



July 8, 2024

Colleen Medeiros  
Transportation Program Manager  
Cape Cod Commission  
3225 Main Street  
Barnstable, MA 02630

**RE: Proposed Traffic Mitigation  
Proposed YMCA  
485 Brick Kiln Road, Falmouth, MA**

Bowman (formerly McMahon) has reviewed potential traffic mitigation measures as part of the proposed YMCA (herein referred to as the "Project") located at 485 Brick Kiln Road in Falmouth, MA. Bowman previously prepared the Traffic Impact Study (TIS) for the Project dated October 2023. The mitigation measures have been reviewed and evaluated based on the Transportation goals and objectives outlined in the Cape Cod Commission's (CCC) 2018 Regional Policy Plan. These include;

1. Improve Safety and eliminate hazards for users of Cape Cod's transportation system.
2. Provide and promote a balanced and efficient transportation system that includes healthy transportation options and appropriate connections for all users.
3. Provide an efficient and reliable transportation system that will serve the current and future needs of the region and its people.

The purpose of this memorandum is to outline the mitigation measures that have been evaluated and proposed for the study area intersections. The proposed mitigation measures have not yet been confirmed/approved by the CCC or the Town of Falmouth. Upon confirmation, concept plans for the proposed mitigation would be prepared and administered. A supplemental field review of the study area was conducted on July 1, 2024 to confirm existing conditions described below.

### **Pedestrian Clearance Intervals**

Independent of the proposed YMCA, the existing sidewalk network along Brick Kiln Road would be extended to connect the site to the intersection of Brick Kiln Road at Gifford Street/Gifford Street Extension as part of the residential development located on Brick Kiln Road just west of the proposed YMCA site. The proposed YMCA would include a sidewalk network internal to the site, including crosswalks, sidewalks, and curb ramps. Additionally, a path directly connecting the YMCA to the adjacent Falmouth High School would be provided. The pedestrian network would allow for pedestrians to access and circulate the site from the adjacent Falmouth High School and nearby residences.

The signalized intersection of Brick Kiln Road at Gifford Street/Gifford Street Extension currently operates with a push button activated exclusive pedestrian phase, with crosswalks spanning the southbound and westbound approaches, consistent with the surrounding sidewalk network. Based on a review of the existing signal timings, the currently pedestrian clearance intervals are not sufficient for the length of the crosswalk

spanning the southbound approach. **As part of the project, the exclusive pedestrian phase timings would be updated to accommodate the existing crosswalks. These adjustments would be coordinated with the Town of Falmouth and would not be anticipated to have a significant impact on the capacity analysis results presented in the October 2023 TIS.**

### **Vehicle Clearance Intervals**

The study area intersection of Brick Kiln Road at Gifford Street/Gifford Street Extension was identified as a high crash location, averaging 3.2 crashes per year during the five-year period analyzed, which included 2016 through 2020. Based on the crash data, eight of the crashes were angle collisions, with six reported to include left-turning vehicles. The intersection currently operates with protected/permissive left-turn phasing for all approaches.

Crashes involving permissive left-turns can be caused in part by sight distance restrictions, where vehicles turning left are unable to adequately identify the available gap in traffic to make a permissive left-turn, or by inadequate clearance intervals, where the all-red time is not sufficient to allow left-turning vehicles to clear the intersection prior to the conflicting traffic green phase.

Clearance interval calculations were completed based on the width of the intersection and posted speed limits. Based on the calculated clearance intervals, the existing all-red times at the signalized intersection of Brick Kiln Road at Gifford Street/Gifford Street Extension are too short and could be a contributing factor in the number of left-turn related crashes. **As part of the project, traffic signal timing adjustments to update the clearance intervals would be coordinated with the Town of Falmouth. These adjustments would not be anticipated to have a significant impact on the capacity analysis results presented in the October 2023 TIS.**

### **Advanced Warning Signage**

A total of six reported crashes were rear-end collisions. There are currently no intersection warning signs provided on the eastbound, westbound, and southbound approaches to the signalized intersection of Brick Kiln Road at Gifford Street/Gifford Street Extension. There is currently a "Signal Ahead" (symbol) warning sign (W3-3) and an older "SIGNAL AHEAD" (word message) warning sign provided on the northbound approach to the intersection, both of which were observed to be in fair condition. **As part of the project, the installation of appropriate intersection warning signage would be completed for the eastbound, westbound, and southbound approaches to the intersection. The existing signage provided on the northbound approach would be evaluated and replaced/relocated as appropriate. The evaluation would be based on the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) and coordination with the Town of Falmouth.**

### **Signal Equipment**

Each approach to the intersection consists of three signal heads, including a five-lens "doghouse" signal head for the left-turn lane, and two three-lens signal heads for the shared through/right-turn lanes. The signal heads are each equipped with non-reflective backplates. Pedestrian push buttons are provided for

each crosswalk approach; however, the pushbuttons are not Accessible Pedestrian Signals (APS) compliant. **As part of the project, the replacement of the five-lens signal heads would be evaluated to be replaced with flashing-yellow arrow signal heads and appropriate signage to control the protected/permissive left-turn phases on each approach. All signal head backplates would be equipped with reflective borders for improved visibility. The pedestrian push buttons would also be upgraded to APS equipment.**

The conclusions of the October 2023 TIS indicate that the traffic estimated to be generated by the proposed YMCA would not have a significant impact on operations of the surrounding roadway network. However, efforts to further reduce single occupancy vehicles to the site are proposed in efforts to minimize traffic related impacts. The proposed Transportation Demand Management (TDM) measures, notably the promotion of the Cape Code Regional Transit Authority (CCRTA) DART service on site, along with the site's proximity to the Falmouth High School and the mitigation measures outlined above, would contribute to reducing the overall traffic related impacts of the site.

Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Philip Viveiros', written in a cursive style.

Philip Viveiros, P.E., PTOE, RSP2I  
Sr. Project Manager