

Cape Cod Canal Area Transportation Study

RE: Eighth Working Group Meeting

Date and Time: June 29, 2017, 4:30 PM -7:00 PM

Location: Sandwich Town Hall Auditorium, 145 Main Street, Sandwich, Massachusetts

Attendees: See end of document

Meeting Notes:

Introduction

Ethan Britland, MassDOT Project Manager, began the presentation by thanking everyone for attending and stated that Craig Martin from U.S. Army Corps of Engineers (USACE) was in attendance together with the rest of the study team. Mr. Britland said that we would jump right into the presentation.

The future no-build traffic conditions had been presented to the Working Group previously. At the last meeting, several stand-alone transportation improvement alternatives in the study area were presented. The team examined these potential improvements along with existing travel patterns and future traffic volumes.

Mr. Britland said that since the last Working Group meeting, the study team had evaluated combinations of these stand-alone improvement alternatives (known as 'cases') using a regional travel demand model to understand the dynamic changes to the travel system. A handout provided to audience members described each of the four cases evaluated and provided a rationale for each case. Mr. Britland stated that a micro-simulation model would be used for ground-level intersection analysis, providing more of a corridor-level analysis than a regional one. The team's goal is to find acceptable traffic conditions in the fall weekday PM period, with the understanding that the summer period remains a big part of the conversation.

Four cases were selected for traffic model evaluation, which was considered the most efficient way given study resources. The cases were chosen with the recognition of several uncertain future conditions such as the USACE study of the canal bridges. There is also uncertainty about environmental permitting. Design work would also need to be completed and funding sources have not been identified. In general, while the cases are designed to function with or without new canal bridges, MassDOT will continue to coordinate with the USACE.

Study Assumptions

Mr. Britland handed the presentation over to Michael Paiewonsky, the consultant team Project Manager from Stantec. Mr. Paiewonsky reiterated that the study is focusing on year-round safety and mobility problems. It is assumed, for short and mid-term alternatives, that existing canal bridges will remain in place and proposed transportation improvements do not preclude the construction of a replacement bridge. The study also assumes that the new bridges will be built adjacent to, and inside of, the existing bridges. The improvement alternatives are designed (with feedback from the Working Group and the public) for the future (2040) fall weekday PM peak period. The study team will seek additional

improvements to improve summer peak periods, if feasible. The study is not seeking to resolve all peak-season traffic problems.

State Representative Randy Hunt asked Mr. Paiewonsky, “What does a design that does not preclude a replacement bridge mean?” Mr. Paiewonsky stated that it means that the short and mid-term improvements could be useful with or without the construction of new bridges. Mr. Paiewonsky then handed the presentation over to Sudhir Murthy from TrafiInfo for the next part of the presentation.

Regional Travel Demand Model

Mr. Murthy gave a summary of the travel demand forecasting. It was based on two models, one from the Cape Cod Commission and the other from portions of the Plymouth County model provided by the Central Transportation Planning Staff (CTPS). Travel demand is based on existing conditions for the fall weekday and fall weekend, and the summer weekday and summer weekend. It was also broken down into four-time periods: AM, midday, PM, and night-time. Socioeconomic conditions were considered such as population, employment, and income. This data was used to forecast future (2040) traffic volumes. Forecasting was done for a no-build scenario that includes transportation projects already planned and for a build scenario with the proposed alternatives.

Mr. Murthy said the traffic demand model examined both visitor and non-visitor traffic. Non-visitor traffic is for trips related to people going to school, work, and shopping. The annual increase in non-visitor traffic volumes is forecast to be 0.11% during non-summer periods and 0.5% during summer periods. The annual increase in traffic related to visitors is larger, forecast to be 0.69%. The study team worked with the Cape Cod Commission and decided to use the 0.69% figure based on the highest possible projected visitor growth rate. Using these projected annual growth rates, traffic volumes are forecast to increase from 2014 to 2040 in the summer by 33.4% and during the non-summer by 22.5%. Mr. Murthy turned the presentation back to Mr. Paiewonsky.

Mr. Paiewonsky noted that transportation facilities are not designed for present-day conditions but the future, to ensure investments in transportation facilities will serve these communities for decades to come. The team evaluated traffic conditions in two key locations: Belmont Circle and the Bourne Rotary. Mr. Paiewonsky described a data table showing the growth of traffic volumes (2014 to 2040) and related queues for major approaches to Belmont Circle and Bourne Rotary. The data provided included average queues, maximum queues, vehicle delays, and level of service (LOS). Mr. Paiewonsky stated that the presentation will focus on maximum queues. Mr. Paiewonsky presented maps of 2014 and 2040 queues for both Belmont Circle and Bourne Rotary for the fall weekday and summer Saturday periods. The tables shown for the remainder of the presentation featured data for 2040, comparing no-build versus build conditions.

Case 1

Case 1 evaluated two improvements: a new ramp from Scenic Highway to Route 25 westbound and the relocation of Route 6 Exit 1C. These improvements would address primarily off-Cape movements. Mr. Paiewonsky stated that they included these improvements as Case 1 because the improvements could be built in the short- or mid-term without a major environmental study. Mr. Paiewonsky presented a map of these improvement locations. He then passed the presentation over to Fred Moseley to explain how Case 1 performed.

Mr. Moseley said that Case 1 uses the projected travel volumes previously discussed. Under Case 1, there was a minor shift in traffic from Sagamore Bridge to Bourne Bridge. This shift occurred more in the

fall than the summer. There was a notable shift in traffic to Scenic Highway from Sandwich Road during the fall and there was a diversion from Scenic Highway to the Route 25 westbound ramp due to the construction of the new on-ramp.

Mr. Moseley presented a map depicting a shift during the fall PM period of about 60 vehicles travelling southbound from the Sagamore Bridge to Bourne Bridge. Northbound, there was a 15 vehicle shift from the Sagamore Bridge to the Bourne Bridge. There was also a shift of 100 to 150 vehicles from Sandwich Road to Scenic Highway. On a summer Saturday, since traffic volumes are so high, there weren't such dramatic shifts in vehicle traffic. There was a shift of 20 vehicles southbound and 70 vehicles northbound from the Sagamore Bridge to the Bourne Bridge. There also was some underlying traffic pattern shifts from Sandwich Road over to Scenic Highway.

Mr. Moseley then presented a data table for Case 1 at Belmont Circle. During the fall PM, there are fairly significant improvements. During the Fall PM period, delay times shrank and there was a significant reduction in the length of maximum queues. When the summer Saturday period was analyzed queues at certain locations got worse.

Representative Hunt asked, "Why do the improvement get worse in the summer?" Mr. Murthy answered that traffic diversion was happening from Scenic Highway to Route 25 westbound. Traffic was diverted away from Belmont Circle but this results in smaller gaps in traffic within Belmont Circle. A vehicle might have previously been able to enter the Circle more easily, but now there would be fewer gaps to do so. Also, the queue from Bourne Rotary still backs up over the Bourne Bridge, contributing to the queues in Belmont Circle. The long queues at Bourne Rotary make it hard to realize improvements to Belmont Circle.

Representative Vieira asked, "If we go with Case 1, Head of the Bay Road gets worse. Why does that happen?" Mr. Murthy responded that additional analysis will be done to determine what is happening with Head of the Bay Road. The model shows that there is definitely an increase in volumes and queues. There is a tendency with any improvements to Belmont Circle to result in an increase in traffic at Head of the Bay Road.

Representative Hunt asked, "Does the study consider people using GPS programs that fill up every possible route? Is the study considering that?" Mr. Murthy said yes, the model accounts for this. The model is actually more reflective of current conditions because so many people use GPS program like Waze. The model would not have reflected this five years ago. The study assumes that everyone knows the shortest path in the network, so the modeling we do now is more accurate than it used to be.

Mr. Murthy added that the reason the Bourne Rotary traffic worsens at times is partly due to the shift of Exit 1C. Moving the exit further away from the Sagamore Bridge results in a shift in traffic on Sandwich Road towards the Bourne Bridge rather than the Sagamore Bridge.

Dennis Woodside, the Bourne Police Chief, asked, "Is the study using fall traffic volumes as the period for analysis?" Mr. Moseley responded, "We are looking at six time periods. We are analyzing AM, PM, and Saturday periods for both the fall and the summer. If the study were to focus only on the three months in the summer period, we could end up overbuilding. The idea is to alleviate traffic conditions nine months out of the year and then see if improvements can be made for the summer." He added, "As we make improvements, Belmont Circle will attract more traffic as people are coming back to areas that they are currently avoiding."

Chief Woodside said, "The problem is the summer traffic, which isn't really the focus of the study. The summer traffic is when all the problems are. In the fall, traffic flows a little better. Also, the Vocational school causes a big traffic congestion problem that backs into the Bourne Rotary." He wondered if this was addressed in the study. He stated, "The side roads in Bourne in the summer are crazy. Have they been looked at? They are ten times worse than last year due to GPS."

Mr. Moseley said, "If we focus only on the summer Saturday conditions, the study may recommend tremendously large improvements. We are looking for a balance between something that works nine months of the year and provides some improvement in the summer. If we make improvements to primary intersections, it should pull traffic from the side roads onto the main roads. This is where the traffic should be."

Chief Woodside asked, "Is the study looking at Route 25?" Mr. Moseley said, "Route 25 is not part of the study. We are focusing on larger problem areas closer to the Canal."

Tom Guerino, the Bourne Town Administrator, asked, "Will relocating Exit 1C divert traffic from the Sagamore area? Will it bring traffic down to the neighborhoods?" Mr. Moseley said, "We are looking only at the northbound on- and off-ramps. We saw traffic diversions from one bridge to another rather than traffic going into the local neighborhoods."

Mr. Guerino stated, "At a prior meeting, you mentioned that there would be a saving of 10 minutes off a trip taking 1 ½ hours. The expenditure of cash to make a trip that is an hour and 30 minutes to an hour and 20 minutes doesn't make it worthwhile. It looks like the study is focusing on improvements to Belmont Circle and Bourne Rotary that are only letting a few cars off." Mr. Moseley responded, "This is just Case 1. We will review the results of Case 2, Case 3, and Case 3A next, which features greater improvements for traffic levels. The 10-minute comment was related to a public comment that relocating Exit 1C would increase someone's travel time. We examined travel time from the neighborhood area to the relocated Exit 1C and concluded that in the worst-case scenario travel time from the neighborhood to Exit 1C was increased by 4 ½ minutes. The public comment was about an impact on an individual living in that area."

Chief Woodside said, "I was also at that meeting and I remember a comment about every 1 ½ hours going up the Cape would save 10 mins off the trip." Mr. Moseley said, "We can talk about it after the meeting. The study team would generally not propose a 10-minute savings off a 1 ½ hour drive as a benefit."

Mr. Moseley then presented the results of the Case 1 improvement at the Bourne Rotary. Generally, Case 1 resulted in improvements in the fall but not in the summer. The overall finding showed reduced fall queues at both Belmont Circle and Bourne Rotary. The queues in summer do not improve. There are favorable traffic operations at the new Route 6A/Route 130/Route 6 (exit 1C) ramp roundabout. There are increased queues in Belmont Circle at the Route 25 exit ramps and the Head of the Bay Road approach to Belmont Circle because (as noted previously) there would be fewer gaps between vehicles in Belmont Circle. Vehicles currently heading to Route 25 westbound create gaps in the Circle for incoming vehicles. These improvements may reduce crash rates for vehicles, bicycles, and pedestrians. The diversion of traffic from Belmont Circle reduces conflict from vehicles merging.

Mr. Britland said, “Case 1 is intended to include more modest improvements, not a big fix. The other cases will build on this case showing larger improvements. We have a lot of slides, so let’s move on with the presentation of the Case 2 findings. The presentation will flow better and make clear what the findings are along with any consequences. Then we will open up the meeting to more questions.”

Case 2

Mr. Paiewonsky then spoke about Case 2. He said it includes everything in Case 1 plus substantial reconstruction of Belmont Circle and Bourne Rotary. Mr. Paiewonsky added that some Working Group members may wonder why the study team didn’t examine a case that involves either/or Circle or the Rotary? We felt that these locations are so close to one another that there is no value to look at them separately. They have such a great effect on one another.

Mr. Paiewonsky said the improvements included in Case 2 are more complex and costly. Due to their environmental impacts, an environmental study may be required. Again, these improvements will be compatible with any future potential new canal bridges. Mr. Paiewonsky showed a series of maps of the Case 2 improvements including the Scenic Highway to Route 25 westbound ramp, the relocated Route 6 – Exit 1C, the Belmont Circle reconstruction, and the Bourne Rotary reconstruction. Mr. Paiewonsky handed the presentation back to Mr. Moseley.

Mr. Moseley stated that under Case 2 there would be minor vehicle shifts from the Sagamore Bridge to the Bourne Bridge, more so in fall than the summer. There was a notable increase in traffic volumes from Sandwich Road to Scenic Highway during the fall period. There is also a minor summertime increase in eastbound traffic volumes on Scenic Highway and Sandwich Road. There were improved operations at Belmont Circle and Bourne Rotary. There was an increase in traffic volumes on Main Street eastbound into Belmont Circle towards Route 25. Similar to Case 1, there were shifts from the Sagamore Bridge to the Bourne Bridge during the fall and summer. During the summer, there was an increase of 30 vehicles southbound and 80 vehicles northbound on the Bourne Bridge.

Mr. Moseley then presented the Case 2 results for Belmont Circle. During the fall period, there were substantial improvements in queueing, but not that much improvement in the summer period. Some additional traffic volumes came through Main Street to Route 25. Mr. Moseley then showed graphically what the improved queueing looked like. During the summer period, there were increases in queues at the Head of the Bay Road and Main Street approaches to Belmont Circle.

Mr. Moseley showed the results at the Bourne Rotary. The maximum queues were improved in both the fall and summer periods. The traffic could flow freely in the top part of the rotary with zero queueing coming southbound off the Bourne Bridge. The spill-back effecting Belmont Circle (mentioned in Case 1) is gone. All three signalized intersections have acceptable levels of service. Mr. Moseley then showed graphically the 2040 queues for the fall and summer periods. The no-build queues are much longer than the queues under Case 2.

David Perloff of Stantec presented a VISSIM simulation video of the summer Saturday case and the fall weekday case for Belmont Circle and Bourne Rotary for Case 2.

Mr. Moseley presented the overall findings for Case 2. In Belmont Circle, fall weekday queues are substantially reduced at most approaches. Queues at the Bourne Rotary during the fall weekday and summer Saturday are substantially reduced. The remaining problems occur at Belmont Circle. The summer Saturday queues worsen at the Exit 3 ramps and the Buzzards Bay Bypass approaches because

of greater volumes from Main Street eastbound towards Route 25 westbound. We expect that these improvements may reduce crash rates for vehicles, bicycles, and pedestrians due to the new signalized intersections at Belmont Circle and Bourne Rotary, the new roundabout design at Belmont Circle, and the diversion of traffic out of Belmont Circle and Bourne Rotary.

Representative Hunt asked, "In Belmont Circle, why does the Exit 3 Off Ramp go from an 'A' to a 'C' and is labeled an improvement?" Mr. Moseley answered, "There are a couple of reasons. Instead of a rotary the area will have a signalized intersection entrance approach. We are also going to consider geometric modifications to improve the LOS. It is a bit of comparing apples to oranges but it will be an improvement overall. We will assign a whole delay for the area and at that time we should see an overall improvement. 'C' is also an acceptable level of service."

Mr. Britland mentioned that the improvement areas are in the green boxes in the data tables.

Mr. Guerino asked, "Is the ramp going from the Bourne Rotary to Sandwich Road elevated or not, because this ramp is adjacent to a large, 93-acre piece of land that the town is working on developing and this might deter access to it. Has MassDOT given this any consideration?"

Mr. Moseley said, "The ramp will be an at-grade ramp with an exclusive right turn lane. Right now, we are looking at large scale improvements. As we go into a more detailed design phase, we will look into this issue." Hardy Patel from MassDOT stated that the ramp to the Circle is a little exaggerated in the figure and that in reality they could be a lot closer together.

Mr. Paiewonsky noted that under Case 2 (and subsequent cases), they are proposing to relocate the Vocational School entrance 350 feet to the eastern edge of their property.

Chief Woodside said, "There is a Dunkin Donuts next to the Rotary that is the cause of much of the congestion in the area. Has any thought been given to how this problem should be dealt with?"

Mr. Moseley said, "This is a high-level plan. If this alternative is selected, this would be examined more closely in the final design detail."

Glenn Cannon, Cape Cod Commission asked, "Do you think that a traffic signal could be added to the entrance of the vocational school?" and "At Belmont Circle, there seems to be an increase in traffic on Main Street and Buzzards Bay Bypass." Mr. Moseley agreed, noting, "Under Case 2 traffic is shifting towards these approaches. The model will account for these pattern shifts."

Representative Hunt said, "Regarding the developable Bourne property we were previously speaking about, would the access to the property be from the new slip ramp? Wouldn't this property need some sort of entry and exit?"

Mr. Moseley answered, "If these improvements were advanced, this issue would probably be the first thing examined when doing a preliminary design. Currently we are examining large, basic concepts. These are all good questions for going forward when creating a more detailed design. An option might be to bring the entry/exit into the signalized intersection. Right now, without the improvements, the property could not create an entrance/exit right turn into the rotary now."

Case 3

Mr. Paiewonsky started the presentation for Case 3 which includes longer-term alternatives. Case 3 includes the replacement of both canal bridges slightly to the inside of where the current bridges are and adhering to current design standards. There would be sidewalks, shoulders, wider lanes, and auxiliary lanes. The auxiliary lanes are not true travel lanes; they are lanes to merge onto the bridges. On the Bourne Bridge, auxiliary lanes will probably connect to the Mid-Cape Connector or to Exit 2 in the eastbound direction only. Mr. Paiewonsky showed a map of all Case 3 improvements including the replacement bridges. He then handed the presentation over to Mr. Moseley.

Mr. Moseley said that under Case 3 there is a substantial shift from the Sagamore Bridge to the Bourne Bridge. Reductions in traffic volumes at Exit 1C were higher. There was a notable shift to Scenic Highway from Sandwich Road during the fall period. Instead of going on the Sagamore Bridge, vehicles used the Bourne Bridge to access Route 6 eastbound. These diversions are the result of improved traffic operations (shorter queues) on the Bourne Bridge that attracts vehicles. There is a minor summertime increase in eastbound volumes on Scenic Highway and Sandwich Road because vehicles bound for Route 3 are no longer avoiding the Bourne Bridge area.

There was also a moderate shift in traffic during the fall PM, a shift in volume of 140 southbound and 110 northbound vehicles from the Sagamore Bridge to the Bourne Bridge. During the summer period, there is a southbound shift of 700 vehicles and northbound shift of 430 vehicles from the Sagamore Bridge to Bourne Bridge. This is mainly due to an increase in capacity and other improvements at the Bourne Rotary. South of Sandwich Road on Route 28, the traffic is now heading more to Route 28 north and southbound instead of Route 6. When coming into and out of the Bourne Rotary, south of the canal, there was an increase of traffic as well.

Mr. Moseley explained the effects on Belmont Circle related to Case 3. In the fall case, there are significant improvements at Belmont Circle. In the summer, there are reductions in queue lengths at the Route 25 Exit 3 ramps and on the Scenic Highway westbound approach to Belmont Circle. Yet, we also see some longer queues on the Head of the Bay Road and Buzzards Bay Bypass which is likely related to the additional demand coming into Belmont Circle. This is the result of people seeing the Belmont Circle area as a more attractive route. Mr. Moseley showed graphics of maximum queues. There are significant improvements to the queueing at Belmont Circle, especially in the fall PM.

Mr. Moseley explained the effects of Case 3 at Bourne Rotary. There are improvements in fall and summer with reduced queues and delays. He showed a graphic of the improved conditions. The overall Case 3 findings show that Belmont Circle has notable queue reductions during the fall weekday and summer Saturday periods. The Bourne Rotary has substantial queue reductions during the fall weekday and summer Saturday periods. There are still problems related to increased demand at Belmont Circle in the summer at the Head of the Bay Road and the Buzzards Bay Bypass because of greater volumes on Main Street westbound and Route 25 westbound.

Representative Hunt asked, "How many lanes would be on the new bridges?" Mr. Moseley said, "The study team envisions that there would be two lanes in each direction, an auxiliary lane, and bicycle and pedestrian improvements. It would increase capacity on the bridge (although not for the highway system as a whole) by at least 50% in each direction."

Representative Hunt said, "What is the chance the federal government will pay for all of it? The Army Corps of Engineers said they have an obligation to replace two lanes in each direction up to current

standards.” Mr. Craig Martin of the Army Corps said, “The Army Corps might be able to add these lanes because this would be bringing them up to current design standards. We are looking into it.”

Mr. Moseley said, “The easiest comparison is to look the Sagamore Bridge. There are two lanes coming into Exit 1 (on the north side of the canal). At this point it drops to one lane right now. One lane continues across the bridge and another lane from Scenic Highway joins it. What the new bridge will likely do is eliminate this lane drop; two continuous lanes would continue across the bridge from Route 3 southbound. The entrance ramp from Scenic Highway would enter as a merging lane and then drop off. The new auxiliary lane would function as an exit lane for the most part. There would be two through traffic lanes over the Sagamore Bridge, so the auxiliary lane would be a third (southbound) lane continuing to the Mid-Cape Connector or down past Exit 2. This would accommodate the additional traffic from Bourne Bridge. In the future, instead of traffic coming over Scenic Highway to the Sagamore Bridge and heading to Route 6 eastbound, vehicles would come southbound across the Bourne Bridge and then east on Sandwich Road and enter Route 6 at the Mid-Cape Connector.”

Mr. Guerino said, “No matter what scenario, these cases seem to benefit a number of areas, but it is exacerbating queues at Head of the Bay Road, Main Street, and the Buzzards Bay Bypass. For economic development, we want people to want to stop and shop in Buzzards Bay. As for another area, Old Bridge Road is very narrow and windy and there were some accidents in the area. I'm very concerned about pushing the traffic up to these secondary roads. I know we are trying to benefit the whole Cape, but putting pressure on the Buzzards Bay Bypass and Main Street is very disconcerting.”

Mr. Moseley responded, “This is a concern of the study team as well. These have been some unintended consequences revealed by the travel demand model. Mr. Britland has been tasking us to get a strong answer to what is going on at these locations.”

Mr. Cannon said, “I don't see a full replacement of the Bourne Rotary which we talked about at other meetings. Also, I echo Mr. Guerino's concerns. It does make sense that there is an increased demand on Belmont Circle, so I think we need to come up with better scenario.”

Case 3A

Mr. Paiewonsky presented Case 3A, the final case. It is the same as Case 3 but with more improvements to the Bourne Rotary to create more of a highway interchange rather than a rotary. The study team had some concerns that once you replace the Bourne Bridge and more vehicles can come southbound, it might overwhelm the intersections that were previously proposed under Case 3. Case 3A was developed to address this.

Mr. Paiewonsky showed a graphic layout of what the interchange at Bourne Rotary may look like. There would be some new loop ramps, but the signalized intersections would still be maintained. The study team wanted to build on the design rather than replace what was previously proposed under Case 3.

Mr. Moseley said the diversions that are seen in Case 3A were very similar to Case 3. We see the same number of vehicle shifting in the fall. There is a shift of 200 vehicles southbound and 160 northbound on the Bourne Bridge during the fall. In the summer, there is a slight increase from Case 3 to Case 3A on the Bourne Bridge to 740 vehicles southbound and 470 vehicles northbound. Again, the shift in traffic is caused by the additional lanes on the bridges and the increased desirability of driving through Belmont Circle now that traffic operations are improved.

Mr. Moseley showed the data table at Belmont Circle. There are similar problems in summer of induced demand in the Buzzards Bay Bypass resulting in extended queues. He showed queue lengths graphically on a map of the area. Mr. Moseley proceeded to present the Bourne Rotary data table. He noted that the table had to be broken up because they are analyzing different intersections, including some that do not exist on the future no-build case. Again, the fall PM LOS for the no-build is all LOS F, with fairly significant queues. These are replaced with three signalized intersections. In Case 3A, there were modest queues and the LOS at signalized intersections are all LOS C or better.

The 2040 no-build scenario during the summer period saw heavy delays with long queues coming into the Bourne Rotary. In Case 3A if you look at the three signalized intersections, the longest queue is relatively small, about 300 feet, and delays are only 20.5 seconds or less with LOS C or better. Case 3A does result in improvements. He showed graphically the no-build and build case queues and the improvements. Case 3A shows all queues limited to the immediate area at the intersections.

Mr. Moseley presented the overall finding from Case 3A. He noted that under this case some improvements are seen during both the fall and summer periods at Belmont Circle, but the improvements were not as great as we were hoping for. At the Bourne Rotary, there are substantial improvements in the fall weekday and in the summer Saturday period. The remaining problems are at Belmont Circle during the summer Saturday period. There are still lengthy queues at the Head of the Bay Road and Buzzards Bay Bypass. When congestion is reduced, there are safety improvements as well.

Question and Answer

Charles Kilmer from Old Colony Planning Council asked, "Since this may require a major environmental study, how does this affect the study timeline?" Mr. Paiewonsky said, "It would depend on alternatives that are advanced. Many of the cases would probably require an Environmental Impact Report (EIR) for the state-level and an Environmental Assessment (EA) for the federal level which is a several-year process. This is typically a two- to three-year process. Fortunately, design can be done at the same time in concert with the environmental study; it is not a linear process."

Mr. Kilmer asked, "Who makes the decision to go forward with an alternative?" Mr. Paiewonsky answered, "MassDOT and the Cape Cod Commission. It is actually during the environmental process that a preferred alternative is identified."

Tom Baron says he wants a third bridge option assessed. "There are all these cases, but there isn't a Case 4. I said at the last meeting, building the third bridge would take 50 to 60 percent of the traffic off the Bourne Rotary. You don't have to commit to building the third bridge, but I think it should be studied." Mr. Paiewonsky thanked Mr. Baron for his comment.

Stephen Buckley of OpenChatham.com asked, "Does Case 3A includes one or two bridges?" Mr. Paiewonsky answered both bridges.

Mr. Buckley asked, "Would this increase traffic on the bridges by 50%?"

Mr. Britland stated, "In Case 3 and 3A, we are assuming the bridges are going to be replaced just inside of the existing locations. There are now two lanes in each direction. At least on the Sagamore Bridge, there is going to be an auxiliary lane; it would be an additional lane on the bridge. We call it an auxiliary lane because on either side there are connecting on- and off-ramps. The inclusion of auxiliary lanes will eliminate a bottleneck, so the on- and off-ramps can be processed alongside the general-purpose lanes.

Based on our alternatives, viewing a cross-section of the Sagamore Bridge would show six lanes. There would also be roadway shoulders, and bicycle/pedestrian accommodations, though the design details have not been completed.”

Mr. Buckley said, “Would it increase capacity of the bridges by 50%?” Mr. Britland said, “It seems the capacity would be more than 50%, because the lanes would be bigger than their current narrow widths. Currently there is zippering or tapering, when vehicles don't feel comfortable on the outside or inside lane and they just straddle the middle. So, we struggle defining what the exact capacity of the bridge is. The improvements are more about fixing bottlenecks than increasing capacity.”

Mr. Buckley said, “Is the capacity going to increase by 50% or 10%?” Mr. Britland said, “We definitely don't have an exact number. I wouldn't quote anything, but it is certainly a number we can try to figure out.”

Mr. Buckley said, “Those types of things get our attention down Cape. It looks like a step forward, but at the same time are there more people visiting? How many people will be coming to the cape?”

Mr. Britland said, “Forecast visitor numbers were developed quite a while ago. They have been shown at prior meetings and (tonight) Mr. Murthy talked about visitor percentage numbers. We used demographic data - employment, household population, and our future no-build and build projections. We used increased employment, population numbers, and we layered on visitation traffic. These numbers have already grown in our model. The model does not change the number of vehicles over the bridges or in the study area; the trips remain constant.”

Mr. Buckley said, “That might make sense. How many cars possibly could then come over? The numbers seem too buried.” Mr. Britland stated there was a whole presentation on those numbers. He thanked Mr. Buckley for his comments.

Representative Hunt said, “We looked at the numbers for future employment and all but we didn't look at the numbers associated with having Case 3A. If you know you aren't going to sit in a three-mile queue it could encourage more people to come to the Cape. Would that change?”

Mr. Britland said, “This is an extremely complicated topic. We had multiple conversations with the Cape Cod Commission and internally. This is why we applied a healthy visitor percentage growth, so that is already taken into account. We understand that sometimes induced demand attracts people who wouldn't necessarily use it now.”

Mr. Britland continued saying, “There might be more day trippers, but the visitor numbers are more based on lodging. Someone is not going to make a long-term trip to the Cape if they don't have a place to stay. We looked into what might be long-term changes and conservatively are using an annual 0.69% visitor growth rate.”

Mr. Britland said “Additionally, there was a study about second homes on the Cape. It was a survey asking people about their future plans for their second homes. If an owner rents out this second home, there are a lot of trips made to the home by vacationing visitors. If an owner moves to this second home permanently, they don't make as many trips necessarily crossing the canal every day. The visitor rate currently includes all these second homes, but there might actually be fewer of these second home available with some being converted to permanent residences for their owners, resulting in fewer

homes available for rent in the future. We had a lot of conversations with the Cape Cod Commission, so we feel that we have comfortably accommodated for visitation growth.”

Mr. Buckley said, “My wife rents second homes and a major concern for a person coming to the Cape is traffic. They will re-arrange their whole schedule around not going at certain times. The easier you make it for people to come, they will get on that bridge. If you build it, they will come. The Cape Cod Commission does not speak for all the towns. You are not going to Chatham and having discussion with MassDOT. This might induce more traffic; what do you think? This process needs to be more transparent. At what stage are people going to share their option and make it clear when they can tell their opinion?” Mr. Britland thanked Mr. Buckley for his statement.

Mr. Cannon from the Cape Cod Commission said, “We represent all 15 towns. I feel that when I step into any of the towns. I’m very comfortable with the visitor numbers. We spent a lot of time with the visitor assumptions that were built into the study.”

Chief Woodside said, “A lot of the rental are all on Saturdays. There are a lot of things people can do to alter their routes. They might come at night or during the day. He asked where will the new exit 1C be? Will it be outside the town limits?”

Mr. Britland said, “It will be 3,400 feet back (east) from the existing location.” Mr. Paiewonsky said the majority of the relocated Exit 1C will be in Bourne.

At this point, Mr. Britland asked to proceed to a presentation from Mr. Craig Martin from the USACE.

Mr. Martin said, “I am the project manager of the Navigation Section of the USACE and project manager of the Cape Cod Canal Bridge Major Rehabilitation Evaluation Report (MRER). I’m going to tell you the objective of the major report. Then talk about where we are with this study, and the next steps.”

Mr. Martin said, “The largest part of the Cape Cod Canal Bridge MRER are the bridges. It consists not only the two bridges, but also the railroad bridge, the canal itself, and the recreation area around the canal. Our authorization is to look at two highway bridges to the Cape (four lanes total – two lanes each way on each bridge). The USACE owns abutment to abutment which is why we have to work so closely with MassDOT. We only own a portion of the transportation system. Major rehabilitation of the bridges is different than the typical maintenance. Major rehabilitation typically takes over two years to complete and generally costs over \$20 million.”

“We cannot modify the bridges because of the age of the structures. There is no way to add travel lanes or sidewalks onto the bridges. Some people had asked about hanging a pedestrian path off the side or using some of the substructure to build out lanes. We can't do that.”

Mr. Martin said, “The objectives of the study are to establish the engineering condition of the bridges, identify problems and opportunities, calculate the probability of unsuccessful performance, look at economic benefits and environmental issues, and make recommendations.”

Mr. Martin clarified, “The probability for unsuccessful performance is not structural failure of the bridge. If there were load limitations (trucks loads) on the bridge, we would find that unacceptable. The evaluation itself has four pillars that consists of structural engineering, cost engineering, economic justification, and environmental analysis. The study will consider both bridges and layout milestones for

the next 50 years, if we decide to go to rehabilitate them. If we need to replace the bridges, we will have a schedule of implementation. It will not show designs of what the bridge might look like. If we decide to replace the bridges, this will require a full NEPA Environmental Impact Statement (EIS) or EA studies.”

Mr. Martin continued, “We have completed our structural engineering portion of the study. We have a good handle on the condition of the structure deck and substructure deck that may need to be replaced. Our final stage of the study is cost engineering which will be completed in August 2017. There will be a comparison of cost for rehabilitation versus full bridge replacement. We will build off the work that MassDOT has done. We will be able to provide the public with traffic modeling data if the rehabilitation alternative is selected. We expect the construction period for rehabilitation to last approximately 3 ½ years for each bridge. We know that will impact the communities greatly. We are continuing to analyze the economic justification and social impacts. We are also continuing our environmental analysis. The economic and environmental analysis will depend on the traffic modeling. We are also looking at air quality.”

Mr. Martin said, “Economic justification should be finished this fall. Environmental analysis should be out in winter of 2018 and include public input. The draft should be out in spring 2018, and the final report in summer 2018. There will be continued regular maintenance on the bridges as we do the study. We will have public meetings, and stakeholder listening sessions. We want to build on this group and incorporate your thoughts into our plan as well. MassDOT will be a reviewer of the study.”

Representative Hunt said, “3 ½ years to do a major rehabilitation would be unbearable. A new bridge will be better.” Mr. Martin responded, “We are going to look for public input about this. Of course, rehabilitation of the bridge would create major traffic delays. We specifically designed to have minimum lane closures from the Memorial to Columbus Day timeframe. We can do things outside the bridge during those times, but certainly there will be lane closures at some point.”

Chief Woodside said, “When you are doing these projects, whether it is painting or safety improvements, it would be great to have work going at all times. This would be better than one company closing the lane for one kind of work and another company comes and they have to close the lane again.”

Chief Woodside also said, “Have you looked at reducing the distance from the water to the bridge?” Mr. Martin responded saying, “The Army Corp is authorized to maintain an air gap with 135 feet clearance. To change this, would take an act of Congress.”

Wendy Northcross of the Cape Cod Chamber of Commerce asked, “Have any thought been given to filling in the canal due to costs of maintaining and/or building replacement bridges?” Mr. Martin responded saying, “It (the Canal) is still a federal channel and there is still a need for boat navigation which is part of our authorization. I don't want to say we would never look at it, but there is a slim chance of doing it.”

Melvin Holmes from the Bourne Conservation Commission asked, “Who (at the Army Corps) is handling the environmental aspects of this study?” Mr. Martin said Judy Johnston of the USACE.

Mr. Holmes asked, “Will the EIS be a separate document?” Mr. Martin said, “The EA is a NEPA requirement in the MRER and will be included as an appendix. There will be a separate EIS document for both bridges if there is a replacement.”

Mr. Buckley asked if Mr. Martin could make his PowerPoint slides available. Mr. Martin said he will give the PowerPoint slides to Mr. Britland to put on the study website.

Mr. Buckley asked, "Do we need an EIS?" Mr. Martin said, "We don't think we will need to do an EIS for rehabbing the bridges, but we might need to prepare an EIS if we find something significant. Then we might have to do an EIS."

Conclusion

Mr. Britland closed out the presentation. He thanked Mr. Martin for his presentation and said he would work to get his presentation PowerPoint slides and the meeting notes on the Study's website.

Mr. Britland said, "A challenging part of any study is not knowing what the results of the model alternatives are until they are run. The model runs have shown significant improvements overall in the fall time period, except for Case 1. So far, we found the summer is more challenging. Yet, our study never intended to solve all summer traffic issues. We certainly don't want to make things worse in the summer. We are here today to solicit input. We ran our model and the results showed some things we like and others we didn't like."

Mr. Britland continued, "Our next step is to go into the evaluation matrix. There are some things we aren't quite sure about, so we still need to complete the alternative analysis. Some of the results from the models just came in last week and this week. We need time to digest and look more closely at them. Our criteria matrix will not only show traffic, it will examine environmental, and cultural resources as well. We still need to figure out the problem locations and we are hoping to come back for a meeting in August." He asked if there were any more questions.

Ms. Northcross said, "I won't hold you to it, but when do you think you this study will be done?"

Mr. Britland said, "It depends on our deeper dive. Also, we have to think about not having a public meeting in the summer, so that will affect the schedule as well. With that, thank you and have a good night."

Attendees

Attendees are listed by name followed by their affiliation.

- Melvin Holmes, Bourne Conservation Commission
- Tom Baron
- David Vieira, State Representative
- Stephen Mellin, Cape Cod AFS
- James Jodice, MassDOT
- Charles Kilmer, Old Colony Planning Council
- George Slade, Bourne Selectman
- Don Keeran, Association to Preserve Cape Cod
- Campbell Narron, MassDOT
- Michael Tulam
- Dennis Woodside, Bourne Police Chief

- Ellen Spear, Heritage Museums and Gardens
- Paul Tilton, Sandwich DPW
- Hardy Patel, MassDOT
- Marie Buckner, Bourne Resident
- Wendy Northcross, Cape Cod Chamber of Commerce
- Melissa Ferretti, Herring Pond Wampanoag Tribe
- Stephen Buckley, OpenChatham.com
- Lance Lambros, Senator deMacedo's Office
- Gary Tulman, Pairpoint Manufacturing Co.
- Jeff Tulman, Pairpoint Manufacturing Co.
- Douglas Lapp, Sandwich Assistant Town Manager
- Susan Moran, Falmouth Selectmen
- Craig Martin, USACE
- Glenn Cannon, Cape Cod Commission
- Michael Paiewonsky, Stantec
- Bill Reed, Stantec
- Fred Moseley, Stantec
- Jennifer Siciliano, Harriman
- Sallie Riggs, Bourne Financial Development Corp
- Bill Travers, MassDOT
- Sudhir Murthy, TraflInfo
- Frank Mahady, FXM Associates
- Tom Guerino, Bourne Town Administrator
- Michael Blanton, Bourne Selectman
- Jim Cerbone, MassDOT