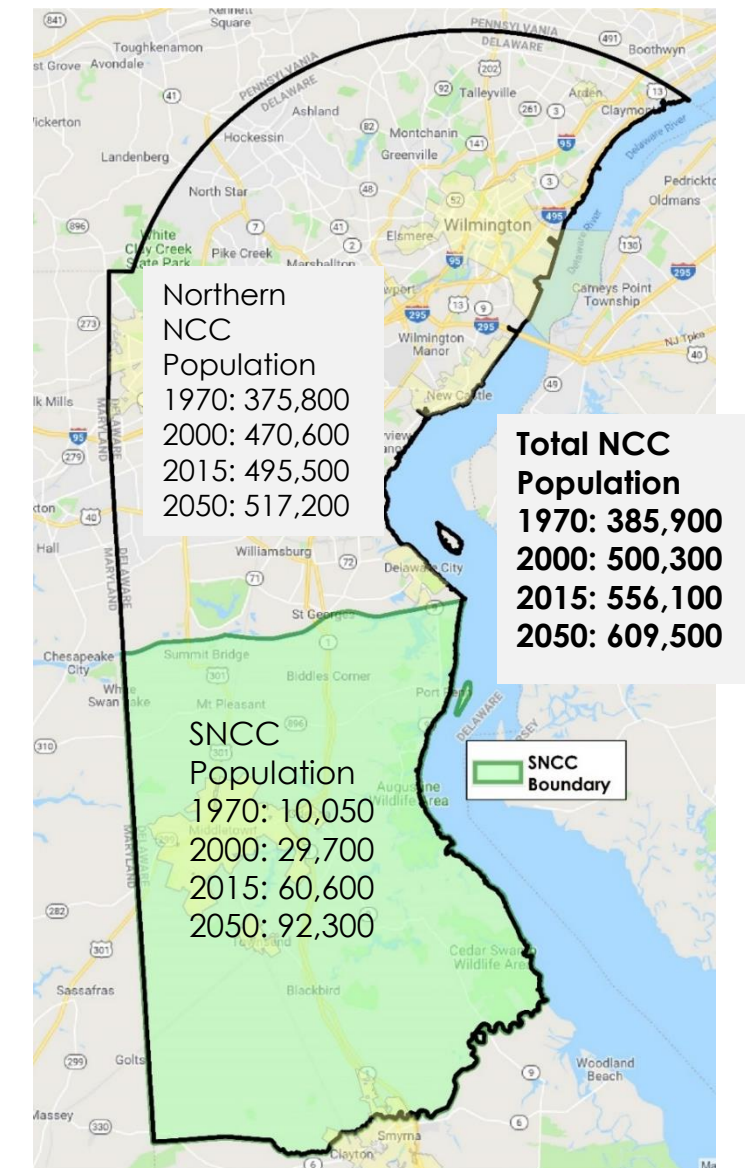
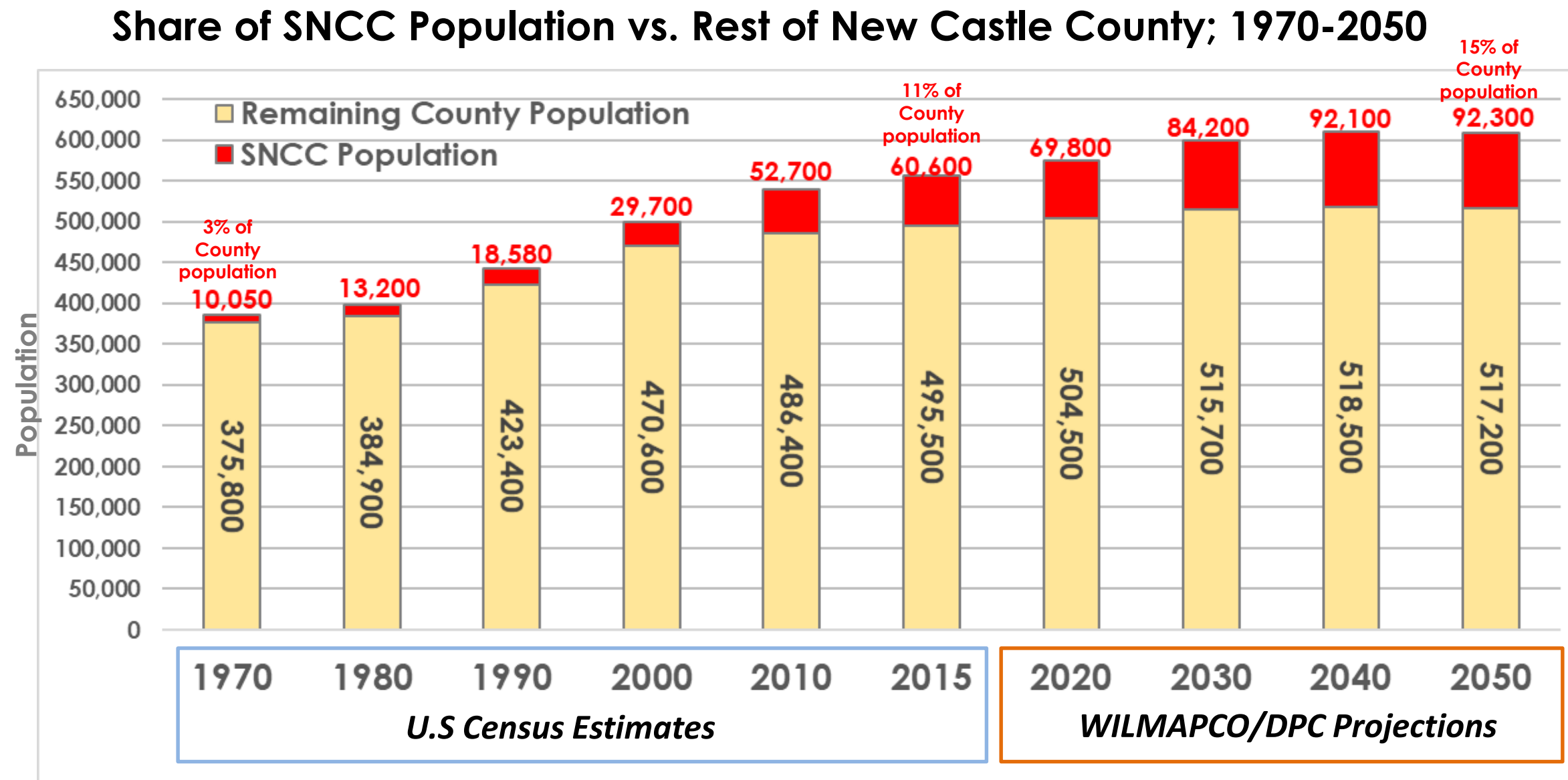
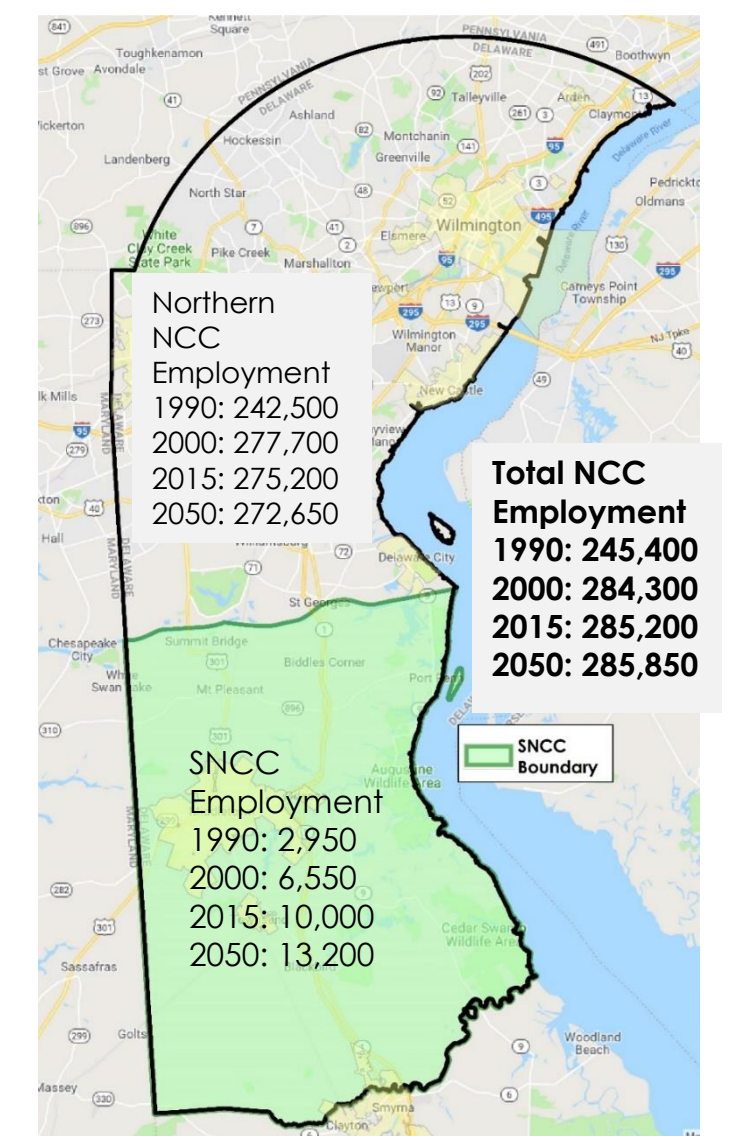
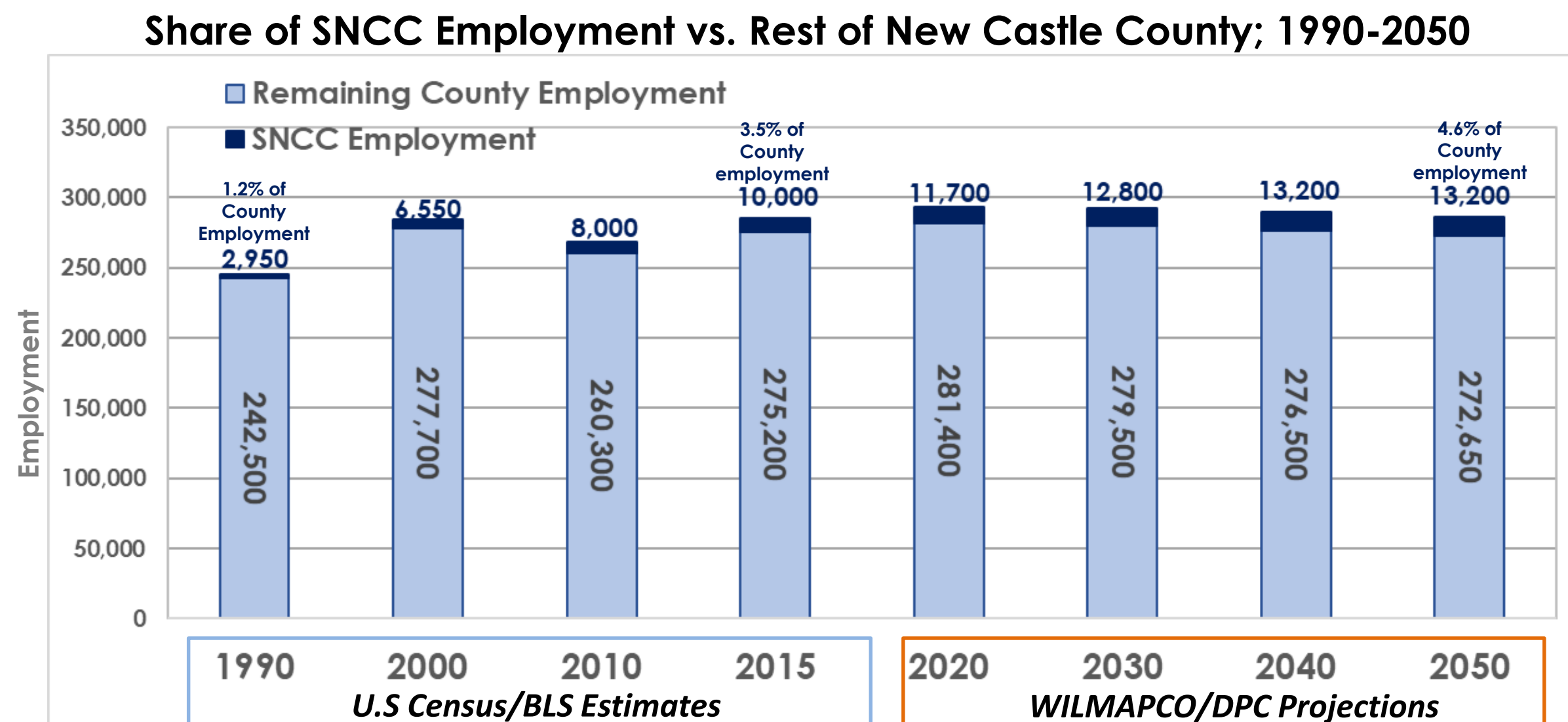


# SNCC Demographic Trends

- In 1970 the SNCC population was 10,040, accounting for roughly 3% of the County population
- In 2015, SNCC grew to 60,567 people, roughly 11% of the County population
- By 2050, SNCC population is forecast to be 92,322, or 15% of the County population



- Between 1990 and 2015, SNCC added over 7,000 new jobs
- SNCC is adding over 10,000 jobs from 1970 to 2050, and the share of the jobs will grow from 1.2% in 1970 to 4.6% in 2050



**Bottom Line:** Since 1990 population growth is outpacing employment growth more than 6 to 1

Sources: US Census, American Community Survey, DPC, WILMAPCO

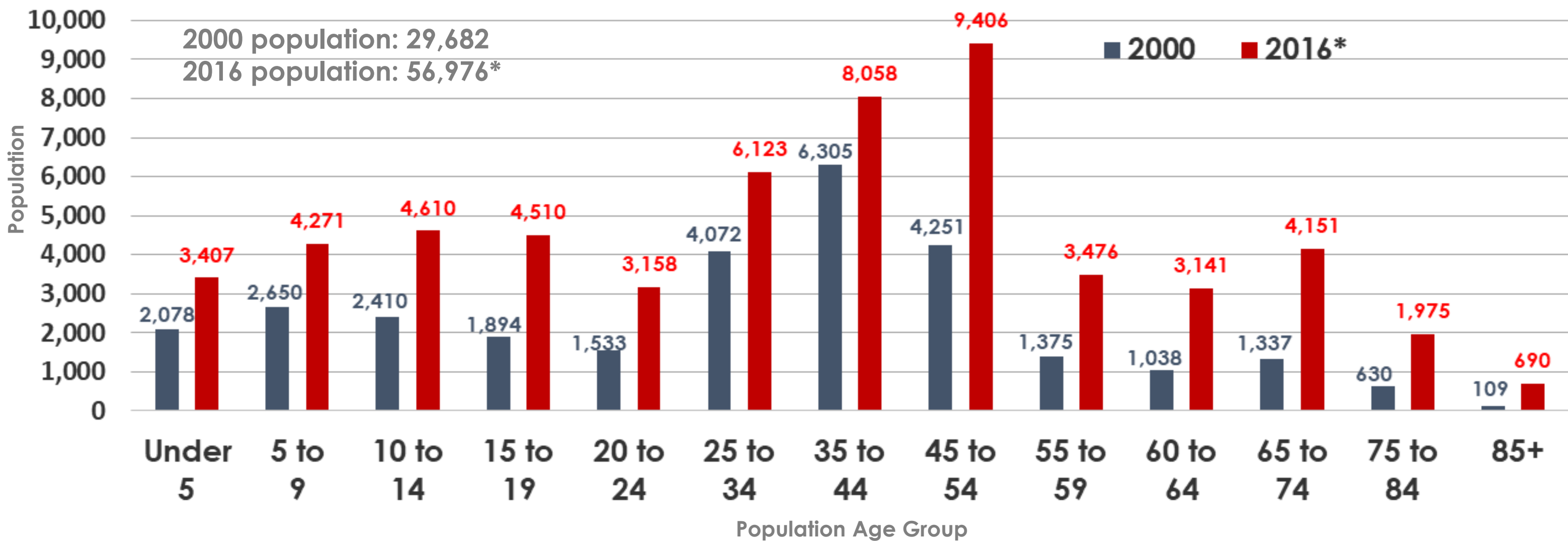
**WILMAPCO**



# SNCC Demographic Trends

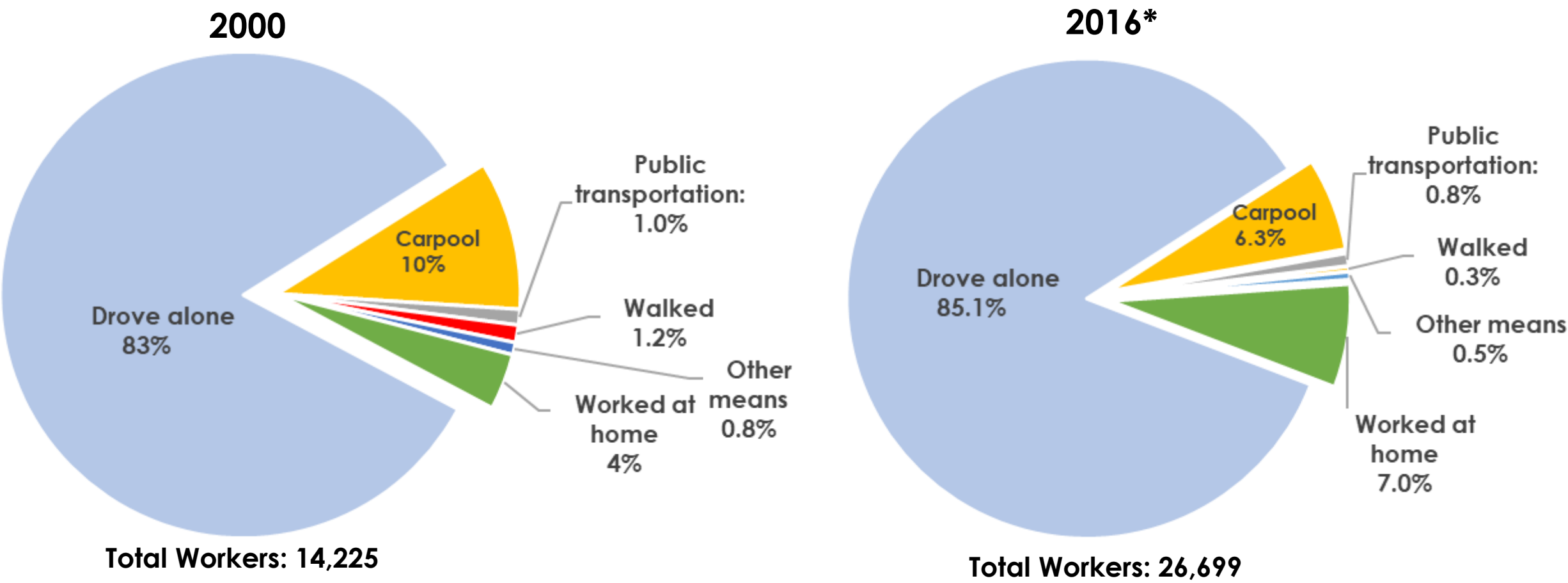
- Since 2000, the SNCC area has increased by more than 27,000 people
- All age groups have seen gains growing most, with the 45-54 age group, adding more than 5,400 people

Changes in SNCC Population Age Structure: 2000 vs. 2016



Changes in SNCC Mode Share to Work: 2000 vs. 2016

	2000	2016*	2000-2016 Changes
Total Workers	14,225	26,699	12,474
Drove alone	11,851	22,717	10,866
Carpool	1,412	1,675	263
Public transportation:	148	225	77
Walked	165	85	-80
Other means	117	140	23
Worked at home	532	1,857	1,325



**Bottom Line:** The 45-54 age group has been the largest growing age group since 2000, but as a result it will begin to increase the 65+ population beginning around 2025.

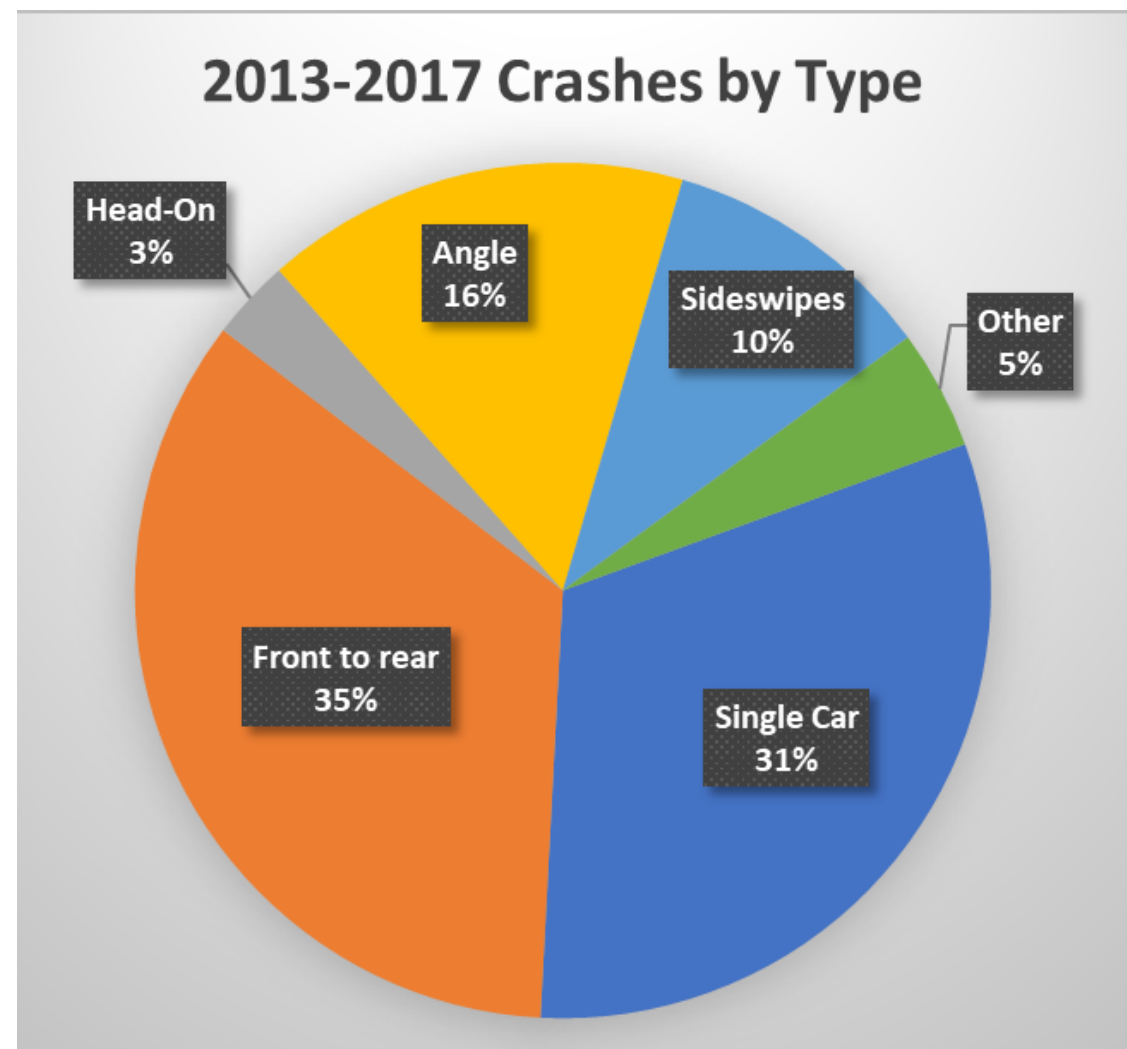
Sources: US Census, American Community Survey

\* ACS figure from 2012-2016 ACS 5-year estimate

# Crash Analysis

## 2013-2017 Crash Trends:

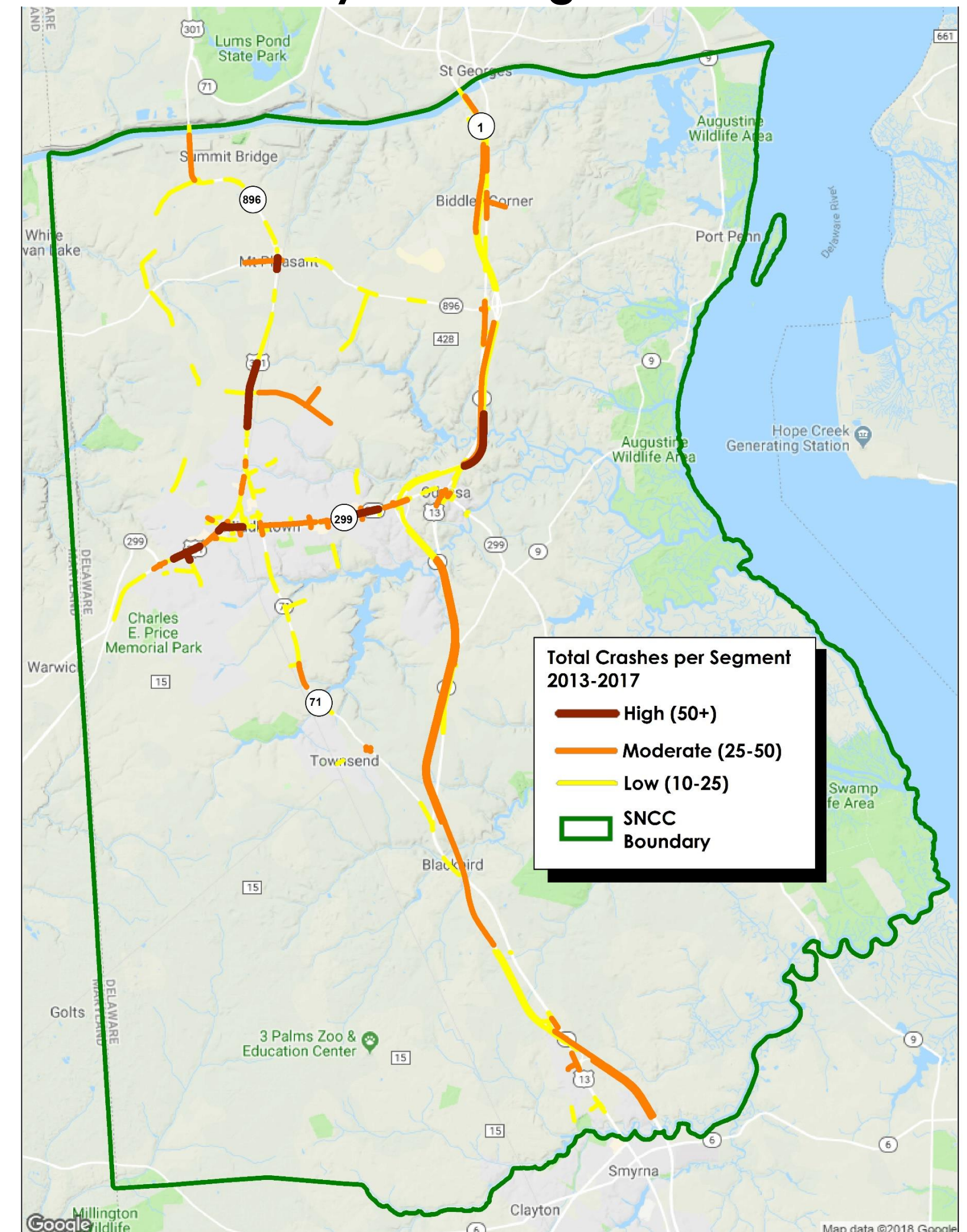
- A total of 6,171 crashes were reported from 2013-2017
- Nearly a third were rear-end collisions
- Crash totals have increased steadily over the 5 year period
- Just over 21% of the crashes occur at signalized intersections
- 25% of the crashes results in injuries
- 35 crashes were fatal
- 24 crashes involved bicycles and 30 involved pedestrians



**Annual Crashes by Type: 2013-2017**

Year	Total Crashes	Single Car	Rear-end	Head-on	Angle	Side swipe	Other
2013	957	310	337	22	150	96	42
2014	1091	334	375	46	167	111	58
2015	1307	419	438	50	219	113	68
2016	1349	439	461	34	204	154	57
2017	1467	435	523	36	251	168	54
<b>Total</b>	<b>6,171</b>	<b>1,937</b>	<b>2,134</b>	<b>188</b>	<b>991</b>	<b>642</b>	<b>279</b>
%		31.4%	34.6%	3.0%	16.1%	10.4%	4.5%

## Crashes by Road Segment 2013-2017



Source: Delaware State Police. DeIDOT

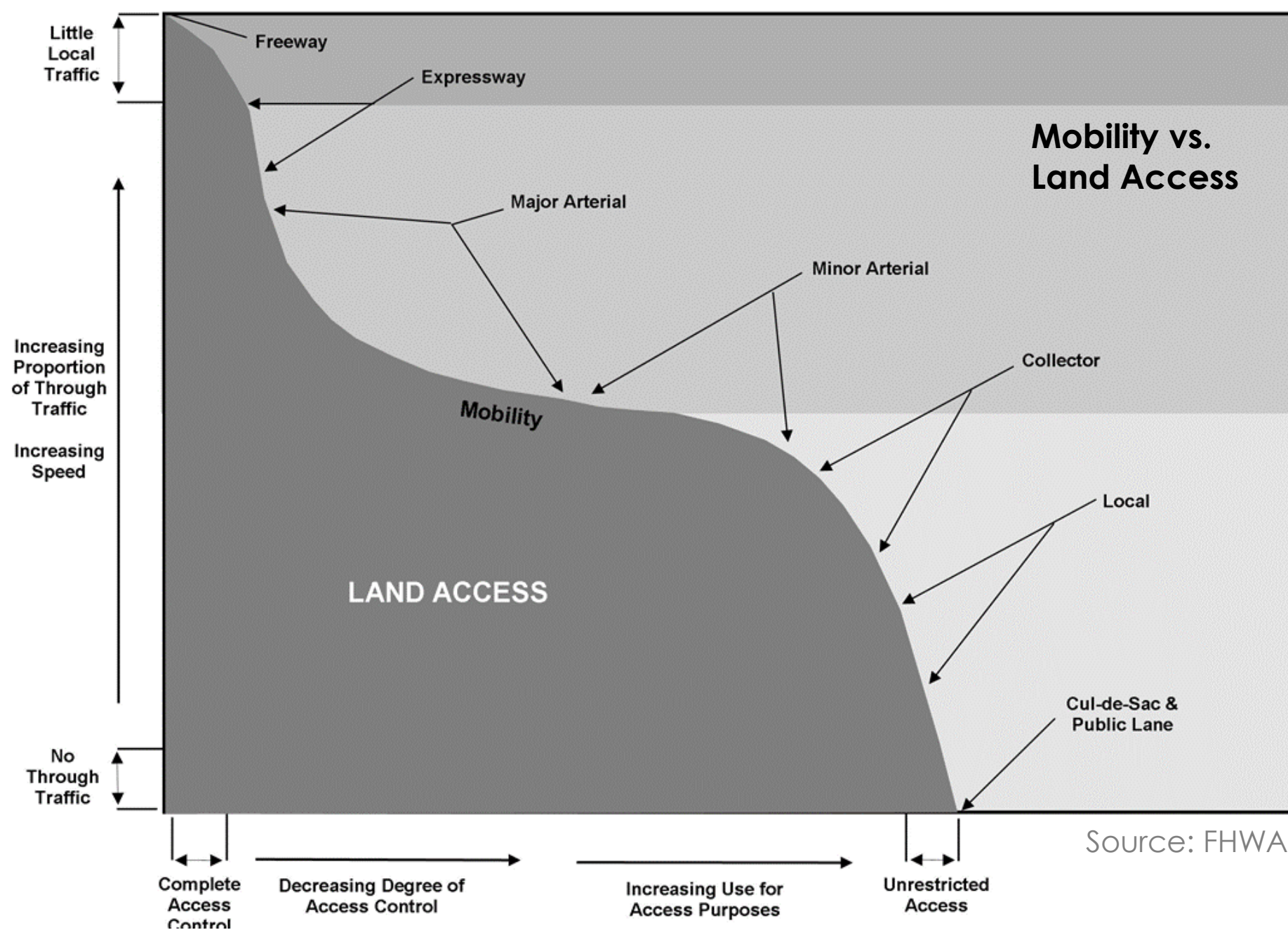
# SNCC Existing Road Network

## Road Functional Classifications

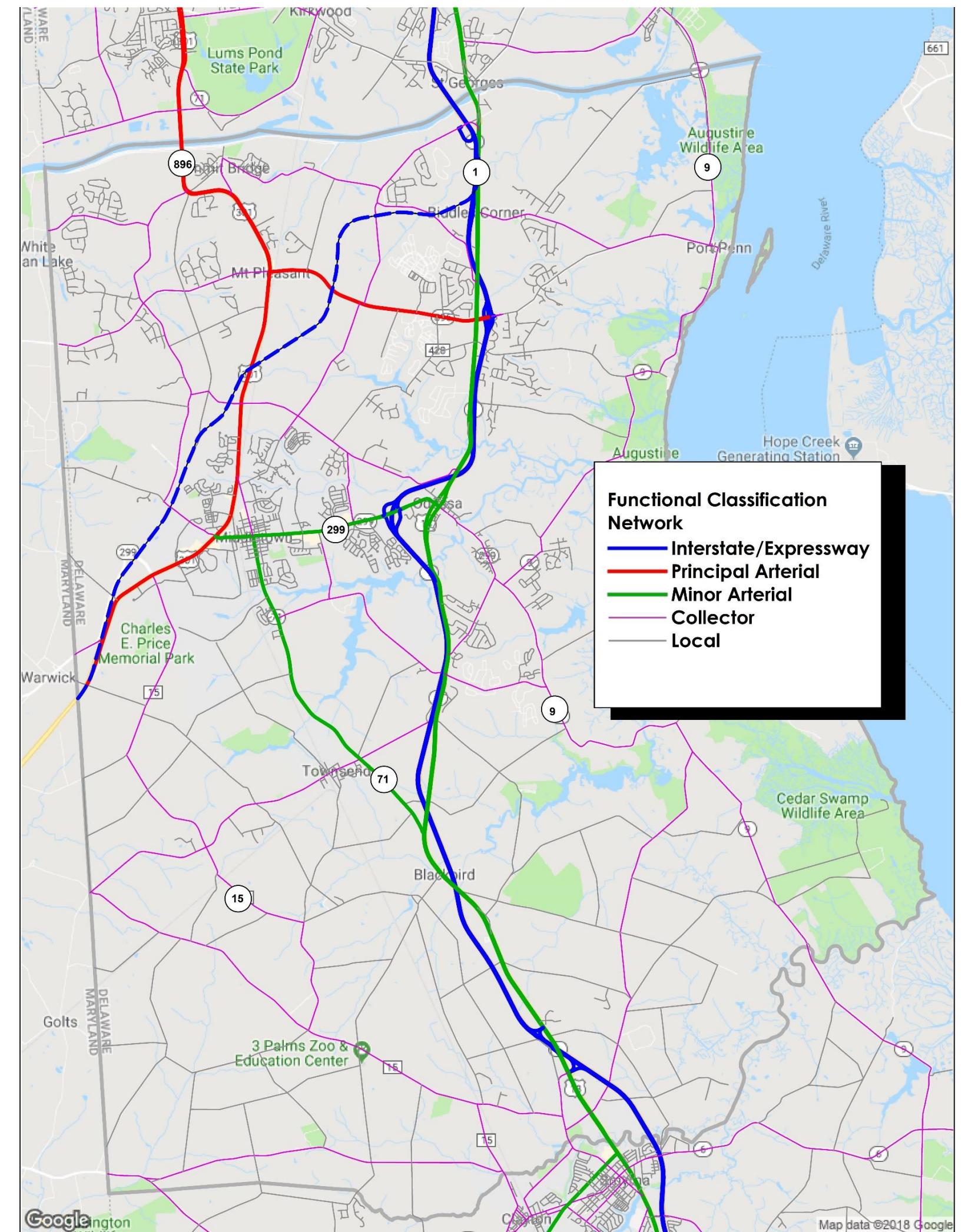
According to the FHWA, functional classification is the process by which roads and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Functional classification defines the nature of this channelization process by defining the part that any particular road should play in serving the flow of trips through a highway network.

There is a basic relationship between functionally classified highway network in serving traffic mobility and land access. Arterials provide a high level of mobility and a greater degree of access control, while local facilities provide a high level of access to adjacent properties but a low level of mobility. Collector roadways provide a balance between mobility and land access. The figure below illustrates the relationship of access and mobility between the functional classes.



## Road Functional Classification: 2015



# SNCC Programmed Improvements

## Transportation Improvement Program (TIP)

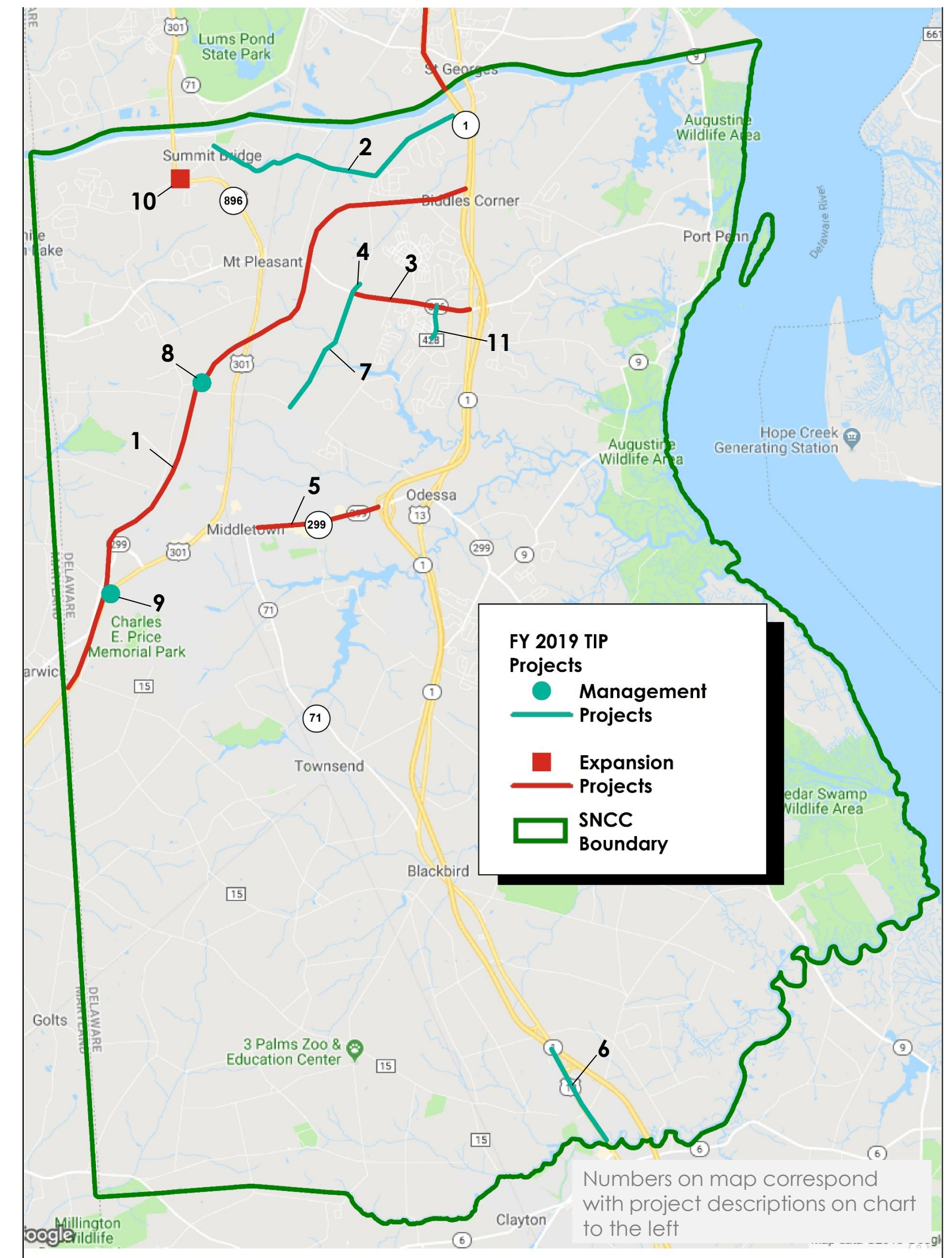
The TIP is the regionally agreed upon 4-year list of priority transportation projects, as required by federal law (FAST). The TIP must list all projects that intend to use federal funds, along with all non-federally funded projects that are regionally significant. We also include other State funded capital projects. The projects include bicycle, pedestrian, ITS, and freight related projects, as well as the more traditional highway and public transit projects.

**Projects Currently in the WILMAPCO FY2019-2022 TIP**

ID	Project	Description
1	US 301: Maryland Line to SR 1	Limited access expressway construction.
2	Lorewood Grove Rd: Hyatts Corner - Lorewood Grove	Improve Lorewood Grove Road to two 12-foot lanes with 8-foot shoulders, open ditch drainage system, and a 10-foot multi-use path on one side of the roadway, from Road 412A to SR 1.
3	Boyd's Corner Rd: Cedar Lane to US 13	Improve Boyd's Corner Road to four 12-foot lanes with 10-foot shoulders and a 20-foot median, using a combination of open and closed drainage system, and building a 10-foot multi-use path on each side of the roadway.
4	Jamison Corner Rd: Relocated to Boyd's Corner Rd	Relocate Jamison Corner Road to the west connecting with Cedar Lane Road at the southern limits. Proposed improvements include 12 ft. travel lanes with an eight foot shoulder and a 10ft. multi-use path on each side of the roadway.
5	SR 299: SR 1 to Catherine Street	SR 299 widened to two lanes in each direction from SR 1 to Cleaver Farm Road, and a two way center lane turn lane will be added from Cleaver Farm Road to Catherine Street, along with pedestrian and bicycle improvements.
6	US 13: Duck Creek - SR 1	Improvements include controlled access, sidewalk, bike access, and other amenities.
7	Cedar Ln: Marl Pit Rd - Boyd's Corner Rd	Rd improve Cedar Lane Road to two 12-foot lanes with 8-foot shoulders, open ditch drainage system, 10-foot multi-use path on west side of the roadway, replacement of Bridge 1-401 and Bridge 1-402, and the construction of a roundabout at the intersection of Cedar Lane Road and Marl Pit Road.
8	Middletown Park and Ride	Development of new park and ride lot near Armstrong Corner.
9	Middletown Park and Ride	Development of new park and ride lot near Middletown.
10	SR 896 / Bethel Church Interchange	Improve highway safety by removing thru traffic, especially heavy truck traffic, from local roads, while minimizing environmental impacts and accommodating existing and planned development.
11	Shallcross Lake Rd: Graylag Rd - Boyd's Corner Rd	Relocate Shallcross Lake Road between Graylag Road and Boyd's Corner Road.

For more details on all TIP projects, please visit [www.wilmapco.org/tip](http://www.wilmapco.org/tip)

## FY 2019-22 TIP Projects in SNCC

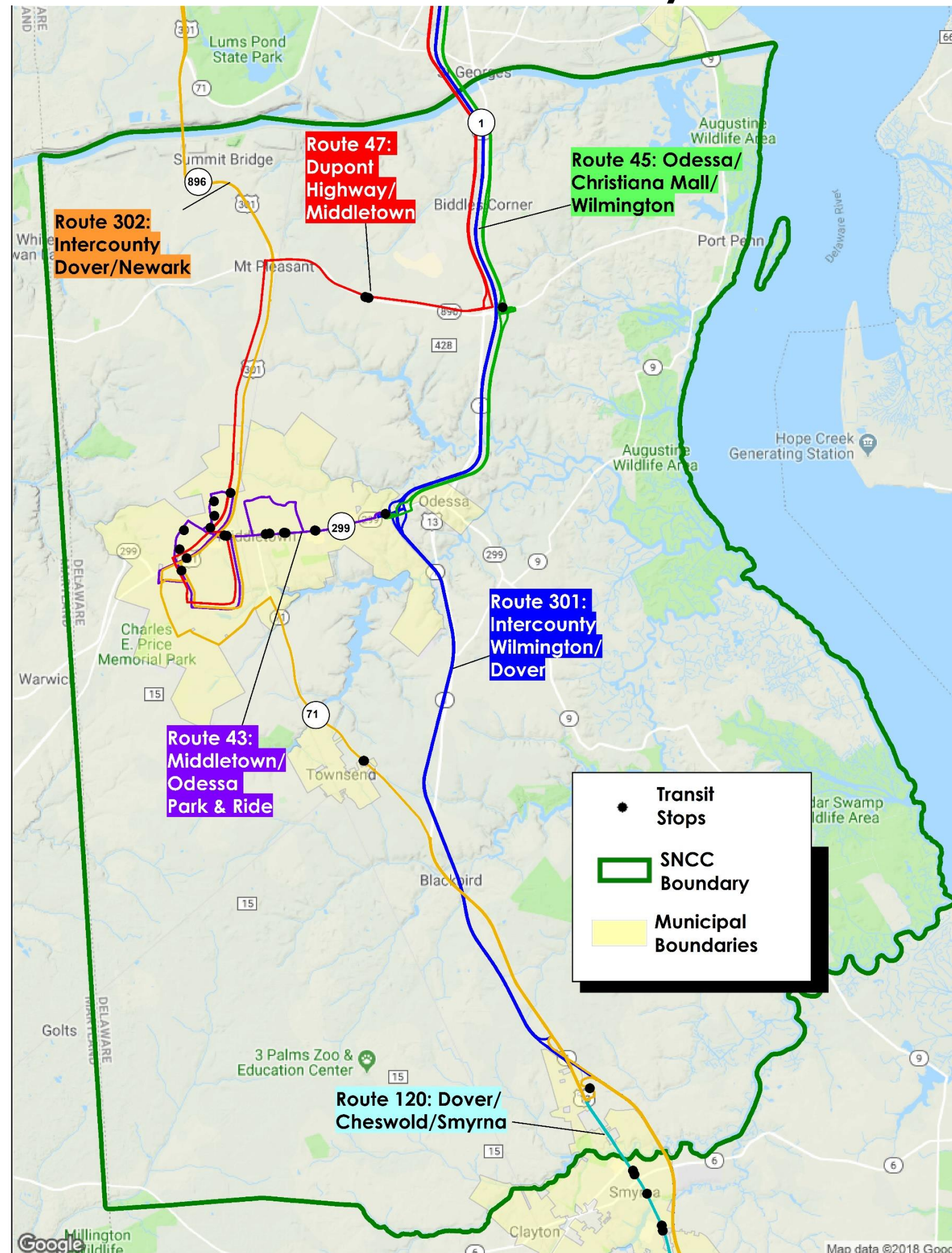


Source: DeIDOT, WILMAPCO

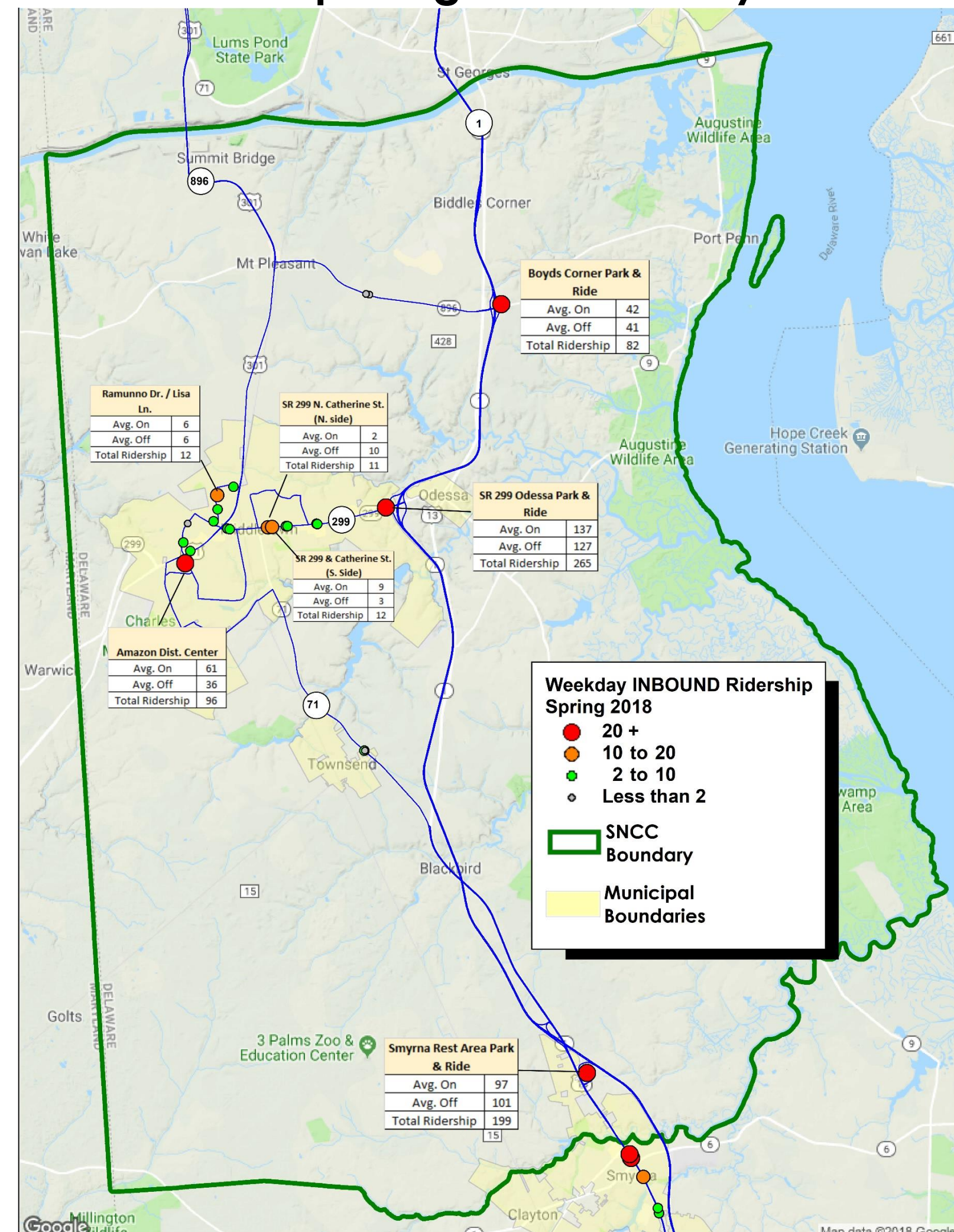
# Existing Transit Facilities

- Currently the corridor is served by six transit routes. Route 301 is the most popular. Route 47 is the most recent addition.
- Transit stop usage is classified as the total number of riders who board and depart the bus at each stop
- Ridership data provided by DART, sampling ridership data from May 2018 of Weekday Inbound riders

## Transit Routes Within Study Area



## Transit Stop Usage Within Study Area



Source: Delaware Transit Corporation

# DeIDOT Level of Traffic Stress (LTS) Analysis

The Delaware Department of Transportation (DeIDOT) has implemented a tool called **Level of Traffic Stress (LTS) Analysis** to help plan effective, safe, and well-connected bikeway networks in Delaware that can be used by a wide variety of people. Ideally, a person will eventually be able to comfortably ride a bike to most of their daily destinations on a network of low-stress streets and trails.

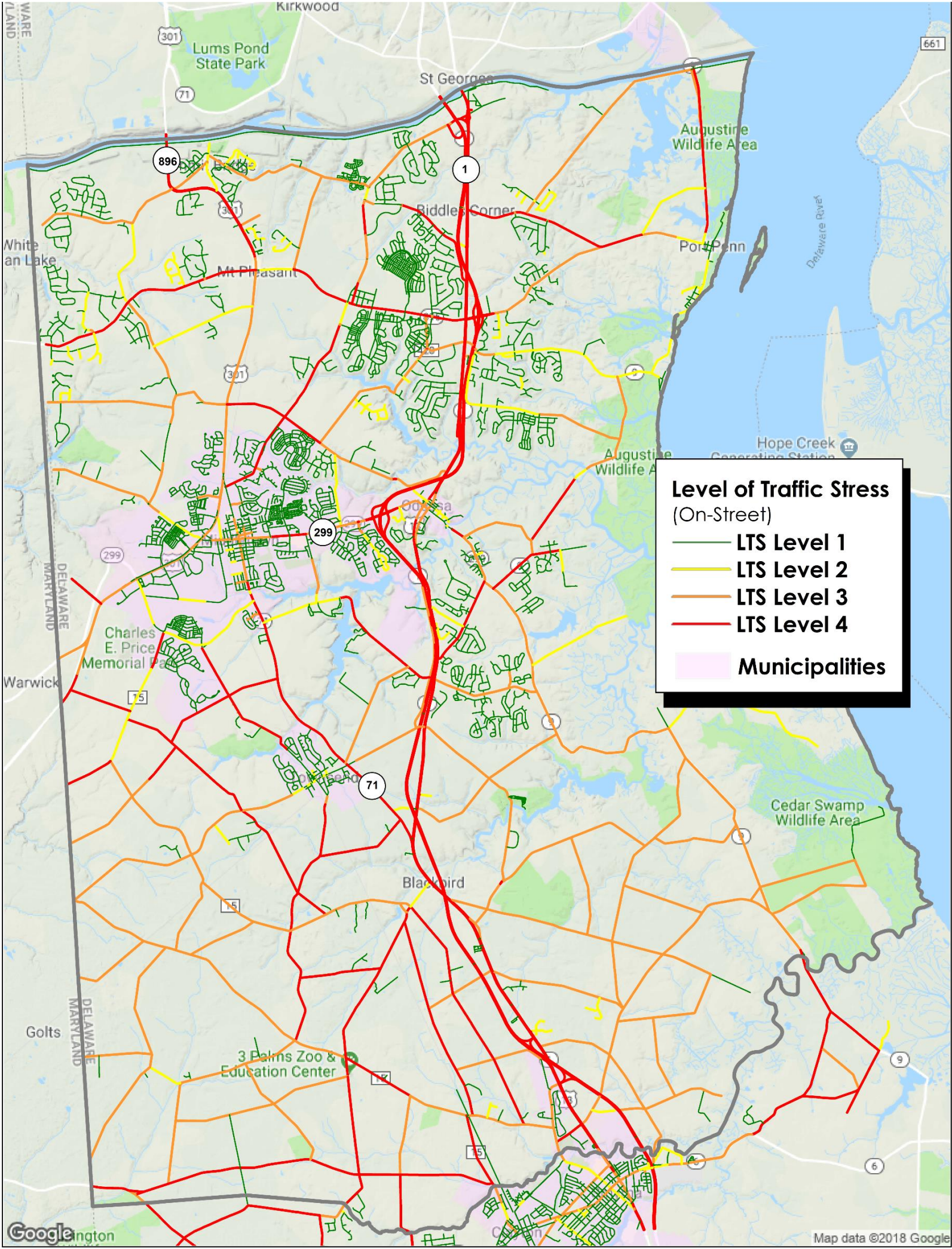
LTS is a way to evaluate the stress a bicyclist will experience while riding on the road. It is used to categorize roads by the type of riders who will be using them based on several conditions like:



### Level of Traffic Stress Definitions:

LTS Level	Description
LTS Level 1	Most children can feel safe on these streets
LTS Level 2	The mainstream "interested but concerned" adult population will feel safe on these streets
LTS Level 3	Streets that are acceptable to the "enthused and confident" riders who still prefer having their own dedicated space
LTS Level 4	High-stress streets with high speed limits, multiple travel lanes, limited or non-existent bikeways and long intersection crossing distances

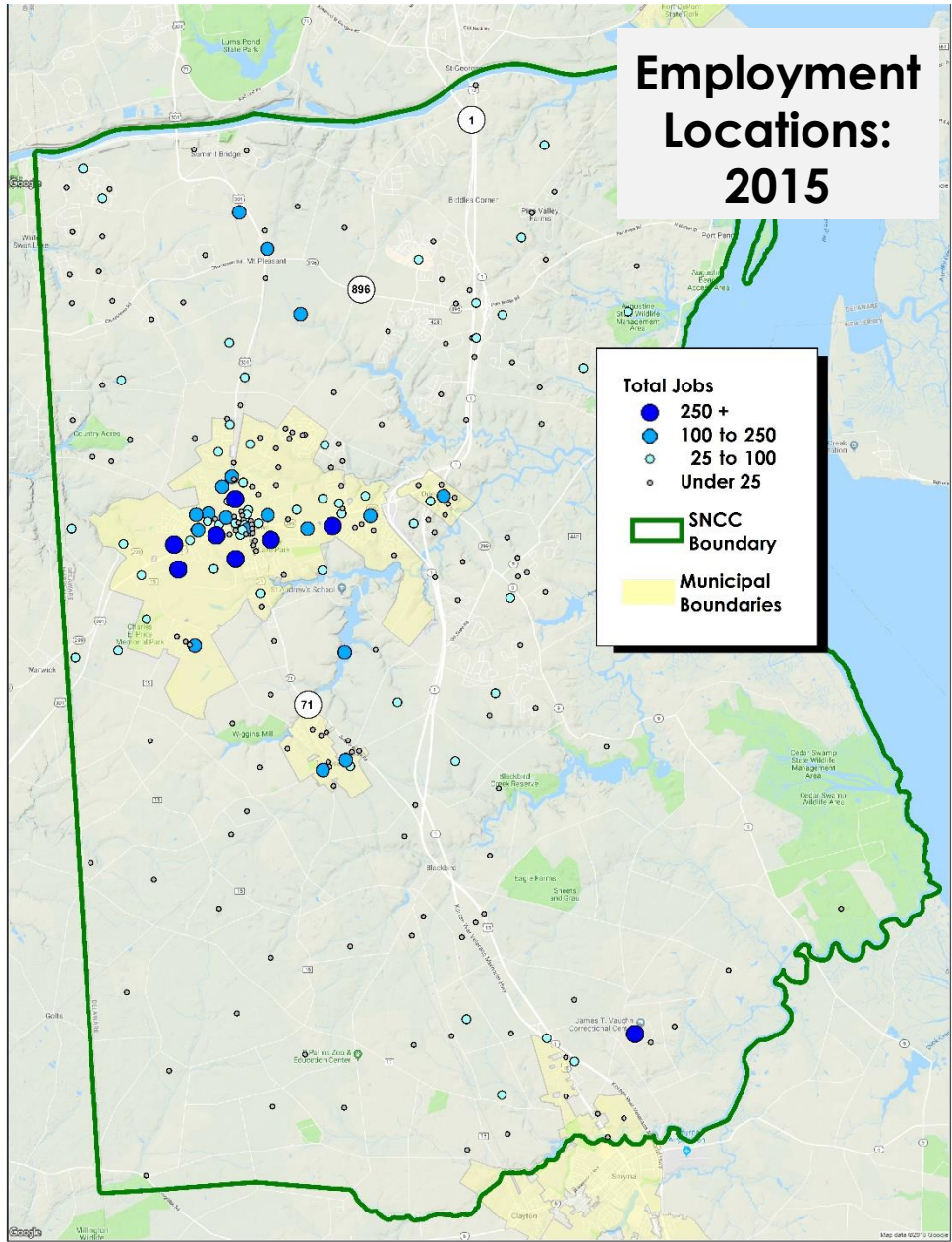
### Level of Traffic Stress (LTS) Analysis



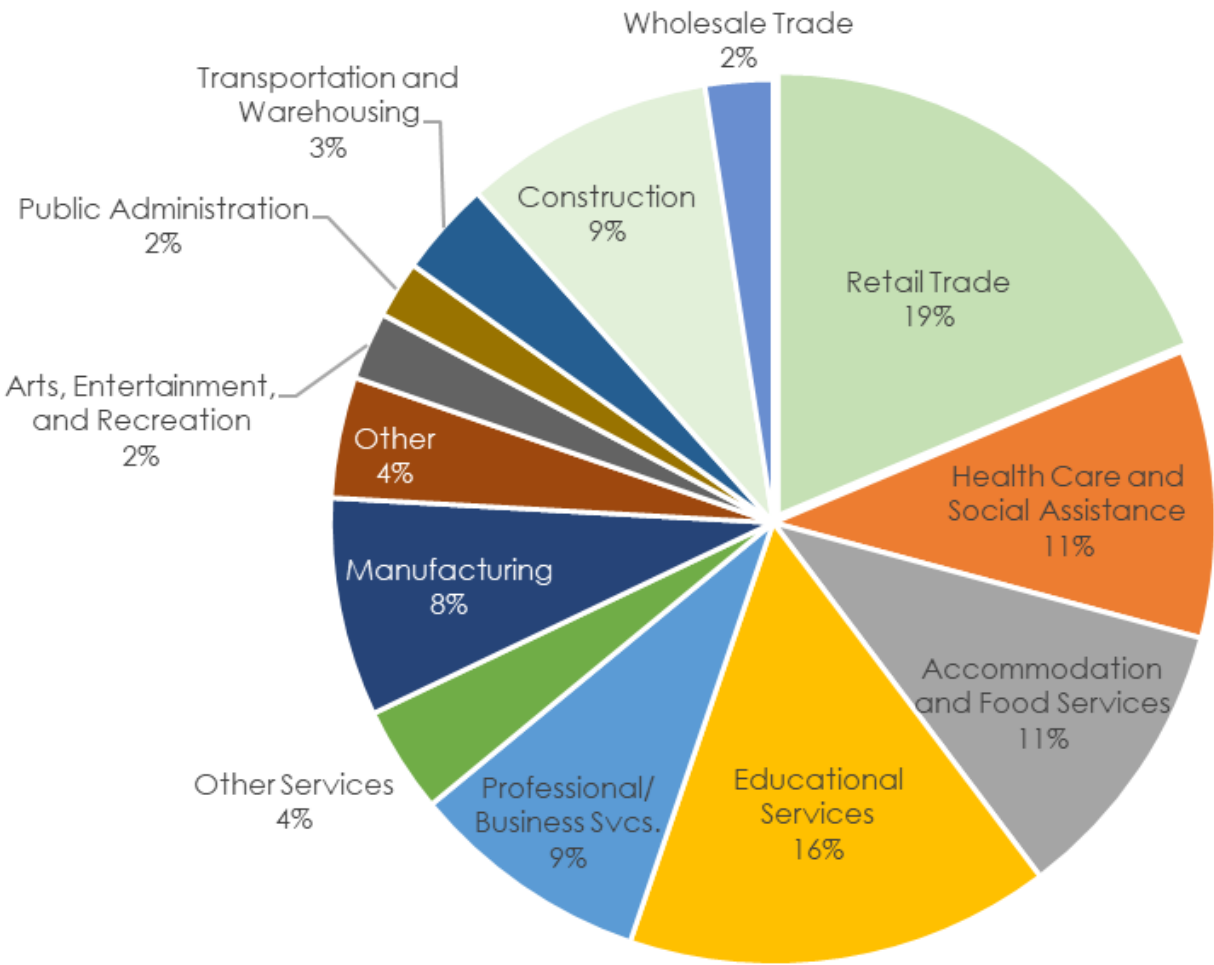
Source: Delaware Department of Transportation

# Economic Development/Employment

- SNCC has seen a 67% increase in employment between 2005 and 2015, growing from 5,936 to 9,927 jobs in the SNCC area
- Over half of the jobs fall within four employment types: Retail Trade, Health Care, Food Service and Education
- Most of the jobs (approx. 55%) are located within the Town of Middletown



Distribution of Jobs by Type: 2015

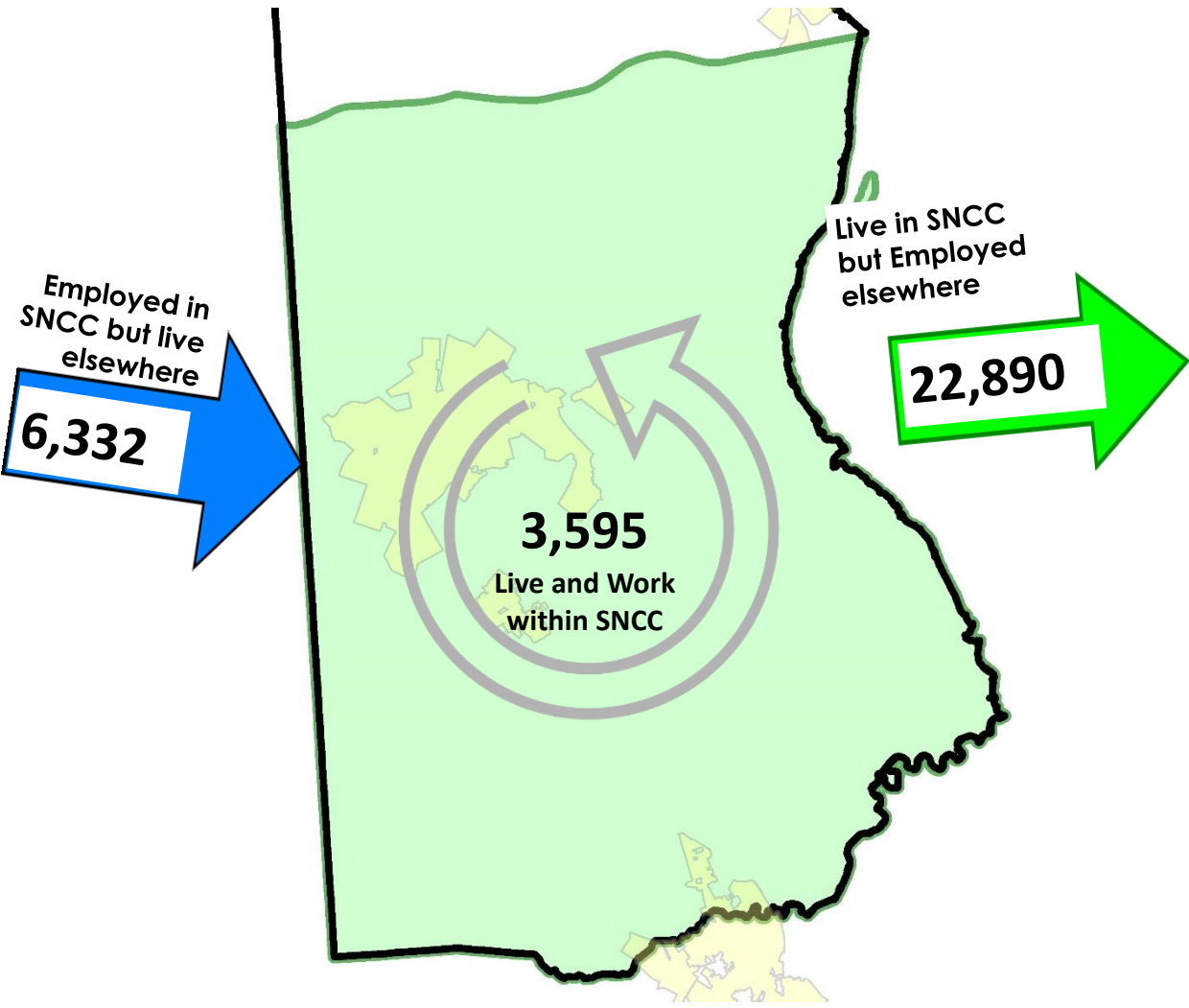


Changes in Employment by Job Type 2005-2015

Employment Type	2005	2015	Change 2005-2015	% Change
Retail Trade	972	1,854	882	91%
Health Care and Social Assistance	241	1,044	803	333%
Accommodation and Food Services	419	1,044	625	149%
Educational Services	951	1,542	591	62%
Professional/ Business Svcs.	535	872	337	63%
Other Services	160	386	226	141%
Manufacturing	586	792	206	35%
Other	290	439	149	51%
Arts, Entertainment, and Recreation	107	246	139	130%
Public Administration	106	207	101	95%
Transportation and Warehousing	260	345	85	33%
Construction	856	910	54	6%
Wholesale Trade	453	246	-207	-46%
Total Employment	5,936	9,927	3,991	67%

Source: US Census Longitudinal Employer-Household Dynamics

Total Worker Inflow/Outflow of SNCC—2015



Employment & Worker Flows - 2015

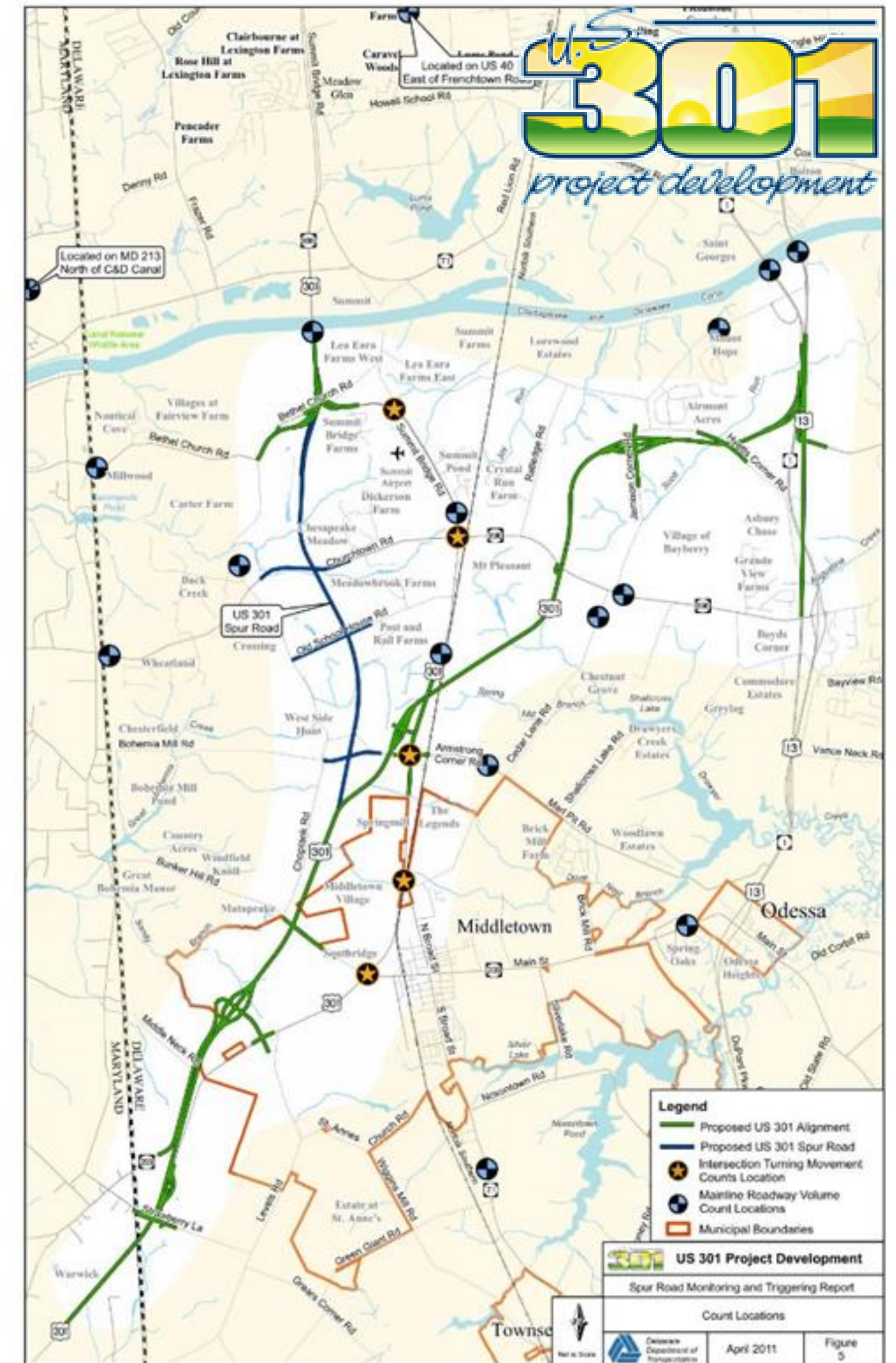
EMPLOYMENT within SNCC	Count	Share
Employed in SNCC	9,927	100.0%
Employed in SNCC but Living Outside	6,332	63.8%
Employed and Living in SNCC	3,595	36.2%
WORKERS living within SNCC		
Living in SNCC	26,485	100.0%
Living in SNCC but Employed Outside	22,890	86.4%
Living and Employed in SNCC	3,595	13.6%

- Of the 9,927 total jobs within SNCC, 3,595 are filled by residents (36%)
- 6,332 are filled by those living OUTSIDE of SNCC (63%)
- 22,890 (86%) of the 26,485 working residents work OUTSIDE of SNCC

# US 301 Before/After Data Collection

## Purpose and Need for Data Collection Efforts:

- **To complete the US 301 Toll Diversion Working Group monitoring efforts**
  - Data has been collected several times 2006-2011
  - Recommends collecting data at specific locations before/after US 301 opens
  - Additional locations added recently near state line to study possible traffic diversions onto Sassafras and Edgar Price Roads
- **To continue with US 301 Spur Monitoring Reports**
  - Data has been collected at specific locations 6 different times (2010-2015)
  - Required by DE Legislature
- **Prepare a comprehensive before/after traffic study of the US 301 project**
- **Develop a ongoing ITS-based traffic monitoring data collection system**



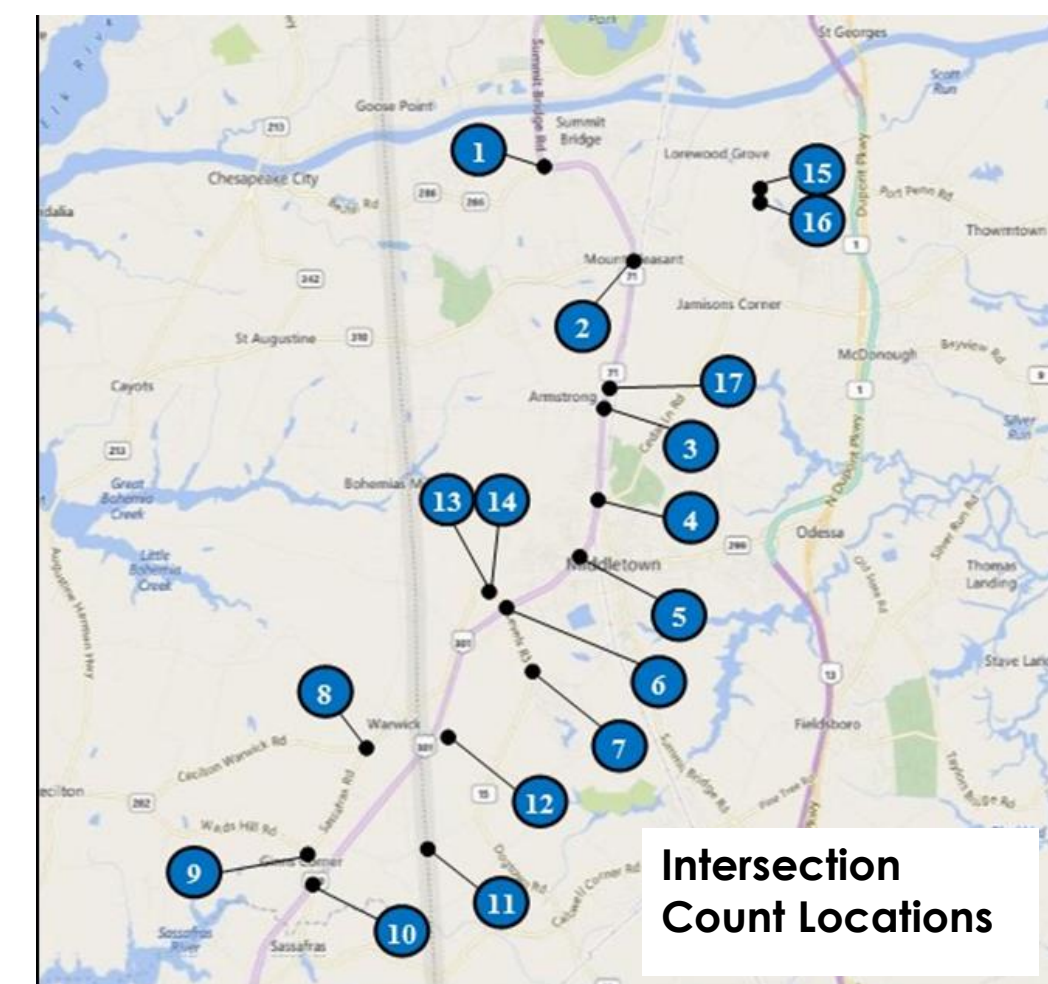
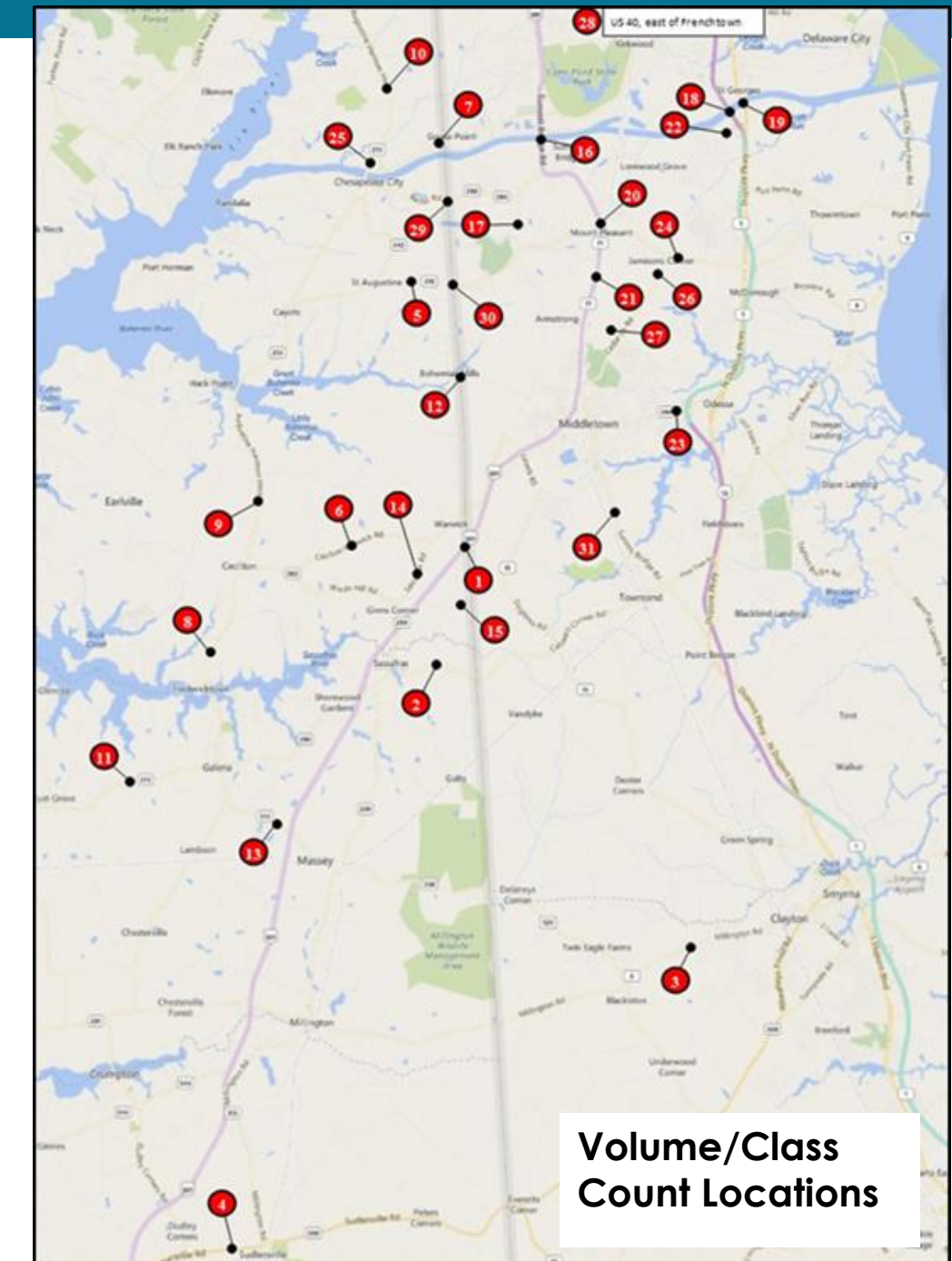
# US 301 Before/After Data Collection

## Traffic Data collection- Volume and Intersections

### ➤ Collect data on three (3) different occasions:

- **October/November 2018 – Before US 301 opens**
  - Full data collection plan
- **February/March 2019 – 2-months after US 301 opens**
  - Partial data collection plan (to assess immediate changes)
- **October/November 2019 – 10 months after US 301 opens**
  - Full data collection plan

NOTE: This data will serve as key traffic data for the master plan!



### ➤ Counts should occur when schools are in session

### ➤ Counts should not occur during summer (seasonal) months

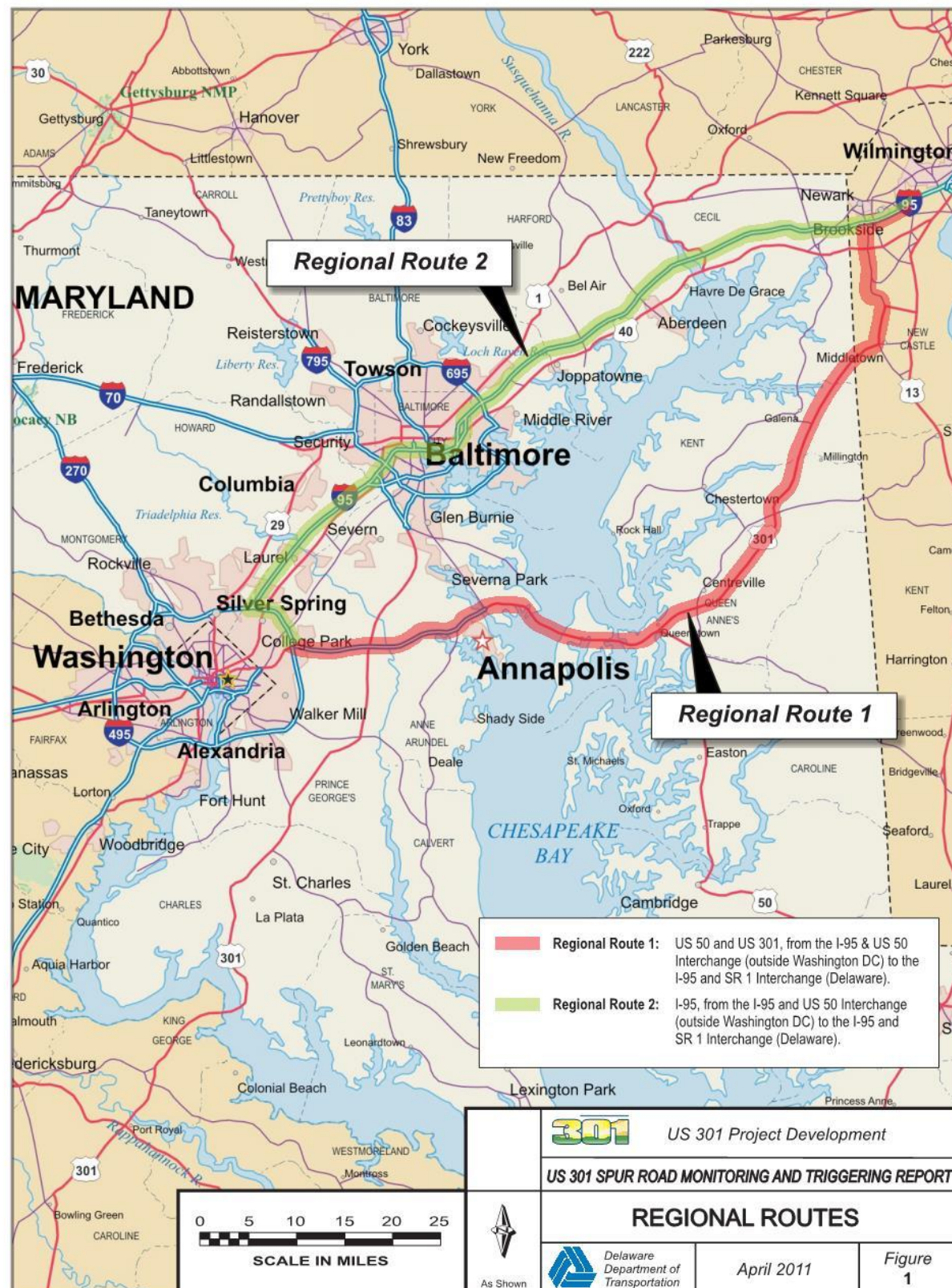
### ➤ Effort satisfies all requirements of Spur Monitoring Program and Toll Diversion Working Group Recommendations

# US 301 Before/After Data Collection

## Traffic Data collection- Travel Times

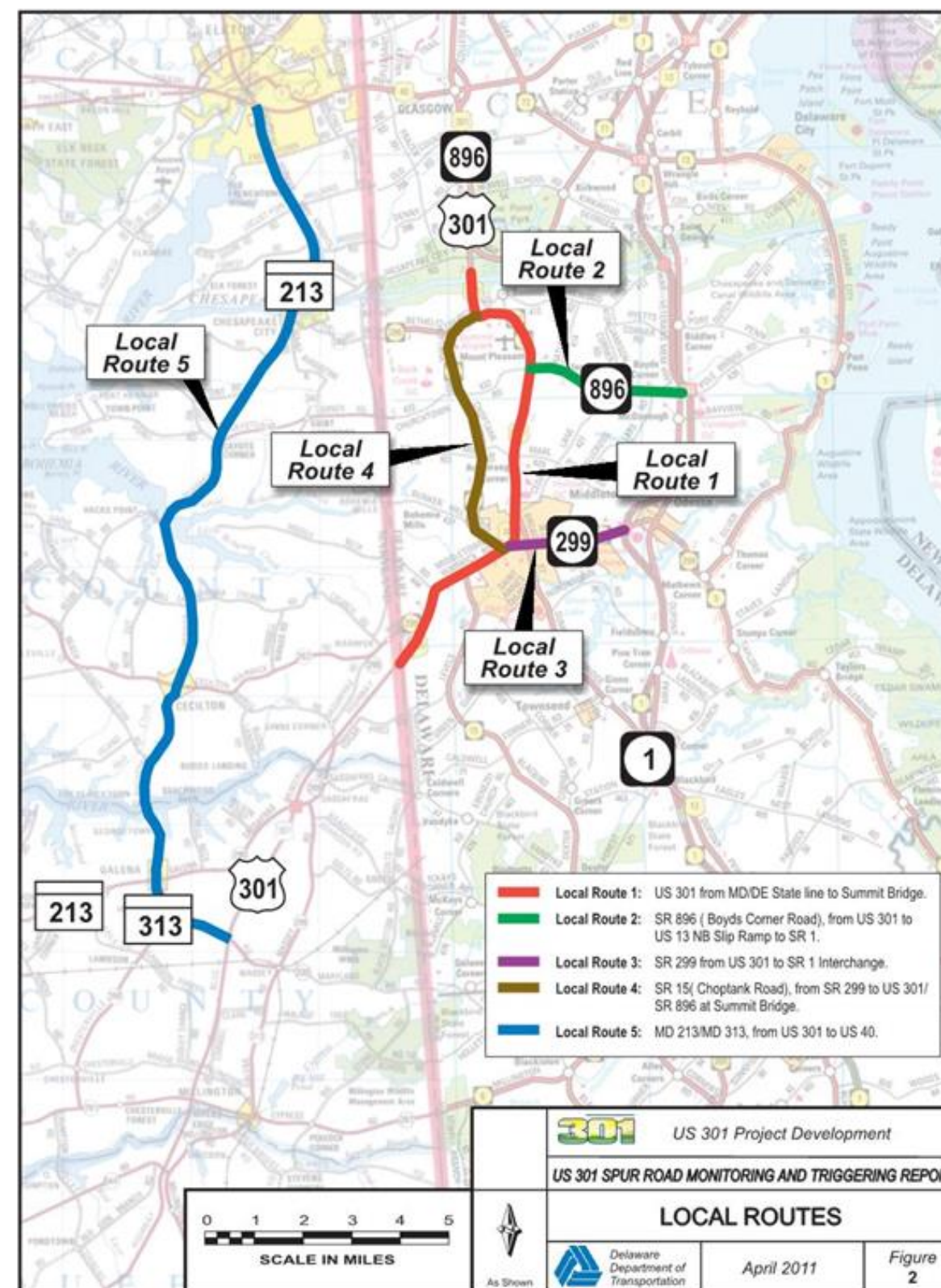
### Regional Travel Time Runs

- Travel Time Studies on I-95 and US 301 from DC to Wilmington, DE
- Collect Oct/Nov 2018 & 2019



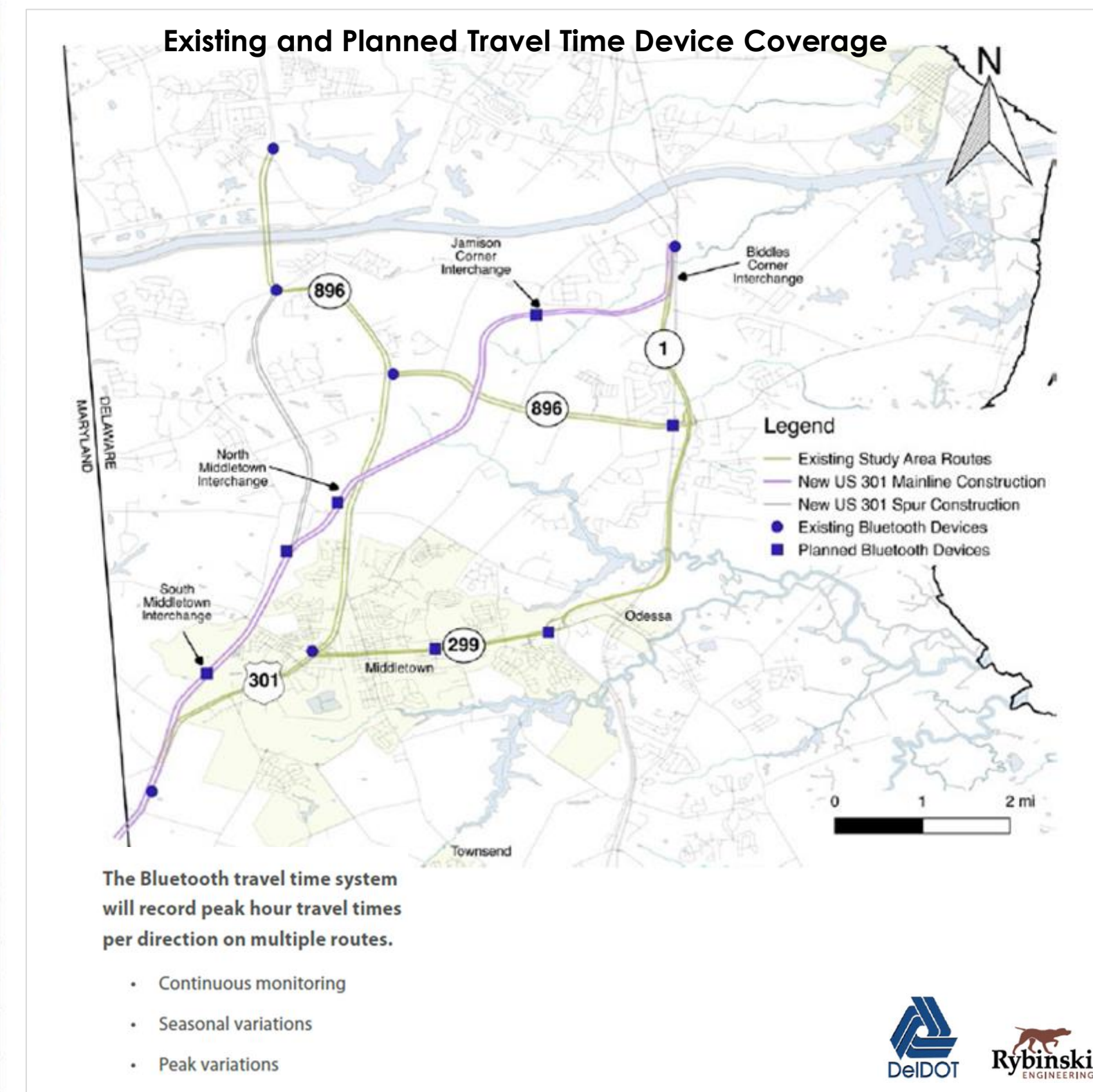
### Local Travel Time Runs

- Travel Time Studies in DE and on MD 213
- Collect Oct/Nov 2018 & 2019



### Travel Times - Bluetooth

- Data to be obtained by Rybinski Engineering for DeIDOT Traffic
- Collect Oct/Nov 2018 & 2019, and Spring 2019



# US 301 Before/After Data Collection

## Traffic Data collection- Continuous Monitoring

- US 301 and other roads within Southern New Castle County will have numerous traffic data collection devices permanently installed for current and ongoing future traffic monitoring
- Devices will measure:
  - Traffic Volumes
  - Travel Times/Speeds
  - Vehicles classification and length

### TRAFFIC MONITORING DEVICE GUIDE

Device Type	What it Measures
Signal System Loops	Traffic volume
Wavetronix	Traffic volume & vehicle length
Automatic Traffic Recorder (ATR)	Traffic volume & axle classes at select sites

