

6.0 ALTERNATIVES

Section 617.9(b)(5) of the regulations implementing the New York State Environmental Quality Review Act (SEQRA) requires that a DEIS include a description and evaluation of reasonable alternatives to the proposed action which are feasible, considering the objectives and capabilities of the project sponsor. The alternatives evaluation must include the “No Action” alternative and may be limited to parcels owned by or under control of the private project sponsors.

The DGEIS considers the following alternatives:

1. No Action (No Annexation)
2. Annexation of smaller land area (164 Acres) identified in the pending August 2014 Annexation Petition in the Town of Monroe.

These alternatives are described and evaluated qualitatively below. A summary matrix of the estimated, quantifiable impacts associated with each alternative compared with the proposed action is provided in Table 6-9 at the end of this chapter.

6.1 No Action Alternative (Growth Without Annexation)

In accordance with SEQRA regulations, the No Action alternative must evaluate the adverse or beneficial impacts that would occur in the reasonably foreseeable future in the absence of implementation of the proposed action. For purposes of this analysis, the No Action alternative assumes that no annexation would be approved. It also assumes that, as described previously in this DGEIS, the projected local population in and around the Village of Kiryas Joel will continue to grow even without the annexation action. Development in and around the Village of Kiryas Joel would therefore be expected to continue in order to accommodate the area’s growing population. Much of that development would still occur on the properties identified within the annexation territory.

The No Action alternative would be inconsistent with the objectives of the Applicant Petitioners who have indicated their intent and desire to become an integral part of the Kiryas Joel community through annexation.

Under No Action, as previously described, future use of the annexation territory can be expected to accommodate a portion of the growing population with new residences and associated community service uses to the extent allowed by the zoning. The remainder would be accommodated within the Village of Kiryas Joel.

Land Use and Zoning

The annexation lands would yield up to an estimated 1,431 new dwelling units, or 2.8 units per acre, under existing conditions (No Action / no annexation) and existing Town zoning regulations. As explained earlier in this DGEIS, the Village of Kiryas Joel would yield up to an estimated 2,394 new dwelling units, or an overall density of 9.3 units per acre, under existing conditions (No Action / no annexation) and existing Village zoning regulations.¹ Neighboring land in the Village of Woodbury, which is zoned R-2A, has a maximum permitted residential density of 0.5 dwelling unit per acre while land in the Village of Kiryas Joel has no specified maximum density. Under No Action, any development proposal in the annexation territory would be subject to the Town planning and zoning reviews.

Demographics and Fiscal

There would be an estimated 19,663-person increase to the study area population and an estimated 3,825-unit increase in housing in the study area by 2025 with the No Action / no annexation alternative. Of the total 3,825 units, 1,431 would be built in the annexation parcels, the remaining units would be built in the existing Village of Kiryas Joel.

There would be an estimated \$2,403,651 increase to the tax revenues generated to the Town (over the existing revenues) and an estimated \$2,251,316 increase to the tax revenues generated to the Village with the No Action / no annexation alternative. (Summarized from the fiscal information described in detail in section 3.2.4, see Table 3.2-10.)

There would be an estimated \$9,228,992 increase to the tax revenues generated to the Monroe-Woodbury Central School District (over the existing revenues) and an estimated \$10,239,900 increase to the tax revenues generated to the Kiryas Joel School District with the No Action / no annexation alternative. (Summarized from the fiscal information described in detail in section 3.2.7, see Table 3.2-14.)

Net benefits to the various jurisdictions are tabulated below.

¹ Some or all of this development could take place on other lands in Monroe and Woodbury which would reduce the potential development within the existing Village. For the purpose of this DGEIS a maximum impact scenario of all remaining population locating within the existing Village limits is presented.

Table 6-1			
Revenue & Cost Summary: Without Annexation			
No Action Alternative			
Jurisdiction	Projected Tax Revenue	Projected Costs	Net Benefit
Town of Monroe	\$2,403,651	(\$1,628,355)	\$775,296
Village of Kiryas Joel	\$2,251,316	(\$861,490)	\$1,389,826
Monroe-Woodbury Central School District	\$9,228,992	(\$8,774,200)	\$484,792
Kiryas Joel Union Free School District	\$10,239,900	(\$9,590,600)	\$649,300

Source: DGEIS Tables 3.2-12 & 3.2-14.
Table reflects No Action / no annexation, no change in district boundaries, full projected growth and development in the study area.

Community Services and Facilities

Compared to the annexation action, there would be no reduction in demand placed on community services and facilities under the No Action / no annexation alternative since continued growth is anticipated. New development would generate an increase in property tax revenues (as indicated above) and there would be increased market demand for neighborhood or other commercial activities demanded by residential uses. Differences in projected tax revenues to the Town and Village are listed in Table 6-9. There would be no expected reduction in services because of the anticipated growth to occur whether with or without annexation. (The following paragraphs are summarized from the community services information described in detail in section 3.3.4.)

Public Safety - The new population projected to reside in the annexation territory under No Action would increase police staffing needs by about 11 police personnel (based on the conventional planning standard cited in section 3.3.4). These services would be provided primarily by New York State police officers funded out of the State's tax revenues. The new population projected to reside in the Village would require the service of 18 additional Village public safety officers funded out of the Village's tax revenues.

Fire Protection - Under No Action, the projected area growth would create a potential need for an additional 32 fire fighters according to conventional planning standards. This growth would occur in the Monroe Fire District and would require an additional 12 personnel; growth in the Kiryas Joel Fire District would require an additional 20 personnel. Development associated with the projected growth would generate annual property tax revenues to the respective fire districts to offset the additional demand.

Ambulance & Health Services - Under No Action, the development projected in the Town of Monroe would potentially increase demand for EMS by approximately 269 calls annually. In the Village, demand would potentially increase by approximately 449 calls annually. Based on the planning standard, the projected study area growth, with or without annexation, has the potential to increase the need for beds in hospitals serving the area by approximately 79 beds, which can be accommodated at the new Orange Regional Medical Center. This figure would not be expected to change under the No Action alternative. The tax revenues generated to the respective municipalities will help to offset the increased need for these services that are funded by property taxes.

Other Public Services - It is anticipated that the Village of Kiryas Joel would continue to contract with the Town of Monroe for public road maintenance under the No Action / no annexation alternative. If new subdivision roads are developed and dedicated to the Town, the Town of Monroe would be required to maintain them.

Utilization of Orange County Social Services

The Orange County Department of Social Services' budget includes funds that are administered by the Department but are directly reimbursed by the Federal and State governments. A relatively small portion of that budget (14.6 percent) is raised from property taxes and as described in Section 3.2, the Kiryas Joel community does not unreasonably impact upon Orange County tax resources. There will be no expected difference in the cost or availability of County services with or without annexation. The cost of services administered by the County will not be impacted based on whether a home is located in the Town or the Village since, with or without annexation, the property remains in Orange County.

Traffic and Transportation

Modest changes in traffic distribution on the primary roads in and out of Kiryas Joel would be anticipated as the population grows as projected with the No Action / no annexation alternative (also called "No Build" in the traffic analysis). Like under the proposed annexation, under no annexation regional traffic would be expected to increase on the various roads beyond the study area due to background growth in other locations, with negligible effect on the study area roadways. Traffic generation is projected to be higher in the no annexation scenario as compared to annexation. (Refer to further description of no build traffic provided in detail in section 3.4.)

Community Water and Sewer Services

Compared to the annexation action, there would be no reduction in demand placed on the municipal water and sewer services and facilities under the No Action / no

annexation alternative since continued growth is anticipated. Annexation property owners would obtain water either from individual groundwater wells or from the Village of Kiryas Joel municipal system via agreements with the Village as out of Village users. Village property owners would obtain water from the Village system. All property owners in the study area have right of access to the Orange County Sewer District #1 facilities, thus there would be no change or difference in demand under the No Action alternative.

Under the No Action / no annexation alternative, the projected future development in the Town of Monroe annexation parcels will require potable water either from groundwater or from approved connections to the Village system. Total water demand is projected to be 1.30 million gallons per day (mgd), without or with annexation, the difference being the source of the water as explained in section 3.5.2. Demand on the Orange County Sewer District #1 facilities is projected to be 1.30 mgd, without or with annexation. (For further discussion of water and sewer supply and demand, refer to section 3.5.)

Natural Resources

Under the No Action / no annexation alternative, development activities associated with the anticipated study area growth would occur and it is expected that conventional methods of construction would be employed along with commonly utilized resource protections, such as soil erosion controls, stormwater management measures, and construction site management, to minimize potential impacts to the natural resources. The anticipated growth would involve physical disturbance of the ground and would affect natural resources (including geology, soils, topography, wildlife and associated habitats, wetlands and water resources).

Development as projected could disturb much of the land in the study area in some fashion, either resulting in temporary or permanent removal of vegetation, and would increase the impervious surface coverage. With or without annexation, all construction activities must adhere to New York State mandated erosion control and stormwater management requirements and are subject to inspections and reporting.

Ground Water Withdrawals

The Village of Kiryas Joel has undertaken a water supply expansion program for the community which includes a connection to the New York City Catskill Aqueduct that will reduce use and reliance on groundwater resources. This program will occur, with or without annexation and includes provisions for the necessary backup (redundant) supply from local groundwater sources -- multiple well sites in different geologic formations and aquifers in Kiryas Joel and the neighboring municipalities. (Description of the existing and potential well fields and their yields are summarized in section 3.5.1.) Some of these wells are currently permitted for use as part of the Village water supply system and some will require testing that will establish their potential yields in relation to the available

aquifer supply. Water withdrawal limits established by the NYSDEC well permits are intended to be protective of the aquifer to prevent adverse effects on other wells using the aquifer. Overall, under No Action, the Village's water supply program is intended to avoid any cumulative effect on groundwater resources by reducing such withdrawals.

Surface Water Discharges

Currently, the Kiryas Joel WWTP and Harriman WWTP both discharge to the Ramapo River watershed under permits issued by NYSDEC. Under the No Action / no annexation alternative, this will not change and both plants will continue to treat the wastewater from the study area (except where individual septic systems are employed). Their permit requirements are intended to avoid cumulative effects on the water quality of the Ramapo River. Following the Village's planned connection to the Aqueduct, some surface water from the Ashoken Reservoir watershed will be transferred to the Ramapo watershed via these two WWTPs. Thus, the water resources of the Ramapo watershed will be augmented by the inter-basin transfer of water, increasing the surface flow volume without a corresponding withdrawal from the Ramapo Basin. (For further discussion of the discharges to the Ramapo watershed, refer to section 3.5.)

Cultural Resources

Under the No Action / no annexation alternative, development activities associated with the anticipated study area growth would occur. Physical disturbance of the ground, temporary or permanent removal of vegetation and the addition of new buildings and other facilities will result from development activities.. Future development will likely change the character of the local landscape from rural to suburban character, including the character of a portion of the Highlands Trail/Long Path hiking trail along Seven Springs Road.

There are no designated significant visual resources or identified historical/cultural resources in the annexation territory that would be affected by the anticipated area growth and development. There are no existing views from public parkland that would be significantly affected. Area growth will likely increase use of the local recreational facilities.

6.2 Annexation of Smaller Land Area (164-Acre Territory)

An August 2014 Annexation Petition is a smaller area of land annexation being considered as an alternative to the 507-acre petition. Such area is an extension of the current Village of Kiryas Joel boundary to areas that are bounded on two or three sides by portions of the Village and on the remaining sides by the Village of Woodbury. This alternative would result in 7 lots in two areas that would remain in the Town of Monroe but be surrounded by Village land. See Figure 6-1.

Under the 164-acre annexation alternative, residential and mixed use development would be expected to occur on the 164 acres of land in a pattern and at densities that are comparable to recent development in the Village of Kiryas Joel.

This alternative would not satisfy the goals of the 507-Acre Annexation Petitioners who have indicated their intent to become an integral part of the Kiryas Joel community through annexation.

Under the 164-acre annexation alternative, future use of the annexation territory can be expected to accommodate a portion of the growing population with new residences and associated community service uses to the extent allowed by the Village zoning. The surrounding areas including the remaining lands from the 507-acre annexation alternative and available lands in the Village of Kiryas Joel would accommodate the remainder, according to the applicable zoning. This scenario would alter the development densities in the study area to a small extent from what is anticipated with annexation. It is expected that a smaller area of land annexed would result in similarly incremental effects on the various areas of concern discussed in the earlier sections of this DGEIS for the 507-acre annexation.

Land Use and Zoning

Using a calculation for the 164-acre territory whereby all developable land would be built on by applying the Village's zoning, the annexation lands would yield up to an estimated 1,952 new dwelling units. An estimated 1,873 units would also be built in the existing Village area. (See Table ALT E- 1 in Appendix E.) Expressed as gross density, this growth in the expanded Village of Kiryas Joel would result in an overall development density of approximately 9.2 units to the acre in the total 864 acres of Village lands (existing 700 plus 164 acres). The development would most likely be multifamily buildings on the larger lots and adjacent lots that are consolidated. Neighborhood commercial and community service facilities would also be anticipated to serve the new population.

To accommodate the growth in this manner, zoning for the annexation lands would be established pursuant to the Village's existing zoning code as either the R or C districts, or as a PUD district. The development density in the annexation land in this scenario would be lower than what exists in two newer Village developments (Atzei Tymurim Gardens and Beirach Moshe Gardens discussed in section 3.1.2) and higher than the current overall average density of the Village (5.8 units per acre).

The 164-acre annexation properties are located within the OCSD#1 and have right of access to municipal sewers and would therefore connect to the County system. With

annexation, the 164-acre territory would also have right of access to the Village water system.

Overall, the differences between the proposed 507-acre annexation and the 164-acre alternative, in terms of land use, relate to the change in distribution of the population on the land. Both scenarios would conform with the underlying precepts of the Priority Growth Area encompassing the study area that is identified in the County's Comprehensive Plan. Both scenarios would provide land uses similar to existing nearby uses and, in accordance with existing zoning, would place residential development close to local commerce centers and transit opportunities, would address environmental constraints of the land, and would utilize centralized water and sewer services.

Demographics and Fiscal

Town and Village

Like the 507-acre proposal, there would be an estimated 19,663-person increase to the study area population and an estimated 3,825 unit increase in housing in the study area by 2025 with the 164-acre annexation alternative. Of the total number of units, 1,952 are projected to be built in the annexation parcels for purposes of this discussion, and the remaining units would be built in the existing Village of Kiryas Joel.

There would be an increase to the tax revenues generated to the Town over the existing revenues and an increase to the tax revenues generated to the Village with this alternative. After covering the cost of municipal expenses, the 164-acre annexation alternative would provide the Village with a net tax benefit of \$2,276,315, and would result in a net benefit of \$472,356 to the Town. This in essence means that the Townwide tax revenue more than covers the Village's share of Townwide expenses. (As discussed in section 3.2, the Kiryas Joel community does not utilize the full extent of Town services, while the calculation is based on the full costs, thus the net tax benefit to the Town could be even greater.)

The net benefits would result in modification to tax rates, which would occur as necessary to balance the Town's budget rather than produce a windfall to municipal coffers.

As earlier noted, the tax analysis in this DGEIS is based exclusively upon residential development. As the annexed lands are developed they will stimulate a need for additional commercial growth to support the population. This commercial growth will increase the tax ratables in the Village, further improving the tax revenues necessary to cover Village services.

Table 6-2 Revenue & Cost Summary: With Annexation 164-Acre Annexation Alternative					
Jurisdiction	Projected Taxes	Residents	Per capita cost	Projected Costs	Net Benefit
Town of Monroe	\$1,593,147	19,663	\$57 Townwide	(\$1,120,791)	\$472,356
Village of Kiryas Joel	\$3,652,725	19,663	\$70 Village	(\$1,376,410)	\$2,276,315
Source: Tim Miller Associates, Inc., 2015.					

School Aged Population

The number of students attending the parochial schools in the entire region is estimated to increase by approximately 8,160 students between 2015 and 2025 (approximately 41.5 percent of the projected population growth). The overall growth represents an approximate doubling of the existing school age population. The population distribution for the 164 acre alternative projects that 1,952 units would be built on the annexation lands. These units would house a total of 4,780 students of which up to 10 students may have special needs, The overwhelming majority of the new students would be expected to attend the private schools of Kiryas Joel which serve the unique needs of the community. The parochial schools and to a lesser extent the Kiryas Joel public school will need to expand to accommodate the growing school aged population in the study area. Due to the anticipated cultural demographic of the new population, annexation is not expected to result in a significant number of new students attending the schools of the Monroe-Woodbury School District (MWSD).

Schools and Existing School District Boundary

This discussion assumes the municipal annexation of 164 acres occurs, development of the 164 acres takes place, and the school district boundaries remain unchanged.

In this scenario, the current school tax revenue of \$451,407 from the annexation parcels would still accrue to the MWSD. The MWSD would also still be responsible for providing non-public school services and for paying the special education tuition fees to the KJSD. Given the likelihood that future families residing in the subject lands would be culturally affiliated with Kiryas Joel, their students would be likely to attend the Kiryas Joel schools, either the local parochial schools or the public school for students with special needs.

The table below shows the revenues and costs to be generated by the 164-acre annexation territory, with annexation and no change in the school district boundary, to the districts after the residential development of the annexation parcels is complete.

Annual revenues to the KJSD would grow upon development of the expanded Village. The population distribution for the 164 acre alternative projects that 1,873 units would be built within the existing Village. These units would house a total of 3,381 students of which up to 30 students may have special needs. Utilizing the average annual cost of \$79,000 per student for special education services ($\$79,000 \times 30 = \$2,370,000$), plus the KJSD estimated \$1,100 per non-public student cost for non-special needs students ($\$1,100 \times 3,351 = \$3,686,100$), and subtracting the total cost of services, a net benefit to the KJSD results.

Table 6-3A Future Public School Taxes With Annexation - Post Development Assumes No Change to the School District Boundary Line 164-Acre Annexation Alternative					
Taxing Authority	Assessed Value	Tax Rate*	Projected Taxes	Projected Cost	Net Benefit
Monroe-Woodbury Central School District	\$115,892,020	\$132.27	\$15,328,460	(\$8,899,000)	\$6,429,460
Kiryas Joel Union Free School District	\$107,926,943	\$74.23	\$8,011,417	(\$6,056,100)	\$1,955,317

* 2015 Tax Rate per \$1,000 of Assessed Valuation.
Source: Tim Miller Associates, Inc., 2015.
Revenues and costs are based on the projected assessments discussed in section 3.2 .

Schools and Revised School District Boundary

This discussion assumes the municipal annexation of 164 acres occurs, development of the 164 acres takes place, and the school district boundaries are changed to match the municipal boundary after annexation. (As discussed in section 3.2.7, NY State education law sets forth the method by which school districts may alter their boundaries. Such action is separate and distinct from the proposed annexation actions.)

With annexation of 164 acres, the current school tax revenue of \$451,407 from the annexation parcels would no longer accrue to the MWSD. The MWSD would also no longer be responsible for providing non-public school services or pay the special education tuition fees to the KJSD, estimated at \$8,899,000. Given the likelihood that future families residing in the subject lands would be culturally affiliated with Kiryas Joel, their students would be likely to attend the Kiryas Joel schools, either the local parochial schools or the public school for students with special needs.

The table below shows the revenues and costs to be generated by the 164-acre annexation territory, with annexation, to the KJSD after the residential development of the annexation parcels is complete.

Annual revenues to the KJSD would grow upon development of the expanded Village. The projected student population growth is 8,160 students of which up to 40 students may have special needs. Utilizing the average annual cost of \$79,000 per student for special education services (\$79,000 x 40 = \$3,160,000), plus the KJSD estimated \$1,100 per non-public student cost for non-special needs students (\$1,100 x 8,120 = \$8,932,000), and subtracting the total cost of services, a net benefit to the KJSD results.

Table 6-3B Future Public School Taxes With Annexation - Post Development Assumes the School District Boundary Line is Changed to new Municipal Boundary Line 164-Acre Annexation Alternative					
Taxing Authority	Assessed Value	Tax Rate*	Projected Taxes	Projected Cost	Net Benefit
Monroe-Woodbury Central School District	(\$3,412,900)**	\$132.27	(\$451,407)**	\$474,000***	\$22,593
Kiryas Joel Union Free School District	\$223,818,963	\$74.23	\$16,614,082	(\$12,092,000)	\$4,522,082

* 2015 Tax Rate per \$1,000 of Assessed Valuation.
 ** Represents a removal of property from assessment roles and a reduction in tax revenues.
 *** Represents the current cost of special education services and transportation which would need to be posted against the MWSD Tax Revenue (assumes 6 Special Education students at \$79,000 = \$474,000 savings.)
 Source: Tim Miller Associates, Inc., 2015.
 Revenues and costs are based on the projected assessments discussed in section 3.2 .

Community Services and Facilities

There would be increased demand placed on community services and facilities as a result of this alternative to service the growth anticipated. There would be an increase in property tax revenues generated by new development (as described above) and there would be increased market demand for neighborhood or other commercial activities demanded by the residential uses.

Public Safety - The new population projected to reside in the study area would increase staffing needs for public safety agencies by a projected 30 personnel (based on the conventional planning standard cited in section 3.3.4). Since the Village has its own public safety force, the additional tax revenue generated by the increased development in the Village would help to support the increased need for service. NY State Police would continue to provide supplementary police services to the expanded Village upon annexation; this increase in services would be funded out of the State's tax revenues.

Fire Protection - Annexation does not automatically alter the defined service area for fire protection. The Kiryas Joel Fire Department does not currently serve any of the annexation area and the annexation areas would continue to be served by the Monroe Fire Department for primary fire protection until such time as the district boundaries are changed. The projected growth would increase fire department staffing needs by about

33 fire personnel (based on the conventional planning standard cited in section 3.3.4). This would be expected to be implemented gradually over time as population grows.

The annexation parcels would continue to pay the Monroe Fire District taxes and would help to offset the increased demand for service in the Village. The projected population growth should provide an ample resource for additional fire department volunteers.

Ambulance & Health Services - The development projected in the study area would potentially increase demand for EMS by approximately 718 calls annually between Monroe Volunteer Ambulance and Kiryas Joel EMS (based on the conventional planning standard cited in section 3.3.4). The tax revenues generated to the respective municipalities will help to offset the increased need for these services that are funded by property taxes.

Other Public Services - The Village of Kiryas Joel would continue to contract with the Town of Monroe for public road maintenance under this alternative.

Utilization of Orange County Social Services

The Orange County Department of Social Services' budget includes funds that are administered by the Department but are directly reimbursed by the Federal and State governments. A relatively small portion of that budget (14.6 percent) is raised from property taxes and as described in Section 3.2, the Kiryas Joel community does not unreasonably impact upon Orange County tax resources. There will be no difference in the cost or availability of County services with no annexation, with annexation of 164 acres, or with annexation of 507 acres. The cost of services administered by the County will not be impacted based on whether a home is located in the Town or the Village since, with or without annexation, the property remains in Orange County.

Traffic and Transportation

As described in section 3.4, changes in traffic conditions would result from development projects after the annexation action. The traffic will occur from the natural growth of the population in the study area. The Build Year for this alternative analysis study is also 2025, and the potential development area is limited to the 164-acre annexation territory and the existing Village of Kiryas Joel. Future transportation operations are examined for the No Build Condition (development in the study area without the annexation) and Build Condition (development in the study area with the annexation) thus:

- "No Build" traffic is without annexation and with anticipated growth
- "Build" traffic is with annexation and with anticipated growth

The future conditions (No Build and Build) analyze traffic operations in order to make a direct comparison of the traffic associated specifically with the annexation. The No Build

Condition is the future baseline upon which change in traffic is compared. The Build Condition represents traffic that would result from development of the properties after being annexed.

Alternative No Build Baseline

The Alternative No-Build Condition is a scenario that establishes a future baseline condition projected from existing counts, from which the future Build Condition can be compared. As in section 3.4, this is ascertained from predictable factors anticipated up to the build year: (1) improvements in the local road network that are planned or underway; (2) traffic from general population growth in the area; and (3) traffic from identified major development projects in the vicinity. For a description of other road improvement projects, see section 3.4.4

The difference between the No Build Condition for the proposed 507-acre annexation described in section 3.4 and the Alternative No Build Condition is that the alternative evaluates a smaller area. The 164 acre annexation area is essentially the eastern part of the proposed 507-acre annexation area in the Town of Monroe. The remaining 343-acre area is generally west of the current Village of Kiryas Joel.

Given the Kiryas Joel community's travel habits (such as heavy use of transit, and walking) the study area dwelling units generate the equivalent of half the external Village vehicular traffic compared to the total generation of a typical dwelling unit represented in trip generation data published by the Institute of Transportation Engineers (ITE).² Trip generation is modified by the modal split. The table below shows the modal split of the Village based on Census information (2006-2012 ACS). A future modal split assigned to the annexation territory is based on the Village of Kiryas Joel due to its similar development style. However, sidewalks and other transportation facilities and services available in the Village may not be provided in the no build condition, therefore a slight increase in trips is expected if the annexation does not occur. Hence, a five percent shift to increase vehicular traffic is projected from the annexation area over the rate found in the Village of Kiryas Joel.

² Institute of Transportation Engineers, *Trip Generation, 9th Edition*, Washington D.C., 2012.

Table 6-4 Mode of Transportation To Work	
Mode of Travel	Village of Kiryas Joel
Drive Alone	29%
Carpool	15%
Public Transit	24%
Walk	26%
Bicycle	0%
Other (Taxi, Motorcycle)	0%
Work At Home	6%
Source: US Census American Community Survey.	

As with the proposed 507-acre annexation, ancillary development such as commercial and community facilities development is anticipated in support of growing residential needs.

ITE trip generation data is used for this analysis and modified based on existing traffic counts and other factors described above. The table below shows the anticipated trips generated from each area.

Table 6-5 Trip Generation - No Build 164-Acre Annexation Alternative						
	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In ¹	Out ¹	Total ¹	In ¹	Out ¹	Total ¹
Vehicle Trips adjusted for modal split - Kiryas Joel [2,922 dwelling units]	126	528	654	419	221	640
Vehicle Trips adjusted for modal split - Monroe Annexation Territory [903 dwelling units]	44	186	230	154	80	234
Total	170	714	884	573	301	874
¹ See Appendix F, Table F3-5, Trip Generation Rates and Appendix F, Table F3-6 for Trips Generated.						

The background traffic growth rate used in this traffic study is one percent per year, and has been applied to traffic from areas other than Kiryas Joel and the annexation lands. The background growth and traffic generated by other identified developments affecting the study area are used to estimate the No-Build traffic volumes. The No-Build traffic volumes represent future traffic without annexation and are the benchmark against which potential Build traffic volumes can be measured.

The 2025 background traffic volumes are presented graphically in Figures 6-2 and 6-3. Other area projects are defined in Section 3.4.4

Future Traffic with Annexation

Four roads -- CR 44, Bakertown Road, Forest Avenue, and Acres Road -- will be the primary roads for new traffic in the annexed lands. These roads provide access toward the Quickway, the Thruway, park and ride lots, and the nearest train station.

Under this annexation alternative, 3,825 units are projected to be constructed with 1,952 in the 164-acre territory and 1,873 in the Village of Kiryas Joel, which is sufficient to support a similar level of journey to work modal split and a similar level of business development to what now exists in the Village of Kiryas Joel.

Appendix F, Table F3-11 provides trip generation rates applicable to the 164-acre annexation alternative. The table below shows the anticipated trips generated in the study area.

Table 6-6 Trip Generation - Build 164-Acre Annexation Alternative						
	Weekday AM Peak Hour			Weekday PM Peak Hour		
Dwelling Units	In	Out	Total	In	Out	Total
Vehicle Trips adjusted for modal split ² - Kiryas Joel [1873 dwelling units] ¹	83	345	428	275	145	420
Vehicle Trips adjusted for modal split ² - Monroe Annexation Territory [1952 dwelling units] ¹	86	359	445	287	151	438
Total	169	704	873	562	296	858
¹ See Appendix F Table F3-7 Trip Generation Rates and Table F3-8 for trips.						
² Adjusted vehicle trips represents a reduction based on modal split (walkers, carpooling, public transit) and internal trips. The adjustments are 0.50 in the a.m. peak and 0.425 in the p.m. peak (Table 3.4-2).						

Overall, the 164-acre annexation is anticipated to result in a reduction of one to two percent in peak hour trips into and out of Kiryas Joel as shown in the table below. The Alternative No Build/ No Annexation Condition is anticipated to generate slightly more traffic than the Alternative Build Condition.

Table 6-7						
Trip Generation Comparison						
164-Acre Annexation Alternative						
	Weekday AM Peak Hour			Weekday PM Peak Hour		
Condition	In	Out	Total	In	Out	Total
With Annexation ¹	169	704	873	562	296	858
Without Annexation ²	170	714	884	573	301	874
Difference	-1	-10	-11 (-1%)	-11	-5	-16 (-2%)
¹ See Table 3.4-12.						
² See Table 3.4-11.						

The distribution of site-generated trips is shown in Figures 6-4 and 6-5. Table F3-9 shows the comparative trip generation under the 507-acre annexation and the 164-acre annexation scenarios. With the future growth and development projected for the study area, this distribution shows that the 507-acre annexation spreads the traffic growth out to more routes than the 164-acre annexation scenario or the no annexation scenario.

The mitigation measures described in section 3.4.7 also apply under this alternative.

Overall, modest changes in traffic distribution on the primary roads in and out of Kiryas Joel would be anticipated as the population grows as projected for either no annexation or the 164-acre annexation alternative. Regional traffic would increase on the various roads beyond the study area due to background growth in other locations, with negligible effect on the study area roadways compared to the annexation proposal.

Community Water and Sewer Services

Future Water Demand with 164-Acre Annexation

The primary benefit of annexation as it relates to water supply is the ability of landowners to connect to the Village of Kiryas Joel public water system under a more straightforward, consolidated review of utility connections. Water taking for new development in the Village will be limited by the existing NYSDEC Water Supply Permits.

Future water demand for the Village with the annexation of 164 acres is estimated using the 66.0 gallon per day, per capita water usage times the projected population. (This per-capita Village water usage estimate is described in Section 3.5.2, Community Water and Sewer Services.) The study area population is projected to grow by 19,663 persons by the year 2025, the same population growth projected to occur under the no

annexation scenario. All new development would be connected to the Village water supply system.

Population growth and the estimated future water demand that would parallel that growth are summarized in the table below.

Table 6-8 Projected Water Demand for the Projected Population 164-Acre Annexation Alternative		
Year	Village of Kiryas Joel Population	Estimated Water Demand (average daily use)
2013	21,894	1.48 mgd
2014	22,634	1.49 mgd
2015	23,466	1.55 mgd
2020	30,890	2.04 mgd
2025	42,297	2.79 mgd
Source: 2010 population from US Census. Projected population by TMA, as described in DGEIS Section 3.3, Demographics and Fiscal. 2013 and 2014 water usage is actual reported volume.		

In general, the annexation of 164 acres of land to the Village will not result in a water demand substantially different than that resulting from the proposed annexation of 507 acres. As described in Section 3.5, water supply for the Village will be provided into the future by a proposed connection to the NYC Aqueduct system and community groundwater supply wells. The Village has developed planning, water infrastructure and agreements to meet the water supply needs for the Village into the future.

All of the Village's water supply sources are subject to regulatory control of the NYSDEC and NYSDOH. The NYSDEC water supply permits regulate the Village's existing water supply and contain standard provisions requiring water conservation measures and plans and mandatory enforceable conditions to protect other existing nearby supply wells. In addition, each permit was subject to review pursuant to SEQRA. For example, the draft consolidated water supply permit WAS No. 11609 includes specific measures for water conservation, reporting and maintenance intended to optimize and minimize water usage in the Village that were developed during the environmental review for that permit.

Connection to the Catskill Aqueduct was designed to mitigate potential water source impacts as determined by the New York City Department of Environmental Conservation (NYCDEP). The water supply agreement between NYCDEP and the Village requires a City-approved water conservation plan as well as state of the art metering and other technologies to prevent waste and contamination of the water source. In addition, the use of Aqueduct water is strictly limited to the territorial boundaries of the Village, unless

otherwise approved by NYCDEP, and the allowance volumes are strictly limited by a formula based on current certified population figures and per capita usage in New York City. The water supply agreement will require the Village to demonstrate its ability to maintain backup sources of supply. While the Village will be required to maintain its existing groundwater well supply sources to serve this backup capacity, it is expected that the connection to the Aqueduct will relieve and mitigate some of the demand on the local groundwater resource.

Any new source of groundwater for the Village from wells will likewise be subject to review and approval by NYSDEC and NYSDOH. In addition to SEQRA review, permit review includes technical assessment of the sustainable pumping rate of wells and their potential impact to neighboring wells and nearby surface water resources. Water supply permits are subject to conditions to ensure public and environmental health and safety.

Future Wastewater Demand with 164-Acre Annexation

The population growth in the expanded Village will be the same overall under both the 164-acre and 507-acre annexation scenarios, but the density of that development will differ by location. Therefore, the overall demand for wastewater treatment under either scenario will be generally the same and therefore, the potential impacts are expected to be generally the same for both scenarios. All land in the 164-acre territory is located in Orange County Sewer District No. 1 (OCSD#1).

Under the 164-acre annexation alternative, residential and related mixed use development would be expected to occur in the annexation lands in a pattern and densities comparable to existing development in the Village of Kiryas Joel.

The demand for wastewater treatment from development in the study area will continue to increase based upon the DGEIS projected growth. Since both the Village and annexation territory are served by the OCSD#1, there is little difference between the proposed action and the 164-acre annexation alternative with regard to future wastewater treatment demand. Based upon estimates set forth earlier in this report, population growth in the expanded Village boundaries will result in approximately 19,663 persons in 3,825 new dwelling units by the year 2025. Future development in the expanded Village boundaries will result in 1,297,758 gallons per day of additional wastewater treatment demand (1.30 mgd) by the year 2025, without or with annexation. This demand is fully described in Section 3.5.5, Potential Impacts – Wastewater.

Sufficient capacity for the anticipated growth in the District, including the Village of Kiryas Joel, has been demonstrated by Orange County until at least 2015 (Orange County Department of Environmental Facilities, January, 2010), and the County concludes that there will be sufficient capacity beyond 2015 based on its obligation to increase capacity pursuant to the 2010 Expansion Agreement between Orange County

and the Sewer District. The County has retained an engineering firm to develop plans for plant expansion over the next year, consistent with their obligations. The stated goal by the County was an expansion plan for an additional 3.0 mgd.

Studies completed by Orange County Department of Environmental Facilities and Services and NYSERDA (October, 2006) demonstrate that the Harriman Wastewater Treatment Plant (WWTP) can be expanded to 9.0 mgd which would service the additional demand from the overall growth in OCSD#1, including from the projected growth in the study area, well beyond the year 2025. Utilizing new treatment technology, it is anticipated that water quality treatment for effluent discharged to the Ramapo River will be maintained or improved.

Wastewater generation is closely tied to water usage in a community system. Given the practical limits on wastewater treatment capacity at the Kiryas Joel WWTP as well as the Harriman WWTP, the Village has an imperative to minimize its generation of wastewater. The water conservation practices listed in Section 3.5.3, Mitigation Measures – Water Supply, also directly apply to wastewater. The water conservation provisions will induce minimization of wastewater generation in the study area.

Annexation would assure that new development in the annexation lands would connect to the OCSD#1 public sewer system. Without annexation, developing properties in the annexation lands may be required to install individual septic systems if public sewers are not practically available. Annexation would also allow properties with existing individual septic systems to connect to the public sewer system providing for more reliable, regulated wastewater treatment for those properties.

Natural Resources

The 164-acre annexation alternative in and of itself would not involve any physical disturbance of the ground and thus, would not directly impact natural resources (including geology, soils, topography, wildlife and associated habitats, wetlands and water resources). However, development activities associated with the anticipated study area growth will occur under this annexation scenario, and it is expected that conventional methods of construction would be employed along with commonly utilized resource protections, such as soil erosion controls, stormwater management measures, and construction site management, to minimize potential impacts to the natural resources. Development as projected could disturb most of the land in the study area in some fashion, either resulting in temporary or permanent removal of vegetation, and would increase the impervious surface coverage.

Ground Water Withdrawals

The water supply expansion program underway by the Village of Kiryas Joel which includes a connection to the New York City Catskill Aqueduct will reduce use and reliance on groundwater resources, independent of an annexation action. The program includes use of local groundwater sources from multiple well sites as a backup (redundant) supply, which would be from different geologic formations and aquifers in the area. (Description of the water supply program is provided in section 3.5.) Some of these wells are currently permitted for use as part of the Village water supply system and some will require testing to establish their potential yields in relation to the available aquifer supply. Water withdrawal limits established by the NYSDEC well permits would protect existing wells that use the aquifer. Overall, under either the 164-acre annexation alternative or the 507-acre annexation proposal, the Village's water supply program is expected to avoid any cumulative effect on groundwater resources by reducing such withdrawals.

Surface Water Discharges

Currently, the Kiryas Joel WWTP and Harriman WWTP both discharge to the Ramapo River watershed under permits issued by NYSDEC. Under the 164-acre annexation alternative, this will not change and both plants will be relied on to treat the wastewater from the study area in accordance with their permit requirements to avoid any cumulative effects on the water resources of the Ramapo River.

Cultural Resources

The 164-acre annexation alternative would not involve direct physical disturbance of the ground and thus, would not impact cultural resources. However, future development activities associated with the anticipated growth in the study area will likely occur. Physical disturbance of the ground, temporary or permanent removal of vegetation and the addition of new buildings and other facilities will result from development activities and could potentially impact visual and historic/cultural resources, if any exist. Future development could also change the character of the local landscape from rural to suburban character. In this scenario, no change would be expected to the character of a portion of Seven Springs Road where the Highlands Trail/Long Path hiking trail passes because this area does not fall within the 164-acre annexation territory.

There are no designated significant visual resources nor are there identified historical/cultural resources in the 164-acre annexation territory that would be affected by the anticipated area growth and development. There are no existing views from local parks that would be affected. Area growth will likely increase use of the local recreational facilities.

6.3 Impact Comparisons

Table 6-9 below summarizes various quantitative matters associated with the proposed 507-acre annexation plan compared to the aforementioned alternatives

Table 6-9 Alternative Comparisons By Year 2025 ⁶			
Area of Concern for the Study Area	No Action Alternative ³	Proposed 507-Acre Annexation ³	164-Acre Annexation Alternative ⁴
Development Potential	Buildout to 2025	Buildout to 2025	Buildout to 2025
Residential Units			
New Residential Units in Annexation Territory	1,431	3,825	1,952
New Residential Units in existing Kiryas Joel	2,394	0	1,873
Total Unit Increase by Year 2025	3,825	3,825	3,825
Community Resources			
Population Increase	19,663	19,663	19,663
School-age Children Increase ¹	8,160	8,160	8,160
Net Traffic generation (AM peak hour trips with modal split)	1056	870 (18% less than No Action)	873 (17% less than No Action)
Net Traffic generation (PM peak hour trips with modal split)	1137	854 (25% less than No Action)	858 (25% less than No Action)
Projected new Water Demand (Average daily flow, mgd)	1.30	1.30	1.30
Projected new Sewage Flow (Average daily flow, mgd)	1.30	1.30	1.30
Net Revenue (Cost) to the Town of Monroe after covering expenses.	\$775,296	\$438,316	\$472,356
Net Revenue (Cost) to the Village of KJ after covering expenses.	\$1,389,826	\$2,379,758	\$2,276,315
Net Revenue Increase (Cost) to the M-W School District after covering expenses ²	\$484,792	\$50,243 ⁵	\$22,593 ⁵
Net Revenue Increase (Cost) to the KJ School District after covering expenses ²	\$649,300	\$1,720,782	\$1,250,282
Notes: All numbers are approximate.			
¹ Most school aged children would attend the local parochial schools.			
² With KJ School District boundary coterminous with the KJ municipal boundary.			
³ Study Area = Village of KJ plus 507-Acre Territory.			
⁴ Study Area = Village of KJ plus 164-Acre Territory.			
⁵ Net cost represents the removal of properties from the assessment roll and the resulting reduction in tax revenues.			
⁶ Fiscal estimates based on 2015 information.			
Source: Tim Miller Associates, Inc., 2015.			