Innovations	Assistant Commissioner	Lead	Total Project Cost
Federal Fiscal Year 2021			
TBD	Tunnard	TBD	\$45,000
Enhanced Crowdsourcing for Operations	Tunnard	Sal Cowan	\$55,000
\$100,000			
Federal Fiscal Year 2020			
NJ - STIC Communications Plan	Russo	Amanda Gendek	\$60,000
Bluebeam Training for LPAs	Russo	Laine Rankin	\$40,000
\$100,000			
Federal Fiscal Year 2019			
UAS Strategic Plan Implementation	Russo	Nicole Minutoli	\$98,386
\$98,386			
Federal Fiscal Year 2018			
Connected Vehicle: Road Service Safety Messages	Tunnard	Sal Cowan	\$31,680
			\$31,680
Federal Fiscal Year 2017			
Data-Driven Safety Analysis	Russo	Dan LiSanti	\$18,564
Purchase and Eval. of Tablets for e-Construction	Patel	Yogesh Bhavsar	\$32,404
Purchase, Use, and Evaluation of UAS	Russo	Nicole Minutoli	\$47,956
			\$98,924
Federal Fiscal Year 2015			
Data-Driven Safety Analysis	Russo	Dan LiSanti	\$41,600
e-Construction, Stakeholder Partnering	Patel	Snehal Patel	\$21,464
			\$63,064

# STIC INCENTIVE GRANT PROJECT UPDATES

Improve safety
Faster construction
Reduced congestion
Improved quality & user satisfaction

## NJ STIC COMMUNICATIONS PLAN (FY20)



- Mission
- STIC Organizational Framework
- Audience
- Identifying Innovative Practices
- Accelerating Innovations through Communications Toolbox
- NJ STIC Communications Tools
  - Tools and Frequency
  - Recent and Proposed Communication









## ENHANCED CROWDSOURCING FOR OPERATIONS IN NEW JERSEY

February 2020

# NJDOT MOBILITY OPERATIONS CENTERS

STMC Woodbridge (24/7)

## Cherry Hill (16/5)



### Monitoring conditions on 7,535 lane miles





### **Deployments**

- Nevada  $\bullet$
- **Central Ohio** •
- Missouri  $\bullet$
- Texas •
- North Carolina
- Utah
- San Francisco/Bay Area
- Western Florida •

#### Award Winning Technology







GovTech 100

SXSW Pitch Finalist 2020

SMART 50 Award 2020 & 2019

Government Innovation



GovTech 100

2020

2021

Nevada Chap 2019 Transportation Project of the Year

ITE Nevada Chapter

Transportation Project of the

Year

2019



Government Innovation Awards 2019



GovTech 100

2018



2018



Ones to Watch



## WAYCARE IS A CLOUD-BASED PLATFORM THAT PROVIDES AI SOLUTIONS FOR PROACTIVE TRAFFIC MANAGEMENT



Automated Incident Identification



Crash Prediction and Forecasting



Irregular Congestion Detection



Collaborative Tools for Faster Response



# STIC INCENTIVE GRANT PILOT GOALS

- Improve incident detection and roadway system monitoring
- Decrease response times to incidents and incident duration
- Understand value of data provided by crowdsourcing information service (Waycare).
- Compare data to State's NJTR-1 crash records (accuracy of crowdsourced data)



# STIC INCENTIVE GRANT PILOT KPI'S

- Number of incidents detected (Waycare vs. other sources)
- Improved internal and external communication channels
- User satisfaction
- Reduction in response times
- Reduction in overall duration of incidents



THE PLATFORM INGESTS DATA FROM A VAST AMOUNT OF SOURCES TO PROVIDE HIGHLY **ACCURATE INSIGHTS AND PREDICTIONS** 

M mojio

VOLVO UWAZE

iCone

GEOTAB.

Wejo

otonomo 🛝 Nexar

SIEMENS SECONDLITE

ticketmaster

**Climacell G**RANICUS

INRIX

## DIFFERENT SOURCES OF IN-VEHICLE DATA PROVIDE POWERFUL TRAFFIC SAFETY INSIGHTS



Vehicle sensors



Aftermarket telematics devices



Dashboard camera



loT-enabled devices



**Crowdsourced Data** 



Infotainment Systems





## DIFFERENT TYPES OF DATA FOR DIFFERENT USE CASES

#### AGGREGATED

#### Typically generated through probe data

#### Example output:

- Traffic flow / Speed
- Travel time
- Queue length
- Delays
- Volum**e**

# The SAME OF NEW LINKS

#### ANONYMIZED VEHICLE DATA

**Rich data** transmitted through connected vehicle **sensors** or aftermarket telematics devices

#### Example Data Points:

- Location (Lat/Long)
- Speed / Heading
- Driving Behavior (Acceleration, Deceleration, Harsh Braking, Automated Emergency Brake, traction control)
- Additional Metadata : (Fuel level, wiper speed, seat belts status,

#### Example Waycare Output:

- Automated incident detection
- On-road hazard warnings
- Crash predictions
- Dangerous weather driving conditions
- Intersection performance
- Work Zone Al





## NEXT STEPS

Authorize the pilot funding and finalize the agreement with Waycare

Begin the 3-step process for implementation:

1. Data onboarding and integration (Typically 2-5 months)

2.Test user phases - training and customization (Typically 1-2 months)

3. Full system deployment - including training (Typically 1 month)





## ENHANCED CROWDSOURCING FOR OPERATIONS IN NEW JERSEY





# 5 min. Break & Poll Question



#### Which one of these innovations would you like to drive?









Autonomous Vehicle Old Fashion Horse and Buggy Hybrid Tesla E-Scooter Tunneling Machine Bullet Train Bicycle









# EDC-6 BREAKOUT SESSION

BREAKOUT SESSIONS WILL BE RECORDED