



# Town of Mashpee

## Planning Board

16 Great Neck Road North  
Mashpee, Massachusetts 02649

**Meeting of the Mashpee Planning Board**  
**Wednesday, August 4, 2021**  
**Waquoit Meeting Room**  
**Mashpee Town Hall**  
**16 Great Neck Road North**  
**Mashpee, MA 02649**  
**7:00 PM**

MASHPEE TOWN CLERK  
AUG 02 2021  
RECEIVED BY: *SM*

**Start Time Amended 8-2-2021**

**\*Broadcast Live on Local Channel 18\***

**\*Call in Conference Number: 508-539-1400 extension 8585\***

**\*Streamed Live on the Town of Mashpee Website: <https://www.mashpeema.gov/channel-18>\***

### Call Meeting to Order

- Pledge of Allegiance

### Approval of Minutes

- Review of Meeting Minutes from July 21, 2021

### Public Hearing – 7:10 PM

**Applicant:** Longfellow Design Build  
**Location:** 9 Shellback Way / 647 Falmouth Road (Route 28)  
**Request:** Requesting a special permit to construct a 12,500 s.f. commercial building to be used for retail grocery sales on a 1 acre +/- parcel located at property addressed as 9 Shellback Way, Mashpee, MA 02649. This application is made pursuant to Sections 174-24C (1) and under Section 174-25 E (1) and 174-25 E (2). This proposal triggers a mandatory referral to the Cape Cod Commission for review as a Development of Regional Impact

### New Business

- Vote to set public hearing date for an application made by DPF Mashpee LLC to modify an approved Special Permit dated May 2, 2001 to construct a 4,860 s.f. commercial building for retail sales in the development known as South Cape Village.

### Chairman's Report

- Miscellaneous updates

### Town Planner Report

- Solar Energy Systems Overlay Petition zoning articles

### Board Member Committee Reports

- Cape Cod Commission, Community Preservation Committee, Design Review, Plan Review, Environmental Oversight Committee, Historic District Commission, Military Civilian Advisory Council.



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### Correspondence

- Town of Falmouth Notices
- Town Of Barnstable Notices
- Anne Malone – Written Correspondence dated 7-27-2021
- Terri Bilodeau – Written Correspondence dated 7-20-2021 – Presented at 7-21-2021 meeting
- June 2021 Discharge Monitoring Report for South Cape Village – N= 2.7
- May 2021 Discharge Monitoring Report for South Cape Village – N=3.6
- April 2021 Discharge Monitoring Report for South Cape Village – N=6.3

### Additional Topics (not reasonably anticipated by Chair)

### Adjournment



# Town of Mashpee

# Planning Board

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**Mashpee Planning Board  
Minutes of Meeting  
Wednesday, July 21, 2021 at 6:00PM  
Mashpee Town Hall - Waquoit Meeting Room  
16 Great Neck Road North  
Mashpee, Ma 02649**

**Broadcast Live on Local Channel 18  
Call-in Conference Number: (508)-539-1400 x 8585  
Streamed Live on the Town of Mashpee website <https://www.mashpeema.gov/channel -18>**

**Present:** Chairman John Fulone, John (Jack) Phelan, Mary Waygan, Joseph Callahan, Dennis Balzarini, Robert (Rob) Hansen

**Also Present:** Evan Lehrer – Town Planner, John Cotton- Selectmen, Tom Feronti- Mashpee Commons, Eliza Cox- Nutter McClennen & Fish, Douglas Kallfelz – Union Studios

## **CALL TO ORDER**

Chairman Fulone called the meeting of the Planning Board to order at 6:00PM. The Pledge of Allegiance was recited.

## **APPROVAL OF MINTUES – July 07, 2021**

There were no comments regarding the meeting minutes.

## **MOTION:**

**Mr. Balzarini made a motion to accept the minutes for July 07, 2021. Seconded by Ms. Waygan. All in favor.**

## **NEW BUSINESS**

**Mashpee Commons Development Agreement – Proposed Community Activity Center Overlay District: Overview of Neighborhood Design, including proposed CAC setbacks and lot coverage dimensional requirements, and Discussion of Proposed CAC maximum densities and building height**

Ms. Cox introduced herself on behalf of Mashpee Commons, as well as Mr. Feronti and Mr. Kallfelz.

She referenced the meeting from June 30<sup>th</sup> about proposed subzones and uses, it was discussed that this evenings meeting would serve as an educational piece on the topic of densities and design principals as part of the proposed zoning. She is turning it over to Mr. Kallfelz and Mr. Feronti. Ms. Cox provided drafts of the regulating plan, table of contents for design guidelines, and additional larger scale details. It is their intention to present, take comments and questions, and then take a pause on this process. The Development Agreement process requires further review with CCC, then everyone can



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come back together before the Board and resume the proposed zoning. If further questions arise before coming back together, Mr. Lehrer can forward them over to her team.

## **What is Traditional Neighborhood Design?**

Compact mixed use neighborhood where residential, commercial, and civic buildings are within close proximity to each other. It is a planning concept based on traditional small town neighborhoods.

The variety of uses encourages business, civic buildings, and commercial establishments to be located in walking distance of mixed income residential neighborhoods and served by a network of paths designed for pedestrians and vehicles.

## **Conventional Suburban Development Patterns**

Segregated land uses, separate housing, larger lots, auto dependent, minimal pedestrian and bike connectivity.

82% of the houses on Cape Cod are detached single family homes.  
72% of the summer houses on Cape Cod are vacant most of the year.  
Median home prices have been increasing, income is not increasing.

CCC incorporated 8 place types in their Regional Policy Plan:

Natural, Rural, Suburban, Historic, Maritime, Community Activity Centers, Industrial, Military

Mashpee was identified as a community that could sustain the development of the Community Activity Centers. Encourage mixed use development, human interaction, support greater density and mixed uses, and pocket parks with gathering spaces.

In 1986, the outset of the traditional neighborhood design movement, this plan had already been conceived and envisioned for this place. The vision over time has remained the same.

## **Traditional Neighborhood Design Density, lot coverage and setbacks in Mashpee Commons**

How did we arrive at residential and commercial density?

Mr. Feronti explained this process is different than a DRI. A DRI measures density and tells what exactly is on that lot, a prescribed building footprint. A Development Agreement is different in the sense it establishes a framework of flexibility but predictability through the process. They have established zones with parameters to assist in other necessities such as zoning bylaw, fiscal impact study, traffic etc. They looked at what they would do in those areas while looking at what is currently there. Mashpee Commons is trying to continue what we have already started. Looked at a snapshot of acreage of residential buildings currently located, taken into account roads, sidewalks, pocket park, it works out to 4.25 acres, with 77 units, equates to 18 units per acre in the core, extrapolated over 58 acres, works out to just over 1000 units.

Commercial is mixed use, there is 40,000 sq. ft., 9-10,000 sq. ft. per acre of commercial space, extrapolated over the 58 acres, ½ million sq. ft. of commercial space. He isn't talking about all new, there has been some misinformation with it all being new space, it is a total sum. A parameter



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established by the bylaw that allows for a maximum amount of commercial space. Currently have 360,000 sq. ft. already built, so that's 700,000 sq. ft. indicated in bylaw would not be on top of existing, it's inclusive of existing. Preliminary test fit needed to be expanded to look at various zones.

Proposed test fits based on different building heights, make of buildings, and footprints that allow for commercial/residential while following the zoning bylaw.

The core is 58 acres, existing commercial center. They wanted to demonstrate with test fit, which was tricky, as there are multiple ways to make up a building that is 1-4.5 stories. You could have mixed use, all residential, all commercial, single story, etc. The Commons built their first multi-level building with only residential units. Took this case study of how we would use variety of heights and footprints to come up with this example of commercial footage. Not populated by 5 story buildings, reality there would be few 5 or one story in the core. It would be a special circumstance, predominant height would be 2-3 and into 4 stories, which is already what is there for the most part. There are various footprints, down to 2-3,000 sq. ft. There are a lot of possible options based on options and square footages. We end up with 413,000 sq. ft. new commercial, when added to existing commercial in the core it works out to 670,000 total commercial sq. footage. They used this as well as other test fits to come up with parameter in the bylaw with max commercial sq. footage of 700,000 sq. ft. That was also done with the residential units. 953 units in this example when added to existing its 1030. Dwelling units per acre in the more elaborate density worked out to roughly less than the 18 units per acre.

Edge area was done slightly different. Looked at existing residential developments, 77 units proposed for edge. Started by looking at some larger developments in Town to see what their dwelling units per acre ended up being with their acreage. Used as a guidance to establish density for the edge, only residential.

Transition area goes from high intensity core commercial to edge. Using test fit with variety of building make up and heights and footprints is how those were determined.

With the checks and balances built into this process they couldn't come in and build all 5 story buildings, as parking ratios were established in the bylaw. Parking ratios have to be met. What would go on these sites is an extension of what is already there.

Mr. Kallfelz will now discuss the building heights in relation to where they will sit in the three zones. Building maximum heights relative to test fit and density:  
Core is 4.5 stories, transition 3.5, and edge 2.5.

There is a very small percentage in the core that are one story as well as 4.5 stories in height. Taller buildings are reserved for special instances like a hotels, majority intended for 2-4 story height. Transition is similar as a majority would be 2-3 story range. Edge is 2 story range.

Typical Residential is R-3 and R-5.



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There is flexibility to provide housing alternatives in one neighborhood, provide zoning that allows creativity in the same neighborhood, as well as special conventions around town homes. There are no driveways in the majority of the TND lots. Alleys are shared driveways that run behind buildings. Placing parking and garages at the back of the lot rather than front. Ultimately, the goal of the zoning approach is a holistic place to live, work, and connect to all of these things through walking and biking etc.

*A rowdy citizen in the back of the room interrupted the meeting by raising his voice out of turn about needing to have a say. This went on for a few moments, he was told he would have to leave if he did not calm down. He was also encouraged to submit public comment in an appropriate fashion.*

Mr. Balzarini asked if there was going to be a parking spot for every unit. Commercial parking? How will they coincide? There seems like a lot of building and not a lot of parking. He is against a 5-story building. He is having a hard time with a 4-story building, unless it's a medical center or hotel, maybe. There aren't great jobs, most retail in the Commons is lucky to get \$15/hour. People his age are moving into the apartments. He likes the idea of more houses on an acre, that close he doesn't see families with children moving to small yards. There is already too much traffic for this area around the rotary, with one lane multiple ways. How will this Town be able to handle all the traffic? He likes the pictures of 2-3 story buildings.

Chairman Fulone reminded that parking will be discussed in the next meeting.

Mr. Hansen is referencing one of the sketches of the 2, 3, and 4.5 building heights and various buildings. He appreciates the architectural diagram. Can they be given a max/min height that varies too, more than one foot and less than 20 feet?

Mr. Kallfelz provides variability in roof form. Same everything is very cookie cutter. It is possible to provide a range for what that could be. Those are the kinds of things they should be discussing in these conversations.

Mr. Phelan inquired about a dormer, is it occupied or mechanical space? In the core, 4.5 story maximum with dormers on both sides, feeling it's an occupied space, does it follow same standard of height?

Mr. Kallfelz stated if it is a half dormer it is occupied.

Mr. Callahan asked about access areas for fire engines, with concepts of alleys and garages in the rear, does it get congested.

Mr. Phelan discussed the alleyways and it's a matter of enforcement. That's how fire and municipalities deal with it. There has to be clearance.

Mr. Cotton does not like the alleys. By calling it an alley, how do you pretty up an alley? Visually, he would prefer to see better design. We are still talking 4-4.5 stories. Not talking 5? Wherever those taller



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buildings plan to be on the design, it would make a lot more sense if it was not at the top of the hill and typography, easier for him to look at something not sitting above the trees.

Mr. Kallfelz noted someone said 4.5 and someone said don't call it 4.5, its 5 stories. Could be interpreted as so, but design standards it's a half floor.

Mr. Hansen wanted some explanation of the 5% of all the buildings, in the chart that allocated the percentages of how many certain story buildings, he would equate 5% in the largeness of the footprint meaning one building.

Mr. Feronti explained because it is a framework and somewhat of a formulation, nothing that says this is the total number of buildings, we try to use existing development as a baseline. Look at a number of buildings over 58 acres, let's assume there is 50 buildings across that 58 acreage, 5% of that building type will be 5 stories. Of that 5%, using test fit you can dictate the number of commercial footage and units, it is hard to answer due to the different ways that a 5 story building can be made up. Hotels are considered commercial footage. It's a formula for guidance and explanation at how these parameters were established in the proposed bylaw.

Ms. Waygan agrees with a lot of the comments said with height. She has trouble with whatever it is being called, 4/4.5 stories, she is having trouble supporting something like that. By way of background, the LCP certified today, the main mechanism for growth management was lot size, 40,000 sq. ft. and 80,000 sq. ft. was set to control growth. If we take that mechanism away we have to replace it. We have a mechanism, open space incentive development bylaw that talks about transfer of development rights. If you want density and height you have to give us open space. The open space, she wouldn't support a bylaw with 20% and the way that is used as buffers. She needs something significant off of the open space incentive development plan, maps where the Town has already approved these. She doesn't want to see buffers and strips of green, open space incentive development plan, that's what the Town approved. She is concerned that parking is going to limit square footage. Parking can be waived. Parking garages can go up. She doesn't want to see the ultimate check and balance she wants to see codified limits including height and feet. Come up with your range, but absolute height and feet and there needs to be something about elevator shafts and any mechanicals that go above. This plan needs to be overlaid on a topo map. In the packet she had 10 questions, eventually would like them all answered. In her packet there were some diagrams missing from the presentation of lot coverage that didn't copy over. Just make sure the one of the site gets uploaded correctly.

Mr. Fulone did submit 18 questions including Ms. Waygans.

## **Discussion regarding next steps of the Mashpee Commons Development Agreement Local Review Process and Proposed Community Activity Center Overlay District deliberations**

Mr. Lehrer posed the question of where do we go from here? In consideration that the Board has agreed, Mashpee Commons has offered to suspend until they are further along with Development Agreement process with CCC. At a staff level, he is nearly complete with his buildout. Looking at each zoning districts at current zoning and developing a rough calculation of what remains to develop, what could be provided in current, and what remains to be developed in current zoning. He is suggesting



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deliberations pause, but we could get some momentum and prepare with more information with where we are and where we could go as options to consider.

Mr. Fulone notes what it would look like with current zoning has been a hot question.

Mr. Balzarini said Mashpee can't build anymore housing because there won't be enough water or infrastructure to service. Is there a set number? Will the Town get to a point where there are no toilets flushing into the sewer? There should be a limit number.

Mr. Lehrer elaborated that the Town is limited by dimensional requirements by zoning and land area. We need to make an appropriate assessment. What that means in current zoning and future needs of residents. All things impacted by way of development. Impact related questions that are a part of the process to be able to decide if this is feasible.

Ms. Waygan noted the LCP has a target population of 15,000. We are at currently at 14,100. There is something that limits that.

Mr. Lehrer stated the buildout projection is not a limiting factor. Limiting factor and buildout projections are zoning bylaws the Town approves.

Mr. Lehrer wants to have this ready for September, with the hope of something produced sooner.

## **TOWN PLANNER REPORT**

### **Local Comprehensive Plan RFP Update**

Submitted Boards recommendation to Town Manager. He offered up cost proposals. W+S was 20-30K LESS and within 150k allocation. An award was being offered to Sampson for them to sign. Mr. Lehrer has notified them of the scoring and the decision.

## **BOARD MEMBER COMMITTEE REPORTS**

### **Cape Cod Commission-**

### **Community Preservation Committee-**

### **Design Review-**

No Report

Already up to date

Meeting the 20<sup>th</sup> 2 projects: 131 industrial drive

preventative maintenance moving 129-131

requested to move sign down the street.

44 Falmouth Rd. proposed Wendy's, they

requested renovation to change 70 sq. ft. design

approved that, plan may have an issue.

Reviewed Wendy's and industrial drive. (Any

modification would have to be presented to ZBA)

Plan submitted included modifications. Conditional

if submitted plans consistent with 1996 approval.

Recommend approval with conditions but have to

appear before ZBA if they proceed. May be

modifying site plan.

### **Plan Review-**





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131 industrial drive auto shop operating with number of issues operating without permits. Recommendation was meet with fire, BOH, building dept., find a pathway to rectify and come back to plan review. No action.

**Environmental Oversight Committee-**  
**Historic District Commission-**  
**Military Civilian Advisory Council-**

No Meeting  
No Meeting  
No Meeting

## ADJOURNMENT

In closing, Chairman Fulone wants to ask that there is respect amongst one another. Civility and kindness as well as respect amongst one another is requested. Anyone attending please listen and learn. We are all trying to do what is best, we may not all agree, but we need to remain respectful and courteous of one another.

## MOTION:

**Mr. Balzarini made a motion to adjourn the meeting at 7:13p.m. Mr. Phelan seconded. All in favor.**

The meeting ended at 7:13PM.

**Next Meeting:** August 04, 2021 6:00PM

## CORRESPONDENCE

- Town of Barnstable Notices
- Town of Falmouth Notices
- Waterways Application – Joyece - 78 Popponeset Island Rd.
- Waterways Application – Caffyn – 10 Popponeset Island Rd.
- Waterways Application – The Popponeset Island Realty Trust – 134 Popponeset Island Rd.
- Waterways Application – Blythe – 228 Wading Place Rd.
- Waterways Application – Sahl – 351 Monomoscoy Rd.
- May 2021 Discharge Monitoring Report for South Cape Village – N=3.6
- April 2021 Discharge Monitoring Report for South Cape Village – N=6.3
- March 2021 Discharge Monitoring Report for South Cape Village – N=4.1

Respectfully Submitted,

Christine M. MacDonald  
Board Secretary



Kevin M. Kirrane  
Brian F. Garner  
Christopher J. Kirrane  
Jessica C. Sommer

Patricia McGauley, *of Counsel*  
Elizabeth A. McNichols, *of Counsel*  
Michael A. Dunning, *of Counsel*

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Nicole B. Norkevicius  
Christopher A. Veara

July 22, 2021

Mr. John Fulone, Chairman  
Mashpee Planning Board  
16 Great Neck Road  
Mashpee, MA 02649

Re: Special Permit Application  
Longfellow Design Build, Inc.  
9 Shellback Way

Dear Chairman Fulone:

As the record should reflect, my office represents the Applicant, Longfellow Design Build, Inc., with reference to the above-captioned property. An application for Special Permit Relief has been filed with the Board and a Public Hearing has been scheduled for Wednesday, August 4, 2021, at which it was anticipated a referral to the Cape Cod Commission would be made.

My clients have requested that the August 4<sup>th</sup> Hearing be postponed to August 18, 2021, to afford them sufficient time to complete a DRI Application, with supporting reports for submission on the Cape Cod Commission.

Thank you in anticipation of your cooperating.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'Kevin M. Kirrane', written over a horizontal line.

Kevin M. Kirrane

KMK:amb



## Robert's Rules of Order – the Basics

The purpose of “Robert's Rules of Order” includes the following:

- Ensure majority rule.
- Protect the rights of the minority, the absentees and individual members.
- Provide order, fairness and decorum.
- Facilitate the transaction of business and expedite meetings.

### Basic Principles

- All members have equal rights, privileges and obligations.
- Full and free discussion of every motion is a basic right.
- Only one question at a time may be considered, and only one person may have the floor at any one time.
- Members have a right to know what the immediately pending question is and to have it restated before a vote is taken.
- No person can speak until recognized by the chair.
- Personal remarks are always out of order.
- A majority decides a question except when basic rights of members are involved.
- A two-thirds vote is required for any motion that deprives a member of rights in any way (e.g., cutting off debate).
- The chair should always remain impartial.

### General Procedure for Handling a Motion

- A member must obtain the floor by being recognized by the chair.
- Member makes a main motion.
- A motion must be seconded by another member before it can be considered.
- If the motion is in order, the chair will restate the motion and open debate (if the motion is debatable).
- The maker of a motion has the right to speak first in debate.
- The main motion is debated along with any:
  - Subsidiary motions (e.g. “I move to amend the motion by ...”).
  - Privileged motions (e.g. “I move to postpone the motion to ...”).
  - Incidental motions (e.g. “I move to divide the question.”).
- Debate on Subsidiary, Privileged and Incidental motions (if debatable) takes precedence over debate on the main motion and must be decided before debate on the main motion can continue.
- Debate is closed when:
  - Discussion has ended, or
  - A two-thirds vote closes debate (“Call the question”).
- The chair restates the motion, and if necessary clarifies the consequences of affirmative and negative votes.
- The chair calls for a vote by asking:
  - “All in favor?”
    - Those in favor say “Aye”.
  - Then asking “All opposed?”
    - Those opposed will say “No”.

- And finally asking “All abstained?”
  - Those abstaining will say “Aye”.
- The chair announces the result.

### **General Rules of Debate**

- **No members may speak until recognized by the chair.**
- **All discussion must be relevant to the immediately pending question.**
- **No member may speak more than twice to each debatable motion.**
  - **The second time takes place after each member wishing to debate the motion has had an opportunity to speak once.**
- **No member may speak for more than three minutes.**
- **It is not permissible to speak against one’s own motion (but one can vote against one's own motion).**
- **Debate must address issues not personalities – no one is permitted to make personal attacks or question the motives of other speakers.**
- **When possible, the chair should let the floor alternate between those speaking in support and those speaking in opposition to the motion.**
- **Members may not disrupt the assembly.**
- **Rules of debate can be changed by a two-thirds vote.**

### **Robert’s Rules Help Get Things Done!**

- **Make Motions – that are in order.**
- **Obtain the Floor – properly.**
- **Speak – clearly and concisely.**
- **Obey – the rules of debate.**
- **And most of all, be courteous! That’s always in order.**



## Memorandum

To: Cape Cod Commission  
3225 Main Street  
Barnstable, Massachusetts 02630

Date: January 19, 2021

Project #: 15155.00

From: Randall C. Hart, Principal

Re: Mashpee Commons Expansion – Pre-submittal Memorandum  
Mashpee, Massachusetts

Matt Kealey, PE, PTOE  
Senior Project Manager

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### Introduction

VHB is preparing traffic analyses as part of a Development Agreement approach for the expansion of Mashpee Commons, located along Route 28 and Route 151 in Mashpee, Massachusetts. The overall expansion, beyond that which is already entitled, is approximately 180,500 SF of commercial space and approximately 1,100 residential units. Both the commercial and residential numbers are referenced as approximate because they may change slightly as development proceeds. In addition, approximately 135,000 sf of commercial space and approximately 405 residential units will be developed on site, which has already been entitled as part of previous permitting for the site. Conceptual Site plans of the existing and proposed full build-out of Mashpee Commons are included in the Attachments to this memorandum.

Prior to the formal submittal process, VHB would like to request that the Cape Cod Commission (CCC) provide review and comment on key components associated with the preparation of a Traffic Impact and Access Study (TIAS) for the Project. The components include Project trip generation, Project trip distribution, definition of study area intersections, traffic volumes to be used for base conditions, safety evaluation, and the general approach to mitigation, given the number of infrastructure projects that are already proposed in this area by others. The following text represents our analysis of each of the TIAS components described above.

### Project Trip Generation

The rate at which any development generates traffic is dependent upon a number of factors such as size, location, and concentration of surrounding developments. The number of vehicle-trips to be generated by the proposed project was estimated based on trip generation rates provided in the Trip Generation Manual<sup>1</sup>, published by the Institute of Transportation Engineers (ITE). The Project involves the construction of an approximately 180,500 sf of commercial space and approximately 1,100 residential units in several neighborhood of the Mashpee Commons site. In addition, some additional development will occur on site and is already entitled, this includes approximately 135,000 sf of commercial space and approximately 405 residential units. Some of the commercial space for the expansion is anticipated to be a "campus type" of uses such as a church and potentially a museum and therefore assumptions regarding the potential portion of the commercial space such uses occupy have been made as detailed below. Projections for the entitled space will be necessary to assess future traffic conditions, the entitled traffic volumes will be recognized in the No-Build condition as that program has already been approved for development.

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<sup>1</sup> Trip Generation Manual (10<sup>th</sup> Edition), Institute of Transportation Engineers, Washington D.C., 2017.

101 Walnut Street  
PO Box 9151  
Watertown, MA 02472-4026  
P 617.924.1770

## Land Use Codes

The following ITE land use codes (LUCs) have been used to estimate the gross trips that the proposed development will generate: LUC 220 (Multi-Family Low-Rise Residential), LUC 560 (Church), LUC 580 (Museum), LUC 710 (General Office Building), and LUC 820 (Shopping Center). For trip generation purposes, it was assumed that all of the residential development to be built will consist of low-rise (1-2 story) residential units and the proposed commercial development to be built will be divided as approximately 30-percent retail, 55-percent office, 7.5-percent church, and 7.5-percent museum. This is based on information from the client and the proposed distribution of commercial square footage throughout the different neighborhoods on-Site.

It should be noted that for the unbuilt entitled building program, it is assumed that all of the residential development would consist of low-rise residential units and all of the commercial development would consist of retail. Therefore, due to the shift in commercial from all retail under the entitled program to a mix of retail, office, church, and museum under the current building program, the current building program will contain less retail than the entitled program.

## Shared Trips

Because the Project proposes a mix of uses, the trip generation characteristics of the Site will be different from a single-use project. Some of the traffic to be generated by the Project will be contained on Site as "internal" or "shared vehicle" trips. This concept means that some patrons could visit more than one of the uses on the site. For example, workers at the office space on Site may patron the retail shops/restaurants during or after work hours. While these shared trips represent new traffic to the individual uses, they would not show up as new vehicle trips on the surrounding roadway network. To account for shared trips between the proposed uses, the shared trip methodology outlined in the ITE Trip Generation Handbook, 3<sup>rd</sup> Edition<sup>2</sup> was applied. The shared trip calculations are included in the Attachments.

It is important to note that the shared trip methodology used in the trip generation projections accounts for trips between the future residential traffic and the existing commercial development in this area. Because the proposed project is primarily residential in nature, it is likely that a significant portion of the future residential traffic will remain contained within the study area given the amount of existing commercial space located in close proximity. The majority of the goods and services that generate traffic from residential areas are provided at Mashpee Commons and other existing commercial developments in the immediate area. As such, the ITE projections and shared trip calculations for just the unbuilt portion of the Site likely understate the amount of future traffic that will remain contained within the Mashpee Commons development pods, or immediate vicinity. With this in mind, VHB will continue to work with the CCC to refine the trip generation calculations to achieve consensus on projections that represent the unique nature of this development and its interaction with the existing developments in the area.

## Pass-By Trips

Not all the trips generated by the Project will be new traffic that is added to the study area intersections and roadways. Retail uses typically attract a significant percentage of their traffic from the traffic streams passing the Site, particularly during peak periods. These trips, which are considered pass-by trips, are already on the roadway system traveling to and from locations other than the Site (such as home, work or other shopping destinations).

Pass-by trips are attracted to the Site as they pass through the area. The rate at which pass-by trips are attracted to a Site is highly dependent on the type of land use at that Site, the proximity of the Site to major traffic corridors, and the

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<sup>2</sup> *Trip Generation Handbook, 3<sup>rd</sup> Edition*, Institute of Transportation Engineers, Washington, D.C., 2017.

location and type of nearby land uses. ITE data shows pass-by rates for shopping centers of 34-percent during the weekday evening peak hour and 26-percent during the Saturday midday peak hour. Pass-by rates were assumed to be 25-percent for peak hours in which no data was available.

### **Project-Generated Trips**

Table 1 summarizes the Project-related trip projections. It should be noted that the proposed trips summarized in Table 1 represent the additional new trips proposed to be generated by the Site beyond the existing building program and the remaining of the entitled building program. In other words, it represents the change in vehicle trips between the full build of the Site under the entitled building program and the currently proposed full build of the Site. The trips associated with the existing building program and the remaining entitled building program will be included in the Existing and No Build Conditions, respectively. In addition, the trips presented in Table 1 represent the total of all land uses.

A breakdown of the Project-generated trips by land use and a summary of the proposed vehicle trips to be generated by the entitled building program are included in the Attachments to this memorandum.



**Table 1 Trip Generation Summary**

**Total New Development (Change in Trips from the Entitled Program) <sup>a</sup>**

Time Period	Direction	Gross Trips <sup>b</sup>	Shared Trips <sup>c</sup>	Pass-By Trips <sup>d</sup>	Net New Trips
Weekday Daily	Enter	4,311	870	(239)	3,680
	Exit	<u>4,311</u>	<u>738</u>	<u>(239)</u>	<u>3,812</u>
	Total	8,622	1,608	(478)	7,492
Weekday Morning Peak Hour	Enter	331	36	(15)	310
	Exit	<u>354</u>	<u>36</u>	<u>(15)</u>	<u>333</u>
	Total	685	72	(30)	643
Weekday Evening Peak Hour	Enter	400	232	(39)	207
	Exit	<u>433</u>	<u>161</u>	<u>(39)</u>	<u>311</u>
	Total	833	393	(78)	518
Saturday Daily	Enter	3,669	1,211	(330)	2,788
	Exit	<u>3,669</u>	<u>989</u>	<u>(330)</u>	<u>3,010</u>
	Total	7,338	2,200	(660)	5,798
Saturday Midday Peak Hour	Enter	379	255	(34)	158
	Exit	<u>360</u>	<u>156</u>	<u>(34)</u>	<u>238</u>
	Total	739	411	(68)	396

- a Based-on difference between the current full-build of the Site and the full-build of the Site under the Entitled building program (change of approximately 180,000 sf of commercial space and approximately 1,100 residential units).
- b Based on ITE LUC 220 (Multi-Family Low-Rise Residential), LUC 560 (Church), LUC 580 (Museum), LUC 710 (General Office Building), and LUC 820 (Shopping Center).
- c Internal capture rates based on entire building program (existing and proposed uses).
- d Pass-By rates applied to retail trip generation based on ITE Trip Generation Handbook. Pass-by rates are represented as negative numbers due to change between the entitled building program and the currently proposed building program (net reduction in retail).

As shown in Table 1, the proposed project is expected to result in a net total of 7,492 new trips (3,680 entering/3,812 exiting) on a typical weekday, with 643 new vehicle trips (310 entering/333 exiting) during the weekday morning peak hour, and 518 new vehicle trips (207 entering/311 exiting) during the weekday evening peak hour. It should be noted that the build out for the project is expected to be in the 25-year range.

Due to the unique style of the development, VHB proposes that additional trip reduction be applied to the Project-generated trips presented in Table 1. Understanding the unique nature of the development that has a significant concentration of retail, restaurant, office, and residential uses and the scale of existing and proposed facilities, the site will see a high level of "contained" activity. In other words, residents who choose to live in the various development communities will certainly take advantage of the numerous commercial opportunities without the need of getting in a car, and to encourage that, strong pedestrian/bike connections will be provided throughout. Also, for residents that

need to drive, many will be able to gain access to the commercial portions of the project without the need to drive on the regional roadway system.

The shared trip analysis described above accounts, to a small degree, for some of that activity but the type of development, significant opportunities, and all of the pedestrian/bike connections that will be available throughout make this project unique and very likely to see a much higher level of connection without the need to drive or use the regional roadway system. The shared analysis described above suggests that reductions due to internal capture could be realized for the full build of the Site of approximately 6-percent during the weekday morning peak hour and approximately 31-percent during the weekday evening and Saturday midday peak hours. We believe that this understates the level of shared activity to be realized and as a result, VHB recommends that an additional 20-percent trip reduction be applied to better reflect what is likely. The 20-percent is likely conservative, and the actual reduction may be higher.

### Trip Distribution

The directional distribution of traffic approaching and departing the Project is a function of several variables: population densities, existing travel patterns, and the efficiency of the roadways leading to the site. Given the proposed mix of uses, separate Project trip distributions were developed for the residential, office, and retail/commercial components. For the residential and office components, US Census Journey to Work data was used. For the retail and other commercial uses, existing travel patterns derived from the 2018 Traffic Counting Report and the Mashpee Rotary Study were used. Refer to the Attachments for the trip distribution calculations. The anticipated trip distributions are summarized in Table 2.

Table 2 Trip Distribution Summary

Direction (To/From)	Travel Route	Percent Trips Assigned to Route		
		Residential	Office	Retail/Commercial
North	Route 28	35%	33%	33%
North	Great Neck Road	30%	26%	15%
West	Route 151	17%	21%	19%
South	Route 28	13%	13%	21%
South	Great Neck Road	5%	7%	12%
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>

### Study Area and Traffic Volumes

As part of the preparation of a typical DRI traffic study, the trip generation projections summarized in Table 1 would be distributed over the local area network based on the travel patterns summarized in Table 2 to determine which intersections experience an increase of 25 or more peak hours trips. Each intersection meeting that criterion would be included in the study area. Using this methodology for the full build out of the project would result in an expansive study area driven by traffic volumes that may not appear on the roadway network for 20-25 years as the Project is built out. This would likely lead to unnecessary study of intersections and mitigation obligations that are not in line with the long-range plans and priorities for the CCC, the Town of Mashpee and other surrounding towns. Figures are provided in the Attachments to this memorandum that illustrate how extensive and expansive this study area would need to be.

Given the unique nature of this project and the phased build out of the Project over the next 20-25 years, VHB suggests taking an alternate approach to establishing the study area for the Project. VHB suggests that the initial traffic evaluation focus on the key locations in close proximity to the Site that have undergone recent study, locations that will be most impacted by the initial phase of the Project, and locations that are high priority for the Town of Mashpee/CCC to implement improvements in the near future. As part of the initial phase of the Project, the Proponent will commit to a comprehensive traffic monitoring program to evaluate traffic volume increases related to the Project at regular intervals. Informed by the results of the traffic monitoring program, the extent of the site-generated traffic increases can be identified, and the limits of the study area can be reassessed for the analysis of future development phases. In essence, as part of the Development Agreement, a "phased study area" would be established and transportation analysis can be focused where it is needed as the site is built out.

Using this approach, the study area for the initial phase of the Project would include 17 intersections, which are listed below in Table 3. The table also includes an inventory of existing turning movement counts that have been conducted at the study area intersections and the most recent date of traffic data available, if applicable. A figure of the proposed study area is provided in the Attachments to this memorandum.

**Table 3 Study Area Intersections**

#	Intersection	AM Count Date	PM Count Date	Included in Study Area for Rotary Corridor Study
1.	Route 28 at Charles Street / Shellback Way	n/a	2018 – October <sup>1</sup>	X
2.	Route 28 at Donna’s Lane / Job’s Fishing Road	n/a	2018 – June <sup>1</sup>	X
3.	Route 28 at Steeple Street	n/a	2018 – June <sup>1</sup>	X
4.	Route 28 at Bank Street (Mashpee Com. N Dwy)	n/a	2018 – June <sup>1</sup>	X
5.	Route 28 at Quinaquisset Avenue	n/a	n/a	X
6.	Route 28 at Meetinghouse Road	n/a	2018 – August <sup>1</sup>	X
7.	Route 28 at Orchard Road / Asher’s Path East	n/a	2016 – August <sup>2</sup>	
8.	Route 151 at Old Barnstable Road	2017 – October <sup>2</sup>	2017 – October <sup>2</sup>	
9.	Route 151 at Job’s-Fishing Road	2015 – August <sup>2</sup>	2018 – June <sup>1</sup>	X
10.	Route 151 at Mashpee Commons Right-In Dwy	n/a	n/a	X
11.	Route 151 at Market Street	2014 – June <sup>2</sup>	2018 – August <sup>1</sup>	X
12.	Great Neck Road North at Old Barnstable Road	2009 – June <sup>2</sup>	2018 – June <sup>1</sup>	X
13.	Great Neck Road North at Bates Road	n/a	n/a	X
14.	Great Neck Road South at Donna’s Lane	2018 – October <sup>2</sup>	2018 – June <sup>1</sup>	X
15.	Job’s-Fishing Road at Steeple Street	n/a	n/a	
16.	Job’s-Fishing Road at Market Street	n/a	n/a	
17.	Mashpee Rotary	2018 – July <sup>3</sup>	2018 – July <sup>3</sup>	X

Note: Saturday Midday TMCs are not available at any of the study area intersections.

1 – Turning Movement Counts included in the Mashpee Rotary Corridor Study (CCC, June 2020).

2 – Turning Movement Counts included in the 2018 CCC Traffic Counting Report.

3 – Counts at Mashpee Rotary consists of ATRs on each approach leg (from Mashpee Rotary Corridor Study).

As shown in Table 3, 13 of the proposed 17 study area intersections were included in the study area for the Mashpee Rotary Corridor Study released by the Cape Cod Commission in June 2020. In addition, recent turning movement data is available during the weekday morning peak hour at 6 of the 17 study area intersections and during the weekday evening peak hour at 12 of the 17 study area intersections. It should be noted that existing TMCs during the Saturday midday peak hour are not available at any of the study area intersections. New traffic data will need to be collected for time periods where existing data is not available.

Traffic counts to be used in the TIAS for the proposed project will be gathered from other studies recently completed in the area, the Cape Cod 2018 Traffic Counting Report, and through new counts that may be conducted at study area intersections. Comparison of traffic count data with historic seasonal data available from the Cape Cod Commission 2018 Traffic Counting Report indicated that peak season conditions on Cape Cod are in the summer months during July and August. Therefore, all traffic counts not collected during the months of July and August will be adjusted based on the seasonal adjustment factors included in the 2018 Traffic Counting Report to represent peak season conditions. The CCC Seasonal Adjustment Factors are provided in the Attachments.

## Analysis Periods

Based on the existing traffic patterns within the study area and the trip generation characteristics of the proposed development, VHB proposes to conduct traffic capacity analyses during the following time periods: the weekday evening peak hour (4-6PM) and during the Saturday midday peak period (11-2PM) for both peak summer and average month conditions.

## Background Traffic Conditions

### Historic Growth

VHB conducted research to determine the historic growth rate for traffic in this area as well as other planned developments that may affect traffic within the study area for the proposed project. Based on information contained in the Cape Cod 2018 Traffic Counting Report, traffic has increased at a rate of 0.44-percent per year Cape-wide over the ten-year period from 2008 to 2018. The Town of Mashpee is considered to be part of the Upper-Cape region, in which traffic increased at a rate of 0.54-percent per year between 2008 and 2018. Accordingly, a background growth rate of 0.54-percent per year will be applied to all historic counts to reflect 2021 existing conditions and 2028 future conditions as part of the TIAS. The historic growth data provided in the Cape Cod 2018 Traffic Counting Report is contained in the Attachments.

### Site-Specific Growth

In addition to the historic traffic growth, VHB will coordinate with the Town of Mashpee and the CCC to identify any other development projects planned within the vicinity of the site that may have an impact on future traffic operations.

- *VHB has call into the town to get list of projects, will add as soon as they respond but this doesn't have to hold up a submission, we can supplement later if we continue to have a hard time getting response from Town.*

### Future Roadway Conditions

Another factor affecting background traffic conditions is the implementation of roadway improvements in the area. After discussions with the CCC, the following roadway improvement projects were identified:

- **Mashpee Rotary and Route 28 Corridor Improvements:** This project is currently in the preliminary design phase and is included as part of the 2021-2025 State Transportation Improvement Program. This project will include retrofit improvements to the Mashpee Rotary by keeping the original design of the rotary but upgrading the layout with better defined traffic lanes and signage. In addition, side paths will be added for pedestrians and bicyclists.
- **Route 151 Corridor Improvements:** This project is currently in the 100% design phase and is included as part of the 2021-2025 State Transportation Improvement Program. This project includes the Route 151 corridor from the Mashpee Rotary to the Falmouth Town Line and will consist of intersection improvements, traffic signal upgrades, pedestrian and bicycle accommodations, as well as upgrades to signage, pavement markings, and drainage.

## Safety Evaluation

The following studies have recently been conducted in the vicinity of the Site to evaluate safety conditions and provide proposed recommendations to improve safety operations:

- Mashpee Rotary Corridor Study; Cape Cod Commission; June 2020
- Road Safety Audit – Mashpee Rotary; Cape Cod Commission; August 2019
- Road Safety Audit – Route 151 at Ninigret Avenue, Algonquin Avenue, and Job’s Fishing Road / Frank E Hicks Drive; Cape Cod Commission; May 2018
- Route 28 Critical Locations Bicycling Network Connectivity; Cape Cod Commission; November 2017
- Road Safety Audit – Route 151 at Old Barnstable Road; Cape Cod Commission; August 2014

Since a large amount of time and effort went into each of these studies listed above, VHB proposes to build upon the research and recommendations that were developed for each study as opposed to re-evaluating each location from scratch. For example, since each study includes several recommendations for safety improvements within the study area that have already been vetted and discussed by the CCC, the Town of Mashpee, and members of the public, VHB will consult these lists when identifying potential mitigation measures to offset the Project-generated trips before coming up with alternative mitigation measures. In addition, VHB will rely on the existing safety analyses in the reports listed above when discussing existing safety deficiencies within the study area. However, a full review of accident data for study area intersections that weren’t included in the studies listed above will be conducted in order to understand safety operations and concerns throughout the entire study area.

#### **Highway Safety Improvement Program**

In addition to calculating the crash rate, study area intersections should also be reviewed in MassDOT’s Highway Safety Improvement Program (HSIP) database. An HSIP-eligible cluster is one in which the total number of “equivalent property damage only”<sup>3</sup> crashes in the area is within the top five-percent of all clusters in that region. Being HSIP-eligible makes the location eligible for FHWA and MassDOT funds to address the identified safety issues at these locations.

As part of this effort, VHB reviewed this database and found that the following three study area intersections are listed as an HSIP-eligible cluster:

- Route 151 at Old Barnstable Road
- Route 151 at Job’s Fishing Road
- Great Neck Road North at Old Barnstable Road

It should be noted that each of these intersections were included and reviewed in one of the recently conducted safety audits or corridor reports listed above.

#### **Mitigation**

As part of the TIAS, VHB will assess potential mitigation actions that meet the Transportation Goal and Objectives of the Regional Policy Plan:

#### **Transportation Goal: To provide and promote a safe, reliable, and multi-modal transportation system.**

- Objective TR1- Improve safety and eliminate hazards for all users of Cape Cod’s transportation system

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<sup>3</sup> Equivalent property damage only” is a method of combining the number of crashes with the severity of the crashes based on a weighted scale. Crashes involving property damage only are reported at a minimal level of importance, while collisions involving personal injury (or fatalities) are weighted more heavily.

- Objective TR2- Provide and promote a balanced and efficient transportation system that includes healthy transportation options and appropriate connections for all users.
- Objective TR3-Provides an efficient and reliable transportation system that will serve the current and future needs of the region and its people

Mitigation initiatives to be developed as part of the TIAS will likely include the following:

- Based on a review of planned infrastructure projects in the area, the Proponent will work with the CCC to determine what planned roadway improvement projects are likely to move forward and could be facilitated as part of phased Project development.
- Based on the review of existing pedestrian and bicycle amenities in the study area, identify areas where missing connections can be made and where new bicycle/pedestrian infrastructure opportunities could be considered to improve multi-modal mobility in the area.
- Conduct a thorough review of existing area and site Transportation Demand Management initiatives and develop ways to build on what is in place, including transit links and stops
- Review "development neighborhood" buildouts (unentitled) to determine potential triggers for phased mitigation requirements; A traffic generation threshold structure will be developed to allow flexibility with the development program.
- Review access requirements at site driveways and new roadways that will be created. Determine development requirements for short- and long-term improvements that may be necessary for access and circulation.
- Conducted a detailed traffic monitoring program at key locations within the study area throughout the Project's phased build out to provide a comparison between projected future volumes and actual future volumes. Implementation of this program could involve working with the CCC to explore the potential benefits of installing permanent counting equipment within the study area, which would facilitate traffic monitoring to identify infrastructure needs as the project is built out.

## Conclusion

Based on the critical elements outlined in this document, we respectfully request that the CCC review the inputs and methodology outlined prior to commencement of the Traffic Impact and Access Study. We are happy to provide any additional information that may be required to assist in your review of this material.



# Attachments

- Conceptual Site Plans
- Trip Generation Calculations
  - › Entitled Building Program Trip Generation Summary
  - › Trip Generation Summary by Land Use
  - › ITE Worksheets
  - › Shared Trip Calculations
- Trip Distribution Calculations
- Study Area Intersection Figures
  - › Unphased Study Area
  - › Initial Phase Study Area
- Seasonal Adjustment Factors
- Historical Traffic Growth





QUASHNET  
VALLEY

QUASHNET  
VALLEY

1900

1900

QUASHNET  
VALLEY

1900



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**Trip Generation Calculations**

**Entitled Building Program Trip Generation Summary**

### TRIP GENERATION SUMMARY - ENTITLED PROGRAM (YET TO BE BUILT)

Size	ENTITLED BUILDING PROGRAM										Net New		
	Residential <sup>1</sup>					Retail <sup>2</sup>					Total New Gross Trips	Total Shared Trips	Total Net Vehicle Trips
	405 units	Internal Capture <sup>3</sup>	Vehicle Trips	Gross Trips	sf	Internal Capture <sup>3</sup>	Vehicle Trips	Pass-By <sup>4</sup> Trips	Net Vehicle Trips				
Weekday Daily	Enter	1,510	499	1,011	3,679	229	3,450	866	2,584	5,189	728	866	3,595
	Exit	1,510	574	936	3,679	199	3,480	866	2,614	5,189	773	866	3,550
	Total	3,021	1,073	1,947	7,357	428	6,930	1,732	5,198	10,378	1,501	1,732	7,145
Weekday Morning Peak Hour	Enter	59	1	58	242	1	241	56	185	301	1	56	243
	Exit	152	2	150	206	0	206	56	150	359	2	56	300
	Total	211	2	208	449	1	447	112	335	660	3	112	543
Weekday Evening Peak Hour	Enter	159	73	86	349	18	331	111	220	508	91	111	306
	Exit	110	46	64	349	29	320	111	209	460	75	111	273
	Total	269	119	150	699	47	651	222	429	968	166	222	579
Saturday Daily	Enter	1,648	544	1,104	5,357	257	5,100	1,279	3,821	7,005	801	1,279	4,925
	Exit	1,648	626	1,022	5,357	224	5,133	1,279	3,854	7,005	850	1,279	4,876
	Total	3,297	1,170	2,126	10,714	481	10,233	2,558	7,675	14,011	1,651	2,558	9,801
Saturday Midday Peak Hour	Enter	142	65	77	407	22	385	96	289	549	87	96	366
	Exit	142	60	82	376	24	352	96	256	517	84	96	338
	Total	284	125	159	783	46	737	192	545	1,066	171	192	704

<sup>1</sup> Trip generation estimate based on ITE LUC 220 (Multi-Family Low-Rise Residential), using regression equations for weekday and average rates for Saturday.

<sup>2</sup> Trip generation estimate based on ITE LUC 820 (Shopping Center), using regression equations.

<sup>3</sup> Internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates

<sup>4</sup> Pass-By rates applied to retail trip generation based on ITE Trip Generation Handbook pass-by rates for LUC 820. Default rate of 25-percent applied to time periods where specific data is not supplied.



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**Trip Generation Calculations**

**Trip Generation Summary By Land Use**

## TRIP GENERATION SUMMARY (BY LAND USE)

NEW PROGRAM TO BE BUILT (INCLUDING ENTITLED SQUARE FOOTAGE)																			
Size	Residential <sup>1</sup>				Retail <sup>2</sup>				Office <sup>3</sup>			Church <sup>4</sup>		Museum <sup>5</sup>		Total			
	Gross Trips	Internal Capture <sup>6</sup>	Vehicle Trips	Net Trips	Gross Trips	Internal Capture <sup>6</sup>	Vehicle Trips	Net Trips	Gross Trips	Internal Capture <sup>6</sup>	Vehicle Trips	Gross Trips	Internal Capture <sup>8</sup>	Vehicle Trips	Tot Gross Trips	Tot Net Trips	Tot Share		
<b>1,494 units</b>	5,627	1,085	4,542	2,851	323	2,528	627	1,901	900	139	761	87	36	51	35	14	21	9,500	1.5
<b>Exit</b>	5,627	874	4,753	2,851	362	2,489	627	1,862	900	221	679	87	39	48	35	15	20	9,500	1.5
<b>Total</b>	11,254	1,959	9,295	5,702	685	5,017	1,254	3,763	1,801	360	1,440	174	74	99	70	30	41	19,000	3.1
<b>Weekday Morning Peak Hour</b>																			
Enter	202	5	197	180	4	176	41	135	236	18	218	9	7	2	6	4	2	632	
Exit	519	15	504	153	4	149	41	108	32	14	18	7	4	3	1	1	-	713	
<b>Total</b>	721	20	701	333	8	325	82	243	268	32	236	16	11	5	7	5	2	1,345	
<b>Weekday Evening Peak Hour</b>																			
Enter	583	248	335	267	39	228	72	156	46	31	15	12	5	7	1	0	1	908	3
Exit	405	110	295	267	74	193	72	121	209	47	162	8	3	5	4	2	2	892	2
<b>Total</b>	987	358	630	534	113	421	144	277	255	78	177	20	8	12	5	2	3	1,801	5
<b>Saturday Daily</b>																			
Enter	6,081	1,506	4,575	4,246	409	3,837	949	2,888	191	34	157	75	30	45	83	34	49	10,675	2.0
Exit	6,081	1,229	4,852	4,246	489	3,757	949	2,808	191	52	139	75	33	42	83	36	47	10,675	1.8
<b>Total</b>	12,161	2,735	9,427	8,492	898	7,594	1,898	5,696	381	86	296	150	63	87	165	70	96	21,349	3.8
<b>Saturday Midday Peak Hour</b>																			
Enter	523	250	273	303	34	269	62	207	49	38	11	41	15	26	12	5	7	928	3
Exit	523	139	384	279	71	208	62	146	42	13	29	28	14	14	5	3	2	878	2
<b>Total</b>	1,046	389	657	582	105	477	124	353	91	51	40	70	30	40	17	7	9	1,805	5

1 Trip generation estimate based on ITE LUC 220 (Multi-Family Low-Rise Residential), using regression equations for weekday and average rates for Saturday  
 2 Trip generation estimate based on ITE LUC 820 (Shopping Center), using regression equations  
 3 Trip generation estimate based on ITE LUC 710 (Office), using regression equations for weekday and average rates for Saturday  
 4 Trip generation estimate based on ITE LUC 560 (Church), using average rates  
 5 Trip generation estimate based on ITE LUC 580 (Museum), using average rates  
 6 Internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Internal capture includes Existing square footage  
 7 Pass-By rates applied to retail trip generation based on ITE Trip Generation Handbook pass-by rates for LUC 820. Default rate of 25-percent applied to time periods where specific data is not supplied  
 8 Internal capture rates for Church and Museum uses assumed to follow the same characteristics as retail internal capture rates





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**Trip Generation Calculations**

ITE Worksheets

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**ENTITLED PROGRAM YET TO BE BUILT**

**LANDUSE:** Multi-Family Housing (Low-Rise - 1-2 Story)  
**LANDUSE CODE:** 220 Independent Variable --- Number of Units  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** Mashpee Common  
**JOB NUMBER:** 15155.00 405 units

**WEEKDAY**

**RATES:**

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	29	0.96	7.32	4.45	10.97	168	5	590	50%	50%
AM PEAK OF GENERATOR	36	0.91	0.56	0.34	0.97	161	5	495	28%	72%
PM PEAK OF GENERATOR	35	0.94	0.67	0.41	1.25	146	5	495	59%	41%
AM PEAK (ADJACENT ST)	42	0.90	0.46	0.18	0.74	199	5	650	23%	77%
PM PEAK (ADJACENT ST)	50	0.86	0.56	0.18	1.25	187	5	650	63%	37%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	2,965	1,482	1,482	3,021	1,510	1,510
AM PEAK OF GENERATOR	227	64	163	211	59	152
PM PEAK OF GENERATOR	271	160	111	269	159	110
AM PEAK (ADJACENT ST)	186	43	143	180	41	139
PM PEAK (ADJACENT ST)	227	143	84	205	129	76

**SATURDAY**

**RATES:**

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	0.93	8.14	3.36	11.40	89	48	148	50%	50%
PEAK OF GENERATOR	5	0.92	0.70	0.41	0.93	89	48	148	N/A	N/A

**TRIPS:**

	BY AVERAGE			BY REGRESSION			Caution - Small . Caution - Small .
	Total	Enter	Exit	Total	Enter	Exit	
DAILY	3,297	1,648	1,648	5,152	2,576	2,576	
PEAK OF GENERATOR	284	N/A	N/A	404	N/A	N/A	

**SUNDAY**

**RATES:**

	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	0.96	6.28	2.61	8.22	89	48	148	50%	50%
PEAK OF GENERATOR	5	0.93	0.67	0.36	0.93	89	48	148	N/A	N/A

**TRIPS:**

	BY AVERAGE			BY REGRESSION			Caution - Small . Caution - Small .
	Total	Enter	Exit	Total	Enter	Exit	
DAILY	2,543	1,272	1,272	3,761	1,880	1,880	
PEAK OF GENERATOR	271	N/A	N/A	413	N/A	N/A	

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**ENTITLED PROGRAM YET TO BE BUILT**

**LANDUSE:** Shopping Center  
**LANDUSE CODE:** 820  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** Mashpee Common  
**JOB NUMBER:** 15155.00

Independent Variable — Square Feet

**FLOOR AREA (KSF):** 134.579

**WEEKDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	147	0.76	37.75	7.42	207.98	453	9	1,510	50%	50%
AM PEAK OF GENERATOR	47	0.71	3.00	0.70	23.74	323	8	1,320	54%	46%
PM PEAK OF GENERATOR	53	0.76	4.21	0.78	27.27	298	7	1,320	50%	50%
AM PEAK (ADJACENT ST)	84	0.90	0.94	0.18	23.74	351	9	1,510	62%	38%
PM PEAK (ADJACENT ST)	261	0.82	3.81	0.74	18.69	327	2	2,200	48%	52%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	5,080	2,540	2,540	7,357	3,679	3,679
	AM PEAK OF GENERATOR	404	218	186	449	242	206
	PM PEAK OF GENERATOR	567	283	283	699	349	349
	AM PEAK (ADJACENT ST)	127	78	48	219	136	83
	PM PEAK (ADJACENT ST)	513	246	267	677	325	352

**SATURDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	58	0.71	46.12	13.07	167.89	602	56	1,510	50%	50%
PEAK OF GENERATOR	119	0.87	4.50	1.42	15.10	416	4	1,510	52%	48%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	6,207	3,103	3,103	10,714	5,357	5,357
	PEAK OF GENERATOR	606	315	291	783	407	376

**SUNDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	30	-	21.10	4.15	148.15	509	47	1,510	50%	50%
PEAK OF GENERATOR	24	-	2.79	0.39	12.40	382	47	1,268	49%	51%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	2,840	1,420	1,420	N/A	N/A	N/A
	PEAK OF GENERATOR	375	184	191	N/A	N/A	N/A

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**PROPOSED TOTAL NEW DEVELOPMENT**

LANDUSE: Multi-Family Housing (Low-Rise - 1-2 Story)  
 LANDUSE CODE: 220 Independent Variable — Number of Units  
 SETTING/LOCATION: General Urban/Suburban  
 JOB NAME: Mashpee Common 1494 units  
 JOB NUMBER: 15155.00

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	29	0.96	7.32	4.45	10.97	168	5	590	50%	50%
AM PEAK OF GENERATOR	36	0.91	0.56	0.34	0.97	161	5	495	28%	72%
PM PEAK OF GENERATOR	35	0.94	0.67	0.41	1.25	146	5	495	59%	41%
AM PEAK (ADJACENT ST)	42	0.90	0.46	0.18	0.74	199	5	650	23%	77%
PM PEAK (ADJACENT ST)	50	0.86	0.56	0.18	1.25	187	5	650	63%	37%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	10,936	5,468	5,468	11,254	5,627	5,627
AM PEAK OF GENERATOR	837	234	602	721	202	519
PM PEAK OF GENERATOR	1,001	591	410	987	583	405
AM PEAK (ADJACENT ST)	687	158	529	623	143	479
PM PEAK (ADJACENT ST)	837	527	310	655	413	242

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	0.93	8.14	3.36	11.40	89	48	148	50%	50%
PEAK OF GENERATOR	5	0.92	0.70	0.41	0.93	89	48	148	N/A	N/A

TRIPS:

	BY AVERAGE			BY REGRESSION			Caution - Small
	Total	Enter	Exit	Total	Enter	Exit	
DAILY	12,161	6,081	6,081	20,409	10,205	10,205	Caution - Small
PEAK OF GENERATOR	1,046	N/A	N/A	1,580	N/A	N/A	Caution - Small

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	0.96	6.28	2.61	8.22	89	48	148	50%	50%
PEAK OF GENERATOR	5	0.93	0.67	0.36	0.93	89	48	148	N/A	N/A

TRIPS:

	BY AVERAGE			BY REGRESSION			Caution - Small
	Total	Enter	Exit	Total	Enter	Exit	
DAILY	9,382	4,691	4,691	14,792	7,396	7,396	Caution - Small
PEAK OF GENERATOR	1,001	N/A	N/A	1,633	N/A	N/A	Caution - Small

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**PROPOSED TOTAL NEW DEVELOPMENT**

LANDUSE: Shopping Center  
 LANDUSE CODE: 820  
 SETTING/LOCATION: General Urban/Suburban  
 JOB NAME: Mashpee Common  
 JOB NUMBER: 15155.00

Independent Variable --- Square Feet

FLOOR AREA (KSF): 92,500

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	147	0.76	37.75	7.42	207.98	453	9	1,510	50%	50%
AM PEAK OF GENERATOR	47	0.71	3.00	0.70	23.74	323	8	1,320	54%	46%
PM PEAK OF GENERATOR	53	0.76	4.21	0.78	27.27	298	7	1,320	50%	50%
AM PEAK (ADJACENT ST)	84	0.90	0.94	0.18	23.74	351	9	1,510	62%	38%
PM PEAK (ADJACENT ST)	261	0.82	3.81	0.74	18.69	327	2	2,200	48%	52%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	3,492	1,746	1,746	5,702	2,851	2,851
AM PEAK OF GENERATOR	278	150	128	333	180	153
PM PEAK OF GENERATOR	389	195	195	534	267	267
AM PEAK (ADJACENT ST)	87	54	33	198	123	75
PM PEAK (ADJACENT ST)	352	165	183	513	245	267

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	58	0.71	46.12	13.07	167.89	602	56	1,510	50%	50%
PEAK OF GENERATOR	119	0.87	4.50	1.42	15.10	416	4	1,510	52%	48%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	4,266	2,133	2,133	8,492	4,246	4,246
PEAK OF GENERATOR	416	216	200	582	303	279

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	30	-	21.10	4.15	148.15	509	47	1,510	50%	50%
PEAK OF GENERATOR	24	-	2.79	0.39	12.40	382	47	1,268	49%	51%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	1,952	976	976	N/A	N/A	N/A
PEAK OF GENERATOR	258	126	132	N/A	N/A	N/A

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**PROPOSED TOTAL NEW DEVELOPMENT**

**LANDUSE:** General Office Building  
**LANDUSE CODE:** 710  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** Mashpee Common  
**JOB NUMBER:** 15155.00

Independent Variable --- Square Feet

**FLOOR AREA (KSF):** 172.500

**WEEKDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	66	0.83	9.74	2.71	27.56	171	6	1,300	50%	50%
AM PEAK OF GENERATOR	228	0.84	1.47	0.57	4.93	209	6	2,408	88%	12%
PM PEAK OF GENERATOR	243	0.82	1.42	0.49	6.20	205	6	2,408	18%	82%
AM PEAK (ADJACENT ST)	35	0.85	1.16	0.37	4.23	117	5	511	86%	14%
PM PEAK (ADJACENT ST)	32	0.88	1.15	0.47	3.23	114	6	511	16%	84%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	1,680	840	840	1,801	900	900
AM PEAK OF GENERATOR	254	223	30	268	236	32
PM PEAK OF GENERATOR	245	44	201	255	46	209
AM PEAK (ADJACENT ST)	200	172	28	189	162	26
PM PEAK (ADJACENT ST)	198	32	167	191	31	161

**SATURDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	--	2.21	1.24	7.46	94	28	183	50%	50%
PEAK OF GENERATOR	3	--	0.53	0.30	1.57	82	28	183	54%	46%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	381	191	191	N/A	N/A	N/A
PEAK OF GENERATOR	91	49	42	N/A	N/A	N/A

**SUNDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	--	0.70	0.19	3.05	94	28	183	50%	50%
PEAK OF GENERATOR	3	--	0.21	0.11	0.68	82	28	183	58%	42%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	121	60	60	N/A	N/A	N/A
PEAK OF GENERATOR	36	21	15	N/A	N/A	N/A

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**PROPOSED TOTAL NEW DEVELOPMENT**

LANDUSE: Church  
 LANDUSE CODE: 580  
 SETTING/LOCATION: General Urban/Suburban  
 JOB NAME: Mashpee Common  
 JOB NUMBER: 15155.00

Independent Variable — 1,000 Sq. Feet Gross Floor Area

Floor Area (KSF): 25.0

**WEEKDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	7	0.67	6.95	3.01	13.14	21	13	49	50%	50%
AM PEAK OF GENERATOR	9	n/a	0.65	0.22	2.57	32	13	126	54%	46%
PM PEAK OF GENERATOR	9	0.56	0.80	0.28	2.21	33	13	126	62%	38%
AM PEAK (ADJACENT ST)	8	0.79	0.33	0.08	0.94	34	13	126	60%	40%
PM PEAK (ADJACENT ST)	13	0.65	0.49	0.14	2.10	32	8	126	45%	55%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	174	87	87	171	85	85
AM PEAK OF GENERATOR	18	9	7	N/A	N/A	N/A
PM PEAK OF GENERATOR	20	12	8	24	15	9
AM PEAK (ADJACENT ST)	8	5	3	8	5	3
PM PEAK (ADJACENT ST)	12	6	7	13	6	7

**SATURDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	6	n/a	5.99	2.35	18.21	23	14	49	50%	50%
PEAK OF GENERATOR	7	n/a	2.78	0.40	8.65	23	14	49	59%	41%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	150	75	75	N/A	N/A	N/A
PEAK OF GENERATOR	70	41	28	N/A	N/A	N/A

**SUNDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	6	n/a	27.63	12.51	77.86	23	14	49	60%	50%
PEAK OF GENERATOR	18	0.58	9.99	2.05	51.31	35	5	121	48%	52%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	691	345	345	N/A	N/A	N/A
PEAK OF GENERATOR	250	120	130	268	129	140

**ITE TRIP GENERATION WORKSHEET**  
 (10th Edition, Updated 2017)

**PROPOSED TOTAL NEW DEVELOPMENT**

LANDUSE: Museum  
 LANDUSE CODE: 580  
 SETTING/LOCATION: General Urban/Suburban  
 JOB NAME: Mashpee Common  
 JOB NUMBER: 15155.00

Independent Variable — 1,000 Sq. Feet Gross Floor Area

FLOOR AREA (KSF): 25

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	n/a	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK OF GENERATOR	1	--	0.35	0.35	0.35	176	176	176	40%	60%
PM PEAK OF GENERATOR	n/a	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK (ADJACENT ST)	1	--	0.28	0.28	0.28	176	176	176	86%	14%
PM PEAK (ADJACENT ST)	1	--	0.18	0.18	0.18	176	176	176	16%	84%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	N/A	N/A	N/A	N/A	N/A	N/A
AM PEAK OF GENERATOR	9	4	5	N/A	N/A	N/A
PM PEAK OF GENERATOR	N/A	N/A	N/A	N/A	N/A	N/A
AM PEAK (ADJACENT ST)	7	6	1	N/A	N/A	N/A
PM PEAK (ADJACENT ST)	5	1	4	N/A	N/A	N/A

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	n/a	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PEAK OF GENERATOR	1	--	0.66	0.66	0.66	176	176	176	71%	29%

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	N/A	N/A	N/A	N/A	N/A	N/A
PEAK OF GENERATOR	17	12	5	N/A	N/A	N/A

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	n/a	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PEAK OF GENERATOR	n/a	--	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

TRIPS:

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	N/A	N/A	N/A	N/A	N/A	N/A
PEAK OF GENERATOR	N/A	N/A	N/A	N/A	N/A	N/A





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**Trip Generation Calculations**

Shared Trip Calculations

ENTITLED PROGRAM (EXISTING AND NOT YET BUILT)

SHARED TRIP CALCULATIONS

RETAIL - RESIDENTIAL						
WEEKDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	10,879	588	1,781	33%	-> ENTER
ENTER <-	9%	10,879	677	1,781	38%	<- EXIT

TOTAL SHARED TRIPS - WEEKDAY DAILY			
	ENTER	EXIT	TOTAL
RETAIL	229	199	428
RES	499	574	1073
TOTAL	728	773	1501

WEEKDAY MORNING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	14%	700	1	71	2%	-> ENTER
ENTER <-	17%	822	2	184	1%	<- EXIT

TOTAL SHARED - WEEKDAY MORNING			
	ENTER	EXIT	TOTAL
RETAIL	1	0	1
RES	1	2	2
TOTAL	1	2	3

WEEKDAY EVENING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	1,061	87	190	46%	-> ENTER
ENTER <-	10%	1,061	55	131	42%	<- EXIT

TOTAL SHARED - WEEKDAY EVENING			
	ENTER	EXIT	TOTAL
RETAIL	18	29	47
RES	73	46	119
TOTAL	91	75	166

SATURDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	15,239	636	1,927	33%	-> ENTER
ENTER <-	9%	15,239	732	1,927	38%	<- EXIT

TOTAL SHARED TRIPS - SATURDAY DAILY			
	ENTER	EXIT	TOTAL
RETAIL	257	224	481
RES	544	626	1170
TOTAL	801	850	1651

SATURDAY MIDDAY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	1,196	77	167	46%	-> ENTER
ENTER <-	10%	1,295	70	167	42%	<- EXIT

TOTAL SHARED - SATURDAY MIDDAY			
	ENTER	EXIT	TOTAL
RETAIL	22	24	46
RES	65	60	125
TOTAL	87	84	171

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and propose square footages of each land use  
<sup>1</sup> Weekday AM and PM internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday PM rates  
 Weekday daily rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates

Mashpee Commons  
 Mashpee, MA

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

RETAIL - RESIDENTIAL						
WEEKDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	10,051	1,106	5,898	33%	-> ENTER
ENTER <-	9%	10,051	905	5,898	38%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	14%	647	4	214	2%	-> ENTER
ENTER <-	17%	760	6	551	1%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	979	254	614	46%	-> ENTER
ENTER <-	10%	979	98	426	42%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	14,128	1,554	6,360	33%	-> ENTER
ENTER <-	9%	14,128	1,271	6,360	38%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	1,099	252	548	46%	-> ENTER
ENTER <-	10%	1,191	119	548	42%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

<sup>1</sup> Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.

Mashpee Commons  
 Mashpee, MA

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

RETAIL - OFFICE						
WEEKDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	OFFICE
EXIT ->	3%	10,051	135	900	15%	-> ENTER
ENTER <-	4%	10,051	198	900	22%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	OFFICE
EXIT ->	29%	647	9	236	4%	-> ENTER
ENTER <-	32%	760	9	32	28%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	OFFICE
EXIT ->	2%	979	14	46	31%	-> ENTER
ENTER <-	8%	979	42	209	20%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	OFFICE
EXIT ->	3%	14,128	29	191	15%	-> ENTER
ENTER <-	4%	14,128	42	191	22%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
RETAIL	%	#	BALANCED	#	%	OFFICE
EXIT ->	2%	1,099	15	49	31%	-> ENTER
ENTER <-	8%	1,191	8	42	20%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

<sup>1</sup> Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

OFFICE - RESIDENTIAL						
WEEKDAY DAILY <sup>1</sup>						
OFFICE	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	2%	900	18	5,898	3%	-> ENTER
ENTER <-	0%	900	0	5,898	0%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
OFFICE	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	1%	32	0	214	0%	-> ENTER
ENTER <-	3%	236	7	551	2%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
OFFICE	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	2%	209	4	614	4%	-> ENTER
ENTER <-	57%	46	17	426	4%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
OFFICE	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	2%	191	4	6,360	3%	-> ENTER
ENTER <-	0%	191	0	6,360	0%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
OFFICE	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	2%	42	1	548	4%	-> ENTER
ENTER <-	57%	49	22	548	4%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

<sup>1</sup> Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

CHURCH / MUSUEM <sup>2</sup> - RESIDENTIAL						
WEEKDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	122	13	5,898	33%	-> ENTER
ENTER <-	9%	122	11	5,898	38%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	14%	8	1	214	2%	-> ENTER
ENTER <-	17%	15	3	551	1%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	12	3	614	46%	-> ENTER
ENTER <-	10%	13	1	426	42%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	11%	158	17	6,360	33%	-> ENTER
ENTER <-	9%	158	14	6,360	38%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RESIDENTIAL
EXIT ->	26%	33	9	548	46%	-> ENTER
ENTER <-	10%	53	5	548	42%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

1 Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.

2 Museum and Church treated as retail for shared trip purposes due to similar origin-destination patterns.

Mashpee Commons

Mashpee, MA

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

CHURCH / MUSIEM <sup>2</sup> - OFFICE						
WEEKDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	OFFICE
EXIT ->	3%	122	4	900	15%	-> ENTER
ENTER <-	4%	122	5	900	22%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	OFFICE
EXIT ->	29%	8	2	236	4%	-> ENTER
ENTER <-	32%	15	5	32	28%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	OFFICE
EXIT ->	2%	12	0	46	31%	-> ENTER
ENTER <-	8%	13	1	209	20%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	OFFICE
EXIT ->	3%	158	5	191	15%	-> ENTER
ENTER <-	4%	158	6	191	22%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	OFFICE
EXIT ->	2%	33	1	49	31%	-> ENTER
ENTER <-	8%	53	4	42	20%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

1 Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.

2 Museum and Church treated as retail for shared trip purposes due to similar origin-destination patterns.

**PROPOSED FULL BUILD**

**SHARED TRIP CALCULATIONS**

CHURCH / MUSUEM <sup>2</sup> - RETAIL <sup>3</sup>						
WEEKDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RETAIL
EXIT ->	30%	122	37	10,051	28%	-> ENTER
ENTER <-	28%	122	34	10,051	30%	<- EXIT

WEEKDAY MORNING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RETAIL
EXIT ->	20%	8	2	760	20%	-> ENTER
ENTER <-	20%	15	3	647	20%	<- EXIT

WEEKDAY EVENING <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RETAIL
EXIT ->	20%	12	2	979	20%	-> ENTER
ENTER <-	20%	13	3	979	20%	<- EXIT

SATURDAY DAILY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RETAIL
EXIT ->	30%	158	47	14,128	28%	-> ENTER
ENTER <-	28%	158	44	14,128	30%	<- EXIT

SATURDAY MIDDAY <sup>1</sup>						
CHR. / MUS.	%	#	BALANCED	#	%	RETAIL
EXIT ->	20%	33	7	1,191	20%	-> ENTER
ENTER <-	20%	53	11	1,099	20%	<- EXIT

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.

- 1 Weekday morning and evening internal capture rates based on NCHRP Report 684, Saturday midday rates assumed to be the same as weekday evening rates. Weekday daily internal capture rates based on ITE Trip Generation Handbook, 2nd Edition, Saturday daily rates assumed to be the same as weekday daily rates.
- 2 Museum and Church treated as retail for shared trip purposes due to similar origin-destination patterns.
- 3 Retail to Retail (Church/Museum) shared trips based on ITE Trip Generation Handbook, 2nd Edition due to lack of data in the 3rd Edition.



Mashpee Commons  
 Mashpee, MA

**PROPOSED FULL BUILD**

**SHARED TRIPS ASSOCIATED WITH NEW PROGRAM**

**INTERNAL CAPTURE SUMMARY**

<b>TOTAL SHARED TRIPS - WEEKDAY DAILY</b>			
	<u>ENTER</u>	<u>EXIT</u>	<u>TOTAL</u>
RESIDENTIAL	1,085	874	1959
OFFICE	139	221	360
RETAIL	323	362	685
CHURCH	36	39	74
MUSEUM	14	15	30
<b>TOTAL</b>	<b>1,597</b>	<b>1,511</b>	<b>3108</b>

<b>TOTAL SHARED TRIPS - WEEKDAY MORNING</b>			
	<u>ENTER</u>	<u>EXIT</u>	<u>TOTAL</u>
RESIDENTIAL	5	15	20
OFFICE	18	14	32
RETAIL	4	4	8
CHURCH	7	4	11
MUSEUM	4	1	5
<b>TOTAL</b>	<b>38</b>	<b>38</b>	<b>76</b>

<b>TOTAL SHARED TRIPS - WEEKDAY EVENING</b>			
	<u>ENTER</u>	<u>EXIT</u>	<u>TOTAL</u>
RESIDENTIAL	248	110	358
OFFICE	31	47	78
RETAIL	39	74	113
CHURCH	5	3	8
MUSEUM	0	2	2
<b>TOTAL</b>	<b>323</b>	<b>236</b>	<b>559</b>

<b>TOTAL SHARED TRIPS - SATURDAY DAILY</b>			
	<u>ENTER</u>	<u>EXIT</u>	<u>TOTAL</u>
RESIDENTIAL	1,506	1,229	2735
OFFICE	34	52	86
RETAIL	409	489	898
CHURCH	30	33	63
MUSEUM	34	36	70
<b>TOTAL</b>	<b>2,013</b>	<b>1,839</b>	<b>3851</b>

<b>TOTAL SHARED TRIPS - SATURDAY MIDDAY</b>			
	<u>ENTER</u>	<u>EXIT</u>	<u>TOTAL</u>
RESIDENTIAL	250	139	389
OFFICE	38	13	51
RETAIL	34	71	105
CHURCH	15	14	30
MUSEUM	5	3	7
<b>TOTAL</b>	<b>342</b>	<b>240</b>	<b>582</b>

Note: Internal Capture rates based on square footage for Existing and Proposed square footage. Internal Capture reduction applied to Proposed Trip Generation proportionally based on existing and proposed square footages of each land use.



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**Trip Distribution Calculations**

**Trip Distribution - Residential (to Workplace)**

Residence State/U.S. Island Area/Foreign Country/County/MCD	Adjustment			Total of Workplace					Total CH	
	Count	Percentage <sup>1</sup>	Adjusted Count	Percent of Total	Route 28 north	Great Neck Road north	Route 151 west	Route 28 south		Great Neck Road south
Mashpee town	1,820	0.75	1,365	25.2%	10%	50%	10%	10%	20%	100%
Barnstable Town city	1,344	1	1,344	24.8%	100%					100%
Falmouth town	830	1	830	15.3%			30%	70%		100%
Sandwich town	586	1	586	10.8%		100%				100%
Bourne town	262	1	262	4.8%		20%	80%			100%
Yarmouth town	215	1	215	4.0%	100%					100%
Boston city	125	1	125	2.3%		80%	20%			100%
Orleans town	70	1	70	1.3%	100%					100%
Walham city	63	1	63	1.2%		50%	50%			100%
Plymouth town	63	1	63	1.2%		100%				100%
Brewster town	44	1	44	0.8%	100%					100%
Dennis town	42	1	42	0.8%	100%					100%
Wareham town	42	1	42	0.8%			100%			100%
Westborough town	40	1	40	0.7%			100%			100%
Pawtucket city	32	1	32	0.6%						100%
Braintree Town city	31	1	31	0.6%		100%				100%
Hopkinton town	25	1	25	0.5%						100%
Brockton city	25	1	25	0.5%						100%
Mansfield town	24	1	24	0.4%						100%
Quincy city	24	1	24	0.4%						100%
Wellesley town	24	1	24	0.4%		100%				100%
Bridgewater town	23	1	23	0.4%		50%	50%			100%
Harwich town	21	1	21	0.4%	100%					100%
Carver town	21	1	21	0.4%		50%	50%			100%
Newton city	20	1	20	0.4%		50%	50%			100%
Grafton town	20	1	20	0.4%			100%			100%
Plympton town	19	1	19	0.4%		50%	50%			100%
Framingham town	18	1	18	0.3%			100%			100%
Totals	5,873		5,418	100.0%						

**Based on Residence MCD/County to Workplace MCD/County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2011-2015**

<sup>1</sup> Adjustments were made to some communities based on the likelihood that people who work in those communities would opt to live closer to their place of employment or closer to transit opportunities

**Residential Trip Distribution Summary**

Route 28 to/from north	35%
Great Neck Road to/from north	30%
Route 151 to/from west	17%
Route 28 to/from south	13%

Mashpee Commons  
Mashpee, MA

**Trip Distribution - Workplace (from Residential)**

Residence State/U.S. Island Area/Foreign Country/County/MCD	Adjustment				Total of Workplace					
	Count	Adjustment Percentage <sup>1</sup>	Adjusted Count	Percent of Total	Route 28 north	Great Neck Road north	Route 151 west	Route 28 south	Great Neck Road south	Total CH
Mashpee town	1,820	0.75	1,365	28.6%	15%	25%	20%	15%	25%	100%
Barnstable Town city	986	1	986	20.7%	100%					100%
Falmouth town	584	1	584	12.3%			30%	70%		100%
Sandwich town	580	1	580	12.2%		100%				100%
Bourne town	212	1	212	4.4%			80%			100%
Harwich town	136	1	136	2.9%	100%					100%
Weymouth Town city	134	1	134	2.8%						100%
Yarmouth town	103	1	103	2.2%	100%	100%				100%
Plymouth town	87	1	87	1.8%						100%
Dennis town	63	1	63	1.3%	100%	100%				100%
Wareham town	60	1	60	1.3%			100%			100%
Brockton city	44	1	44	0.9%						100%
New Bedford city	42	1	42	0.9%						100%
Attleboro city	36	1	36	0.8%						100%
Berkley town	35	1	35	0.7%						100%
Brewster town	34	1	34	0.7%						100%
Raynham town	33	1	33	0.7%						100%
Provincetown town	30	1	30	0.6%	100%					100%
Halfax town	21	1	21	0.4%						100%
Newton city	20	1	20	0.4%		50%	50%			100%
Marion town	20	1	20	0.4%						100%
Rochester town	20	1	20	0.4%						100%
Carver town	19	1	19	0.4%						100%
Woonsocket city	19	1	19	0.4%						100%
Fitchburg city	18	1	18	0.4%						100%
Haverhill city	17	1	17	0.4%						100%
Mattapoisett town	17	1	17	0.4%						100%
Taunton city	16	1	16	0.3%						100%
Bridgewater town	16	1	16	0.3%						100%
<b>Totals</b>	<b>5,222</b>		<b>4,767</b>	<b>100.0%</b>						

**Based on Workplace MCD/County from Residence MCD/County Commuting Flows for the United States and Puerto Rico Sorted by Residence Geography: 5-Year ACS, 2011-2015**

1. Adjustments were made to some communities based on the likelihood that people who work in those communities would opt to live closer to their place of employment or closer to transit opportunities

**Workplace Trip Distribution Summary**

Route 28 to/from north	33%
Great Neck Road to/from north	26%
Route 151 to/from west	21%

**Trip Distribution - Retail / Commercial (Based on Existing traffic distribution at Mashpee Rotary)**

**Daily Volumes on Roadways feeding into Mashpee Rotary**

Mashpee Rotary Entering / Exiting Volumes	Route 28 (north)		Great Neck Rd (north)		Route 151 (west)		Route 28 (south)		Great Neck Rd (south)		TOTAL	
	Volume	Percent	Volume	Percent	Volume	Percent	Volume	Percent	Volume	Percent	Volume	Percent
Average Annual Daily Traffic												
Low Range	22,000	32.8%	10,000	14.9%	13,000	19.4%	14,000	20.9%	8,000	11.9%	67,000	100.0%
High Range	23,000	31.5%	12,000	16.4%	14,000	19.2%	15,000	20.5%	9,000	12.3%	73,000	100.0%
Summer ADT												
Low Range	29,000	34.9%	13,000	15.7%	15,000	18.1%	17,000	20.5%	9,000	10.8%	83,000	100.0%
High Range	30,000	33.0%	14,000	15.4%	17,000	18.7%	19,000	20.9%	11,000	12.1%	91,000	100.0%
<b>Average</b>	<b>26,000</b>	<b>33.1%</b>	<b>12,250</b>	<b>15.6%</b>	<b>14,750</b>	<b>18.8%</b>	<b>16,250</b>	<b>20.7%</b>	<b>9,250</b>	<b>11.8%</b>	<b>78,500</b>	<b>100.0%</b>
Rounded		33%		15%		19%		21%		12%		

Based on the Mashpee Rotary Corridor Study (CCC, June 2020) - Table 1  
Counts conducted in Summer 2018 and 2019

**Retail / Commercial Distribution**

Route 28 to/from north	33%
Great Neck Road to/from north	15%
Route 151 to/from west	19%
Route 28 to/from south	21%
Great Neck Road to/from south	12%

Note: Retail Distribution based on existing traffic volumes at Mashpee Rotary

Unphased Study Area

**Study Area Intersection Figures**



Attachments  
Mashpee Commons Expansion  
Pre-Submittal Memorandum

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Unphased St**  
(based on lot

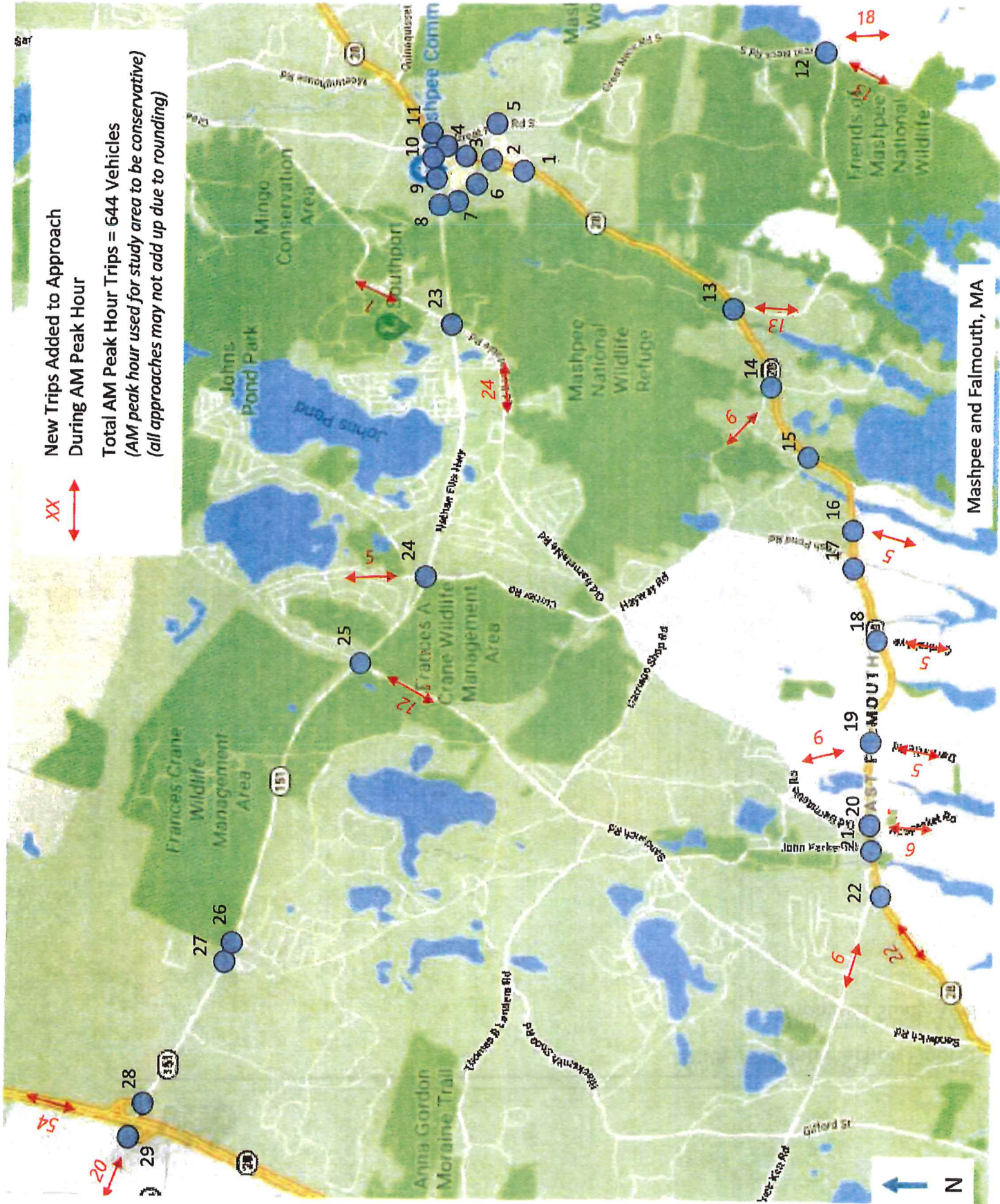
South and W

- Intersection**
- 1 - Route 28
  - 2 - Route 28
  - 3 - Route 28
  - 4 - Route 28
  - 5 - Great Ne
  - 6 - Job's Fis
  - 7 - Job's Fis
  - 8 - Route 15
  - 9 - Route 15
  - 10 - Route 1
  - 11 - Mashpe
  - 12 - Great N
  - 13 - Route 2
  - 14 - Route 2
  - 15 - Route 2
  - 16 - Route 2
  - 17 - Route 2
  - 18 - Route 2
  - 19 - Route 2
  - 20 - Route 2
  - 21 - Route 2
  - 22 - Route 2
  - 23 - Route 1
  - 24 - Route 1
  - 25 - Route 1
  - 26 - Route 1
  - 27 - Route 1
  - 28 - Route 1
  - 29 - Route 1

**XX** 

**New Trips Added to Approach  
During AM Peak Hour**

**Total AM Peak Hour Trips = 644 Vehicles**  
(AM peak hour used for study area to be conservative)  
(all approaches may not add up due to rounding)



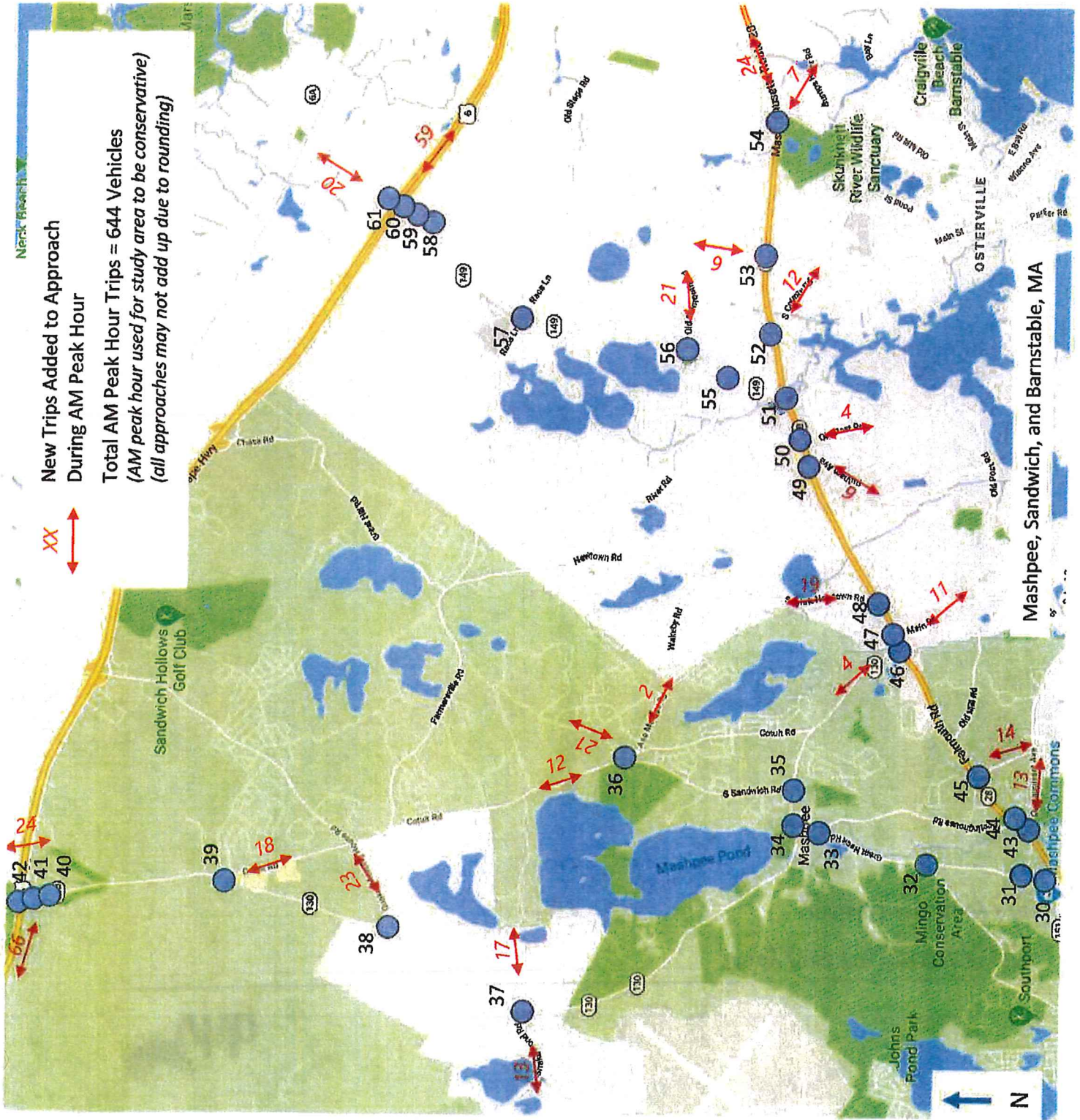
Mashpee and Falmouth, MA

**Mashpee Commc  
Unphased Study**  
(based on locatio

North and East fr

**Intersection List**

- 30 – Great Neck F
- 31 – Great Neck F
- 32 – Great Neck F
- 33 – Great Neck F
- 34 – Route 130 at
- 35 – Route 130 at
- 36 – South Sandw
- 37 – Route 130 at
- 38 – Route 130 at
- 39 – Route 130 at
- 40 – Route 130 at
- 41 – Route 130 at
- 42 – Route 130 at
- 43 – Route 28 at
- 44 – Route 28 at
- 45 – Route 28 at
- 46 – Route 28 at
- 47 – Route 28 at
- 48 – Route 28 at
- 49 – Route 28 at
- 50 – Route 28 at
- 51 – Route 28 at
- 52 – Route 28 at
- 53 – Route 28 at
- 54 – Route 28 at
- 55 – Route 149 at
- 56 – Route 149 at
- 57 – Route 149 at
- 58 – Route 149 at
- 59 – Route 149 at
- 60 – Route 149 at
- 61 – Route 149 at







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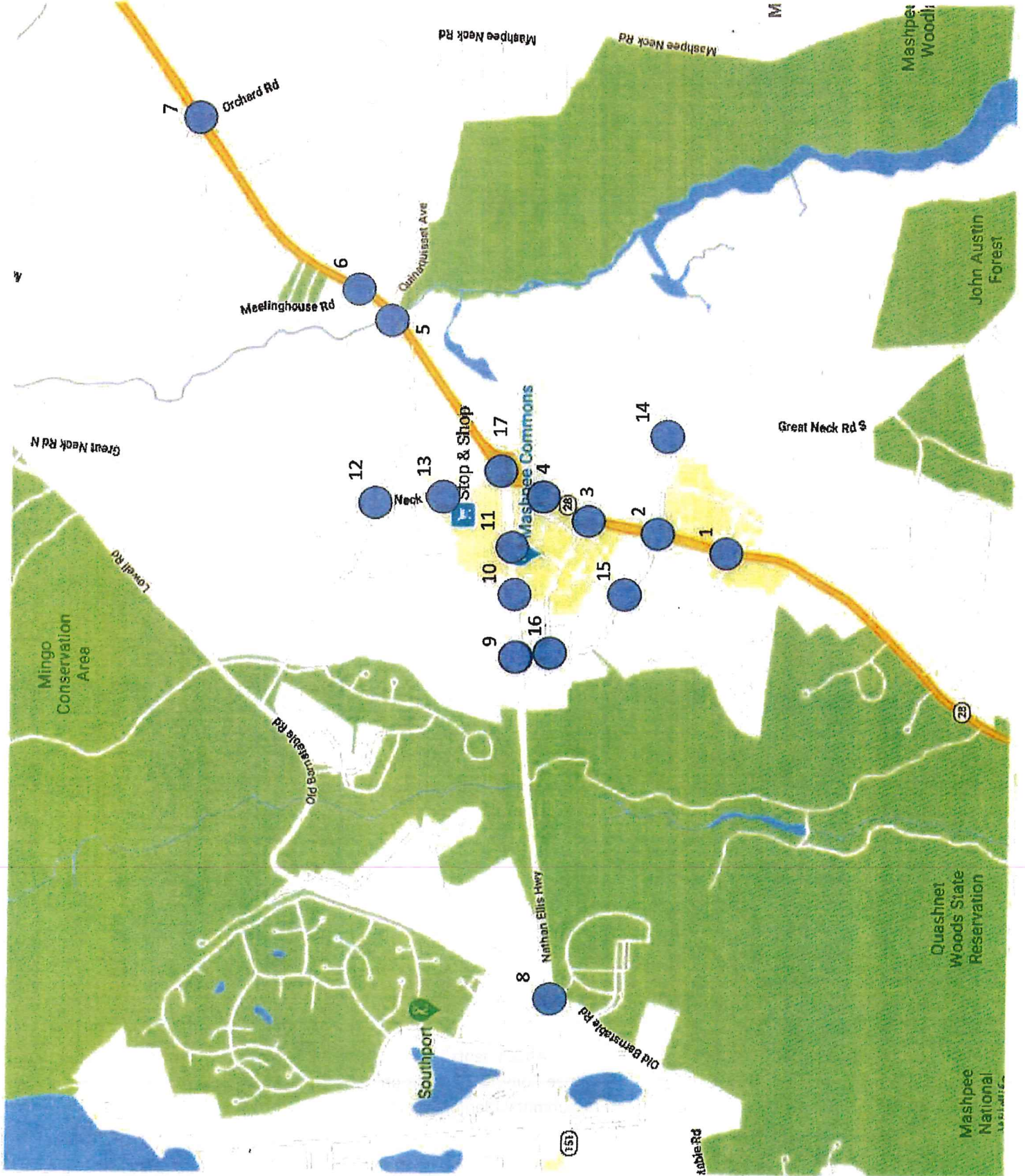
Study Area Intersection Figures  
Initial Phase Study Area

Attachments  
Mashpee Commons Expansion  
Pre-Submittal Memorandum

**Mashpee Commc  
Initial Phase Stud**

Intersection List

- 1 – Route 28 at C
- 2 – Route 28 at D
- 3 – Route 28 at St
- 4 – Route 28 at B;
- 5 – Route 28 at Q
- 6 – Route 28 at N
- 7 – Route 28 at O
- 8 – Route 151 at I
- 9 – Route 151 at .
- 10 – Route 151 at
- 11 – Route 151 at
- 12 – Great Neck F
- 13 – Great Neck F
- 14 – Great Neck F
- 15 – Job’s Fishing
- 16 – Job’s Fishing
- 17 – Mashpee Ro







## 5.2. SEASONAL ADJUSTMENT FACTORS

Using the data collected from the permanent traffic counting stations, MassDOT determines the seasonal adjustment factors for the next year. These factors indicate relative traffic volumes throughout the year. For example, weekday traffic in January is approximately half the weekday traffic in July. By multiplying by the Average Daily Traffic (ADT) of a traffic count by a seasonal adjustment factor, an estimate of annual ADT can be produced for that location. ADT volumes from all months can in this way be converted into annual ADT volumes and properly compared.

The seasonal adjustment factors only produce an estimate of annual ADT for several reasons. First, the adjustment factors for 2012 and subsequent years are based on 2010 data, since MassDOT has not supplied monthly adjustment factors since 2011. Moreover, the permanent stations are located on state highways. Seasonal traffic fluctuations may be different on local roadways and streets. Also, none of the permanent stations are located east of Yarmouth. This is significant because seasonal traffic fluctuations are generally greater in areas with higher seasonal population changes, such as the Outer Cape.

For a complete listing of all seasonal adjustment factors from 1983-2011, please see the table on the following page.



Table 5: Monthly Adjustment Factors for Cape Cod

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2011*</b>	1.26	1.25	1.20	1.06	0.96	0.89	0.76	0.76	0.92	0.99	1.08	1.14
<b>2010</b>	1.26	1.25	1.19	1.08	0.95	0.88	0.77	0.76	0.93	1.00	1.08	1.15
<b>2009</b>	1.26	1.25	1.19	1.08	0.95	0.88	0.77	0.76	0.93	1.00	1.08	1.15
<b>2008</b>	1.21	1.25	1.19	1.08	0.96	0.89	0.78	0.76	0.93	1.00	1.07	1.14
<b>2007</b>	1.25	1.21	1.17	1.06	0.96	0.86	0.78	0.79	0.93	1.00	1.08	1.14
<b>2006</b>	1.26	1.20	1.18	1.04	0.96	0.86	0.78	0.79	0.93	0.99	1.07	1.12
<b>2005</b>	1.27	1.23	1.18	1.06	0.96	0.85	0.77	0.78	0.93	0.99	1.08	1.15
<b>2004</b>	1.27	1.23	1.18	1.06	0.96	0.85	0.77	0.78	0.93	0.99	1.08	1.15
<b>2003</b>	1.29	1.23	1.16	1.06	0.99	0.87	0.79	0.77	0.95	0.99	1.07	1.14
<b>2002</b>	1.30	1.24	1.16	1.06	0.98	0.86	0.79	0.78	0.93	0.97	1.08	1.14
<b>2001</b>	1.34	1.27	1.18	1.06	0.97	0.86	0.78	0.78	0.94	0.97	1.08	1.13
<b>2000</b>	1.37	1.28	1.20	1.07	0.96	0.87	0.77	0.78	0.93	0.97	1.09	1.14
<b>1999</b>	1.37	1.29	1.23	1.09	0.96	0.87	0.76	0.77	0.94	0.99	1.10	1.15
<b>1998</b>	1.39	1.27	1.23	1.11	0.95	0.87	0.76	0.76	0.93	0.99	1.10	1.16
<b>1997</b>	1.38	1.29	1.22	1.10	0.96	0.86	0.76	0.75	0.92	0.99	1.10	1.19
<b>1996</b>	1.41	1.30	1.22	1.07	0.96	0.86	0.75	0.75	0.91	0.99	1.10	1.19
<b>1995</b>	1.36	1.33	1.24	1.07	0.97	0.86	0.75	0.75	0.90	0.99	1.10	1.19
<b>1994</b>	1.35	1.31	1.25	1.06	0.93	0.86	0.73	0.74	0.89	0.97	1.09	1.15
<b>1993</b>	1.35	1.30	1.24	1.07	0.92	0.85	0.75	0.75	0.90	0.99	1.10	1.17
<b>1992</b>	1.37	1.32	1.29	1.08	0.94	0.87	0.75	0.76	0.90	1.01	1.14	1.21
<b>1991</b>	1.39	1.30	1.22	1.08	0.94	0.87	0.76	0.77	0.95	1.02	1.12	1.20
<b>1990</b>	1.31	1.26	1.16	1.06	0.96	0.85	0.73	0.74	0.94	0.99	1.10	1.22
<b>1989</b>	1.37	1.38	1.25	1.13	0.99	0.89	0.72	0.73	0.94	1.03	1.15	1.17
<b>1988</b>	1.38	1.30	1.21	1.10	0.99	0.83	0.72	0.73	0.91	1.02	1.11	1.15
<b>1987</b>	1.40	1.39	1.23	1.10	0.94	0.85	0.71	0.73	0.96	1.02	1.18	1.25
<b>1986</b>	1.35	1.31	1.21	1.09	1.05	0.84	0.73	0.75	0.96	1.04	1.17	1.22
<b>1985</b>	1.31	1.26	1.17	1.07	0.96	0.92	0.84	0.83	0.97	0.97	1.14	1.16
<b>1984</b>	1.55	1.36	1.46	1.12	1.03	0.85	0.73	0.73	0.94	1.07	1.14	1.24
<b>1983</b>	1.53	1.51	1.30	1.15	0.98	0.82	0.65	0.66	0.87	1.07	1.23	1.30

Source: Massachusetts Highway Department / Mass DOT  
 \*2011 is the last year that MassDOT has supplied monthly adjustment factors



## Historical Traffic Growth

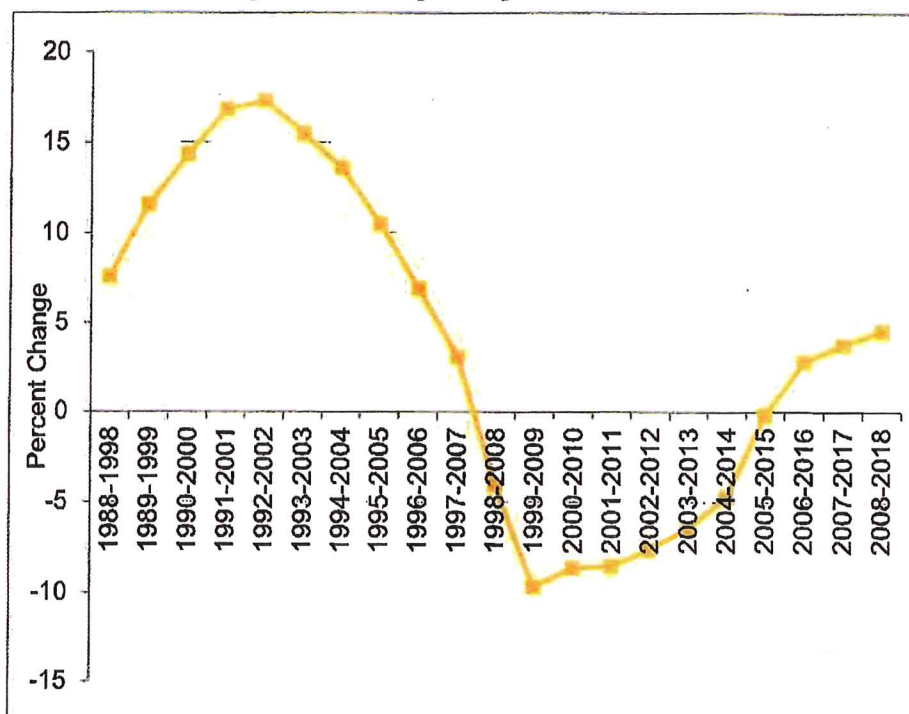




## 7.2. CAPE-WIDE TRAFFIC

The chart below shows ten-year moving average traffic growth beginning the period 1988-1998. This chart has been updated using an improved methodology as compared to previous traffic counting reports. After several periods of positive growth, declines began in the period 1998-2008. The ten-year period between 2008 and 2018 shows a third period in a row with ten-year positive growth.

Figure 4: Percentage Change for 10-Year Periods



In 1999-2009, we see the most severe 10-year drop in traffic volumes since the CCC has been keeping track of the statistic (-9.64%). While one may be tempted to assume this means traffic has decreased in 2009 since 2008, it is important to remember that the 10-year period ending in 2008 includes comparisons beginning with 1998 – a year that had significantly lower traffic volumes than the year 1999. 1999 volumes are included in the 10-year analysis for 1999-2009 and contribute to the 10-year decline



for the period. Cape-wide traffic actually increased from 2008 to 2009 by 2.9%.

The following table shows the growth rates for various sub-regions and roads of Cape Cod over a 10-year period. The average annual growth rate between 2008 and 2018 is 0.44% for all of Cape Cod. From 2008 to 2018 all four regions on Cape Cod showed positive growth. All four regions showed positive one-year growth, with the highest being the Outer-Cape.

Table 8: Cape Cod Summer Traffic Growth by Subregion

Region*	Number of Comparisons**	10-Year Total Growth (%)	10-Year Annual Average Growth Rate (%)	One-Year Growth Rate 2017-2018 (%)
Upper Cape	168	5.59	0.54	3.85
Mid-Cape	152	2.70	0.26	1.26
Lower Cape	120	3.65	0.35	1.84
Outer Cape	81	8.80	0.84	4.66
<b>All Roads</b>	<b>518</b>	<b>4.54</b>	<b>0.44</b>	<b>2.92</b>

\*Upper = Bourne, Sandwich, Falmouth, Mashpee | Mid = Barnstable, Yarmouth, Dennis  
Lower = Harwich, Chatham, Brewster, Orleans | Outer = Eastham, Wellfleet, Truro, Provincetown

\*\* Corresponds to ten-year analysis only

Regarding the modest traffic volume change from 2008 to 2018 (0.44% per year), it is unclear what is responsible for the stagnation. The Cape-wide population has shown a moderate decline during a portion this time period (see following table), but conventional trip generators (commercial establishments, residences, etc.) have not been reduced.





Table 9: Barnstable County Population Estimate

	1990	2000	2010	% Change 2000-2010
Population	186,605	222,230	215,888	-2.85%

Source: U.S. Census Bureau, Census 2010, Census 2000, Census 1990

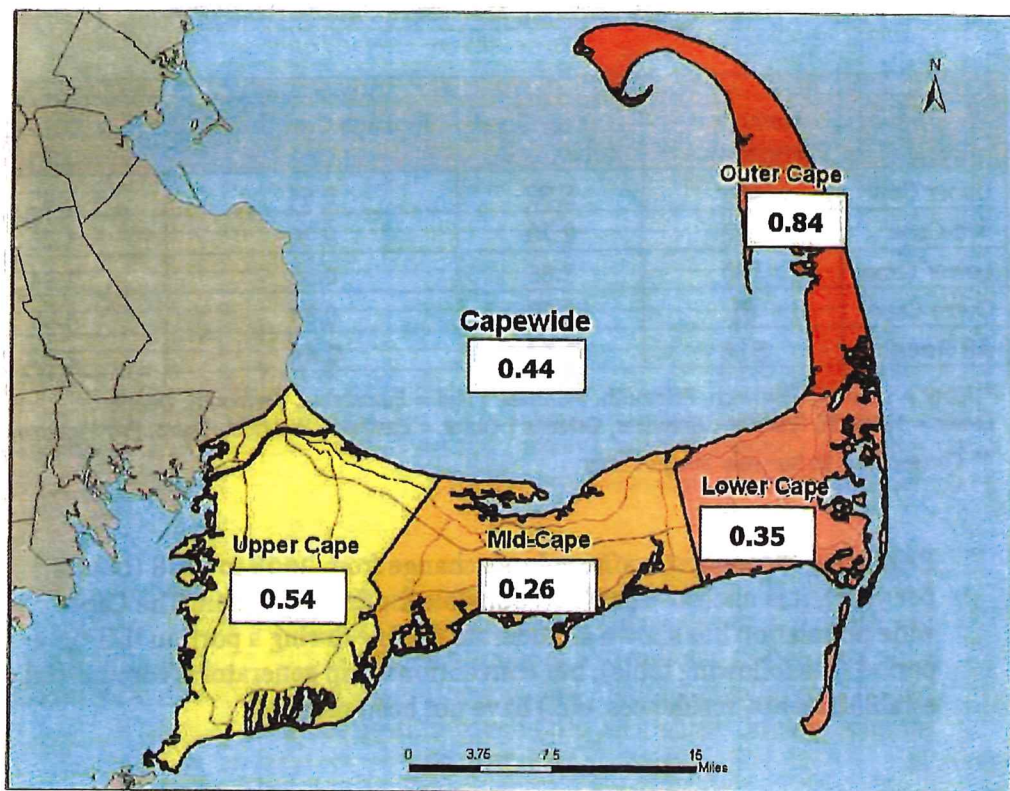


Figure 5: Sub regions' 10-year Average Annual Growth Rate (%)

**Proposed Community Activity Center Overlay District**

Estimated based on June 2, 2021 presentation

	Core	Transition	Edge	Total
1 Acres	58	52	77	187
2 as % of Total	31%	28%	41%	100%
3 Max Res Densities (units)*	1,030	460	220	1,710
4 as % of Total	60%	27%	13%	100%
5 Max Non-Res Densities (sqft)*	700,000	410,000	0	1,110,000
6 as % of Total	63%	37%	0%	100%
7 Max Units per Acre	17.8	8.8	2.9	9.1

\*Includes existing units and square footage

To Members of the Mashpee Planning Board:

We, the undersigned individual residents of the Windchime neighborhood, a property abutting the planned Mashpee Commons expansion, write to express our opposition to any plan of the proposed scale and proximity to Mashpee's rivers.

We support the creation of housing for Mashpee residents for whom the current market is inaccessible. The lack of "attainable housing" threatens the character and diversity of our community in Mashpee, and we hope Mr. Chace and the Commons will deliver on the promise to address that issue.

But the proposed development of 1,700 residential units and 1.2 million square feet of commercial space is just too big for an area at the heart of our town and the center of our congested roads. Traffic is already a safety and quality-of-life issue during the summer months. We do not have the capacity to absorb the substantial increase this development will bring.

Most important to us is the threat to our environment and natural resources. It is hard to believe that on the heels of a long overdue town approval to address the critical impairment of the Mashpee River and Popponesset Bay any developer would suggest clear-cutting the open space near the river for a new "neighborhood." The notion is plainly irresponsible.

We urge the town's elected officials to prioritize the health and beauty of Mashpee's natural resources, safeguard green space, and demand a reduction in the scale of this proposal before any further consideration.

Signatures attached

## Letter signatories/contact information

Rita Jane Bernier  
70 Gold Leaf Lane  
774-228-2684

J. Lorraine Brown  
8 Gold Leaf Lane  
508-477-4451

Jacqueline A. Buckmiller  
Charles Wallace Weeks  
31 Red Cedar Road  
203-233-9819

Carol A. Connelly  
4 Bobwhite Crescent  
508-776-9948

Sheila Connolly  
78 Blue Spruce Way  
508-783-5747

Judith Conway  
Joseph McCarthy  
64 Blue Spruce Way

508-419-6886

JoAnn Dowling

7 Red Cedar Rd

774-521-3546

Marion Easterbrooks

9 Red Cedar Road

508-477-9963

Elinor Indeck Glener

16 Red Cedar Road

508-477-3480

Jeanne Goldberg

Joel Goldberg

33 Gold Leaf Lane

914-715-7761

Rose Grahame

Connie Tropeano

2 Red Cedar Road

203-803-5468

Alan S. Gray

Theodore P. Stasiowski

3 Bobwhite Crescent  
774-327-9499

Katherine Haberlin  
Thomas Haberlin  
71 Gold Leaf Lane  
413-237-5545

Gerald W. Hayes  
Maureen C. Hayes  
71 Blue Spruce Way  
413-519-0965

Laura Leach  
51 Blue Spruce Way  
914-527-7669

Anne Malone  
14 Red Cedar Road  
617-785-5113

Diane Margaret McBurney  
Robert Nicholas McBurney  
77 Gold Leaf Lane

67-642-4004

Marcia Norinsky

Michael Norinsky

14 Green Ivy Lane

774-602-5932

Suzanne Weiss Pond

23 Red Cedar Road

508-769-8801

Abby P. Raelin

74 Gold Leaf Lane

508-477-1436

John W. Stone

Eileen A. Stone

69 Gold Leaf Lane

774-521-3253



JUL 29 2021

TOWN OF FALMOUTH  
MASSACHUSETTS

## BOARD OF APPEALS

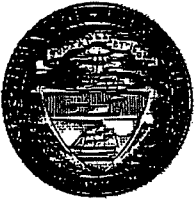
### Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by Thomas J. Scarduzio, Trustee, 192 Meadow Neck Road, East Falmouth, Ma. (Map 31 Lot 002C) **under 240-23 G.(1)(b)** of the Zoning By-Law, as amended to **grant** the special permit to allow a garage with parking for more than two vehicles.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **July 23, 2021** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460  
or [Noreen.stockman@falmouthma.gov](mailto:Noreen.stockman@falmouthma.gov) if you have any questions or comments  
full text of decision available at <http://www.falmouthmass.us>





RECEIVED  
JUL 22 2021 AM 11:19

## Falmouth Planning Board

TOWN CLERK

59 Town Hall Square, Falmouth, MA 02540

Telephone: 508-495-7440 Fax: 508.495.7443 email: [planning@falmouthma.gov](mailto:planning@falmouthma.gov)

July 22, 2021

Mr. Michael C. Palmer, Town Clerk  
Falmouth Town Hall  
59 Town Hall Square  
Falmouth, Massachusetts 02540

JUL 29 2021

**Re: Special Permit and Site Plan Review Decision – Sandwich Road Development LLC  
0 Sandwich Road  
Map 17 01 032 000**

Dear Mr. Palmer,

At its meeting on July 13, 2021, the Planning Board voted to approve an application to modify the previously approved Special Permit and Site Plan Review, to increase the contractor building height by 3'4" as well as move property lines as revised and include a condition that the applicant shall install a floor drain in each construction bay connected to a tight tank as depicted on the plan entitled "Site Plan – Contractor's Yard & House and Subsurface Sewage Disposal Systems prepared for Sandwich Road Development LLC Sandwich Road Hatchville, Falmouth, Massachusetts" (sheets 1-6), prepared by BSS Design, dated November 10, 2020 with latest revision date of June 17, 2021, Scale 1"=40' and architectural elevation plans drawn by Longfellow Design Build dated March 30, 2021. The following conditions from the previous Special Permit and Site Plan Review approval, dated February 24, 2021, stay in place:

### CONDITIONS

1. The plan shall be constructed as approved. Any changes shall be reviewed by the Planning board to determine if a modification of this decision is necessary. Pursuant to 240-183.B. of the Zoning Bylaw, no permit for occupancy of the new construction shall be issued until the Planning board is satisfied that the conditions of this approval have been met.
2. The Applicant shall obtain an approved Driveway Permit and post any required bond with the Engineering Division prior to start of construction.
3. The Applicant shall complete the work as approved by the Engineering Division in the Driveway Permit and shall be required to adhere to the Soil Erosion & sediment Control Standards document which is available on the Engineering Division's webpage.
4. Upon completion of construction, the Applicant shall post the address for this residence per §99-1 Affixing of legible numbers required; time limit for compliance.
5. The regular (non-emergency) hours of operation shall be 6:00 a.m. to 7:30 p.m., Monday through Saturday for contractor's yard activities.
6. The vehicles, equipment and supplies that may be stored outside include up to dump trucks (up to 76,000 lbs. registered weight capacity), registered trailers (up to 20,000 lbs. registered weight capacity),

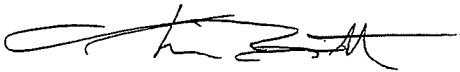
excavators, tractors, "bob cats," and similar equipment and assorted attachments such as plows. Other contractor vehicles, such as vans, pickup and utility trucks, up to 25 such vehicles, may be stored in the contractor's yard.

7. Construction materials such as stone, blocks, bricks and steel framing will be stored on site. Other construction equipment, tools, building supplies, appliances and fixtures held for installation, and other components will be stored, generally within the main contractor's yard building. These items may include lumber, windows, roofing and installation materials, etc.
8. Sub-assembling of building components such as wall sections and cabinetry will be done within the building.
9. There will likely be within the main contractor's yard building small office area(s) for the contractor's yard operator and subcontractor tenants.
10. Ordinary maintenance and minor repairs of the vehicles and equipment would occur, such as exterior washing and oil changes.
11. Lighting and lighting glare will be kept on the property and not reflect adversely onto other properties.
12. The applicant shall add buffering to the wooded area where the trees appear to be sparse.
13. All site construction within the project shall conform fully to the above referenced and approved site plan. Any change in the location of structures or any other site features such as cutting into the buffer shall require prior written approval of the Planning Board.

Mrs. Kerfoot	Yes	Mr. Druley	Yes
Ms. Harris	Yes	Ms. Harting-Barrat	Yes
Mr. Dreyer	Yes	Mr. Fox	Yes
Mr. Leary	Yes		

**NOTE: Any appeal from this decision of the Planning Board can be made only to the Court and must be made pursuant to Section 17, Chapter 40A (MGL) as amended, and must be filed within twenty (20) days after the date of filing of this decision with the Town Clerk.**

Sincerely,



Thomas Bott  
Town Planner  
cc: Applicant

JUL 26 2021

**Town of Barnstable  
Planning Board  
Notice of Public Hearing  
Regulatory Agreement No. 2021-03 – Lyon Investment Realty Trust  
80 Pearl Street, Hyannis  
August 9, 2021, 7:00 P.M.  
Zoom Meeting ID 922 7789 3023**

To all persons deemed interested in the Planning Board acting under Chapter 168 of the Code of the Town of Barnstable, Regulatory Agreements and the General Laws of the Commonwealth of Massachusetts, and the Zoning Ordinances of the Town of Barnstable, specifically Section 240-24.1 Hyannis Village Zoning Districts, you are hereby notified of a Public Hearing for Regulatory Agreement No. 2021-03.

Lyon Investment Realty Trust, Jennifer and Jeffery Lyon, Trustees, seeks to enter into a Regulatory Agreement with the Town of Barnstable to renovate an existing building into an eight unit apartment building. The Trust has also requested to permit an optional ninth unit within an existing detached structure; the building is noted to require significant construction work.

The subject property is 80 Pearl Street, Hyannis, Massachusetts, shown on Assessor's Map 326 as Parcel 008. It is zoned SF Single Family Residential District.

The Regulatory Agreement seeks the following waiver from the Zoning Ordinance, specifically:

Section 240-24.1.5(A) Permitted uses. To allow the development of nine multi-family units within the Single Family Residential District.

Existing non-compliant conditions include:

Section 240-24.1.5(B) Dimensional, bulk and other requirements, for the front yard setback.

Section 240-24.1.5(B)(1) Perimeter green space of not less than ten feet.

Section 240-24.1.11(A)(4)(a)[2] Minimum distance between parking lot and multi-family dwelling, for a distance more than thirty feet.

Section 240-24.1.11(A)(4)(c)[1] Parking located at the rear of the building, for parking located in the side yards.

Section 240-24.1.11(A)(4)(c)[2] Parking space dimension, for parking spaces less than nine feet by twenty feet.

Section 240-24.1.11(A)(4)(d)[2] Six foot landscape buffer between parking lot and property line.

Section 240-24.1.11(A)(4)(d)[3] Six foot landscape buffer between the building and surface parking lot.

Members of the public may participate in the Public Hearing through remote access via the Zoom link or telephone number and Meeting ID provided below.

Alternative public access to this meeting shall be provided in the following manner:

1. The meeting will be televised via Channel 18 and may be viewed via the Channel 18 website at <http://streaming85.townofbarnstable.us/CablecastPublicSite/>

2. Real-time access to the Planning Board meeting is available utilizing the Zoom link or telephone number and Meeting ID provided below:

Link: <https://zoom.us/j/92277893023>

Phone: 888 475 4499 US Toll-free Meeting ID: 922 7789 3023

3. Applicants, their representatives and individuals required or entitled to appear before the Planning Board may appear remotely, and may participate through accessing the link or telephone number provided above. Documentary exhibits and/or visual presentations should be submitted in advance of the meeting to [Karen.herrand@town.barnstable.ma.us](mailto:Karen.herrand@town.barnstable.ma.us), so that they may be displayed for remote public access viewing.

Copies of the proposed regulatory agreement are available for review by calling 508-862-4064 or emailing [Karen.herrand@town.barnstable.ma.us](mailto:Karen.herrand@town.barnstable.ma.us).

Barnstable Patriot  
July 23 & July 30, 2021

Steven Costello, Chair  
Barnstable Planning Board

JUL 26 2021

26 2021

**Town of Barnstable  
Planning Board  
Notice of Public Hearing  
Regulatory Agreement No. 2021-02 – Dunrovin Too, LLC  
68 Yarmouth Road, Hyannis  
August 9, 2021, 7:00 P.M.  
Zoom Meeting ID 922 7789 3023**

To all persons deemed interested in the Planning Board acting under Chapter 168 of the Code of the Town of Barnstable, Regulatory Agreements and the General Laws of the Commonwealth of Massachusetts, and the Zoning Ordinances of the Town of Barnstable, specifically Section 240-24.1 Hyannis Village Zoning Districts, you are hereby notified of a Public Hearing for Regulatory Agreement No. 2021-02.

Dunrovin Too, LLC seeks to enter into a Regulatory Agreement with the Town of Barnstable to demolish the existing building and redevelop the property with four new two-story duplex buildings for a total of eight units.

The subject property is 68 Yarmouth Road, Hyannis, Massachusetts, shown on Assessor's Map 327 as Parcel 166. It is zoned MS Medical Services District.

The Regulatory Agreement seeks waivers from the Zoning Ordinance, specifically:

Section 240-24.1.4(A)(1)(H) Permitted principal uses, for multi-family housing totaling not more than size dwelling units per acre or 12 bedrooms per acre. The proposed multi-family development exceeds the allowed total with eight units on a lot that is less than an acre.

Section 240-24.1.4(C) Dimensional bulk and other requirements, for minimum front yard setback of twenty feet.

Section 240-24.1.4(D)(1) Site Development Standards, for a perimeter green space of not less than ten feet.

Section 240-24.1.11(A)(4)(a)[2] Off-street parking requirements. The proposed parking spaces are off-site on an adjacent lot and are more than thirty feet from the base of the multi-family dwellings.

Members of the public may participate in the Public Hearing through remote access via the Zoom link or telephone number and Meeting ID provided below.

Alternative public access to this meeting shall be provided in the following manner:

1. The meeting will be televised via Channel 18 and may be viewed via the Channel 18 website at <http://streaming85.townofbarnstable.us/CablecastPublicSite/>

2. Real-time access to the Planning Board meeting is available utilizing the Zoom link or telephone number and Meeting ID provided below:

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Barnstable Patriot  
July 23 & July 30, 2021

Steven Costello, Chair  
Barnstable Planning Board



**Town of Barnstable**  
**Planning & Development Department**  
[www.townofbarnstable.us/planninganddevelopment](http://www.townofbarnstable.us/planninganddevelopment)



Elizabeth Jenkins  
Director

July 22, 2021

Department of Housing and Community Development  
100 Cambridge Street, Suite 300 - Boston, MA 02114

Cape Cod Commission  
P.O. Box 226 - 3225 Main Street (Route 6A) - Barnstable, MA 02630

Town of Sandwich, Planning Board  
16 Jan Sebastien Drive - Sandwich, MA 02563

✓ Town of Mashpee, Planning Board  
16 Great Neck Road - Mashpee, MA 02649

Town of Yarmouth, Planning Board  
1146 Route 28 - Yarmouth, MA 02664

Town of Barnstable, Zoning Board of Appeals  
200 Main Street- Hyannis, MA 02601

**Reference: Town of Barnstable Planning Board**  
**Proposed Zoning Amendment – TC Item No. 2022-007**

**AMENDING THE CODE OF THE TOWN OF BARNSTABLE, PART I GENERAL ORDINANCES, CHAPTER 240 ZONING BY ADDING A MIXED-USE SUB ZONE OF THE MEDICAL SERVICES OVERLAY DISTRICT**

The Barnstable Planning Board, acting under Chapter 40A, Section 5 of the General Laws of the Commonwealth of Massachusetts, will hold a public hearing on Monday, August 9, 2021, at 7:00 p.m. The purpose of this public hearing is to take comment on a proposal to amend the Code of the Town of Barnstable, Part I General Ordinances, Chapter 240 Zoning by adding a Mixed-Use Sub Zone of the Medical Services Overlay District.

The proposal is to amend the Zoning Map of Barnstable, Mass. Dated September 1, 1998, as previously amended, as referenced in Article II, Section 240-6, to add a Mixed-Use Sub Zone of the Medical Services Overlay District, as shown on maps dated July 7, 2021, prepared by the Town of Barnstable Geographical Information System Unit, and entitled:

- Proposed Amendment to the Town Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District
- Proposed Amendment to the Hyannis Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District
- Proposed Amendment to the Barnstable Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District

The proposal is to amend Article II, Section 240-5, Establishment of districts, by inserting the term “Mixed-Use Sub Zone of the Medical Services Overlay District” immediately below the term “Medical Services Overlay District” as it appears under the heading “Overlay Districts”.

The proposal is to insert in Article III, the following new Section 240-38.1:

JUL 26 2021

“§ 240-38.1 Mixed-Use Sub Zone of the Medical Services Overlay District

**A. Purpose.**

- (1) The purpose of this section is to permit the development and relocation of medical and healthcare services, together with commercial, retail and residential uses, on a site with convenient regional access. The Mixed-Use Sub Zone is established as a special district of the Medical Services Overlay District which overlays in majority part the Industrial Zoning District, and, in part, the Groundwater Protection and Wellhead Protection Overlay Districts.
- (2) Provisions of this section are designed to ensure that all development activities associated with the Mixed-Use Sub Zone will be carried out so as to provide for and maintain protection of neighboring properties, convenient and safe access for vehicular and pedestrian movement, fire-fighting and emergency rescue vehicles, satisfactory methods of stormwater management, groundwater recharge and handling and disposal of sewage and waste and adequate off-street parking. To the extent anything contained in this Section 240-38.1 conflicts with any other provisions of this zoning ordinance, this Section 240-38.1 shall govern.

**B. District established.** A "Mixed-Use Sub Zone of the Medical Services Overlay District" is hereby established and shall be considered superimposed over any other districts established by this chapter and is shown as an overlay on the Official Zoning Map established pursuant to §240-6, Zoning Map, herein.

**C. Principal permitted uses.** The principal permitted uses allowed in the Mixed-Use Sub Zone shall include all uses permitted in the Medical Services Overlay District, which include all uses permitted in the underlying IND District (including, without limitation, any use permitted in the B and S&D Districts). Additionally, multifamily dwellings (apartments) on a lot within 1,000 feet of Kidd's Hill Road within the Mixed-Use Sub Zone shall be permitted subject to the following provisions in lieu of the requirements set forth in Sections 240-21.A(9)(a)-(i) or 240.38(F), or any other provisions as may be set forth in this Zoning Ordinance:

- (1) The minimum lot area ratio shall be 1,500 square feet of lot area per each apartment unit for new multifamily structures.
- (2) The maximum lot coverage shall be 25%.
- (3) The maximum height shall not exceed 35 feet<sup>1</sup>.
- (4) The minimum front yard setback shall be 60 feet.
- (5) The minimum side and rear yard setbacks shall be 30 feet.
- (6) The maximum floor area ratio shall be 0.75.
- (7) A perimeter green space of not less than 20 feet in width shall be provided, such space to be planted and maintained as green area and to be broken only in a front yard by a driveway.
- (8) No living units shall be constructed or used below the ground level.

<sup>1</sup> Except that for multifamily structures on a lot not less than 10 acres, the maximum building height shall be not more than 4 stories which shall not be more than 55 feet in height measured to the highest point on the roof (not including antennas or similar roof structures).

---



- D. Accessory uses.** Within the Mixed-Use Sub Zone, accessory uses or accessory buildings are permitted, including, without limitation, parking garages, pools, parking areas and offices, provided that any such use or building is customarily incidental to, subordinate to and on the same lot as the principal use it serves.
- E. Conditional uses.** The conditional uses allowed in the Mixed-Use Sub Zone shall include all conditional uses permitted in the Medical Services Overlay District, the IND District, the S&D District, and the B District.
- F. Special Permit uses.** The special permit uses allowed in the Mixed-Use Sub Zone shall include all special permit uses permitted in the Medical Services Overlay District, the IND District and the B District, 'Senior Living, Assisted Living'<sup>2</sup>, 'Senior Living, Nursing Homes'<sup>2</sup>, independent living facilities, memory care facilities, and long-term care facilities. Additionally, multifamily dwellings (apartments) on a lot, any portion of which is set back greater than 1,000 feet from Kidd's Hill Road within the Mixed-Use Sub Zone, shall be allowed by special permit, subject to the provisions of Section 240-38.1(C) above in lieu of the requirements set forth in Sections 240 21(A)(9)(a)-(i) or 240.38(F), or any other provisions as may be set forth in this Zoning Ordinance.

<sup>2</sup> As such term is defined in Section 240-25(F).

- G. Bulk regulations** (dimensional requirements) for all uses other than multifamily dwellings (apartments):
- (1) Minimum lot area: 90,000 square feet.
  - (2) Minimum lot frontage: 200 feet.
  - (3) Minimum setback, front: 60 feet.
  - (4) Side/rear yard: 30 feet minimum.
  - (5) Building height:<sup>3</sup> 35 feet<sup>4</sup>.
  - (6) Front yard landscape buffer: 45 feet.
  - (7) Landscape buffer, rear and side yard: 30 feet.
  - (8) Maximum lot coverage: 25%.
  - (9) Maximum floor area ratio: 0.40.

<sup>3</sup> Skylights, mechanical penthouses and architectural features not designed for human occupancy shall be excluded in determining the height of any building in the Mixed-Use Sub Zone.

<sup>4</sup> Except that for structures containing 'Senior Living, Assisted Living', 'Senior Living, Nursing Homes', independent living facilities, memory care facilities and/or long-term care facilities, on a lot not less than 10 acres, the maximum building height shall not be more than 4 stories which shall not be more than 55 feet measured to the highest point on the roof (not including antennas or similar roof structures).

**H. Parking Regulations.**

- (1) For multifamily dwellings, off-street parking shall be provided at a ratio of 1.3 spaces per dwelling unit, and 1 guest space per 10 dwelling unit spaces
  - (2) For retail uses, off-street parking shall be provided at a ratio of 1 space per 250 retail sf.
  - (3) For medical uses, off-street parking shall be provided at a ratio of 1 space per 250 sf.
-

- I. Design and Screening Standards.** Notwithstanding anything contained in Section 240-52, or any other provisions as may be set forth in this Zoning Ordinance, each off-street parking space in the Mixed-Use Sub Zone shall have minimum dimensions of 9 feet by 18 feet excluding the driveway to such space.
- J. Incidental Storage of Hazardous Materials and Impervious Coverage.** Hazardous Materials may be stored and offered for sale in connection with retail use or incidental to multifamily use in the Mixed-Use Sub Zone, except as prohibited by the WP Wellhead Protection Overlay District.  
In the Mixed-Use Sub Zone, compliance with the lot coverage requirements set forth in Sections 240-35(F)(3) and 240-35(G)(3) may be determined across multiple lots located within the district if the owners of such lots agree to do so in a written agreement provided to the building department. Additionally, for purposes of Sections 240-35(F)(3) and 240-35(G)(3), porous pavement shall not be considered paved surface.
- K. Signage.** Notwithstanding the provisions of Sections 240-64, 65 and 66 herein, (i) on lots with not less than 10 acres in the Mixed-Use Sub Zone, an aggregate sign area of up to 400 square feet shall be allowed, provided that the sign area of any single sign does not exceed 200 square feet, and (ii) one free-standing sign of up to 200 square feet shall be allowed in the Mixed-Use Sub Zone, provided that such free-standing sign identifies at least two commercial, retail and/or medical uses within the Mixed-Use Sub Zone.
- L. Exemption.** The uses described in this Section 240-38.1 shall be exempt from the residential building permitting limitations established by Article XI, Sections 240-110 through 240-122.”

Members of the public may participate in the Public Hearing through remote access via the Zoom link or telephone number and Meeting ID provided below.

Alternative public access to this meeting shall be provided in the following manner:

1. The meeting will be televised via Channel 18 and may be viewed via the Channel 18 website at <http://streaming85.townofbarnstable.us/CablecastPublicSite/>

2. Real-time access to the Planning Board meeting is available utilizing the Zoom link or telephone number and Meeting ID provided below:

Link: <https://zoom.us/j/92277893023>

Phone: 888 475 4499 US Toll-free Meeting ID: 922 7789 3023

3. Applicants, their representatives and individuals required or entitled to appear before the Barnstable Planning Board may appear remotely, and may participate through accessing the link or telephone number provided above. Documentary exhibits and/or visual presentations should be submitted in advance of the meeting to [Kaitlyn.maldonado@town.barnstable.ma.us](mailto:Kaitlyn.maldonado@town.barnstable.ma.us), so that they may be displayed for remote public access viewing.

Copies of the proposed amendment are available for review by calling 508-862-4791 or emailing [Kaitlyn.maldonado@town.barnstable.ma.us](mailto:Kaitlyn.maldonado@town.barnstable.ma.us).

Attach: Notice Amendment and Summary  
Copy: Planning Board Chair

**B. NEW BUSINESS (Refer to the Planning Board for Public Hearing)**

**BARNSTABLE TOWN COUNCIL**

**ITEM# 2022-007**

**INTRO: 07/15/21**

**2022-XXX AMENDING THE CODE OF THE TOWN OF BARNSTABLE,  
PART I GENERAL ORDINANCES, CHAPTER 240 ZONING BY  
ADDING A MIXED-USE SUB ZONE OF THE MEDICAL  
SERVICES OVERLAY DISTRICT**

**ORDERED:** That the Code of the Town of Barnstable, Part I General Ordinances, Chapter 240 Zoning be amended as follows:

**SECTION 1**

By amending the Zoning Map of Barnstable, Mass. Dated September 1, 1998, as previously amended, as referenced in Article II, Section 240-6, to add a Mixed-Use Sub Zone of the Medical Services Overlay District, as shown on maps dated July 7, 2021, prepared by the Town of Barnstable Geographical Information System Unit, and entitled:

- Proposed Amendment to the Town Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District
- Proposed Amendment to the Hyannis Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District
- Proposed Amendment to the Barnstable Zoning Map Creating the Mixed-Use Sub Zone of the Medical Services Overlay District

**SECTION 2**

By amending Article II, Section 240-5, Establishment of districts, by inserting the term “Mixed-Use Sub Zone of the Medical Services Overlay District” immediately below the term “Medical Services Overlay District” as it appears under the heading “Overlay Districts”.

**SECTION 3**

By inserting in Article III, the following new Section 240-38.1:

**“§ 240-38.1 Mixed-Use Sub Zone of the Medical Services Overlay District**

**A. Purpose.**

- (1) The purpose of this section is to permit the development and relocation of medical and healthcare services, together with commercial, retail and residential uses, on a site with convenient regional access. The Mixed-Use Sub Zone is established as a special district of the Medical Services Overlay District which overlays in majority part the Industrial Zoning District, and, in part, the Groundwater Protection and Wellhead Protection Overlay Districts.

(2) Provisions of this section are designed to ensure that all development activities associated with the Mixed-Use Sub Zone will be carried out so as to provide for and maintain protection of neighboring properties, convenient and safe access for vehicular and pedestrian movement, fire-fighting and emergency rescue vehicles, satisfactory methods of stormwater management, groundwater recharge and handling and disposal of sewage and waste and adequate off-street parking. To the extent anything contained in this Section 240-38.1 conflicts with any other provisions of this zoning ordinance, this Section 240-38.1 shall govern.

**B. District established.** A "Mixed-Use Sub Zone of the Medical Services Overlay District" is hereby established and shall be considered superimposed over any other districts established by this chapter and is shown as an overlay on the Official Zoning Map established pursuant to §240-6, Zoning Map, herein.

**C. Principal permitted uses.** The principal permitted uses allowed in the Mixed-Use Sub Zone shall include all uses permitted in the Medical Services Overlay District, which include all uses permitted in the underlying IND District (including, without limitation, any use permitted in the B and S&D Districts). Additionally, multifamily dwellings (apartments) on a lot within 1,000 feet of Kidd's Hill Road within the Mixed-Use Sub Zone shall be permitted subject to the following provisions in lieu of the requirements set forth in Sections 240-21.A(9)(a)-(i) or 240.38(F), or any other provisions as may be set forth in this Zoning Ordinance:

- (1) The minimum lot area ratio shall be 1,500 square feet of lot area per each apartment unit for new multifamily structures.
- (2) The maximum lot coverage shall be 25%.
- (3) The maximum height shall not exceed 35 feet<sup>1</sup>.
- (4) The minimum front yard setback shall be 60 feet.
- (5) The minimum side and rear yard setbacks shall be 30 feet.
- (6) The maximum floor area ratio shall be 0.75.
- (7) A perimeter green space of not less than 20 feet in width shall be provided, such space to be planted and maintained as green area and to be broken only in a front yard by a driveway.
- (8) No living units shall be constructed or used below the ground level.

**D. Accessory uses.** Within the Mixed-Use Sub Zone, accessory uses or accessory buildings are permitted, including, without limitation, parking garages, pools, parking areas and

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<sup>1</sup> Except that for multifamily structures on a lot not less than 10 acres, the maximum building height shall be not more than 4 stories which shall not be more than 55 feet in height measured to the highest point on the roof (not including antennas or similar roof structures).

offices, provided that any such use or building is customarily incidental to, subordinate to and on the same lot as the principal use it serves.

- E. Conditional uses.** The conditional uses allowed in the Mixed-Use Sub Zone shall include all conditional uses permitted in the Medical Services Overlay District, the IND District, the S&D District, and the B District.
- F. Special Permit uses.** The special permit uses allowed in the Mixed-Use Sub Zone shall include all special permit uses permitted in the Medical Services Overlay District, the IND District and the B District, ‘Senior Living, Assisted Living’<sup>2</sup>, ‘Senior Living, Nursing Homes’<sup>2</sup>, independent living facilities, memory care facilities, and long-term care facilities. Additionally, multifamily dwellings (apartments) on a lot, any portion of which is set back greater than 1,000 feet from Kidd’s Hill Road within the Mixed-Use Sub Zone, shall be allowed by special permit, subject to the provisions of Section 240-38.1(C) above in lieu of the requirements set forth in Sections 240-21(A)(9)(a)-(i) or 240.38(F), or any other provisions as may be set forth in this Zoning Ordinance.
- G. Bulk regulations** (dimensional requirements) for all uses other than multifamily dwellings (apartments):
- (1) Minimum lot area: 90,000 square feet.
  - (2) Minimum lot frontage: 200 feet.
  - (3) Minimum setback, front: 60 feet.
  - (4) Side/rear yard: 30 feet minimum.
  - (5) Building height:<sup>3</sup> 35 feet<sup>4</sup>.
  - (6) Front yard landscape buffer: 45 feet.
  - (7) Landscape buffer, rear and side yard: 30 feet.
  - (8) Maximum lot coverage: 25%.
  - (9) Maximum floor area ratio: 0.40.
- H. Parking Regulations.**
- (1) For multifamily dwellings, off-street parking shall be provided at a ratio of 1.3 spaces per dwelling unit, and 1 guest space per 10 dwelling unit spaces
  - (2) For retail uses, off-street parking shall be provided at a ratio of 1 space per 250 retail sf.
  - (3) For medical uses, off-street parking shall be provided at a ratio of 1 space per 250 sf.

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<sup>2</sup> As such term is defined in Section 240-25(F).

<sup>3</sup> Skylights, mechanical penthouses and architectural features not designed for human occupancy shall be excluded in determining the height of any building in the Mixed-Use Sub Zone.

<sup>4</sup> Except that for structures containing ‘Senior Living, Assisted Living’, ‘Senior Living, Nursing Homes’, independent living facilities, memory care facilities and/or long-term care facilities, on a lot not less than 10 acres, the maximum building height shall not be more than 4 stories which shall not be more than 55 feet measured to the highest point on the roof (not including antennas or similar roof structures).

- I. **Design and Screening Standards.** Notwithstanding anything contained in Section 240-52, or any other provisions as may be set forth in this Zoning Ordinance, each off-street parking space in the Mixed-Use Sub Zone shall have minimum dimensions of 9 feet by 18 feet excluding the driveway to such space.
  
- J. **Incidental Storage of Hazardous Materials and Impervious Coverage.** Hazardous Materials may be stored and offered for sale in connection with retail use or incidental to multifamily use in the Mixed-Use Sub Zone, except as prohibited by the WP Wellhead Protection Overlay District.  
  
 In the Mixed-Use Sub Zone, compliance with the lot coverage requirements set forth in Sections 240-35(F)(3) and 240-35(G)(3) may be determined across multiple lots located within the district if the owners of such lots agree to do so in a written agreement provided to the building department. Additionally, for purposes of Sections 240-35(F)(3) and 240-35(G)(3), porous pavement shall not be considered paved surface.
  
- K. **Signage.** Notwithstanding the provisions of Sections 240-64, 65 and 66 herein, (i) on lots with not less than 10 acres in the Mixed-Use Sub Zone, an aggregate sign area of up to 400 square feet shall be allowed, provided that the sign area of any single sign does not exceed 200 square feet, and (ii) one free-standing sign of up to 200 square feet shall be allowed in the Mixed-Use Sub Zone, provided that such free-standing sign identifies at least two commercial, retail and/or medical uses within the Mixed-Use Sub Zone.”
  
- L. **Exemption.** The uses described in this Section 240-38.1 shall be exempt from the residential building permitting limitations established by Article XI, Sections 240-110 through 240-122.”

**SPONSOR:** President Matthew Levesque, Councilor Precinct 10

DATE	ACTION TAKEN
_____	_____
_____	_____

- \_\_\_ Read Item
- \_\_\_ Motion to Open Public Hearing
- \_\_\_ Rationale
- \_\_\_ Public Hearing
- \_\_\_ Close public hearing
- \_\_\_ Council discussion
- \_\_\_ Move/vote

## BARNSTABLE TOWN COUNCIL

ITEM# 2022-007  
INTRO: 07/15/2021

### SUMMARY

**TO:** Town Council  
**FROM:** Mark S. Ells, Town Manager  
**THROUGH:** Elizabeth Jenkins, Director, Planning & Development Department  
**DATE:** July 13, 2021  
**SUBJECT:** Amending Article III to add Chapter 240 Section 38.1 Mixed-Use Sub Zone of the Medical Services Overlay District

**BACKGROUND:** Cape Cod Hospital is the current owner of approximately 40 acres of land located at 35 & 0 Wilkens Lane in Hyannis, Massachusetts (the "Property"). The Property is primarily zoned IND Industrial District, MSOD Medical Services Overlay District, and is within the GP Groundwater Protection and WP Wellhead Protection Overlay Districts. The Property is subject to the terms of a Development Agreement between Cape Cod Healthcare, Inc., (the "Hospital") and the Cape Cod Commission, dated March 20, 2003. Under the terms of the Development Agreement, the Commission approved the development of an approximately 263,000 SF outpatient medical complex at the Property, to be constructed in phases.

The Hospital has constructed a portion of the approved development, which the Hospital operates as the Wilkens Outpatient Medical Complex. While the Hospital remains committed to expanding its medical facilities and services in Hyannis, such expansion will largely be focused on the Hospital's main Park Street campus in Hyannis, in light of regulatory and other considerations. Notwithstanding its focus on the main campus, the Hospital plans to construct an additional phase of the approved development, similar in size to the portion that has been constructed, on the Property. In that this additional phase of the approved development will only occupy a portion of the Property, the Hospital decided that the best course was to divide the Property into multiple parcels to allow for additional complementary uses on the Property and provide critical funding for the Hospital. Accordingly, the Hospital has entered into an agreement with New England Development ("NED"), whereby NED would acquire and develop, in phases, the remaining approximately 32-acre area of land located at the Property with residential and commercial uses. The Hospital will retain ownership and operation of the contiguous portion of land which contains the existing Wilkens Outpatient Medical Complex as well as sufficient acreage to accommodate future expansion. This arrangement will allow the Hospital to expand its existing facility at the Property and provide capital necessary to support its other expansion plans and ongoing operations. NED intends to develop the 32 acres in phases with the first phase being multi-family residential rental housing (including affordable housing), with two outparcels reserved for future development.

**RATIONALE:** The proposed zoning amendment would add a new zoning overlay district, Chapter 240, Section 38.1 Mixed-Use Sub Zone of the Medical Services Overlay District. The proposed overlay district provides flexibility within the Sub-Zone to permit development and

relocation of medical and healthcare services together with complementary commercial, retail and residential uses, on the previously developed and/or disturbed site with convenient regional access.

Multifamily residential development is a use permitted in the IND Industrial District. The proposed zoning overlay modifies the bulk and dimensional standards applicable to this use to allow housing development at a greater density than currently permitted. Maximum allowable building height is increased to four stories, not to exceed 55 feet. Parking requirements are reduced for multifamily, retail and medical uses. Uses not already permitted in the IND or MSOD, or additional multifamily development not currently contemplated (beyond 1000' of Kidd's Hill Road) will require a Special Permit.

Development within the Mixed-Use Sub Zone will also require Cape Cod Commission approval by way of an amendment to the existing Development Agreement between the Hospital and the Cape Cod Commission. Further, the adoption of the amendment will permit the Hospital to proceed with its agreement with NED which will result in 32 acres of the Mixed-Use Sub Zone to be returned to the property tax rolls while providing the opportunity to create much needed multifamily housing including affordable housing.

**FISCAL IMPACT:** A fiscal impact analysis was prepared by Fougere Planning & Development, Inc. for New England Development & Cape Cod Healthcare which concluded the following:

Immediately following the transfer of the property from a tax-exempt not-for-profit entity to a non-exempt for-profit entity, the Project Site will become subject to property taxation. According to the project proponent, the estimated value of the property will be \$121,000 per acre and the proposed development project will result in a net annual positive fiscal impact of \$469,316. The initial phase of the proposed project would create the 4th largest taxpayer in the community with an additional twenty one acres of land available for future development. One time building permit fees will generate approximately \$630,000 in revenue. Twenty-seven affordable housing units will be created, addressing a critical need in the community, and there will be intangible positive economic benefits of creating market rate housing.

**TOWN MANAGER RECOMMENDATION:** Mark S. Ells, Town Manager, recommends the proposed zoning amendment.

**STAFF SUPPORT:** Elizabeth Jenkins, Director of Planning & Development; Kate Maldonado, Assistant Director of Planning & Development





Massachusetts Department of Environmental Protection

# eDEP Transaction Copy

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Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **EBELAIR**

Transaction ID: **1297181**

Document: **Groundwater Discharge Monitoring Report Forms**

Size of File: **1033.79K**

Status of Transaction: **Submitted**

Date and Time Created: **7/23/2021:1:39:25 PM**

**Note:** This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



# Groundwater Permit

## DISCHARGE MONITORING REPORT

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN MONTHLY
3. Sampling Month & Frequency

### A. Facility Information

**Important:**When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility name, address:

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

c. City

MA

d. State

02649

e. Zip Code

2. Contact information:

MYLES OSTROFF

a. Name of Facility Contact Person

6174311097

b. Telephone Number

myles@chartweb.com

c. e-mail address

3. Sampling information:

6/2/2021

a. Date Sampled (mm/dd/yyyy)

RI ANALYTICAL

b. Laboratory Name

KRYSTOF TRAFALSKI

c. Analysis Performed By (Name)

### B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Discharge Monitoring Report - 2021 Jun Monthly

All forms for submittal have been completed.

2.  This is the last selection.

3.  Delete the selected form.



**Groundwater Permit**  
DISCHARGE MONITORING REPORT

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN MONTHLY
3. Sampling Month & Frequency

**D. Contaminant Analysis Information**

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled

1. Parameter/Contaminant	2. Influent	3. Effluent	4. Effluent Method Detection limit
Units			
BOD	120	3.5	3.0
MG/L			
TSS	200	4.7	2.0
MG/L			
TOTAL SOLIDS	530		
MG/L			
AMMONIA-N	24		
MG/L			
NITRATE-N		0.16	0.050
MG/L			
TOTAL NITROGEN(NO3+NO2+TKN)		2.7	0.25
MG/L			
OIL & GREASE		ND	0.50
MG/L			



# Groundwater Permit

## MONITORING WELL DATA REPORT

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN MONTHLY
3. Sampling Month & Frequency

### A. Facility Information

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility name, address:

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

c. City

MA

d. State

02649

e. Zip Code

2. Contact information:

MYLES OSTROFF

a. Name of Facility Contact Person

6174311097

b. Telephone Number

myles@chartweb.com

c. e-mail address

3. Sampling information:

6/1/2021

a. Date Sampled (mm/dd/yyyy)

WHITEWATER

b. Laboratory Name

JAIME STEWART

c. Analysis Performed By (Name)

### B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Monitoring Well Data Report - 2021 Jun Monthly

All forms for submittal have been completed.

2.  This is the last selection.

3.  Delete the selected form.



**Groundwater Permit**  
 MONITORING WELL DATA REPORT

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN MONTHLY
3. Sampling Month & Frequency

**C. Contaminant Analysis Information**

- For "0", below detection limit, less than (<) value, or not detected, enter "ND"
- TNTC = too numerous to count. (Fecal results only)
- NS = Not Sampled
- DRY = Not enough water in well to sample.

<

Parameter/Contaminant	P-1	P-2	P-4	P-6		
Units	Well #: 1	Well #: 2	Well #: 3	Well #: 4	Well #: 5	Well #: 6
PH	5.8	DRY	6.3	6.1		
S.U.						
STATIC WATER LEVEL	19.1	DRY	47.3	50.9		
FEET						
SPECIFIC CONDUCTANCE	584	DRY	491	719		
UMHOS/C						



# Groundwater Permit

## DAILY LOG SHEET

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN DAILY
3. Sampling Month & Frequency

### A. Facility Information

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility name, address:

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

MA

02649

c. City

d. State

e. Zip Code

2. Contact information:

MYLES OSTROFF

a. Name of Facility Contact Person

6174311097

myles@chartweb.com

b. Telephone Number

c. e-mail address

3. Sampling information:

6/30/2021

WHITEWATER

a. Date Sampled (mm/dd/yyyy)

b. Laboratory Name

JAIME STEWART

c. Analysis Performed By (Name)

### B. Form Selection

1. Please select Form Type and Sampling Month & Frequency

Daily Log Sheet - 2021 Jun Daily

All forms for submittal have been completed.

2.  This is the last selection.

3.  Delete the selected form.



**Groundwater Permit**  
DAILY LOG SHEET

668
1. Permit Number
[REDACTED]
2. Tax identification Number
2021 JUN DAILY
3. Sampling Month & Frequency

**C. Daily Readings/Analysis Information**

Date	Effluent Flow GPD	Reuse Flow GPD	Irrigation Flow GPD	Turbidity	Influent pH	Effluent pH	Chlorine Residual (mg/l)	UV Intensity (%)
1	7676					7.5		
2	11462					7.6		
3	7586					7.5		
4	10136					7.2		
5	10136							
6	10136							
7	11485					7.2		
8	7625					7.3		
9	11583					7.5		
10	11459					7.2		
11	12687					7.3		
12	12687							
13	12687							
14	15054					7.5		
15	11404					7.4		
16	14732					7.3		
17	14997					7.4		
18	11031					7.3		
19	11031							
20	11031							
21	11129					7.1		
22	11069					7.3		
23	14828					7.2		
24	11239					7.1		
25	13614					7.3		
26	13614							
27	13614							
28	11545					7		
29	11300					7		
30	11287					6.9		
31								



# Groundwater Permit

668

1. Permit Number

2. Tax identification Number

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Any person signing a document under 314 CMR 5.14(1) or (2) shall make the following certification

If you are filing electronic-ally and want to attach additional comments, select the check box.



## Facility Information

SOUTH CAPE VILLAGE

a. Name

672 FALMOUTH ROAD/RTE. 28

b. Street Address

MASHPEE

c. City

MA

d. State

02649

e. Zip Code

## Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

ELIZABETH BELAIR

a. Signature

7/23/2021

b. Date (mm/dd/yyyy)

## Reporting Package Comments

PUMPING & HAULING:0 PLANT MET ALL DISCHARGE PERMIT REQUIREMENTS FOR JUNE 2021.