

Cape Cod Canal Area Transportation Study

RE: Seventh Working Group Meeting

Date and Time: January 26, 2017, 4:00 PM -6:30 PM

Location: Jonathan Bourne Public Library, Community Room, 19 Sandwich Rd, Bourne, Massachusetts

Attendees: See end of document

Meeting Notes:

Ethan Britland, MassDOT Project Manager, started the presentation by welcoming and introducing project team. Everyone in attendance introduced themselves. Mr. Britland explained the meeting's agenda: welcome and introductions, study process and framework, study framework: goals and objectives, alternatives development, and schedule/next steps.

Mr. Britland stated that the goal of the Cape Cod Canal Area Transportation Study has been adjusted. The prior goal was "to establish an alternative or replacement crossing of the Cape Cod Canal to address the diminishing quality and reliability of year-round connectivity over the Canal due to the aging Sagamore and Bourne Bridges" and the updated goal is to "Improve transportation mobility and accessibility in the Cape Cod Canal Area, and to provide reliable year-round connectivity over the Canal and between the Sagamore and Bourne Bridges." Mr. Britland explained that when the study began, the US Army Corp of Engineers (USACE) had not yet started their study to repair or replace the Bourne and Sagamore Bridges.

The study's objectives have remained the same "to create reliable multimodal connectivity and mobility levels such that the quality of life on Cape Cod is not diminished by unreliable connectivity across the Cape Cod Canal"; "create a reliable multimodal connection across the Cape Cod Canal to maintain/enhance public safety in the event of the need for an emergency evacuation of portions of Cape Cod and to accommodate first responders accessing Cape Cod"; and "ensure that cross canal connectivity does not become a barrier to reliable intra-community connectivity for the Towns of Bourne and Sandwich."

Mr. Britland handed the presentation over to Mike Paiewonsky, the Study Team Project Manager from Stantec. Mr. Paiewonsky showed the overall and targeted study area. Mr. Paiewonsky then provided additional information regarding existing conditions in the area as it relates to the area of the prior 'Mid-Canal Crossing' alternative. The Mid-Canal Crossing alternative was previously dismissed for further analysis under this study due to its environmental impacts and other issues regarding Joint Base Cape Cod (JBCC).

The additional information Mr. Paiewonsky provided related to the Upper Cape Water Reserve, an area encompassing the northern 15,000 acres of JBCC. This area was created by the Massachusetts Legislature in 2002 and is owned by the Commonwealth and managed by the Division of Fishers and Wildlife. It is designated as Article 97 public conservation land. Any use or ownership change of this land would require approval from the Massachusetts legislature. The land is managed day-to-day by an

Environmental Management Commission (EMC) through a 2015 Memorandum of Agreement (MOA). The EMC is comprised of members from the Department of Fish and Game, the Department of Environmental Protection, and the Department of Conservation and Recreation. The MOA provides 19 environmental performance standards to manage the property..

Mr. Paiewonsky showed a map of the Upper Cape Water Reserve area and stated that the MOA is an enforceable legal agreement to preserve and protect the water supply reserve. Within the MOA, the purpose of the reserve is for water supply, wildlife protection, and use for training of Massachusetts military forces.

The Water Reserve, also known as the Camp Edwards Area, is the largest military training center in New England. It provides over 130,000 training days per year. The military has different designations for training areas, and this one is classified as a "Collective Training Center." A CTC is required to have greater than 9,999 acres of maneuver land; Camp Edwards has 10,904 acres. This fulfills the land area requirement but not by much. Any change of this land to a highway use will involve many hurdles. It would include permission from the Massachusetts legislature, significant environmental permits, and consent from the National Guard, who have already stated that they wouldn't be in favor of this.

Mr. Paiewonsky presented a map of a potential mid-canal bridge alignment. The study team tried to minimize interference to the JBCC area when examining the possibilities. The alignment would still require the use of approximately 29 acres of JBCC maneuver land.

Mr. Paiewonsky then spoke about Intelligent Transportation Systems (ITS) in the Study Area. ITS includes variable message signs, real-time traffic monitoring, and traffic cameras. Traffic cameras help MassDOT monitor traffic and provide motorists with real-time traveler information, incident and construction management, and weather-related information (blizzards and hurricanes). MassDOT completed a \$1.3 million ITS project in the Study Area on Routes 6, 25, and 28. Mr. Paiewonsky showed a map denoting the places with the ITS throughout the study area.

Mr. Paiewonsky stated the assumptions for the alternatives development process. He stated that it is based on year-round fall PM weekday travel for safety and mobility locations. Short- and mid-term alternatives assume that the existing bridges will remain. This study also assumes that future replacement Canal bridges will be built adjacent to the existing bridge locations and they will be toll-free. Alternatives will be designed for the 2040 fall weekday PM peak period, but will also seek additional improvements for the 2040 summer peak traffic, as feasible. However, the study is not trying to resolve summer peak-season travel problems.

The next major step in the Study is the evaluation of the suggested alternatives (in particular, alternatives for Bourne Rotary, Belmont Circle, and Exit 1C area) together using the regional travel demand model. This involves layering the alternatives upon one another and analyzing how they work together. If the transportation system does not work as desired, the Study Team will consider improvements to the alternatives to address any short-comings. Mr. Paiewonsky then handed the presentation over to Fred Moseley.

Mr. Moseley presented short-term alternatives. He stated that eight intersection locations were identified as problem areas in the region. Today's presentation will focus on three of these areas in

which physical construction is proposed. Mr. Moseley presented how these intersections are expected to operate in the future with the proposed improvements, and the potential environmental impacts.

The first location Mr. Moseley presented was Route 6A at Cranberry Highway. It is currently an unsignalized intersection. The existing delays occur on the Cranberry Highway approach. The Level of Service (LOS) for this approach is an 'F.' Generally, for traffic analysis, congestion is rated from level of service (LOS) 'A' to 'F,' with 'A' to 'D' being acceptable, and 'E' and 'F' is considered unacceptable. The recommended is to add an exclusive left-turn lane on the westbound Sandwich Road approach.

The second location is the unsignalized Route 130 at Cotuit Road intersection. The LOS from the Cotuit Road approach to Route 130 is LOS F. There is a stop sign, and drivers need to look for gaps in the traffic to turn onto the road. Installing a traffic signal would help drivers enter Route 130, improving traffic operation and reducing crashes. There are no environmental concerns or right-of-way impacts, so it would be a straight-forward improvement.

The third location is the Sandwich Road at Bourne Rotary Connector intersection. The proposed recommendation is to signalize the intersection and construction of a "Florida T" through lane for the Bourne Rotary Connector to Sandwich Road eastbound movement. A "Florida T" is a raised island that channels the road, and it isn't affected by the traffic signal. A traditional traffic signal would likely create a lot of queueing. These improvements may involve minor environmental impacts related to open space and rare species habitat. Mr. Moseley handed the presentation back over to Mr. Paiewonsky.

Mr. Britland stated that since the group is small, the team can answer questions after each section. It is better to take questions after each section because it is hard to double back on presentations.

Lance Lambros of Senator deMaedo's office stated that if the Mid-Canal Bridge alignment is much better than other alternatives, and the only issue with it is getting Article 97 legislation passed, then the Senator would work with the legislature to get the required legislation passed. He said he could get the Cape Cod delegation on board. He also didn't believe the sole source aquifer will be effected in the JBCC area.

Ed Dewitt of the Association to Preserve Cape Cod noted that the Mid-Canal Bridge would split the military base. It would also have great implications for the environment, especially water protection. It will be harder to take over land set aside for water protection. There isn't anything more important to Cape Cod than water protection.

Mr. Lambros asked, at the Cotuit Road at Route 130 intersection, how are you going to make a left turn? He stated that he drives on Cotuit Road every day and he doesn't see much traffic. The only time it is an issue is leaving Cape Cod on a Saturday or Sunday.

Mr. Moseley answered the best way to make the left turn is to signalize the intersection. Signalized intersections need to pass certain warrants and they aren't quite high enough at this location to authorize a traffic signal. He suggested that drivers might be more aggressive on Cotuit Road, but the amount of vehicles counted at this location leads us to conclude that there would be traffic backups at this location.

Another member of the Working Group asked if the intersection signals will be the most advanced, adaptive signal-type. Mr. Moseley said it depends on the location. A lone traffic signal intersection, by

itself, would have up-to-date decision making and timing and will be able to change for summer and fall conditions. Mr. Britland stated that for safety conditions a traffic signal would likely be installed. But if it isn't a safety issue, MassDOT will not force a community to have signalized intersections if it doesn't want one. Mr. Lambros reiterated that he does not see a lot of traffic on Cotuit Road to Route 130. Mr. Paiewonsky stated that between 2011 and 2013, this location is a high crash area. Mr. Britland said queue numbers will be checked at this intersection.

The presentation then returned to Mr. Paiewonsky who stated that this study is not all about cars; it is about multimodal improvements too. It includes pedestrian and bicycle alternatives. At prior meetings, building new pedestrian and bicycle facilities and finding connections between facilities was discussed. There are three possibilities to connect the existing road network to the Canal Bikeway that is a major recreation facility in the area. They are at Old Bridge Road, Pleasant Street, and the Bourne Ballfield which are all in Bourne, MA.

Regarding new facilities, the Bourne Rail Trail has garnered a lot of support. The Cape Cod Commission completed a study in October 2016 that examined two options to extend the Shining Sea Bikeway. One option is a rail-with-trail, that would put a recreational trail adjacent to the existing rail line, and the second option is to convert the rail line to a trail. They are both costly. Another option considered by the Study Team is to reroute the rail line to the east side of Route 28. The Cape Cod Commission Study considered rerouting the rail there, however, another option is a bike trail in this location. This would probably be a less expensive alternative because there wouldn't be a need for as many bridges, but the existing rail line option has a lot of connections to the existing neighborhoods and roadways in the area.

Mr. Paiewonsky then described the existing problems for pedestrians and bicyclists crossing the canal. He showed existing sidewalks and gaps in the sidewalk network. He presented some ways to close the gaps. An option for the area north of the canal is to reconstruct and widen the sidewalk near the Sagamore Park and Ride. Sallie Riggs stated when there is snow on the bridge and the sidewalks are not plowed. Mr. Paiewonsky said it would be a three-season route.

Mr. Paiewonsky said on the south side of the Sagamore Bridge, the sidewalk just ends at a parking lot. It would be advantageous to continue the sidewalk along Cranberry Highway and onto Adams Street. Mr. Paiewonsky proposed a separated bicycle/pedestrian trail on Adams Street and then a protected crossing of Sandwich Road to access the Canal path via the Bourne Ball Field. An improved pedestrian crossing could be built over the railroad tracks.

About a year ago, Adams Street was converted into a one-way street. Mr. Paiewonsky said that the roadway is now much wider than needed. Some of the pavement on Adams Street can be used to provide a two-way bike facility which can be separated from automobiles on the street.

Sallie Riggs asked if the the proposed connection next to the ball field is public land. Mr. Paiewonsky said it is next to the post office (confirmed as land owned by the Town of Bourne).

Mr. Paiewonsky stated that in the area north of the Bourne Bridge, there could be new roadway markings (sharrows), better signage, and reconstruction and widening of the existing sidewalk leading to the bridge. In the area south of the Bourne Bridge, a new sidewalk can be built along the front of the State Police barracks to the Old Sandwich Road. Bill Travers of MassDOT's District 5 stated that that proposal is already under design.

Mr. Paiewonsky continued the presentation with a discussion about Park-and-Ride lots in the area. The park and ride lots on Route 6 in Sagamore and Barnstable are very popular. They are often 90 to 100 percent full on a weekday. Park and rides lots have many benefits and reduces single-occupant vehicles traveling over the bridge. An expansion of the Park-and-Ride lot at Route 6 at Exit 6 is possible; it is state-owned land. There is more state-owned land at Exit 2 (at Route 130). This location is a feasible location for a new Park-and-Ride lot location.

To test this idea, a license plate survey was conducted in October, 2016. The survey found the lot 99% full and that 70% of vehicle owners actually lived closer to the potential lot at Exit 2. In addition, the CCRTA Sandwich Bus Line runs right by this exit. A new stop on the Sandwich line at the Exit 2 Park-and-Ride could potentially be added. The downside to this proposal for the bus line is that it would require commuters to use the local Sandwich Bus Line to the Sagamore Park and Ride lot and then transfer to another bus, creating a two-seat trip.

Bill Burbank of the Town of Sandwich Planning Board asked why the park and ride is being proposed in this area and not to the south, where there would be quicker access on and off Route 130. Mr. Paiewonsky said all the other land around the area is State Forest. Ed Dewitt mentioned that there are significant topography issues with this site. Mr. Paiewonsky agreed, noting that there are many grade changes on this parcel. A 100 car Park-and-Ride could be constructed in this location without significant grading required. With some grading and retaining walls, an additional 100 cars could be accommodated.

Sallie Riggs asked if there is any reason that a proposed design could take advantage of the topography and build a parking deck or two so the area would have more use in the future. Also, there is a potential of adding bus service and creating a tourist hub for information.

Mr. Britland said the proposed alternatives are low-hanging fruit ideas. Phasing can be discussed for larger projects for the site. This could be a place for a bike storage area. Mr. Britland also stated that a parking garage is very expensive to construct. Bill Burbank said that as soon as the lot is built, it will be full, and it will just add to the frustration. Mr. Reed said that these design ideas are not even at the 10 percent stage. All the projects suggested are good ideas.

A member of the Working Group asked how can the Town of Sandwich influence these ideas. Mr. Britland responded that attending these meetings and voicing input is very helpful. He also thanked the group for their comments.

Mr. Paiewonsky introduced the next portion of mid- to long-term alternatives. He showed an overall slide of the transportation system in the area. He reviewed the four 'gateway' roads and intersections that link to the bridges including the Sagamore Interchange, Route 6 at Exit 1C, Belmont Circle, and the Bourne Rotary. Since the Sagamore Interchange was reconstructed in 2006, the study does not propose changes for this location. There are a lot of traffic and safety issues in the remaining three sites. Mr. Paiewonsky then handed the presentation over to Fred Moseley.

Mr. Moseley discussed the issues at the intersection of Route 6 at Exit 1C. Problems occur when drivers travel onto Route 6 westbound. There is a very short acceleration lane right before the Sagamore Bridge with a steep grade. This is not only a traffic issue but a safety problem as well. The constraints in this

area include the JBCC land, State Forest land to the east, residential neighborhoods adjacent to Route 6, and the Old King's Highway Historical District in Sandwich.

The suggested alternative is the relocation of Exit 1C to a new location 3,400 feet to the east, using the utility corridor. A new 3,600 foot long ramp would connect this new interchange to the intersection of Route 130 at Route 6A. This route would have standard length acceleration and deceleration lanes and would not adversely impact local traffic patterns.

A group member asked if Exit 1C would close or would it be in addition to Exit 1C. Mr. Moseley said the proposal is to close the existing Exit 1C.

Sallie Riggs said that the Sandwich Police and Fire departments would not like this. Mr. Moseley stated this is why these proposals are up for public comment to receive local information. Another member of the public asked why would Police and Fire Departments would not like it this idea. Sallie Riggs answered because it restricts access to the local neighborhoods. Mr. Reed said the prior opposition from the Police and Fire Department were likely related to the idea of closing this Exit 1C. However, we are not proposing to close Exit 1C but rather to relocate it.

Mr. Britland said that the study has been tasked with helping problem areas. These proposed ideas will be fleshed out later. Designs will be a balance of safety and access.

Mr. Reed said the study team has already met with utility companies in the corridor and will be meeting with them again to discuss the alternatives.

A Working Group member asked if the utility corridor is an easement. Mr. Paiewonsky said the land is partially owned by the Commonwealth and partially by NSTAR (now Eversource). Property ownership along the corridor changes. Where NSTAR does not own the property, they have an easement.

Another member stated that Westchester County in New York has completed roadway improvements with lots of grading work. This study should look at improvements on a wider scale. Mr. Reed said that this type of grading would cost a lot of money to build with large elevation changes and if there is another way to accomplish the same results, that would be examined. Another member of the group commented that the geology of Westchester County is much different than Cape Cod's geology.

Tom Baron said it is good to entertain all ideas including the third bridge.

Bill Burbank said that NRG owns a lot of land in this area and are planning on developing it. The study team should speak with them. Design alternatives should be on a "Cape scale" and will be an important piece of Sandwich's future. This proposal shows significant change to the roadway.

Mr. Britland stated that not all of the proposed widths are for the new roadway; it would also include sidewalks and potentially bikeways.

Several options were presented for the connection of the new Exit 1C ramp to the Route 6A/Route 130 intersection, including a pair of signalized intersections, a four-leg roundabout and a five -leg roundabout.

The Study Team also examined the potential impact of this alternative on local traffic. Travel times from the Hilltop Road neighborhood in Bourne to the base of the Sagamore Bridge using both the existing

Exit 1C and the proposed Exit 1C. The relocated Exit 1C would increase this travel time from 45 seconds to 4 minutes and 45 seconds. Potential impact to environmental resources and property were also evaluated for all alternatives. Each would have similar impact to rare species habitat, open space, and residential and commercial (utility) property.

Glenn Cannon of the Cape Cod Commission asked how queuing is effected by the relocation of Exit 1C. If queuing was cut down significantly, that would generate support for this idea. Mr. Britland said that a queue analysis was completed for all proposed alternatives.

Mr. Moseley stated that the the study team is suggesting the advancement of Option 2 – 4 Leg Roundabout for travel demand model analysis. This alternative is effective and provides a simpler design than Option 3 and more in character with the Cape.

A question was asked if there was any thought given to moving the entrance of Exit 1C but keeping the exit open. Mr. Paiewonsky stated that the acceleration lane at Exit 1C would overlay with the deceleration lane of the existing Exit 1C and that would be problematic. These lanes need to kept separated. Mr. Reed added that there are more right-of-way impacts as well.

Mr. Paiewonsky then presented options for Belmont Circle. He showed an overview map of Belmont Circle and presented traffic data during the existing Fall weekday PM peak period and Summer Saturday peak period (10:00 am to 12:00 pm). Mr. Paiewonsky presented the difficult 300 foot long weaving area on the east side of the Circle where high traffic volumes from both Scenic Highway and Main Street meet and then proceed in multiple directions. Existing and future (2040) queue length for the major approaches in the Circle were also presented.

Mr. Paiewonsky presented crash data for Belmont Circle. This is designated by MassDOT as a high crash area due to the number and severity of crashes. There is a high number of crashes involving injuries. The type of crashess in this area (side swipe and rear end) is indicative of the weaving that occurs in Belmont Circle.

A clarification question was asked if these accidents are in the Rotary and not in the queue areas. Mr. Paiewonsky said that accident data is for the rotary itself and not in the queue areas. Rear-end, sideswipe, and single-vehicle crashes are all indicative of people having to make decisions quickly. Motorists are trying to simultaneuosly trying to pay attention to what is behind them, on the side of them and in front of them. Single vehicle crashes can be a single car trying to avoid a crash and/or running off the road.

Improvement to Belmont Circle are expected to reduce number of crashes. There are two reasons for a decrease in crashes: the reduction in the amount of traffic entering the rotary and signalized intersections that help moderate and direct traffic.

Mr. Paiewonsky explained that a previous traffic study had examined improvements within the rotary itself. These designs were ineffective, providing LOS F conditions. It was concluded that a successful alternative would reduce traffic entering the Circle, balance safely accommodating local traffic while maintaining access to local businesses, and be compatible with a future Bourne Bridge.

He stated that the alternatives build on each other. The Scenic Highway Ramp to Route 25 Westbound Alternative would divert traffic from entering the Circle. This ramp would start at the intersection of

Scenic Highway at Nightingale Pond Road. During the future Fall PM peak period, this alternative would divert over 685 (of 1,605) vehicles from entering the circle. During the future Summer Saturday peak period, this alternative would divert 875 (of 2,095) vehicles from entering the Circle. In each case, this represents approximately 42 percent of the vehicles previously entering Belmont Circle. This further the goal of reducing the number of vehicles entering the Circle. The only environmental issues would be rare habitat species. We are going to meet with NHESP in March to understand their concerns with species in all project areas.

This ramp alternative reduces queues on Scenic Highway but not elsewhere on the Belmont Circle area, particularly vehicles entering the Circle from Route 25 eastbound. Further improvement in the Circle are needed.

All of the following alternatives will include the ramp that was previously discussed. The next alternative, Alternative 1, includes a three-legged roundabout with a signalized intersection on the east side of Belmont Circle. The LOS is acceptable in the fall for future conditions (2040) at all approaches. For the summer, it just trips over to a LOS 'F' at the roundabout. Mr. Paiewonsky then showed the future queue lengths, which were much improved compared to the Ramp-only alternative.

Alternative 1A includes building a fly-over ramp from Route 25 eastbound to Scenic Highway eastbound. Even with removing vehicles from the signalized intersection, it was found this alternative was only slightly better than Alternative 1.

Mr. Paiewonsky presented Alternative 2, a four-legged roundabout. This alternative takes out the signalized intersection and directs all of that traffic to the roundabout with ramps directing some local traffic out of the roundabout. For example, if a driver wants to go from Main Street to Scenic Highway eastbound, this alternative includes a bypass ramp for this movement exclusively. The Study Team high hopes for this alternative, but it faired the worst among the alternative examined regarding LOS; with an LOS 'F' in the rotary in both the future fall and summer peak periods. While the queue length was similar to the other alternatives, the LOS was substantially worse.

Questions were asked by Mr. Lambros about Main Street eastbound approach to the Circle. Is there less queuing on Main Street? Which is a better alternative for main street businesses? It was suggested that queues on Main Street were of the highest concern for local residents, especially Main Street business people. Mr. Paiewonsky answered that the queuing is pretty close to each other. Their difference is a matter of seconds.

Mr. Baron commented that a third bridge would reduce traffic in Belmont Circle by a third. Mr. Britland said the Belmont Circle alternatives presented by the Study Team would be a lot less expensive than building a third bridge. Mr. Baron stated that costs should be considered after the traffic problem is solved. Mr. Britland stated that cost is a consideration.

Mr. Britland reminded everyone that this process is to test alternatives as standalone locations. Patterns may change with certain improvements to infrastructure. At this point in the study, it is hard to say what option would be the best yet. The Study Team will suggest the alternatives to test using the Travel Demand Model. Our job is to balance everyone's wants and needs.

Mr. Paiewonsky review the environmental concerns in Belmont Circle, including rare species habitat and floodplain. Belmont Circle is in the floodplain of the canal. It will be important during the future final design not to add fill material to the floodplain and keep surface elevations the same. Floodplains are not measured in square feet; they are measured in cubic yards. During design, horizontal and vertical components will be examined.

The Study Team's suggestion is to advance Alternative 1 for model analysis: the 3 leg Roundabout with a Signalized Intersection. This alternative improves traffic operations, reduces queues with a simple, cost effective design with fewer environmental impacts.

Mr. Britland asked whether there are any more questions.

Mr. Lambros stated that alternatives need to be advantageous to Main Street. Mr. Britland said the team will look at queues on Main Street.

Mr. Paiewonsky then handed the presentation over to Bill Reed.

Mr. Reed presented alternatives for the Bourne Rotary. Existing and future queue length for the Bourne Rotary approached were presented. There is substantial queuing on Route 25/Route 28 entering the Rotary from the north (over the Bourne Bridge). During the 2012 to 2014 period there were a total of 114 crashes at Bourne Rotary. The type of crashes include mainly angle, rear-end, and sideswipes collisions.

To improve traffic operations at Bourne Rotary, the team has evaluated three alternatives. They may be compatible with the future Bourne Bridge. Two additional conceptual alternatives (Alternative 3 and 3A) were also developed to be compatible with a new Bourne Bridge. The Bourne Rotary is so close to the Bourne Bridge that it will play a major role in developing alternatives.

Mr. Reed presented Alternative 1 which has a direct connector from Route 28 northbound approaching the Rotary to Sandwich Road, and a signalized intersection at the Old Sandwich Road at Bourne Rotary Connector intersection (including a Florida T-type through lanes). The entrance to the technical high school would be relocated approximately 350 to the east.

Mr. Reed said that LOS for Alternative 1 is pretty good. It is projected to be 'B' and 'C' in the future at Veterans Way and Old Sandwich Road. There remains very substantial queues on Route 25 eastbound. Queues on Route 28 northbound have almost been eliminated. This alternative does not help drivers from Route 28 southbound over the bridge or Trowbridge Road.

Alternative 1A build on Alternative 1 by adding a new Route 28 southbound ramp that takes vehicles coming off the bridge (around the State Police barracks) to Old Sandwich Road, directing them away from the rotary. A new connector roadway from Old Sandwich Road to Sandwich Road would require either an over- or underpass of Sandwich Road. Due to this new bridge structure, this alternative will be a more expensive alternative than Alternative 1. Traffic operations are similar to Alternative 1, with LOS at intersections ranging from LOS A to LOS C. Queue lengths on Route 25 southbound are reduced (compared to Alternative 1) but are still substantial.

Mr. Reed then presented Alternative 2. Mr. Reed said it is a similar type of arrangement but does not have a fly-under or -overpass. This alternative includes three signalized intersections; Old Sandwich

Road at Veterans Way, Veterans Way at Trowbridge Road, and Old Sandwich Road at Bourne Rotary Connector/Sandwich Road. In addition, the full access around the north end of the rotary would be eliminated.

Alternative 2 performed well, with one exception, the Trowbridge Road eastbound approach to the Rotary. There was good overall LOS at the signalized intersections. Forecast queue lengths were improved compared to the prior alternatives with the exception of the Trowbridge Road approach to the Rotary. This queueing problem is likely the result of Trowbridge Road traffic conflicting with traffic from Route 28 southbound over the bridge. Normally, drivers need to yield to traffic in the rotary. In this alternative, drivers do not have to yield anymore. Traffic from Route 28 southbound or Sandwich Road would be unimpeded in this alternative which reduces the opening for traffic from Trowbridge Road to enter the Rotary.

Someone commented that if there is no queue going onto the rotary, half the cars won't be on Trowbridge Road. Mr. Reed discussed the potential for cars to re-direct themselves after construction if Route 28 northbound is less congested. It would become a very attractive alternative. The Travel Demand Model will help us determine if this would occur.

Mr. Reed said that this alternative showed really big improvement of queue length when compared to the no-build scenario. This was the case when looking at summer volumes and for Route 28 southbound. Mr. Reed stated that the only environmental impacts are rare species, and this impact is minimal.

Mr. Reed then showed Alternatives 3 and 3A. These are conceptual alternatives that would be built concurrent with a new Bourne Bridge (assuming it would be located adjacent to and east of the existing bridge) The Army Corps has indicated that they will likely consider elevating the new bridge four or five feet due to climate change. Given this, and adhering to other modern design standards, it would be almost impossible to touch down the bridge where the rotary exists today.

Alternative 3 incorporates several key parts of Alternative 1A, including the Old Sandwich Road fly-under/over. Local connections will be at-grade, and there won't be a rotary anymore.

Alternative 3A incorporates key parts of Alternative 2. It would be possible to keep these portions of Alternative 2 even if other portions of the alternative need to be located further south (based on the new bridges' likely higher elevation). The team's suggestion is to advance Alternatives 2 and 3A to testing with the Travel Demand Model. Alternative 2 would be a mid-term alternative and 3A would be for the long-term.

Mr. Reed completed the presentation with a discussion of constructing an additional travel lane on Route 6 eastbound, based on having a new bridge in place. The additional travel lane would continue approximately 1,000 feet beyond Exit 2 (Route 130) on Route 6. The third lane can be an acceleration lane that would go past Exit 2. With a third lane in place both on a new Sagemore Bridge and on Route 6 eastbound, the LOS would go down to a 'D.' in 2040. Of course, we will test this with the Travel Demand Model. This alternative may impact rare species habitat. This alternative does not go outside the existing state highway layout area.

Mr. Britland ended the presentation and stated that the presentation has discussed a lot of next steps with gateway locations. The study team will run the models and do the analysis again in these locations. The team will examine how they work or don't work and the alternatives will be modified, as necessary based on the results of the modeling. tweaked. The next meeting is scheduled to take place in April 2017. It will take a while to run the model and then Santec will need to process the data. At the same time, the team will be working on the other criteria such as conceptual costs, Title 6, environmental justice. There is a lot of other material to flesh out. He thanked everyone for coming out to the meeting.

Attendees: Attendees are listed by name followed by their affiliation.

- Tom Baron
- Stephen Mellin, Cape Cod AFS
- Stephen Buckley, OpenChatham.com
- Bill Burbank, Town of Sandwich Planning Board
- Glenn Cannon, Cape Cod Commission
- Chris Adams, Cape Cod Chamber
- Lance Lambros (Senator deMacedo's office)
- Ed DeWitt, Association to Preserve Cape Cod
- Sallie Riggs, Bourne Financial Development Corp
- Paul Rendon, Joint Base Cape Cod (JBCC)
- Bill Travers, MassDOT District 5
- Hasmukh Patel, MassDOT
- Ethan Britland, MassDOT
- Michael Clark, MassDOT
- Ed Hollingshead, Stantec
- Michael Paiewonsky, Stantec
- Bill Reed, Stantec
- Fred Moseley, Stantec
- Jennifer Siciliano, Harriman