



REACH

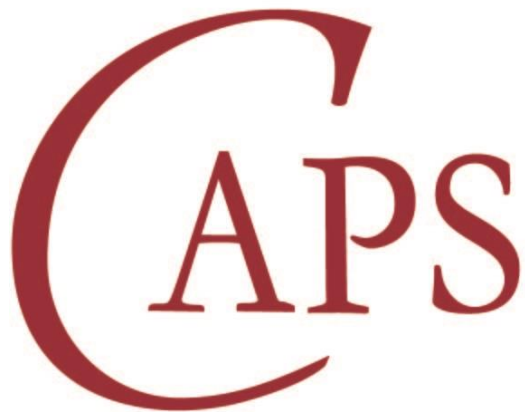
# eCVSP Metrics Monitoring Project

March 20<sup>th</sup>, 2019



**FMCSA**

Federal Motor Carrier Safety Administration



CENTER *for* ADVANCED  
PUBLIC SAFETY

# The Problem

Today, law enforcement officials enter data into the FMCSA's electronic CVSP (eCVSP) system regarding their planned safety activities and anticipated incidents (crashes); then, they **manually compare** actual results to the plan. This process is **error-prone, time-consuming,** and **labor intensive**, so that the comparison *can only be done once per quarter*.

# The Problem -> The Target

- Manual comparison -> **Automated**
- Error-prone -> **Accurate**
- Time-consuming -> **Fast**
- Labor-intensive -> **Easy**
- Quarterly comparisons -> **Frequent**

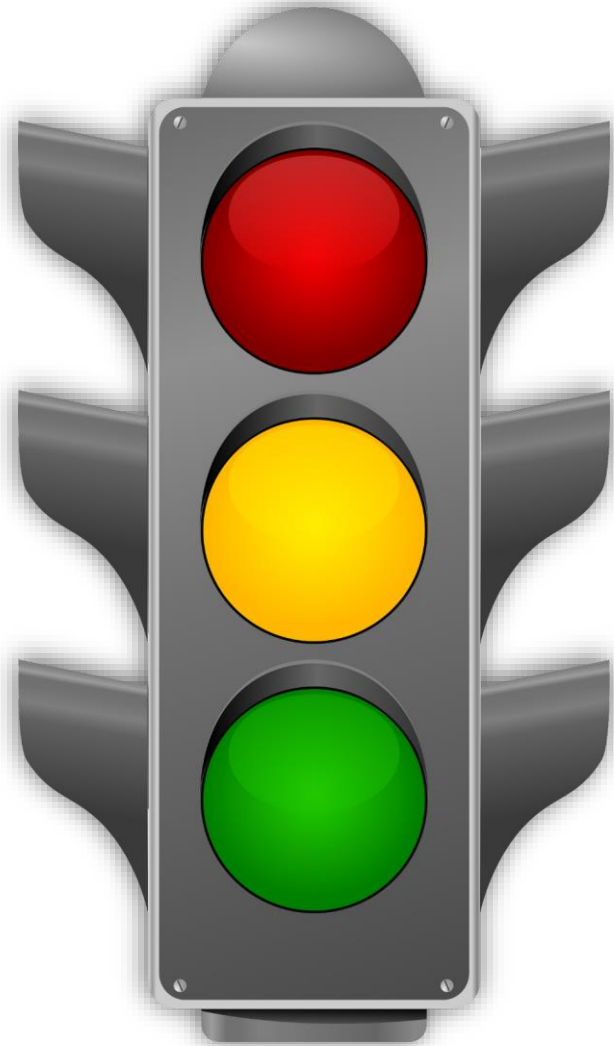
# The Approach

- 1) Give the user actionable information.
- 2) Don't force the user to come to you.
- 3) Make an assistant, not a replacement.

# Our Solution

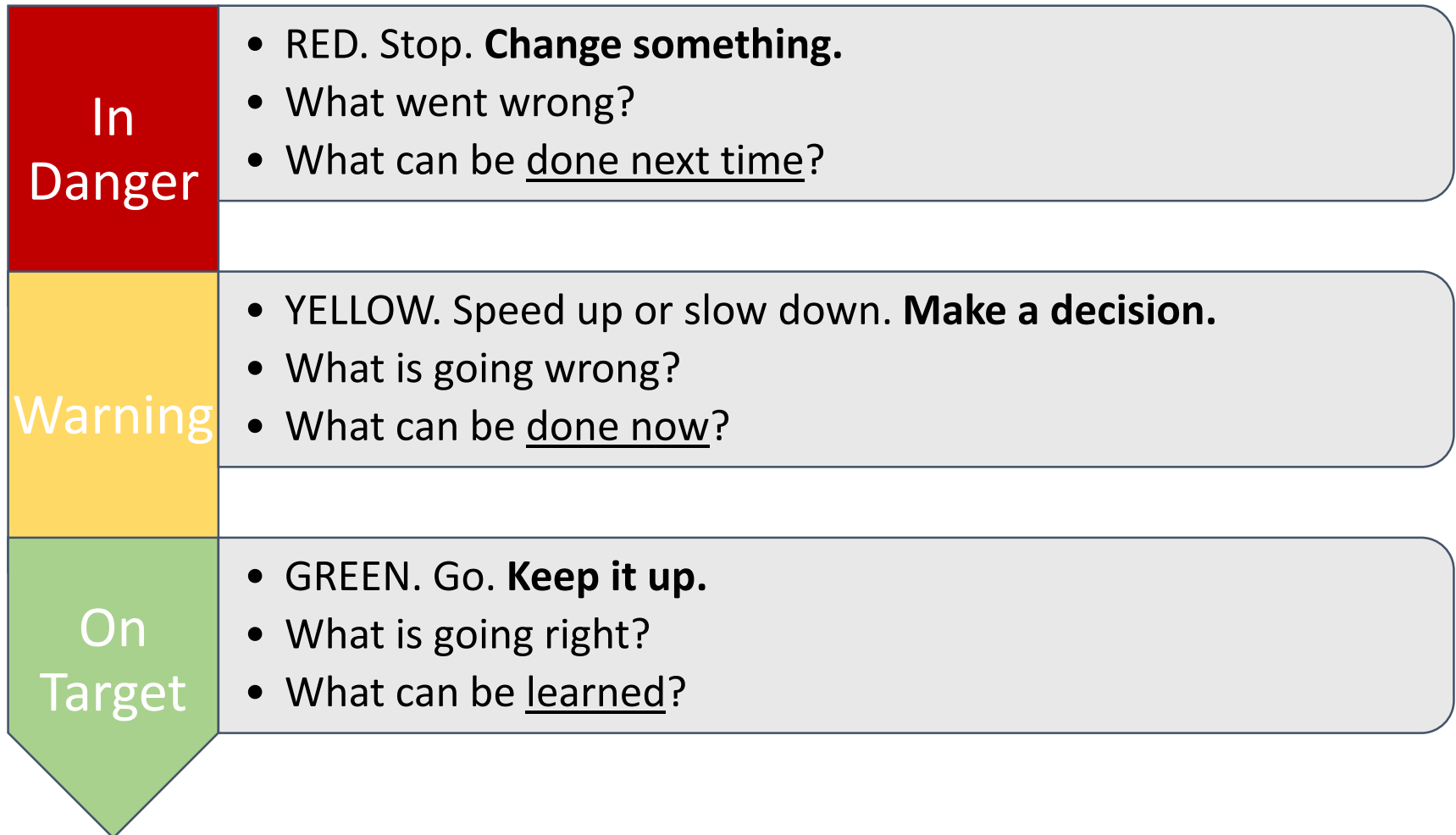


***Rapid***  
***eCVSP***  
***Activity***  
***Comparison***  
***Helper***





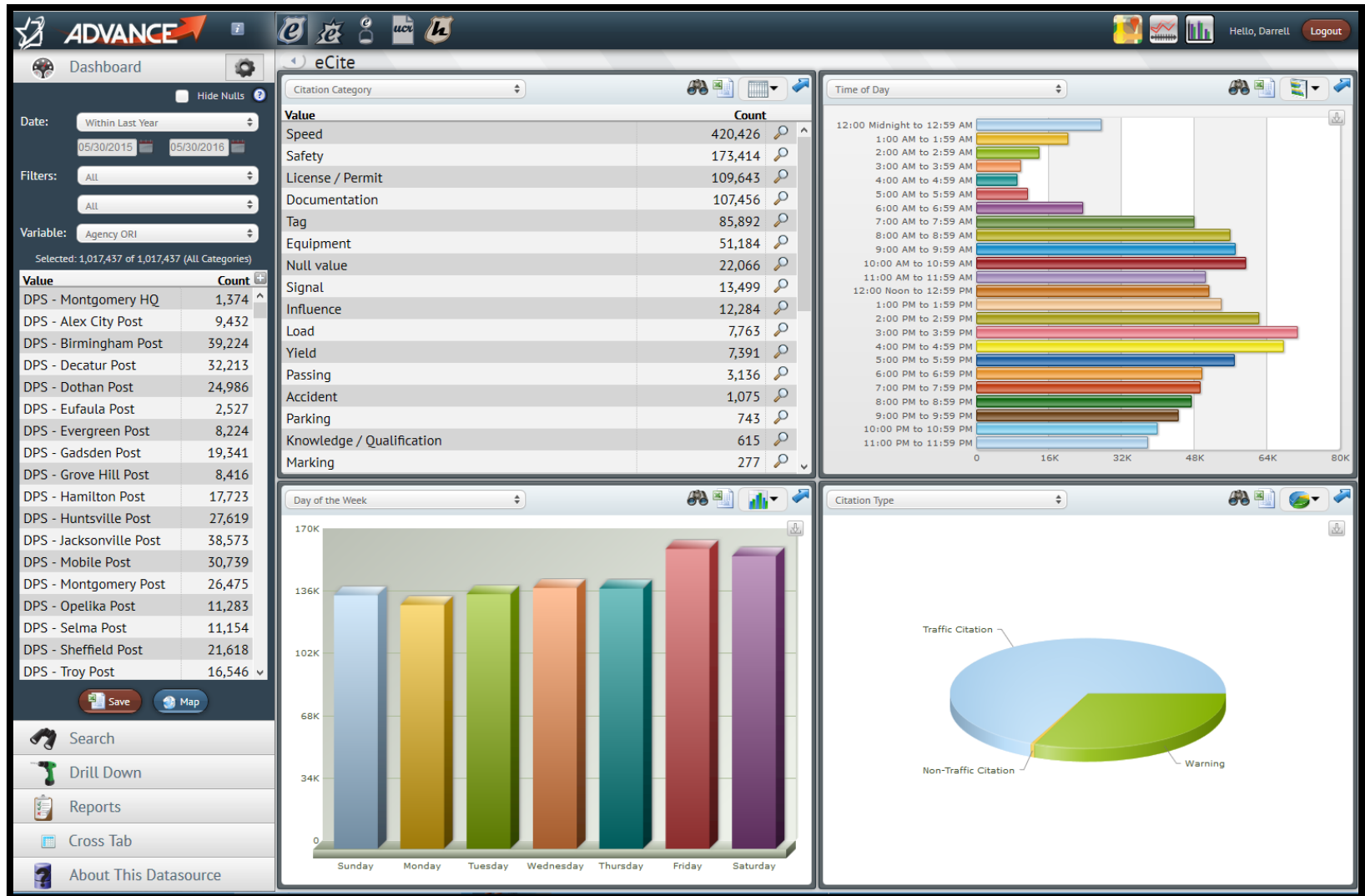
# State of Your Goal



# Active vs. Passive Goal Systems

Active	Passive
Tell you how you're doing <ul style="list-style-type: none"><li>• Meeting your goal</li><li>• In danger of missing your goal</li><li>• Missing/missed your goal</li></ul>	Show you what you're doing (activity only)
Aware of your goals	Unaware of your goals
Warns you before missing, hopefully giving you time to react	Require you to check and stay on top of the goal to prevent missing
Example: REACH	Example: ADVANCE

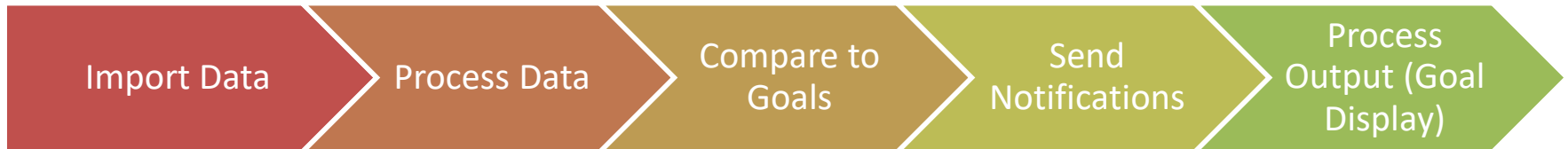
# Passive Goal System: ADVANCE



# Passive Goal System: ADVANCE

- Custom reports. Can be set up to email on a schedule.
- Reports usually match previous paper reports that were manually generated.
- Aggregate statistics for crashes, citations, etc.
- Updated daily (typically).

# REACH: The Process



# REACH: The Components

## Goals System

Data Processing

Data  
Import

Notifications

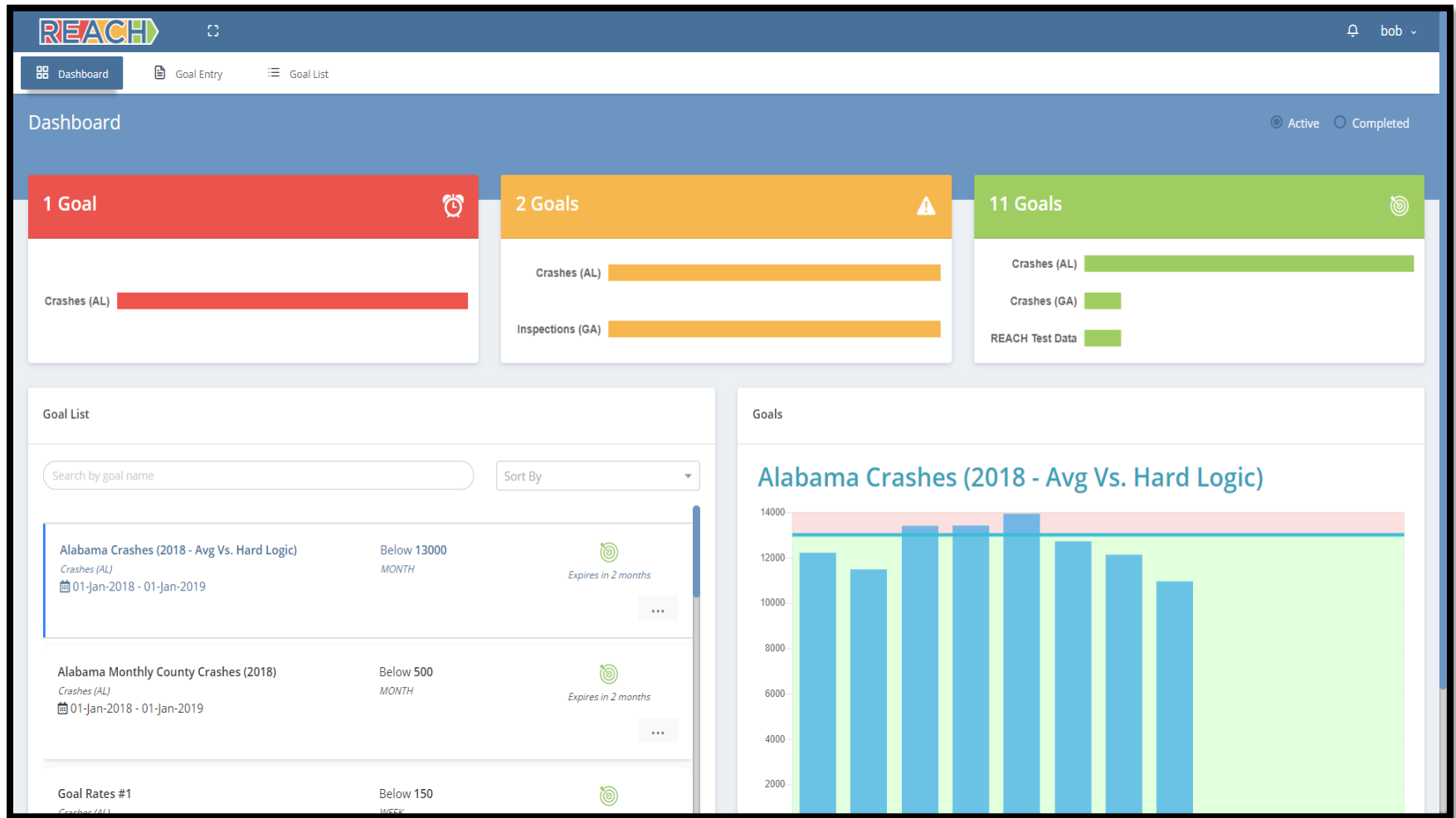
UI/Maps/Charts

External System  
Interaction

# REACH Main Screens

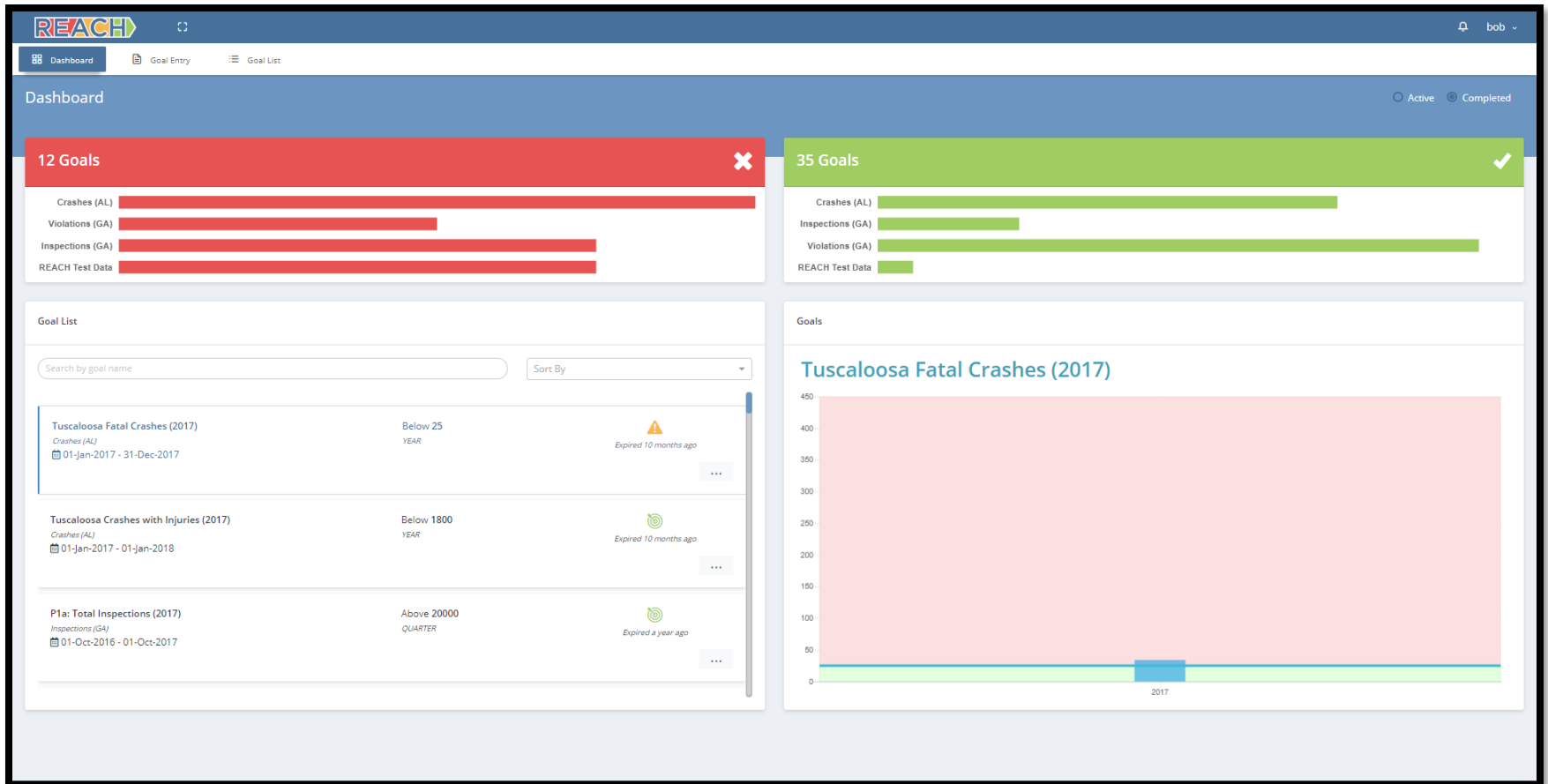
- Dashboard
- Goal Entry
- Goal List
- Goal Details
- In Progress: Activity Corridors
- In Progress: Settings and Notifications

# Dashboard – Current Goals





# Dashboard – Completed Goals



# Goal Entry

- Name
- Data Source
- Group By (Will display this variable in the goal)
- Goal Value (Above/Below)
- Interval (can be recurring)
  - Daily/Weekly/Monthly/Quarterly/Yearly
- Filters (optional)
  - Any categorical variable, any combination of values
- Goal Tags (e.g. workzone, weather, etc.)

# Goal Entry

The screenshot shows a web browser window with the URL `https://reach.caps.ua.edu/client/goals/goal-entry`. The page features a blue header with the REACH logo and a navigation bar with links to Dashboard, Goal Entry (active), and Goal List. The main content area is titled "Goal Entry" and contains a form for creating a new goal.

**Goal Entry Form:**

- Goal Name \***: Text input field containing "CMV CU Quarterly".
- Data Source \***: Dropdown menu showing "Crashes (AL)".
- Group By \***: Dropdown menu showing "CMV Caused".
- Goal Value \***: A dropdown menu showing "Below" and a text input field containing "500".
- Interval \***: Dropdown menu showing "Quarterly".
- Continuous?**: Radio buttons for "Yes" (selected) and "No".
- Add Filter**: A button to add additional filters.
- Filter List**: A list of active filters, currently showing "CMV Caused" and "Yes - CU is a CMV". Each filter has a close button (x) and a "Remove" button.
- Submit**: A blue button to save the goal.
- Clear**: A red button to reset the form.
- Wizard**: A button to proceed to the next step.

# Goal Entry Example

- Name: “CMV CU Pre-Workzone Quarterly”
- Data: “Crash”
- Group By: “Workzone Involved”
- Target: “Below: 500”
- Interval: “Quarterly, Recurring: Yes”
- “CMV CU: Yes, Workzone Involved: Yes”

# Goal Entry - Cloning

The screenshot displays the REACH application interface for cloning goals. The top navigation bar includes the REACH logo, a refresh icon, and a user profile 'bob'. The main menu has 'Dashboard', 'Goal Entry', 'Goal Copy' (selected), 'Goal List', and 'Map'.

The 'Goal Copy' section is divided into two panels: 'Old Goals' and 'New Goals'.


**Old Goals Panel:**

- Search by goal name:  2018
- Injuries (2018)**  
Crashes (AL)  
01-Jan-2018 - 31-Dec-2018  
Expired 2 months ago
- Shelby County Crashes with Injury 2018**  
Crashes (AL)  
01-Jan-2018 - 31-Dec-2018  
Below 2,000  
Expired 2 months ago
- GA Inspections 2018**  
Inspections (GA)  
01-Jan-2018 - 31-Dec-2018  
Above 5,000  
Expired 2 months ago
- Reach Dataset Test**  
REACH Test Data  
01-Jan-2018 - 31-Dec-2018  
Below 500  
Expired 2 months ago

**New Goals Panel:**

- Jefferson, Mobile, & Madison Fatal Crashes 2018**  
Crashes (AL)  
01-Jan-2019 - 31-Dec-2019  
Below 194
- Goal Name \*** Georgia Overall Crashes (2018)
- Goal Value** Historical average of past two years goal data
- Suggested Value:** 447049.5
- Crashes (GA)**  
01-Jan-2019 - 31-Dec-2019
- No filters added**
- Create Goals** **Clear Goals**

# Goal List











bob

Dashboard
Goal Entry
Goal Copy
**Goal List**
Map

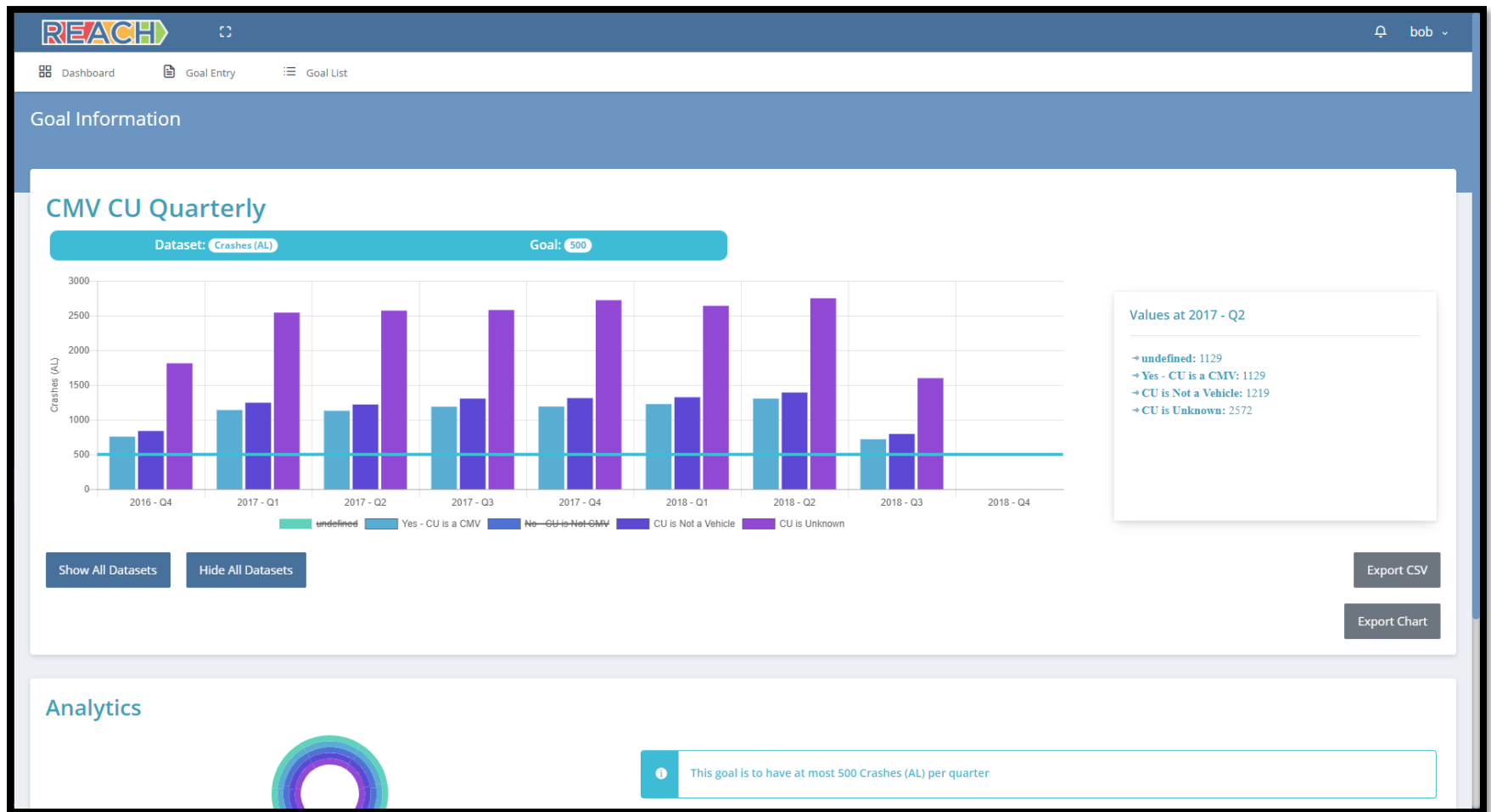
## Goal List

Expand All

Collapse All

	Data Set	Goal Name	Start Date	End Date	Target	Goal Value	Tags	
▶	Crashes (AL)	Tuscaloosa Fatal Crashes (2018)	Jan 1, 2018	Dec 31, 2018	Below	50	<div>Number of Fatalities ×</div> <div>Tuscaloosa Crashes ×</div> <div>Workzone Related ×</div> <div>+ Tag</div>	
▶	Crashes (AL)	Tuscaloosa Crashes with Injuries (2017)	Jan 1, 2017	Dec 31, 2017	Below	1800	Enter a new tag	
▶	Crashes (AL)	Jan 2028	Jan 1, 2028	Dec 31, 2028	Above	33	<div>Month × Year ×</div> <div>Day of Month × Bob ×</div> <div>+ Tag</div>	
▶	Crashes (AL)	Tuscaloosa Crashes with Injuries (2018)	Jan 1, 2018	Dec 31, 2018	Below	1800	Enter a new tag	
▶	Crashes (AL)	Shelby County Crashes with Injury 2018	Jan 1, 2018	Dec 31, 2018	Below	2000	Enter a new tag	
▶	Inspections (GA)	GA Inspections 2018	Jan 1, 2018	Dec 31, 2018	Above	5000	Enter a new tag	
▶	Crashes (AL)	Copy 15	Jan 1, 2019	Dec 31, 2019	Above	50	Enter a new tag	
▶	Crashes (AL)	Copy 15 Test	Jan 1, 2019	Dec 31, 2019	Above	5044	Enter a new tag	
▶	Inspections (GA)	GA Inspections 2019	Jan 1, 2019	Dec 31, 2019	Above	5055	Enter a new tag	

# Goal Details



# Goal Details

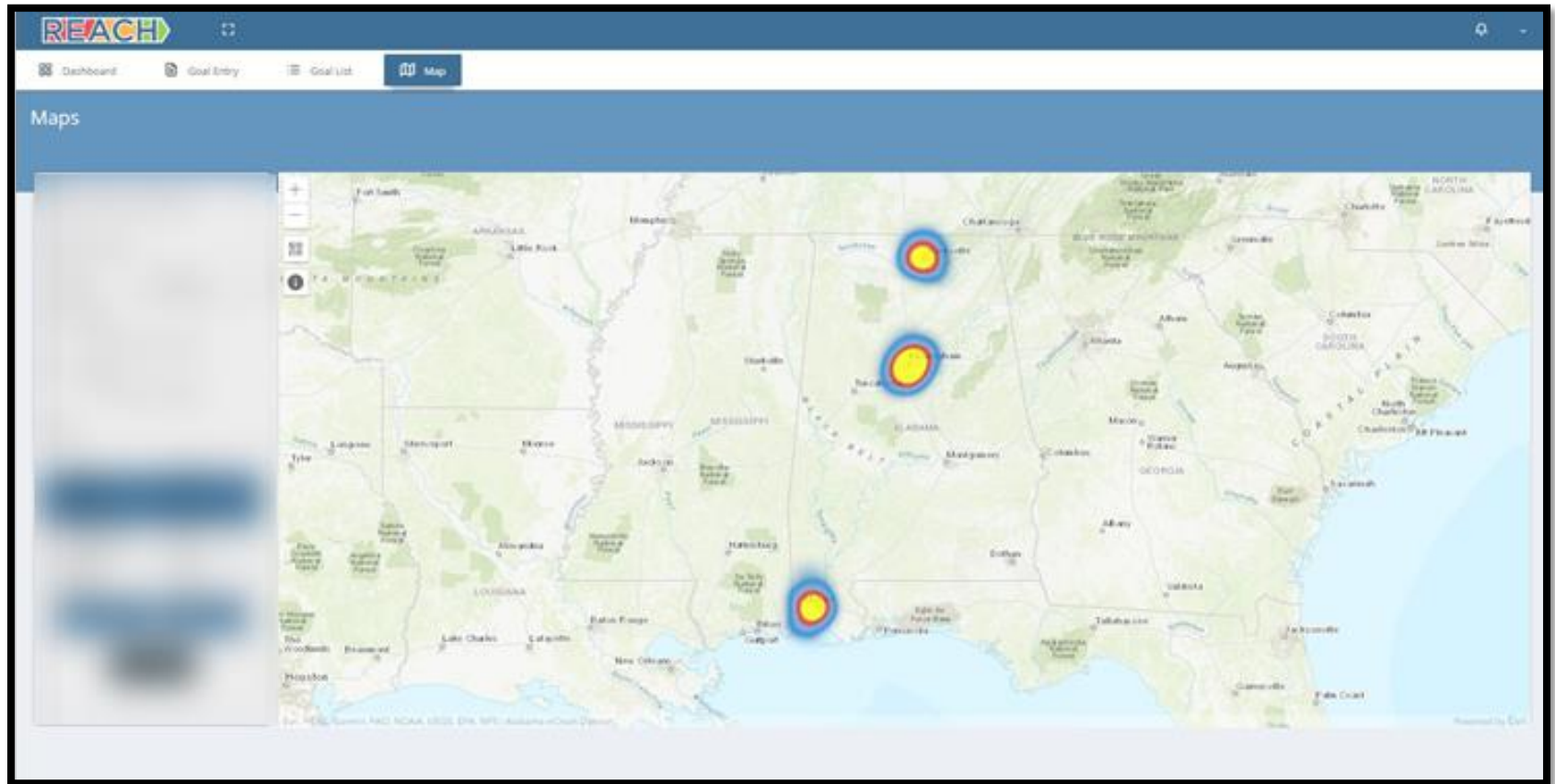




# Goal Details

- Detailed graph for period.
- Filterable variable values.
- Export CSV and image (PNG).
- “Goal line” that shows goal value.

# Goal Creation Tools - Mapping



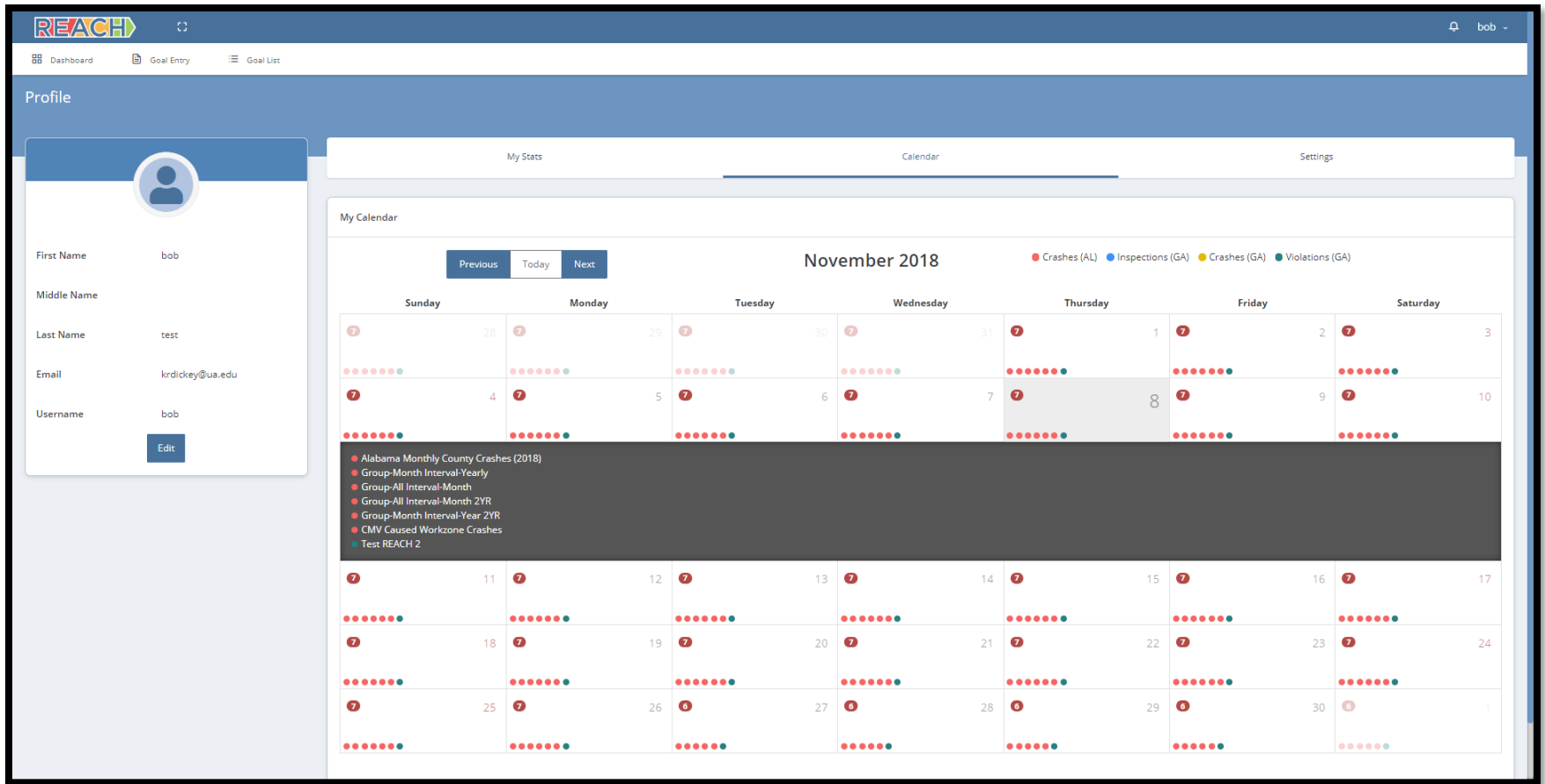
# Email Notification



The following list of goals have changed from pass to fail

Goal Name	Start Date	End Date	Last Status	Current Status	Current Value	Target	Target Value
P4b: Driver Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	8000
P4c: Vehicle Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	18000
P4e: Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	30000
P4f1: Inspections (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	8000
P5a: Following Too Close Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	100
P5d: Drug and Alcohol Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	80
P5d1: Drug Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	40
P5d2: Alcohol Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	40
P5e: Disqualified Driver (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	150
P5e: Seatbelt Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	850
P6a: RoD / HoS Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	4000
P6b: Size and Weight Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	600
P6c: Brake Related Violations (2017)	01-Oct-2016	01-Oct-2017	PASSED	FAILED		MAX	4000

# User Profile – Goal Calendar View




# User Profile

REACH

bob

DashboardGoal EntryGoal List

Profile



First Name

bob

Middle Name

Last Name

test

Email

krdickey@ua.edu

Username

bob

Edit

My StatsCalendarSettings

My Goals

Click to show goals


Crashes (AL)

Inspections (GA)

Crashes (GA)

Violations (GA)

REACH Test Data



Dataset	All
Active	8
Expired	20
Goals Count	44
Total Goals	44

Filter By..

P1a: Total Inspections (2017)

Inspections (GA)

01-Oct-2016 - 01-Oct-2017

Above 20000

QUARTER

Expired a year ago

P1b: Driver Violations (2017)

Violations (GA)

01-Oct-2016 - 01-Oct-2017

Above 16000

QUARTER

Expired a year ago

P1c: Vehicle Violations (2017)

Violations (GA)

01-Oct-2016 - 01-Oct-2017

Above 30000

QUARTER

Expired a year ago

# Thanks to Our Partners!

- Federal Motor Carrier Safety Administration
- University of Alabama
- Alabama Law Enforcement Agency (Motor Carrier Safety Unit)
- Arkansas Highway Police
- Mississippi Highway Safety Patrol (Motor Carrier Safety Division)
- Georgia Department of Public Safety (Motor Carrier Compliance Division)



# Thank You!

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