



Introduction

Kevin Geraghty, Chief Operating Officer & Chief Safety Officer

SDG&E Committed to Risk Reduction



WMP Progress

45%

Reduced fault rate on the distribution system

100%

of HFTD drone inspections completed in 2022

100%

Ignition reduction from fuses in HFTD

84%

Reduced fault rate on the transmission system

100%

Ignition reduction when sensitive relay settings enabled

12,500

Trees per year with enhanced vegetation clearance

Reducing wildfire risk & PSPS impacts through:

- Advanced risk modeling & situational awareness leveraging artificial intelligence
- Continued grid hardening by increasing strategic undergrounding & covered conductor to achieve further reductions on distribution fault rate
- Increased customer support by expanding AFN support services & leveraging renewable resources
- Ongoing preparation through EOC exercises, community outreach, public education & public safety partnerships



Grid Hardening & Mitigation Efforts

Jonathan Woldemariam, Director of Wildfire Mitigation

PSPS Mitigations – Projections & Results



Reduced Number of Customers Impacted

3-Year Proposed Total	2022 Projected Total	2021 Total	2020 Total
30,830	7,145	9,961	13,724

*YTD as of 6/30

		2022 Projections	YTD* 2022 Results	Since 2020		2022 Projections	YTD* 2022 Results	Since 2020
Sections	PSPS alizing	10 Locations 4,607 Customers	6 Locations 7,508 Customers	34 Locations 22,589 Customers	Situational Awareness	8 Camera Installations 20 Weather Station Upgrades 6	3 Camera Installations 3 Weather Station Upgrades 5	21 Camera Installations 76 Weather Station Upgrades New
	rategic unding	65 Miles 2,533 Customers	11.07 Miles 708 Customers	41.5 Miles 518 Customers	Covered	Air Quality Sensors 60 Miles	Air Quality Sensors 12.6 Miles	Air Quality Sensors 43.1 Miles
Micr	ogrids	2 Locations 5 Customers	1 Location 1 Customer	6 Locations 578 Customers	Traditional Hardening	5 Miles	24.66 Miles	438.5 Miles

Wildfire Mitigations – Projections & Results



	2022 Projections	YTD* 2022 Results	Since 2020
Asset Replacement	4,861 Assets	3,440 Assets	13,813 Assets
Inspections	61,694 Inspections	53,244 Inspections	199,490 Inspections
Vegetation Inspections	250K Inspections	162K** Inspections	1.2M Inspections
Enhanced Clearances	12,500 Trees Removed/Trimmed	5,462 Trees Removed/Trimmed	35.1K Trees Removed/Trimmed



*YTD as of 6/30

**Most trees in HFTD have been inspected at least once but will be inspected twice by Sept

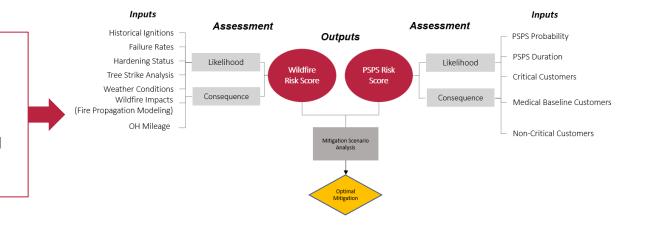
Risk Assessment Overview

2022 Advancements - Wildfire Next Generation Systems (WiNGS)



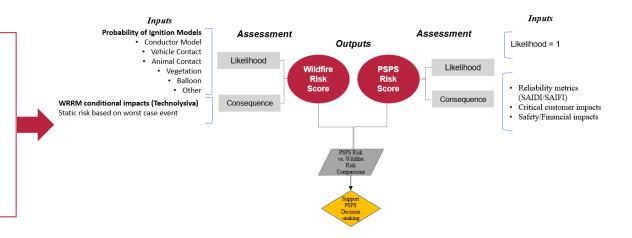
Planning

- · WiNGS Planning 2.0 complete for continued prioritization efforts
 - Development of segment-specific lifecycle cost savings methodology
 - Improved assessment of projected hardening increasing specificity of the way hardening phases are defined
 - Implemented update/refresh of all model attributes for improved risk assessment (e.g., WRRM, mitigation cost/mile estimates, historical ignitions, UG contingency factor, etc.)



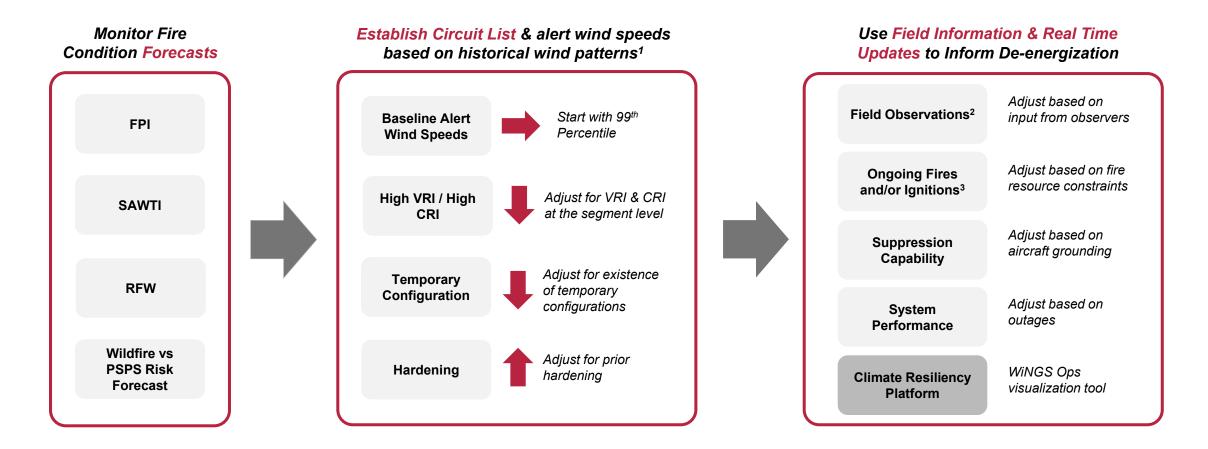
Operations

- Introduced a new wind-based vegetation PoF model, expected to be deployed in AWS Expanded PSPS Risk model to incorporate vulnerable (AFN) customers
- Developed a user-friendly, interactive & automatic risk platform to help anticipate, prepare for & react to EOC activations
- Cloud-based deployment of machine learning models to allow for process improvements
- Retrospective analysis of WiNGS Ops as used in PSPS decision making process



PSPS Decision-Making Framework





- 1) If fire potential is not extreme, it can also inform adjustments to alert wind speeds
- 2) Field observations do not change alert speeds
- 3) Ongoing fires do not adjust alert speeds, but rather adjusts our PSPS decision making when reaching alert speed

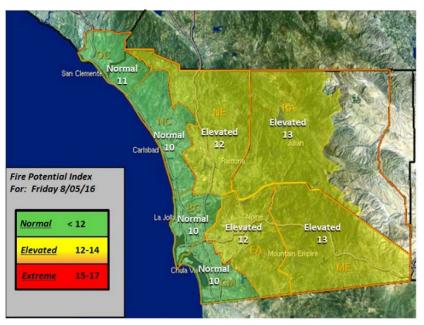


Sensitive Relay Profiles (Fast Trip)

Jonathan Woldemariam, Director of Wildfire Mitigation

SDG&E SRP Background





Seven Day FPI Outlook:

		Outlo						
	Today	Fri	Sat	Sun	Mon	Tue	Wed	Thu
	8/04	8/05	8/06	8/07	8/08	8/09	8/10	8/11
ME	Elevated							
	12	13	13	13	13	13	13	13
RA	Elevated							
	12	13	13	13	13	13	13	13
EA	Elevated							
	12	12	12	12	12	13	13	13
NE	Elevated							
	12	12	12	12	12	13	13	13
ОС	Normal							
	11	11	11	11	11	11	11	11
NC	Normal							
	10	10	10	10	10	10	10	10
ВС	Normal							
	10	10	10	10	10	10	10	10
СМ	Normal							
	10	10	10	10	10	10	10	10

Normal	Elevated	Extreme
< 12	12-14	15-17

Outage Response & Restoration				
Application	When extreme fire weather conditions or PSPS events are forecasted			
Dedicated Response Crews & Resources	 During Extreme FPI / PSPS Events, dedicated crews staffed for restoration & readiness response. Line SCADA crews are staffed 24/7 ready to respond to collect relay event records. Records are sent to System Protection Engineering for review. Records help determine proper operation & help with determining fault location. Feedback from Engineering provided to the operations teams for better situational awareness. 			
Automatic Testing / Reclosing / Step Restoration	 Protocols for testing / reclosing / restoration are no different between SRP & non-SRP conditions when under Extreme FPI / PSPS conditions. Automatic testing is not performed & reclosing is disabled. Patrol is required & step restore is performed for all outages. 			
Outage Customer Support & Communications	 SDG&E does not alter communications to customers when SRP is enabled. Outage response is no different for SRP outages versus non-SRP outages during an event SDG&E staffs 24/7 System Protection support to review all SRP outages in real time to provide situational awareness to our operations teams in support of faster restorations 			



PSPS Education and Outreach

Zoraya Griffin, Senior Communications Manager

Public Awareness & Communications



Augmented & diverse communications tools used to inform customers before & during a PSPS

Before

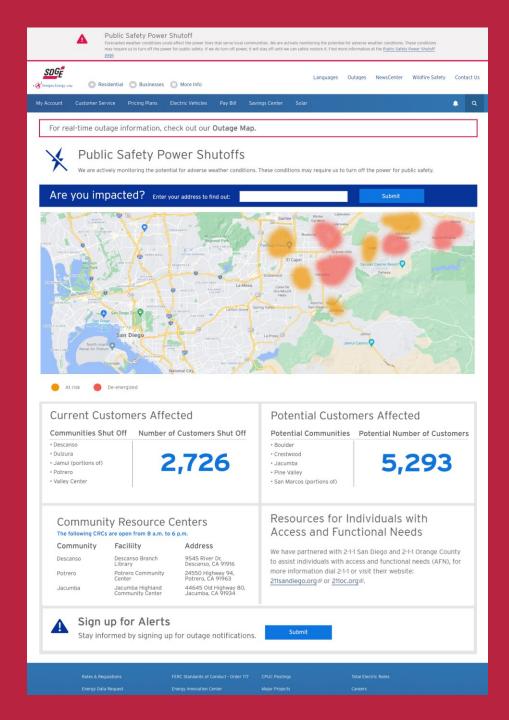


Year-long public education campaign • TV, Radio, streaming radio, social media, digital, print PSAs • Online Influencers • Wildfire Safety Fairs & In-community events • In-community newsletters, newspapers & social media pages • Community bulletins/posters in stores, supermarkets, laundromats, barber shops • Airport, train & bus depots video monitor messaging • Athletic events/stadium ads • Increased media and journalist education effort • Message amplification by CBOs & partners • Public education in-language & accessible communications • Simplified PSPS & Wildfire Safety webpages • Power outage & preparedness videos • Multiple customer & CBO surveys & research • Dedicated Spanish communications team

During

Leverage 20+ diverse communications platforms • Hyper-local outreach via Nextdoor & social media • Media & journalist outreach • PSPS mobile app & radio PSAs • In-community & roadside signage & flyer distribution • Message amplification by CBOs & partners • Customer notification refinement to accommodate in-language & AFN customers





PSPS Website Overview



Key Features & Content

- Address lookup tool
 - Customers can input their address & see if they are at risk, de-energized, patrolling or re-energized.
- Map with affected areas (heat map technology; AFN)
- Customers & communities at risk & shut off
 - Updated in real-time as customers are de- & re-energized
- Community Resource Centers (CRCs)
 - CRC look-up (customers input their address to find closest CRCs)
 - Addresses, amenities, hours & more information.
- AFN resources, landing page & personalized experience.

2022 Enhancements & Outlook

- Accessibility: Partnered with Center for Accessible Technology (C4AT) to build best-in-class accessible website & mobile app; implemented AudioEye tool.
- Utilized customer feedback from 2021 event, e.g., adding Google map links to CRCs & font size for customers affected.
- Improved mobile experience, better layout elements & font sizing.
- Website is built on Amazon Web Service's (AWS) cloud infrastructure.
 - Web servers auto-scale based on traffic & bandwidth needs increase.
- Utilizes a Content Delivery Network (CDN) and Web Application Firewall (WAF) to ensure stability & performance ("Black Friday" performance)
- Coded "lite" to help low-bandwidth customers

Partner Outreach & Engagement



Local Government Outreach



Tribal Outreach



- Listening Sessions
- Webinars
- EOC Tours
- Quarterly Contact Update
- Notifications Exercise

- Tribal Emergency Manager EOC Tour
- Listening sessions
- Survey & focus groups
- Feedback implementation

Liaison Functions

- Trained Liaison
 Officers to embed
 in local EOCs
- Ability to host partner Agency Representatives
- Coordination with local governments, public safety partners & tribes



AFN/MBL & Customer Resources

Danielle Kyd, AFN Customer Strategy Manager

AFN Expanded Support in 2022









Data Enhanced database of

individuals with AFN + self-identification campaign



PSPS Support

Renewed & expanded partnership opportunities





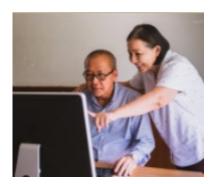
Accessibility

24/7 on-demand American Sign Language (ASL) comms., fully accessible websites & notifications



Community Partners

45 dedicated High Fire Threat District partners - increased support





Medical Baseline

Trained In Home Support Services Staff to increase outreach & dedicated marketing campaigns



Marketing + Research

Robust marketing campaign & dedicated AFN research panel

AFN PSPS Support



Community Resource Centers

Enhanced support including privacy screens, signage, dedicated parking & on-site ASL interpretation



Tribal Communities

Southern Indian Health Council (SIHC) & Indian Health Council (IHC) partners provide resiliency items, generators & other needs to tribal communities



Centralized Resource Hub

211 San Diego and 211 Orange County connect customers to resources & direct support from 1,000+ orgs (24/7/365, in 200+ languages)



Food Support

SD Food Bank & Feeding SD partners provide mobile food pantries at rural, tribal & PSPS sites, with warm food provided as needed



Transportation

FACT paratransit partnership provides accessible transportation to customers' location of choice



Hotel Stays

Salvation Army partnership provides no-cost hotel stays



Partnering with Community-Based Organizations (CBOs)

- Enhanced PSPS engagement efforts targeting trusted CBOs located in or reach customers in HFTD
- Wildfire Safety Fairs located in Ramona, Julian, Alpine & Valley Center
- Mini-Wildfire Safety Fairs in targeted communities within HFTD





Community Resource Center (CRC) Plan

Mark Mezta, Fire Science & Climate Adaptation Manager

CRC Operational Strategy



Locations & Support Offerings:

- 11 indoor CRCs are available*
- 3 new mobile CRCs available for deployment
- Standard Services are provided at each location
- Enhanced Offerings are available, if needed
 - Warm meals
 - Cell phone charging
 - Power inverters
 - Blankets

Comprehensive Site List: https://www.sdge.com/wildfire-safety/community-resource-centers

High Fire Threat District Community Resource Center S Fallbrook Warner Springs Q Valley Center Q Ramona 9 Julian Q Descanso 9 Pine Valley Q Lake Morena Q Dulzura Q Boulevard Q

^{*}Net change from 2021 is zero. Boulevard replaced Jacumba due to greater community benefit.



Backup Generation Programs

Jon Kochik, Customer Integrated Solutions Manager

Backup Generator & Battery Programs



Program	Generator Grant Program	Generator Assistance Program	Standby Power Programs
Overview	Portable backup battery provided to qualifying MBL & AFN customers in the HFTD at no charge (active Aug-Dec)	Portable fuel generator & backup battery (portable power station) rebates for qualifying HFTD customers, additional rebate for CARE customers (active Aug-Dec)	Provides a permanent generator to customers that have a high risk of experiencing a PSPS
2022	 Target: 600 - 700 batteries Including AFN with disabilities, tempsensitive & self-identified Online customer request form Continuing to evaluate program options for 2022 & 2023 	 Target: 1,250 rebates Update rebate process to allow purchase at additional retailers Include more models with safety features to qualified product list Higher rebates for portable power stations 	 On track towards 3yr target of 900 Integrate & test non-fossil fuel solutions Continue to expand mobile home parks, schools, critical facilities & Community Resource Centers candidates
Program Results to Date	 3,802 delivered since 2019 Streamlined process for active PSPS deliveries & Indian Health Council 98% of customers very satisfied, 94% very prepared 	 2,040 rebates provided since 2020 88% of customers are somewhat to very satisfied with rebate process 	 558 residential generators installed, with 367 currently in process 7 commercial installed, with 15 currently in process Began installation of Mobile Home Park resilience solution (solar + battery)



Critical Facilities & Infrastructure Plan

Alex Moffat, Manager of Business Services

Critical Facilities & Infrastructure (CFI)





Outreach

- Annual assessment of 1,400 unique CFI customers' emergency preparedness
 - Revised emergency preparedness survey
 - Updates to 27k+ CFI accounts (contacts, BUG capabilities, emergency preparedness)
 - Inform customers of resiliency & emergency preparedness



Dedicated CFI website

www.sdge.com/psps-critical-facilities



Partnerships

 Partnered with Telcos to ensure SDG&E's 800 numbers are not listed as SPAM



Webinars

Two webinars planned with Critical Facilities
 & Infrastructure - late July & early August



Resources

- SDG&E does not provide emergency backup generation
- Emergency backup generation is considered during incidents where health, life or safety of the community is at risk



Notification Plan & PSPS Exercise Reports

Mona Freels, Emergency Services Manager

Notification Plan Overview



In-language translations

 PSPS notifications translated into 22 prevalent languages & American Sign Language (ASL) video



Consistency across platforms

 Develop customized talking points for each audience to ensure "OneVoice" communications



Coordination with stakeholders

Coordination with public safety partners is key to achieving operational coordination & synchronized messaging



Lessons learned

 The After-Action Review (AAR) is used to identify, document & incorporate PSPS-related decisions & actions into the continuous process, quality improvement & learning cycle



Objectives

- Develop strategies to ensure timely notifications are made as prescribed
- Promptly acknowledge the incident with a commitment to provide stakeholders more information
- Speak with "OneVoice" to provide a consistent message to all stakeholders
- Be transparent by proactively offering a continuous stream of updated & relevant information
- Reach all stakeholders by communicating across every possible channel
- Tell our story leveraging visual communications & third-party support to help tell that story

PSPS Exercises

Notification Functional Exercise May 24-26

- 3-day operations-based exercise focusing on PSPS notification & communication procedures
- Scenario encompassed all PSPS Stages
- Validated notification & communication procedures & tested applicable systems

Tabletop Exercise June 27

- Discussion-based meeting validating PSPS decision making & operational coordination
- 100 Participants encompassing both SDG&E personnel & Public Safety Partners
- Focus on real-time de-energization decision making & AFN coordination

EOC Functional Exercise August 15

- Operations based exercise involving EOC activation & PSPS operational response
- Planning process integrated with public safety partners
- Validating improvements made from the Notification Functional Exercise





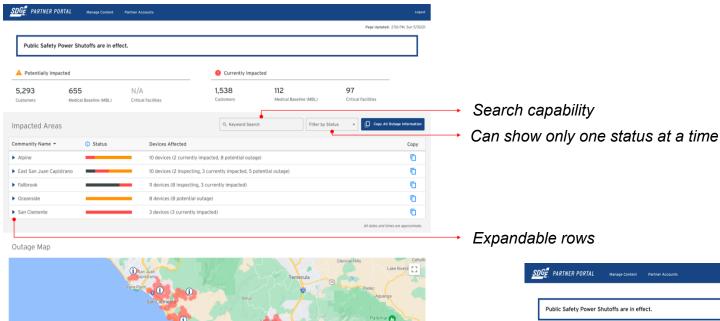
PSPS Opportunities

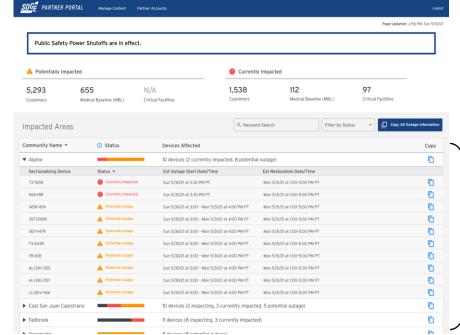


Improvement Opportunity	2022 Programmatic Responses
The primary public safety partner notification system degraded forcing the successful use of back-up processes with no impact to notifications.	 The technical problem was identified & corrected. Currently updating documentation & training to ensure responders can activate secondary protocols.
 Segments of the PSPS notification process were not completed in sequence. 	 Successfully piloted an approval process & codifying into documentation & training.
Increased number of new Emergency Operations Center responders.	 Incorporated basic EOC procedures into Summer Readiness Training. Developing targeted training for new responders.
Limited sandbox environments strain exercise realism.	 Developing a proposal to design training environments for applicable systems.

PSPS Portal – Partner View





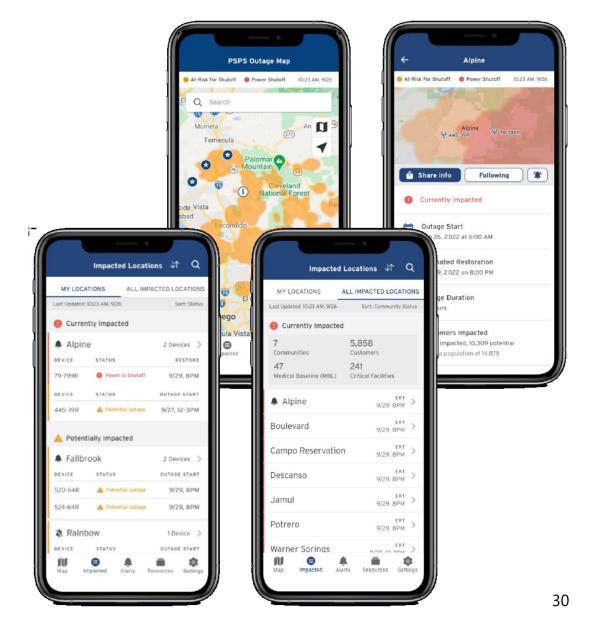


Each community now has several rows nested underneath to display incoming sectionalizing device data

Public Safety Partner Mobile App



- Going live Sept. 2022
- Near real-time mapping capability with a link to secure GIS portal
- Ability to "follow" multiple jurisdictions
- Ability to customize push notifications
- Devices listed by community with impact information
- Resource page for additional resources
 - Social media kit
 - 24/7 contact information
 - Community flyer





Improvements to Data Accuracy in Post-event Reporting

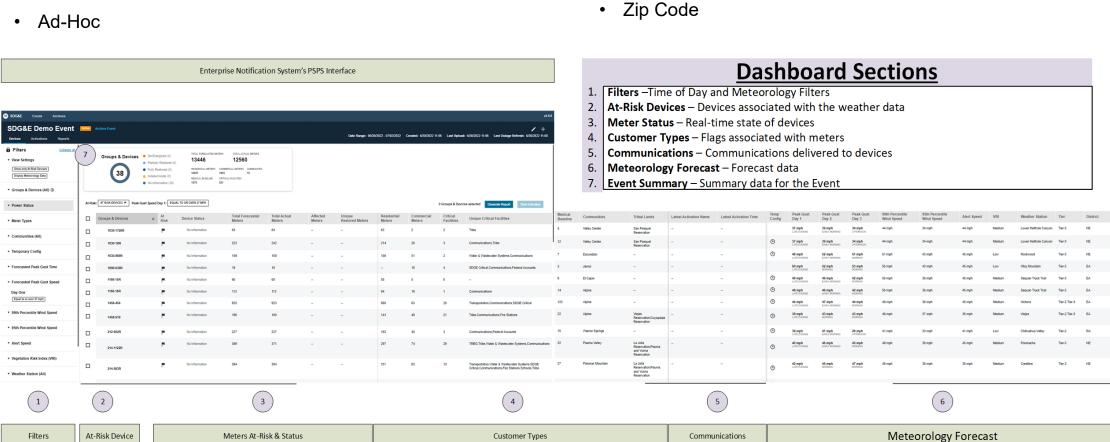
Jonathan Woldemariam, Director of Wildfire Mitigation

Enterprise Notification System (ENS) Incident Reports



Report Types

- Pre-Incident
- End of Day
- Post-Incident
- Ad-Hoc



At-Risk Meters Detailed Statistics:

Communication Attempts

Community / Tribal Lands

Types: Life Support, Commercial, AFN

ENS Dashboard & MBL Automation



- Event Specific Portal dedicated to At-Risk device communications and statistics.
- Events have unique URL for EOC Responders.
- Outbound Communication Activation Reports are generated by administrator & are available for EOC responders in the Portal.
- Not contacted Medical Baseline data is imported into a <u>Medical Baseline Dashboard</u>.

The Dashboard provides visibility to:

- Agent has been assigned
- Contact attempts
- Positive contact
- Ticket created to deliver door knock

