

TRAFFIC AND TRANSPORTATION

Chapter Fifteen

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Introduction:

An updated traffic report was prepared for the FEIS to respond to comments during public review. The full document and appendices are in this traffic Appendix in Volume Three. Updated traffic report figures and tables are included at the end of this Chapter. The numbering system of these exhibits is based on the traffic report itself and not the FEIS numbering system.

As a result of comments from the Town and public, the proposed project has changed. As such the DEIS evaluated a greater number of vehicle trips than would be generated by the program evaluated in the FEIS. The DEIS program which was comprised of 186,000 S.F. retail and restaurant space. In the FEIS the overall project has been reduced to 143,000 S.F. of retail and restaurant space and a 100-room hotel. The previous development program provided in the DEIS was anticipated to generate 254,729 and 1,004 primary vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours. The proposed development program presented in the FEIS is anticipated to generate 170, 588 and 859 primary vehicle trip ends during the three peak hours, respectively.

Therefore, the proposed development program now being presented will result in a net decrease of 84,141 and 145 vehicle trip ends during the Study peak hours, respectively. The following paragraphs provide a brief description of the methodologies utilized in the analysis of the 143,000 S.F. retail and restaurant space and a 100-room hotel, the results of the analysis, and proposed mitigation. This analysis addresses all comments and concerns presented by the Town's Consulting Engineering firm during the DEIS process. A copy of the updated Traffic Report to reflect the FEIS plan is included in this chapter.

Traffic operation conditions along Route 312 and throughout the Study Area roadway network are expected to continue deteriorating by the projects horizon year 2015 without the traffic generated by the proposed development, as traffic volumes are projected to continue to grow 0.8 percent annually and several other planned developments along State Route 312 and in the vicinity of the Study Area are projected to be completed in the near future. Results of the Capacity Analysis and Storage/Queue Analysis for the 2015 no-build conditions indicated that even without traffic volumes associated with the proposed action, there will be significant deficiencies throughout the Study Area along State Route 312 between U.S. Route 6 and State Route 22 and in the vicinity of the Interstate-84 interchange. The 2015 no-build analysis identifies specific locations that will experience a deterioration in Level of Service, increase in delay and queue lengths (feet) that exceed available storage length (feet). Regardless of whether the proposed Crossroads 312 development is approved the adjacent roadway network will require improvements.

In the analysis, the project traffic engineer found that the results of the 2015 no-build analysis indicate the following key intersections, lane groups and movements will experience significant delays if the project is not built:

1. *Route 312 at I-84 Eastbound Interchange 19 On/Off Ramps and Independent Way*

- Westbound left-turn lane group total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon peak hour;
 - Southbound left-turn lane group total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon peak hour; and,
 - Eastbound through lane group 95th percentile queue length will exceed available storage during the weekday afternoon peak hour.
2. *U.S. Route 6 at Route 312/Access Road*
 - Eastbound left-turn lane group 95th percentile queue length will exceed available storage during all three Study peak hours; and,
 - Southbound left-through lane group 95th percentile queue length will exceed available storage during the weekday morning and weekday afternoon peak hours.
 3. *Route 312 at Independent Way at Applebee's Home Depot Access Drive*
 - Eastbound left, through and right-turn movements average control delay exceed 50.0 seconds/vehicle during the all three Study peak hours;
 - Westbound left, through and right-turn movement average control delay exceed 50.0 seconds/vehicle during the Saturday midday peak hour;
 - Eastbound left, through and right-turn movements 95th percentile queue length will exceed available storage during all three Study peak hours; and,
 - Westbound left, through and right-turn movements, 95th percentile queue length will exceed available storage during the Saturday midday peak hour.

At this time, any traffic added to the Route 312 Corridor, such as that of the proposed Crossroads 312 development, will only compound future conditions. Therefore, Frederick P. Clark Associates, Inc. has proposed two plans of action to mitigate traffic conditions and the inevitable delays and congestion that will be experienced on Route 312 and the adjacent street system. The first plan of action, "The Recommended Improvements," includes several geometric/physical changes to the existing roadway infrastructure to increase the overall capacity of the roadways and intersections through the addition of turning lanes, storage bays and entire roadway lanes where appropriate. It also includes the implementation of Intelligent Transportation System (ITS) infrastructure which will help to optimize traffic signal operations (i.e. signal cycle length, split timing, etc.), provide better coordination between signals and improve the overall progression of traffic throughout the Corridor to reduce stops and delays. Specific road improvements by intersection and approach include:

1. *Route 312 at Route 22/Town Center Access Drive*
 - Eastbound approach: Add a 225-foot right-turn pocket; and,
 - Optimize traffic signal cycle length, splits & offsets.

2. *Route 312 at Farm to Market Road/Brewster Hill Road*
 - Fine Tune Traffic Signal Timing Plan.

3. *Route 312 at North Brewster Road*
 - Westbound approach: Add 100-foot westbound left-turn pocket; and,
 - Install actuated traffic signal and interconnect.

4. *N.Y.S. Route 312 at International Boulevard/Proposed North Access Driveway*
 - Eastbound approach: Restripe for a shared through/right-turn lane;
 - Westbound approach: Proposed north access driveway;
 - Southbound approach: Provide 150-foot left-turn pocket;
 - Northbound approach: Restripe for 200-foot left-turn pocket;
 - Northbound approach: Restripe for a shared through/right-turn lane;

and,

 - Upgrade traffic signal hardware and revise traffic signal timing plan.

5. *N.Y.S. Route 312 at Interstate 84 Westbound Ramps/Proposed South Access Driveway*
 - Eastbound approach: Restripe for one through lane and provide a 300-foot right-turn pocket;
 - Westbound approach: Proposed south access driveway;
 - Northbound approach: Provide a 350-foot right-turn channelized pocket with YIELD sign;
 - Southbound approach: Restripe for a 150-foot left-turn pocket;
 - Southbound receiving lane: Provide a 425-foot right-turn pocket; and,
 - Upgrade traffic signal hardware and revise traffic signal timing plans.

6. *Route 312 at Independent Way/ Interstate-84 Eastbound Ramps*
 - Eastbound approach: Restripe for one left-turn lane, one through lane and one right-turn lane;
 - Westbound approach: Restripe to two left-turn lanes, one through lane and one right-turn lane; and,
 - Upgrade traffic sign hardware and revise traffic signal timing plan.

7. *Route 312 at Office Access Drive*
 - Westbound approach: Provide a 350-foot left-turn pocket.

8. *Route 312 at Route 6*
 - Eastbound receiving lane: Add a 625-foot receiving lane;
 - Westbound approach: Lengthen pocket to 625 feet;
 - Southbound approach: Restripe to double left-turn; and,
 - Revise traffic signal timing plan.

The Town also requested that the Applicant study traffic delays, traffic congestion and unsafe traffic operation at the following locations:

1. Route 312 at the Office Building Access Drive;
2. Route 312 at Zimmer Road; and,
3. Independent Way at the Applebee's/Home Depot Access Drives.

The minor road approaches/access drives at each of the aforementioned intersections are currently managed by two-way STOP control. Due to the high volume of through traffic within this Corridor, entering and exiting movements to/from these minor road approaches/access drives currently experience significant delays. Significant delays entering and exiting minor roads and access drives present a safety concern as drivers will be less likely to wait for acceptable gaps in traffic. Therefore, the Applicant proposed a second plan of action "The Possible Improvements," pending review from the New York State Department of Transportation (NYSDOT), which includes the installation of actuated Traffic Signals at the aforementioned locations interconnected with the existing and proposed traffic control system along State Route 312 to supplement the recommended improvements. Together the recommended and possible improvements will work together to improve traffic flow, alleviate congestion, reduce stops and delays and enhance traffic safety within the Study Area.

It would be difficult to realistically model and evaluate the performance of the Route 312 Corridor with the implementation of the possible and recommend improvements using conventional tools and methodologies (i.e. a macroscopic (SYNCHO) analysis). Therefore, a microscopic (SIMTRAFFIC) analyses or micro-simulation was undertaken as a supplement to the traditional macroscopic (SYNCHRO) analysis to further assess the traffic impacts associated with the proposed Crossroads 312 development. The microscopic (SIMTRAFFIC) analyses conducted evaluate the project based on two very important performance measures:

- Total Delay Per Vehicle; and,
- 95th Percentile Queue Lengths vs. Storage Available.

These performance measures are believed to more realistically represent future conditions within the Route 312 Corridor. The 95th Percentile Queue Lengths are critical in understanding whether traffic queues will exceed available storage and spillback into travel lanes, thus creating gridlock. In general, the results of the micro-simulation show that with implementation of the recommended and possible improvements, the Route 312 Corridor will operate with fewer delays and less congestion than it would otherwise in the no-build conditions. The results of the 2015 build with improvements analysis indicates that of the aforementioned three key intersections provided in the 2015 no-build analysis summary only one will operate with moderate delays during some peak hours and one will have excessive queuing:

1. *Route 312 at Interstate 84 Eastbound Interchange 19 On/Off Ramps and Independent Way*
 - Northbound through lane total delay between 55.0 and 80.0 seconds/vehicle during the Saturday midday peak hour only;

- Southbound left-turn lane and through lane total delay between 55.0 and 80.0 seconds/vehicle during the weekday afternoon and Saturday midday peak hours; and,
 - Southbound approach total delay between 55.0 and 80.0 seconds/vehicle during the Saturday midday peak hour only.
2. *Route 312 at Independent Way at Applebee's/Home Depot Access Drives*
- Eastbound left-through-right lane group 95th percentile queue length will exceed available storage during all three Study peak hours. (It should be noted that there is significant amount of space on the Applebee's property to accommodate any queuing). The implementation of a traffic signal at this intersection will significantly increase the safety, specifically of vehicles entering and exiting the property.

In conclusion, it is the opinion of the project traffic engineer that the Crossroads 312 development and its related roadway improvements are vital to the future operation of the Route 312 Corridor.

Timing of Off-Site Road Improvements-

Typically due to the nature of DOT projects, the Work Permit application for the road improvements is not submitted until after Site Plan Approval. In the past, the Town has required the Work Permit be approved before any Building Permits are issued for construction on the site. It is anticipated that the improvements will be completed prior to issuance of Certificates of Occupancy subject to review by the Town.

Comment Traffic-1

Traffic and Transportation

Synchro

Existing Conditions

1. *The turning movement counts at the intersection of Route 312/Pugsley Road are identical for both the Existing AM and Saturday peak hours (turning into and out of Pugsley Road). Please verify. (AKRF (11/12/2013))*

Response:

The intersection of NYS Route 312 at Pugsley Road was added to the original Scope of work based on the Town Supervisor request. The latest available weekday morning peak hour traffic volumes were utilized in the analysis for Saturday midday peak hour to be conservative because the Saturday turning movement counts were not available administratively.

Comment Traffic-2

2. *The westbound left-turn lane at the intersection of Route 312/Office Building Drive appears to be coded longer compared to what was observed in the field and through aerial photograph. Please verify. (AKRF (11/12/2013))*

Response:

The storage length of the westbound left-turn bay at the intersection of NYS Route 312 and the Office Building Access Drive was revised to be 70 feet.

Comment Traffic-3

3. *At the intersection of Route 312/Park and Ride the eastbound approach is not a full two lanes (it would be a pocket through lane). (AKRF (11/12/2013))*

Response:

The eastbound approach at the intersection of NYS Route 312 and Park and Ride was revised to be one shared through right in the analysis.

Comment Traffic-4

4. *At the intersection of Route 2312/Independent Way/I-784 EB Ramps the southbound approach should have a through/right-turn lane as a pocket and not a left-turn lane. The eastbound right turn lane is controlled by the light, it is not a channelized yield sign. Also, in the signal timing window for the eastbound right turn, it would not be a free movement. (AKRF (11/12/2013))*

Response:

The southbound approach at the intersection of NYS Route 312 and I-84 eastbound ramps/Independent Way was revised to be a left-turn lane and through right-turn bay in the analysis. The eastbound right-turn bay at the intersection of NYS Route 312 and I-84 eastbound ramps/Independent Way was revised to be controlled by the traffic signal and not a channelized yield sign in the analysis.

Comment Traffic-5

5. *At the intersection of Independent Way/Home Depot Access Drive the northbound approach should not have a right-turn lane (it is a free movement so it is likely that vehicles would not need to bypass the queue to make a right-turn). (AKRF (11/12/2013))*

Response:

The northbound approach at the intersection of Independent Way at Home Depot Access Drive was revised to two through shared left and right in the analysis.

Comment Traffic-6

6. *At the intersection of Route 312/I-84 WB Ramps the eastbound right-turn has an arrow. Does the signal operate with an overlap phase? If so, and if the arrow is red, are right turns on red allowed? (AKRF (11/12/2013))*

Response:

The eastbound right-turn control type at the intersection of NYS Route 312 and I-84 westbound Ramps was revised to include arrow and overlap phase with allowed right-turn on red in the analysis.

Comment Traffic-7

7. *As stated above, the official signal timings from NYSDOT should be provided in order to verify the Synchro coding utilized in the analysis (e.g., confirm Fixed Force Off should be checked). (AKRF (11/12/2013))*

Response:

Signal timing plans from NYSDOT were obtained, verified and utilized in the analysis. A set is attached in the traffic report.

Comment Traffic-8

Build Conditions

8. *There appears to be volume imbalances that were not present in the Existing Conditions and should not be there for future scenario (e.g., 2015 AM Build with improvements on Route 312 between I-84 and International Boulevard). (AKRF (11/12/2013))*

Response:

The 2015 build traffic volumes were balanced on NYS Route 312 between I-84 Ramps and International Boulevard.

Comment Traffic-9

9. *At the intersection of Route 312/I-84 WB Ramps the protected left-turn movements have no red clearance times. Please verify. (AKRF (11/12/2013))*

Response:

The protected left-turn movements at the intersection of NYS Route 312 at I-84 westbound ramps were revised to include 3 seconds yellow time and one second all-red time.

Comment Traffic-10

Sim Traffic

10. *The video on the CD submitted are not for this project. (AKRF (11/12/2013))*

Response:

A CD was submitted to the Town Planner for review but is not included in the FEIS. The CD includes technical simulations requiring specific computer programs such as micro simulations generated using SimTraffic for each of the study peak hours.

Comment Traffic-11

11. *When running SimTraffic there is only a three(3) minute seeding time. Ten minutes is recommended. (AKRF (11/12/2013))*

Response:

The SYNCHRO/SIMTRAFFIC 8 model utilized ten minutes seeding time to fill the network with traffic, fifteen minutes recorded intervals to see how quickly the network recovers from congestion and multiple runs were used in the micro-simulation to get a statistical average of varied random seeds. SYN, SIM, and HST files for 2015 Build Conditions during weekday morning, weekday afternoon and Saturday midday peak hours with the animation pre-recorded .

Comment Traffic-12

12. *The simulation setup is for one 60 minute interval. Typically four 15 minute intervals with PHF and anti-PHFG would be selected. (AKRF (11/12/2013))*

Response:

See response to Comment Traffic-11 above.

Comment Traffic-13

13. *Please confirm that multiple Sim Traffic runs were used. (AKRF (11/12/2013))*

Response:

Multiple runs were used, the results of which can be found within the micro simulation CD for each of the Study Peak Hours submitted to the Town Planner.

Comment Traffic-14

What improvements are proposed at the Independent Way/RT 312 and RT 6/RT 312 Intersections? (Alice V. Brandon (11/09/2013), (John Ballantine (11/12/2013))

Response:

See introduction to this chapter for a complete list of proposed road improvements. The following improvements are proposed at the selected intersections:

Route 312 at Interstate 84 Eastbound Ramps/Independent Way –

- Restripe Independent Way Approach to Provide Two Left Turn Lanes, One Through and One Right Turn Lane for Right Turn Movements; and,
- Restripe the Off-Ramp to Provide One Left Turn Lane, One Through Lane and a Right Turn Lane to Route 312;
- Revise Traffic Signal Timing Plan Including;
- Sequence Order, Split Optimizations, Cycle Length, Offsets; and, Traffic Signal Hardware
- Add Northbound Right-Turn Arrows.

The following are the proposed roadway improvements for the intersection of Route 312 at U.S. Route 6 –

- Revise Signal Timing Plans Including;

- Phase Sequence, Optimize Splits, Cycle Length in Order to Convert from Fully-Actuated to Semi-Actuated;
- Restripe the Eastbound Through/Right Movement to a Shared Left/Through/Right Movement Providing a Double Left Turn.
- Add a 625 Foot Receiving Lane on Route 312 Northbound.
- Lengthen the Southbound Left/Through Pocket to 625 Feet.

Comment Traffic-15

How will these improvements minimize opportunities for drivers to “run the red light?” (John Ballantine (11/12/2013)

Response:

Through adjustments to signal timing, specifically the yellow and red clearance intervals and dedicated turning lanes with exclusive green arrows.

Comment Traffic-16

To accommodate the increase in vehicular traffic, the applicant has proposed extraordinary alterations in Rte 312, not only widening, but adding lanes and signalization But most worrisome is his proposal to widen it to Rte 6W leading to Carmel, putting at risk the County’s and Town of Southeast’s signature tourism and historical attraction and first open-space acquisition: Tilly Foster Farm. (Ann Fanizzi (11/12/2013)

Response:

No, the proposed roadway improvements are to be located north and south of the Tilly Foster Farm frontage. There are no proposed roadway improvements along the Frontage. In the future the adjacent signalized and two-way STOP controlled intersections analyzed are expected to improve in their overall Level of Operation resulting in less congestion along Route 312 in the vicinity Tilly Foster Farm and fewer emissions due to idling vehicles

Comment Traffic-17

How will the proposed project affect traffic in the area and what is being done to mitigate it? How will the school buses be affected? (Lisa Eidlin McCarthy (11-11-2013), (Stephen Shea (11/11/2013), (Michael Principe (11/11/2013), (Lynn Edelsen (11/11/2013), Donald McAlpin (

11/10/2013), (Paul DeLeo 11/09/2013), (Dr. Bernadette Bradon (10/25/2013) ,(Robert Lund (10/24/2013), (Christine & William Capuano (10/24/2013) (Cherie Ingraham (11/11/2013) (Public Hearing(11/07/2013)

Response:

There are currently four public schools in the Town of Southeast, which are located north of the signalized intersection of Route 312 and Farm to Market Road , including:

- A. Brewster High School;
- B. H.H. Wells Middle School;
- C. C.V. Starr Intermediate School; and,
- D J.F.K Elementary School.

Frederick P. Clark, Associates acknowledges that the School Buses with routes servicing the Route 312 corridor are occasionally late due to existing traffic congestion along Study Area roadways. The proposed project and its related roadway improvements will mitigate traffic conditions and the inevitable delays and congestion that will be experienced (for all vehicles) on Route 312 and the adjacent street system with or without the proposed 143,000 S.F. retail and restaurant space and 100-room hotel. The first plan of action, “The Recommended Improvements,” includes several geometric/physical changes to the existing roadway infrastructure to increase the overall capacity of the roadways and intersections through the addition of turning lanes, storage bays and entire roadway lanes where appropriate. It also includes the implementation of Intelligent Transportation System (ITS) infrastructure which will help to optimize traffic signal operations, provide better coordination between signals, and improve the overall progression of traffic throughout the Corridor to reduce stops and delays. The Applicant also proposed a second plan of action “The Possible Improvements” which includes the installation of actuated Traffic Signals at the two-way STOP controlled intersections of the Office Building Access Drive and Zimmer Road with Route 312 and the two-way STOP controlled intersection of Independent Way at the Applebee’s/Home Depot access drives to mitigate further traffic delays, congestion and unsafe traffic operation. The actuated Traffic Signals at these three locations would be interconnected with the existing and proposed traffic control system along State Route 312 to supplement the recommended improvements. Together the recommended and possible improvements will work together to improve traffic flow, alleviate congestion, reduce stops and delays and enhance traffic safety within the Study Area.

A list of the proposed traffic improvement measures is included at the beginning of this Chapter.

Comment Traffic-18

*My primary concern is traffic safety. Both the intersection at Applebee’s and the Independent Way/312 are already hazardous at the present levels of traffic. As I’m sure you know, there was a fatality near the Independence Way intersection earlier this year.
(Cathie Pavek-Sloat (11/16/2013)*

Response:

The intersection of NYS Route 312 at Independent Way has not been identified as a Priority Investigation Location (PIL) or Safety Deficient Location (SDL) by the New York State Department of Transportation (NYSDOT), and; therefore, is not considered hazardous. The un-signalized intersection of Independent Way at Applebee's/Home Depot was not part of the Study and was added based on the Town Supervisor's comment. The Applicant recommended installing a traffic signal to mitigate possible hazardous conditions. A separate Highway Safety Investigation (HSI) was conducted with the latest available accident data and the proposed improvements reflect that input.

It includes accident history, accident summaries, condition diagrams, collision diagrams, findings and recommendations for each PIL and SDL location in the Study Area and was submitted to NYSDOT for review and approval. The HSI can be found attached in Volume 3 of the FEIS..

Comment Traffic-19

My second concern is the huge amount of increased traffic on the already congested Route 312. In that regard, here are other proposed projects in close proximity:

- *Gateway Summit (large residential development, retail and hotel just west of Simpson Rd)*
- *The Campus at Fields Corners*
- *500 New spaces at Southeast Station*
- *A private parking lot on Independence way*
- *Recreation on the Town-owned 10 acres near Tilly Foster*
- *A 24-hour Convenience Store at the 312/Route 6 Intersection.*
- *A gas station/Dunkin Donuts/convenience store at the 312/Route 22 intersection.*
- *The project in Dykemans, which may house towing and/or automobile repair.*

If these projects are built, Route 312 could come to a standstill (much more than it currently does) during commuting hours. Is this what we want in Southeast? What other projects in the area were included in the traffic study? Is anything missing? (Cathie Pavak-Sloat (11/12/2013) (Public Hearing (11/07/2013))

Response:

It should be noted that a 0.8 percent annual growth rate was applied to the 2012 baseline traffic volumes to account for other small developments in the area and general traffic growth. This annual growth rate was obtained from Socio-Economic and Demographic Forecasts' found in the 2010 to 2015 New York Metropolitan Transportation Council's Regional Transportation Plan. It is a very conservative estimate, which results in a significant traffic volume increase within the Study Area. In addition the following projects are anticipated to add traffic to the roadways and intersections within the Study area, which includes all the project on the list above except those which are too far from the project. The list of required projects was developed by the Town Planner:

Mount Ebo Corporate Center Lot 6;
Terravest 2 and 3;
Dykeman's (likely not to be built), Route 312;
Brewster Business Park;
Gasland, Corner of Route 22/312;
The Highlands Shopping Center;

The Stateline Commercial Development
Brewster Corporate Park; and,
MTA Parking Lot (500 Parking Spaces).

It should also be noted that the impact of the projected traffic volumes and approved other developments related traffic on the roadway network will result in deterioration of intersection Level of Service and congestion. However, with the proposed mitigation associated with the development of Crossroads 312, the overall operation of intersection and roadways within the Study Area will improve upon the unavoidable 2015 No-Build conditions.

Comment Traffic-20

How does the Southeast Metro North Train Station affect the overall traffic conditions in the area? (Donald McAlpin (11/10/2013) (Public Hearing 11/07/2013)

Response:

There was no proposal for additional parking spaces at the time of this application; therefore, the Southeast parking lot expansion is not included in the analysis. However it is important to note that current and future traffic related to the commuter parking lot will generate a majority of its traffic during the weekday morning peak period (5:30 to 9:00 A.M.) and likely prior to the road peak hour as a majority of the commuters will be traveling to New York City. The aforementioned commuters will return in the late afternoon/evening peak hour and there is possibility of an overlap of this commuter traffic with site traffic; however, it should be noted that commuter traffic during the weekday afternoon peak hour is likely to be spread out over a two-three hour period which may end as late as 8:00 P.M. Furthermore, during it is anticipated that there will be little activity in and out of the Train Station and/or parking areas as the majority of commuters travel either to/and from White Plains or New York City and do not return in the middle of the day. There will be little, if any, impact to area roads during the Saturday midday peak hour.

Comment Traffic-21

Please find my questions for the applicant of Crossroads 312 below:

- 2. Can the applicant run a sample traffic study in November to determine if traffic numbers have actually decreased? (Samantha Jacobs (11/08/2013), (Public Hearing 11/07/2013)*

Response:

Although additional traffic counts were not required by the Town; significant effort was made to ensure that the future traffic conditions were modeled appropriately and conservatively. The turning movement count data was collected to develop appropriate baseline traffic conditions. This data was collected in 2008, 2009 and 2012. Furthermore, the 2012 data was adjusted by a seasonal growth rate of 3.6 percent based on New York State Department of Transportation seasonal variation data. Table 1 provides a comparison of 2008, 2009 and the 2012 adjusted data on Route 312, the I-84 Eastbound and Westbound Interchange 19 and U.S. Route 6. The most recent traffic volume data suggests that overall; the majority of the volumes on Study Area roadways and at Study Area intersections have decreased over time.

Comment Traffic-22

3. *Why was John Simpson Rd, Ice Pond Rd and Farm to Market Rd left off the traffic study? (Samantha Jacobs 11/08/2013)*

Response:

Farm to Market Road and Ice Pond Road are not included in the analysis since site traffic is not expected to utilize these roadways. Furthermore, the volumes on the minor road approaches are not expected to be significant enough to warrant inclusion within the analysis. It is anticipated that any degradation in Level of Service of the overall operation of U.S. Route 6 and John Simpson Road would first manifest itself in the intersection of U.S. Route 6 and Route 312. Therefore it was not included in the Study scope.

Comment Traffic-23

4. *What is the percentage of the traffic carried by Farm to Market Road? (Samantha Jacobs 11/08/2013)(Public Hearing 11/07/2013)*

Response:

The site traffic generation, distribution and assignment Gravity model prepared for the proposed development did not forecast any vehicle trip ends which originated at the proposed development to be destined at Farm to Market Road. The model is based on census tract data of the study area which is the standard method for calculation of the traffic distribution.

Comment Traffic-24

5. *How will the school system be protected from the high volume traffic on Route 312? (Samantha Jacobs(11/08/2013) (Public Hearing (11/07/2013)*

Response:

It is important to note that school traffic typically operates outside of the roadway peak hour and proposed crossroads peak generation period. Furthermore retail (shopping center) land uses tend to generate the least amount of traffic during the weekday morning peak hour).

Comment Traffic-25

6. *What is the current volume of large tractor truck traffic moving through Route 312 to Route 66 or Route 22? How will this project increase truck traffic? (Samantha Jacobs 11/08/2013), (Public Hearing (11/07/2013)*

Response:

Heavy vehicle percentages were employed through the Study Area where applicable and a heavy vehicle percentage was employed to the remaining movements to be conservative during the weekday morning, weekday afternoon and Saturday midday peak hours. Traffic Figures 7, 8 and 9 (included at the end of this chapter) contain these percentages. In short heavy vehicle percentages are 6, 3 and 5 percent or less of traffic on Route 312 during the weekday morning,

weekday afternoon and Saturday midday peak hours, respectively. Due to the nature of activities on Farm to Market Road and Brewster Hill Road turning movements to and from these minor roadways have greater heavy vehicle percentages during the weekday morning and weekday afternoon peak hours. This project will not significantly increase truck traffic on Study Area Roadways are the majority of truck traffic will arrive during off peak hours and access the site directly from Interstate-84.

Comment Traffic-26

7. *What is the percentage of increasing truck traffic related to Crossroads 312 and the continuing development of Terravest? (Samantha Jacobs (11/08/2013) (Public Hearing (11/07/2013)*

Response:

Please refer the response to Comment Traffic-25.

Comment Traffic-27

8. *During peak hours-for side roads without traffic lights(i.e., residential streets)-what will be rating of these intersections with Crossroads traffic? (Samantha Jacobs (11/08/2013) (Public Hearing (11/07/2013)*

Response:

Results of the analyses of the two-way STOP controlled approaches to and intersection of residential (minor) road with Route 312 will vary depending on the respective volumes the minor road approaches carry. In general, residential (minor) road movements and approaches to Route 312 are already operating with a high level of delay. However, it is important to note that these movements and approaches experience delays mainly due to the high volume of traffic on Route 312 and not actually the volume of traffic on the minor road approaches. A minimal amount of traffic exiting a minor road to Route 312 can and will result in delays for motorists during any peak hour. It is appropriate to maintain the current traffic control and pavement markings on these minor road approaches. These are STOP sign controlled intersections, carrying a low volume of traffic during peak hours and which needs to exit on to Route 312, which carries a high volume of traffic during peak hours and throughout the day. Motorists currently residing in these residential neighborhoods and any future residents will experience delays on the minor road approaches and need to wait for acceptable gaps in the traffic stream on Route 312 to exit on to the roadway. This is a typical condition found on many minor roads to major roads throughout the Town of Southeast and on major roadways including Route 312, Route 22 and Route 6. It should be noted based the American Association of State Highway and Transportation Officials (AASHTO) guidelines these minor road approaches do not warrant a Traffic Signal based on peak hour volumes.

Comment Traffic-28

9. *Please explain why Zimmer Road will not receive a traffic light? (Samantha Jacobs (11/08/2013)*

Response:

Zimmer Road does not meet AASHTO Traffic Warrants for a signalized intersection due to the volume of the minor (Zimmer Road) approach.

Comment Traffic-29

10. *Clarify eastbound and southbound pertaining to Route 312 and Route 6 expansion on pg 39 of the traffic report. Please indicate the Route with eastbound and southbound. (Samantha Jacobs (11/08/2013))*

Response:

In the future, and with improvements, the Route 6 eastbound approach will provide one shared left/through/right lane group and an exclusive left turn lane group. To accommodate the double left turn movements on Route 6 eastbound a second receiving lane will be provided on Route 312 northbound. The southbound Route 312 left-through lane group and corresponding pocket will also be lengthened.

Comment Traffic-30

11. *Will the Fire Department on Route 312 by North Brewster Road be given a traffic signal to enter Route 312? If traffic is stopped on Route 312 by the North Brewster Road traffic light, how will fire trucks leave the fire house? (Samantha Jacobs (11/08/2013)) (Public Hearing (11/07/2013))*

Response:

A signal is proposed at Route 312 and North Brewster Hill Road if approved by NYSDOT. Coordination with one firehouse will be based on DOT requirements.

Comment Traffic-31

12. *What will be the increase in traffic produced by a large discount retailer during the holiday season? (Samantha Jacobs (11/08/2013)) Janet Keyes (11/7/2013)*

Response:

The Institute of Transportation Engineers (ITE) Trip Generation Manual provides information on the monthly variation in shopping center traffic as a percentage of the average month. The Trip Generation manual indicates that November and December traffic is approximately 101.5 and 141.8 percent, respectively, of the average month. It should be noted that this data is based on a limited sample size. Please refer to Table 3 provided under land use code 820 "shopping center" of the ITE Trip Generation Manual, which has been included in the appendix of this report.

Comment Traffic-32

- What are the traffic conditions at the Route 312 and Minor Road intersection and what can be done to mitigate the increased traffic? (Janet Keyes 11/7/2013)*

Response:

Refer to Traffic Study and intersection included in the analyses.

Comment Traffic-33

Is any land owned, maintained or operated as part of Tilly Foster Farm proposed to be used for this project including traffic improvements? (Bradley D. Schwartz (no date) (C&W Capuano (10/24/2013)

Response:

No, the proposed roadway improvements are to the north and south of the Tilly Foster Farm frontage, within the State right-of-way.

Comment Traffic-34

When considering Route 312 from Route 6 to Route 22, should the road be widened? How will congestion be eliminated by this project? (Public Hearing (11/07/2013)

Response:

No, the capacity analysis indicates that relatively minor improvements at each of the Study Area intersections will be able to mitigate project impacts to the roadway network. Based on the results of the analyses and modeling of the entire Route 312 corridor, the entire roadway corridor will operate with improved Levels of Service and reduce traffic congestion from the recommended improvements in traffic signal timing, the installation of traffic signals, added turning lanes, bays, and pockets. Therefore, it is not necessary to widen the entire roadway.

Comment Traffic-35

Please list all proposed traffic and roadway improvements in two separate columns, one for developer financed and paid for and one for taxpayer or grant financed and paid for. Please list road and traffic improvements that you intend to apply for grants or other taxpayer-assisted funding. (Bradley Schwartz (no date), (Public Hearing(11/07/2013).

Response:

See the above list in the Introduction to this chapter. If available, the applicant may choose to submit for grant or other monies. As demonstrated in the Traffic Section of the FEIS, the roadway system intersections along Route 312, in the area of the I-84 intersection, will fail in the design year if the project is not constructed. At the moment, no public sector funding is available to make already needed improvements. With the proposed improvements suggested for the Crossroads, the FEIS demonstrates that not only will the incremental traffic increased caused by Crossroads be mitigated but many of the deficiencies of the existing traffic system will be remedied. It is a benefit to the community in general if Crossroads can be a catalyst for roadway improvements. Should public funding be available for transportation improvements through the State, County or other governmental entity, the developer will coordinate with public agencies to facilitate the installation of improvements to the 312 corridor to allow for further economic development as well as improvement to both safety and the level of service.

Comment Traffic-36

*How often is North Brewster Road used as a cut thru for people accessing Route 312?
(Public Hearing (11/07/2013))*

Response:

This Study did not conduct/include Studies to address this issue.

Comment Traffic-37

*When was the traffic study done? Were the schools in session and people on vacation?
(Public Hearing (11/07/2013))*

Response:

Manual turning movement counts were conducted during the following times:

- A. January, 2008;
- B. March, 2008;
- C. November, 2009; and,
- D. July, 2012.

A seasonal adjustment factor was applied to all July traffic volumes based on New York State Department of Transportation (NYSDOT) seasonal variation data.

Manual turning movement counts conducted in November, January and March were done so when School was in session and during ideal weather conditions.

Traffic volumes collected in 2008 and 2009 were adjusted by applying an annual growth rate of 0.8 percent as per the 2010 to 2015 New York Metropolitan Transportation Council Regional Transportation Place, Socio-Economic and Demographic Forecasts.

Finally the volumes were balance conservatively, between intersections, where necessary.

Comment Traffic-38

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Response:

No response required.

Comment Traffic-39

How do the projections used in other projects, such as Brewster Highlands, reflect the actual build out traffic conditions? (Public Hearing (11/07/2013))

Response:

The industry standard Institute of Transportation Engineers Trip Generation Manual estimates used in the Brewster Highlands Traffic Study can be considered to be very conservative for both weekday afternoon and Saturday midday peak hours relative to the full build out conditions for the Highlands projects based on data collected for the 2014 Crossroads 312 Traffic study.

It is difficult to compare the projections for the future traffic volumes of the overall Study Area intersections from past projects to the existing (or baseline) traffic volumes developed for this project as traffic patterns within the Study Area have significantly changed in the interim and many other developments have/have not been constructed in the vicinity of the Study Area. The 2015 no-build (base) analysis includes the 2015 projected traffic volumes and the other development volumes. A 0.8 percent annual growth rate was employed to the baseline traffic volumes to the horizon year 2015, as per the 2010 to 2015 NYSMTC Regional Transportation Plan Socio-Economic and Demographic Forecasts. Furthermore, the traffic volumes related to several other developments, including:

Mount Ebo Corporate Center; Terravest 2 and 3 Developments; Dykeman's Warehouse; Brewster Business Park; Gasland; and, additional Offices

were added to the Crossroads 312 Study Area roadways and intersections based on traffic distributions provided in the other developments, respective traffic studies. The result is a very conservative analysis which can be considered a worst-case scenario which is consistent with the approach taken for The Highlands.

In addition, the 2014 traffic data collected by Frederick P. Clark, Associates, Inc. for the Brewster Highlands project was limited to the northerly access drive with the Applebee's driveway and; therefore, does not provide adequate data to complete the comparison.

For the Crossroads project, the Applicant used the industry standard ITE Trip Generation Manual to forecast the proposed Crossroads 312 development, which is considered appropriate. Furthermore, the Brewster Highlands comprises of Home Depot and Kohl's for which site traffic should be estimated based on ITE Land Use Code #862 "Home Improvement Store" and ITE Land Use Code #875 "Department Store," respectively. Both of the aforementioned land uses are distinctly different from the proposed Crossroads 312 shopping center for which site traffic generation is estimated based on ITE Land Use Code #820 "Shopping Center."

Comment Traffic-40

How long does it take to get from Route 22 to I-84 now? How will that be different when this project is built? (Public Hearing (11/07/2013))

Response:

The roadway segment of Route 312 between I-84 and Route 22 is approximately 3.35 miles in length. Table 1 provides the average vehicle speeds for this segment of Route 312 for both the northbound and southbound directions. The average vehicle speeds were estimated from SYNCHRO 8.0 and SIMTRAFFIC 8.0. The average vehicle speeds are less than the running speed of vehicles as they account for all stops and delays.

TABLE 1: AVERAGE SEGMENT VEHICLE SPEEDS (MPH)

| Direction | 2012 | Weekday Afternoon Peak Hour | | | | | | |
|------------|------|-----------------------------|------|----------|------|-------|------|----------------------|
| | | Existing | 2015 | No-Build | 2015 | Build | 2015 | Build w/Improvements |
| Northbound | | 15 | | 14 | 13 | 13 | | 20 |
| Southbound | | 20 | | 18 | 17 | 17 | | 25 |

Table 2 provides the average travel time (accounts for running time and stopped/start-up delay time) based on the average vehicle speeds and the segment length.

TABLE 2. AVERAGE SEGMENT TRAVEL TIME (MINUTES)

| Direction | 2012 | Weekday Afternoon Peak Hour | | | | | | |
|------------|------|-----------------------------|------|----------|------|-------|------|----------------------|
| | | Existing | 2015 | No-Build | 2015 | Build | 2015 | Build w/Improvements |
| Northbound | | 13.4 | | 14.4 | | 15.5 | | 10.1 |
| Southbound | | 10.1 | | 11.2 | | 11.8 | | 8.0 |

The recommended improvements include the installation of an Advanced Traffic Control System to improve traffic flow, reduce congestion, reduce vehicle stops, reduce delays, reduce travel time and reduce carbon monoxide emissions and fuel usage. Table 1 shows a 20 percent reduction in delays and Table 2 shows a 25 percent reduction in travel time.