

# Working Group Meeting #2

**January 22, 2018**



**Regional  
Systems  
Planning**



- **Welcome**
- **Working group guidelines**
- **Schedule and anticipated end product**
- **Working group discussion**
- **Technical presentations**
- **Public comment**

- **Technical presentations**
  - Past studies
  - Safety
  - Traffic congestion
  - Land use trends
  - Walking and bicycling
  - Current DeIDOT projects

# Working group guidelines

- **Expectations**

- Participate actively throughout the process
  - **10 members must be present to meet**
- Represent broader views in addition to individual views
- Offer suggestions to DeIDOT and Sussex County

# Working group guidelines

- **How we treat each other**

- Each member has an equal right to speak and ask questions.
- Each member is encouraged to share individual viewpoints. Individual opinions are valid whether others agree with them or not.
- We will listen to, respect and seek to understand the views of others, particularly those perspectives that differ from our own.
- Disagreements will be explored, not suppressed.
- We will be courteous when addressing other committee members, staff and consultants.
- We will refrain from interrupting each other, staff or consultants.
- We will keep our comments relevant to the topic under discussion.
- We will focus on opportunities for the future, not past issues.

# Working group guidelines

- **How we make recommendations**

- Any recommendation(s) offered by the working group are governed by Delaware Code under the Freedom of Information Act (FOIA) sections 10001 and 10004. The areas relevant to the actions of the working group are:
  - **There must be a majority of members present to vote on any recommendations. There are 18 working group members so there must be at least 10 members present to take a vote.**
  - **A recommendation will move forward if a majority of the members present vote in favor.**
  - **All votes will be public votes.**

# Working group guidelines

- **How we communicate**

- Ideas discussed within the working group should not be presented as representing the position of the working group without the agreement of the working group.
- When speaking about the work of the working group outside of meetings, members are speaking for themselves only unless speaking from approved documents or positions of the working group.
- In order to comply with FOIA, email communications between members of the working group should be sent through the DeIDOT project team.

# Schedule and end product

- **Phase 1**
  - Identify transportation needs
  - Collaborate in developing concepts/ recommendations to address those needs
- **Future phases will focus on how those concepts could be implemented**

# Schedule and end product

- **January and February: Identify transportation needs**
- **March: Conduct public workshop to present transportation needs and obtain public input**
- **April, May, and June: Develop concepts to address transportation needs**
- **July: Obtain working group consensus on concepts**
- **August or September: Conduct public workshop to present concepts**

- **End product**

- Chart describing problems and potential solutions to address those problems
- Ideally, we will have short-, medium-, and long-term suggestions
- Several short-term solutions have already been implemented

- **End product**

- Out-of-the-box ideas are OK for Phase 1
- Keep in mind that realistically, to be built, recommendations must:
  - **Address identified needs**
  - **Comply with applicable state and federal guidelines to protect the safety of travelers**
  - **Meet the requirements of permitting agencies (air quality, wetlands, historic properties, etc.)**
  - **Be fiscally reasonable**

# Working Group Discussion of Transportation Needs

*Please share your  
observations regarding  
transportation needs*

# Past Studies

**Jeff Riegner, WRA**

# Past studies

## What we heard from you

- Get a fresh start
- Don't reinvent the wheel, use data and insights gained from previous studies

## We can do both

# Relevant past studies

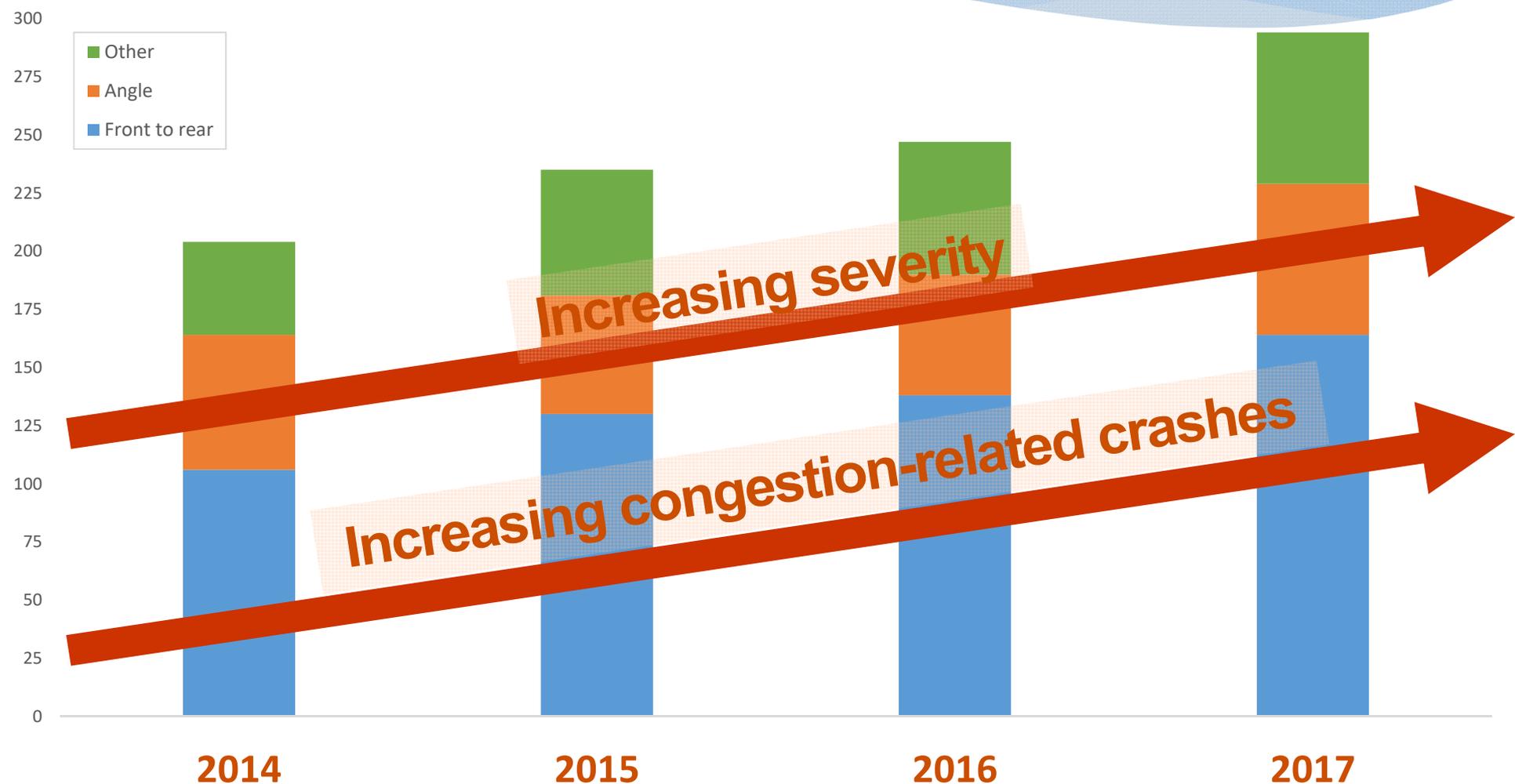
- **SR 1 Grid Study, 1998-2000**
- **Integrated Land Use and Transportation: Observations for Coastal Sussex County, 2002**
- **SR 1 Land Use/Transportation Study, 2003**
- **East/West Routes Study, 2004**
- **Western Parkway Study, 2006-2008**
- **Lewes Scenic and Historic Byways Corridor Management Plan, 2015**

***Studies are on the website at  
5points.deldot.gov***

# Traffic Safety and Congestion

**Matt Buckley, WRA**

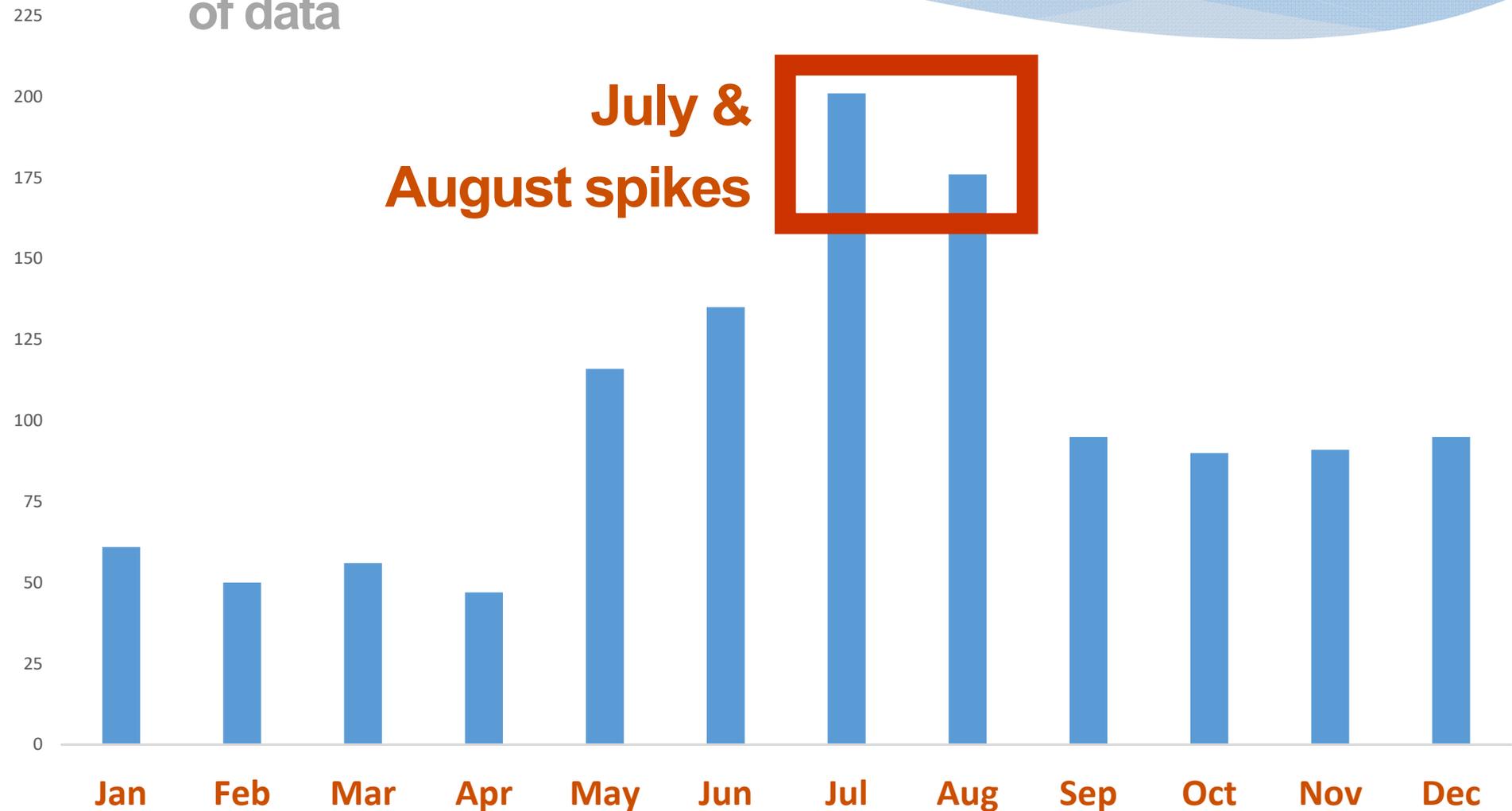
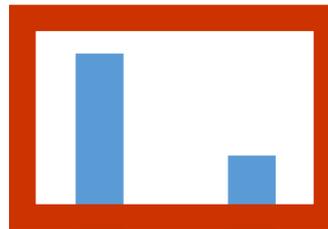
# Safety – crash type



# Safety – monthly variation

Five years  
of data

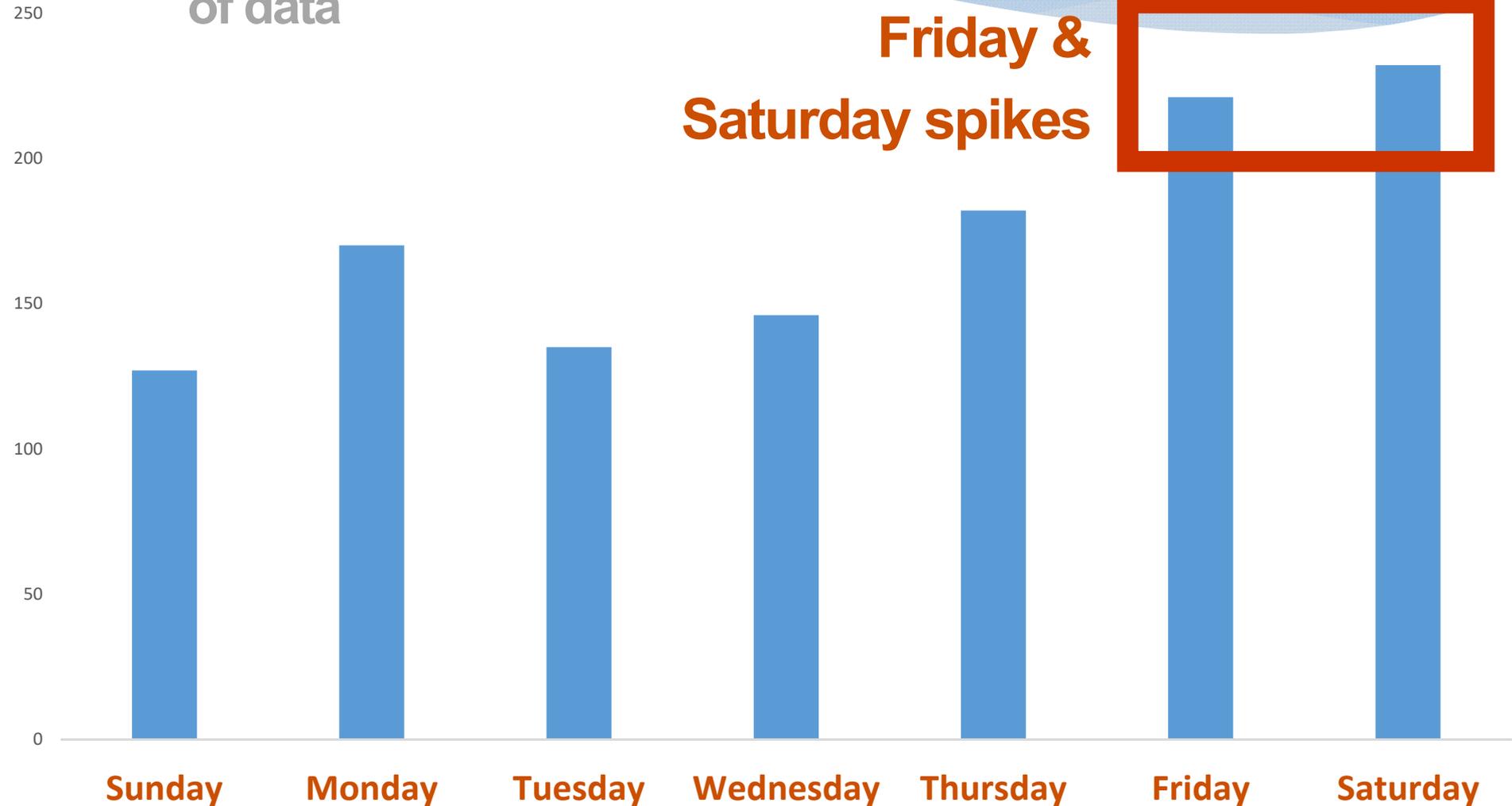
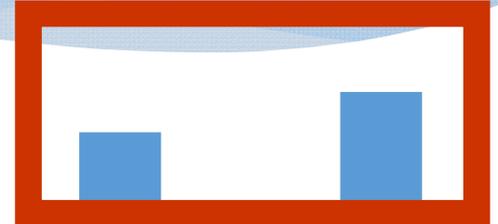
July &  
August spikes



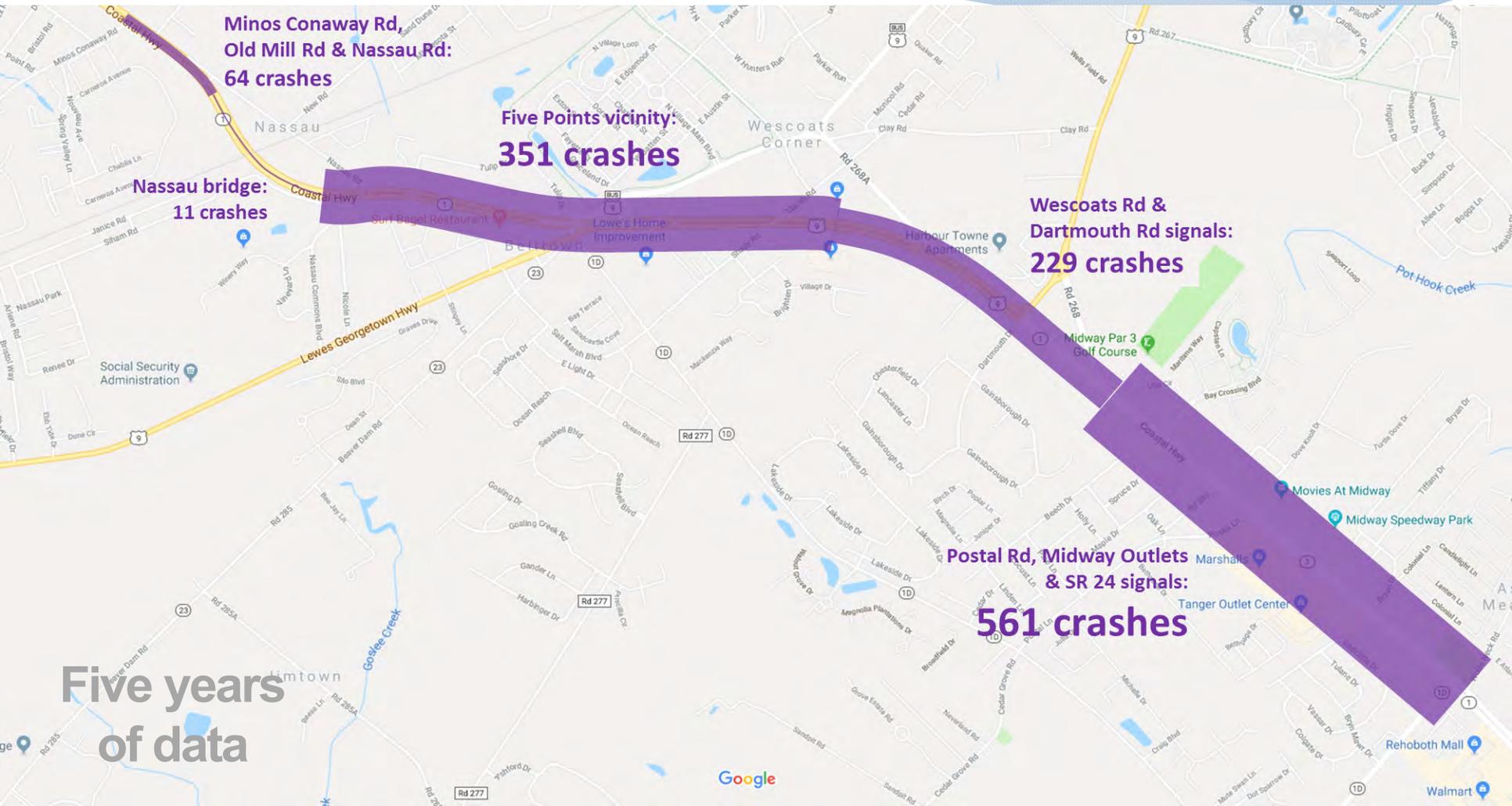
# Safety – daily variation

Five years  
of data

Friday &  
Saturday spikes



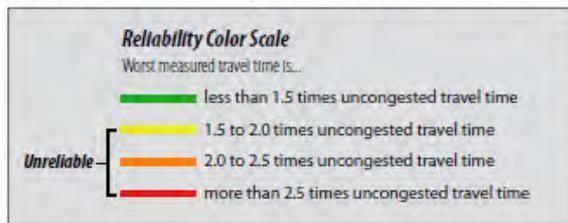
# Safety – crash location



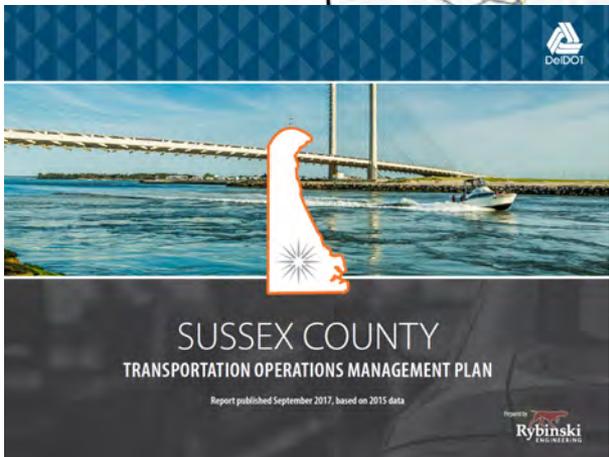
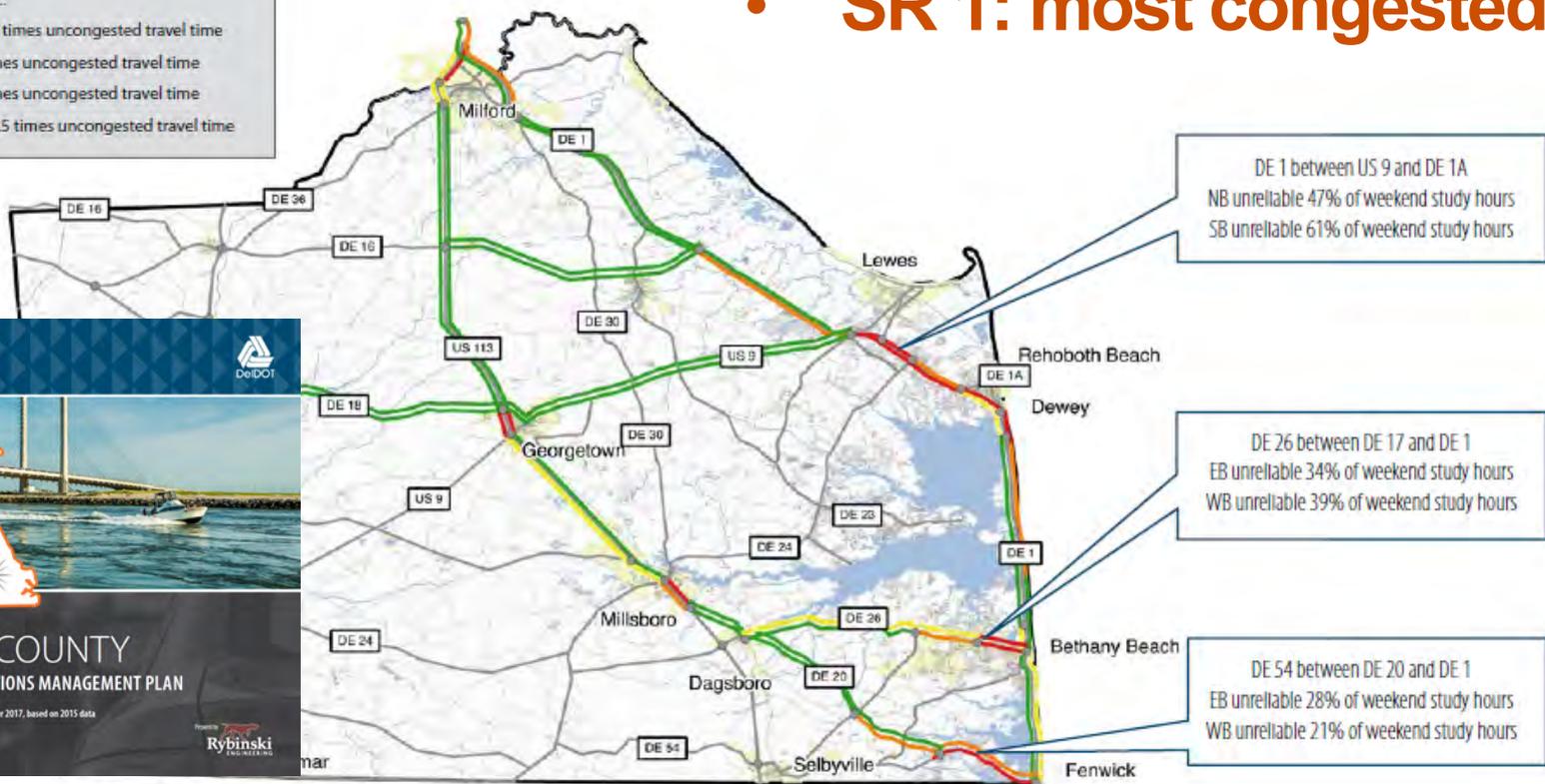
# Prior study – Sussex TOMP

- Publicized 2015 county-wide snapshot

## Travel Time Reliability, Summer Weekend



- SR 1: most unreliable
- SR 1: most congested



# Disclaimer on Level of Service (LOS)

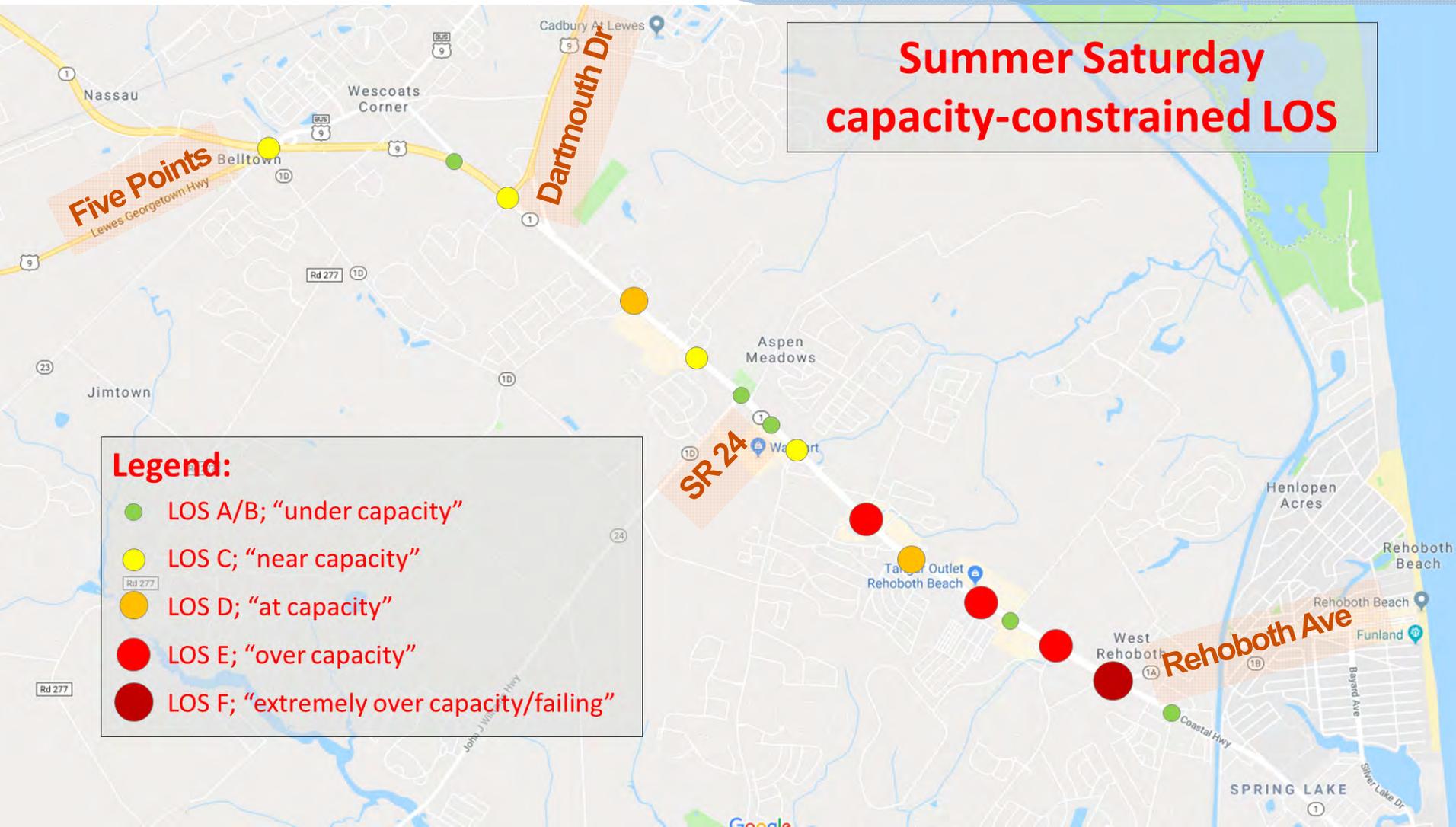
- ***Highway Capacity Manual***

- LOS calculation does not account for turn bay overflow, demand starvation and queue spillback
- Demand vs. volume vs. capacity
  - **Congested roads (e.g., SR 1): counting departing vehicles may result in “capacity-constrained” traffic volumes lower than demand**

- **For operations, DeIDOT supplements LOS with system processing and travel time data**

- Bluetooth collection stations
- Signal system loop detectors
- Pedestrian pushbutton actuation reports
- Green time utilization reports

# Corridor full of bottlenecks



**Summer Saturday  
capacity-constrained LOS**

- Legend:**
- LOS A/B; "under capacity"
  - LOS C; "near capacity"
  - LOS D; "at capacity"
  - LOS E; "over capacity"
  - LOS F; "extremely over capacity/failing"

# Northern bookend – Five Points



# Southern bookend – Rehoboth Ave



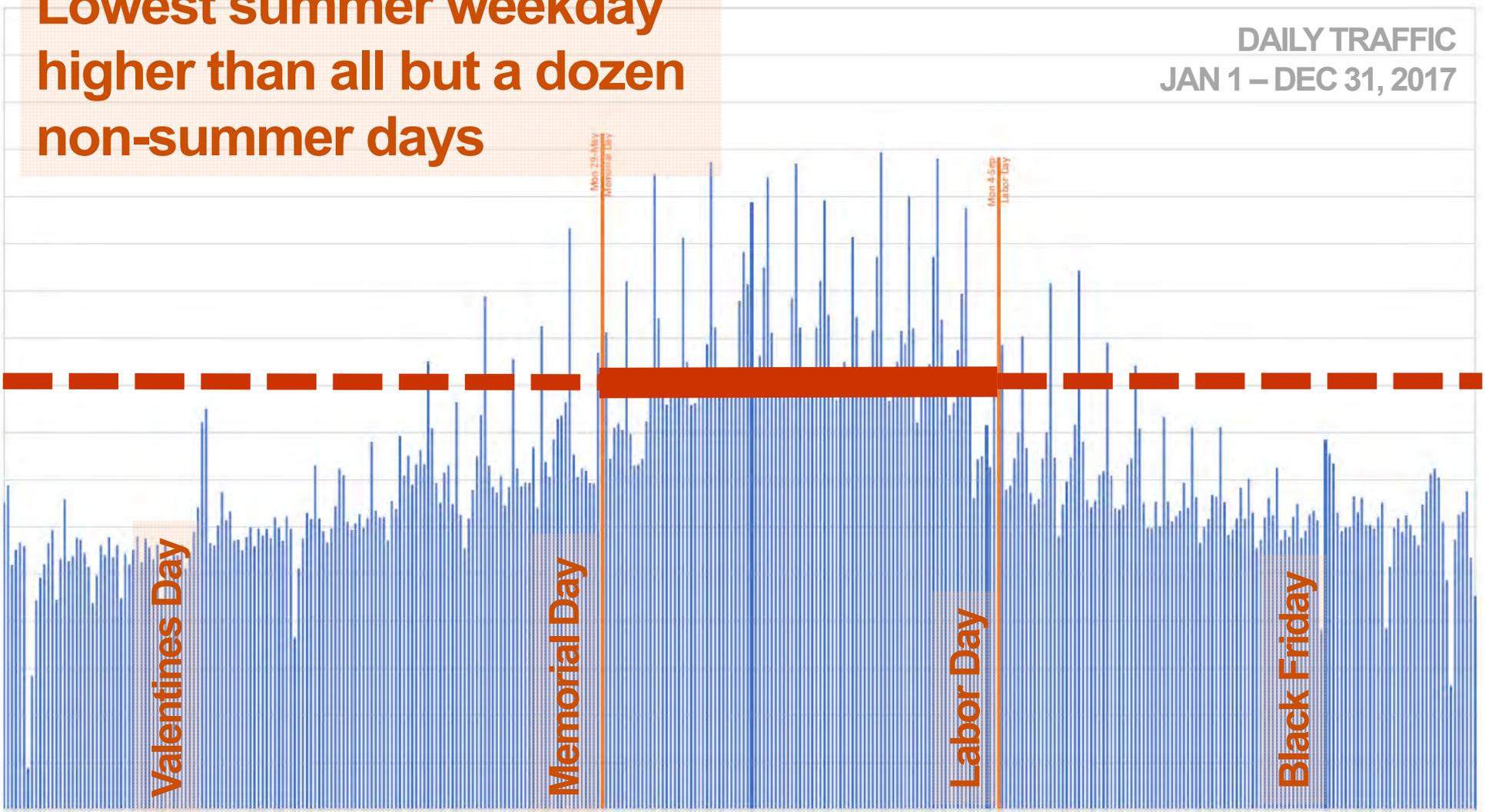
# Corridor full of bottlenecks

- **Five Points and Rehoboth Avenue signals are perceived as the biggest challenges**
- **Congestion snowballs from one signal to the next**
- **Current hot spots are generally south of SR 24**
- **Substantial capacity gains may be very difficult without addressing each kink in the hose**
- **Latent demand – i.e., “If you build it, he will come.” – *Field of Dreams***

# Northbound SR 1 trends

**Lowest summer weekday  
higher than all but a dozen  
non-summer days**

DAILY TRAFFIC  
JAN 1 – DEC 31, 2017



Valentines Day

Memorial Day

Labor Day

Black Friday

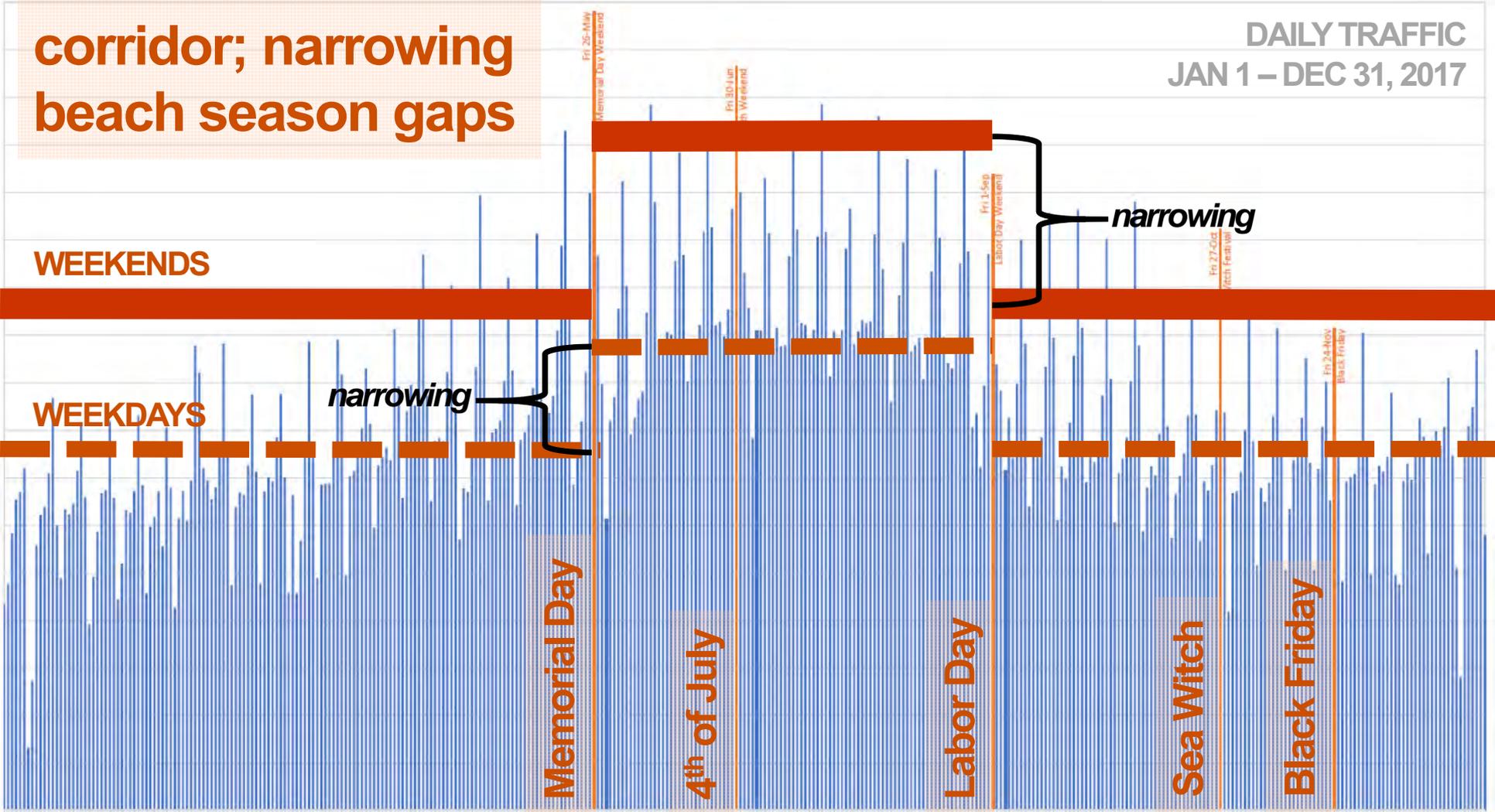
Mon 5-6  
Memorial Day

Mon 4-5  
Labor Day

# Southbound SR 1 trends

**Year-round corridor; narrowing beach season gaps**

DAILY TRAFFIC  
JAN 1 – DEC 31, 2017



# US 9 / SR 404 trends

DAILY TRAFFIC  
JAN 1 – DEC 31, 2017

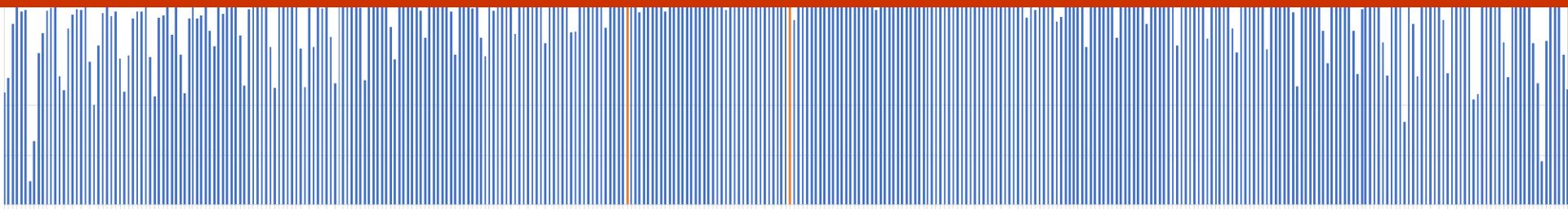
**US 9 traffic very  
consistent year round**

**Memorial Day**

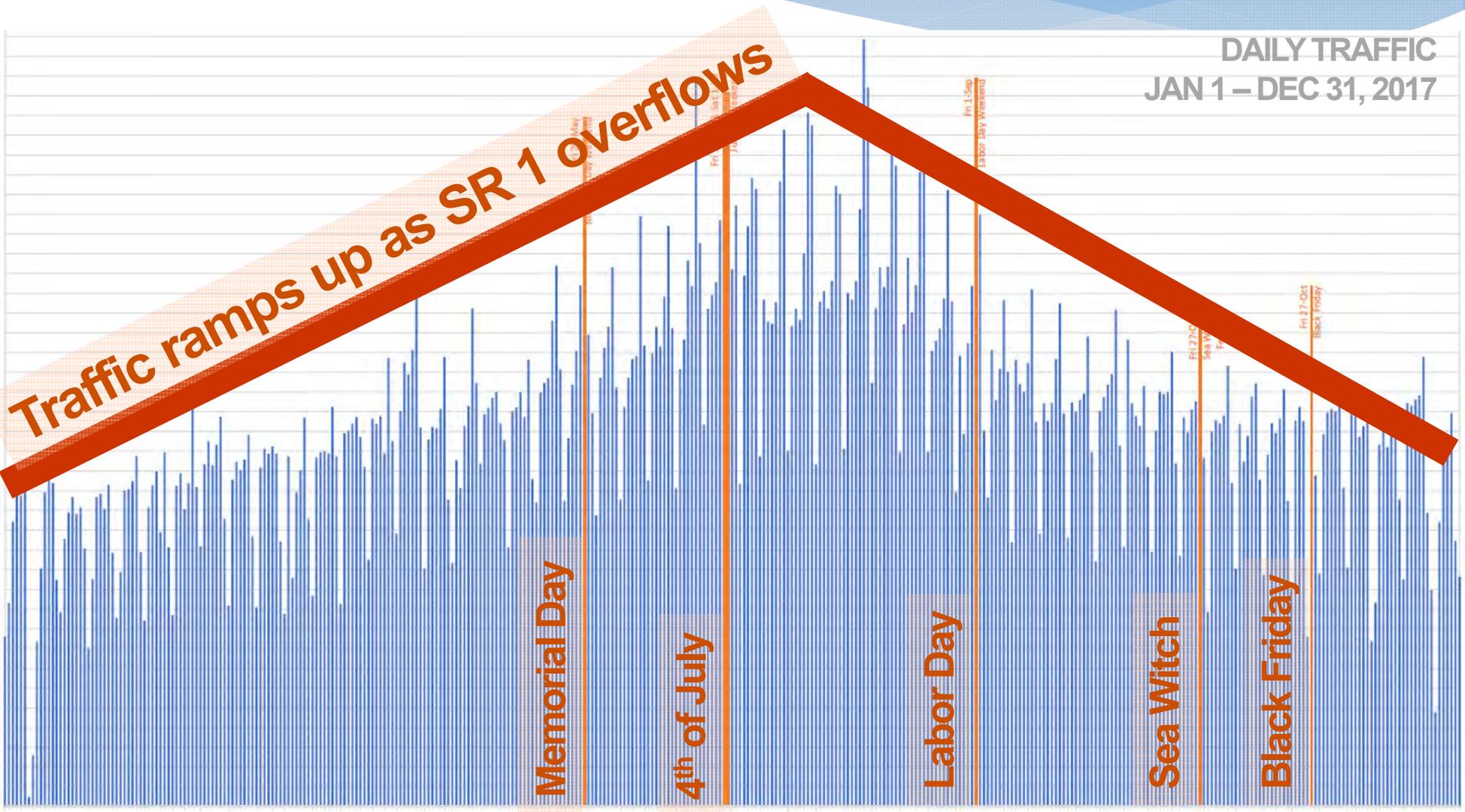
Fri 26 May  
Memorial Day  
Weekend

**4th of July**

Mon 3 Jul  
July 4th  
Weekend



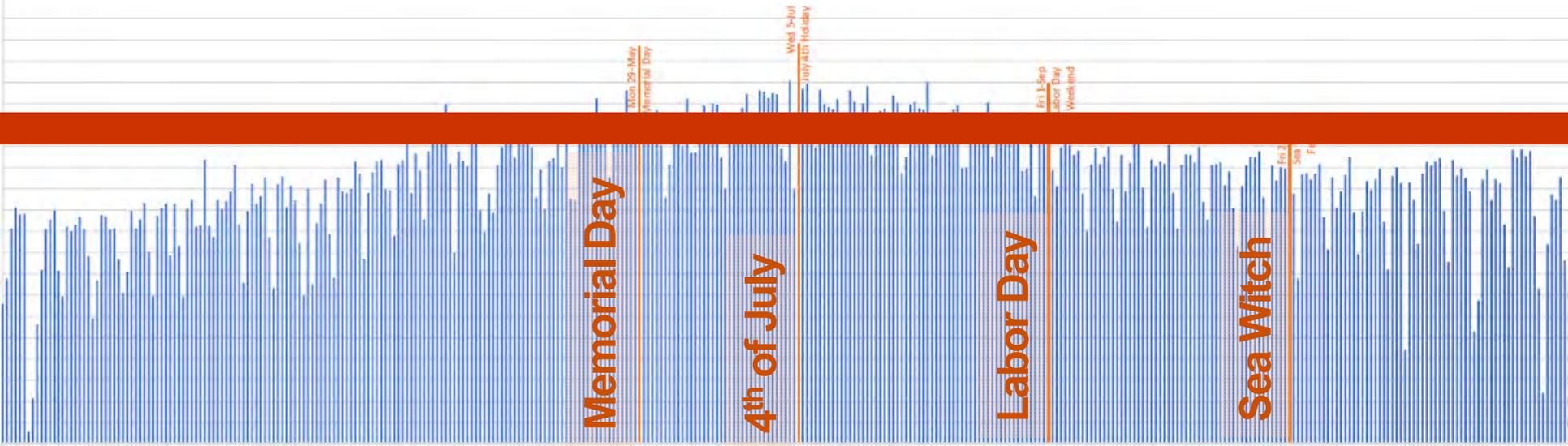
# Relief valve – Plantation Rd (SB)



# Relief valve – Plantation Rd (NB)

DAILY TRAFFIC  
JAN 1 – DEC 31, 2017

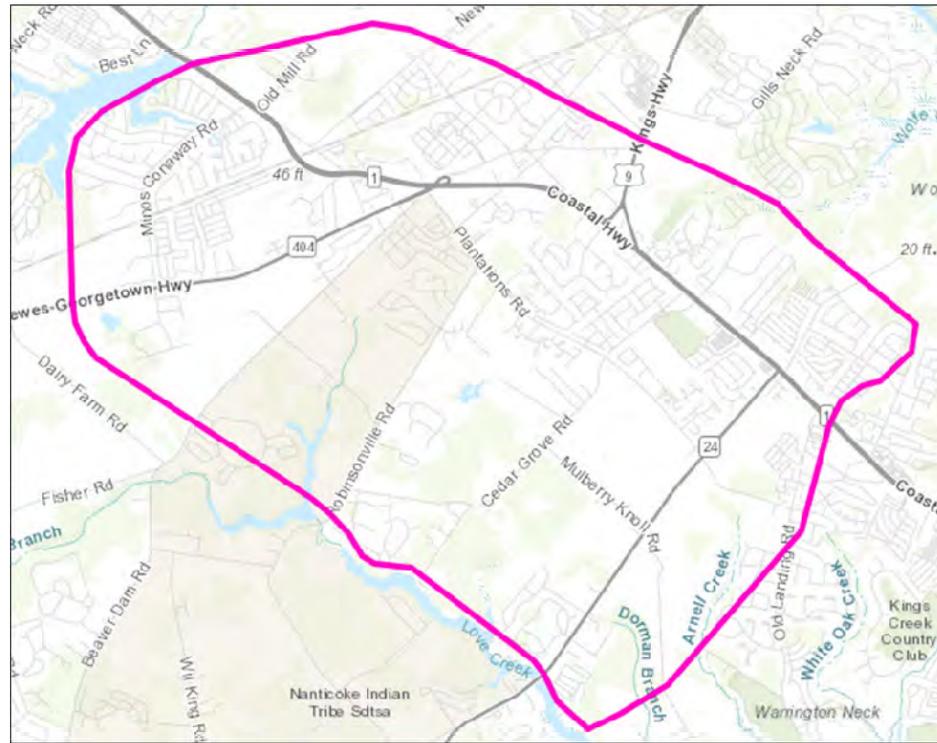
**NB traffic much more predictable;  
no severe spikes & dips**



# Land Use Trends

**Janelle Cornwell, Sussex County**

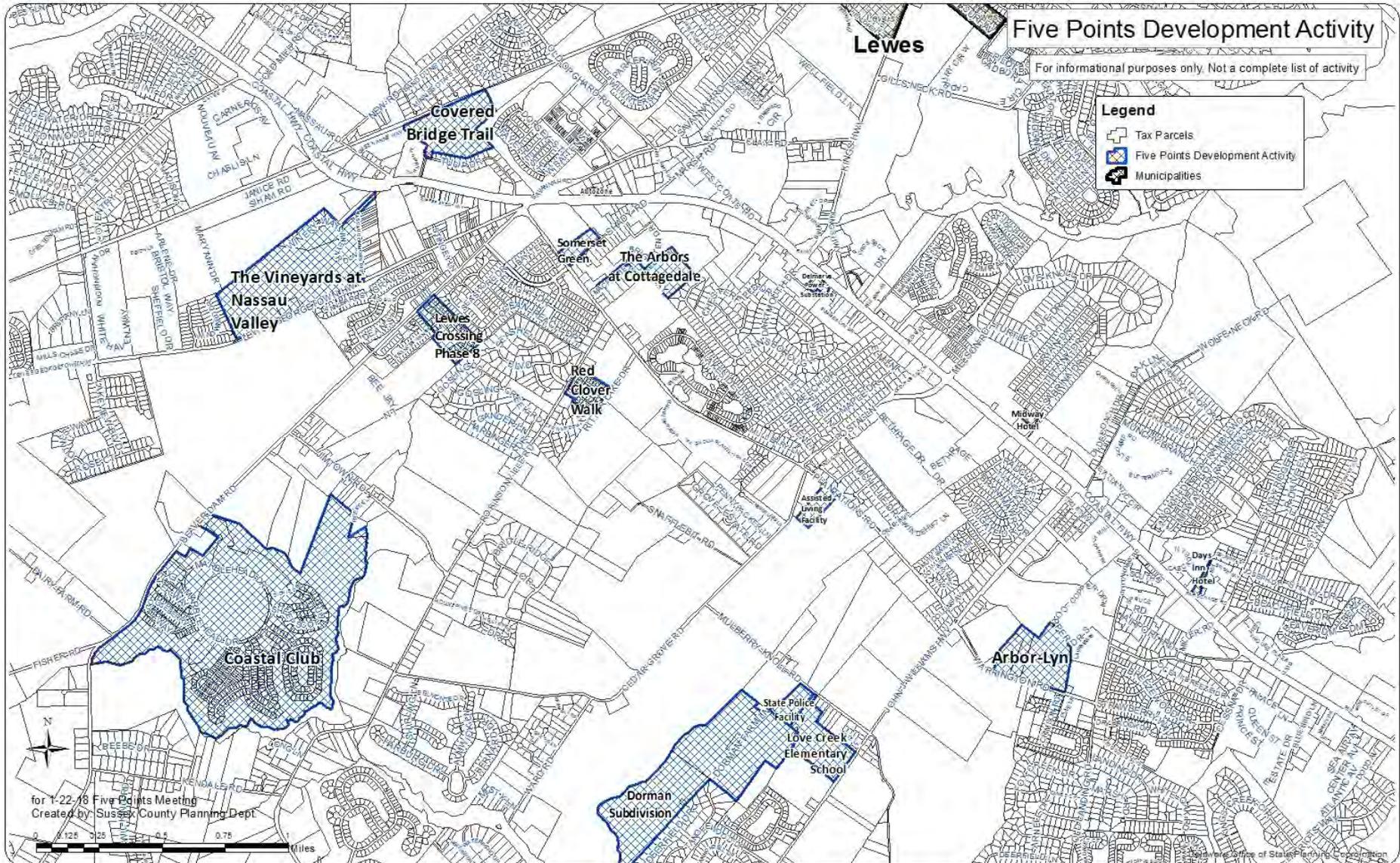
# Five Points area



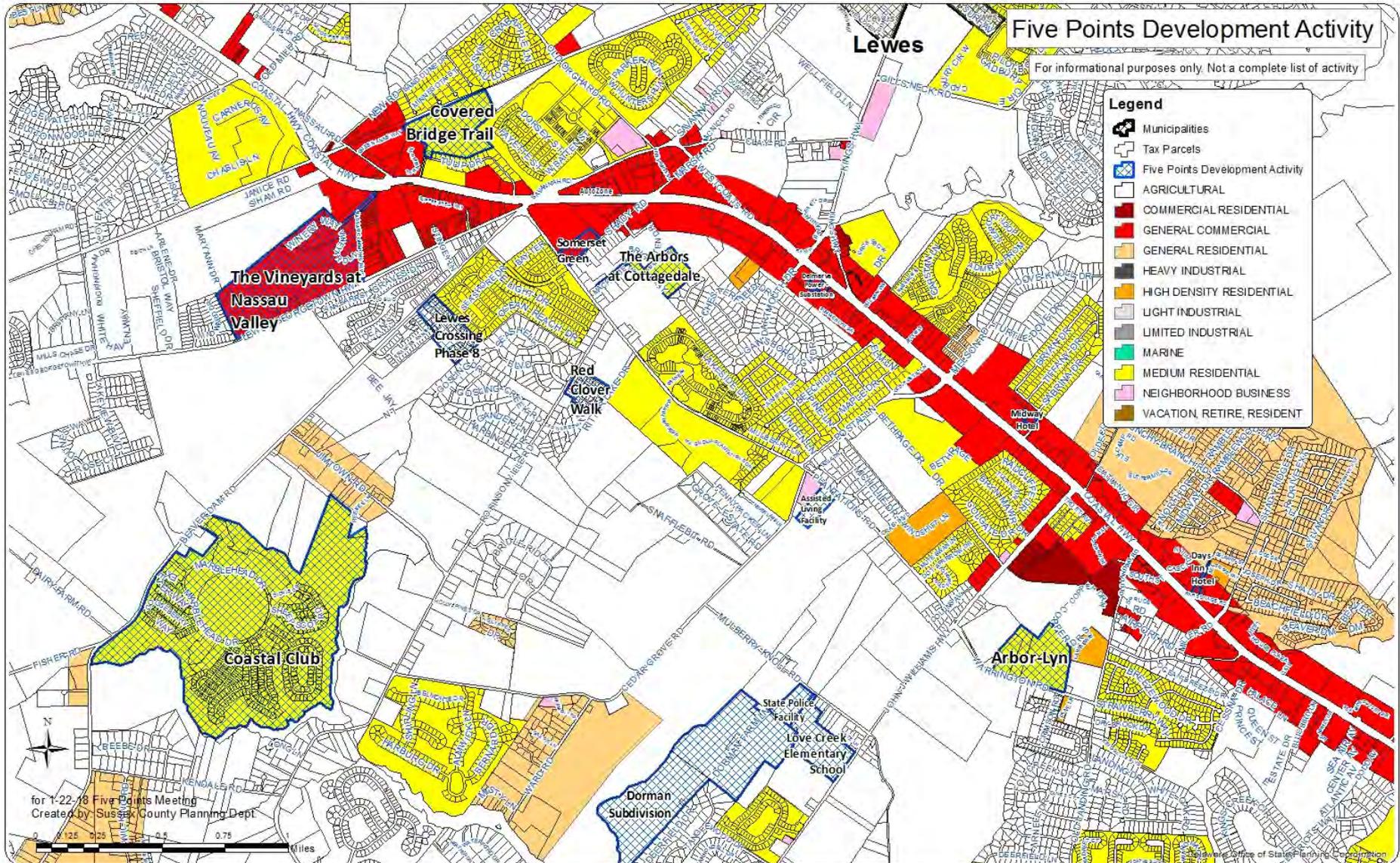
# Site plans, conditional use & subdivisions<sup>36</sup>

- **Arbor-Lyn** – mixed residential off Plantation Road near Route 24
- **Assisted Living Facility** – Plantation Road
- **AutoZone** – new store on Route 1
- **Coastal Club** – several phases – mixed residential
- **Covered Bridge Trail** – single-family housing behind Dutch Acres
- **Days Inn Hotel** – off Route 1
- **Delmarva Power Electrical Substation** – Route 1
- **Dorman** – single-family housing off Mulberry Knoll Road
- **Lewes Crossing - Phase 8** – single-family housing off Beaver Dam Road
- **Love Creek Elementary School** – Route 24
- **Red Clover Walk** – single-family housing off Robinsonville Road
- **Somerset Green** – 53 townhouses off Plantation Road
- **State Police Facility** – Mulberry Knoll Road
- **Vineyards at Nassau Valley** – 189 dwelling units (mix of single family, condo, and apartment)

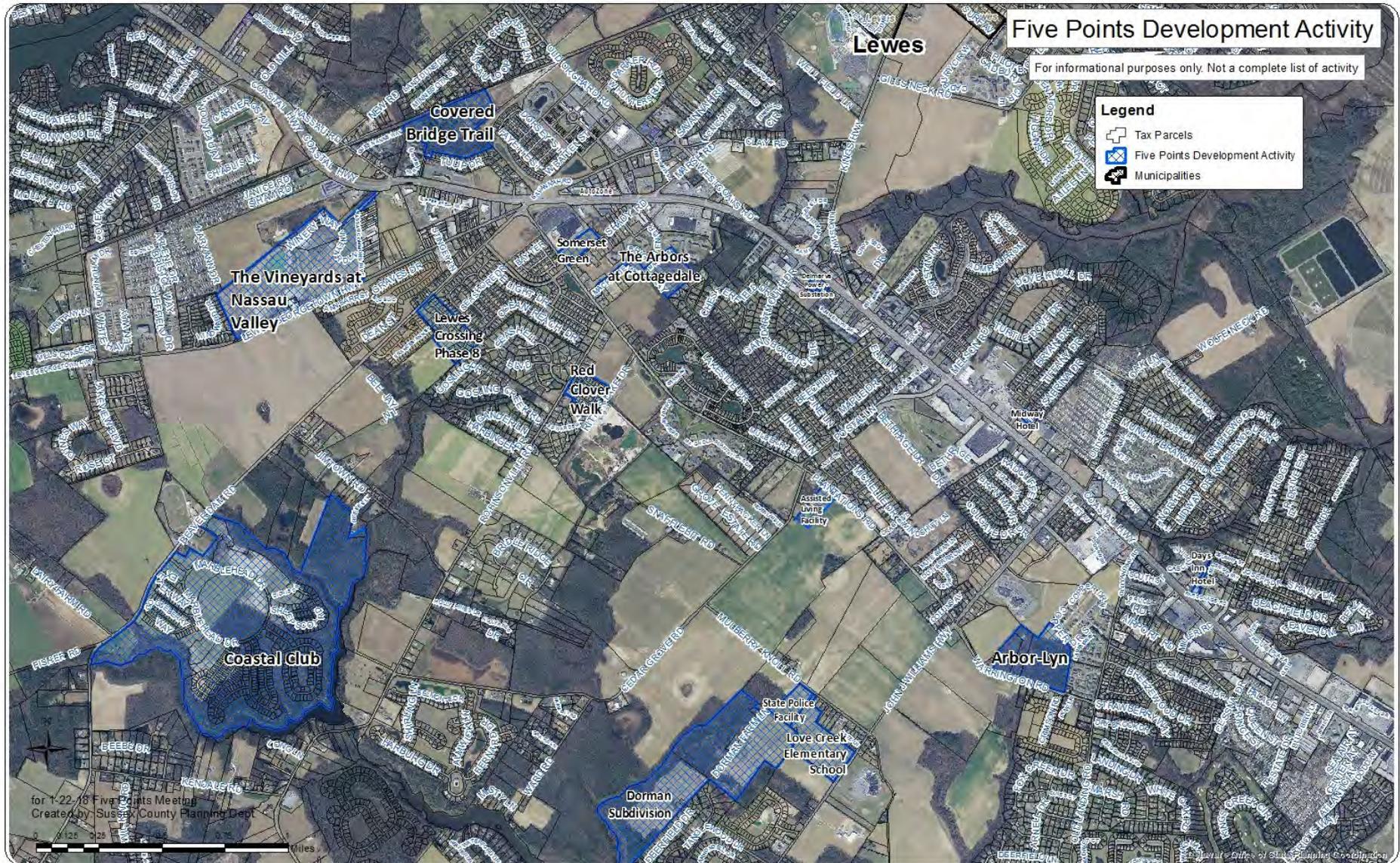
# Development activity



# Development activity with zoning



# Development activity



- **Change of zone with conditional use on Plantation Road**
- **Two other change of zone requests on Plantation Road**
- **One change of zone request along Route 9**
- **Several conditional uses**
- **Several subdivisions**

# Land use summary

- **Many projects are in the pipeline**
- **The study area continues to see significant development interest, both residential and commercial**
- **There are hundreds of acres of undeveloped land remaining in the study area**
- **This study is a good opportunity to better coordinate land use and transportation**

# Walking and Bicycling

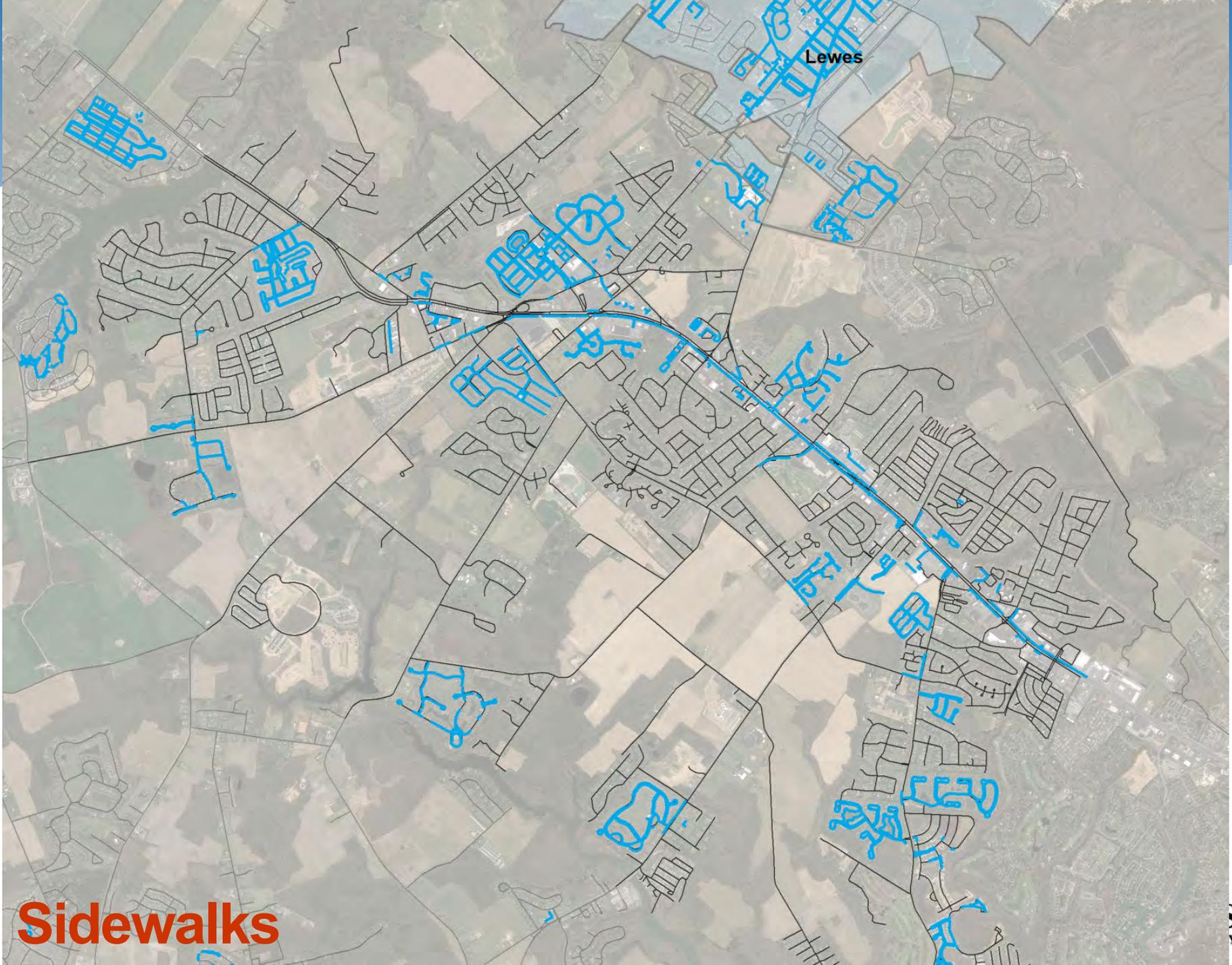
**Jeff Riegner, WRA**

- **Benefits of making walking and bicycling safer, more comfortable, and more convenient**
  - Locals benefit because you often make shorter trips
  - Walking and bicycling alone won't solve the area's transportation needs, but ...
  - If you (or your neighbor) travel by foot or bike, that's one less car on the road

- **Almost everyone walks every day**
- **What is needed for people to walk?**
  - Sidewalks, at least on busier roads
  - Appropriately controlled crosswalks
  - A continuous route from the beginning to the end of the trip, with no gaps

Lewes

# Sidewalks



- **Will people bicycle? YES, if the level of traffic stress from the beginning to the end of their trip is low enough to match their comfort level**



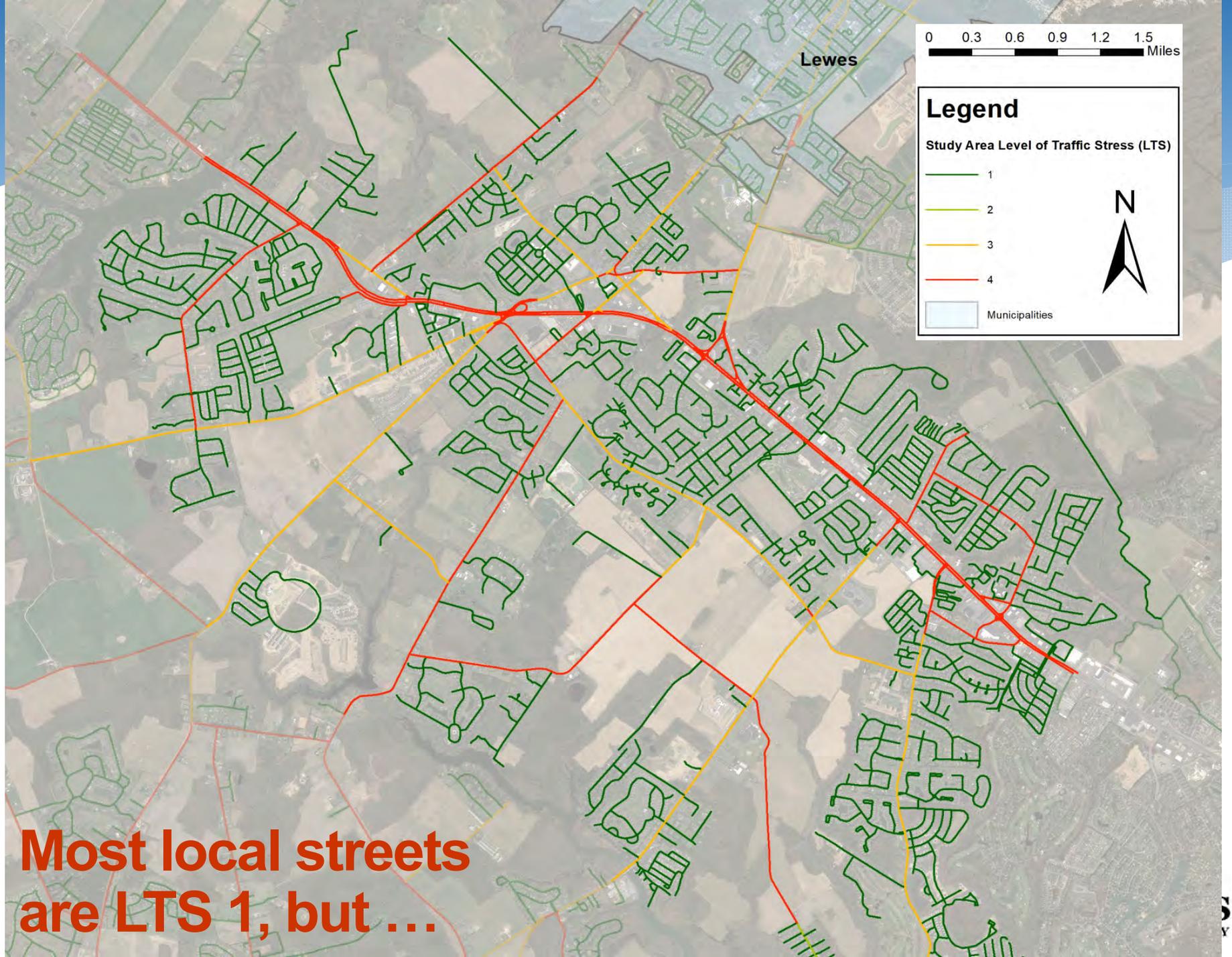
**Table 1. Levels of Traffic Stress (LTS)**

LTS 1	Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.
LTS 2	Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a right-turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adults.
LTS 3	More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and therefore welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians.
LTS 4	A level of stress beyond LTS3.

**Table 1. Levels of Traffic Stress (LTS)**

<p>LTS 1 ●</p>	<p>Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross into traffic. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a parking lane, they have ample operating space outside the zone into which the doors are opened. Intersections are easy to approach and cross.</p>
<p>LTS 2 ●</p>	<p>Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance for a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and the car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adult cyclists.</p>
<p>LTS 3 ●</p>	<p>More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic. Therefore welcome to many people currently riding bikes in American cities. Offering cyclists an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are well-maintained and have moderately low speed. Crossings may be longer or across higher-speed roads than LTS 2, but are still considered acceptably safe to most adult pedestrians.</p>
<p>LTS 4 ●</p>	<p>A level of stress beyond LTS3.</p>





0 0.3 0.6 0.9 1.2 1.5 Miles

Lewes

### Legend

Study Area Level of Traffic Stress (LTS)

1

2

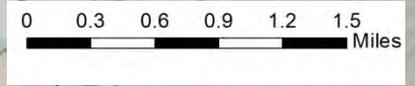
3

4

Municipalities

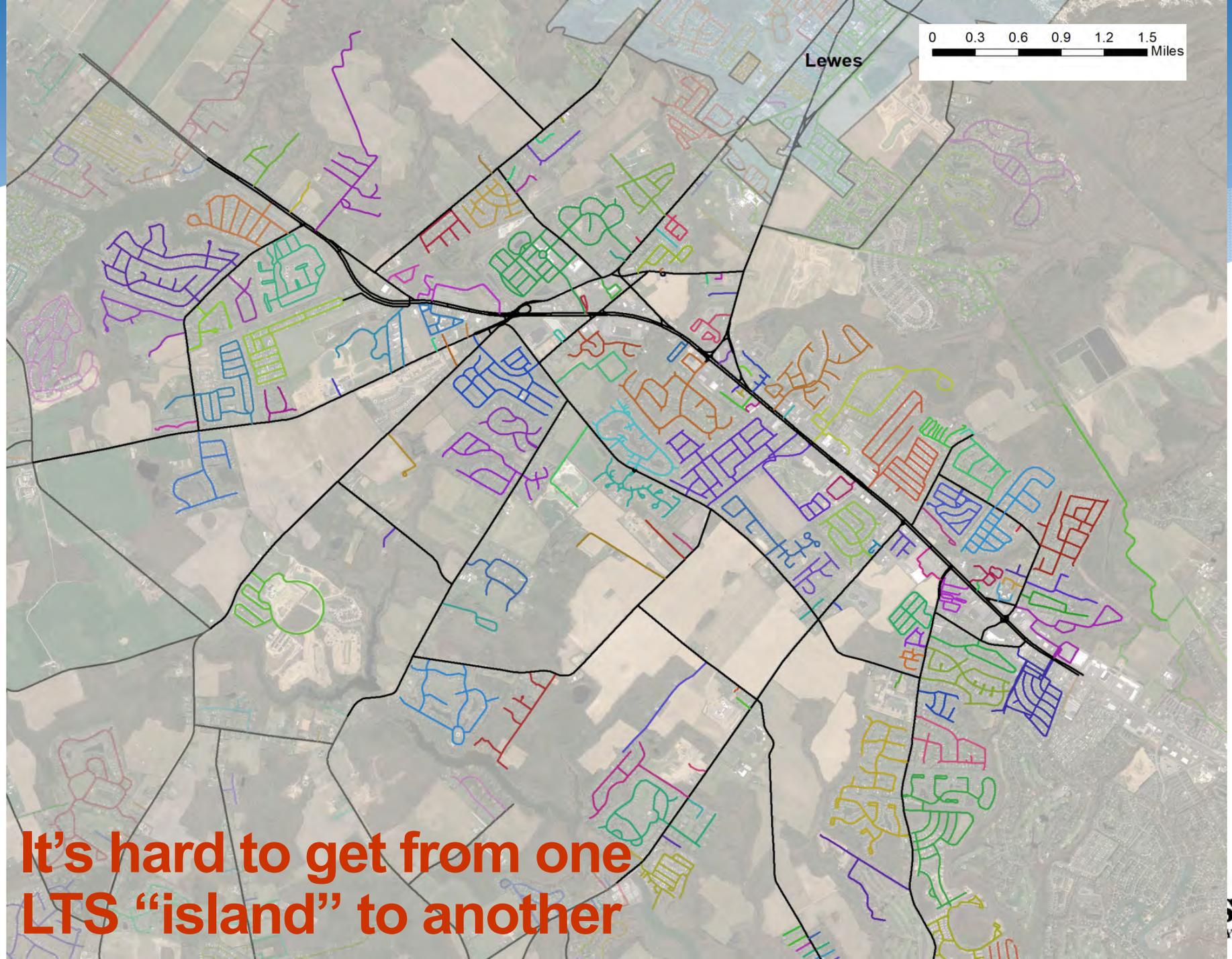


**Most local streets are LTS 1, but ...**



Lewes

**It's hard to get from one LTS "island" to another**



# Summary of walking/bicycling needs

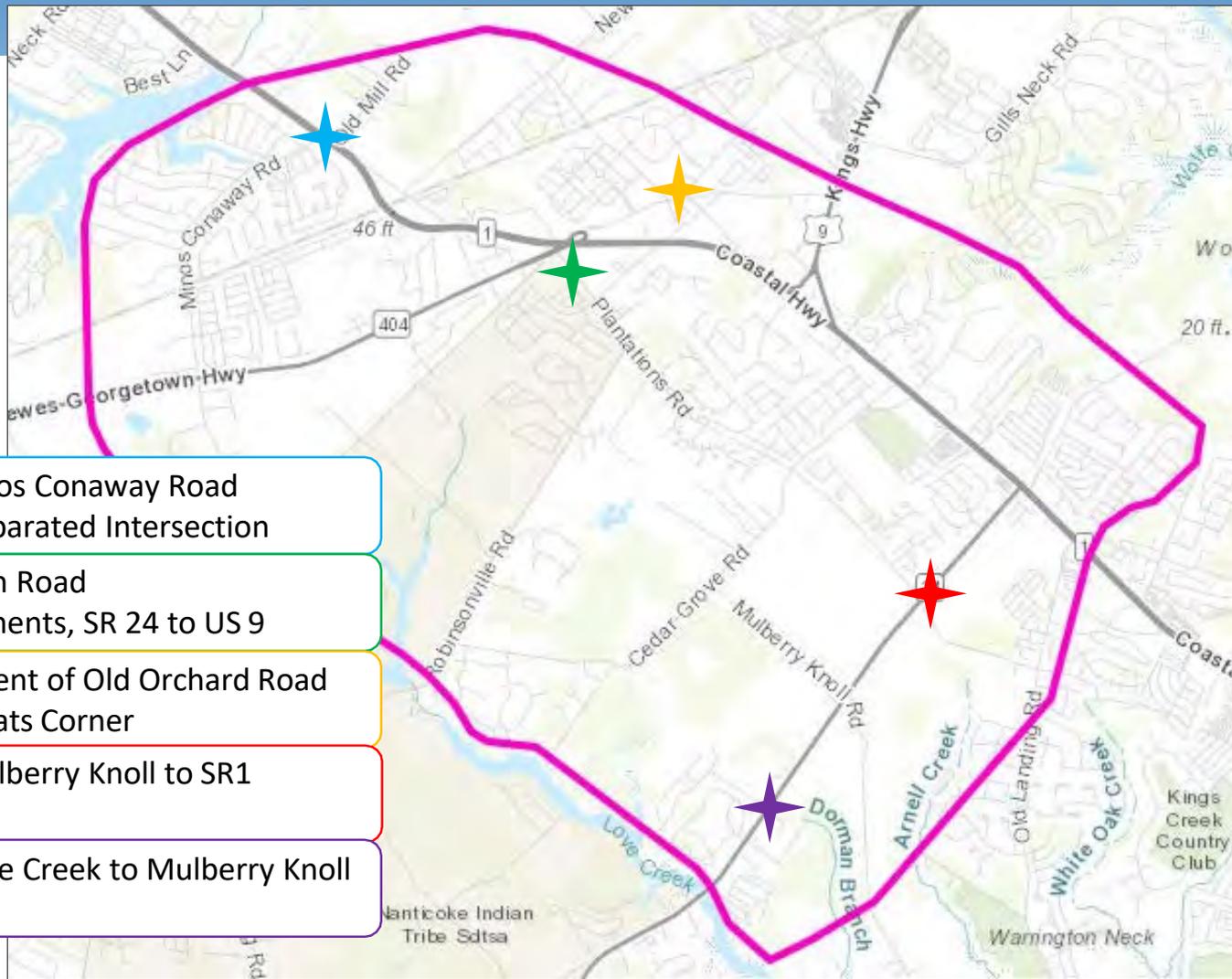
51

- **To encourage more walking and make walking safer, fill gaps in the sidewalk/crosswalk network**
- **To encourage more bicycling and make bicycling safer, fill in gaps in the LTS 1 or 2 network**

# Current DeIDOT Projects

**John Caruano, DeIDOT**

# Current DeIDOT projects



-  SR 1, Minos Conaway Road Grade Separated Intersection
-  Plantation Road Improvements, SR 24 to US 9
-  Realignment of Old Orchard Road at Wescoats Corner
-  SR24, Mulberry Knoll to SR1
-  SR24, Love Creek to Mulberry Knoll

# Current DeIDOT projects

Project Title	Description	Design	Right of way	Construction	Cost	Public workshop
SR 1/Minos Conaway Road grade separated intersection	Grade separation, ramps, possible service/frontage roads	2018-2022	2019-2021	2022-2024	\$33M	February 15
Plantation Road, SR 24 to US 9	Turn lanes, bicycle/pedestrian facilities, realignment at northern end near US 9	2018-2022	2021-2023	2024-2026	\$20M	February 15
Realignment of Old Orchard Road at Wescoats Corner	Realignment of Old Orchard Road to intersect Savannah Road opposite Wescoats Road	2018-2020	2019	2020-2021	\$4.0M	February 21
SR 24, Mulberry Knoll to SR 1	Widening to five lanes, improvements to intersecting road approaches	2016-2018	2017-2018	2019-2020	\$10.5M	TBD
SR 24, Love Creek to Mulberry Knoll	Widening to five lanes between Mulberry Knoll and schools	2017-2019	2018-2020	2020-2021	\$5.3M	TBD
Georgetown to Lewes Rail with Trail Phase II	Rail with trail from Savannah Road to Nassau Bridge	2018	N/A	2018-2019	\$2.3M	N/A
SR 1 signal timing	Ongoing traffic operations efforts to implement and evaluate improved signal timings in spring and summer 2018	N/A	N/A	N/A	N/A	N/A
SR 1 sidewalk stencils	Stencils on sidewalks along SR 1 to encourage bicyclists to slow down and watch for cars at driveways	N/A	N/A	2018	N/A	N/A



**Links to more detailed information are at [5points.deldot.gov](http://5points.deldot.gov)**



SR 1, Minos Conaway Grade Separated Intersection;  
Plantation Road Improvements, SR 24 to US 9

Joint Public Workshop

**Thursday, February 15, 2018**

**4:00 pm – 7:00 pm**

**Cape Henlopen High School Cafeteria**

Realignment of Old Orchard Road at Wescoats Corner

Public Workshop

**Wednesday, February 21, 2018**

**4:00 pm – 7:00 pm**

**Cape Henlopen High School Cafeteria**

[snow dates to be determined]

# Public comment

# Thank you for your participation!

57

Next meeting

**Monday, February 26, 2018**

**6:00 pm**

**Location TBD**

**Josh Thomas**

**Project Manager**

**Delaware Department of Transportation**

**302.760.4834**

**[joshua.thomas@state.de.us](mailto:joshua.thomas@state.de.us)**