



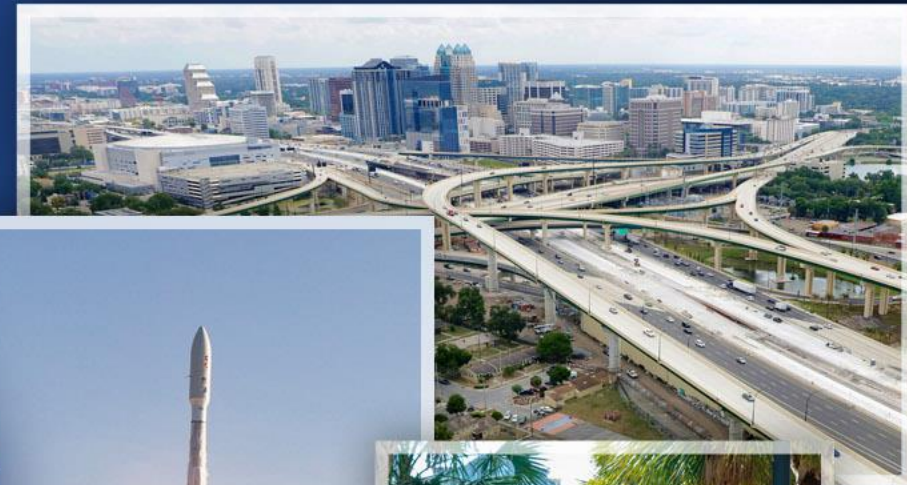
# District 5 Update

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D5 Secretary Jared Perdue

FDOT

District 5







# **A Human Factors Approach To Traffic Safety Campaign**

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FDOT State Safety Engineer Brenda Young, P.E., CPM



# *A Human Factors Approach to Traffic Safety Campaigns*



# A Human Factors Approach to Safety



- Challenge / Objectives
- Safety Campaign Approach
- Schedule and Partner Engagement



# Florida Strategic Highway Safety Plan



## VITAL FEW



LANE DEPARTURES



PEDESTRIANS  
AND BICYCLISTS



INTERSECTIONS

# Changing Behavior | Saving Lives



**94%**

of crashes nationally  
involve driver behavior  
as a contributing factor

On Florida's roads...



Daily  
Fatalities

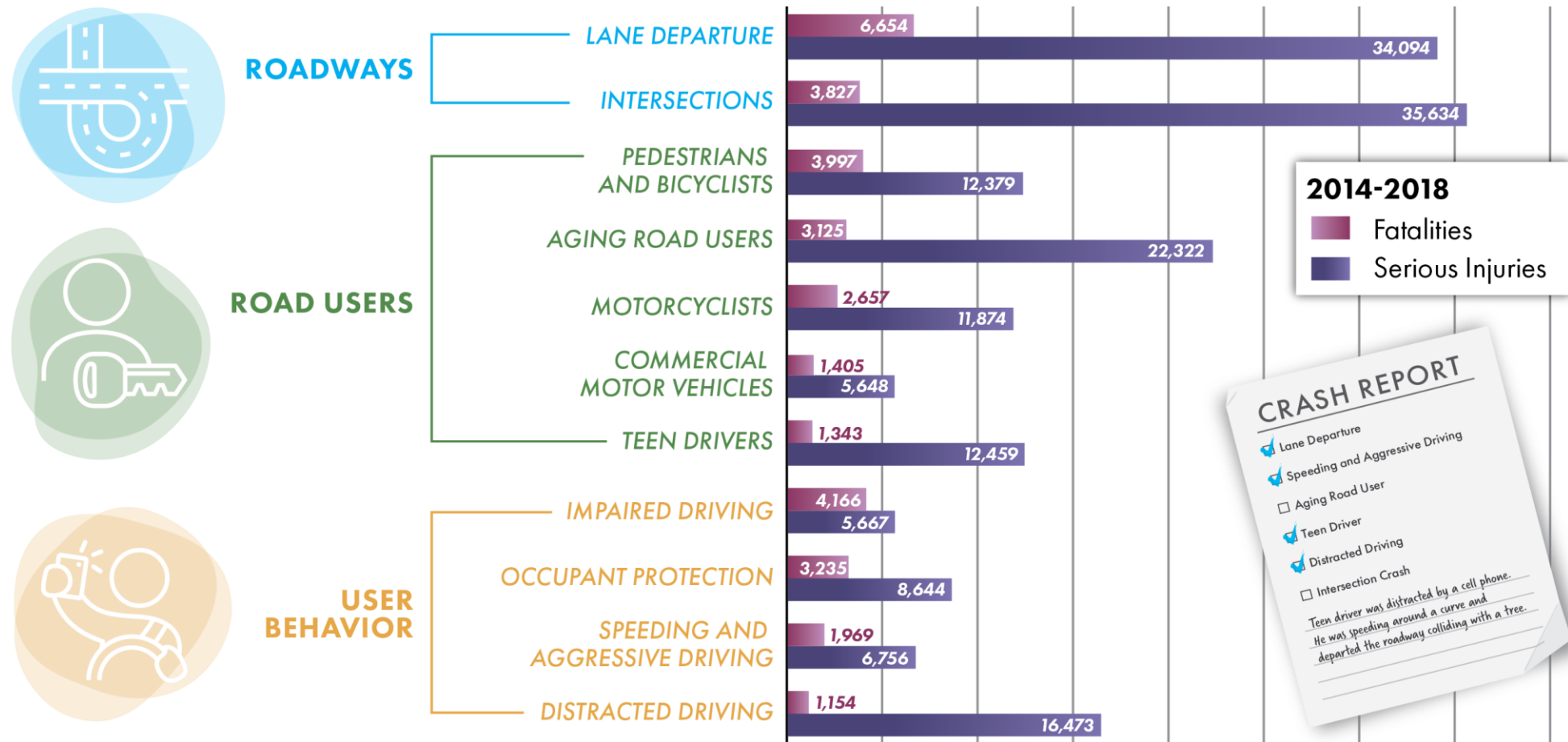


Daily Serious Injuries

...but even one life lost is too many.

# Influencing Safe Behavior

The 2021 Strategic Highway Safety Plan acknowledges crashes rarely have a single contributing factor





Identify behaviors contributing to serious and fatal crashes,  
and the reasons for those behaviors

Influence safe behavior

# Behavior Change, Human Factors, and Social Marketing



- **Influencing behavior change** requires a better understanding of **human factors** and why people behave the way they do, how people change, and how to help people in their efforts to change.
- **Social marketing** is the application of commercial marketing principles to influence desired behavior, increase use of a product or services. *All of this is done for the good of the individual and society.*

# Influencing Behavior Change in Practice





# Human Factors Campaign Team: Engineering + Marketing + Research



- Crash Data and Root Cause Analysis
- Review and Analysis of Existing Campaigns and Industry Scan of Campaigns
- Track Construction Project Delivery



- Target Audience Research and Outreach
- Development of New Campaigns
- Determine Measures of Effectiveness for New Campaigns

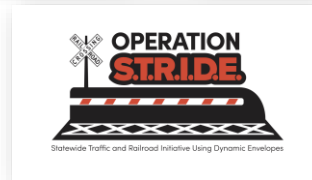


- Advisor on Content Development and Social Marketing Techniques
- Conduct Literature Review on Risk Behaviors, Audiences and Performance Measures
- Research Guide on Formative Research for Social Marketing

# Campaign Approach

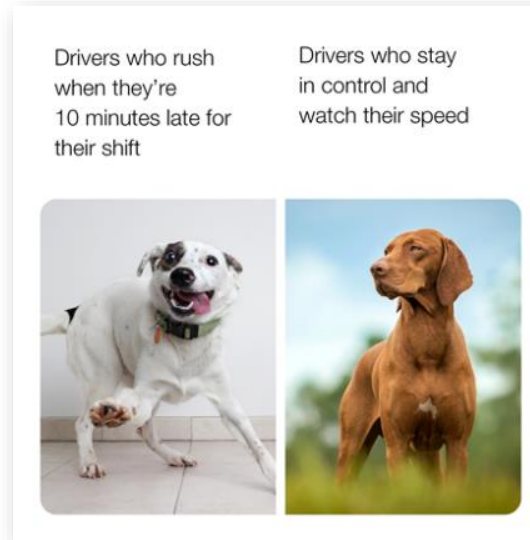


# Evaluation of Existing Florida Safety Campaigns





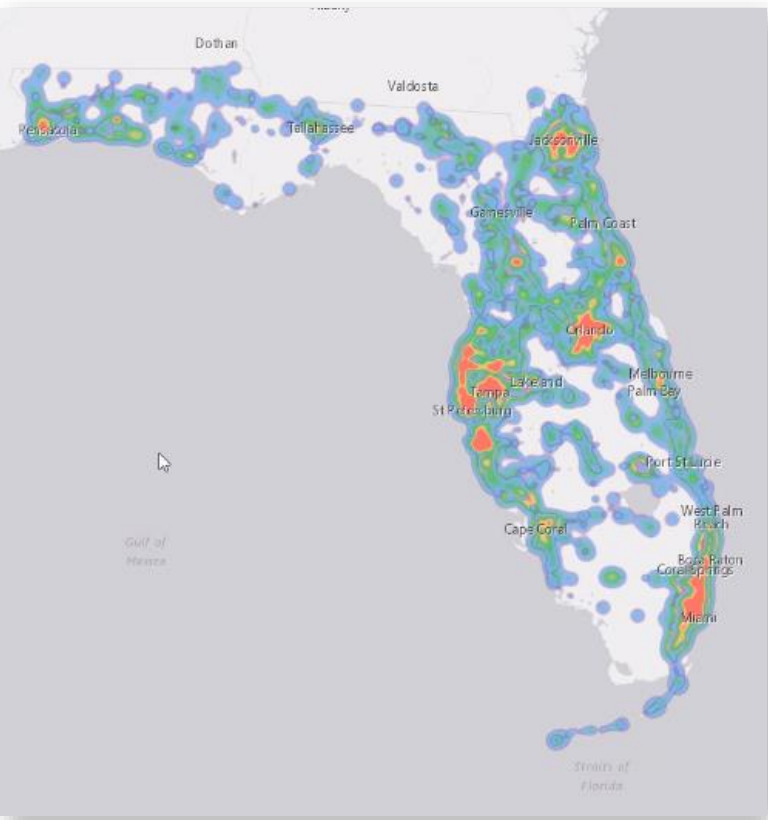
# International Review of Effective Safety and Other Behavior Change Campaigns



# Root Cause Behavior Analysis = What, Who and Where

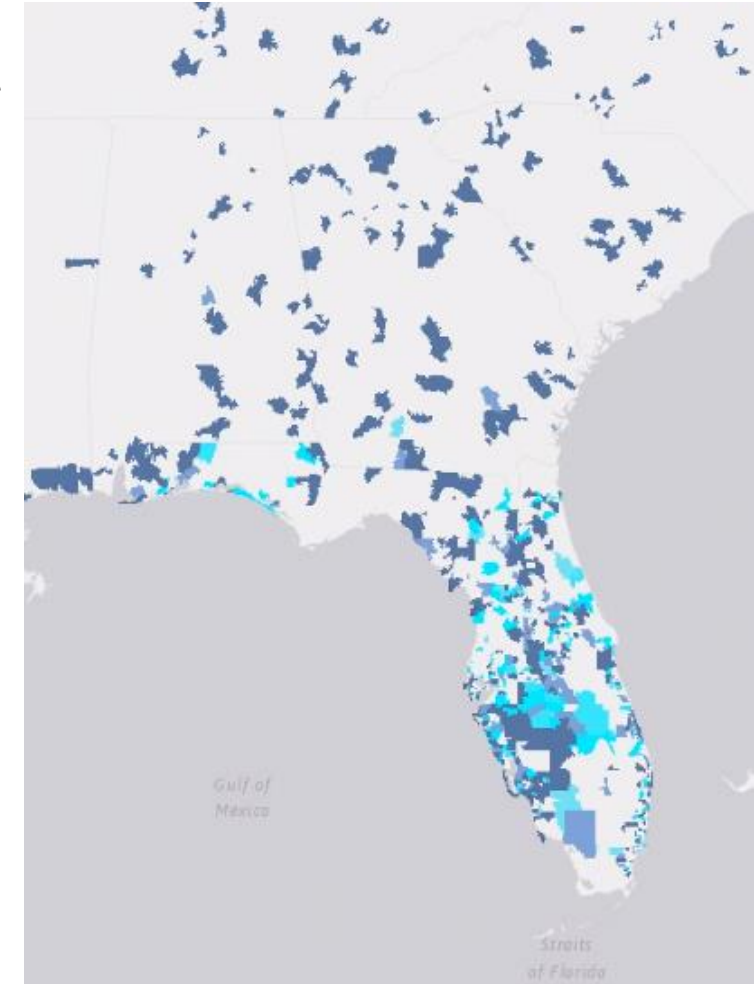
## Crash data analysis

- **Who** we're trying to reach (audience = roadway user demographics)
- **What** behavior we're changing (crash root cause)
- **Where** we're changing the behavior (location/market)

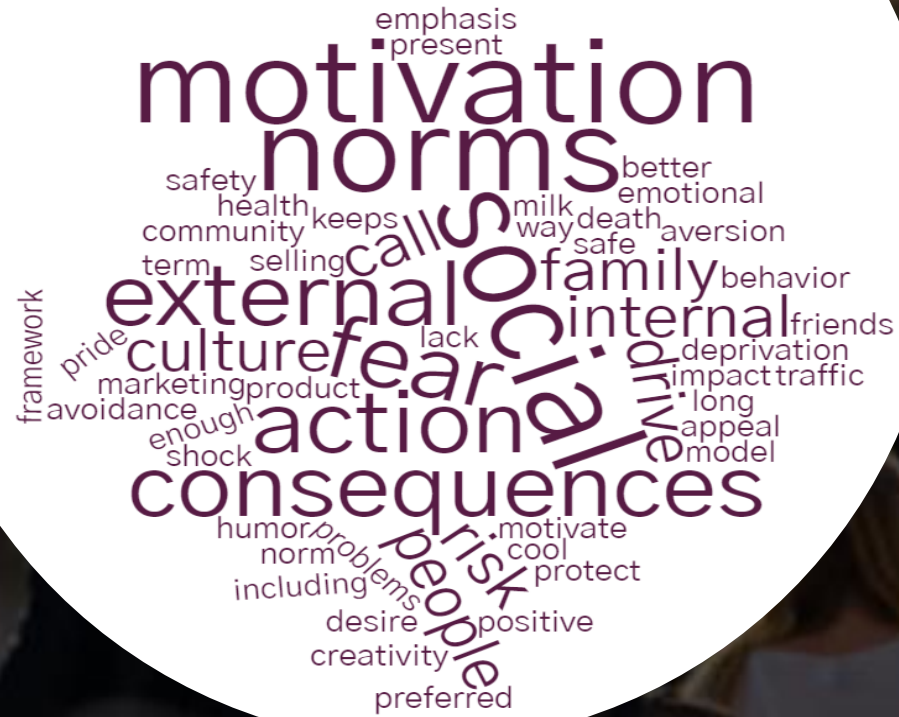


## Human behavior analysis

- **Why** do people behave the way they do?
- **Who or What** influences road user behavior?
- **How** do we change behavior?







# Influencing People is Complex



# Audience Research = Segmentation and Focus Groups

## *Influential Messages Are Not One-Size-Fits-All*

- Reasons for safe and unsafe behaviors
- Attitudes regarding transportation and safety
- Value systems/motivators
- Test current / new messages



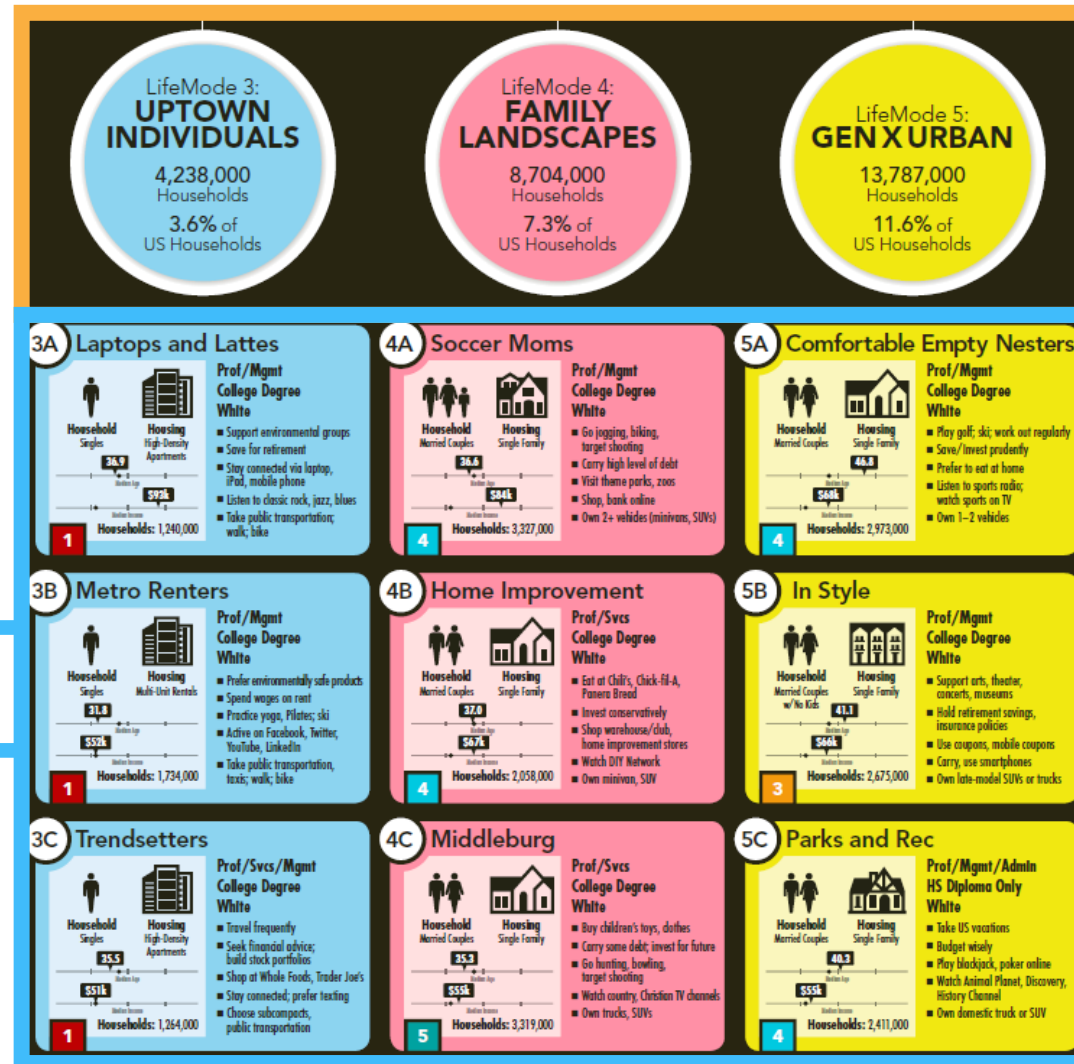




# Audience Research = Segmentation and Focus Groups

## Life Modes

## Market Segments





# Audience Research = Segmentation and Focus Groups



LifeMode Group: Ethnic Enclaves

## American Dreamers

7C

Households: 1,747,000

Average Household Size: 3.16

Median Age: 31.8

Median Household Income: \$48,000

### WHO ARE WE?

Located throughout the South and West, most *American Dreamers* residents own their own homes, primarily single-family housing—farther out of the city, where housing is more affordable. Median household income is slightly below average (Index 94). The majority of households include younger married-couple families with children and, frequently, grandparents. Diversity is high; many residents are foreign born, of Hispanic origin. Hard work and sacrifice have improved their economic circumstance as they pursue a better life for themselves and their family. Spending is focused more on the members of the household than the home. Entertainment includes multiple televisions, movie rentals, and video games at home or visits to theme parks and zoos. This market is connected and adept at accessing what they want from the Internet.



TAPESTRY  
SEGMENTATION  
[esri.com/tapestry](http://esri.com/tapestry)

### OUR NEIGHBORHOOD

- *American Dreamers* residents are family-centric and diverse. Most are married couples with children of all ages or single parents; multigenerational homes are common (Index 201).
- Average household size is higher at 3.16 (Index 122).
- Residents tend to live further out from urban centers—more affordable single-family homes and more elbow room.
- Tenure is slightly above average with 65% owner occupancy; primarily single-family homes with more mortgages (Index 122) and slightly higher monthly costs (Index 122).
- Three quarters of all housing were built since 1970.
- Many neighborhoods are located in the urban periphery of the largest metropolitan areas across the South and West.
- Most households have one or two vehicles available and a longer commute to work.

### SOCIOECONOMIC TRAITS

- While nearly 16% have earned a college degree, the majority, or 63%, hold a high school diploma only or spent some time at a college or university.
- Unemployment is higher at 10.7% (Index 124); labor force participation is also higher at 67%.
- Most *American Dreamers* residents derive income from wages or salaries, but the rate of poverty is a bit higher in this market (Index 126).
- They tend to spend money carefully and focus more on necessities.
- They are captivated by new technology, particularly feature-rich smartphones.
- Connected: They use the Internet primarily for socializing but also for convenience, like paying bills online.

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.

# Persona Development

- Name: Elyse
- Age: 28
- Gender: Female
- Location: Flagler Beach
- Activities and interests
  - Waitress
  - Dog mom
  - Cooking and baking
  - Homebrewing beer
  - Drawing and painting
  - Eating out
  - Vintage TV shows (80s and 90s)
  - Electronic dance music (EDM) fan
  - Minor league hockey fan
  - Traveler
- Income: \$28,000 annually



- Education: A.A. degree, general studies
- Housing: 1-bedroom apartment
- Goals in life
  - Short-term:
    - Earn a bachelor's degree in counseling
    - Find a larger apartment closer to the beach
    - Pay off her car
    - Get out of the service industry
  - Long-term:
    - Earn a master's degree in psychology
    - Become a school counselor
    - Marry her boyfriend/ start a family
    - Move to Tennessee
    - Buy a house with a big yard
    - Rescue more dogs

# Develop New Messaging and Testing

## TEST MARKET





# Media Approach: Holistic

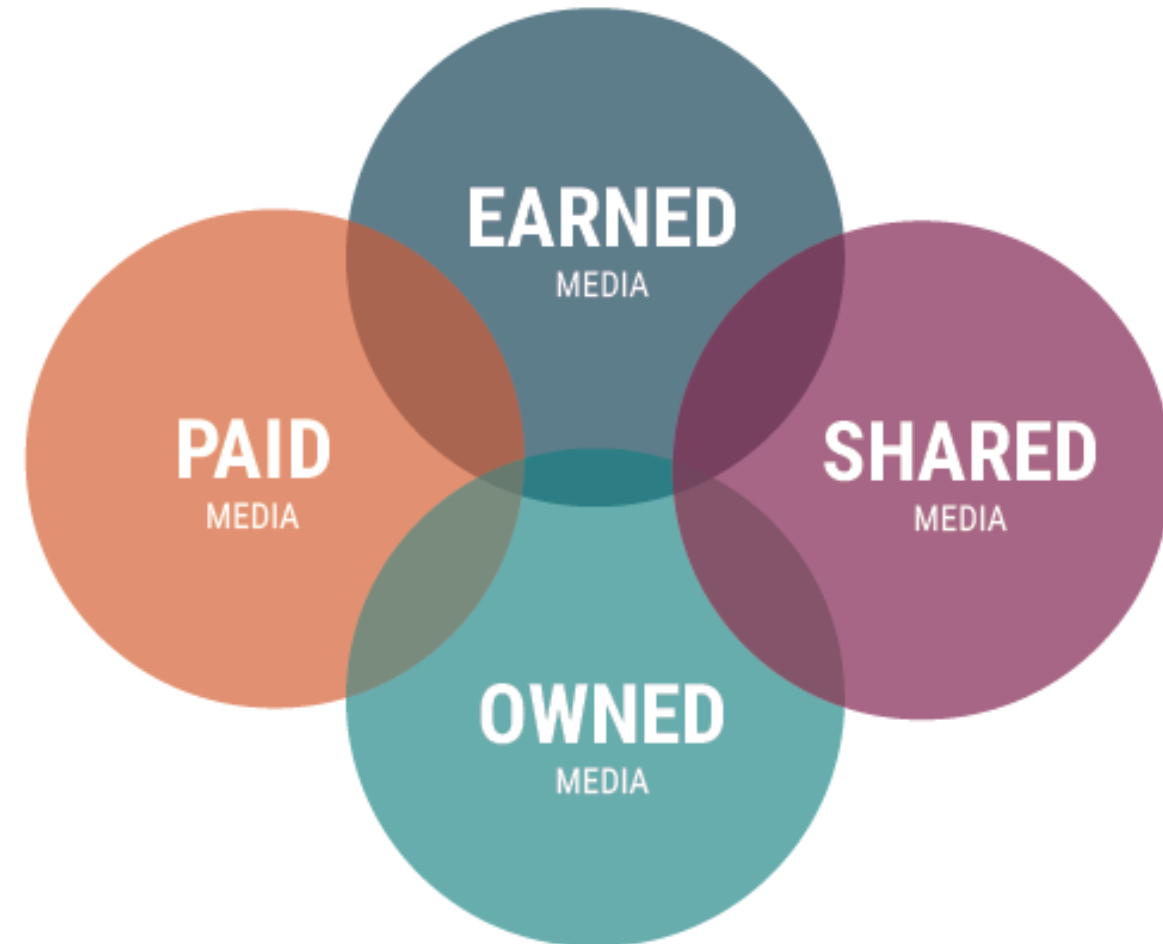
We will use all four media types in complementary ways to help us change driver, bicyclist and pedestrian behaviors.

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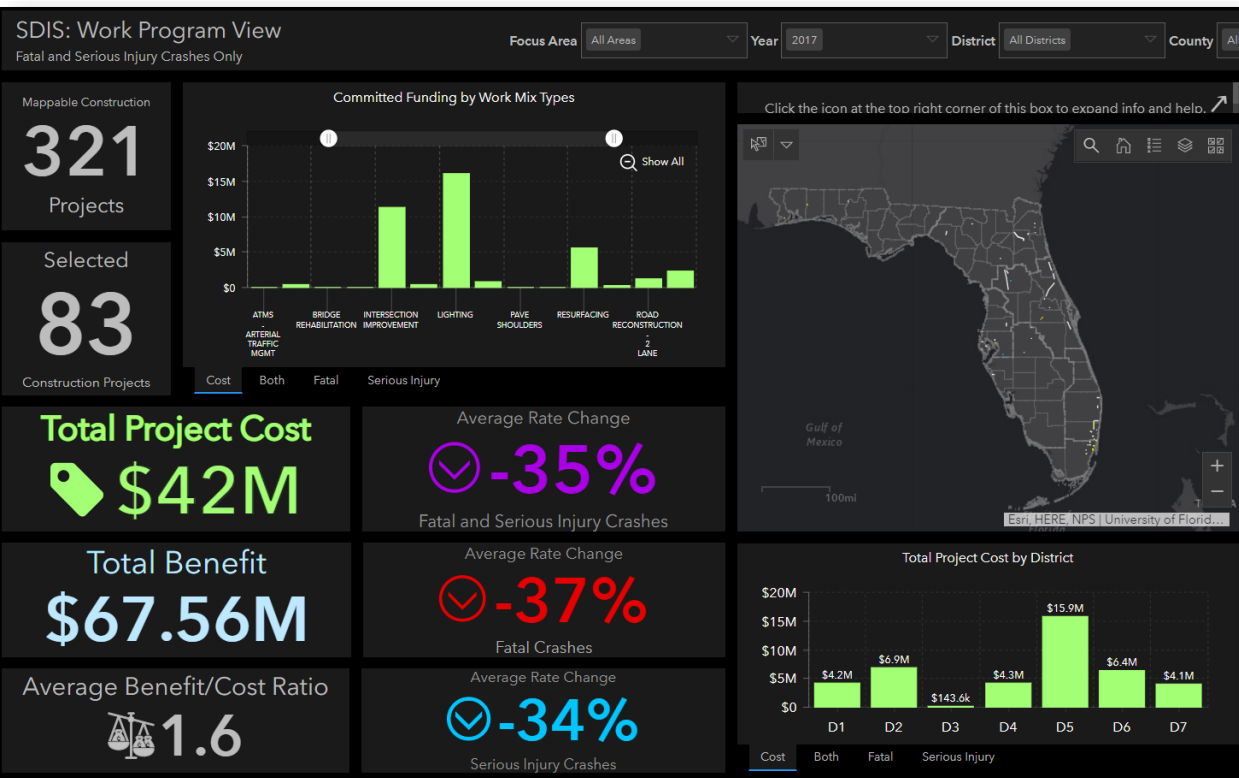
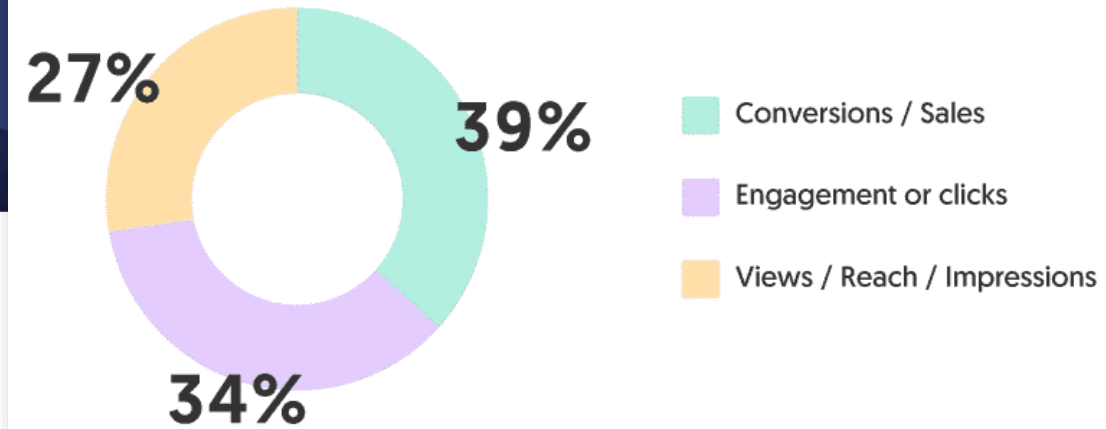
3 exposures to a message is the minimum effective frequency.

After 15 exposures, the message begins to “wear out.”

## PESO Model



# Evaluating Effectiveness: Outputs and Outcomes



# SCHEDULE

2021

2022

MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
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Analyze Existing Safety Campaigns and Scan Successful Behavior Change Campaigns



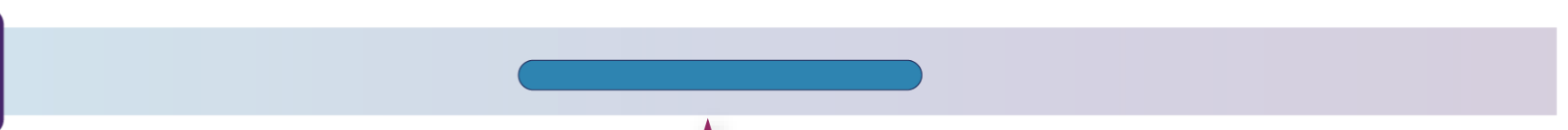
Analyze Existing Crash Records and Conduct Root Cause Analysis



Identify Audiences for Campaigns



Conduct Research with Focus Groups and Audiences



Develop and Test New Campaigns



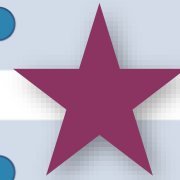
Launch Targeted Campaigns  
(Lane Departures, Intersection Crashes, Pedestrian, Bicycle)



Run Campaigns



Measure Effectiveness of Campaigns







# Safety Moment



## Safety Data Integration Space - Transportation Safety View

Production v1.0.0.1



All Lane Departure Impaired Driving Pedestrians Bicyclists Intersections Unrestrained Occupants **Motorcyclists** Aging Road Users Speeding & Aggressive Driving Commercial Vehicles Teen Drivers Distracted Drivers Work Zones

### Motorcyclists

State Highway System Only - Fatalities and Severe Injuries Only

Year ALL YEARS

District ALL

MPO/TPO All MPO/TPO

County ALL

Filter CLEAR RESET



Expand for Help

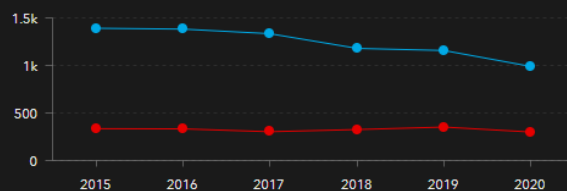
1,949

Fatalities

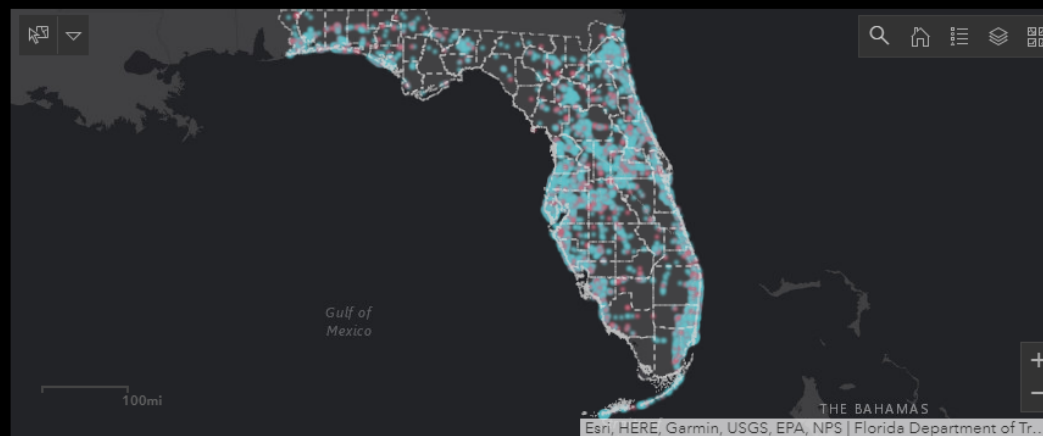
7,433

Severe Injuries

Fatalities and Severe Injuries by Year



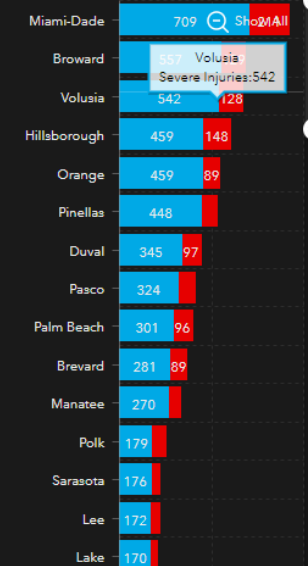
Motorcyclists are people riding a motorcycle that were involved in a crash.



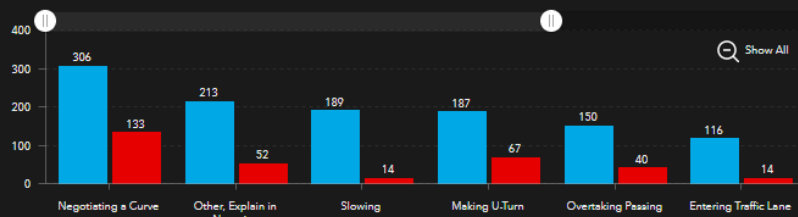
Notes: (1) To apply one or more filters to the map, click on a graph. To reset all filters, press CLEAR and RESET on the top bar. (2) Points on the map reflect fatalities and severe injuries, not crashes. For example, one crash may have both fatalities and severe injuries, in which case it will be shown with an overlapping blue and red point on the map.

Fatalities Severe Injuries

Fatalities and Severe Injuries by County

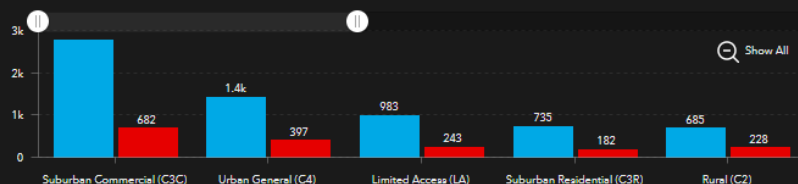


Vehicle Maneuver Code



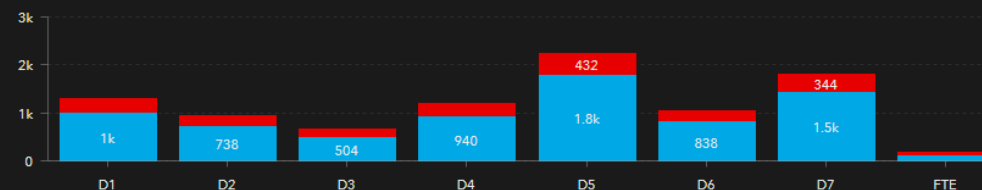
Most Harmful Event Vehicle Maneuver Driver Action Weather Road Lighting

Context Class



Context Class Functional Class Road Type Speed Limit Lanes

Crashes by District



Fatalities and Severe Injuries by District

Event: Scheduled SSO Data Sync  
Time: 5/12/2021, 6:00 AM  
Status: Sync Successful

# Thank You!



**Brenda Young, P.E., CPM**

State Safety Engineer

Florida Department of Transportation

**Email:** [brenda.young@dot.state.fl.us](mailto:brenda.young@dot.state.fl.us)



*Safety Data Integration Space - Transportation Safety View ([fdot.gov](https://www.fdot.gov))*

*<https://www.fdot.gov/safety/safetyengineering/safetyengineering.shtm>*