers.¹⁶ The regulated rate for upstate municipalities or water districts may not exceed the rate charged to customers within the City. The upstate municipalities or water districts must pay for water in excess of allowance quantities at a rate equal to the in-City metered rate. The wholesale rate makes no distinction between the water from the City's Croton, Catskill, and Delaware Systems. The rate applied to usage by upstate municipalities or water districts is the same regardless of which system they obtain water.

The regulated rate for water supplied to upstate municipalities or water districts was \$342.97 per million gallons in FY 1999, \$383.78 per million gallons in FY 2000, \$414.42 per million gallons in FY 2001, \$448.83 per million gallons in FY 2002, \$485.71 per million gallons in FY 2003, and \$542.36 per million gallons in FY 2004. The regulated rate in FY 2005 is \$591.21 per million gallons. In FY 2004, total water payments from upstate users were \$22.2 million. These water payments are projected to increase to \$24.1 million in FY 2005. The cost of water per residential household using 100,000 gallons per year in FY 2004 is approximately \$54 (in FY 2004 dollars). It is important to note that this dollar amount represents the cost of New York City water only. The municipalities or water districts also assess charges for distribution and treatment, as applicable. In addition, upstate customers are responsible for sewer charges, when applicable.

4.7.2.2. Future Without the Project

The Future Without the Project considers the anticipated peak year of construction (2008) and the first full year of operation (2010) for the proposed UV Facility. The anticipated peak year of construction is based on the peak number of workers.

For each year, two scenarios are assessed: one in which the NYCDEP Croton Water Treatment Plant (Croton project) is not located on the Eastview Site but at the Mosholu Site in the Bronx, and another in which the Croton project is located on the site, specifically in the northwest corner of the north parcel. The Croton project could be developed on the north parcel, depending on the outcome of the legal challenges to the preferred Mosholu Site. Should the Mosholu Site be determined not to be viable, the Croton project would move forward at the Eastview Site. By the peak construction year, two additional NYCDEP projects could be located on the Eastview Site, namely a Police Precinct and possibly an Administration/Laboratory Building. The Police Precinct has recently been approved by the Town of Mount Pleasant and would be located in the southwest corner of the north parcel. The Administration/Laboratory Building is less certain, however, as the Eastview Site is one of several properties currently being evaluated for use as a possible site for that particular building.¹⁷ In addition to these projects, NYCDEP's Kensico-City Tunnel (KCT) may be under construction at the Eastview Site starting in 2009. Therefore, the 2010 analysis year considers the possibility of this project. All of these NYCDEP projects

¹⁶ NYCMWFA. 2004. Water and Sewer System Revenue Bonds, Fiscal 2005 Series A Statement. New York City Municipal Water Finance Authority. New York, NY.

¹⁷ This depends on the results of a siting evaluation which is currently ongoing. The siting decision would be evaluated and discussed as part of a separate independent environmental review.

are analyzed in this Final EIS to the extent to which information is available. They are all separate actions from the proposed project and would undergo their own independent environmental reviews.

For the purpose of evaluating potential impacts associated with the proposed UV Facility on water rates, future baseline conditions in the years 2010 and 2016 are discussed. The year 2010 is selected because it represents the anticipated first full year of operation for the proposed facility, and the year 2016 is selected because it represents the year in which the majority of capital costs would be reflected in the debt service on the bonds issued for the facility. Scenarios that consider the Future Without the Croton project are based on the assumption that the Croton project would be constructed at the Mosholu Site, whereas the scenarios that consider the Future With the Croton project are based on the assumption that the Croton project would be constructed at the Eastview Site.

4.7.2.2.1. Without Croton Project at Eastview Site

Eastview Site. In the Future Without the Project, the existing structures on the Eastview Site would remain, including the connections to the aqueducts, the electrical transmission lines and substation, the NYCDEP laboratory, and the historic Hammond House, which is a private residence. In addition, new structures would be constructed on the Eastview Site, including the NYCDEP Police Precinct, which would be located on the north parcel of the Eastview Site at the corner of Route 100C and Walker Road in the Town of Mount Pleasant. The precinct would include a ±20,500 square-foot precinct building with about 52 permanent employees.

In addition to the Police Precinct, the Eastview Site is being considered as a possible location for a new Administration/Laboratory Building for the NYCDEP's upstate East-of-Hudson Southern Division Administrative and Engineering offices. The Administration/Laboratory Building could be approximately 46,000 square feet, with another 10,000 square feet of storage space. Should the Administration/Laboratory Building be sited on the Eastview Site, it could generate an estimated 55 jobs.

In addition, if the Eastview Site becomes a major staging area for the KCT project in 2009, there would be a large construction workforce for that project on site. The other structures presently located on the Eastview Site would remain the same, including the Hammond House and the site's water and electrical utilities.

In the Future Without the Project, the Eastview Site could generate higher taxes for the Town of Mount Pleasant and the County due to the addition of these separate NYCDEP projects.

Study Area. Projections for population, employment, and labor force were undertaken. Data used to prepare projections were obtained from Woods & Poole Economics, Inc. (W&P) at the county level. To determine the projections for the future analysis years, it was assumed the anticipated growth or decline would occur in even intervals annually. For details on anticipated development projects that may affect growth rates, see [Section 4.2, Land Use, Zoning, and Public Policy](#).

As discussed in [Section 4.2, Land Use, Zoning, and Public Policy](#), the study area is largely comprised of commercial and institutional land uses, and it is anticipated that these land use trends would continue in the future. The proposed development projects within the one-half mile study area applicable to this analysis are non-residential. In addition, there are few remaining land areas suitable for conventional residential development. Institutional expansion with associated residential housing remains a potential source of residential growth within the study area. Given these factors, projected growth rates for Westchester County were applied to the study area and then adjusted to reflect known development proposals and the likelihood of increased residential land uses to determine potential population changes for the years 2005, 2010, and 2015 ([Table 4.7-7](#)). Based on these rates, the study area's population would remain relatively unchanged over the analysis period; only minor increases would be anticipated ([Table 4.7-8](#)). It should be noted that the study area projections are intended to indicate anticipated trends and do not account for unforeseen increases (or decreases) in institution-related residential housing.

TABLE 4.7-7. POPULATION PROJECTIONS

Geographic Unit	2000	2005		2010		2015	
	Total Pop.	Total Pop.	Percent Change over 2000	Total Pop.	Percent Change over 2000	Total Pop.	Percent Change over 2000
Westchester County	925,603	944,659	2.1	960,752	3.8	979,360	5.8
Eastview Site Study Area Estimate	3,157	3,223	2.1	3,277	3.8	3,340	5.8

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

TABLE 4.7-8. POPULATION PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS

Study Area	2000 Estimate	2008 Pop.	2010 Pop.
Eastview Site Study Area	3,157	3,255	3,277

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

The land zoned for residential use within the study area is almost entirely built-out. One exception is an undeveloped area located south of Old Saw Mill River Road and west of Route 9A, which is zoned for multi-family residential use. At the time of preparation of this document, no plans for residential development were identified within the study area. However, plans for multi-unit residential developments were identified in the vicinity (see [Table 4.2-3](#) and [Figure 4.2-7](#) in [Section 4.2, Land Use, Zoning, and Public Policy](#)).

Property Value. It is anticipated that increasing property value trends would continue.¹⁸ High housing costs and availability of units would continue to be a concern while housing demand is anticipated to remain steady.¹⁹

Socioeconomic Conditions of Businesses. Projections for employment and labor force for Westchester County were also carried out for the years 2005, 2010, and 2015. Both employment (number of jobs) and the labor force (number of workers) are anticipated to increase in the County (Table 4.7-9). The County's labor force is anticipated to continue to exceed the employment in the County. Table 4.7-10 shows the projections for the County for the two future analysis years (2008 and 2010). The largest employment increases are projected to be in the following industries: retail, health services, and educational services.²⁰

Based on recent trends and current development proposals in the study area, it is anticipated that development would continue over the analysis period. The study area contains numerous characteristics including regional accessibility and vacant land in accessible locations that lead the Towns, the County, and local realtors to anticipate growth. Areas likely to experience growth are located in the western and northern portions of the study area. Specifically, future growth would likely occur in existing office and industrial parks (e.g., a new laboratory building has been approved for the Landmark property; a 140,449-square-foot office expansion has been approved for Eastview North Phase II; and the County has plans for further development in Grasslands Reservation) and along the northern section of Route 9A. If the proposed Route 9A Bypass is constructed in the western portion of the study area, an additional swell of development in this area would be anticipated.²¹ Additional projects planned within the study area include a Home Depot at the intersection of Route 9A and Dana Road, and a variety of potential developments within the Grasslands Reservation. Construction of the Millennium Gas pipeline would also take place in the study area, running underneath Westchester County's North and South County Trailway, a paved recreational trail located on a former railway bed running roughly parallel to the Saw Mill River Parkway in the northern part of the study area. A complete description of potential future projects within the study area is presented in **Section 4.2, Land Use, Zoning, and Public Policy.**

¹⁸ WCDP. 2002. Email correspondence between WCDP (Michael Lipkin) and M&E (Aaron Weieneth), December 24, 2002.

¹⁹ WCDP. 2000. Westchester Urban County Consortium Consolidated Plan: Covering Fiscal Years 2000-2004. WCDP Division of Housing and Community Development. White Plains, NY.

²⁰ NYSDOL. 2001. Occupations with Favorable Employment Prospects, 1998-2008: Hudson River Valley. Available online: <http://www.labor.state.ny.us/pdf/rs53.pdf>.

²¹ WCDP. 1996. Route 9A Bypass Study Area, an Overview of Development and Transportation. Westchester County Department of Planning. White Plains, NY; U.S. DOT Federal Highway Administration and NYSDOT. 2001. Route 9A Bypass Expanded Project Proposal.

TABLE 4.7-9. LABOR FORCE AND EMPLOYMENT PROJECTIONS

		2000	2005		2010		2015	
		Total	Total	Percent Change over 2000	Total	Percent Change over 2000	Total	Percent Change over 2000
Westchester County	Labor Force (No. of workers)*	588,970	603,480	2.5	617,810	4.9	622,890	5.8
	Employment (no. of jobs)	530,210	545,760	2.9	560,620	5.7	579,530	9.3

Notes: * Labor force includes all people between the ages of 16 and 65.

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

TABLE 4.7-10. LABOR FORCE AND EMPLOYMENT PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS

		2000 Total	2008 Total	2010 Total
Westchester County	Labor Force (No. of Workers)*	588,970	607,188	617,810
	Employment (No. of jobs)	530,210	556,508	560,620

Note: * Labor force includes all people between the ages of 16 and 65.

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

Water Rates for Future Without the Project without the Croton Project at the Eastview Site.

Water Rate Structure. The New York City Water Board forecasts system-wide revenues and expenses for a future period. The forecast includes an estimate of the annual revenues that would be collected through water and sewer user payments, as well as an estimate of the annual debt service required to amortize bonds issued to fund previous capital improvement projects and future expenditures scheduled under the City’s Capital Improvement Program. The City’s most recent forecast (covering FY 2004 to FY 2009) was extended to FY 2016. The year 2016 was used for the end year of the water rate projection model since 2016 represents a year in which the majority of the capital costs related to the proposed project’s options would be reflected in the debt service on the bonds issued to finance the capital costs.

Analyzing and illustrating the potential impact of the proposed UV Facility at the Eastview Site on water and sewer rates necessarily involves making a series of assumptions relative to a diverse set of key variables. Because the project would be built in the future, and future conditions are always uncertain, the analysis proceeds based on estimated values for key variables. Since it is certain that the future conditions that would be obtained with respect to at least some variables would be different than what is assumed for analytical purposes, the rate impact must be considered illustrative, rather than precise.

The following are among the variables for which assumptions have to be made and for which alternative assumptions are possible that affect the rate analysis: the proposed project’s

construction schedule and its estimated costs, the inflation rate on construction costs, the financing rate realized at the time bonds are issued to finance each projects expenditures, the anticipated completion date, contingencies, the estimated annual operations and maintenance expenses, the inflation rates on operations and maintenance expenses including personnel costs and materials and equipment costs, and the rate of increase on upstate real estate taxes.

Future Rates for City Customers. Projected increases in charges in the absence of the proposed project have been estimated, as shown in Table 4.7-11. These increases would be anticipated to occur in the future without the project, and represent an increase in annual water and sewer cost per City customer household using 100,000 gpy from \$526 in FY 2004 to \$1,005 in FY 2016. Note that these costs are inflated annually, so each year’s rate is expressed in that year’s respective dollars. Also, these costs do include the other possible projects including the Croton project sited at Mosholu, the Police Precinct, the Administration/Laboratory Building, and the KCT.

TABLE 4.7-11 PROJECTED BASE WATER CHARGES FOR THE FUTURE WITHOUT PROJECT WITHOUT CROTON AT EASTVIEW SITE (CROTON PROJECT AT THE MOSHOLU SITE)^{1, 2, 3}

Year	In-City Charges Estimates (\$)	Upstate Charges Estimates (\$)
2010	\$767	\$86
2016	\$1,005	\$117

Notes: ¹ Base in-City charge represents single-family water and sewer charge. Base upstate charge represents water charge only.

² The rate model that was used to estimate the charges presented in the table above is based on June 2004 Capital Improvement Program. The charges were estimated using the following methodology: 1) projected capital commitments for the Croton project and the UV project (as reflected in the CIP) and projected O&M costs were subtracted from the rate model; 2) capital and O&M costs for the Croton project sited at Mosholu (as reflected in the recent Croton Final Supplemental EIS, adjusted for inflation) were added to the model; 3) net change in debt service and impact on projected customer rates were estimated taking into consideration the capital commitment lag factor, the rate of cash drawdown after commitments are made, the use of commercial paper to meet cash needs, takeout of commercial paper with bond proceeds, and other factors.

³ Each year’s rate is expressed in that year’s respective dollars.

For the lowest income group in New York City, with a predicted 2004 average household income of \$12,664²² (Tract 271.01), current water and sewer costs account for 4.2 percent of annual income. The anticipated projected rate increases without the proposed project represent a 91 percent increase in water and sewer rates from FY 2004 to FY 2016. Assuming an inflation rate of 4 percent, household incomes of this lowest income group would also increase by approximately 60 percent to \$20,275 during the same period. The projected increase in rates would raise water and sewer costs to 5.0 percent of annual household income in the Future Without the Project.

²² \$12,664 is the projected median family income in 2004 of Tract 271.01 in the Kingsbridge area of the Bronx. This was selected as a representative low income housing area for City water users. This income is based on a \$10,825 annual income from the 2000 U.S. Census data and inflated at 4 percent per year to 2004, the current projected year for water rates.

Future Rates for Upstate Customers. Projections for the upstate uniform rate through the year 2016 in the Future Without the Project have been developed. As discussed above, the City charges upstate municipalities or water districts a wholesale rate for the water it supplies to upstate consumers. Rates are anticipated to increase from \$542 per million gallons in FY 2004 to \$1,165 per million gallons in FY 2016. The anticipated wholesale cost per household using 100,000 gpy in FY 2010, the first full year of operation of the proposed UV Facility would be \$86; by FY 2016, the anticipated wholesale cost per household would be \$117. The actual or retail rate charged to consumers, which includes the supplier's cost of constructing and maintaining the distribution system, varies between municipalities or water districts and is much higher than the wholesale rate charged by the City.

4.7.2.2.2. With Croton Project at Eastview Site

In the Future Without the Project, the existing structures on the Eastview Site would remain, including the connections to the aqueducts, the electrical transmission lines and substation, the NYCDEP laboratory, and the historic Hammond House, which is a private residence. In addition to the projects identified above, the Croton project (an additional NYCDEP project) could be developed on the north parcel of the Eastview Site, depending on the outcome of the legal challenges to the preferred Mosholu Site. Should the Mosholu Site be determined not to be viable, the Croton project would move forward at the Eastview Site.

Water Rate Structure. As the purpose of this Final EIS is to evaluate the water rate impact of the UV Facility and not the Croton project, as part of this project's analyses the water rates were calculated with the Croton project located at the Eastview Site in order to present the most conservative potential water rate impact to both City and upstate users. To evaluate potential socioeconomic impacts on City and upstate consumers of the New York City Water Supply System in the Future With the Project with the Croton project at Eastview, the baseline condition for the Future Without the Project with the Croton project at Eastview is described here. The Croton project with KCT option is considered for the purpose of this analysis.

**TABLE 4.7-12 ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE
WITHOUT THE PROJECT WITH CROTON AT EASTVIEW SITE^{1,2}**

Water Rate Projection Model	Year	In-City Charges	Upstate Charges
		(Dollar)	(Dollar)
Base with Croton at Eastview (4% tax inflator) without UV Facility	2010	\$764	\$104
	2016	\$1,008	\$156
Base with Croton at Eastview (5% tax inflator) without UV Facility	2010	\$764	\$104
	2016	\$1,009	\$156
Base with Croton at Eastview (6% tax inflator) without UV Facility	2010	\$764	\$104
	2016	\$1,010	\$156

Note: ¹ Base charge is the estimated single family water and sewer and the upstate water cost in the Future Without the Project. Each year's rate is expressed in that year's respective dollars.

² The rate model that was used to estimate the charges presented in the table above is based on June 2004 Capital Improvement Program. The charges were estimated using the following methodology: 1) projected capital commitments for the Croton project and the UV project (as reflected in the CIP) and projected O&M costs were subtracted from the rate model; 2) capital and O&M costs for the Croton project sited at Eastview with the Kensico-City Tunnel (as reflected in the recent Croton Final Supplemental EIS, adjusted for inflation) were added to the model; 3) the impact of the Croton project capital and O&M costs on upstate rates was estimated; 4) net change in debt service and impact on projected customer rates were estimated taking into consideration the capital commitment lag factor, the rate of cash drawdown after commitments are made, the use of commercial paper to meet cash needs, takeout of commercial paper with bond proceeds, and other factors.

To demonstrate the variable nature of analyzing water and sewer rate impacts, a number of scenarios are analyzed in the Final EIS. For instance, the allocation of the project costs for the years 2010 and 2016 has been developed for the Croton project at Eastview using a relatively conservative four percent property tax inflator, as well as higher property tax inflator of five and six percent. Property tax rates in Westchester County, as well as the rest of the state and the country, have been rising over the past few years and it is anticipated that they would continue to rise. Therefore, in the Final EIS, water rates are presented using these higher property tax inflator rates.

4.7.3. Potential Impacts

This section describes capital and operation and maintenance costs, employment, property tax revenues, water rate changes, and other socioeconomic effects related to the construction and operation of the proposed UV Facility. Two scenarios from which to assess the proposed project's potential impacts have been considered. Both include the NYCDEP Police Precinct, and the possible Administration/Laboratory Building and KCT projects, but only one scenario includes the Croton project sited at the Eastview Site. The Croton project could be developed at the Mosholu Site in the Bronx, depending on the outcome of legal challenges to the project. If

the Mosholu Site becomes infeasible, the Croton project would go ahead at the Eastview Site. Scenarios that consider the Future Without the Croton Project are based on the assumption that the Croton project would be constructed at the Mosholu Site, whereas the scenarios that consider the Future With the Croton project are based on the assumption that the Croton project would be constructed at the Eastview Site. Should the Eastview Site be selected for the Croton project, both the Croton project and the proposed UV Facility would be under construction at the same time.

4.7.3.1. Potential Project Impacts

4.7.3.1.1. Without Croton Project at the Eastview Site

The first full year of operation for the proposed UV Facility would be 2010. Therefore, potential project impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project without the Croton project (Croton at Mosholu) conditions. This section further describes jobs and other socioeconomic effects related to the proposed project, and then compares them to the Future Without the Project to determine potential socioeconomic impacts. In addition, potential socioeconomic impacts due to increases in water rates are analyzed.

Socioeconomic Conditions Associated with the proposed UV Facility.

Capital and Operation and Maintenance Costs. The estimated total capital and construction cost for the proposed project is estimated at \$597,000,000, in 2004 dollars. This cost includes total costs for all components of the project expressed in 2004 dollars. Annual operation and maintenance costs are estimated at \$6,690,984. The operation and maintenance cost includes the estimated property taxes/PILOTs. In addition, there would be a patent fee of approximately \$7 million each year for the first nine years of operation for the UV technology.

Jobs. The proposed project would employ 31 (21 full-time and 10 part-time) permanent workers, introducing additional employment to the Eastview Site beyond what would be generated by the Police Precinct and a possible Administration/Laboratory Building. These new employees may reside in the Towns of Mount Pleasant or Greenburgh, surrounding Westchester County communities, the City, or in other nearby counties.

Property Tax Revenues. The NYCDEP would pay taxes or PILOT payments to the Towns of Mount Pleasant and Greenburgh, Westchester County, and Pocantico Hills School District for the proposed improvements on the property. Construction of the proposed facility would create a unique tax situation that is not entirely predictable. Ultimately, the Towns, in discussions with the City of New York, would determine how the proposed facility would be assessed within each respective municipality. However, the New York State Division of Equalization and Assessment indicated that a reasonable approach to estimate the assessed value of the proposed facility would be to apply the commercial and industrial equalization rate to the construction costs of the proposed facility. This approach also requires factoring out the costs of certain items that would likely be exempt, such as costs related to the transmission of water to and from the aqueducts. Based on this approach and the applicable tax rates per thousand dollars

of assessed value, it is estimated that the proposed UV Facility would generate an additional \$2.36 million annually, based on current tax rates, with an estimated \$2.26 million in revenues collected in Mount Pleasant (see Table 4.7-13), and \$102,480 collected in Greenburgh (see Table 4.7-14) (see Appendix A for background information).

TABLE 4.7-13. UV FACILITY: ESTIMATED PROPERTY TAXES/PILOTS FROM EASTVIEW SITE – MOUNT PLEASANT

Estimated Taxable Construction Costs ¹	\$171,996,941
Commercial/Industrial Equalization Rate	1.87
Assessed Value (AV)	\$3,216,343
Total Tax Rate per \$1,000 AV ²	703.44
Total Taxes Owed	\$2,262,504

Notes:

1. Does not include conveyance costs for raw water and finished water to and from the Catskill and Delaware Aqueducts; includes contingency and engineering fees.
2. Current tax rates as provided by the Town of Mount Pleasant Receiver of Taxes, 2004. Also see Westchester County Tax Commission. Available online at: <http://www.westchestergov.com/taxcommission/>.

TABLE 4.7-14. UV FACILITY: ESTIMATED PROPERTY TAXES/PILOTS FROM EASTVIEW SITE – GREENBURGH

Estimated Taxable Construction Costs ¹	\$6,682,864
Commercial/Industrial Equalization Rate	4.18
Assessed Value (AV)	\$279,344
Total Tax Rate per \$1,000 AV ²	366.86
Total Taxes Owed	\$102,480

Notes:

1. Does not include conveyance costs for raw water and finished water to and from the Catskill and Delaware Aqueducts; includes contingency and engineering fees.
2. Current tax rates as provided by the Westchester County Tax Commission. Available online at: <http://www.westchestergov.com/taxcommission/>, and Town of Greenburgh Assessors Office, 2004.

Indirect Effects. The 31 workers, their salaries, and the total dollars invested annually by NYCDEP for operation and maintenance (\$6.69 million) of the proposed UV Facility would create indirect effects on Westchester County's economy. These effects include additional jobs created in the County, associated earnings, and increased output, which are estimated using RIMS II multipliers (see Section 3.7, Data Collection and Impact Methodologies, Socioeconomic Conditions for details on RIMS II). The results are provided in Table 4.7-15, which show that spin-off benefits could add 78 new jobs to the County's economy, for a total of 109 including the UV Facility workers. It is likely that the benefits to the County would be less, since some of the benefits could occur in other counties.

The RIMS II employment multipliers indicate that the most pronounced growth would occur in the following sectors: construction; electric, gas, and sanitary services; and retail and business

services. Although the results apply to all of Westchester County, it is reasonable to conclude that some of the benefits would occur in the immediate area. For example, sales could increase for commercial services, including gas stations, convenience stores, and restaurants, such as those found along Route 9A. If the workers were to frequent these businesses during, before, or after the workday, it could result in increased business to area merchants.

TABLE 4.7-15. UV FACILITY: TOTAL ECONOMIC BENEFITS DURING OPERATION, WESTCHESTER COUNTY

Economic Factor	Economic Benefits
Total Output to County's Economy	\$7,847,000
Income	\$5,222,000
New Jobs	109

Source: Bureau of Economic Analysis, U.S. Department of Commerce. 2004. RIMS II for Westchester County, 2004.

Property Values. It is difficult to determine the extent to which potential project-related impacts would cause displacement. One potential indicator of how project-related impacts affect displacement is reduced property values since property values in an area reflect the willingness or unwillingness of people to live in a certain area. To determine potential impacts to property values during operation of the proposed facility, literature was reviewed that covered a broad range of land uses perceived as undesirable or unwanted. Unfortunately, no studies were identified that were similar in nature to the proposed facility and its operation. The studies focused on noxious land uses (such as incinerators, hazardous waste facilities, and Superfund sites), and less noxious uses (mental health facilities and subsidized housing). Other land uses addressed in the studies included high voltage transmission lines and mining. Overall, each type of undesirable land use had unique features that were analyzed to determine potential impacts to property values, including health and safety risks, visibility, or the introduction of distinct population groups to the neighborhood.

The studies were inconclusive or conflicting in their results. For example, research by Greenberg et al. indicated that an incinerator decreased property values and increased residents' desires to relocate according to the distance from the site,²⁴ while research by Liu claimed that empirical studies have not provided any conclusive evidence as to whether an undesirable facility negatively affects nearby property values.²⁵ In addition, Steelman and Carmin state that the siting of facilities such as landfills or incinerators often make significant contributions to surrounding neighborhoods by providing local jobs and economic stability, thereby minimizing any impacts on property values.²⁶ A study of high voltage electric transmission lines was determined to have an effect on property values, but only for a narrow corridor of houses in

²⁴ Greenberg, Michael, Dona Schneider, and Jim Parry. 1995. Brown Fields, a Regional Incinerator and Resident Perception of Neighborhood Quality. *Risk: Health, Safety, & Environment* Vol. 6, No. 3, pp. 241-260.

²⁵ Liu, Feng. 1997. Dynamics and Causation of Environmental Equity, Locally Unwanted Land Uses, and Neighborhood Changes. *Environmental Management* Vol. 21, No. 5, pp. 643-656.

²⁶ Steelman, Toddi A. and Joann Carmin. 1998. Common Property, Collective Interests, and Community Opposition to Locally Unwanted Land Uses. *Society & Natural Resources*. 11, pp. 485-504.

direct proximity to the lines.²⁷ The study attributed the effects to the appearance of the lines. Any power lines associated with the proposed facility would be underground.

Some studies recognized that many external factors affect the rating of neighborhood quality and property values rather than any specific land use, such as presence of crime, litter, and existing undesirable land uses.²⁸ These factors further complicate a comparison between the studies and the proposed facility. Most of the studies noted a lack of adequate sales data. Many studies did not address whether the values that were affected would rebound over time. However, Kiel and McClain did discuss rebounding in a study on an incinerator. They noted that the combination of the loss by the seller and the benefit the buyer realizes after the property values rebound results in no overall loss in value.²⁹

Many of the studies stressed the importance of community involvement during the siting process in order to lessen the negative perceptions associated with a facility. Research by Liu suggests that the impact of an undesirable land use on the socioeconomic structure of a neighborhood depends on how the neighborhood responds to the undesirable land use and what risks they perceive as a result of it.³⁰

Since data are inconclusive on the effect on property values from undesirable land uses, the proposed facility is not considered to be similar to projects within undesirable land use categories. The operation of the proposed facility is not anticipated to generate appreciable amounts of pollution. It is not therefore anticipated that the operation of the proposed UV Facility would significantly cause commercial or residential property values to rise or fall.

Potential Displacement Impacts. This section analyzes the potential for direct and indirect displacement during operation of the proposed UV Facility.

The proposed UV Facility would be located on undeveloped land owned by the City. No direct displacement is anticipated for the Eastview Site in the Town of Greenburgh nor in the Town of Mount Pleasant as a result of operation of the proposed UV Facility. The existing Hammond House, a private residence, would likely remain on the Eastview Site on the north parcel and the proposed project would not affect the future employment that may be generated by other possible NYCDEP projects on the site (e.g., Police Precinct).

However, NYCDEP may choose in the future to relocate the Hammond House from the Eastview Site to another location as part of the proposed UV Facility project due to security concerns associated with a private residence being located on the same site as critical components of the City's water system. As shown in [Figure 7-8](#), Eastview Site Full Buildout,

²⁷ Hamilton, S. W. and G.M. Schwann. 1995. Do high voltage electric transmission lines affect property value? *Land Economics*. 71, pp. 436 - 439.

²⁸ Greenberg, Michael, Dona Schneider, and Jim Parry. 1995. Brown Fields, a Regional Incinerator and Resident Perception of Neighborhood Quality. *Risk: Health, Safety, & Environment* Vol. 6, No. 3, pp. 241-260.

²⁹ Kiel, K.A. and K. T. McClain. 1995. House Prices during Siting Decision Stages: The Case of an Incinerator from Rumor through Operation. *Journal of Environmental Economics and Management*. 28, pp. 241-255.

³⁰ Liu, Feng. 1997. Dynamics and Causation of Environmental Equity, Locally Unwanted Land Uses, and Neighborhood Changes. *Environmental Management* Vol. 21, No. 5, pp. 643-656.

which shows the NYCDEP’s comprehensive long-term plan for the site, the Hammond House would be an isolated residential use surrounded by NYCDEP’s water supply facilities.

Relocating the Hammond House would result in the direct displacement of a residence. The current residents of the Hammond House own the structure but NYCDEP owns the land on which it is located. A significant adverse socioeconomic impact would occur if the action would directly displace a residential population so that the socioeconomic profile of the neighborhood would be substantially altered. The relocation of the Hammond House would not cause the socioeconomic profile of the neighborhood to be substantially altered, as approximately three people reside in the Hammond House, representing only 0.1 percent of the total study area population. The potential removal of the Hammond House is not an indicator or influential aspect of social or economic conditions in the study area. Therefore, no significant socioeconomic impacts are anticipated.

Capital Costs. Table 4.7-16 shows the anticipated capital costs for the proposed UV Facility as expressed in 2004 dollars. As discussed in Section 3.7, **Data Collection and Impact Methodologies, Socioeconomic Conditions**, and also noted in the existing conditions, there are two primary types of financing that would be available to fund the construction of the proposed facility: (1) bonds issued by the New York City Municipal Water Finance Authority; and (2) bonds issued through the New York State Drinking Water Revolving Fund Program (SRF).

TABLE 4.7-16. UV FACILITY: ESTIMATED CAPITAL AND OPERATION & MAINTENANCE (O & M) COSTS

	Capital Cost	O&M Cost
UV Facility at Eastview Site	\$597,000,000	\$6,690,984

Notes: Capital costs in this table reflect total costs for all components of the project expressed in 2004 dollars. Annual property taxes/PILOTs are included in the O&M costs. O&M costs do not include the patent fee for UV technology.

It is assumed that the Authority would issue long-term debt for the permanent financing of the capital costs. The long-term debt of the Authority is assumed to cover a term of 30 years, with an annual interest rate of approximately 6.34 percent. The interest cost on commercial paper and the principal and interest cost for Authority debt become additional revenue requirements that must be met through the rates and charges of the water and sewer system.

The City of New York may be able to obtain a low-interest SRF from the State Environmental Facilities Corporation (EFC) for part or all of the construction costs for the proposed facility. Funds obtained from the EFC would carry a lower interest rate; however, these funds must be repaid in a shorter timeframe (20 years as opposed to 30 years). The result is that overall debt service costs using SRF funding during the first 20 years of bond repayment would not result in a substantially lower cost than Authority financing. There would be annual savings after the first 20 years if SRF funding is available.

Operating Costs. Operating costs for the proposed facility are also shown in Table 4.7-16. Operating costs include the labor required to operate and maintain the systems, as well as expenses such as electricity, chemicals, spare parts and property taxes. Labor costs are escalated

from 2003 at the rate of 2.5 percent per year and costs other than labor are escalated at the rate of three percent per year. These escalations are consistent with the rates used in the financial forecast prepared in connection with the issuance of the bonds.

Water Rate Structure.

Potential Impacts on City and Upstate Consumers. The following section evaluates potential socioeconomic impacts due to water rate increases on City and upstate consumers of the New York City Water Supply System. This analysis considers the Future With the Project Without the Croton project based on the assumption that the Croton project would be constructed at the Mosholu Site.

The City's most recent forecast (covering FY 2004 to FY 2009) was extended to FY 2016. The year 2016 was used for the end year of the water rate projection model since 2016 represents a year in which the majority of the capital costs related to the proposed UV Facility would be reflected in the debt service on the bonds issued to finance the capital costs. While total costs over the life of the proposed facility would vary depending upon the type of financing method selected (due to the shorter repayment period but lower interest rate imposed by the SRF program), as noted above, the actual difference between the Authority financing and the SRF financing is negligible. Therefore, the anticipated rate increases and the effect on charges to residential consumers have been developed for the Eastview Site using only the Authority form of financing.

As an example, the allocation of the project costs in the year 2016 has been developed in a manner similar to that currently used, as described in [Section 3.7, Data Collection and Impact Methodologies, Socioeconomic Conditions](#). New York City consumers would be anticipated to pay approximately 91 percent of the project costs and upstate consumers would pay 9 percent of those costs. This allocation is based on the current percentage of water used by upstate consumers.

With the operation of the UV Facility, there would likely be an additional slight increase in average water and sewer payments for City and upstate users. [Table 4.7-17](#) shows the anticipated charges to City and upstate consumers in the years 2010 and 2016, including the anticipated dollar increase with the project at the Eastview Site over the estimated rate without the proposed UV Facility, referred to as the base rate.

Potential Impacts on City Residential Consumers. In 2000, approximately 2.1 million units in New York City were renter-occupied (69.8 percent) and over 900,000 units were owner-occupied (30.2 percent), as shown in [Table 4.7-18](#). Queens had the highest number of owner-occupied units (334,815); Brooklyn had the highest number of renter-occupied units (642,360).

TABLE 4.7-17 ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE WITH THE PROJECT WITHOUT CROTON AT EASTVIEW SITE

Water Rate Projection Model	Year	In-City Charges	Increase over Base Rate	Upstate Charges	Increase over Base Rate
		(Dollar)	(Dollar)	(Dollar)	(Dollar)
Base Case with Croton at Mosholu ¹	2010	\$767	NA	\$86	NA
	2016	\$1,005	NA	\$117	NA
Base Case with Croton at Mosholu (4% tax inflator) Plus the UV Facility ²	2010	\$782	\$15	\$99	\$13
	2016	\$1,026	\$21	\$134	\$17

Note: Base charge is the estimated single family water and sewer and upstate water cost in the Future Without the Project. Each year's rate is expressed in that year's respective dollars. For comparison purposes, the existing in-City charges in 2004 dollars is \$526, and the existing upstate charges in 2004 dollars is \$54.

¹ The "Base Case with Croton at Mosholu" represents the Future Without the Project Without Croton Project at the Eastview Site scenario, in which the proposed UV Facility is not built at the Eastview Site, and the Croton project is located at the Mosholu Site.

² The "Base Case with Croton at Mosholu Plus the UV Facility" represents the Future With the Project Without Croton Project at the Eastview Site scenario, in which the proposed UV Facility is located at the Eastview Site, and the Croton project is located at the Mosholu Site.

TABLE 4.7-18. DISTRIBUTION OF HOUSING UNITS IN NEW YORK CITY, 2000

Borough	Renter Occupied	Owner Occupied	Percent Renter (%)	Percent Owner (%)
Bronx	372,525	90,687	80.4	19.6
Brooklyn	642,360	238,367	72.9	27.1
Manhattan	589,912	148,732	79.9	20.1
Queens	447,849	334,815	57.2	42.8
Staten Island	56,646	99,695	36.2	63.8
New York City	2,109,292	912,296	69.8	30.2

Source: U.S. Department of Commerce, Bureau of Census, 2000.

During the period 2004 to 2016, the proposed UV Facility would result in an increase of approximately \$21³¹ for In-City residents for water and sewer payments per average household.

³¹ This increase of \$21 represents the difference in in-City charges between the Future Without the Project without Croton at Eastview and the Future With the Project without Croton at Eastview, 4% tax inflator.

Table 4.7-19 presents the median gross rent in the five boroughs in 2000, expressed in 2016 dollars to be consistent with the end year of the water rate projection model. Gross rent is defined by the U.S. Census as the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.), if the renter pays these. The median monthly gross rent ranges from \$1,119 in the Bronx to \$1,437 in Manhattan. The average for all renter-occupied units in the City is \$1,272. As shown in Table 4.7-19, the additional monthly rate charge of approximately \$1.75 (figured by dividing the estimated annual rate increase by twelve) related to implementation of the proposed facility without the Croton project at Eastview would represent increases of approximately 0.14 percent of median monthly gross rent.

Table 4.7-20 presents the median monthly costs of owner-occupied units in the five boroughs in 2000, expressed in 2016 dollars to be consistent with the end year of the water rate projection model. The median monthly owner costs are estimated by the U.S. Census for one-family houses and include the following expenses: mortgages (including first, second, and third mortgages), equity loans, real estate taxes, insurance, utilities (including water, electricity and gas), fuel, and other miscellaneous fees. Median monthly owner-occupied unit costs were highest in Manhattan, at \$6,524, and lowest in Staten Island, at \$2,582. The average for all owner-occupied units in the City was \$2,819. As shown in Table 4.7-20, the implementation of the proposed facility would result in increases of approximately 0.06 percent in median monthly owner cost, using the same method as described above.

TABLE 4.7-19. UV FACILITY: POTENTIAL IMPACT ON CITY RENTER MEDIAN MONTHLY GROSS RENT¹

Borough	Median Monthly Gross Rent Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Gross Rent for UV Facility	Median Monthly Gross Rent With UV Facility (2016 dollars)²
Bronx	\$1,119	0.16	\$1,121
Brooklyn	\$1,213	0.14	\$1,215
Manhattan	\$1,437	0.12	\$1,439
Queens	\$1,399	0.13	\$1,401
Staten Island	\$1,339	0.13	\$1,341
New York City	\$1,272	0.14	\$1,274

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

TABLE 4.7-20. UV FACILITY: POTENTIAL IMPACT ON CITY OWNER MEDIAN MONTHLY COST¹

Borough	Median Monthly Owner Cost Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Owner Cost for UV Facility	Median Monthly Owner Cost With UV Facility (2016 dollars)²
Bronx	\$2,859	0.06	\$2,861
Brooklyn	\$2,896	0.06	\$2,898
Manhattan	\$6,524	0.03	\$6,526
Queens	\$2,882	0.06	\$2,884
Staten Island	\$2,582	0.07	\$2,584
New York City	\$2,819	0.06	\$2,821

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.

2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly owner cost in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

The potential impact of the proposed facility was also evaluated for the lowest income groups in the City. Average household income for City customers in the lowest income block in New York City (Tract 271.01) is projected to be \$12,664 in 2004, and is anticipated to rise to \$20,275 by 2016. Water and sewer rates are anticipated to rise from 4.2 percent of annual income in 2004 to 5.0 percent in 2016 without the proposed UV Facility. The additional increase of approximately \$21 of annual water and sewer costs resulting from the construction and operation of the proposed UV Facility would raise the percentage of annual income that would go to water and sewer payments by approximately 0.1 percent, from the projected 5.0 percent to 5.1 percent. This incremental increased expense of 0.1 percent of annual income to the lowest income group is not considered significant, and the costs to other users would be less adverse.

Because of the minimal net increase in the median monthly cost of renting or owning a residential unit in New York City resulting from the proposed facility, it is unlikely that renters or owners of residential units would relocate from the City as a result of the proposed facility. Therefore, the proposed facility is not anticipated to result in significant adverse socioeconomic impacts on New York City residential system consumers.

Potential Impacts on Upstate Residential Consumers. The 2000 U.S. Census reported that the median monthly gross rent in Westchester County was \$1,514 (2016 dollars) (Table 4.7-21), and that the median monthly cost per owner-occupied unit was \$4,281 (2016 dollars) (Table 4.7-22). These amounts are expressed in 2016 dollars to be consistent with the end year of the water rate projection model. Projected annual increases due to the proposed facility were divided by twelve to determine monthly cost increases. A comparison of the potential increase in monthly costs per customer due to the proposed facility (approximately \$1.42) to the 2016 monthly housing costs (\$1,514 for renters and \$4,281 for owners) shows that the increased cost would represent a 0.09 percent increase for renters, and an estimated 0.03 percent increase for

home owners over existing monthly costs. Based on this information, the proposed facility is not anticipated to result in significant adverse socioeconomic impacts on upstate residential system users.

TABLE 4.7-21. UV FACILITY: POTENTIAL IMPACT ON RENTER MEDIAN MONTHLY GROSS RENT¹

Borough	Median Monthly Gross Rent Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Gross Rent for UV Facility	Median Monthly Gross Rent With UV Facility (2016 dollars)²
Westchester	\$1,514	0.09	\$1,515

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

TABLE 4.7-22. UV FACILITY: POTENTIAL IMPACT ON UPSTATE OWNER MEDIAN MONTHLY COST¹

Borough	Median Monthly Owner Cost Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Owner Cost for UV Facility	Median Monthly Owner Cost With UV Facility (2016 dollars)²
Westchester	\$4,281	0.03	\$4,282

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

4.7.3.1.2. With Croton Project at the Eastview Site

As noted above, the Croton project (an additional NYCDEP project) may also be located on the Eastview Site in the Future Without the Project. The incremental socioeconomic effects in terms of jobs, wages and salaries, property tax revenues, and indirect effects resulting from the operation and maintenance of the proposed UV Facility would be the same in the Future With the Project regardless of whether the Croton project is operating on the Eastview Site as well.

Potential Water Rates with the UV Facility with the Croton Project at the Eastview Site.

Potential Impacts on City and Upstate Consumers. The following section evaluates potential socioeconomic impacts due to water rate increases on City and upstate consumers of the New York City Water Supply System. As the purpose of this Final EIS is to evaluate the

water rate impact of the UV Facility and not the Croton project, the Future With the Project with the Croton project at Eastview is compared to the Future Without the Project with the Croton project at Eastview.

Table 4.7-23 shows the anticipated charges to City and upstate consumers in the years 2010 and 2016, including the anticipated dollar increase with the project at the Eastview Site over the estimated rate without the proposed UV Facility, referred to as the base rate. Building the Croton project at Eastview would result in higher capital costs than the Croton at Mosholu alternative. To demonstrate the variable nature of analyzing water and sewer rate impacts, a number of scenarios are analyzed in the Final EIS. For instance, the allocation of the project costs for the years 2010 and 2016 has been developed for the proposed project using a relatively conservative four percent property tax inflator, as well as higher property tax inflator of five and six percent. Property tax rates in Westchester County, as well as the rest of the state and the country, have been rising over the past few years and it is anticipated that they would continue to rise. Therefore, in the Final EIS, water rates are presented using these higher property tax inflator rates.

TABLE 4.7-23. ESTIMATED ANNUAL WATER CHARGES FOR THE FUTURE WITH THE PROJECT WITH CROTON AT EASTVIEW SITE

Water Rate Projection Model	Year	In-City Charges (Dollar)	Increase over Base Charge (Dollar)	Upstate Charges (Dollar)	Increase over Base Charge (Dollar)
Base Case - Croton at Eastview without UV Facility (4% tax inflator) ¹	2010	\$764	NA	\$104	NA
	2016	\$1,008	NA	\$156	NA
Base Case – Croton at Eastview without UV Facility (5% tax inflator) ¹	2010	\$764	NA	\$104	NA
	2016	\$1,009	NA	\$156	NA
Base Case – Croton at Eastview without UV Facility (6% tax inflator) ¹	2010	\$764	NA	\$104	NA
	2016	\$1,010	NA	\$156	NA
Base Case - Croton at Eastview plus UV Facility (4% tax inflator) ²	2010	\$784	\$20	\$117	\$13
	2016	\$1,027	\$19	\$173	\$17
Base Case - Croton at Eastview plus UV Facility (5% tax inflator) ²	2010	\$784	\$20	\$117	\$13
	2016	\$1,028	\$19	\$173	\$17
Base Case - Croton at Eastview plus UV Facility (6% tax inflator) ²	2010	\$784	\$20	\$117	\$13
	2016	\$1,029	\$19	\$174	\$18

Note: Base charge is the estimated single family water and sewer and upstate water cost in the Future Without the Project. Each year’s rate is expressed in that year’s respective dollars.

¹ The “Base Case – Croton at Eastview without UV Facility” represents the Future Without the Project With Croton Project at the Eastview Site scenario, in which the proposed UV Facility is not built at the Eastview Site, and the Croton project is located at the Eastview Site.

² The “Base Case – Croton at Eastview plus UV Facility” represents the Future With the Project With Croton Project at the Eastview Site scenario, in which both the proposed UV Facility and the Croton project are located at the Eastview Site.

Potential Impacts on City Residential Consumers. During the period 2004 to 2016 the proposed UV Facility would result in an increase of approximately \$19³² for In-City residents for water and sewer payments per average household.

Table 4.7-24 presents the median gross rent in the five boroughs in 2000, expressed in 2016 dollars to be consistent with the end year of the water rate projection model. As shown in Table 4.7-24, the additional monthly rate charge of approximately \$1.58 (figured by dividing the estimated annual rate increase by twelve) related to implementation of the proposed facility with the Croton project at Eastview would represent increases of approximately 0.12 percent of median monthly gross rent.

TABLE 4.7-24. UV FACILITY: POTENTIAL IMPACT ON CITY RENTER MEDIAN MONTHLY GROSS RENT¹

Borough	Median Monthly Gross Rent Without UV Facility (2016 dollars) ²	Increase as Percent of Median Monthly Gross Rent for UV Facility	Median Monthly Gross Rent With UV Facility (2016 dollars) ²
Bronx	\$1,119	0.14	\$1,121
Brooklyn	\$1,213	0.13	\$1,215
Manhattan	\$1,437	0.11	\$1,439
Queens	\$1,399	0.11	\$1,401
Staten Island	\$1,339	0.12	\$1,341
New York City	\$1,272	0.12	\$1,274

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

Table 4.7-25 presents the median monthly costs of owner-occupied units in the five boroughs in 2000, expressed in 2016 dollars to be consistent with the end year of the water rate projection model. As shown in Table 4.7-25, the implementation of the proposed facility would result in increases of approximately 0.06 percent in median monthly owner cost, using the same method as described above.

³² This increase of \$19 represents the difference in in-City charges between the Future Without the Project with Croton at Eastview and the Future With the Project with Croton at Eastview, for each of the tax inflators.

TABLE 4.7-25. UV FACILITY: POTENTIAL IMPACT ON CITY OWNER MEDIAN MONTHLY COST¹

Borough	Median Monthly Owner Cost Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Owner Cost for UV Facility	Median Monthly Owner Cost With UV Facility (2016 dollars)²
Bronx	\$2,859	0.06	\$2,861
Brooklyn	\$2,896	0.05	\$2,897
Manhattan	\$6,524	0.02	\$6,525
Queens	\$2,882	0.05	\$2,883
Staten Island	\$2,582	0.06	\$2,584
New York City	\$2,819	0.06	\$2,821

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.

2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly owner cost in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

The potential impact of the proposed facility was also evaluated for the lowest income groups in the City. As described above, water and sewer rates are anticipated to rise from 4.2 percent of annual income in 2004 to 5.0 percent in 2016 without the proposed UV Facility. The additional increase of approximately \$19 of annual water and sewer costs resulting from the construction and operation of the proposed UV Facility would raise the percentage of annual income that would go to water and sewer payments by approximately 0.1 percent, from the projected 5.0 percent to 5.1 percent. This incremental increased expense of 0.1 percent of annual income to the lowest income group is not considered significant, and the costs to other users would be less adverse.

Because of the minimal net increase in the median monthly cost of renting or owning a residential unit in New York City resulting from the proposed facility, it is unlikely that renters or owners of residential units would relocate from the City as a result of the proposed facility. Therefore, the proposed facility is not anticipated to result in significant adverse socioeconomic impacts on New York City residential system consumers.

Potential Impacts on Upstate Residential Consumers. A comparison of the potential increase in monthly costs per customer due to the proposed facility (approximately \$1.42) to the 2016 monthly housing costs (\$1,514 for renters and \$4,281 for owners) shows that the increased cost would represent a 0.09 percent increase for renters, and an estimated 0.03 percent increase for home owners over existing monthly costs. Based on this information, the proposed facility is not anticipated to result in significant adverse socioeconomic impacts on upstate residential system users.

TABLE 4.7-26. UV FACILITY: POTENTIAL IMPACT ON RENTER MEDIAN MONTHLY GROSS RENT¹

Borough	Median Monthly Gross Rent Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Gross Rent for UV Facility	Median Monthly Gross Rent With UV Facility (2016 dollars)²
Westchester	\$1,514	0.09	\$1,515

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

TABLE 4.7-27. UV FACILITY: POTENTIAL IMPACT ON UPSTATE OWNER MEDIAN MONTHLY COST¹

Borough	Median Monthly Owner Cost Without UV Facility (2016 dollars)²	Increase as Percent of Median Monthly Owner Cost for UV Facility	Median Monthly Owner Cost With UV Facility (2016 dollars)²
Westchester	\$4,281	0.03	\$4,282

Notes:

1. Represents average percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 4 percent per year to 2016, adjusted to yield median monthly gross rent in 2016 dollars.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

4.7.3.2. Potential Construction Impacts

The Future With the Project considers the anticipated peak year of construction (2008) for the proposed UV Facility. For each year, two scenarios are assessed: one in which the NYCDEP Croton project is not located on the Eastview Site and another in which the Croton project is located on the site, specifically in the northwest corner of the north parcel. Therefore, potential construction impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2008 for both of these scenarios.

4.7.3.2.1. Without Croton Project at the Eastview Site

Jobs. During the peak construction year (in terms of peak numbers of workers on the Eastview Site), the proposed UV Facility would introduce approximately 480 construction employees per day into the area. These construction workers would have a median salary of approximately \$42,200 (based on the salaries of the types of construction workers that would be on-site). Neither Westchester County, nor the Towns of Mount Pleasant or Greenburgh, would receive any income tax benefits from these construction workers, since neither the County nor

the Towns tax personal income. If residing in New York City, however, the worker would pay approximately \$1,400 in taxes per year to the City (see [Appendix A](#)).

Indirect Effects. The construction workers would likely add money to the local economy through their visits to area businesses. The RIMS II multipliers used for this analysis are available by county for certain detailed industries. The detailed industries are based on the 1999/2000 annual input-output accounts and are referenced to standard industrial classification (SIC) codes. The multipliers for the Catskill/Delaware analysis for the construction period are those developed for the construction industry, specifically Sector 11.0900, other new construction (construction other than residential, commercial, or industrial buildings, or highways and streets).

The multipliers for each county are derived based on data from national input-output accounts and other secondary data, and then adjusted by regional data. These regional data account for variations in the level of activity in the various sectors of the local economy. According to data provided by the U.S. Department of Commerce Bureau of Economic Analysis, multipliers for new activities tend to be higher in a region when existing levels of that activity are fairly low. Conversely, when there is already a fairly high level of a certain activity, the multiplier for new input into that activity is relatively low.

The RIMS II multipliers for the construction industry indicate that the sectors that would see the most benefits during construction are retail trade and business services. It is not possible to determine exactly where the workers may conduct business, but it is likely that they would visit gas stations, convenience stores, and restaurants. The dollar investment that NYCDEP would make for construction of the proposed facility, including capital costs, could add approximately 880 new jobs in the County, according to the RIMS II multipliers for Westchester County. ([Table 4.7-28](#) and [Appendix A](#)). It should be noted that the economic benefits would likely affect a region larger than the County, since materials may be purchased outside of the County limits.

TABLE 4.7-28. TOTAL ECONOMIC BENEFITS DURING CONSTRUCTION, WESTCHESTER COUNTY

Economic Factor	Total Effect to County's Economy
Total Output to County's Economy	\$998,000,000
Income	\$196,000,000
Average Annual Jobs During the Construction Period	880

Source: Bureau of Economic Analysis, U.S. Department of Commerce. 2004. RIMS II for Westchester County, 2004.

Potential Displacement Due to Construction-Related Noise, Parking and Traffic Impacts. The characteristics of the proposed facility were reviewed to identify potential impacts that could result in indirect displacement due to construction-related noise and traffic impacts. This analysis depends upon other analyses, as discussed below. Refer to the respective sections

for an explanation of peak years. In general, the temporary adverse impacts identified would not be anticipated to result in indirect displacement.

Noise. Construction of the proposed UV Facility, without the Croton project located on the Eastview Site, would not result in significant adverse impacts from noise sources.

Potential temporary noise impacts associated with mobile sources, such as construction traffic traveling to and from the site, would not be anticipated to result in indirect displacement.

Traffic. Increases in construction-related traffic would result in temporary adverse impacts at several intersections in the Future With the Project. These impacts would be mitigated where practicable. Even if short-term traffic impacts are not fully mitigated, no indirect displacement is anticipated to occur.

4.7.3.2.2. With Croton Project at the Eastview Site

The Croton project (an additional NYCDEP project) may be constructed on the Eastview Site in the Future Without the Project. The proposed UV Facility's construction-related socioeconomic effects could be higher in this scenario. If the Croton project is constructed on the Eastview Site, the construction area for the UV Facility would not be large enough to store or stockpile all excavated material and accommodate construction worker vehicles. Therefore, the construction cost of the UV Facility would increase by approximately \$30 million. These additional costs would result from the need to haul the fill off site for sale during the initial stages of construction; purchase and deliver new fill to the site when it is needed during later stages of construction (i.e., for backfilling); park construction worker vehicles off-site and shuttle the workers back and forth between parking locations and the project site (see [Section 4.9, Traffic and Transportation](#)). These additional expenses could generate short-term economic benefits for businesses that provide transportation services and to property owners of the selected off-site parking lots. However, the increased construction costs for the UV Facility under this scenario could also result in an additional slight increase in average water and sewer payments for City and upstate users.

During the construction of the proposed UV Facility in the scenario where the Croton project is built on the Eastview Site at the same time, the requirement to haul fill to and from the site during the construction process would result in temporary adverse construction period traffic impacts due to increased truck traffic. Significant adverse impacts would result from construction-related traffic. However, due to the nature of these construction-related impacts, no direct or indirect business displacement is anticipated.

There would be no significant adverse noise impacts resulting from the construction of the proposed facility, if the Croton project is also sited at Eastview. Potential temporary adverse impacts associated with mobile sources, such as construction traffic traveling to and from the site, would not be anticipated to result in indirect displacement.

4.7.4. Potential Impacts of Relocating the Hammond House

As discussed above in [Section 4.7.3.1.1, Potential Displacement Impacts](#), NYCDEP may choose in the future to relocate the Hammond House from the Eastview Site to another location as part of the proposed UV Facility project due to security concerns associated with a private residence being located on the same site as critical components of the City’s water system. As shown in [Figure 7-8, Eastview Site Full Buildout](#), which shows the NYCDEP’s comprehensive long-term plan for the site, the Hammond House would be an isolated residential use surrounded by NYCDEP’s water supply facilities.

Relocating the Hammond House would result in the direct displacement of a residence. The current residents of the Hammond House own the structure but NYCDEP owns the land on which it is located. A significant adverse socioeconomic impact would occur if the action would directly displace a residential population so that the socioeconomic profile of the neighborhood would be substantially altered. The relocation of the Hammond House would not cause the socioeconomic profile of the neighborhood to be substantially altered, as approximately three people reside in the Hammond House, representing only 0.1 percent of the total study area population. Therefore, no significant socioeconomic impacts are anticipated.