

ITS in a Small Urban Area

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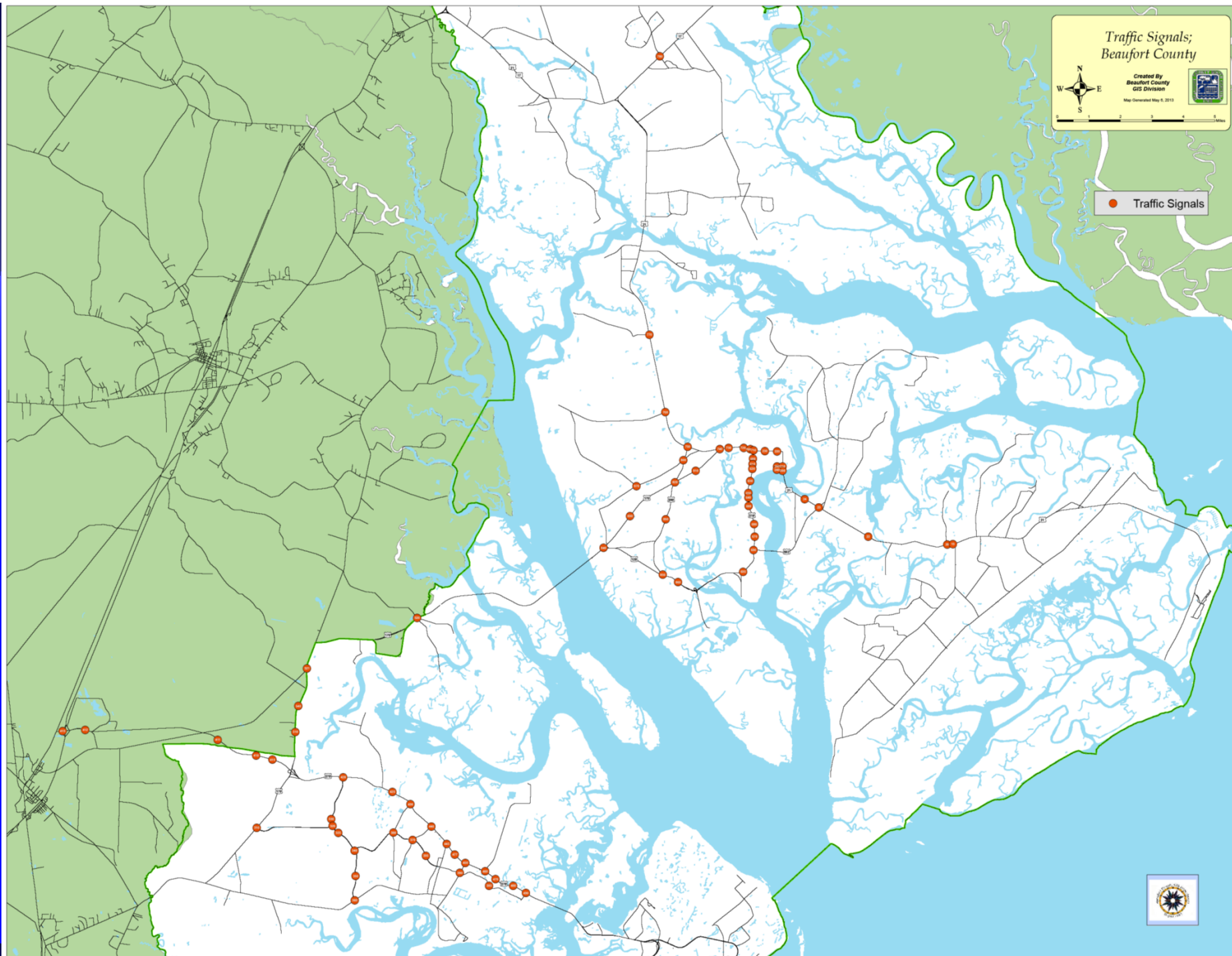
September 29, 2015

Traffic Signals; Beaufort County

Created By
Beaufort County
GIS Division
Map Generated May 6, 2013



● Traffic Signals



Beaufort ITS History

- ◆ 1999: Hurricane Floyd
- ◆ 2002:
 - ◆ Widening SC 170 Connecting Northern and Southern Areas of the County
 - ◆ Collaboration Between County, Emergency Management, Sheriff and SCDOT
 - ◆ Initial Deployment of 8 PTZ Cameras
- ◆ 2005: Beaufort County Traffic Engineering Dept.
 - ◆ 40 Traffic Signals (170 Controllers)
 - ◆ 2 Coordinated Systems

More History

- ◆ 2008: ITS Deployment Plan and Architecture for Beaufort County
- ◆ Traffic Responsive Operation for US 278 to HHI
- ◆ Summer and Weekend Timing Plans
- ◆ Special Shopping Plans for Thanksgiving
- ◆ Two Evacuation Plans (Pre Evacuation at 360 sec. and Mandatory Evacuation at 480 sec.)
- ◆ Monthly Coordination Meetings between Emergency Management and Traffic Engineering

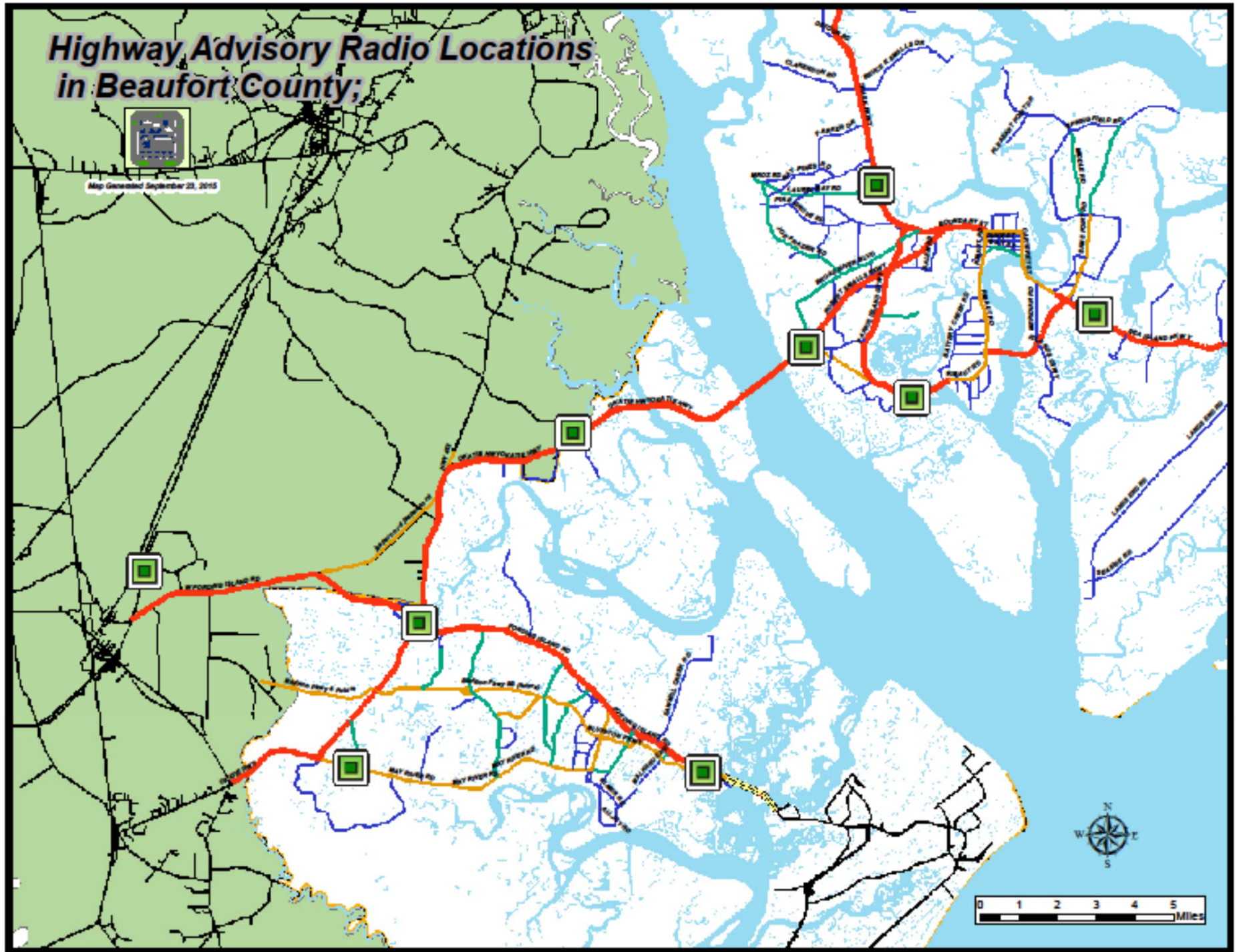
Today

- ◆ 80+ Traffic Signals (85 Percent on Network)
- ◆ 85 PTZ Cameras
- ◆ 9 Fixed HAR Sites
- ◆ 2 Mobile HAR's
- ◆ 7 Mobile DMS Boards
- ◆ 8 Coordinated Corridors
- ◆ 1 Traffic Responsive Corridor
- ◆ Countywide Traffic Data Collection System

Highway Advisory Radio Locations in Beaufort County;



Map Generated September 23, 2015



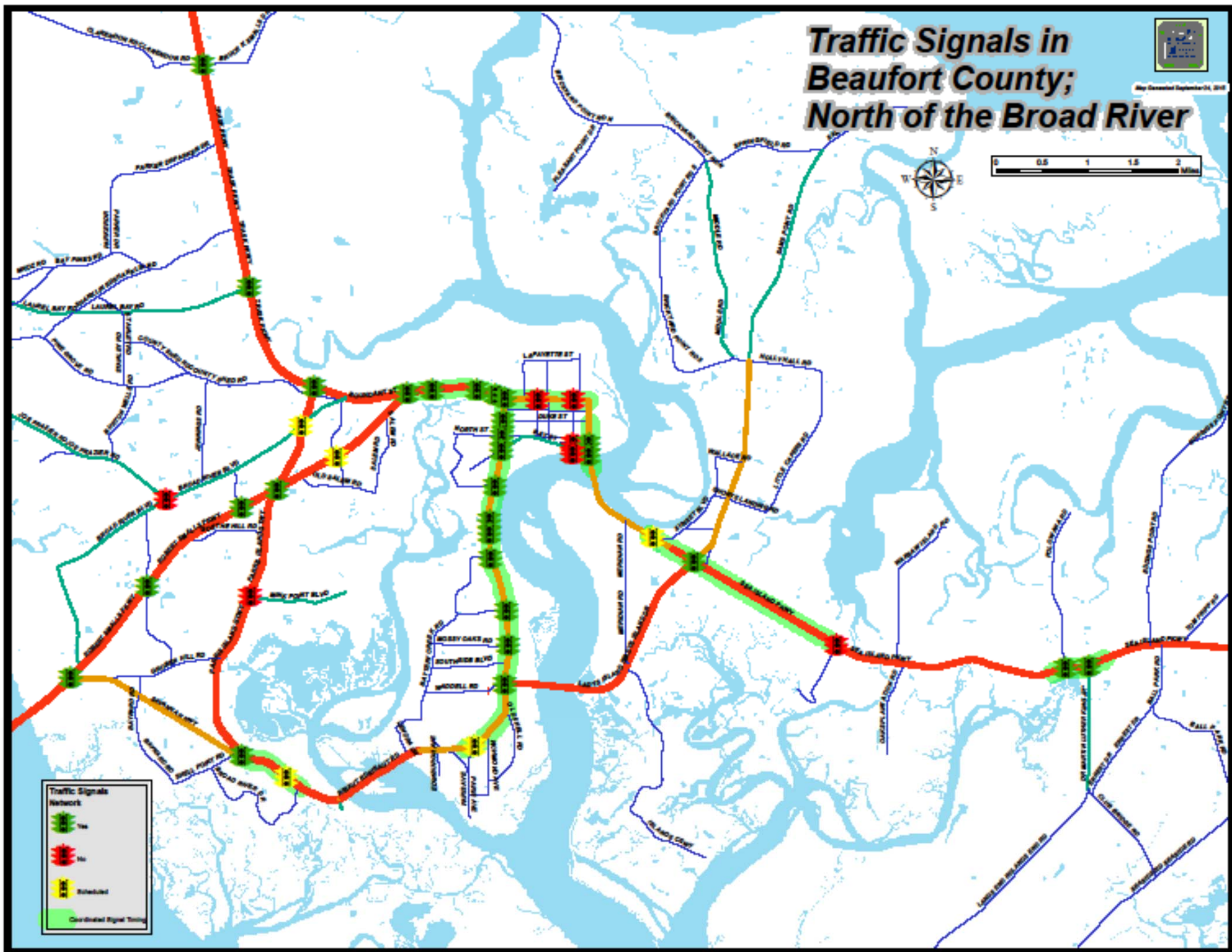
Traffic Signals in Beaufort County; North of the Broad River

Map Generated September 04, 2018



Traffic Signals Network

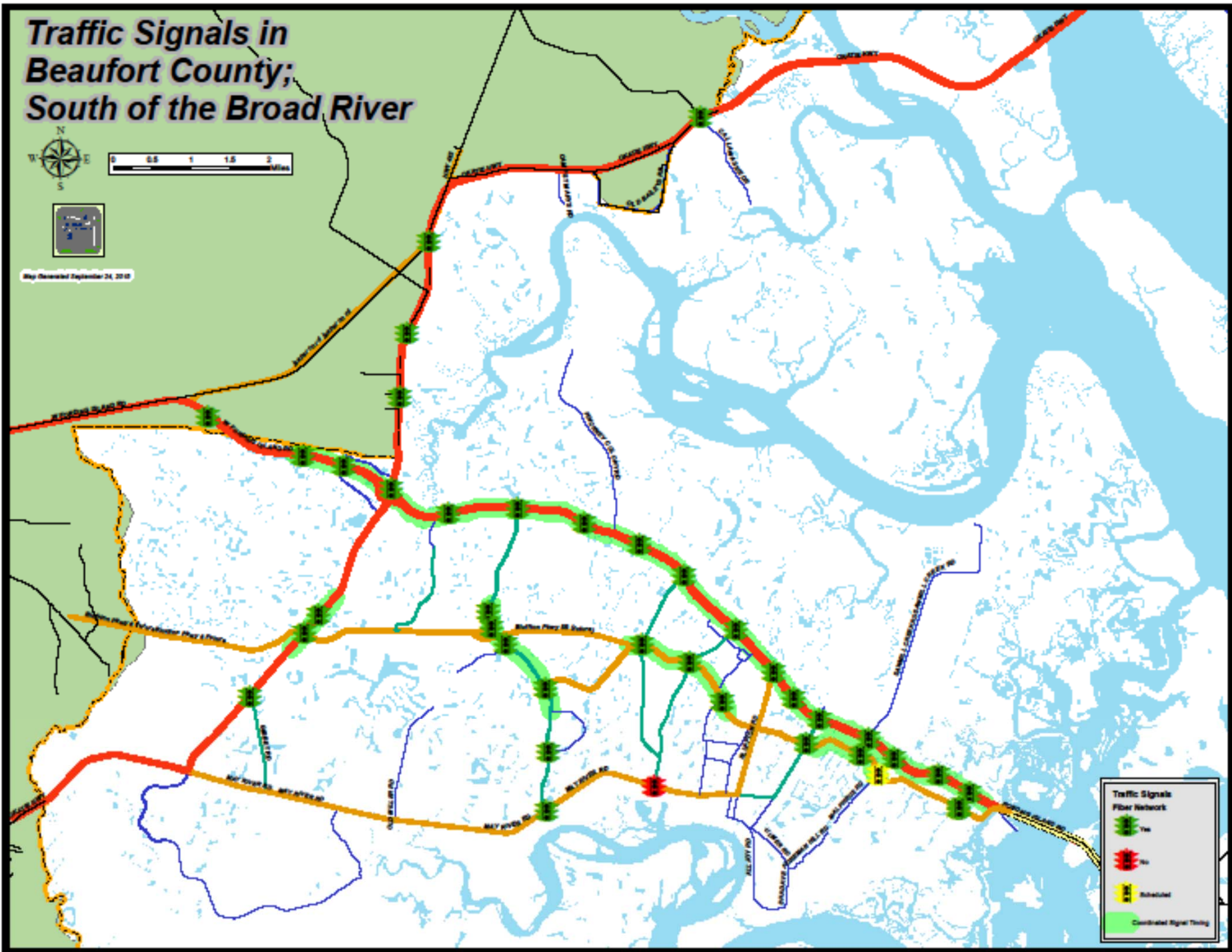
- Yes
- No
- Scheduled
- Coordinated Right Turning



Traffic Signals in Beaufort County; South of the Broad River



Map Generated September 24, 2019



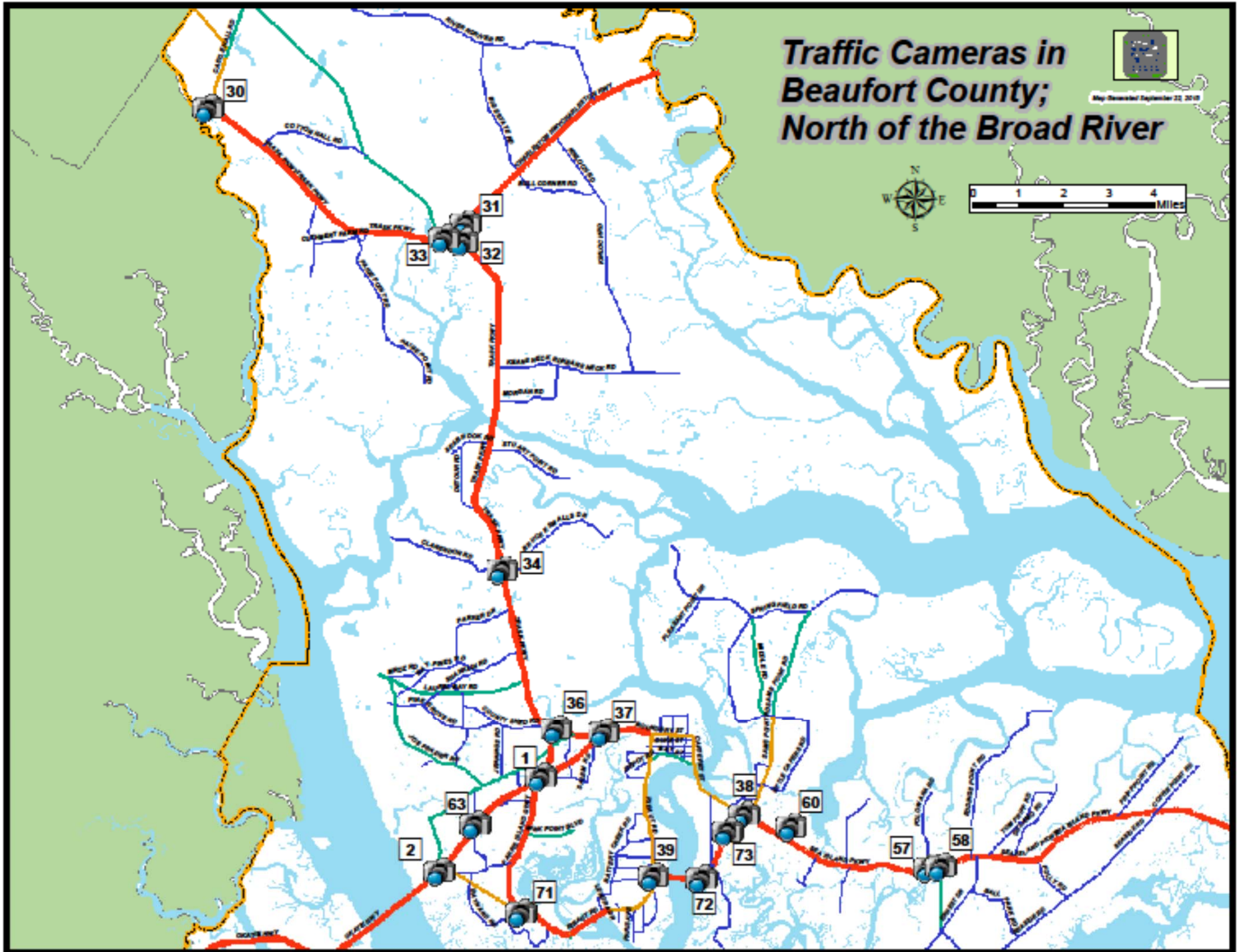
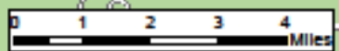
Traffic Signals

- Fiber Network
- No
- Scheduled
- Coordinated Signal Timing

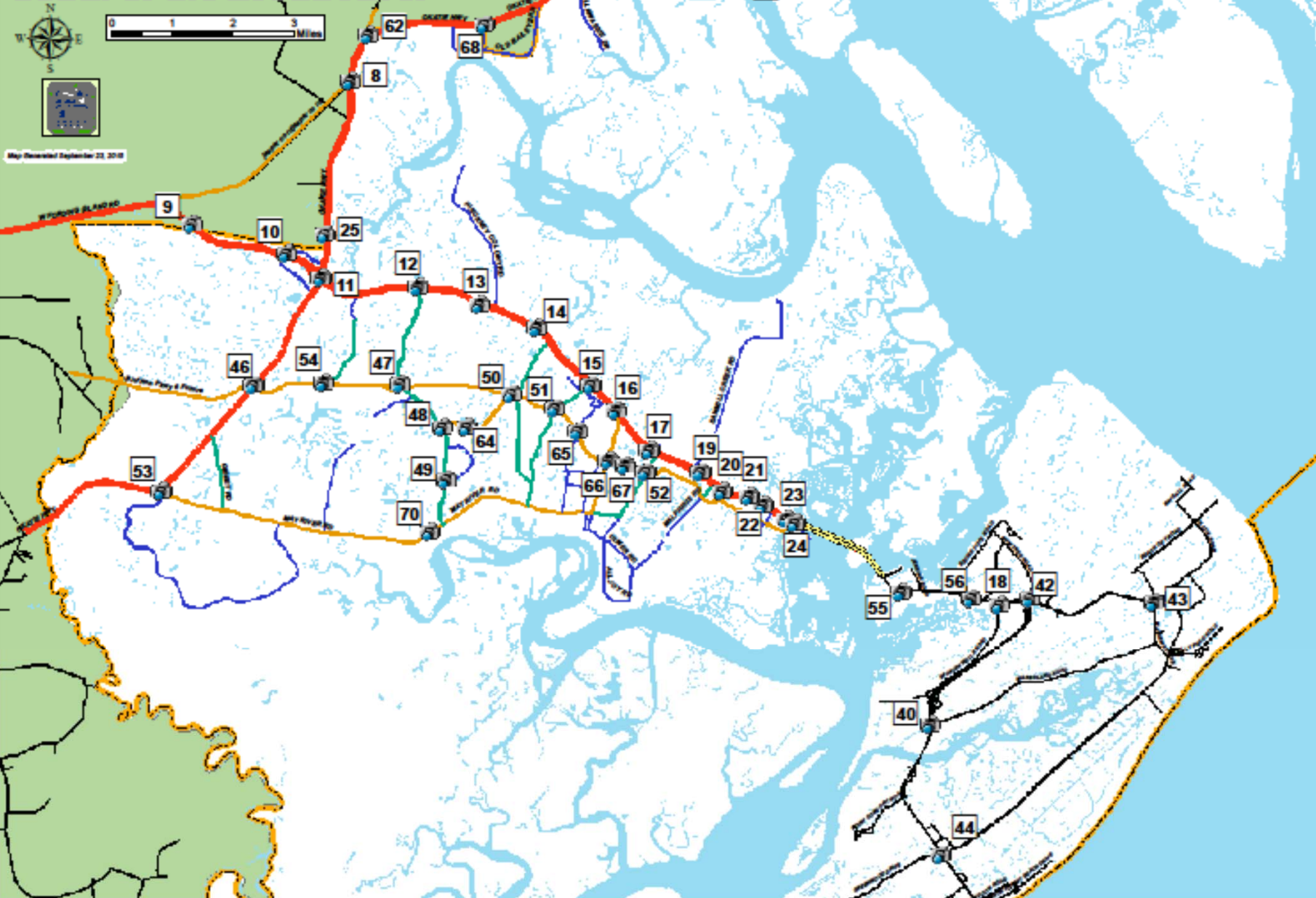
Traffic Cameras in Beaufort County; North of the Broad River



Map Downloaded September 22, 2019

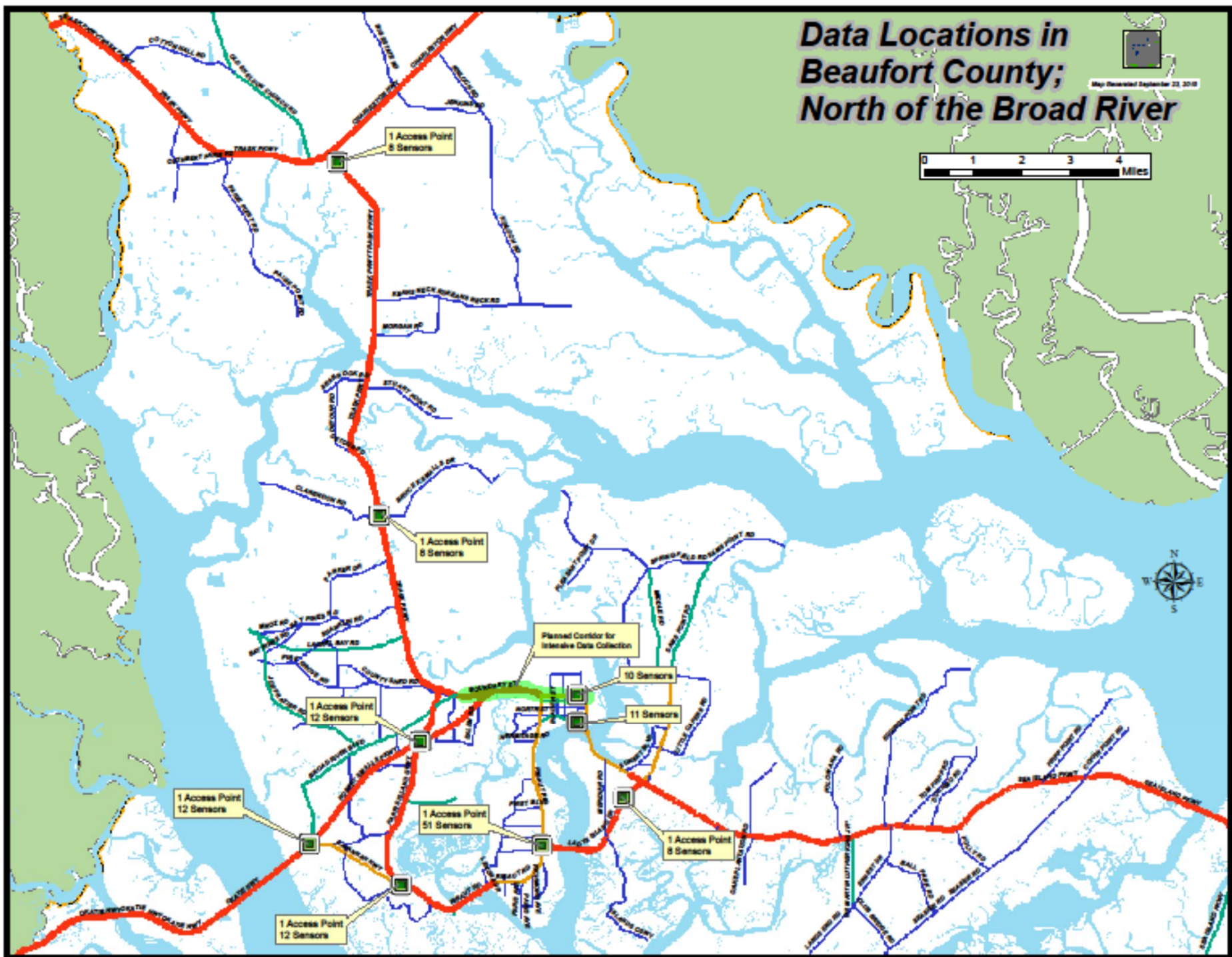
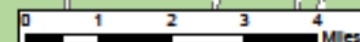


Traffic Cameras in Beaufort County; South of the Broad River

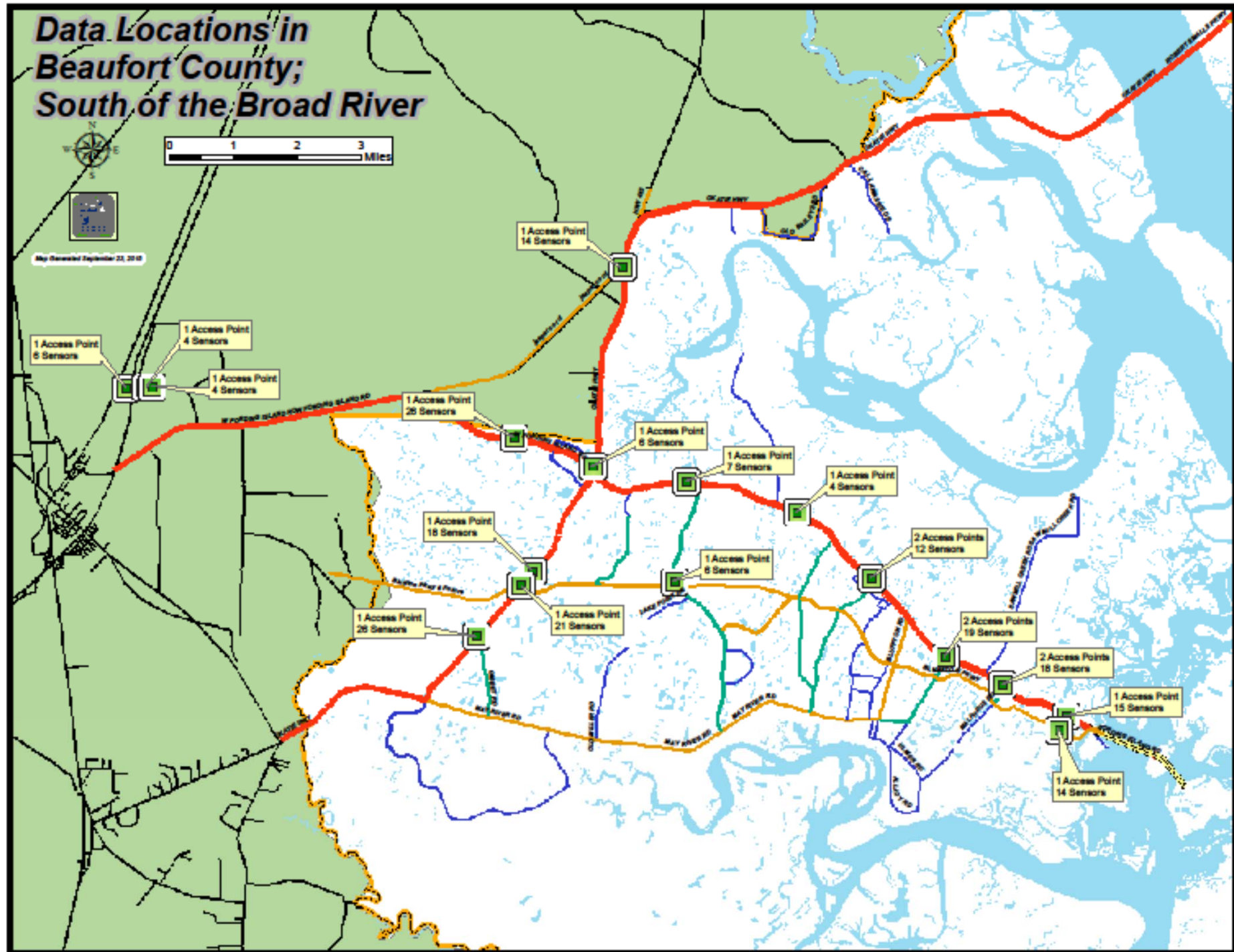


Data Locations in Beaufort County; North of the Broad River

Map Downloaded September 23, 2010



Data Locations in Beaufort County; South of the Broad River



ITS Technologies In Place

- ◆ Traffic Signal Coordination
- ◆ Emergency Vehicle Pre-emption
- ◆ Highway Advisory Radio
- ◆ Traffic Management Center (TMC)
- ◆ Traffic Cameras (PTZ Cameras)
- ◆ Fiber Optic Cable and Wireless Hotspots
- ◆ Mobile Dynamic Message Signs
- ◆ Web Access and Traveler Information
- ◆ Automated Vehicle Locator for County Vehicles
- ◆ Traffic Detectors
- ◆ Hurricane Evacuation Planning

Overview of Beaufort County Signal Operations

- ◆ Partnership with IT Division, SCDOT, City of Beaufort, Town of Hilton Head Island and Emergency Management Division
- ◆ 80+ Existing Traffic Signals
- ◆ Southern Beaufort County: 90% Networked
- ◆ Northern Beaufort County: 75% Networked
- ◆ Emergency Generator Switches
- ◆ Pedestrian Signal Upgrades
- ◆ Emergency Vehicle Preemption:
 - ◆ 37/38 Signals in Southern Beaufort County
 - ◆ SC 170 Corridor (Boundary St to US 278)

Future

- ◆ Boundary Street Streetscape Project
 - ◆ 7 Signals (5 Existing, 2 New)
 - ◆ Traffic Adaptive
 - ◆ Traffic Data Collection/Instrumentation (Automated TMCs, O-D, AADT) via 290+ Pavement Sensors
- ◆ Digital Upgrades to PTZ Cameras
- ◆ Battery Backup for Traffic Signals
- ◆ Traffic Signals (7 New Locations, 3 Upgrades)
- ◆ Communication via PTP and PTMP Radio or Cellular Modem
- ◆ Downtown Bridge ITS (Travel Time and Delay Management)

Lessons Learned

- ◆ Keep Costs Down: Networking
 - ◆ Leased Fiber
 - ◆ IP Radio
 - ◆ Cellular Modem
- ◆ Importance of Good GIS Data
- ◆ Data Management
- ◆ Coordination and Communication
 - ◆ Departmental
 - ◆ Agencies
- ◆ Resistance to Change
- ◆ Simplify System Management

Points to Remember

- ◆ Budget for Maintenance and Training
 - ◆ Nothing is “Maintenance Free”
- ◆ Develop a Plan and Keep Your Eyes on the Road
- ◆ Gather the Right Data at the Right Time
- ◆ Share with Others
- ◆ Don't Smell the Roses

Should I get new
Floorboards?



