ATKINS

Mid-Currituck Bridge Hurricane Evacuation Reevaluation

Final Technical Memorandum

February 2018

Prepared for

NORTH CAROLINA Turnpike Authority

wsp

Plan Design Enable

Mid-Currituck Bridge

Hurricane Evacuation Reevaluation

Final Technical Memorandum

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I. INTRODUCTION

The proposed Mid-Currituck Bridge (MCB) project is being reevaluated given that the FEIS was released in January 2012 and no major steps to advance the action by FHWA was taken on the project in the three years following its release. This technical memorandum revisits the hurricane evacuation need identified in the FEIS and the hurricane evacuation benefit of the FEIS Preferred Alternative and ER2 (widen existing roads alternative).

WSP USA who is the primary consultant addressing all aspects of reevaluating the FEIS, has retained Atkins North America to update the hurricane analysis given the firm's extensive national and state/local expertise in evacuation planning. Atkins has been directly involved in the previous MCB Project evacuation analysis iterations and most importantly has been the transportation consultant for all the Federal Emergency Management Agency (FEMA) / US Army Corps of Engineers (USACE) Hurricane Evacuation Studies (HES) that have been performed for the entire coastal region of North Carolina over the last 30 years.

Specifically, Atkins was retained to determine hurricane evacuation clearance times for a 2016 Base Year, Future Year 2040 No-Build Alternative, Future Year 2040 ER2 that widens existing roads (including a third outbound emergency lane on US 158 from the Wright Memorial Bridge to Barco), and a Future Year 2040 FEIS Preferred Alternative that includes a MCB and assumes existing lanes on US 158 are reversed to create a third outbound lane from the MCB to Barco. The reevaluation includes variable land use by improvement alternative, behavioral assumptions from the recently completed FEMA/USACE HES, roadway service volume/capacity figures based on maximum observed directional traffic counts, and recognition of the National Hurricane Center's (NHC) new watch and warning timeframes.

II. BACKGROUND ISSUES

In the 2000 to 2005 timeframe the State of North Carolina wrestled with the most appropriate way to handle hurricane evacuation as part of the purpose and need of coastal roadway improvement projects. A formal study effort focused on existing clearance times as well as the realities of the warning system present at that time. An 18-hour clearance time standard was adopted by the State General Assembly in 2005.

The 18-hour legislative clearance time standard/goal that resulted from intense North Carolina Department of Transportation (NCDOT) studies and interaction with emergency management, law enforcement, and policy makers some 15 years ago was based on the National Hurricane Center's previous warning and watch timeframes of 24 and 36 hours respectively. The NHC now issues warnings and watches 36 and 48 hours (respectively) in advance of tropical systems. The

previous 18-hour benchmark was based on accommodating 18 hours of traffic movement and allowing an additional 6 hours of what is called 'pre-landfall hazards time'. This 6-hour block of time is the time before eye landfall in which evacuation is too dangerous because of the arrival of sustained tropical storm winds. The idea was to try and achieve 18-hour clearance times so that evacuation advisories/mandates could be issued at the issuance of a hurricane warning and allow communities to complete evacuation before the arrival of hazardous roadway conditions.

This current reevaluation recognizes the need to consider the new 36/48-hour warning and watch NHC timeframes. Since the original goal was tied to the previous warning time of 24 hours, it would appear that 30 hours would be a better standard or goal which would still allow 6 hours of pre-landfall hazards time for a 36-hour warning.

This evaluation continues the use of a Category 3 hurricane, 75% tourist occupancy scenario for hurricane evacuation alternatives analysis. This is still a prudent choice in the professional opinion of Atkins. While the NHC still maintains that a Category 5 hurricane is possible for the Outer Banks and while certain rapidly intensifying storms may in fact require the evacuation of a 95% tourist occupancy condition (along with permanent residents), this should be considered a "maximum possible" scenario and NOT a "maximum probable" scenario. It is Atkins' position that given the peak time of year (mid-August through September) and hurricane history of the area, the maximum probable scenario of a Category 3 with 75% tourist occupancy should be the scenario that is considered as a measure of public safety consideration in analyzing roadway improvement alternatives. The 2017 hurricane season has shown vividly that we have not seen all the hurricane possibilities that can and will happen in various localities.

III. EVACUEE DEMAND INPUT ASSUMPTIONS

One of the most important inputs to the hurricane evacuation analysis was the population and dwelling unit data assumed for the existing condition (2016) and each improvement alternative (in 2040). WSP USA developed the data and used the traffic evacuation zone boundaries from the recent Atkins FEMA/USACE HES work for Dare and Currituck Counties. Data variables include permanent population and dwelling units, as well as seasonal population and dwelling unit figures. People and vehicles per unit were specified and varied by evacuation zone.

The 2040 dwelling unit forecast assumes the same development levels on the Outer Banks north of US 158 as the 2040 traffic forecasts prepared by WSP USA for assessing project traffic congestion benefits. Dwelling unit forecasts in 2040 developed as a part of an on-going investment grade traffic and revenue study commissioned by the North Carolina Turnpike Authority (NCTA) were used for Bodie Island from Kitty Hawk to Oregon Inlet. For Roanoke Island

and Hatteras Island, no dwelling unit forecasts for 2040 were needed or developed for either the reevaluation traffic forecasts or the investment grade traffic and revenue study. Thus, for 2040, Roanoke Island and Hatteras Island dwelling unit forecasts were based on growth trend data and available vacant property information provided by Dare County. Existing conditions (2016) for the hurricane modeling were grown from 2014 housing data included in the FEMA/USACE HES by applying 1.5 percent growth over a two-year period.

This new analysis reflects variable land use by roadway improvement alternative for Future Year 2040 scenarios specifically reflecting varying ability of the alternatives to accommodate planned and expected development for Currituck and northernmost Dare County Outer Banks areas. The Future Year 2040 FEIS Preferred Alternative is the only alternative that is assumed to accommodate all planned and expected development with lesser amounts incorporated for the ER2 and No Build alternatives.

Appendix A provides the population and dwelling unit data by evacuation zone. Seasonal dwelling unit totals in Currituck County are 5,008; 5,860; 6,730; and 8,264 for the Base Year, Future No-Build, Future ER2, and Future Preferred alternatives respectively. The No-Build Alternative and ER2 analyses also were conducted for the No-Build Alternative and ER2 assuming all 8,264 units developed. Permanent population is expected to grow modestly in each county between 2016 and 2040 with an increase of just under 5,000 people in each county.

In addition to population and dwelling unit assumptions, the reevaluation of hurricane evacuation incorporated the latest behavioral assumptions and tourist occupancies used in the *North Carolina HES Restudy (2015)* for 23 counties in coastal North Carolina. These assumptions include participation rates, destination/direction of travel information, vehicle usage, and four levels of tourist occupancy specified by evacuation zone, storm intensity, and seasonal versus permanent units. The assumptions are specified by evacuation zone and appear in Appendix A immediately after the population and dwelling unit data. The assumptions were vetted by emergency managers throughout the coastal counties in North Carolina and reflect the assumption that both permanent and seasonal residents will respond in earnest to messages/evacuation advisories that local officials are issuing. When planning for evacuations and developing clearance times, times should give people the opportunity to evacuate whether they choose to or not in a major storm condition.

The percent of permanent occupied dwelling units and seasonal units, vehicles per dwelling unit, and people per dwelling unit were assumed to be the same in 2040 as that assumed for 2015 in the FEMA/USACE *North Carolina HES Restudy (2015).* The ratio of permanent to seasonal units

was assumed not to change based on the findings of the FEIS indirect and cumulative impact assessment. The average number of vehicles and people per dwelling unit was assumed not to change because Dare and Currituck county land use plans provide no indication of an intent to increase dwelling unit densities beyond those defined by current county development and zoning regulations.

One substantive change in behavioral assumptions for this reevaluation involves the percent of evacuees assumed to want to go northbound into Virginia and beyond versus those evacuees who are assumed to go westbound to inland North Carolina destinations. In the previous *Mid-Currituck Hurricane Analysis (2009) based on the 2000 FEMA/USACE model*, one-third of the evacuees on US 158 below Barco were assumed to go northbound on NC 168 versus two-thirds assumed to go westbound on US 158 towards Elizabeth City. This assumption was reversed based on the strong direction and opinions of emergency management and law enforcement stakeholders during preparation of the *Barco Diversion Plan Study (2012)* and the recent FEMA/USACE *North Carolina HES Restudy (2015)*. Highest hourly directional traffic counts during peak tourist season also confirm this substantive and needed change in assumptions. This changed assumption greatly influenced the route assignments and clearance time findings discussed below.

Evacuation demand expressed in vehicles generated by evacuation zone by category of storm and by tourist occupancy were then calculated by applying the behavioral and socioeconomic parameters to each evacuation zone's permanent and seasonal dwelling units. These generated "out of area" evacuation vehicles by category of storm and four tourist occupancies are displayed in Appendix B for the 2016 Base Year, 2040 No-Build, 2040 ER2, and Year 2040 FEIS Preferred Alternative.

IV. SERVICE VOLUMES / CAPACITIES AND ROUTE USAGE

An important input is the assumption of how many vehicles per hour can be processed through various roadway segments over the course of an evacuation. To lessen the subjectivity of calculating theoretical service volume figures, Atkins incorporated the latest NCDOT highest hourly directional traffic count for all of 2016 as a starting hourly evacuation service volume ("capacity figure") for key bottlenecks. During the heaviest tourist occupancy weekends on the Outer Banks, a glimpse of maximum directional roadway traffic congestion occurs as turnover of seasonal units happens and seasonal residents leave. For future year roadway improvement alternatives where number of lanes assumptions change, a starting evacuation flow rate was

input that mirrors what has been observed in other coastal areas for similar facility types and number of lanes configurations.

Hourly directional service volumes during evacuations typically diminish as the evacuation progresses and traffic overwhelms the road network. Atkins has had a wealth of experience looking at traffic counts during evacuations to understand flow characteristics. For this analysis, Atkins diminished the starting flow figure (based on the highest observed directional traffic count) during the second and third quarters of the evacuation and then assumed the flow recovers during the last quarter of the evacuation as seen in actual hurricane evacuation traffic counts in other U.S. locations. This reality is now built into clearance time calculations. The assumed starting flow rate for each analysis segment by improvement alternative is shown in Table 1.

Table 1: Starting Evacuation Service Volume (by Road Segment, by Year and Improvement Alternative)

Roadway Segments	Base Year	Future No-Build	Future ER2	Future FEIS Preferred
US 158 westbound east of Wright Memorial Bridge	2,200	2,200	2,800	2,200
Wright Memorial Bridge westbound	2,238	2,238	2,238	2,238
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	2,210	2,210	3,000	2,210
Proposed Mid-Currituck Bridge westbound	0	0	0	1,200
US 158 northbound from Mid-Currituck Bridge to Barco	2,210	2,210	2,900	2,900
US 158 westbound from Barco to Elizabeth City	1,000	1,800	1,800	1,800
NC 168 northbound from Barco to Virginia	1,916	1,916	1,916	1,916
US 64 westbound	1,000	1,000	1,000	1,000

In terms of which roadway segments each evacuation zone would use for each improvement alternative, Atkins specified route usage assumptions for every evacuation zone considering westbound (inland NC destinations) and northbound (Virginia and beyond destinations) desired direction of travel. Percentages using eight key roadway segments were incorporated and varied by roadway improvement alternative. To be as transparent as possible with route usage assumptions, the analysis shows the roadway segment usage for every evacuation zones' westbound and northbound traffic. Atkins then applied these route usage assumptions to the

generated zonal out of area evacuation vehicles for each evacuation zone to develop evacuation vehicles by roadway segment, by storm intensity, by tourist occupancy, and by roadway improvement alternative. The route usage assumptions and calculated vehicles by roadway segment are shown in Appendix B.

V. CLEARANCE TIMES

Incorporating the above input assumptions and metering the traffic through the candidate bottlenecks, Atkins developed the range of clearance times shown in Tables 2 through 5 for each improvement alternative. The tables for the Future Year 2040 No-Build and Future Year 2040 ER2 assume development along NC 12 is constrained by the capacity of NC 12. Tables 6 and 7 show the Future Year 2040 No-Build Alternative and Future Year 2040 ER2 assuming development levels along NC 12 equal to that for the Future Year 2040 FEIS Preferred Alternative. Tables 5 and 6 are provided for the reader's information. The Future Year 2040 No-Build Alternative and Future Year 2040 ER2 numbers assuming constrained development are considered reasonable by the overall project study team for use in assessing the benefits of ER2 and the FEIS Preferred Alternative compared to the No-Build Alternative. Clearance time is the theoretical time from the first vehicle leaving the Outer Banks to the last evacuating vehicle reaching I-95.

Clearance times for the 2016 Base Year now range from 18.5 hours to approximately 36 hours depending on the intensity of hurricane and tourist occupancy. The controlling bottleneck is US 158 from the Wright Memorial Bridge (WMB) to the Barco intersection and the time associated with this segment dictates when officials have to start evacuating the seasonal and permanent populations. Times assume that all tourists evacuate and that the permanent residents also participate as instructed by local emergency management. Historically, the permanent residents have not evacuated off the Outer Banks as they should, making evacuations less intense than the clearance times would suggest. Recently, North Carolina has not seen a storm strong enough to convince many of the Outer Banks permanent residents that they need to leave, but 2017 hurricane activity is a reminder that it is just a matter of time for this to happen and may encourage evacuation. *The benchmark Category 3 with 75% occupancy clearance time for the base year is approximately 31 hours.*

Table 2: Roadway Segment Clearance Times – 2016 BASE YEAR

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – BASE/EXISTING YEAR							
US 158 westbound east of Wright Memorial Bridge	16.4	19.7	25.0	29.3	17.8	21.0	26.4	30.7
Wright Memorial Bridge westbound	16.2	19.4	24.7	28.9	17.5	20.7	26.0	30.2
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	18.4	22.2	28.6	33.7	20.6	24.4	30.8	35.9
Proposed Mid-Currituck Bridge westbound	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US 158 northbound from Mid-Currituck Bridge to Barco	18.5	22.3	28.7	33.8	20.9	24.7	31.1	36.2
US 158 westbound from Barco to Elizabeth City	13.9	16.3	20.4	23.7	17.9	20.3	24.4	27.7
NC 168 northbound from Barco to Virginia	15.8	19.0	24.3	28.5	18.8	21.9	27.2	31.4
US 64 westbound	13.6	15.8	19.5	22.5	15.5	17.7	21.4	24.4
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – BASE/EXISTING YEAR							
US 158 westbound from Barco to Elizabeth City	25.6	30.8	39.4	46.2	32.1	37.2	45.8	52.7
NC 168 northbound from Barco to Virginia	2.4	2.9	3.6	4.3	2.8	3.3	4.1	4.7

Key: Primary Evacuation Bottlenecks (dark shading)

Table 3: Roadway Segment Clearance Times – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT ON NC 12)

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – FUTURE YEAR 2040 NO BUILD							
US 158 westbound east of Wright Memorial Bridge	18.1	21.6	27.6	32.4	19.6	23.2	29.1	33.9
Wright Memorial Bridge westbound	17.8	21.3	27.2	31.9	19.3	22.8	28.7	33.4
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	20.2	24.4	31.5	37.1	22.7	27.0	34.0	39.7
Proposed Mid-Currituck Bridge westbound	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US 158 northbound from Mid-Currituck Bridge to Barco	20.3	24.6	31.6	37.3	23.1	27.3	34.4	40.0
US 158 westbound from Barco to Elizabeth City	9.9	11.4	13.9	15.9	12.4	13.9	16.5	18.5
NC 168 northbound from Barco to Virginia	17.4	20.9	26.7	31.4	20.7	24.2	30.0	34.7
US 64 westbound	14.8	17.3	21.6	25.1	16.9	19.5	23.8	27.2
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – FUTURE YEAR 2040							
US 158 westbound from Barco to Elizabeth City	22.9	27.4	34.9	40.9	28.3	32.8	40.3	46.2
NC 168 northbound from Barco to Virginia	2.6	3.1	4.0	4.7	3.1	3.6	4.5	5.2

Key: Primary Evacuation Bottlenecks (dark shading)

Secondary Evacuation Bottlenecks (light shading)

Table 4: Roadway Segment Clearance Times – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT ON NC 12)

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – FUTURE YEAR 2040 ER2							
US 158 westbound east of Wright Memorial Bridge	15.0	17.8	22.6	26.4	16.2	19.0	23.8	27.6
Wright Memorial Bridge westbound	17.9	21.5	27.4	32.2	19.4	23.0	28.9	33.7
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	16.0	19.2	24.6	28.9	17.9	21.1	26.5	30.8
Proposed Mid-Currituck Bridge westbound	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US 158 northbound from Mid-Currituck Bridge to Barco	16.5	19.9	25.5	29.9	18.6	22.0	27.6	32.0
US 158 westbound from Barco to Elizabeth City	10.0	11.6	14.2	16.3	12.6	14.1	16.7	18.8
NC 168 northbound from Barco to Virginia	17.7	21.3	27.3	32.2	21.0	24.6	30.7	35.5
US 64 westbound	14.8	17.3	21.6	25.1	16.9	19.5	23.8	27.2
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – FUTURE YEAR 2040 ER2							
US 158 westbound from Barco to Elizabeth City	23.3	28.0	35.7	41.9	28.7	33.4	41.1	47.3
NC 168 northbound from Barco to Virginia	2.7	3.2	4.1	4.8	3.1	3.7	4.6	5.3

Key: Primary Evacuation Bottleneck (dark shading)

Secondary Evacuation Bottleneck (light shading)

Table 5: Roadway Segment Clearance Times – FUTURE YEAR 2040 FEIS PREFERRED (NO DEVELOPMENT CONSTRAINT)

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound east of Wright Memorial Bridge	15.9	18.7	23.5	27.3	17.3	20.1	24.9	28.7
Wright Memorial Bridge westbound	15.6	18.5	23.2	26.9	17.0	19.8	24.5	28.3
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	16.3	19.2	24.0	27.9	18.6	21.5	26.3	30.2
Proposed Mid-Currituck Bridge westbound	9.7	13.2	19.0	23.7	10.0	13.5	19.4	24.0
US 158 northbound from Mid-Currituck Bridge to Barco	17.3	20.9	27.0	31.9	19.4	23.0	29.1	34.0
US 158 westbound from Barco to Elizabeth City	10.4	12.1	14.9	17.2	12.9	14.6	17.5	19.8
NC 168 northbound from Barco to Virginia	18.4	22.4	29.0	34.2	21.8	25.7	32.3	37.6
US 64 westbound	14.8	17.3	21.6	25.1	16.9	19.5	23.8	27.2
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound from Barco to Elizabeth City	24.3	29.4	37.9	44.6	29.7	34.8	43.2	50.0
NC 168 northbound from Barco to Virginia	2.8	3.4	4.3	5.1	3.3	3.9	4.8	5.6

Key: Primary Evacuation Bottleneck (dark shading)

Secondary Evacuation Bottleneck (light shading)

Table 6: Roadway Segment Clearance Times – FUTURE YEAR 2040 NO-BUILD (UNCONSTRAINED DEVELOPMENT)

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound east of Wright Memorial Bridge	18.5	22.2	28.5	33.5	20.0	23.8	30.0	35.0
Wright Memorial Bridge westbound	18.2	21.9	28.0	32.9	19.7	23.4	29.5	34.5
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	21.5	26.3	34.3	40.7	24.1	28.9	36.8	43.2
Proposed Mid-Currituck Bridge westbound	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US 158 northbound from Mid-Currituck Bridge to Barco	21.6	26.4	34.5	40.9	24.4	29.2	37.2	43.6
US 158 westbound from Barco to Elizabeth City	10.4	12.1	14.9	17.2	12.9	14.6	17.5	19.8
NC 168 northbound from Barco to Virginia	18.4	22.4	29.0	34.2	21.8	25.7	32.3	37.6
US 64 westbound	14.8	17.3	21.6	25.1	16.9	19.5	23.8	27.2
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound from Barco to Elizabeth City	24.3	29.4	37.9	44.6	29.7	34.8	43.2	50.0
NC 168 northbound from Barco to Virginia	2.8	3.4	4.3	5.1	3.3	3.9	4.8	5.6

Key: Primary Evacuation Bottleneck (dark shading)

Secondary Evacuation Bottleneck (light shading)

Table 7: Roadway Segment Clearance Times – FUTURE YEAR 2040 ER2 (UNCONSTRAINED DEVELOPMENT)

Roadway Segments	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
	NO NORTH CAROLINA/VIRGINIA BORDER PLAN ACTIVATION – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound east of Wright Memorial Bridge	15.2	18.1	23.0	27.0	16.4	19.3	24.3	28.2
Wright Memorial Bridge westbound	18.2	21.9	28.0	32.9	19.7	23.4	29.5	34.5
US 158 northbound from Wright Memorial Bridge to Mid-Currituck Bridge terminus area	16.7	20.2	26.1	30.8	18.6	22.1	28.0	32.7
Proposed Mid-Currituck Bridge westbound	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US 158 northbound from Mid-Currituck Bridge to Barco	17.3	20.9	27.0	31.9	19.4	23.0	29.1	34.0
US 158 westbound from Barco to Elizabeth City	10.4	12.1	14.9	17.2	12.9	14.6	17.5	19.8
NC 168 northbound from Barco to Virginia	18.4	22.4	29.0	34.2	21.8	25.7	32.3	37.6
US 64 westbound	14.8	17.3	21.6	25.1	16.9	19.5	23.8	27.2
	WITH NORTH CAROLINA/VIRGINIA BORDER PLAN – FUTURE YEAR WITH MID-CURRITUCK BRIDGE							
US 158 westbound from Barco to Elizabeth City	24.3	29.4	37.9	44.6	29.7	34.8	43.2	50.0
NC 168 northbound from Barco to Virginia	2.8	3.4	4.3	5.1	3.3	3.9	4.8	5.6

Key: Primary Evacuation Bottleneck (dark shading)

Secondary Evacuation Bottleneck (light shading)

For the Future Year 2040 No-Build scenario (with constrained development), times range from approximately 20 to 40 hours depending on the intensity and tourist occupancy. The controlling bottleneck remains US 158 from the WMB to the Barco intersection. US 158 from Barco to Elizabeth City is assumed to be widened in accordance with the NCDOT plans and work program [State Transportation Improvement Program (STIP) Project R-2574] for the future year. Secondary but significant bottlenecks are seen on NC 168, US 158 from NC 12 to and including the WMB. *The benchmark Category 3 with 75% occupancy clearance time for the Year 2040 with the No-Build Alternative (with constrained development) is approximately 34.5 hours*.

For the Future Year 2040 ER2 scenario (with constrained development), times range from approximately 17.75 to 35.5 hours depending on the intensity and tourist occupancy. The controlling bottleneck shifts to NC 168 with the WMB as a secondary bottleneck. With the ER2 alternative, congestion on US 158 between NC 12 and the WMB is lessened because of a 6-lane section versus a 4-lane section in the No-Build Alternative. Also, a 12-foot wide emergency evacuation lane on US 158 is assumed from the WMB to Barco. *The benchmark Category 3 with 75% occupancy clearance time for the Year 2040 with the ER2 alternative is approximately 30.75 hours*.

For the Future Year 2040 scenario with the FEIS Preferred Alternative, times range from 18.5 to approximately 37.5 hours. All planned and expected development is accommodated unlike in the No Build and ER2 alternatives. However, congestion is greatly reduced on US 158 from the WMB to the western terminus of the MCB. NC 168 becomes the controlling segment with US 158 from the western MCB terminus up to Barco as a secondary bottleneck. *The benchmark Category 3 with 75% occupancy clearance time for the Future Year 2040 with the proposed MCB is approximately 32.25 hours.*

Clearance times were also developed for the Base Year, Future No-Build, Future ER2, and Future FEIS Preferred Alternative scenarios, assuming that the Virginia/North Carolina (VA/NC) Border Traffic Control Plan is activated (previously called the *Barco Diversion Plan*). While traffic and associated clearance times are greatly reduced on NC 168, US 158 from Barco to Elizabeth City times greatly increase from roughly 26 to 53 hours in the base year. *In the future year improvement alternatives, this section has times ranging from 22 to 43 hours (for the benchmark Category 3 75% occupancy) even with the widening of US 158 west of Barco (STIP Project R-2574).*

It should be noted that "forced" use of westbound US 64 by all Hyde County and Dare County evacuees coming northbound on NC 12 to Whalebone Junction could take several hours of northbound traffic demand off the controlling bottlenecks. This may need to be considered by

emergency management officials by 2040 as a traffic control strategy particularly in heavy tourist occupancy situations.

VI. HURRICANE EVACUATION BENEFITS OF THE FEIS PREFERRED ALTERNATIVE

The proposed new bridge with the FEIS Preferred Alternative would provide a redundant escape route for the huge portion of evacuees desiring to go northbound out of Dare and Currituck Counties. Specifically, if US 158/the WMB have an incident that shuts down that escape route even temporarily, the proposed MCB would serve as an alternative evacuation route.

The FEIS Preferred Alternative would take a notable amount of evacuation demand off US 158 between NC 12 and the WMB as well as the WMB, and US 158 segment up to the western terminus of the MCB. This alleviates the need to pave and provide a usable 12-foot shoulder from the WMB to Barco. The FEIS Preferred Alternative (as well as ER2) also would get clearance times on these secondary bottlenecks well within a possible 30-hour new benchmark in conjunction with the NHC 36-hour warning.

The new MCB saves a modest 2.1 hours of overall clearance time. This time savings could translate to roughly some 9,000 evacuees being able to escape in certain time constrained situations that could not escape otherwise. In the analysis, ER2 saves an additional 1.6 hours when compared to the MCB/Preferred Alternative as the ER2 model run assumes constrained planned and expected development (less development than the MCB/Preferred Alternative).

While the overall clearance time for the Category 3 75% occupancy scenario is approximately 32 hours with the MCB, Atkin's analysis shows some additional hours of clearance time savings could be achieved in the Year 2040 by Dare County law enforcement forcing all evacuation traffic south of Whalebone Junction to exit the county on US 64 thereby getting the time below the new desired and "proposed for consideration" 30-hour clearance time.

APPENDIX A: POPULATION AND DWELLING UNIT ASSUMPTIONS AND HURRICANE EVACUATION BEHAVIORAL ASSUMPTIONS SUMMARY

Table A-1: Population and Dwelling Unit Assumptions Summary – 2016 BASE / EXISTING YEAR

Evacuation Zone	Current Permanent Population	Current Permanent Occupied Dwelling Units	Current Seasonal Units	Vehicles per Permanent Occupied Dwelling Unit	Vehicles per Seasonal Dwelling Unit	People per Permanent Occupied Dwelling Unit	People per Seasonal Dwelling Unit
Dare 1 - Buxton/Hatteras Island	3,069	1,323	2,627	1.69	2.63	2.32	8.00
Dare 2 - Pea Island/Rodanthe/Salvo area	1,472	675	2,056	1.69	2.94	2.18	8.00
Dare 3 - Whalebone junction to Bodie Island lighthouse	267	129	1,339	1.92	2.64	2.07	8.00
Dare 4 - Nags Head to Whalebone junction	2,649	1,167	1,814	1.91	2.61	2.27	8.00
Dare 5 - Kitty Hawk/Kill Devil Hills area	14,930	6,247	7,210	1.98	2.47	2.39	8.00
Dare 6 - Duck/Southern Shores area	3,856	1,655	3,849	2.04	3.00	2.33	8.00
Dare 7 - Manteo/Roanoke Island	8,131	3,346	1,088	1.81	1.56	2.43	4.00
Dare 8 - Manns Harbor/East Lake area	1,321	520	200	2.20	1.75	2.54	4.00
Currituck 1 - northern Outer Banks/Corova area	99	54	545	3.00	2.80	1.84	8.00
Currituck 2 - Knotts Island	1,648	670	200	2.52	1.90	2.46	5.00
Currituck 3 - Corolla area	484	252	3,623	2.98	2.67	1.92	8.00
Currituck 4 - Jarvisburg/golf courses	3,075	1,240	135	2.33	1.05	2.48	3.00
Currituck 5 - Poplar Branch/Grandy area	4,836	1,950	305	1.93	1.05	2.48	3.00
Currituck 6 - Currituck/Tulls Creek Road area	4,556	1,675	130	2.39	1.05	2.72	3.00
Currituck 7 - Barco/Shawboro area	3,165	1,155	30	1.95	1.05	2.74	3.00
Currituck 8 - Moyock area	7,446	2,550	40	2.31	1.05	2.92	3.00
Dare Totals	**35,695**	**15,062**	**20,183**				
Currituck Totals	**25,309**	**9,546**	**5,008**				

Note: Hyde County will contribute vehicles from Ocracoke and these have been included in background traffic.

Table A-2: Population and Dwelling Unit Assumptions Summary – FUTURE YEAR 2040 – NO BUILD (WITH CONSTRAINED DEVELOPMENT)

Evacuation Zone	2040 Permanent Population	2040 Permanent Occupied Dwelling Units	2040 Seasonal Units	Vehicles per Permanent Occupied Dwelling Unit	Vehicles per Seasonal Dwelling Unit	People per Permanent Occupied Dwelling Unit	People per Seasonal Dwelling Unit
Dare 1 - Buxton/Hatteras Island	2,986	1,287	3,038	1.69	2.63	2.32	8.00
Dare 2 - Pea Island/Rodanthe/Salvo area	1,635	750	2,350	1.69	2.94	2.18	8.00
Dare 3 - Whalebone junction to Bodie Island lighthouse	302	146	1,378	1.92	2.64	2.07	8.00
Dare 4 - Nags Head to Whalebone junction	3,008	1,325	2,084	1.91	2.61	2.27	8.00
Dare 5 - Kitty Hawk/Kill Devil Hills area	18,042	7,549	8,534	1.98	2.47	2.39	8.00
Dare 6 - Duck/Southern Shores area	3,754	1,611	3,775	2.04	3.00	2.33	8.00
Dare 7 - Manteo/Roanoke Island	8,517	3,505	1,414	1.81	1.56	2.43	4.00
Dare 8 - Manns Harbor/East Lake area	1,778	700	275	2.20	1.75	2.54	4.00
Currituck 1 - northern Outer Banks/Corova area	118	64	777	3.00	2.80	1.84	8.00
Currituck 2 - Knotts Island	1,895	771	230	2.52	1.90	2.46	5.00
Currituck 3 - Corolla area	547	285	4,108	2.98	2.42	1.92	8.00
Currituck 4 - Jarvisburg/golf courses	3,536	1,426	150	2.33	1.05	2.48	3.00
Currituck 5 - Poplar Branch/Grandy area	5,561	2,243	350	1.93	1.05	2.48	3.00
Currituck 6 - Currituck/Tulls Creek Road area	5,239	1,926	150	2.39	1.05	2.72	3.00
Currituck 7 - Barco/Shawboro area	3,639	1,328	45	1.95	1.05	2.74	3.00
Currituck 8 - Moyock area	8,563	2,933	50	2.31	1.05	2.92	3.00
Dare Totals	**40,022**	**16,873**	**22,848**				
Currituck Totals	**29,100**	**10,975**	**5,860**				

Note: Hyde County will contribute vehicles from Ocracoke and these have been included in background traffic.
Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table A-3: Population and Dwelling Unit Assumptions Summary – FUTURE YEAR 2040 – ER2 (WITH CONSTRAINED DEVELOPMENT)

Evacuation Zone	2040 Permanent Population	2040 Permanent Occupied Dwelling Units	2040 Seasonal Units	Vehicles per Permanent Occupied Dwelling Unit	Vehicles per Seasonal Dwelling Unit	People per Permanent Occupied Dwelling Unit	People per Seasonal Dwelling Unit
Dare 1 - Buxton/Hatteras Island	2,986	1,287	3,038	1.69	2.63	2.32	8.00
Dare 2 - Pea Island/Rodanthe/Salvo area	1,635	750	2,350	1.69	2.94	2.18	8.00
Dare 3 - Whalebone junction to Bodie Island lighthouse	302	146	1,378	1.92	2.64	2.07	8.00
Dare 4 - Nags Head to Whalebone junction	3,008	1,325	2,084	1.91	2.61	2.27	8.00
Dare 5 - Kitty Hawk/Kill Devil Hills area	18,042	7,549	8,534	1.98	2.47	2.39	8.00
Dare 6 - Duck/Southern Shores area	3,754	1,611	3,775	2.04	3.00	2.33	8.00
Dare 7 - Manteo/Roanoke Island	8,517	3,505	1,414	1.81	1.56	2.43	4.00
Dare 8 - Manns Harbor/East Lake area	1,778	700	275	2.20	1.75	2.54	4.00
Currituck 1 - northern Outer Banks/Corova area	118	64	777	3.00	2.80	1.84	8.00
Currituck 2 - Knotts Island	1,895	771	230	2.52	1.90	2.46	5.00
Currituck 3 - Corolla area	545	284	4,978	2.98	2.42	1.92	8.00
Currituck 4 - Jarvisburg/golf courses	3,536	1,426	150	2.33	1.05	2.48	3.00
Currituck 5 - Poplar Branch/Grandy area	5,561	2,243	350	1.93	1.05	2.48	3.00
Currituck 6 - Currituck/Tulls Creek Road area	5,239	1,926	150	2.39	1.05	2.72	3.00
Currituck 7 - Barco/Shawboro area	3,639	1,328	45	1.95	1.05	2.74	3.00
Currituck 8 - Moyock area	8,563	2,933	50	2.31	1.05	2.92	3.00
Dare Totals	**40,022**	**16,873**	**22,848**				
Currituck Totals	**29,098**	**10,974**	**6,730**				

Note: Hyde County will contribute vehicles from Ocracoke and these have been included in background traffic.
Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table A-4: Population and Dwelling Unit Assumptions Summary – FUTURE YEAR 2040 – WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOMENT CONSTRAINT)

Evacuation Zone	2040 Permanent Population	2040 Permanent Occupied Dwelling Units	2040 Seasonal Units	Vehicles per Permanent Occupied Dwelling Unit	Vehicles per Seasonal Dwelling Unit	People per Permanent Occupied Dwelling Unit	People per Seasonal Dwelling Unit
Dare 1 - Buxton/Hatteras Island	2,986	1,287	3,038	1.69	2.63	2.32	8.00
Dare 2 - Pea Island/Rodanthe/Salvo area	1,635	750	2,350	1.69	2.94	2.18	8.00
Dare 3 - Whalebone junction to Bodie Island lighthouse	302	146	1,378	1.92	2.64	2.07	8.00
Dare 4 - Nags Head to Whalebone junction	3,008	1,325	2,084	1.91	2.61	2.27	8.00
Dare 5 - Kitty Hawk/Kill Devil Hills area	18,042	7,549	8,534	1.98	2.47	2.39	8.00
Dare 6 - Duck/Southern Shores area	3,754	1,611	3,775	2.04	3.00	2.33	8.00
Dare 7 - Manteo/Roanoke Island	8,517	3,505	1,414	1.81	1.56	2.43	4.00
Dare 8 - Manns Harbor/East Lake area	1,778	700	275	2.20	1.75	2.54	4.00
Currituck 1 - northern Outer Banks/Corova area	118	64	777	3.00	2.80	1.84	8.00
Currituck 2 - Knotts Island	1,895	771	230	2.52	1.90	2.46	5.00
Currituck 3 - Corolla area	566	295	6,512	2.98	2.67	1.92	8.00
Currituck 4 - Jarvisburg/golf courses	3,536	1,426	150	2.33	1.05	2.48	3.00
Currituck 5 - Poplar Branch/Grandy area	5,561	2,243	350	1.93	1.05	2.48	3.00
Currituck 6 - Currituck/Tulls Creek Road area	5,239	1,926	150	2.39	1.05	2.72	3.00
Currituck 7 - Barco/Shawboro area	3,639	1,328	45	1.95	1.05	2.74	3.00
Currituck 8 - Moyock area	8,563	2,933	50	2.31	1.05	2.92	3.00
Dare Totals	**40,022**	**16,873**	**22,848**				
Currituck Totals	**29,119**	**10,985**	**8,264**				

Note: Hyde County will contribute vehicles from Ocracoke and these have been included in background traffic.

Table A-5: Hurricane Evacuation Behavioral Assumptions Summary – 2016 BASE / EXISTING YEAR AND 2040 FUTURE YEAR

Evacuation Zone	Participation Rates			Out of Area Destination Rates			Vehicle Usage		Desired Travel Direction		Tourist Occupancies Tested			
	Permanent Occupied Dwelling Units		Seasonal Units	Permanent Occupied Dwelling Units		Seasonal Units	Permanent Occupied Dwelling Units	Seasonal Units	North-bound	West-bound	Low	Med-ium	High	Max
	Category 1-2	Category 3-5	Category 1-5	Category 1-2	Category 3-5	Category 1-5								
Dare 1 - Buxton/Hatteras Island	90%	100%	100%	80%	84%	100%	90%	100%	50%	50%	35%	50%	75%	95%
Dare 2 - Pea Island/Rodanthe/Salvo area	90%	100%	100%	80%	84%	100%	90%	100%	50%	50%	35%	50%	75%	95%
Dare 3 - Whalebone junction to Bodie Island lighthouse	85%	100%	100%	80%	84%	100%	85%	100%	65%	35%	35%	50%	75%	95%
Dare 4 - Nags Head to Whalebone junction	85%	100%	100%	80%	84%	100%	85%	100%	65%	35%	35%	50%	75%	95%
Dare 5 - Kitty Hawk/Kill Devil Hills area	85%	100%	100%	80%	84%	100%	85%	100%	65%	35%	35%	50%	75%	95%
Dare 6 - Duck/Southern Shores area	85%	100%	100%	80%	84%	100%	85%	100%	65%	35%	35%	50%	75%	95%
Dare 7 - Manteo/Roanoke Island	70%	100%	100%	80%	84%	100%	75%	100%	40%	60%	35%	50%	75%	95%
Dare 8 - Manns Harbor/East Lake area	70%	100%	100%	80%	84%	100%	75%	100%	25%	75%	35%	50%	75%	95%
Currituck 1 - northern Outer Banks/Corova area	85%	100%	100%	85%	89%	100%	85%	100%	70%	30%	35%	50%	75%	95%
Currituck 2 - Knotts Island	85%	100%	100%	85%	89%	100%	85%	100%	100%	0%	35%	50%	75%	95%
Currituck 3 - Corolla area	85%	100%	100%	85%	89%	100%	85%	100%	70%	30%	35%	50%	75%	95%
Currituck 4 - Jarvisburg/golf courses	35%	90%	100%	50%	63%	100%	75%	100%	70%	30%	35%	50%	75%	95%
Currituck 5 - Poplar Branch/Grandy area	35%	90%	100%	50%	63%	100%	75%	100%	50%	50%	35%	50%	75%	95%
Currituck 6 - Currituck/Tulls Creek Road area	35%	90%	100%	50%	63%	100%	75%	100%	50%	50%	35%	50%	75%	95%
Currituck 7 - Barco/Shawboro area	15%	85%	100%	40%	55%	100%	75%	100%	50%	50%	35%	50%	75%	95%
Currituck 8 - Moyock area	15%	85%	100%	50%	63%	100%	75%	100%	50%	50%	35%	50%	75%	95%

APPENDIX B: OUT OF AREA EVACUATION VEHICLES, ROUTE USAGE ASSUMPTIONS, AND VEHICLES BY ROADWAY SEGMENT

Table B-1: Out of Area Evacuation Vehicles – 2016 BASE / EXISTING YEAR

Evacuation Zone	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1 - Buxton/Hatteras Island	3,867	4,903	6,631	8,012	4,108	5,145	6,872	8,254
Dare 2 - Pea Island/Rodanthe/Salvo area	2,855	3,762	5,273	6,482	2,978	3,885	5,396	6,605
Dare 3 - Whalebone junction to Bodie Island lighthouse	1,380	1,911	2,794	3,501	1,414	1,944	2,828	3,535
Dare 4 - Nags Head to Whalebone junction	2,945	3,656	4,839	5,786	3,249	3,959	5,142	6,089
Dare 5 - Kitty Hawk/Kill Devil Hills area	13,382	16,054	20,506	24,068	15,065	17,736	22,188	25,750
Dare 6 - Duck/Southern Shores area	5,993	7,725	10,612	12,921	6,452	8,184	11,071	13,380
Dare 7 - Manteo/Roanoke Island	3,138	3,392	3,817	4,156	4,409	4,664	5,088	5,428
Dare 8 - Manns Harbor/East Lake area	603	655	743	813	843	896	983	1,053
Currituck 1 - northern Outer Banks/Corova area	634	862	1,244	1,549	657	886	1,267	1,572
Currituck 2 - Knotts Island	1,170	1,227	1,322	1,398	1,410	1,467	1,562	1,638
Currituck 3 - Corolla area	3,847	5,298	7,716	9,651	3,954	5,405	7,823	9,758
Currituck 4 - Jarvisburg/golf courses	429	450	486	514	1,278	1,300	1,335	1,363
Currituck 5 - Poplar Branch/Grandy area	606	654	734	798	1,713	1,761	1,841	1,905
Currituck 6 - Currituck/Tulls Creek Road area	573	594	628	655	1,750	1,771	1,805	1,832
Currituck 7 - Barco/Shawboro area	112	117	125	131	801	805	813	820
Currituck 8 - Moyock area	346	352	363	371	2,380	2,387	2,397	2,406
Dare Totals	**34,164**	**42,057**	**55,214**	**65,739**	**38,518**	**46,412**	**59,569**	**70,094**
Currituck Totals	**7,717**	**9,555**	**12,617**	**15,068**	**13,943**	**15,781**	**18,843**	**21,294**

Note: Hyde County will contribute vehicles from Ocracoke and these have been included in background traffic.

Table B-2: Out of Area Evacuation Vehicles – FUTURE YEAR 2040 – NO-BUILD (WITH CONSTRAINED DEVELOPMENT)

Evacuation Zone	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1 - Buxton/Hatteras Island	4,206	5,404	7,402	9,000	4,441	5,639	7,637	9,235
Dare 2 - Pea Island/Rodanthe/Salvo area	3,239	4,276	6,003	7,385	3,376	4,413	6,140	7,522
Dare 3 - Whalebone junction to Bodie Island lighthouse	1,435	1,981	2,890	3,618	1,473	2,019	2,929	3,656
Dare 4 - Nags Head to Whalebone junction	3,367	4,182	5,542	6,630	3,711	4,527	5,886	6,974
Dare 5 - Kitty Hawk/Kill Devil Hills area	16,017	19,179	24,449	28,664	18,050	21,212	26,481	30,697
Dare 6 - Duck/Southern Shores area	5,863	7,562	10,393	12,658	6,310	8,009	10,840	13,105
Dare 7 - Manteo/Roanoke Island	3,437	3,767	4,319	4,760	4,769	5,100	5,651	6,092
Dare 8 - Manns Harbor/East Lake area	815	887	1,008	1,104	1,139	1,211	1,331	1,427
Currituck 1 - northern Outer Banks/Corova area	879	1,206	1,750	2,185	907	1,233	1,777	2,212
Currituck 2 - Knotts Island	1,345	1,411	1,520	1,608	1,622	1,687	1,797	1,884
Currituck 3 - Corolla area	4,001	5,492	7,978	9,966	4,122	5,613	8,099	10,087
Currituck 4 - Jarvisburg/golf courses	491	515	554	586	1,468	1,492	1,531	1,563
Currituck 5 - Poplar Branch/Grandy area	697	752	844	917	1,969	2,024	2,116	2,190
Currituck 6 - Currituck/Tulls Creek Road area	659	683	722	754	2,013	2,036	2,076	2,107
Currituck 7 - Barco/Shawboro area	133	140	152	161	925	932	944	953
Currituck 8 - Moyock area	399	407	420	431	2,739	2,747	2,760	2,771
Dare Totals	**38,379**	**47,239**	**62,006**	**73,820**	**43,269**	**52,129**	**66,896**	**78,709**
Currituck Totals	**8,606**	**10,606**	**13,940**	**16,607**	**15,764**	**17,765**	**21,099**	**23,766**

Note: Hyde County will contribute vehicles from Ocracoke and these will be included in background traffic.
Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table B-3: Out of Area Evacuation Vehicles – FUTURE YEAR 2040 – ER2 (WITH CONSTRAINED DEVELOPMENT)

Evacuation Zone	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1 - Buxton/Hatteras Island	4,206	5,404	7,402	9,000	4,441	5,639	7,637	9,235
Dare 2 - Pea Island/Rodanthe/Salvo area	3,239	4,276	6,003	7,385	3,376	4,413	6,140	7,522
Dare 3 - Whalebone junction to Bodie Island lighthouse	1,435	1,981	2,890	3,618	1,473	2,019	2,929	3,656
Dare 4 - Nags Head to Whalebone junction	3,367	4,182	5,542	6,630	3,711	4,527	5,886	6,974
Dare 5 - Kitty Hawk/Kill Devil Hills area	16,017	19,179	24,449	28,664	18,050	21,212	26,481	30,697
Dare 6 - Duck/Southern Shores area	5,863	7,562	10,393	12,658	6,310	8,009	10,840	13,105
Dare 7 - Manteo/Roanoke Island	3,437	3,767	4,319	4,760	4,769	5,100	5,651	6,092
Dare 8 - Manns Harbor/East Lake area	815	887	1,008	1,104	1,139	1,211	1,331	1,427
Currituck 1 - northern Outer Banks/Corova area	879	1,206	1,750	2,185	907	1,233	1,777	2,212
Currituck 2 - Knotts Island	1,345	1,411	1,520	1,608	1,622	1,687	1,797	1,884
Currituck 3 - Corolla area	4,736	6,543	9,555	11,964	4,857	6,664	9,675	12,085
Currituck 4 - Jarvisburg/golf courses	491	515	554	586	1,468	1,492	1,531	1,563
Currituck 5 - Poplar Branch/Grandy area	697	752	844	917	1,969	2,024	2,116	2,190
Currituck 6 - Currituck/Tulls Creek Road area	659	683	722	754	2,013	2,036	2,076	2,107
Currituck 7 - Barco/Shawboro area	133	140	152	161	925	932	944	953
Currituck 8 - Moyock area	399	407	420	431	2,739	2,747	2,760	2,771
Dare Totals	**38,379**	**47,239**	**62,006**	**73,820**	**43,269**	**52,129**	**66,896**	**78,709**
Currituck Totals	**9,341**	**11,657**	**15,517**	**18,606**	**16,499**	**18,815**	**22,676**	**25,764**

Note: Hyde County will contribute vehicles from Ocracoke and these will be included in background traffic.
Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table B-4: Out of Area Evacuation Vehicles – FUTURE YEAR 2040 – FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT)

Evacuation Zone	Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1 - Buxton/Hatteras Island	4,206	5,404	7,402	9,000	4,441	5,639	7,637	9,235
Dare 2 - Pea Island/Rodanthe/Salvo area	3,239	4,276	6,003	7,385	3,376	4,413	6,140	7,522
Dare 3 - Whalebone junction to Bodie Island lighthouse	1,435	1,981	2,890	3,618	1,473	2,019	2,929	3,656
Dare 4 - Nags Head to Whalebone junction	3,367	4,182	5,542	6,630	3,711	4,527	5,886	6,974
Dare 5 - Kitty Hawk/Kill Devil Hills area	16,017	19,179	24,449	28,664	18,050	21,212	26,481	30,697
Dare 6 - Duck/Southern Shores area	5,863	7,562	10,393	12,658	6,310	8,009	10,840	13,105
Dare 7 - Manteo/Roanoke Island	3,437	3,767	4,319	4,760	4,769	5,100	5,651	6,092
Dare 8 - Manns Harbor/East Lake area	815	887	1,008	1,104	1,139	1,211	1,331	1,427
Currituck 1 - northern Outer Banks/Corova area	879	1,206	1,750	2,185	907	1,233	1,777	2,212
Currituck 2 - Knotts Island	1,345	1,411	1,520	1,608	1,622	1,687	1,797	1,884
Currituck 3 - Corolla area	6,625	9,233	13,580	17,058	6,751	9,359	13,705	17,183
Currituck 4 - Jarvisburg/golf courses	491	515	554	586	1,468	1,492	1,531	1,563
Currituck 5 - Poplar Branch/Grandy area	697	752	844	917	1,969	2,024	2,116	2,190
Currituck 6 - Currituck/Tulls Creek Road area	659	683	722	754	2,013	2,036	2,076	2,107
Currituck 7 - Barco/Shawboro area	133	140	152	161	925	932	944	953
Currituck 8 - Moyock area	399	407	420	431	2,739	2,747	2,760	2,771
Dare Totals	**38,379**	**47,239**	**62,006**	**73,820**	**43,269**	**52,129**	**66,896**	**78,709**
Currituck Totals	**11,230**	**14,347**	**19,543**	**23,699**	**18,393**	**21,510**	**26,706**	**30,862**

Note: Hyde County will contribute vehicles from Ocracoke and these will be included in background traffic.

Table B-5: Route Usage Assumptions (Percent of Out Traffic Using Specific Route Segments by Directional Destination) – BASE YEAR/FUTURE NO-BUILD/FUTURE ER2

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge	Wright Memorial Bridge	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge	Proposed Mid-Currituck Bridge	US 158 from Mid-Currituck Bridge to Barco	US 158 from Barco to Elizabeth City	168 northbound Barco to Virginia State Line	US 64 west-bound	% of Trip Generation Desiring Westbound Destination
Dare 1 - Buxton/Hatteras Island	0%	0%	0%	0%	0%	0%	0%	100%	50%
Dare 2 - Pea Island/Rodanthe/Salvo area	0%	0%	0%	0%	0%	0%	0%	100%	50%
Dare 3 - Whalebone junction to Bodie Island lighthouse	0%	0%	0%	0%	0%	0%	0%	100%	35%
Dare 4 - Nags Head to Whalebone junction	50%	50%	50%	0%	50%	50%	0%	50%	35%
Dare 5 - Kitty Hawk/Kill Devil Hills area	100%	100%	100%	0%	100%	100%	0%	0%	35%
Dare 6 - Duck/Southern Shores area	100%	100%	100%	0%	100%	100%	0%	0%	35%
Dare 7 - Manteo/Roanoke Island	0%	0%	0%	0%	0%	0%	0%	100%	60%
Dare 8 - Manns Harbor/East Lake area	0%	0%	0%	0%	0%	0%	0%	100%	75%
Currituck 1 - northern Outer Banks/Corova area	100%	100%	100%	0%	100%	100%	0%	0%	30%
Currituck 2 - Knotts Island	0%	0%	0%	0%	0%	0%	0%	0%	0%
Currituck 3 - Corolla area	100%	100%	100%	0%	100%	100%	0%	0%	30%
Currituck 4 - Jarvisburg/golf courses	0%	0%	100%	0%	100%	100%	0%	0%	30%
Currituck 5 - Poplar Branch/Grandy area	0%	0%	70%	0%	100%	100%	0%	0%	50%
Currituck 6 - Currituck/Tulls Creek Road area	0%	0%	0%	0%	0%	100%	0%	0%	50%
Currituck 7 - Barco/Shawboro area	0%	0%	0%	0%	10%	100%	0%	0%	50%
Currituck 8 - Moyock area	0%	0%	0%	0%	0%	100%	0%	0%	50%

Table B-5: Route Usage Assumptions (Percent of Out Traffic Using Specific Route Segments by Directional Destination) **– BASE YEAR/FUTURE NO-BUILD/FUTURE ER2 (continued)**

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge	Wright Memorial Bridge	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge	Proposed Mid-Currituck Bridge	US 158 from Mid-Currituck Bridge to Barco	US 158 from Barco to Elizabeth City	168 northbound Barco to Virginia State Line	US 64 west-bound	% of Trip Generation Desiring Northbound Destination
Dare 1 - Buxton/Hatteras Island	70%	70%	70%	0%	70%	0%	70%	30%	50%
Dare 2 - Pea Island/Rodanthe/Salvo area	70%	70%	70%	0%	70%	0%	70%	30%	50%
Dare 3 - Whalebone junction to Bodie Island lighthouse	70%	70%	70%	0%	70%	0%	70%	30%	65%
Dare 4 - Nags Head to Whalebone junction	90%	90%	90%	0%	90%	0%	90%	10%	65%
Dare 5 - Kitty Hawk/Kill Devil Hills area	100%	100%	100%	0%	100%	0%	100%	0%	65%
Dare 6 - Duck/Southern Shores area	100%	100%	100%	0%	100%	0%	100%	0%	65%
Dare 7 - Manteo/Roanoke Island	20%	20%	20%	0%	20%	0%	20%	80%	40%
Dare 8 - Manns Harbor/East Lake area	0%	0%	0%	0%	0%	0%	0%	100%	25%
Currituck 1 - northern Outer Banks/Corova area	0%	0%	100%	0%	100%	0%	100%	0%	70%
Currituck 2 - Knotts Island	0%	0%	0%	0%	0%	0%	0%	0%	100%
Currituck 3 - Corolla area	0%	0%	100%	0%	100%	0%	100%	0%	70%
Currituck 4 - Jarvisburg/golf courses	0%	0%	100%	0%	100%	0%	100%	0%	70%
Currituck 5 - Poplar Branch/Grandy area	0%	0%	70%	0%	100%	0%	100%	0%	50%
Currituck 6 - Currituck/Tulls Creek Road area	0%	0%	0%	0%	0%	0%	100%	0%	50%
Currituck 7 - Barco/Shawboro area	0%	0%	0%	0%	10%	0%	100%	0%	50%
Currituck 8 - Moyock area	0%	0%	0%	0%	0%	0%	100%	0%	50%

Table B-6: Route Usage Assumptions (Percent of Out Traffic Using Specific Route Segments by Directional Destination) – WITH FUTURE FEIS PREFERRED ALTERNATIVE

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge	Wright Memorial Bridge	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge	Proposed Mid-Currituck Bridge	US 158 from Mid-Currituck Bridge to Barco	US 158 from Barco to Elizabeth City	168 northbound Barco to Virginia State Line	US 64 west-bound	% of Trip Generation Desiring Westbound Destination
Dare 1 - Buxton/Hatteras Island	0%	0%	0%	0%	0%	0%	0%	100%	50%
Dare 2 - Pea Island/Rodanthe/Salvo area	0%	0%	0%	0%	0%	0%	0%	100%	50%
Dare 3 - Whalebone junction to Bodie Island lighthouse	0%	0%	0%	0%	0%	0%	0%	100%	35%
Dare 4 - Nags Head to Whalebone junction	50%	50%	50%	0%	50%	50%	0%	50%	35%
Dare 5 - Kitty Hawk/Kill Devil Hills area	100%	100%	100%	0%	100%	100%	0%	0%	35%
Dare 6 - Duck/Southern Shores area	50%	50%	50%	50%	100%	100%	0%	0%	35%
Dare 7 - Manteo/Roanoke Island	0%	0%	0%	0%	0%	0%	0%	100%	60%
Dare 8 - Manns Harbor/East Lake area	0%	0%	0%	0%	0%	0%	0%	100%	75%
Currituck 1 - northern Outer Banks/Corova area	0%	0%	0%	100%	100%	100%	0%	0%	30%
Currituck 2 - Knotts Island	0%	0%	0%	0%	0%	0%	0%	0%	0%
Currituck 3 - Corolla area	0%	0%	0%	100%	100%	100%	0%	0%	30%
Currituck 4 - Jarvisburg/golf courses	0%	0%	100%	0%	100%	100%	0%	0%	30%
Currituck 5 - Poplar Branch/Grandy area	0%	0%	70%	0%	100%	100%	0%	0%	50%
Currituck 6 - Currituck/Tulls Creek Road area	0%	0%	0%	0%	0%	100%	0%	0%	50%
Currituck 7 - Barco/Shawboro area	0%	0%	0%	0%	10%	100%	0%	0%	50%
Currituck 8 - Moyock area	0%	0%	0%	0%	0%	100%	0%	0%	50%

Table B-6: Route Usage Assumptions (Percent of Out Traffic Using Specific Route Segments by Directional Destination) **– WITH FUTURE FEIS PREFERRED ALTERNATIVE (continued)**

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge	Wright Memorial Bridge	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge	Proposed Mid-Currituck Bridge	US 158 from Mid-Currituck Bridge to Barco	US 158 from Barco to Elizabeth City	168 northbound Barco to Virginia State Line	US 64 west-bound	% of Trip Generation Desiring Northbound Destination
Dare 1 - Buxton/Hatteras Island	70%	70%	70%	0%	70%	0%	70%	30%	50%
Dare 2 - Pea Island/Rodanthe/Salvo area	70%	70%	70%	0%	70%	0%	70%	30%	50%
Dare 3 - Whalebone junction to Bodie Island lighthouse	70%	70%	70%	0%	70%	0%	70%	30%	65%
Dare 4 - Nags Head to Whalebone junction	90%	90%	90%	0%	90%	0%	90%	10%	65%
Dare 5 - Kitty Hawk/Kill Devil Hills area	100%	100%	100%	0%	100%	0%	100%	0%	65%
Dare 6 - Duck/Southern Shores area	50%	50%	50%	50%	100%	0%	100%	0%	65%
Dare 7 - Manteo/Roanoke Island	20%	20%	20%	0%	20%	0%	20%	80%	40%
Dare 8 - Manns Harbor/East Lake area	0%	0%	0%	0%	0%	0%	0%	100%	25%
Currituck 1 - northern Outer Banks/Corova area	0%	0%	0%	100%	100%	0%	100%	0%	70%
Currituck 2 - Knotts Island	0%	0%	0%	0%	0%	0%	0%	0%	100%
Currituck 3 - Corolla area	0%	0%	0%	100%	100%	0%	100%	0%	70%
Currituck 4 - Jarvisburg/golf courses	0%	0%	100%	0%	100%	0%	100%	0%	70%
Currituck 5 - Poplar Branch/Grandy area	0%	0%	70%	0%	100%	0%	100%	0%	50%
Currituck 6 - Currituck/Tulls Creek Road area	0%	0%	0%	0%	0%	0%	100%	0%	50%
Currituck 7 - Barco/Shawboro area	0%	0%	0%	0%	10%	0%	100%	0%	50%
Currituck 8 - Moyock area	0%	0%	0%	0%	0%	0%	100%	0%	50%

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	515	640	847	1,013	569	693	900	1,066	515	640	847	1,013	569	693	900	1,066
Dare 5	4,684	5,619	7,177	8,424	5,273	6,208	7,766	9,012	4,684	5,619	7,177	8,424	5,273	6,208	7,766	9,012
Dare 6	2,098	2,704	3,714	4,522	2,258	2,864	3,875	4,683	2,098	2,704	3,714	4,522	2,258	2,864	3,875	4,683
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	190	259	373	465	197	266	380	472	190	259	373	465	197	266	380	472
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,154	1,589	2,315	2,895	1,186	1,621	2,347	2,927	1,154	1,589	2,315	2,895	1,186	1,621	2,347	2,927
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,353	1,716	2,321	2,804	1,438	1,801	2,405	2,889	1,353	1,716	2,321	2,804	1,438	1,801	2,405	2,889
Dare 2	999	1,317	1,845	2,269	1,042	1,360	1,889	2,312	999	1,317	1,845	2,269	1,042	1,360	1,889	2,312
Dare 3	628	869	1,271	1,593	643	885	1,287	1,608	628	869	1,271	1,593	643	885	1,287	1,608
Dare 4	1,723	2,139	2,831	3,385	1,900	2,316	3,008	3,562	1,723	2,139	2,831	3,385	1,900	2,316	3,008	3,562
Dare 5	8,699	10,435	13,329	15,644	9,792	11,528	14,422	16,737	8,699	10,435	13,329	15,644	9,792	11,528	14,422	16,737
Dare 6	3,895	5,021	6,898	8,399	4,194	5,320	7,196	8,697	3,895	5,021	6,898	8,399	4,194	5,320	7,196	8,697
Dare 7	251	271	305	332	353	373	407	434	251	271	305	332	353	373	407	434
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**26,190**	**32,578**	**43,226**	**51,745**	**28,845**	**35,234**	**45,882**	**54,400**	**26,190**	**32,578**	**43,226**	**51,745**	**28,845**	**35,234**	**45,882**	**54,400**

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	515	640	847	1,013	569	693	900	1,066	0	0	0	0	0	0	0	0
Dare 5	4,684	5,619	7,177	8,424	5,273	6,208	7,766	9,012	0	0	0	0	0	0	0	0
Dare 6	2,098	2,704	3,714	4,522	2,258	2,864	3,875	4,683	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	190	259	373	465	197	266	380	472	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,154	1,589	2,315	2,895	1,186	1,621	2,347	2,927	0	0	0	0	0	0	0	0
Currituck 4	129	135	146	154	383	390	400	409	0	0	0	0	0	0	0	0
Currituck 5	212	229	257	279	599	616	644	667	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,353	1,716	2,321	2,804	1,438	1,801	2,405	2,889	0	0	0	0	0	0	0	0
Dare 2	999	1,317	1,845	2,269	1,042	1,360	1,889	2,312	0	0	0	0	0	0	0	0
Dare 3	628	869	1,271	1,593	643	885	1,287	1,608	0	0	0	0	0	0	0	0
Dare 4	1,723	2,139	2,831	3,385	1,900	2,316	3,008	3,562	0	0	0	0	0	0	0	0
Dare 5	8,699	10,435	13,329	15,644	9,792	11,528	14,422	16,737	0	0	0	0	0	0	0	0
Dare 6	3,895	5,021	6,898	8,399	4,194	5,320	7,196	8,697	0	0	0	0	0	0	0	0
Dare 7	251	271	305	332	353	373	407	434	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	444	604	871	1,084	460	620	887	1,101	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,693	3,709	5,401	6,756	2,768	3,783	5,476	6,830	0	0	0	0	0	0	0	0
Currituck 4	300	315	340	360	895	910	934	954	0	0	0	0	0	0	0	0
Currituck 5	212	229	257	279	599	616	644	667	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**30,179**	**37,799**	**50,498**	**60,657**	**34,549**	**42,169**	**54,868**	**65,028**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	515	640	847	1,013	569	693	900	1,066	515	640	847	1,013	569	693	900	1,066
Dare 5	4,684	5,619	7,177	8,424	5,273	6,208	7,766	9,012	4,684	5,619	7,177	8,424	5,273	6,208	7,766	9,012
Dare 6	2,098	2,704	3,714	4,522	2,258	2,864	3,875	4,683	2,098	2,704	3,714	4,522	2,258	2,864	3,875	4,683
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	190	259	373	465	197	266	380	472	190	259	373	465	197	266	380	472
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,154	1,589	2,315	2,895	1,186	1,621	2,347	2,927	1,154	1,589	2,315	2,895	1,186	1,621	2,347	2,927
Currituck 4	129	135	146	154	383	390	400	409	129	135	146	154	383	390	400	409
Currituck 5	303	327	367	399	856	880	920	952	303	327	367	399	856	880	920	952
Currituck 6	0	0	0	0	0	0	0	0	287	297	314	328	875	885	902	916
Currituck 7	6	6	6	7	40	40	41	41	56	59	62	66	400	403	407	410
Currituck 8	0	0	0	0	0	0	0	0	173	176	181	186	1,190	1,193	1,199	1,203

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,353	1,716	2,321	2,804	1,438	1,801	2,405	2,889	0	0	0	0	0	0	0	0
Dare 2	999	1,317	1,845	2,269	1,042	1,360	1,889	2,312	0	0	0	0	0	0	0	0
Dare 3	628	869	1,271	1,593	643	885	1,287	1,608	0	0	0	0	0	0	0	0
Dare 4	1,723	2,139	2,831	3,385	1,900	2,316	3,008	3,562	0	0	0	0	0	0	0	0
Dare 5	8,699	10,435	13,329	15,644	9,792	11,528	14,422	16,737	0	0	0	0	0	0	0	0
Dare 6	3,895	5,021	6,898	8,399	4,194	5,320	7,196	8,697	0	0	0	0	0	0	0	0
Dare 7	251	271	305	332	353	373	407	434	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	444	604	871	1,084	460	620	887	1,101	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,693	3,709	5,401	6,756	2,768	3,783	5,476	6,830	0	0	0	0	0	0	0	0
Currituck 4	300	315	340	360	895	910	934	954	0	0	0	0	0	0	0	0
Currituck 5	303	327	367	399	856	880	920	952	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	6	6	6	7	40	40	41	41	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**30,372**	**38,007**	**50,731**	**60,910**	**35,143**	**42,778**	**55,502**	**65,681**	**9,588**	**11,804**	**15,497**	**18,451**	**13,188**	**15,403**	**19,096**	**22,050**

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	1,933	2,452	3,315	4,006	2,054	2,572	3,436	4,127
Dare 2	0	0	0	0	0	0	0	0	1,427	1,881	2,636	3,241	1,489	1,942	2,698	3,302
Dare 3	0	0	0	0	0	0	0	0	483	669	978	1,225	495	681	990	1,237
Dare 4	0	0	0	0	0	0	0	0	515	640	847	1,013	569	693	900	1,066
Dare 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	1,883	2,035	2,290	2,494	2,646	2,798	3,053	3,257
Dare 8	0	0	0	0	0	0	0	0	452	492	557	610	632	672	737	790
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-7: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – BASE YEAR (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,353	1,716	2,321	2,804	1,438	1,801	2,405	2,889	580	736	995	1,202	616	772	1,031	1,238
Dare 2	999	1,317	1,845	2,269	1,042	1,360	1,889	2,312	428	564	791	972	447	583	809	991
Dare 3	628	869	1,271	1,593	643	885	1,287	1,608	269	373	545	683	276	379	551	689
Dare 4	1,723	2,139	2,831	3,385	1,900	2,316	3,008	3,562	191	238	315	376	211	257	334	396
Dare 5	8,699	10,435	13,329	15,644	9,792	11,528	14,422	16,737	0	0	0	0	0	0	0	0
Dare 6	3,895	5,021	6,898	8,399	4,194	5,320	7,196	8,697	0	0	0	0	0	0	0	0
Dare 7	251	271	305	332	353	373	407	434	1,004	1,086	1,221	1,330	1,411	1,493	1,628	1,737
Dare 8	0	0	0	0	0	0	0	0	151	164	186	203	211	224	246	263
Currituck 1	444	604	871	1,084	460	620	887	1,101	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,693	3,709	5,401	6,756	2,768	3,783	5,476	6,830	0	0	0	0	0	0	0	0
Currituck 4	300	315	340	360	895	910	934	954	0	0	0	0	0	0	0	0
Currituck 5	303	327	367	399	856	880	920	952	0	0	0	0	0	0	0	0
Currituck 6	287	297	314	328	875	885	902	916	0	0	0	0	0	0	0	0
Currituck 7	56	59	62	66	400	403	407	410	0	0	0	0	0	0	0	0
Currituck 8	173	176	181	186	1,190	1,193	1,199	1,203	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**21,804**	**27,254**	**36,337**	**43,604**	**26,807**	**32,257**	**41,340**	**48,606**	**9,318**	**11,327**	**14,676**	**17,355**	**11,057**	**13,066**	**16,414**	**19,093**

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,200	1,648	2,393	2,990	1,237	1,684	2,430	3,026	1,200	1,648	2,393	2,990	1,237	1,684	2,430	3,026
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	653	901	1,315	1,646	670	919	1,333	1,664
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518
Dare 7	275	301	346	381	382	408	452	487	275	301	346	381	382	408	452	487
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**29,437**	**36,520**	**48,325**	**57,768**	**32,477**	**39,560**	**51,364**	**60,808**	**29,437**	**36,520**	**48,325**	**57,768**	**32,477**	**39,560**	**51,364**	**60,808**

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	0	0	0	0	0	0	0	0
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	0	0	0	0	0	0	0	0
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,200	1,648	2,393	2,990	1,237	1,684	2,430	3,026	0	0	0	0	0	0	0	0
Currituck 4	147	154	166	176	440	448	459	469	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,801	3,845	5,584	6,976	2,885	3,929	5,669	7,061	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**33,832**	**42,249**	**56,278**	**67,502**	**38,843**	**47,261**	**61,290**	**72,513**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,200	1,648	2,393	2,990	1,237	1,684	2,430	3,026	1,200	1,648	2,393	2,990	1,237	1,684	2,430	3,026
Currituck 4	147	154	166	176	440	448	459	469	147	154	166	176	440	448	459	469
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	348	376	422	459	985	1,012	1,058	1,095
Currituck 6	0	0	0	0	0	0	0	0	330	341	361	377	1,006	1,018	1,038	1,054
Currituck 7	7	7	8	8	46	47	47	48	67	70	76	81	462	466	472	477
Currituck 8	0	0	0	0	0	0	0	0	200	204	210	215	1,370	1,373	1,380	1,385

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,801	3,845	5,584	6,976	2,885	3,929	5,669	7,061	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	7	7	8	8	46	47	47	48	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**34,054**	**42,489**	**56,547**	**67,793**	**39,526**	**47,961**	**62,019**	**73,265**	**10,803**	**13,246**	**17,318**	**20,576**	**14,947**	**17,390**	**21,462**	**24,720**

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	2,103	2,702	3,701	4,500	2,220	2,820	3,818	4,617
Dare 2	0	0	0	0	0	0	0	0	1,620	2,138	3,002	3,692	1,688	2,206	3,070	3,761
Dare 3	0	0	0	0	0	0	0	0	502	693	1,012	1,266	516	707	1,025	1,280
Dare 4	0	0	0	0	0	0	0	0	589	732	970	1,160	649	792	1,030	1,220
Dare 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	2,062	2,260	2,591	2,856	2,861	3,060	3,391	3,655
Dare 8	0	0	0	0	0	0	0	0	611	666	756	828	854	908	998	1,071
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-8: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 NO-BUILD (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	631	811	1,110	1,350	666	846	1,146	1,385
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	486	641	900	1,108	506	662	921	1,128
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	280	386	564	706	287	394	571	713
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	219	272	360	431	241	294	383	453
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	1,100	1,206	1,382	1,523	1,526	1,632	1,808	1,950
Dare 8	0	0	0	0	0	0	0	0	204	222	252	276	285	303	333	357
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	2,801	3,845	5,584	6,976	2,885	3,929	5,669	7,061	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	330	341	361	377	1,006	1,018	1,038	1,054	0	0	0	0	0	0	0	0
Currituck 7	67	70	76	81	462	466	472	477	0	0	0	0	0	0	0	0
Currituck 8	200	204	210	215	1,370	1,373	1,380	1,385	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**24,430**	**30,459**	**40,508**	**48,547**	**30,163**	**36,193**	**46,241**	**54,281**	**10,407**	**12,729**	**16,600**	**19,696**	**12,301**	**14,623**	**18,494**	**21,590**

Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,421	1,963	2,866	3,589	1,457	1,999	2,903	3,625	1,421	1,963	2,866	3,589	1,457	1,999	2,903	3,625
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	653	901	1,315	1,646	670	919	1,333	1,664
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518
Dare 7	275	301	346	381	382	408	452	487	275	301	346	381	382	408	452	487
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**29,657**	**36,835**	**48,798**	**58,368**	**32,697**	**39,875**	**51,837**	**61,408**	**29,657**	**36,835**	**48,798**	**58,368**	**32,697**	**39,875**	**51,837**	**61,408**

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	0	0	0	0	0	0	0	0
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	0	0	0	0	0	0	0	0
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,421	1,963	2,866	3,589	1,457	1,999	2,903	3,625	0	0	0	0	0	0	0	0
Currituck 4	147	154	166	176	440	448	459	469	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	3,315	4,580	6,688	8,375	3,400	4,665	6,773	8,459	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,421	1,963	2,866	3,589	1,457	1,999	2,903	3,625	1,421	1,963	2,866	3,589	1,457	1,999	2,903	3,625
Currituck 4	147	154	166	176	440	448	459	469	147	154	166	176	440	448	459	469
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	348	376	422	459	985	1,012	1,058	1,095
Currituck 6	0	0	0	0	0	0	0	0	330	341	361	377	1,006	1,018	1,038	1,054
Currituck 7	7	7	8	8	46	47	47	48	67	70	76	81	462	466	472	477
Currituck 8	0	0	0	0	0	0	0	0	200	204	210	215	1,370	1,373	1,380	1,385

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	3,315	4,580	6,688	8,375	3,400	4,665	6,773	8,459	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	7	7	8	8	46	47	47	48	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**34,789**	**43,540**	**58,124**	**69,791**	**40,261**	**49,012**	**63,596**	**75,263**	**11,024**	**13,561**	**17,791**	**21,175**	**15,168**	**17,706**	**21,935**	**25,319**

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	2,103	2,702	3,701	4,500	2,220	2,820	3,818	4,617
Dare 2	0	0	0	0	0	0	0	0	1,620	2,138	3,002	3,692	1,688	2,206	3,070	3,761
Dare 3	0	0	0	0	0	0	0	0	502	693	1,012	1,266	516	707	1,025	1,280
Dare 4	0	0	0	0	0	0	0	0	589	732	970	1,160	649	792	1,030	1,220
Dare 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	2,062	2,260	2,591	2,856	2,861	3,060	3,391	3,655
Dare 8	0	0	0	0	0	0	0	0	611	666	756	828	854	908	998	1,071
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-9: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 ER2 (WITH CONSTRAINED DEVELOPMENT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	631	811	1,110	1,350	666	846	1,146	1,385
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	486	641	900	1,108	506	662	921	1,128
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	280	386	564	706	287	394	571	713
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	219	272	360	431	241	294	383	453
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	1,100	1,206	1,382	1,523	1,526	1,632	1,808	1,950
Dare 8	0	0	0	0	0	0	0	0	204	222	252	276	285	303	333	357
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	3,315	4,580	6,688	8,375	3,400	4,665	6,773	8,459	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	330	341	361	377	1,006	1,018	1,038	1,054	0	0	0	0	0	0	0	0
Currituck 7	67	70	76	81	462	466	472	477	0	0	0	0	0	0	0	0
Currituck 8	200	204	210	215	1,370	1,373	1,380	1,385	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**24,944**	**31,195**	**41,612**	**49,946**	**30,678**	**36,928**	**47,345**	**55,679**	**10,407**	**12,729**	**16,600**	**19,696**	**12,301**	**14,623**	**18,494**	**21,590**

Note: With unconstrained development the Currituck 3 zone would be the same as the Currituck 3 zone for the FEIS Preferred Alternative.

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	1,026	1,323	1,819	2,215	1,104	1,402	1,897	2,293	1,026	1,323	1,819	2,215	1,104	1,402	1,897	2,293
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 east of Wright Memorial Bridge								Wright Memorial Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	653	901	1,315	1,646	670	919	1,333	1,664
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953
Dare 6	1,906	2,458	3,378	4,114	2,051	2,603	3,523	4,259	1,906	2,458	3,378	4,114	2,051	2,603	3,523	4,259
Dare 7	275	301	346	381	382	408	452	487	275	301	346	381	382	408	452	487
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**25,041**	**30,729**	**40,210**	**47,794**	**27,813**	**33,501**	**42,982**	**50,566**	**25,041**	**30,729**	**40,210**	**47,794**	**27,813**	**33,501**	**42,982**	**50,566**

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	0	0	0	0	0	0	0	0
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	0	0	0	0	0	0	0	0
Dare 6	1,026	1,323	1,819	2,215	1,104	1,402	1,897	2,293	1,026	1,323	1,819	2,215	1,104	1,402	1,897	2,293
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	1,988	2,770	4,074	5,117	2,025	2,808	4,112	5,155
Currituck 4	147	154	166	176	440	448	459	469	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Wright Memorial Bridge to Mid-Currituck Bridge								Proposed Mid-Currituck Bridge							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	1,906	2,458	3,378	4,114	2,051	2,603	3,523	4,259	1,906	2,458	3,378	4,114	2,051	2,603	3,523	4,259
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	0	0	0	0	0	0	0	0	616	844	1,225	1,529	635	863	1,244	1,548
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	4,638	6,463	9,506	11,940	4,725	6,551	9,594	12,028
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	244	263	295	321	689	708	741	766	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**26,020**	**31,770**	**41,355**	**49,022**	**30,659**	**36,410**	**45,994**	**53,661**	**10,436**	**14,220**	**20,526**	**25,571**	**10,812**	**14,596**	**20,902**	**25,947**

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 4	589	732	970	1,160	649	792	1,030	1,220	589	732	970	1,160	649	792	1,030	1,220
Dare 5	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744	5,606	6,713	8,557	10,033	6,317	7,424	9,268	10,744
Dare 6	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587	2,052	2,647	3,638	4,430	2,209	2,803	3,794	4,587
Dare 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	264	362	525	655	272	370	533	664	264	362	525	655	272	370	533	664
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	1,988	2,770	4,074	5,117	2,025	2,808	4,112	5,155	1,988	2,770	4,074	5,117	2,025	2,808	4,112	5,155
Currituck 4	147	154	166	176	440	448	459	469	147	154	166	176	440	448	459	469
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	348	376	422	459	985	1,012	1,058	1,095
Currituck 6	0	0	0	0	0	0	0	0	330	341	361	377	1,006	1,018	1,038	1,054
Currituck 7	7	7	8	8	46	47	47	48	67	70	76	81	462	466	472	477
Currituck 8	0	0	0	0	0	0	0	0	200	204	210	215	1,370	1,373	1,380	1,385

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	US 158 from Mid-Currituck Bridge to Barco								US 158 from Barco to Elizabeth City							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	0	0	0	0	0	0	0	0
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	0	0	0	0	0	0	0	0
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	0	0	0	0	0	0	0	0
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	0	0	0	0	0	0	0	0
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	0	0	0	0	0	0	0	0
Dare 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	4,638	6,463	9,506	11,940	4,725	6,551	9,594	12,028	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	7	7	8	8	46	47	47	48	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**36,679**	**46,230**	**62,149**	**74,885**	**42,155**	**51,706**	**67,626**	**80,361**	**11,590**	**14,369**	**18,999**	**22,703**	**15,736**	**18,514**	**23,144**	**26,849**

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

WESTBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	0	0	0	0	0	0	0	0	2,103	2,702	3,701	4,500	2,220	2,820	3,818	4,617
Dare 2	0	0	0	0	0	0	0	0	1,620	2,138	3,002	3,692	1,688	2,206	3,070	3,761
Dare 3	0	0	0	0	0	0	0	0	502	693	1,012	1,266	516	707	1,025	1,280
Dare 4	0	0	0	0	0	0	0	0	589	732	970	1,160	649	792	1,030	1,220
Dare 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dare 7	0	0	0	0	0	0	0	0	2,062	2,260	2,591	2,856	2,861	3,060	3,391	3,655
Dare 8	0	0	0	0	0	0	0	0	611	666	756	828	854	908	998	1,071
Currituck 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-10: Vehicles by Road Segment (by Year, Storm Intensity, Occupancy, and Improvement Alternative) – FUTURE YEAR 2040 WITH FEIS PREFERRED ALTERNATIVE (NO DEVELOPMENT CONSTRAINT) (continued)

NORTHBOUND DESTINATIONS

Evacuation Zone	168 northbound Barco to Virginia State Line								US 64 westbound							
	Category 1-2				Category 3-5				Category 1-2				Category 3-5			
	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy	35% occupancy	50% occupancy	75% occupancy	95% occupancy
Dare 1	1,472	1,892	2,591	3,150	1,554	1,974	2,673	3,232	631	811	1,110	1,350	666	846	1,146	1,385
Dare 2	1,134	1,497	2,101	2,585	1,182	1,544	2,149	2,633	486	641	900	1,108	506	662	921	1,128
Dare 3	653	901	1,315	1,646	670	919	1,333	1,664	280	386	564	706	287	394	571	713
Dare 4	1,969	2,447	3,242	3,879	2,171	2,648	3,444	4,080	219	272	360	431	241	294	383	453
Dare 5	10,411	12,466	15,892	18,632	11,732	13,788	17,213	19,953	0	0	0	0	0	0	0	0
Dare 6	3,811	4,915	6,756	8,228	4,102	5,206	7,046	8,518	0	0	0	0	0	0	0	0
Dare 7	275	301	346	381	382	408	452	487	1,100	1,206	1,382	1,523	1,526	1,632	1,808	1,950
Dare 8	0	0	0	0	0	0	0	0	204	222	252	276	285	303	333	357
Currituck 1	616	844	1,225	1,529	635	863	1,244	1,548	0	0	0	0	0	0	0	0
Currituck 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Currituck 3	4,638	6,463	9,506	11,940	4,725	6,551	9,594	12,028	0	0	0	0	0	0	0	0
Currituck 4	344	360	388	410	1,028	1,044	1,072	1,094	0	0	0	0	0	0	0	0
Currituck 5	348	376	422	459	985	1,012	1,058	1,095	0	0	0	0	0	0	0	0
Currituck 6	330	341	361	377	1,006	1,018	1,038	1,054	0	0	0	0	0	0	0	0
Currituck 7	67	70	76	81	462	466	472	477	0	0	0	0	0	0	0	0
Currituck 8	200	204	210	215	1,370	1,373	1,380	1,385	0	0	0	0	0	0	0	0
TOTAL VEHICLES	**26,267**	**33,078**	**44,430**	**53,511**	**32,003**	**38,814**	**50,166**	**59,248**	**10,407**	**12,729**	**16,600**	**19,696**	**12,301**	**14,623**	**18,494**	**21,590**