

Appendix D

**North Carolina
Traffic Forecast**

Carolina Bays Parkway Extension
Feasibility Study Report



Carter=Burgess

5811 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612
Phone: 919.783.5988
Fax: 919.783.5882
www.c-b.com

February 3, 2006

MEMORANDUM TO: Deborah Hutchings, P.E.
State Traffic Forecast Engineer
Transportation Planning Branch
NCDOT

FROM: Shane D York, P.E. 
Traffic Engineer
Carter & Burgess, Inc.

SUBJECT: Project No.: SP-13
W.B.S. No. 34263.1.1
The extension of the Carolina Bays Parkway from
SC 9 in South Carolina to US 17 in North Carolina.
Brunswick County, Division 3

Please find enclosed the 2004 and 2030 Traffic Forecast, design hourly volume percentages, directional flows, and truck percentages for SP-13 with the existing geometry and Alternatives A, B, C, D, E, and F.

The project proposes to extend Carolina Bays Parkway from SC 9 in South Carolina to US 17 in North Carolina. It is located on the North Carolina - South Carolina border. The primary purpose of this facility is to improve the connectivity between US 17 and Carolina Bays Parkway and carry the Interstate 74 traffic in the future. It will help alleviate congestion and improve traffic flow between the interstate and residential development in the area. Note that this forecast stops at the South Carolina border. The SC Department of Transportation is developing the forecast for the portion of Carolina Bays Parkway in South Carolina.

Brunswick County is located in the eastern part of North Carolina. It is bordered by New Hanover County to the east, Columbus and Pender Counties on the north, the Atlantic Ocean on the east, and South Carolina on the south. The County seat, the Town of Bolivia, was established in 1764.

Carter & Burgess, Inc. Carter & Burgess Consultants, Inc.
C&B Architects/Engineers, Inc. C&B Architects/Engineers, P.C. C&B Nevada, Inc.

Mrs. Deborah Hutchings, P.E.
February 3, 2006
Page 2

Major highways in Brunswick County include US 74-76, US 17, NC 87, NC 130, NC 133, NC 211 and NC 904. US 74-76 provides the major east-west thoroughfare from Columbus County to New Hanover County. It also serves as a connector between I-95 and the City of Wilmington. US 17 is the major north-south thoroughfare from New Hanover County to South Carolina.

Brunswick County has approximately 860 square miles, or 550,713 acres. Approximately 80 percent of Brunswick County is commercial forest. Ten percent of the county is cropland. The remaining ten percent is beaches, marsh, and small urban and industrial areas. Primary agricultural businesses in Brunswick County include: aquatic fish production, beef cattle production, cotton production, greenhouse flower production, swine production, tobacco production, fruit and vegetable farm stands, and nature preserves.

Due to Brunswick County's proximity to the coast, it has been a popular destination for new residents over the past decade. Brunswick County ranked fifth in the state for total population growth by percentage change (43.5%) between 1990 and 2000, behind Johnson, Wake, Hoke, and Union Counties.

In 1980, the population of Brunswick County was 35,777; by 2000, the population had increased to 73,143. During the 1990's, Brunswick County's population increased by 3.67% and is projected to grow at a rate of approximately 1.95% annually to the year 2030. North Carolina's growth rate over the same time period is 1.46% per year.

Brunswick County boasts a stable economy that is well balanced between construction, government, services, and retail. The majority of industrial and/or commercial development in the county is located in the Town of Shallotte, the Town of Leland, and the coastal areas. Wilmington and Myrtle Beach are also sources of employment for residents in Brunswick County. Currently, Brunswick County is showing positive employment growth. The number of people employed has varied from 23,132 in the year 1990 to 39,653 in 2005.

Brunswick County's annual average unemployment rate has fluctuated between a low of 4.3% in year 1999 to a peak of 11.3% in year 1992. Brunswick County's average unemployment rate for 2004 was 5.2% while North Carolina's unemployment rate was 5.5% for the same time period.

The base year forecast for SP-13 is 2004. Assumptions for base year volumes were developed from the following data: a review of the most currently published ADT's from the NCDOT Traffic Survey Maps (Brunswick County, 1975 - 2004), traffic counts taken at a number of intersections along US 17 (September - October 2003), and a field inventory of existing development.

Carter & Burgess, Inc. Carter & Burgess Consultants, Inc.
C&B Architects/Engineers, Inc. C&B Architects/Engineers, P.C. C&B Nevada, Inc.





Mrs. Deborah Hutchings, P.E.
February 3, 2006
Page 3

20,000 vehicles per day (vpd) was used as the 2004 base year volume for US 17 west of SR 1304. 19,000 vpd was used for the volume on US 17 at the South Carolina border.

The development of the 2030 forecast was based on: reviewing past and proposed transportation improvement projects, discussions with local staff of the Brunswick County Planning Department, analyzing population, economic and employment conditions, land use factors for the local area and region, analyzing travel trends over the last two decades, reviewing the Brunswick County Thoroughfare Plan, reviewing previous traffic forecast projects in the area, observations made in the field, and relevant projects previously completed or proposed for the future.

Based on the information that has been gathered and analyzed for this project, the areas near US 17, SR 1303 (Hickman Road), and the Town of Calabash would be a likely place for new commercial and residential developments. There is a planned development called "The Farm" south of US 17 and east of SR 1167 (Persimmon Road). There is another planned development called "Brunswick Plantation" north of US 17 just west of SR 1304 (Pea Landing Road).

To arrive at the estimated 2030 ADT's for SP-13, the 2004 traffic volumes in the project area were increased by a growth rate of approximately 3.0% per year to 2030. This growth rate should allow for residential and commercial growth in the vicinity of the project. To arrive at the volumes for the I-74 corridor, the 2004 volumes were increased by approximately 3.5% per year to 2030.

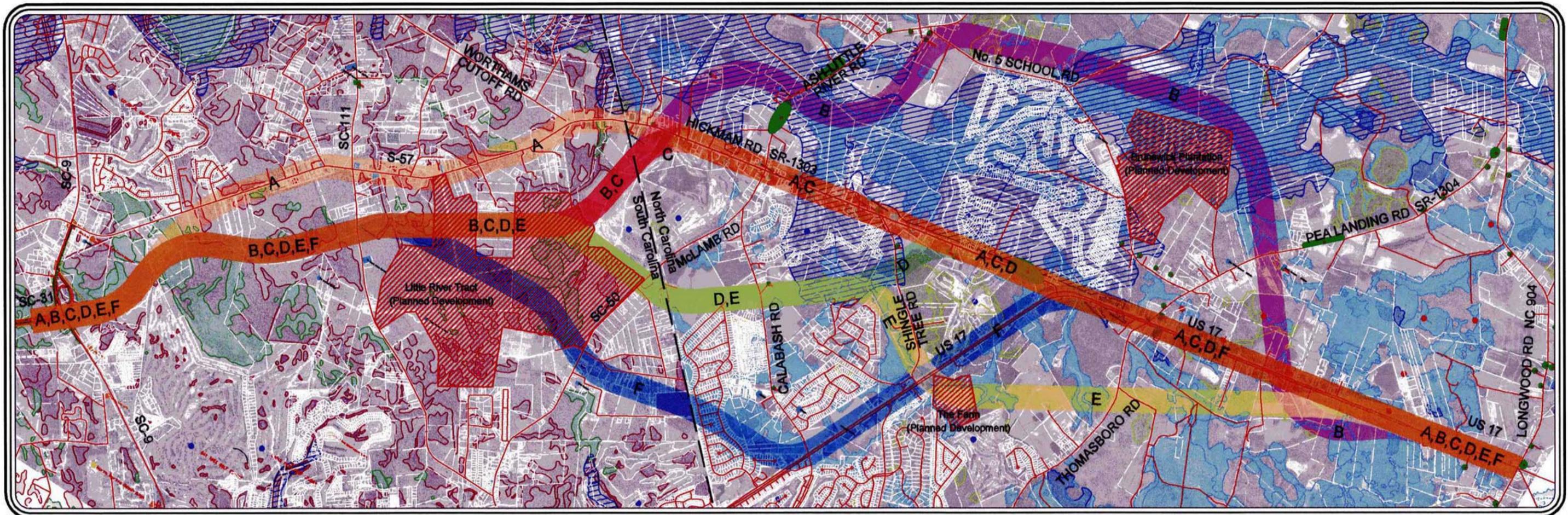
If summer peak volumes are desired, add 23% to the forecast volumes. Note that traffic volumes during the summer will fluctuate daily, with July 4th as the peak traffic weekend for tourists. The 23% increase is an average rate for the summer. Actual volumes may vary.

SDY/sdy

CC: Deborah Hutchings, P.E.
Dianne Janicki (SCDOT)
Jay Bennett, PE
Nathan Phillips, PE
Hardee Cox



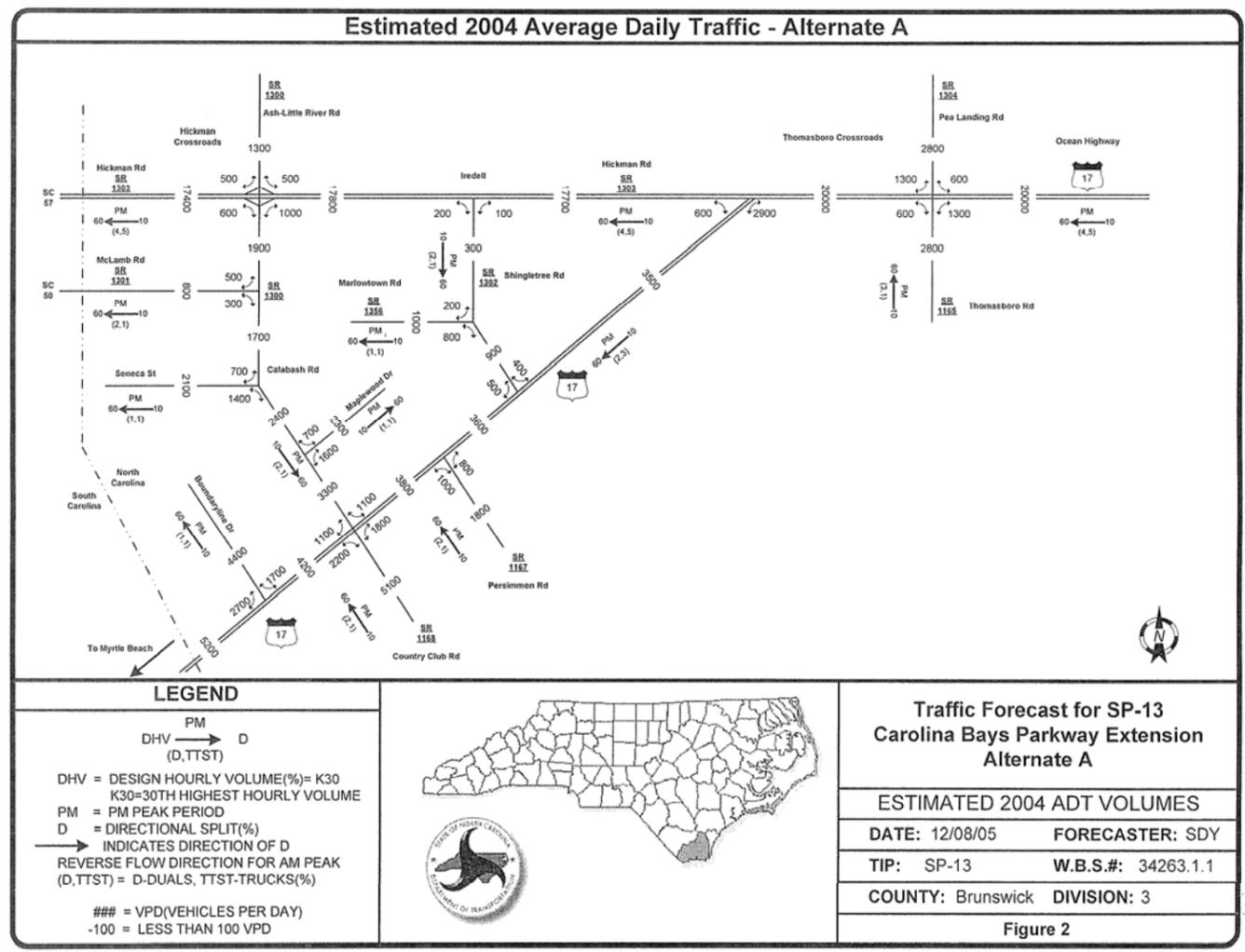
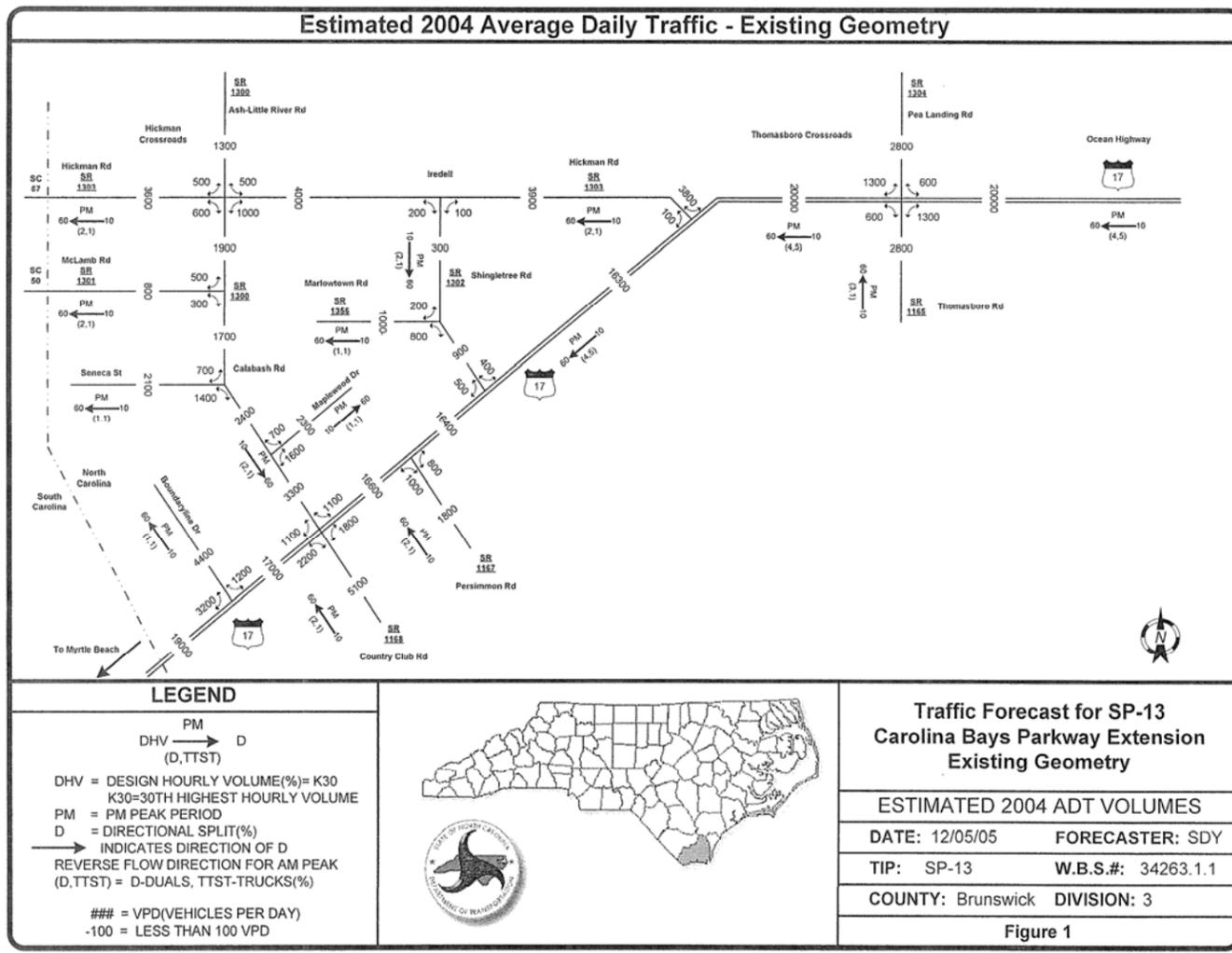
CAROLINA BAYS PARKWAY FEASIBILITY STUDY ALTERNATIVES UNDER STUDY South Carolina And North Carolina



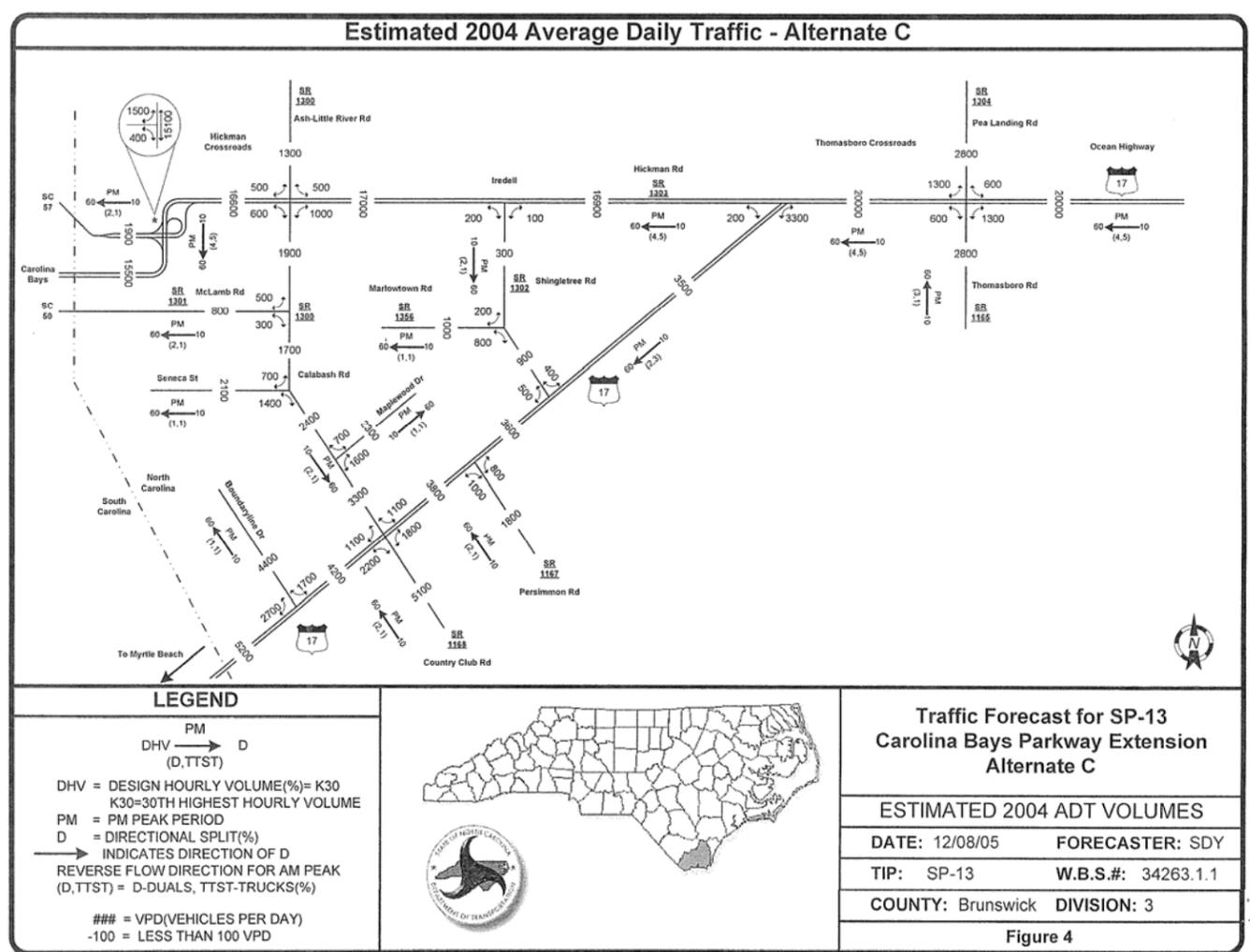
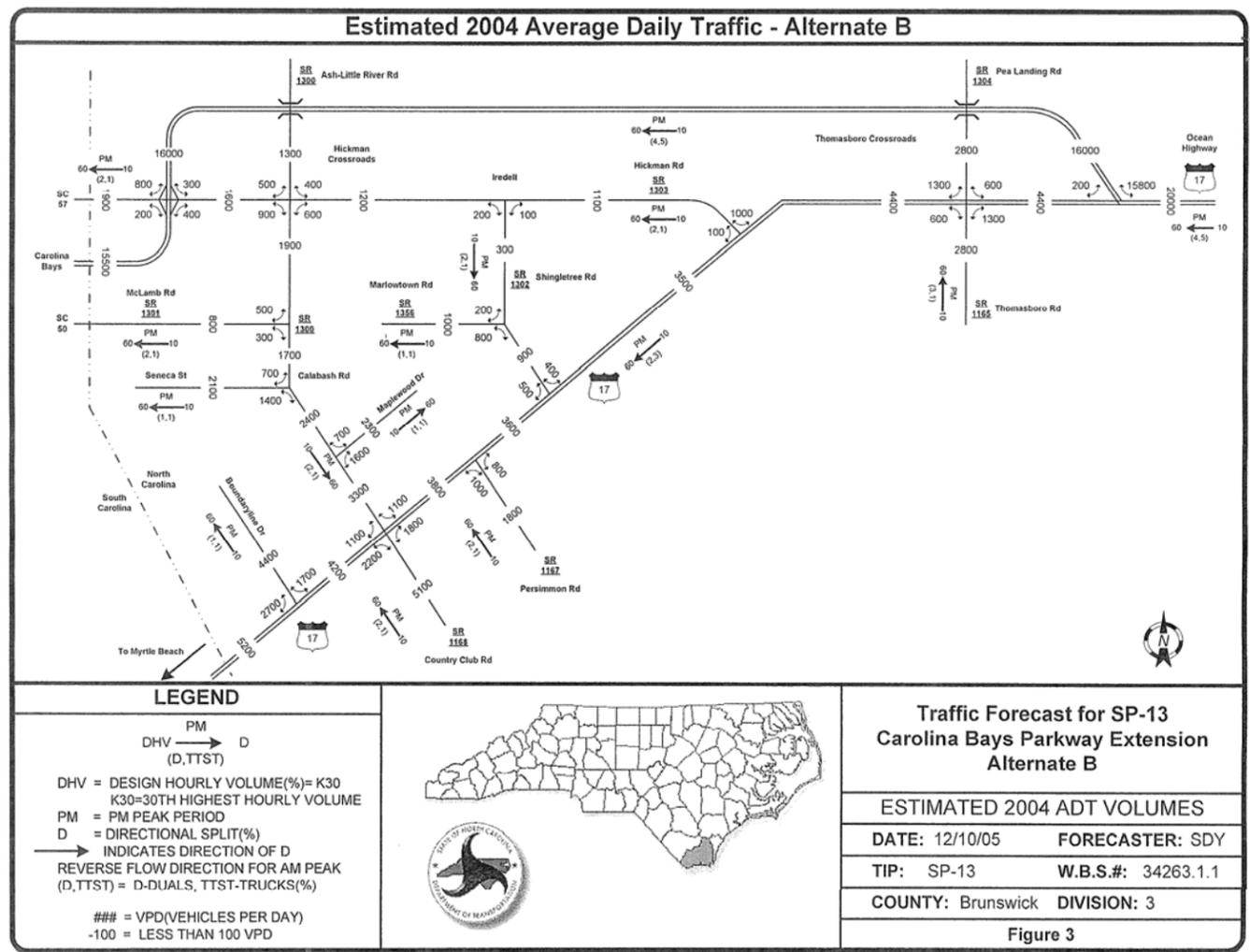
Alternatives Noted By Letters

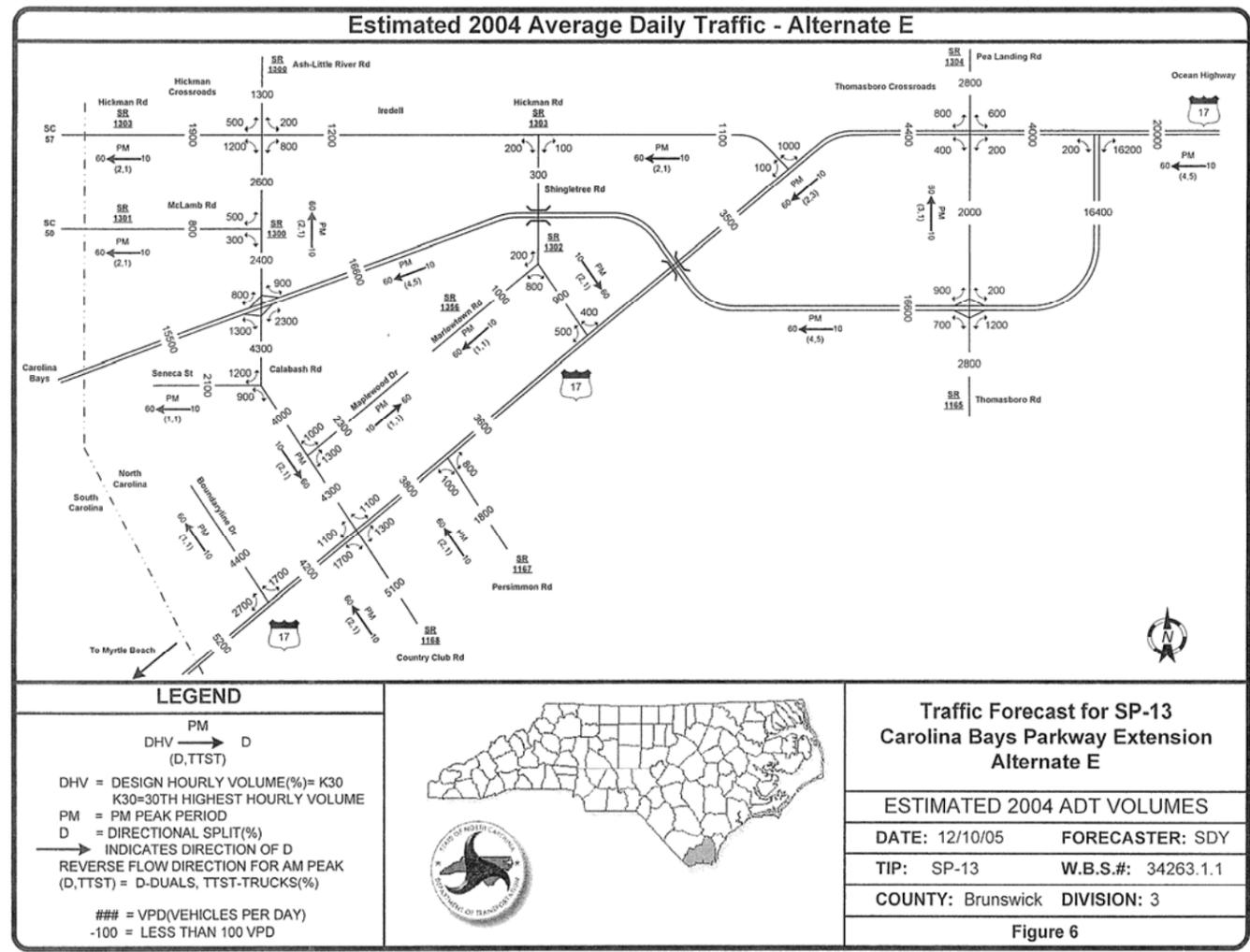
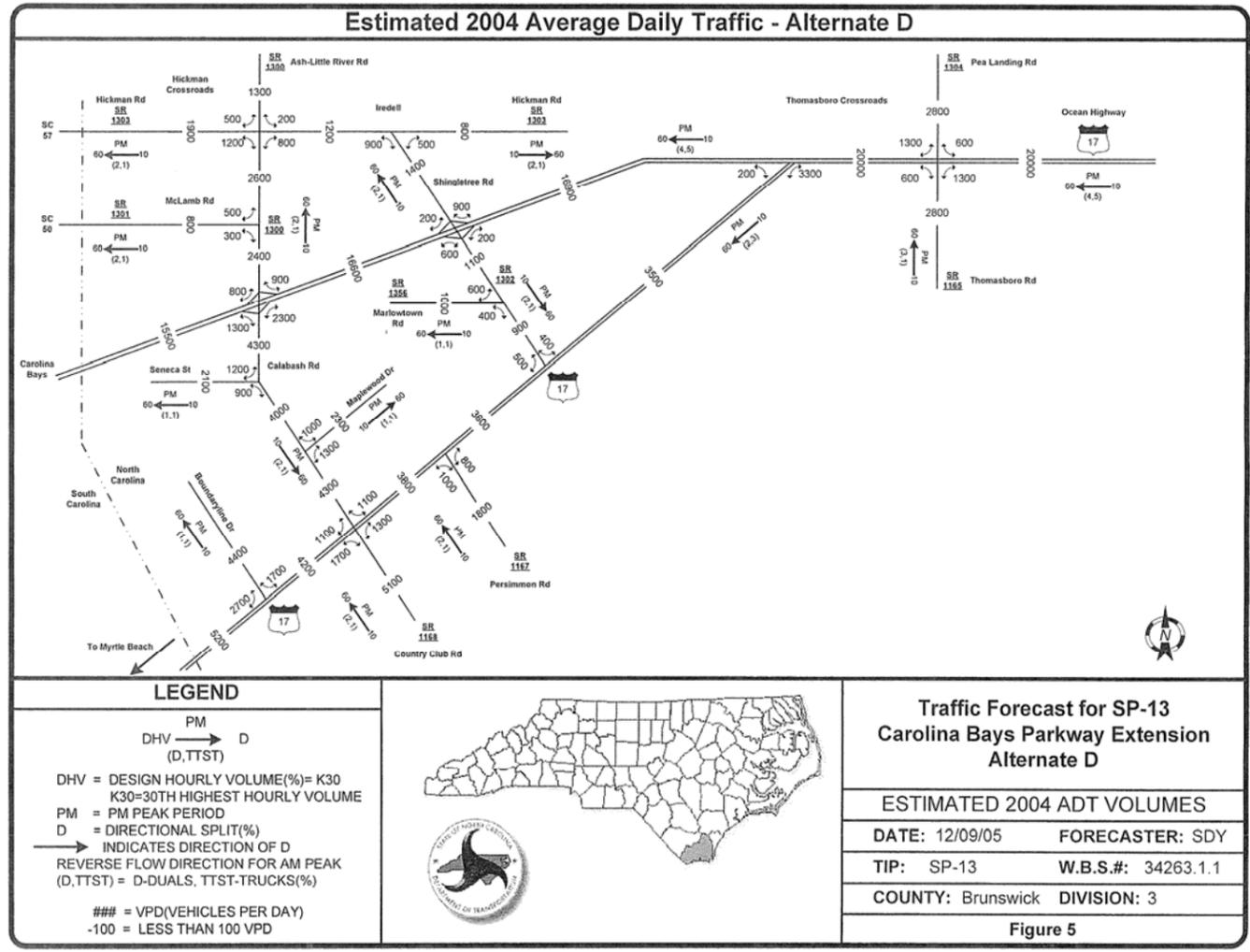
LEGEND			
	CULTURAL RESOURCE		CHURCH / CEMETERY
	RECREATION RESOURCE		SC HIGH QUALITY WETLANDS
	POTENTIAL HAZARDOUS MATERIAL		SC WETLANDS
	THREATENED AND ENDANGERED SPECIES		FEMA 100YEAR FLOODPLAIN
	PUBLIC SCHOOL		1000' WIDE CORRIDOR
			STUDY AREA
			SCALE 1"=500'
			0 300 600 1200

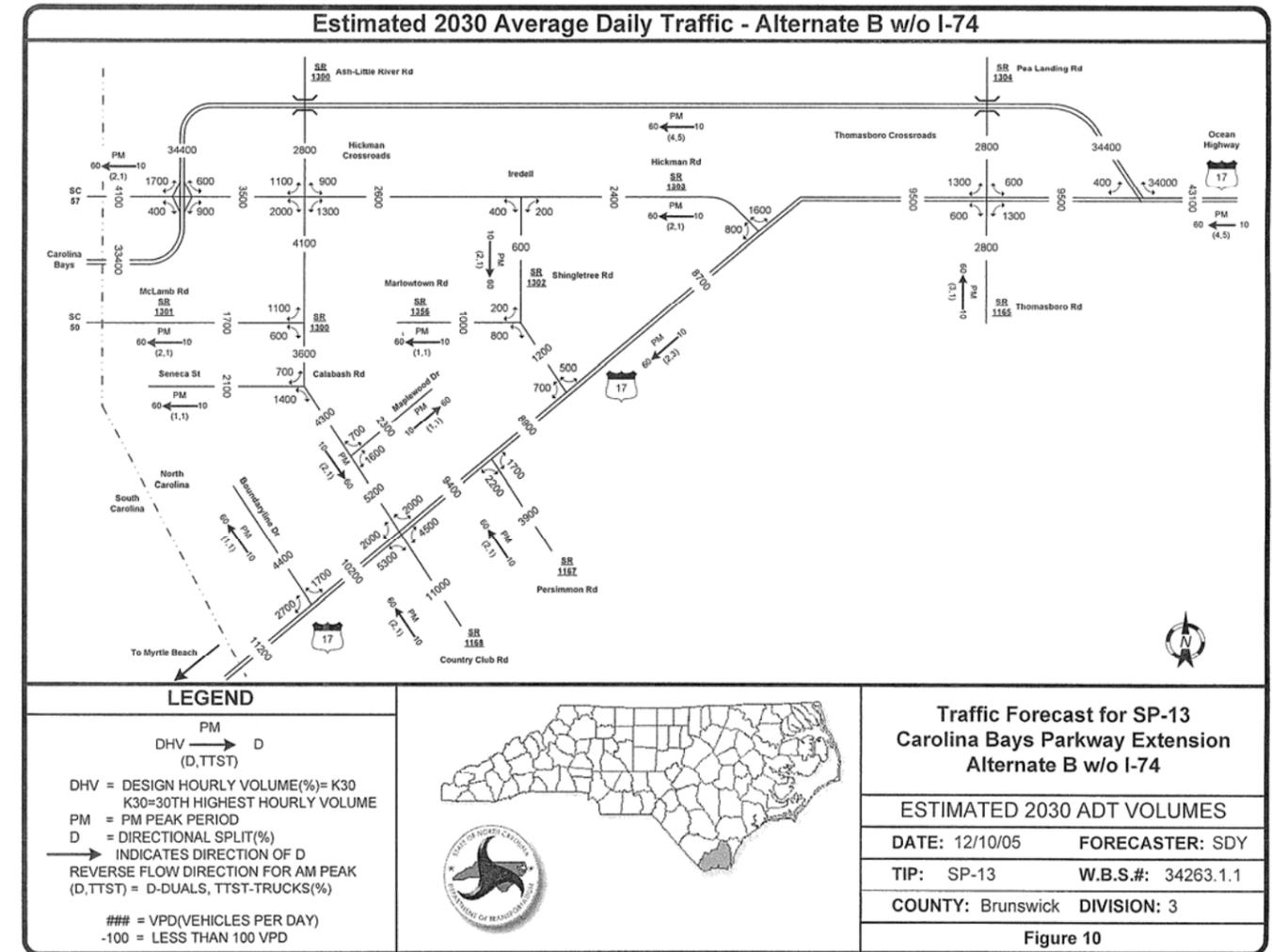
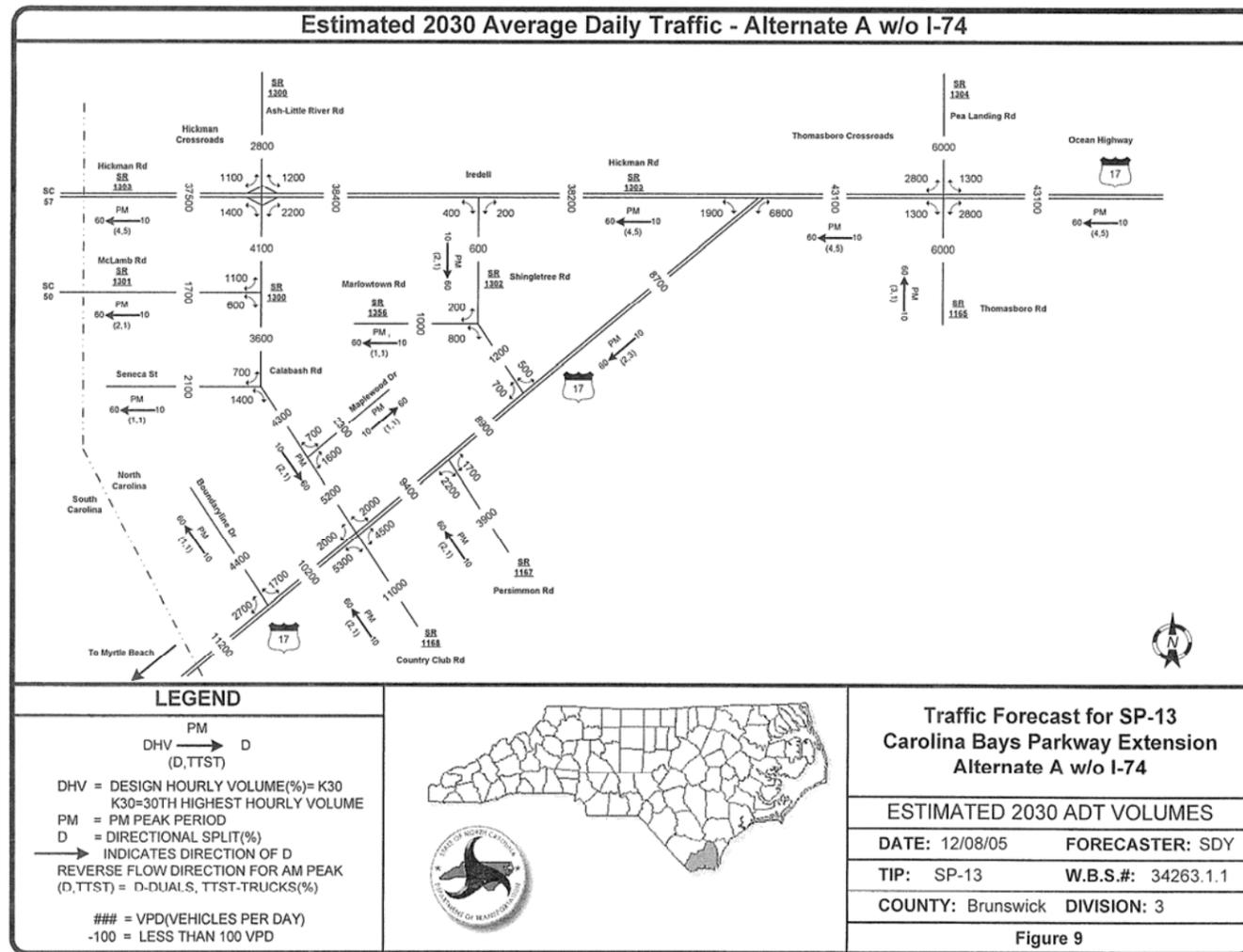
Contact: Mr. David Wasserman, P.E.,
Project Manager, NCDOT
(919)715-5482 ext.380
dswasserman@dot.state.nc.us



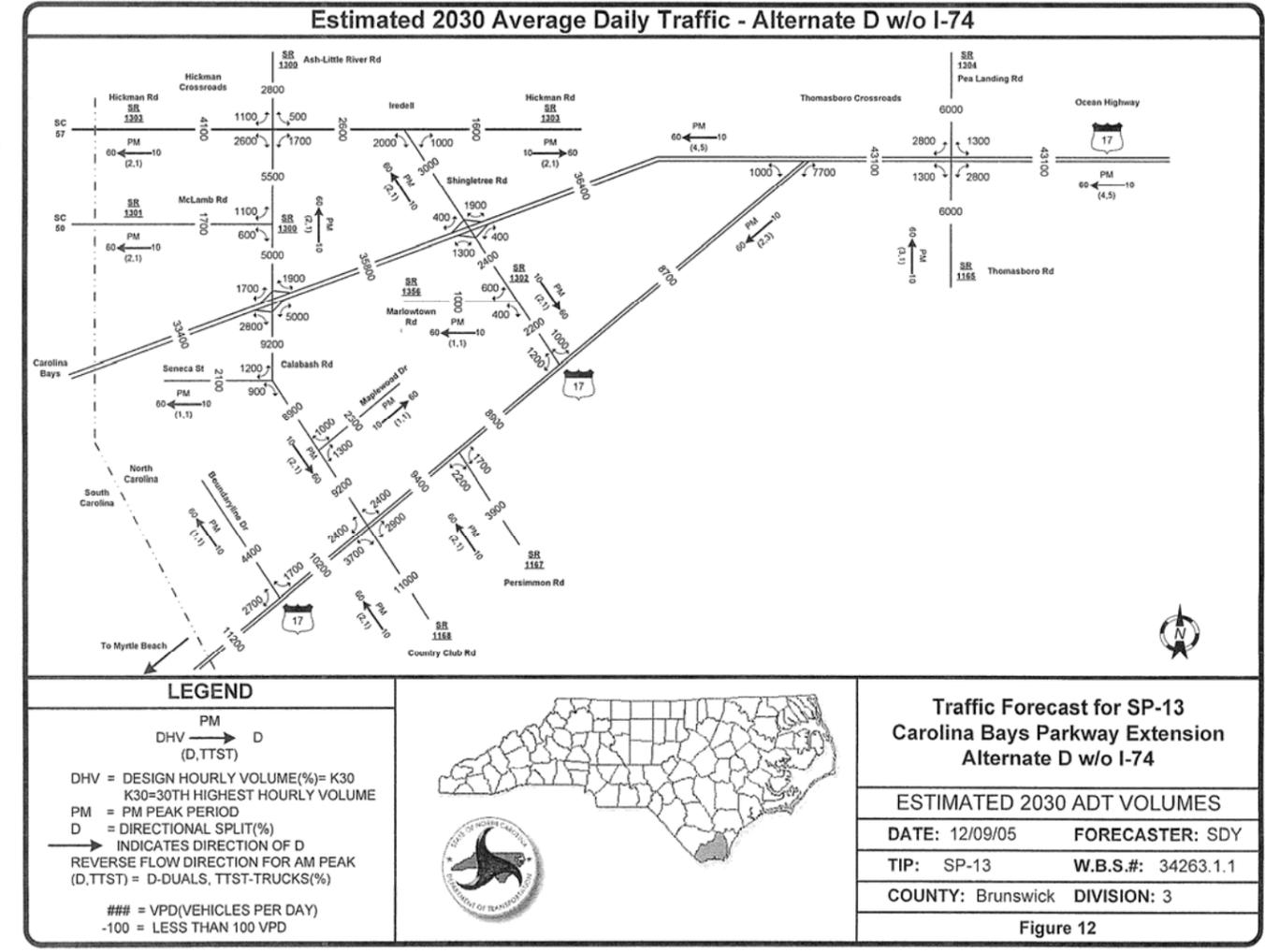
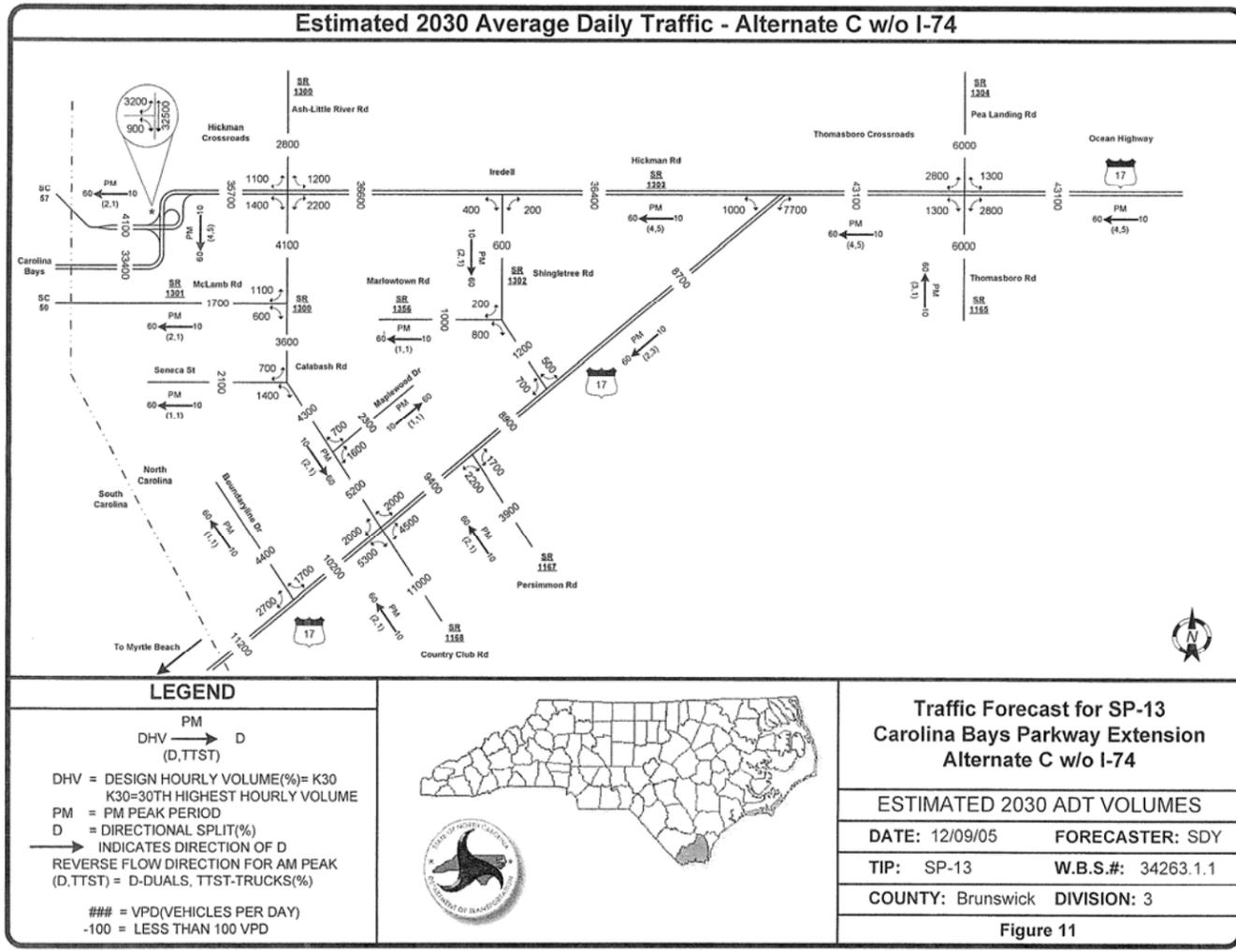
North Carolina Traffic Forecast



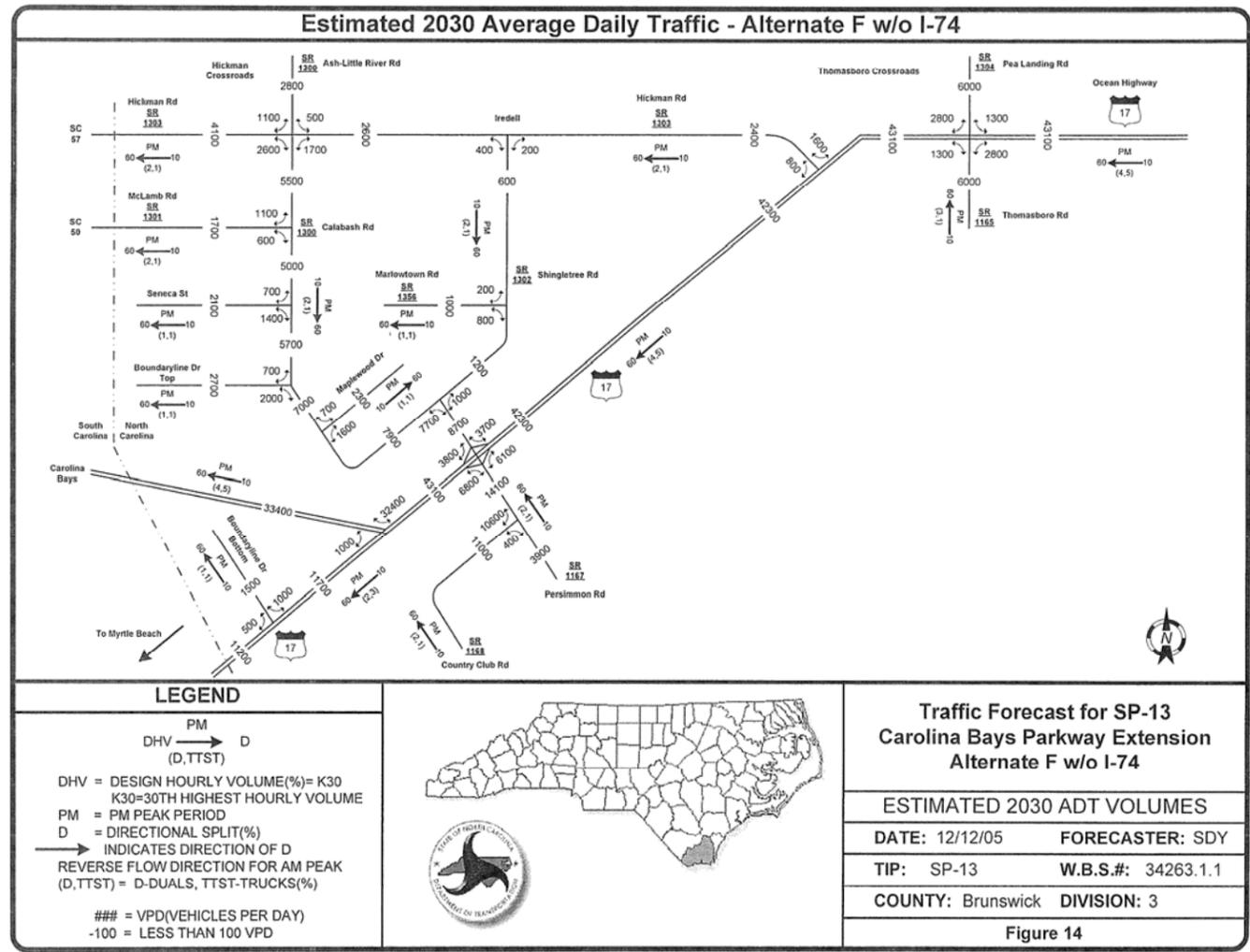
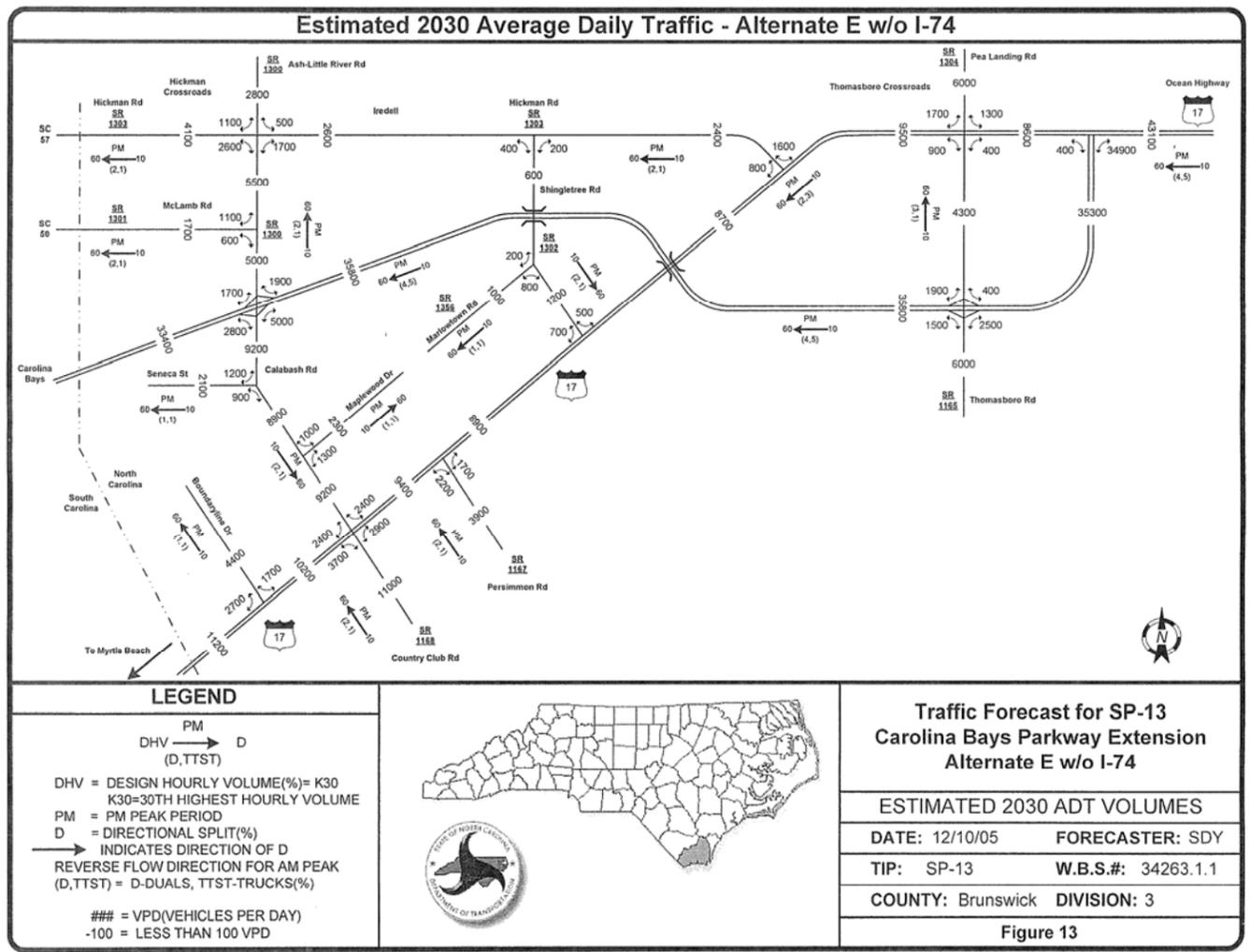




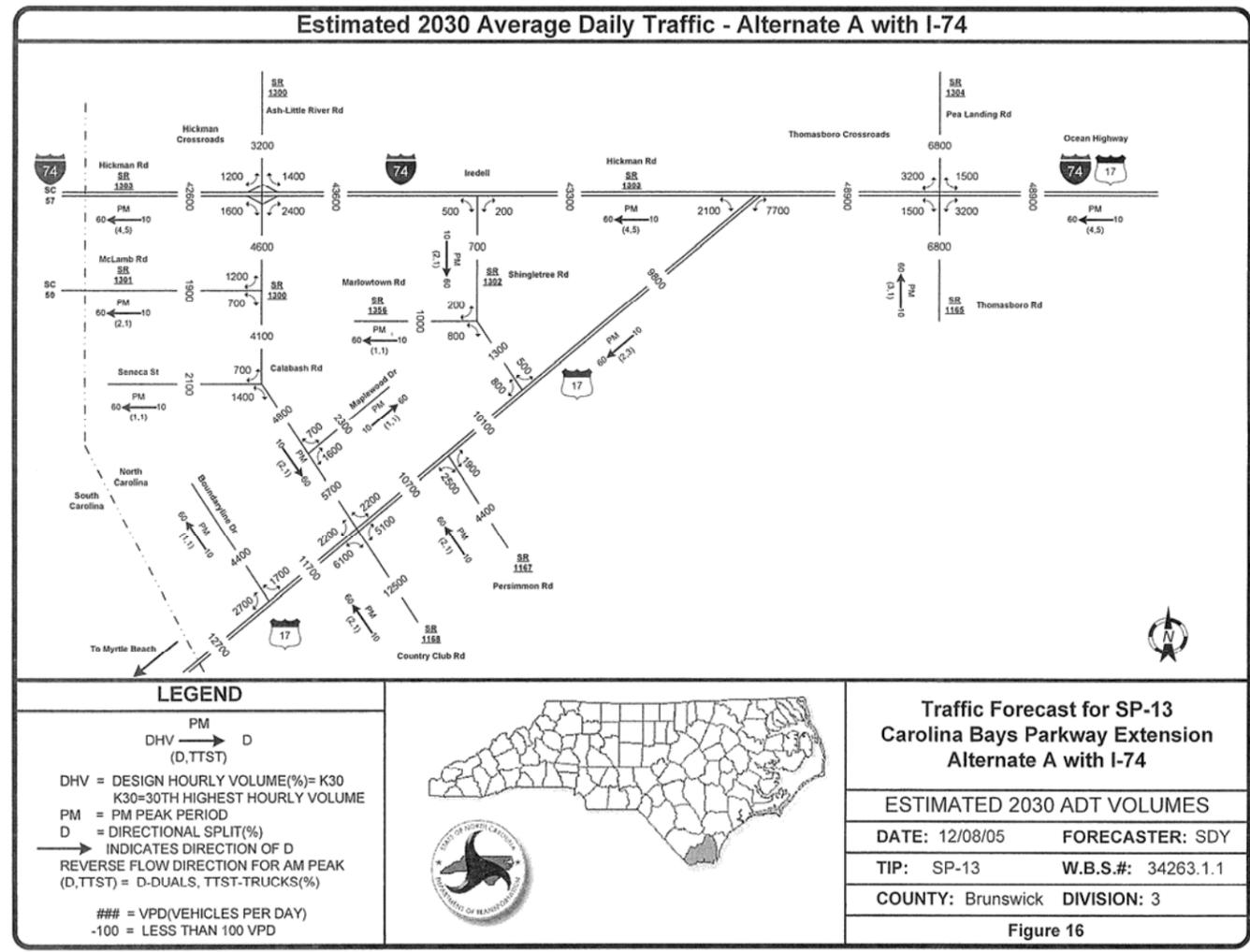
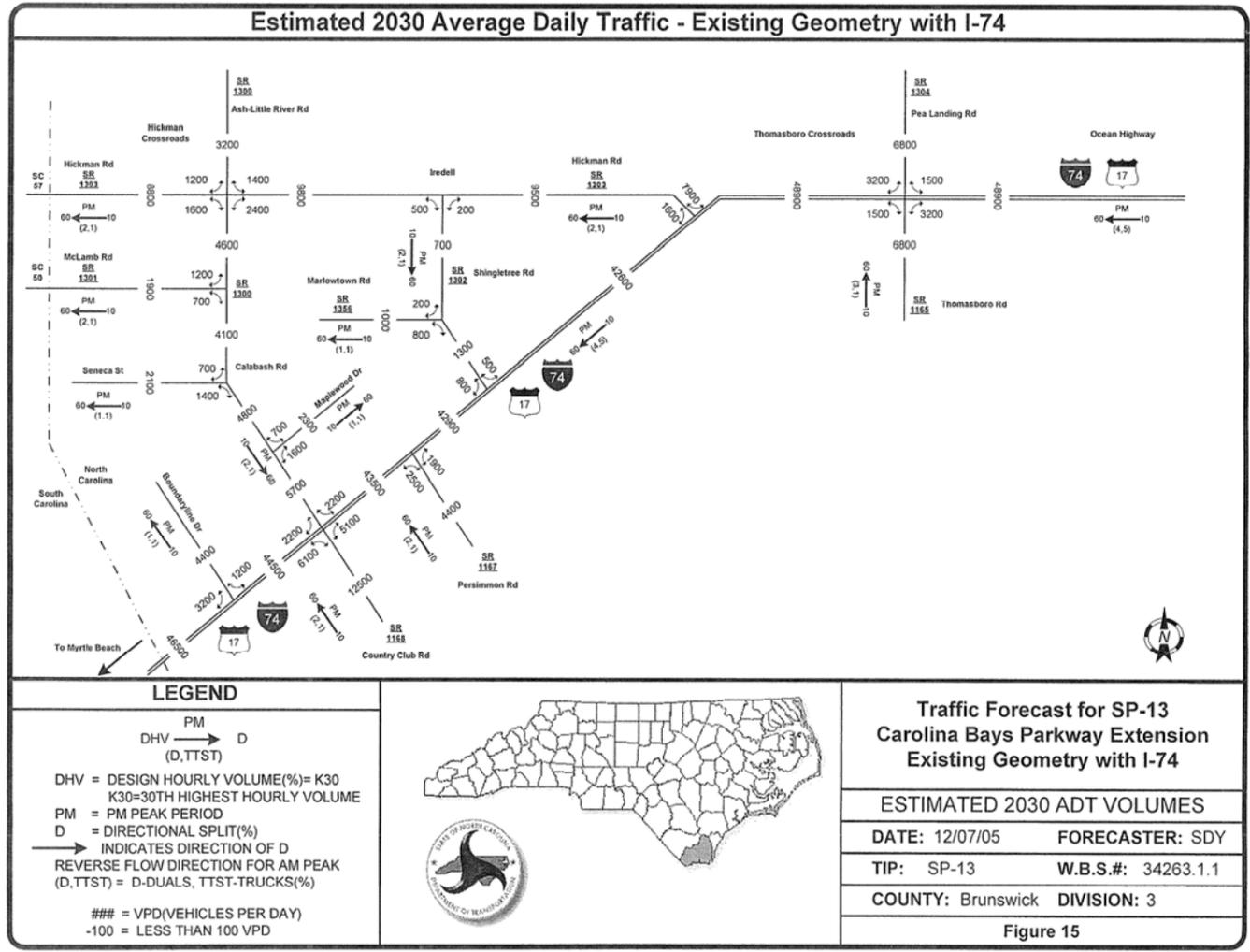
North Carolina Traffic Forecast



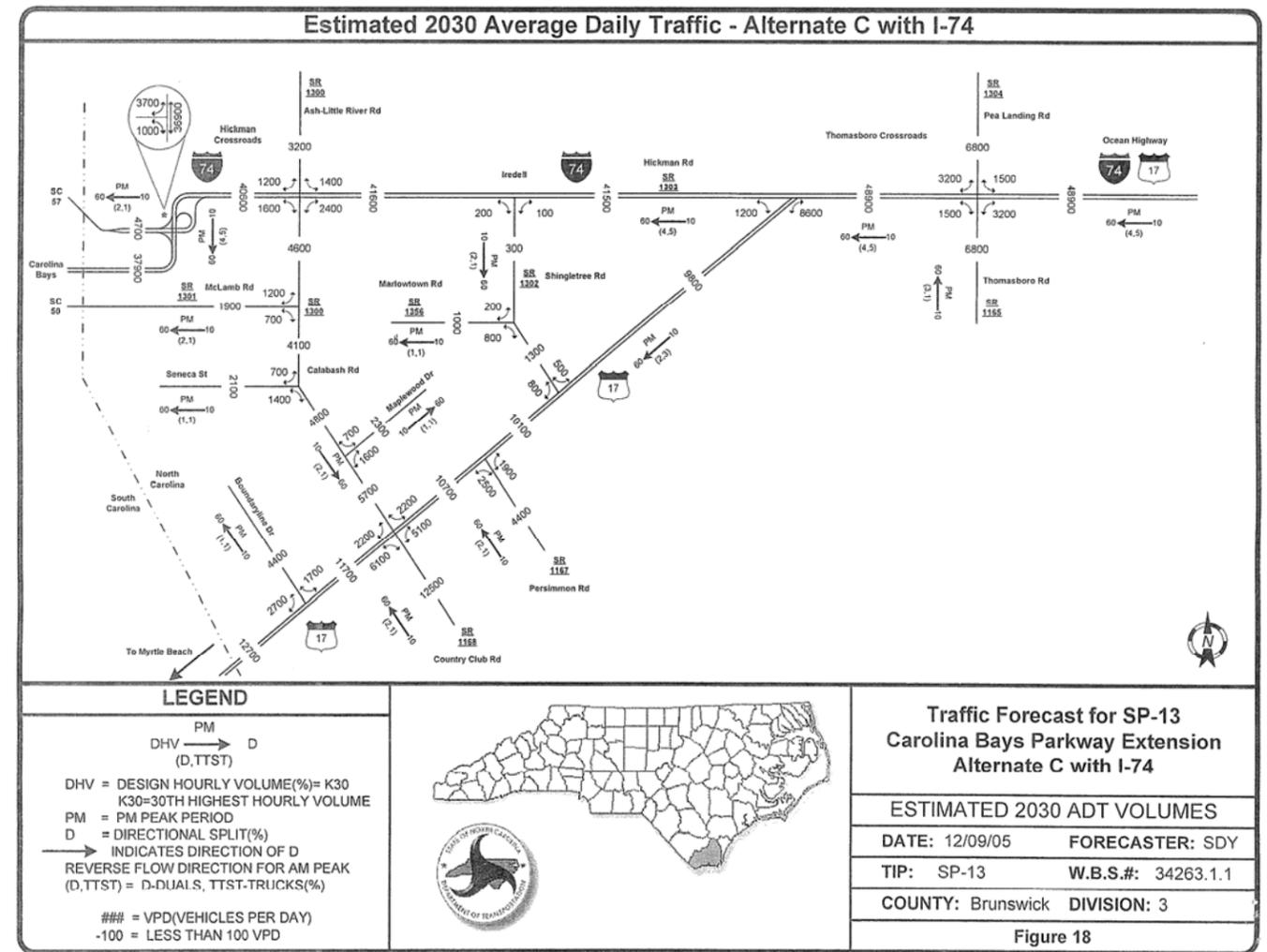
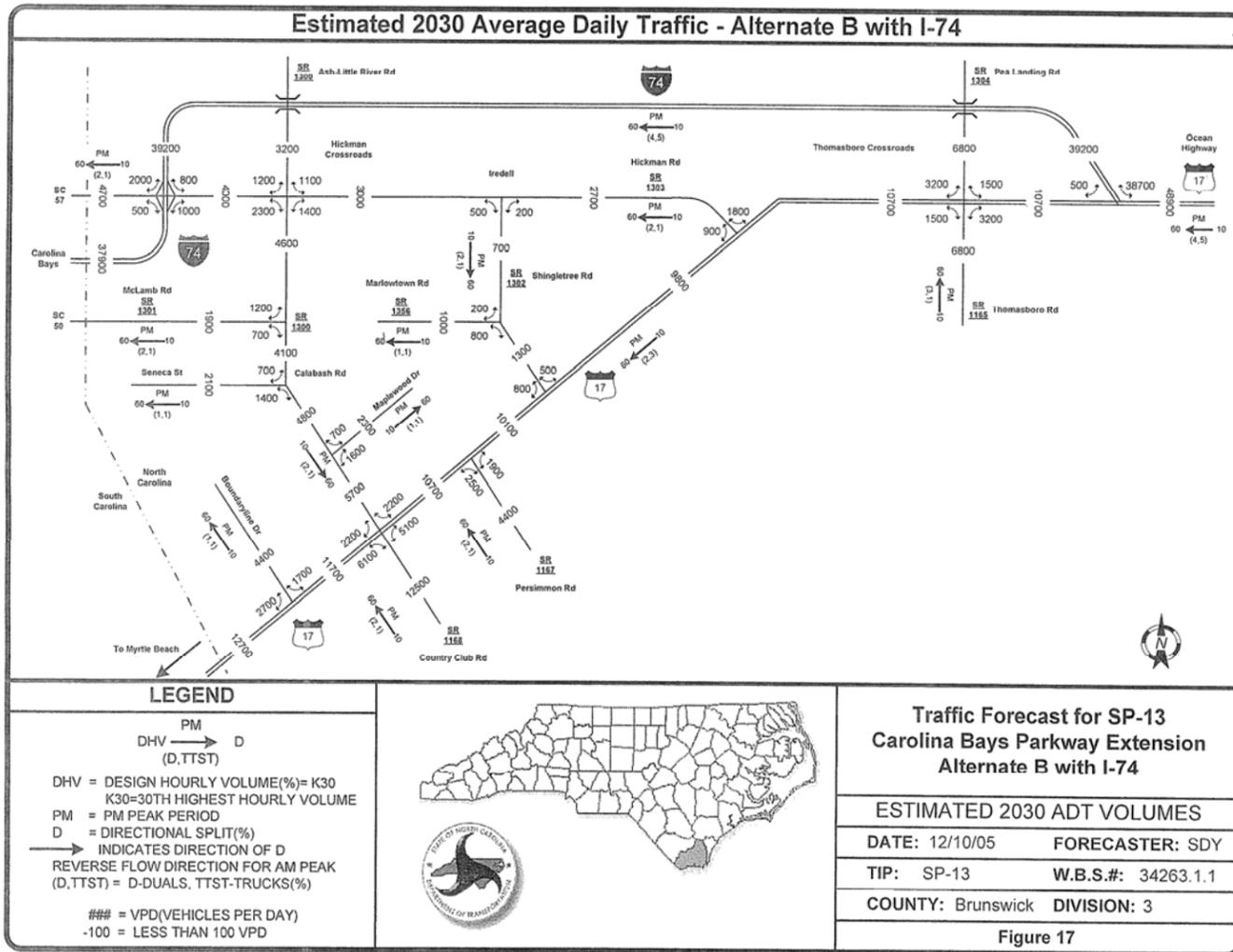
North Carolina Traffic Forecast



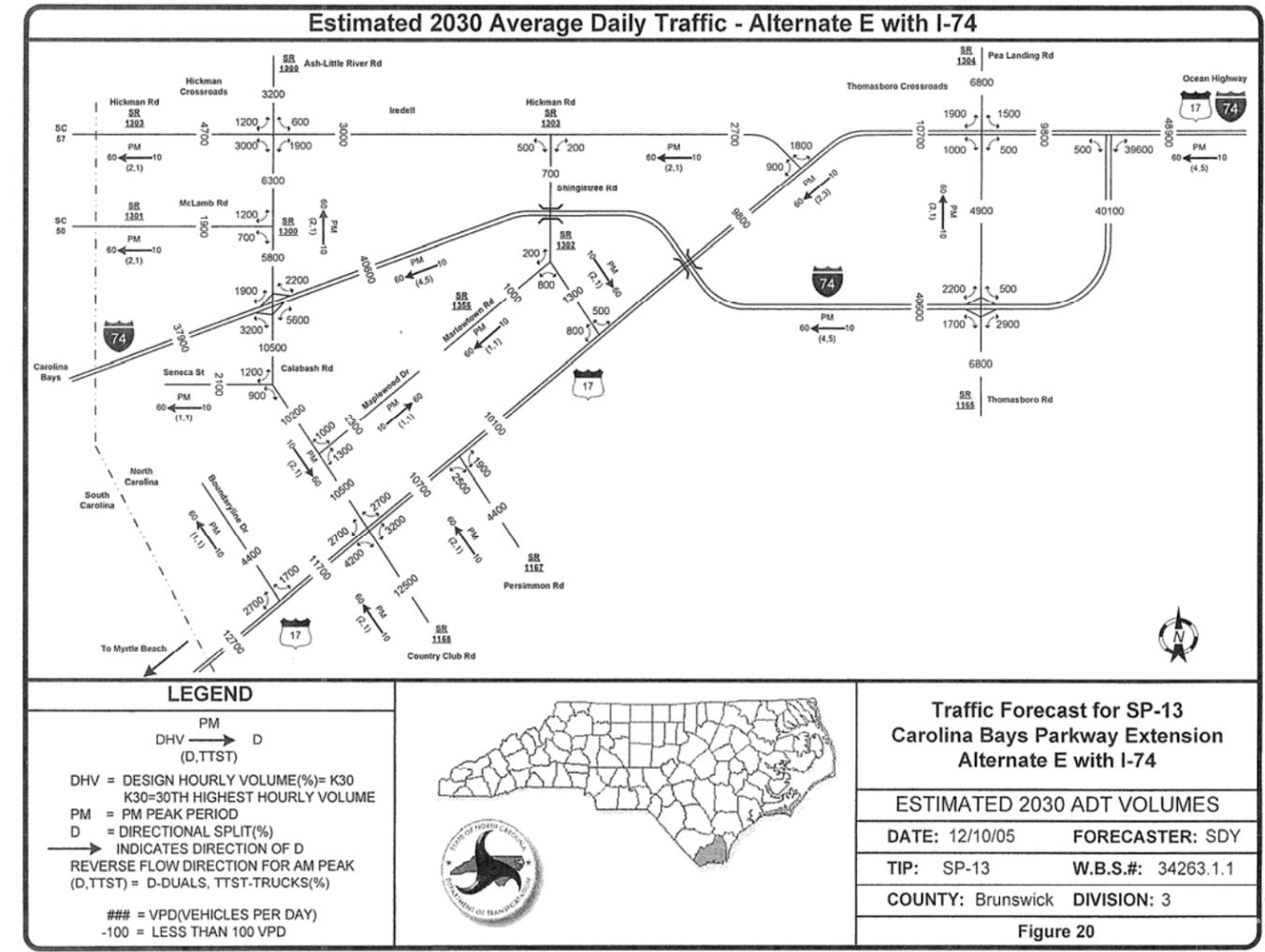
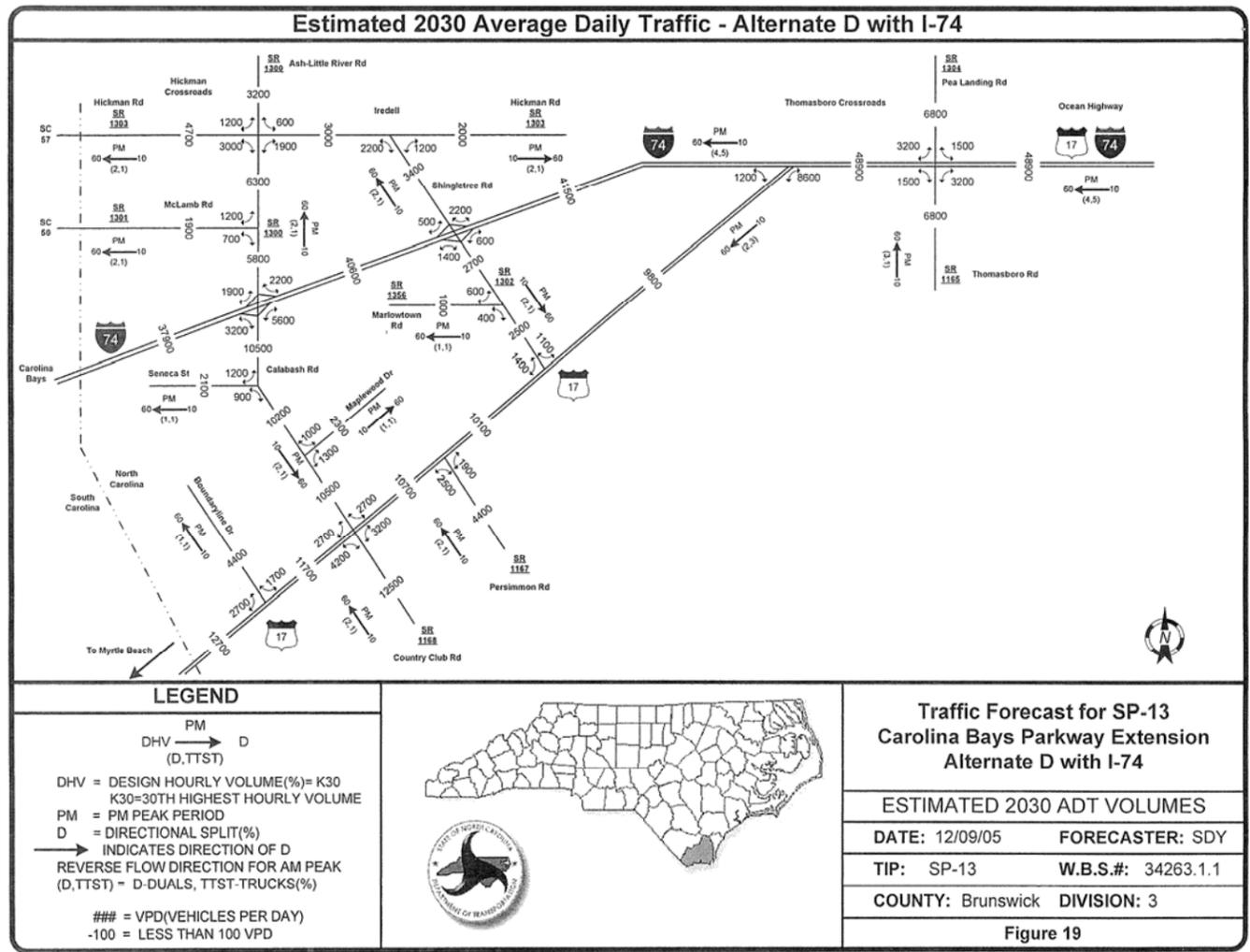
North Carolina Traffic Forecast



North Carolina Traffic Forecast



North Carolina Traffic Forecast



SCDOT

South Carolina Department of Transportation



**Civil Engineering
Consulting Services, Inc.**