



TO:	Adam Turner, Executive Director Martha's Vineyard Commission	DATE:	March 24, 2017
FROM:	Keri Pyke, P.E., PTOE Melissa Restrepo	HSH PROJECT NO.:	2017028
SUBJECT:	Traffic Impact and Access Study Peer Review Stop & Shop Redevelopment – Edgartown, Massachusetts		

As requested, Howard/Stein-Hudson Associates (HSH) conducted a peer review of the materials prepared for the proposed expansion of the Stop & Shop Redevelopment in Edgartown, Massachusetts. Our evaluation is based on the following documents:

- *Traffic Impact and Access Study (TIAS), Stop & Shop Redevelopment, Edgartown, Massachusetts, VHB, dated February 2017; and*
- *Edgartown Stop & Shop Expansion Permitting Site Plans, VHB, dated February 21, 2017.*

The purpose of this review is to ensure that the traffic analysis conforms to industry standards, to confirm that the traffic study methods are appropriate for the setting, and to ensure that the recommendations and proposed mitigation adequately address potential project impacts and are consistent with the Town of Edgartown's guidelines for transportation improvements.

The Project site is located at 225 Upper Main Street in Edgartown, Massachusetts. The proposed Project would involve the construction of an approximately 17,432 square feet (sf) of addition to the existing Stop & Shop Supermarket, the demolition of the existing Edgartown National Bank building, and construction of a new approximately 1,010 sf (403 sf net increase) Edgartown National Bank building. The Project proposes to close the existing bank driveway, relocate the existing Stop & Shop driveway (west) to align with Pinehurst Road, and retain the existing Stop & Shop driveway (east) in its current location.

The key findings of our review of these documents are summarized below and presented in the following sections. The comments are organized by the same headers used by the Applicant in their submitted documents.



Summary of Review

HSH conducted a comprehensive peer review of the TIAS and the site plans prepared for the proposed Stop& Shop Redevelopment located on Upper Main Street in the Town of Edgartown. This memorandum consists of a review of the methodology and assumptions used in the TIAS, the key findings of the TIAS, the appropriateness of the proposed mitigation (if any is proposed), the consistency of the mitigation with Town guidelines, and a review of the site plan and operations.

The review of the methodology and assumptions used in the TIAS indicates that in general, the traffic study conforms to industry standards and best engineering practices. The TIAS includes an analysis of Existing, No-Build (future conditions without the Project), and Build (future conditions with the Project) conditions. The Applicant identified the potential transportation related impacts of the Project by estimating the number of trips expected to travel to and from the Project site during the weekday p.m. and Saturday midday peak hours of traffic operations using data provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* and empirical count data, and assigning the projected traffic volumes to the study area to develop the Build conditions.

In summary, the proposed Project is expected to generate approximately 207 net new trips (101 entering, 106 exiting) during the weekday p.m. peak period, and 227 net new trips (120 entering, 107 exiting) will be generated in the Saturday midday peak period. Based on the analysis provided in the TIAS, the surrounding roadways and intersections have adequate capacity to handle the increase in traffic volumes.

Scope of Review

The following issues were reviewed:

- Traffic Volume Data
- Seasonality of Count Data
- Site Access
- Parking
- Trip Generation
- Traffic Operation Analysis
- Mitigation



Existing Conditions

TRAFFIC VOLUME DATA

The Applicant conducted turning movement counts (TMC) at each of the study area intersections during the Friday evening peak period (3:00 – 6:00 p.m.) and the Saturday midday peak period (10:30 a.m. – 2:30 p.m.). The counts were conducted on Friday, August 28, and Saturday, August 29, 2015, for most of the study area intersections except for the following:

- Upper Main Street/Cooke Street – September 2015
- Edgartown Road/Pinehurst Road – April 2016
- Edgartown Road/Chase Road – April 2016
- Peases Point Way/Katama Road/South Water Street/Meshacket Road – June 2016¹

Automatic traffic record (ATR) counts were conducted concurrent with the TMCs on Upper Main Street between the Stop & Shop driveways on Friday, August 28, 2015; Friday, September 11, 2015; and Friday, April 1, 2016, for 48 hours. The Applicant applied a 0.5% per year growth rate to the 2015 ATR counts to establish 2017 existing conditions.

HSH generally agrees with the Applicant's data collection methodology, assuming the nearby schools were active at the times of data collection.

HSH verified nearby schools were active and operating with a regular schedule. No further action is required.

SEASONALITY OF COUNT DATA

The Applicant compared traffic count data with historical seasonal data available from the *2014 Traffic Counting Report for Cape Cod Massachusetts*. Additionally, the Applicant states that ATR data was collected at the same location (Upper Main Street between the Site driveways) during the August 2015, September 2015, and April 2016 counts and a comparison of the ATR data suggests a seasonal adjustment factor of 1.12 should be applied to the September counts and a factor of 1.75 to the April counts. Since no ATR data was collected during the June 2016 counts, the MVC's historic seasonal data from the 2014 report suggests a factor of 1.17 to be applied to the June traffic counts.

The Applicant does not explicitly states whether a percent annual growth factor was applied to the August 2015 counts, which correspond to the majority of the intersections,

¹ Under the TIAS, the Applicant stated counts at this intersection were conducted in June 2015, but based on the raw count data provided in the Appendix, the counts were conducted in June 2016.



to establish 2017 volumes. Based on the raw counts provided in the Appendix and 2017 Existing Conditions (Peak Season) Figures 3-4, HSH confirmed that a growth factor was applied to the August 2015 counts. The Applicant should state what percentage growth was applied to these counts.

Build Conditions

SITE ACCESS

Under existing conditions, vehicular access to the site is provided via three driveways, the Edgartown National Bank Driveway, the Stop & Shop Driveway (west), and the Stop & Shop driveway (east). Under the proposed redevelopment, the Applicant is proposing to close the Edgartown National Bank Driveway, relocate the Stop & Shop Driveway (west) to align with the unsignalized intersection of Pinehurst Road, and the Stop & Shop Driveway (east) would remain as is. The Applicant notes that by closing the Edgartown National Bank Driveway, the proposed redevelopment is reducing curb cuts along Upper Main Street which is consistent with the Island Plan² and Complete Streets approaches. Furthermore, it follows specific recommendations that were made in the RSA³ conducted in 2012 for Upper Main Street.

HSH conducted a Road Safety Audit (RSA) in the Town of Edgartown on Thursday, August 9, 2012, with a focus on safety issues at the intersections of Upper Main Street/Pinehurst Road/Stop & Shop Driveways. Based on crash data and field observations, it was noted by the RSA team members that the offset between Pinehurst Road and the driveways (Edgartown National Bank Driveway and Stop & Shop West Driveway) generally adds confusion to motorists at the intersection. HSH agrees with the Applicant's assessment in reducing curb cuts along Upper Main Street and aligning the Stop & Shop Driveway (west) with the Pinehurst Road intersection as recommended in the 2012 RSA.

² Island Plan, Chartering the Future of the Vineyard, Martha's Vineyard Commission, February 2012.

³ Road Safety Audit, Upper Main Street, Town of Edgartown, Howard Stein Hudson Associates, August 2012.



PARKING

Under existing conditions, Stop & Shop Supermarket and Edgartown National Bank parking areas are connected, with a total of 161 spaces combined. The proposed conditions provide a total of 203 spaces, including six standard accessible spaces and two van accessible spaces. Based on zoning requirements, 122 parking spaces are required. The Applicant made observations during peak summer season and concluded parking demand is approximately 120 parking spaces. The proposed number of parking spaces exceeds both zoning requirements and observed parking demand.

HSH reviewed the latest site plan from February 2017 and found minor discrepancies. The Parking Summary Chart indicates a total of 139 existing parking spaces (including standard and van accessible spaces), not 161 parking spaces as stated in the TIAS. Also, the Applicant is proposing a total of 178 parking spaces (including standard and van accessible spaces), not 203 parking spaces as stated in the TIAS. However, HSH verified parking requirements per Town of Edgartown Zoning Guidelines and the Applicant's proposed parking spaces are appropriate for the Upper Main Street District and size of redevelopment. No further action is required.

TRIP GENERATION

The TIAS estimates the trips generated by the Project using two methods. Empirical count data was used to establish a trip generation rate to estimate the site-generated traffic for the proposed Stop & Shop Supermarket expansion (approximately 17,432 sf). To estimate the site-generated traffic for the proposed Edgartown National Bank expansion (approximately 403 sf net increase), the Institute of Transportation Engineers' (ITE's) *Trip Generation, 9th Edition* was utilized based on Land Use Code (LUC) 912 – Drive-in Bank. The Applicant decided to use the average rate, which is appropriate for the bank's small net size increase. The Applicant opted to use the empirical supermarket trip generation rate instead of the ITE LUC 850 (Supermarket) as it was determined to be higher, which provides a more conservative estimate of the projected trip generation for the proposed expansion. The Applicant estimates that 207 net new trips (101 entering, 106 exiting) will be generated by the Project in the weekday p.m. peak period and 227 net new trips (120 entering, 107 exiting) will be generated in the Saturday midday peak period.

HSH agrees with the Applicant's trip generation methodology.



TRAFFIC OPERATION ANALYSIS

To assess the potential traffic impact of the development on the adjacent traffic network, several steps are involved, as follows:

- Determine existing volumes and analyze existing traffic operating conditions for the study intersections;
- Generate and analyze No-Build traffic volumes by applying a background growth factor to the existing traffic volumes and adding approved/pending developments as well as planned transportation improvements;
- Determine the traffic volumes to be generated by the proposed development; distribute and assign traffic throughout the study area network; and
- Combine the background traffic volumes with the proposed traffic volumes to establish Build traffic volumes, analyze traffic operations, and identify mitigation (if any) of potential impacts.

The traffic operations analysis presents detailed measures of effectiveness (MOEs) to assess the operating characteristics of the study intersections. The MOEs reported are average vehicle delay, level of service (LOS), volume-to-capacity ratio, and queue lengths. The LOS is a letter grade that is assigned to a range of vehicular delays at the intersection. LOS A represents little delay and is usually associated with low volume movements. LOS F represents higher delays and could indicate issues related to traffic congestion.

The Applicant used the Synchro 9 traffic engineering software to analyze all the intersections in the network. The Synchro engineering software is an industry standard that allows engineering practitioners to model traffic operations based on various inputs such as traffic volumes and traffic control devices (stop signs, traffic signals, etc.).

The analysis indicates that the overall delays and queues are at or under capacity along most intersections within the study area, with the exception of Upper Main Street at Pinehurst Road, at the Stop & Shop Driveways, and at Cooke Street, where some movements operate at LOS E or F during all conditions. However, the majority of movements operate at LOS D or better, indicating that the roadway network has adequate capacity and vehicles experience moderate delays when traveling through the area during the peak hours. The Applicant concluded that the proposed Project will have minimal operational impacts to traffic operations.

HSH agrees with this assessment.



Mitigation

The Applicant has proposed several mitigation measures to address the potential impacts of the proposed Project and to enhance and upgrade the existing infrastructure conditions throughout the immediate site area. The following sections summarize the mitigation proposed by the Applicant:

TRANSPORTATION DEMAND MANAGEMENT (TDM)

Based on the TIAS, the Applicant is committed to implementing a Transportation Demand Management (TDM) program, including a TDM coordinator to oversee site-related transportation demand management initiatives, such as providing central commuter information (both for public and employees) on-site to assist employees and customers. This information will include schedules for Martha's Vineyard Transit Authority (VTA), SSA Ferry Schedules, and area pedestrian and bicycle amenities. The Proponent will promote travel to the site by biking or walking by the provision of convenient bicycle, pedestrian, and transit amenities. The Proponent will reconstruct the sidewalk along the site frontage, connect the existing VTA transit stop and construct a concrete bus shelter pad, and restripe crosswalks.

The Applicant states that the TDM coordinator will encourage employees to participate in TDM initiatives including but not limited to car pool programs and "guaranteed ride" home program through a taxi voucher system, as well as provide financial incentives for employees who choose to use MVTA and/or walk and bike to and from work. On-site services would be provided to employees to reduce the need to leave the site to conduct errands during the day such as food services, employee refrigerators, break room, and automatic teller machine.

HSH agrees with the proposed employee TDM measures.

PEDESTRIAN, BICYCLE, AND TRANSIT ENHANCEMENTS

The Applicant proposed an extensive network of sidewalks and crosswalks on site to provide connectivity between the pedestrian and bicycle facilities along Upper Main Street to the Stop & Shop. The proposed site plan includes three bike racks located throughout the site providing a total of 27 bicycle parking spaces. As previously mentioned, at the existing VTA Edgartown National Bank transit stop, a concrete bus shelter pad will be constructed as well as a bus pull-out on the north side of Upper Main Street.

HSH reviewed the site plan, which provides 25 bicycle parking spaces, not 27 spaces as stated in the TIAS. The Town of Edgartown Zoning Guidelines requires one bicycle per three (3) parking spaces, for a total of 60 bicycle parking spaces for this size of



redevelopment. HSH recommends the Applicant revise the proposed bicycle parking and follow the Town's guidelines.

INTERSECTION IMPROVEMENTS

The Applicant proposes to relocate the Stop & Shop Driveway (west) to align with the unsignalized intersection of Pinehurst Road. With the above relocation and alignment, opportunity to relocate the existing crosswalk located on the east side of the existing Stop & Shop Driveway (west), which could benefit VTA riders as they would be more inclined to cross the street near the bus stop instead of jaywalking or walking the 75 feet to use the existing crosswalk.

The Applicant will work with MVC, the Town of Edgartown, and MassDOT to implement lighting of the relocated crosswalk and will replace the green crosswalks along the site frontage with more visible, customary pattern/color, and will update the signing leading to and at the crosswalks to make them conform to current MUTCD standards.

HSH agrees with the proposed intersection improvements.

Site Plan Assessment

HSH reviewed the Applicant's internal circulation in the proposed site plan per MVC request and concluded that the proposed circulation around the Stop & Shop is the same as the existing circulation. The only proposed changes are related to the bank's circulation, where the closure of the existing driveway requires one-way circulation primarily around the bank.

HSH agrees with the proposed circulation.

Conclusions

Based on the overall review of the TIAS, and the proposed site plan, HSH generally agrees with the methodology used in the TIAS and the proposed mitigation. Due to the immediate residential uses around the site, noise levels are a concern for the residents. However, this expansion of the Project will only generate about four new vehicle trips during both the Weekday evening and Saturday midday peak hours during the summer peak season only. It should also be noted that the results the Applicant provided assume a very conservative traffic generation.

HSH recommends that the Applicant provide draft plans for the improvements along the site frontage sidewalk and the realignment of the Stop & Shop Driveway (west) with the unsignalized intersection of Pinehurst Road to the Town for further review. HSH also recommends to the Town



and the Applicant that all proposed improvements are consistent with the current and ongoing planning studies and that there is agreement on the priority level of the proposed improvements, as there are significant transportation infrastructure upgrades that were identified within the vicinity of the Project during the RSA in August 2012.