

# 2018 Operations Program Annual Report



# INTRODUCTION

This year marked the 20th anniversary of the Statewide ITS Program and my time leading the Operations Program as the System Operations & ITS Manager. Much has changed since April of 1998 when I started in this role. To celebrate this anniversary, this year's Operations Program annual report features a time line of key milestones in the development of ODOT's Operations Program. While it is amusing to look back at how our use of technology has evolved over time, it should also inform us that this trend will continue – more changes will come. This year was filled with news about developments related to automated and connected vehicles and their potential to disruptively change transportation. To prepare for that, we completed an Operations Program Plan in August that outlines the actions needed to further mature the program and to prepare for the next challenges related to operating the transportation system.

While it is important to both reflect on the past and look to the future, my favorite feature of this annual report is the opportunity to highlight and celebrate the excellent work by the staff within ODOT's Operations Program. I'm thankful to work with such an outstanding group of professionals that are committed to their role in moving people and goods safely and efficiently.

Here's to another year. Thank you for your partnership and support.



Galen McGill, Systems Operations & ITS Manager

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Operations Program Time Line

1995

OSP Transfers  
976-PASS number  
to ODOT



Portland/  
Vancouver to  
Boise ITS Corridor  
Study

1996

# PROGRAM PLAN

## Operations Program Plan

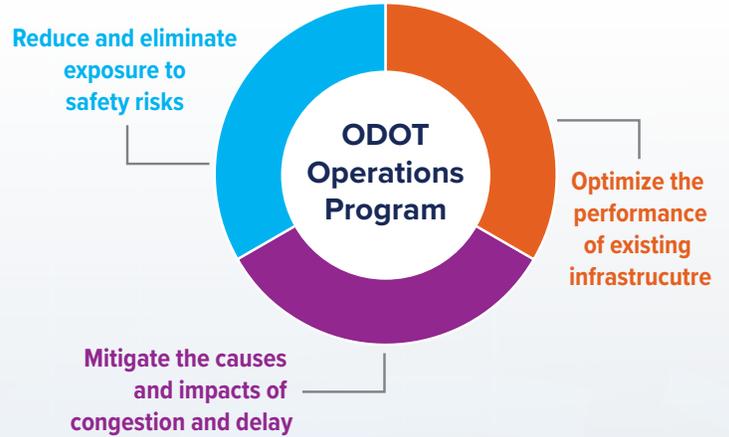
Traditionally, transportation agencies have focused on building and maintaining the transportation system. Beginning with the Intermodal Surface Transportation Efficiency Act in 1991, there has been a growing realization that transportation agencies have an equally important role in actively operating the transportation system. The Oregon Transportation Plan, adopted in 2006, emphasizes this point by making management and efficient operations of the system one of the seven policy goals for transportation in Oregon.

ODOT's Operations Program has continued to evolve as the operations role has become a core part of ODOT's mission. By implementing affordable strategies and technology enhancements to the transportation system such as Traffic Incident Management, ramp meters, traffic signal operational improvements and variable speed limits, we can see noticeable improvements in safety and efficiency.

Through a Federal Highway Administration grant, ODOT had the opportunity to self-evaluate the effectiveness of its Operations Program using tools developed through the SHRP 2 research program. ODOT utilized the results of the self-evaluation process, internal employee survey results and discussions with various ODOT leadership teams to develop an Operations Program Plan that was published in August. Implementation of the plan will not only build a stronger program but it will also create more awareness of the program and its increasingly important role in our agency.

## Mission

**Move people and goods safely and efficiently**



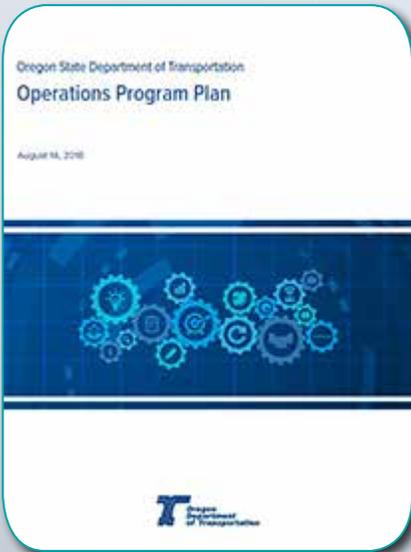
## Action Items



### Near Term (1–3 years)

2018    2019    2020

1. Develop a funding program to handle Operations projects that are too big for local region/district budgets but are not "big enough" to go through to STIP process.
2. Create an "Operations Guide" that clearly identifies and defines the Operations Program leadership structure, decision making authority, role and responsibilities, and key processes.
3. Develop a Traffic Signal Management Plan to set clear targets and goals related to signal operations.
4. Create an Operations Program Training Plan. Examine the current training that is supplied for all Operations positions, identify strengths and deficiencies. Develop a strategic approach that sustains and expands our strengths and addresses the deficiencies.
5. Develop a Recruitment and Retention strategy for Operations Program positions initially focused on difficult-to-fill positions.
6. Collaborate with the private sector on Operations data. Share agency data and monitor continued improvements in private data sources and tools for program use.



## Business Processes/ Planning and Programming

## Performance Measures

## Organization and Staffing

## Collaboration

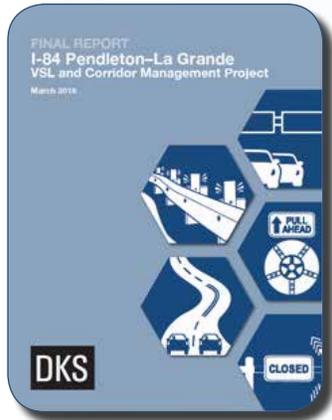
Santiam Pass camera is ODOT's first web cam

1997

Trip Adviser Web site launched

# ENGINEERING

The Intelligent Transportation Systems Engineering team worked on approximately 95 projects in support of ITS and traffic signal operations in 2018. This included projects at the planning, engineering design and construction support stages. Some noteworthy projects include:



## I-84 Snow Zone Improvements in Region 5

The ITS Unit and Region 5 worked with a consultant to develop a transportation system management and operations (TSMO) plan for the Interstate 84 corridor from Pendleton to La Grande. The intent was to identify solutions to improve safety and operations along the I-84 and I-82 corridors in Region 5. This section of interstate poses challenges to motorists due to the terrain changing from desert to mountain passes with sections of sharp curves and steep drop-offs. Weather through Eastern Oregon creates additional challenges, with some sections experiencing snow or ice on the road for up to 60 days of the year.

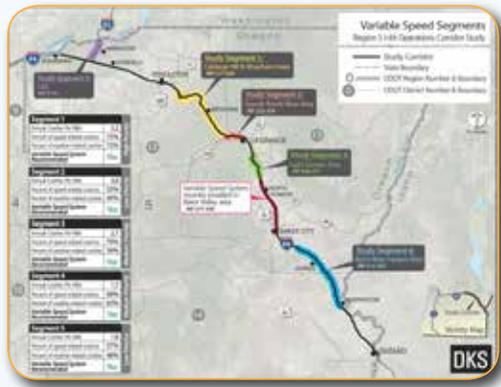
The I-84 Snow Zone Safety Improvement project consists of a 46 mile corridor between Pendleton and La Grande comprised of 18 VMS for weather warning, 11 VMS for general purpose operation, 2 VMS for curve warning, 1 VMS for snow zone chain conditions, 11 RWIS, 9 traffic sensors, 23 cameras, and 1 remote activated ramp gate. The weather warning message signs will be completely automated in their message posting by using ITS's Active Traffic Management (ATM) software to provide instant notice to drivers approaching hazardous conditions. The system is designed in such a way that will provide the capability of becoming a variable speed limit or speed advisory system if the Region decides that they have a need for it. Additionally, one of the main purposes of this system is to provide advanced incident and weather warning for vehicles on Cabbage Hill, a section of highway that separates and passes through a mountainous area with a large elevation change and steep drop offs. Due to the lack of utility power availability, ODOT will be installing, owning, and maintaining 6 miles of utility medium level voltage power distribution line, which is not currently being done anywhere else in the state.

Initiation of  
Statewide ITS  
Program

California-Oregon  
Advanced  
Transportation  
Systems Project  
(COATS)

Oregon ITS  
Strategic Plan

1998



### Mt. Hood Variable Advisory System

This project installed ITS features along US26 and OR35 near Mt. Hood in an attempt to slow motorists down due to winter road conditions. ITS Engineering designed the Mt. Hood variable advisory system in the years 2014-2016. The project was under construction from 2016-2018. The system was commissioned during the summer of 2018 and was turned on in November of 2018. This systems consists of pavement sensors that monitor the road conditions, weather stations that monitor the atmospheric conditions, cameras, traffic sensors, and a variety of variable message signs and drum signs. Active Traffic Management (ATM) software automatically collects the roadside condition data and posts advisory speeds and warning messages along their respective segments. ITS Engineering will be working with Region 1 Traffic for evaluating the performance of the system.



I-84 @ Cabbage Hill in Winter



Mock-up of I-84 at Cabbage Hill with ITS improvements (to be constructed in 2019).



ITS Maintenance Plan

## DOING A LOT WITH A LITTLE

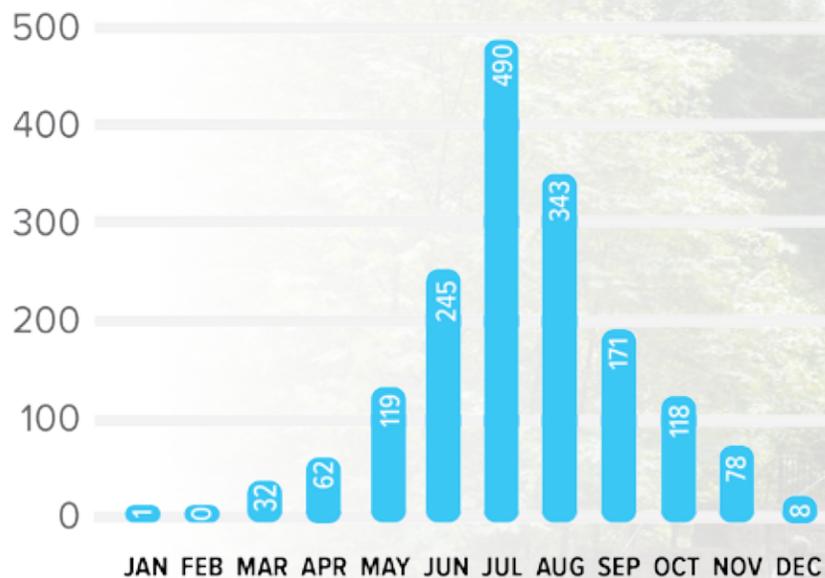
### Multnomah Falls Upgrades

Originally designed in 2011 and constructed in 2013, the Multnomah Falls parking management system was implemented to mitigate the safety issues caused when the parking lot fills. During peak usage, the queue from cars entering the parking lot backs up into the fast lane of I-84. Prior to the system, maintenance employees were dispatched to manually close the ramp typically on weekends and holidays. Since this problem had been growing in frequency of occurrence, this system was implemented to eliminate this labor intensive approach to managing the parking lot, but the implementation hasn't been without its challenges.

On several occasions, motorists have either ignored the signage indicating the exit was closed due to the lot being full or chose not to obey. Often times the gate arms would be damaged by motorists running in to them. Region 1 Traffic felt that the blank-out signs used to notify the motorists that the lot was closed could be improved by replacing with larger more visible variable message signs. A project was put together to replace the signs with variable message signs.

In addition to the sign upgrades, the gate's flashing beacons were replaced with brighter LED lights and the transmission of the gate with the longest arm was replaced. This longer arm gate would often trip the circuit breaker to the motor due to the acceleration of moving such a large arm and with the high winds of the Columbia Gorge. ITS replaced the transmission with lower gearing to slow the operation time of the gate. This then reduced the amount of the current drawn by the motor and eliminating the circuit breaker tripping issue.

### Multnomah Falls Gate Activations per Month for 2018



Damaged gate from vehicle impact



Multnomah Falls before project – Small Blank-out Sign



Original Multnomah Falls parking management system



Multnomah Falls after upgrade project – Installed larger color VMS

## ITS AND REGION 2 MAINTENANCE AND OPERATIONS PARTNERSHIP

In 2018, the ITS Unit has been working closely with the Region 2 Maintenance and Operations office and many of the Districts to upgrade obsolete Region 2 ITS assets and improve existing systems with simple and cost effective solutions. These are just some of the examples.

### OR569 Beltline Travel Times

OR-569 Beltline Highway is a congested highway near Eugene. The corridor has a few radar sensors in support of ramp metering, but not enough to use Active Traffic Management solutions to automate congestion warning messages. The existing VMS along the corridor were being activated nightly by the incident responders calling dispatch and activating a generic congestion warning message on the signs. To help relieve staff of this manual sign message activation process and to improve information to the public about where delays were occurring, the ITS Unit worked with District 5 to purchase Bluetooth sensors and install them along the corridor. With the Bluetooth sensors, ITS software systems are able to calculate travel times along the corridor and post travel times on variable message signs at key segments. The travel times are also posted to TripCheck and to public via TripCheck Traveler Information Portal (TTIP). Local news stations are subscribing to this data feed and now showing the information in their news broadcasts.

This simple install was a cost effective solution until a future project installs additional radar sensors along the corridor. When this occurs, the signs will be capable of also displaying accurate congestion information per lane.



TripCheck showing the travel times of OR569 in Eugene



Travel time message for OR569 MP7.66 EB sign



Travel time message for OR569 MP11.96 WB sign

### RWIS and Cameras

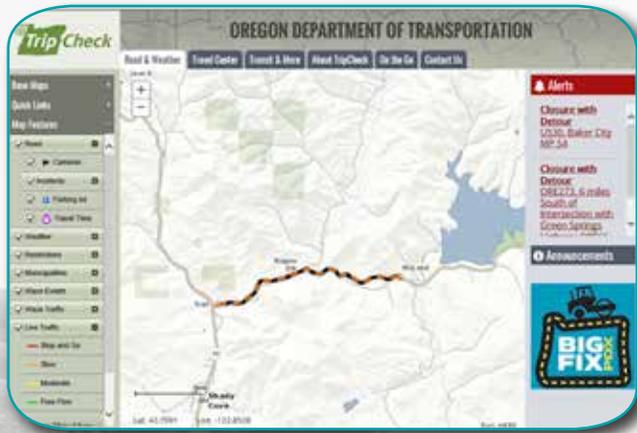


Curve Warning Signs with RWIS and Cameras

Automated updates replace manually recorded messages for the 800-977-ODOT line

2001

# TRAVELER INFORMATION

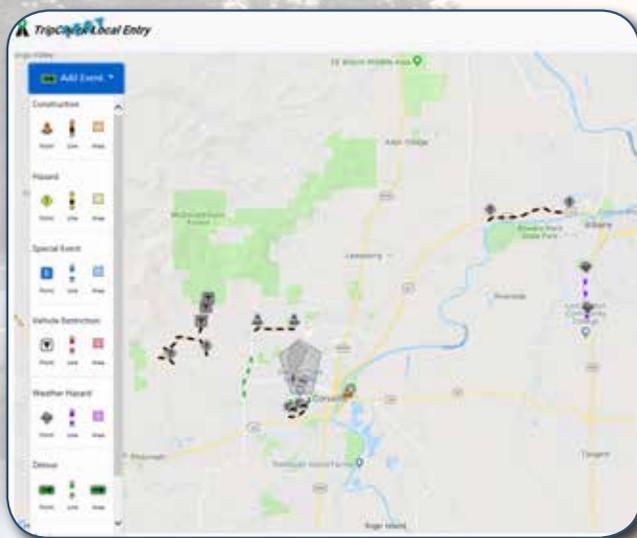


Traveler information is more than TripCheck and 511. Included under the Traveler Information umbrella is TripCheck Local Entry (TLE) and TripCheck API (formerly TTIP). Both of these systems serve to enhance the traveler experience and the project team has been hard at work enhancing these two subsystems.

## ENHANCEMENTS

### TripCheck

One enhancement occurred this year was related to Dynamic Lines. A new orange and black striped line was placed on TripCheck to indicate chip seal projects. This allows districts to visually show where recent chip seals have been completed.



### TLE

TripCheck Local Entry allows users from outside agencies to add incidents to ODOT's TripCheck website and TripCheck API data portal. The current interface was built over 10 years ago and customer feedback let us know that the interface was difficult to use and not well suited for today's mobile environment.

Currently, the TLE project team is working to improve the input experience by streamlining the incident entry process using a mobile friendly map-based interface. The login process will also be streamlined and will use a verified social media credential to authorize access to the system. Our goal is to roll out the new version in the spring of 2019.

### TripCheck Portal

ODOT freely distributes Traveler Information data through a system called TripCheck Traveler Information Portal (TTIP). TTIP is going through a modernization project that will upgrade the architecture and technology, standardize feeds, and increase refresh frequencies.



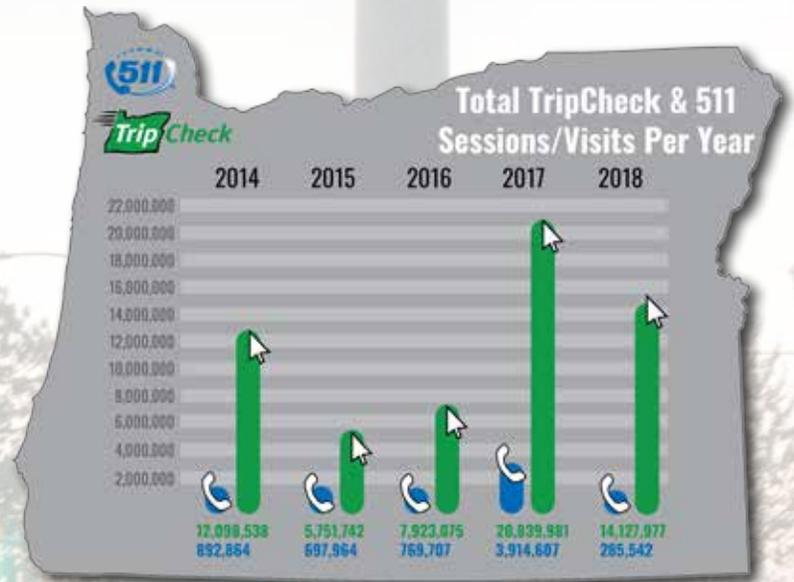
In addition to streamlining the usage, ITS will be piloting a program that uses the Signal Phase and Timing (SPaT) and MapData (MAP) sets to provide the information needed for future vehicle navigation and alert systems to provide near real time information to the driver about signal changes.



### Future enhancements

Even though our Traveler Information program is mature, there is always room to improve our information delivery to travelers. Plans for the future include:

- Updating our Social Media interface to easily add/remove platforms.
- Improve our presence on Twitter by increasing the character count and adding graphics.
- Enhance our road and weather and snow-zone graphics to improve traveler experience.
- Adding Smart Work zone and moving Work zone information to TripCheck.

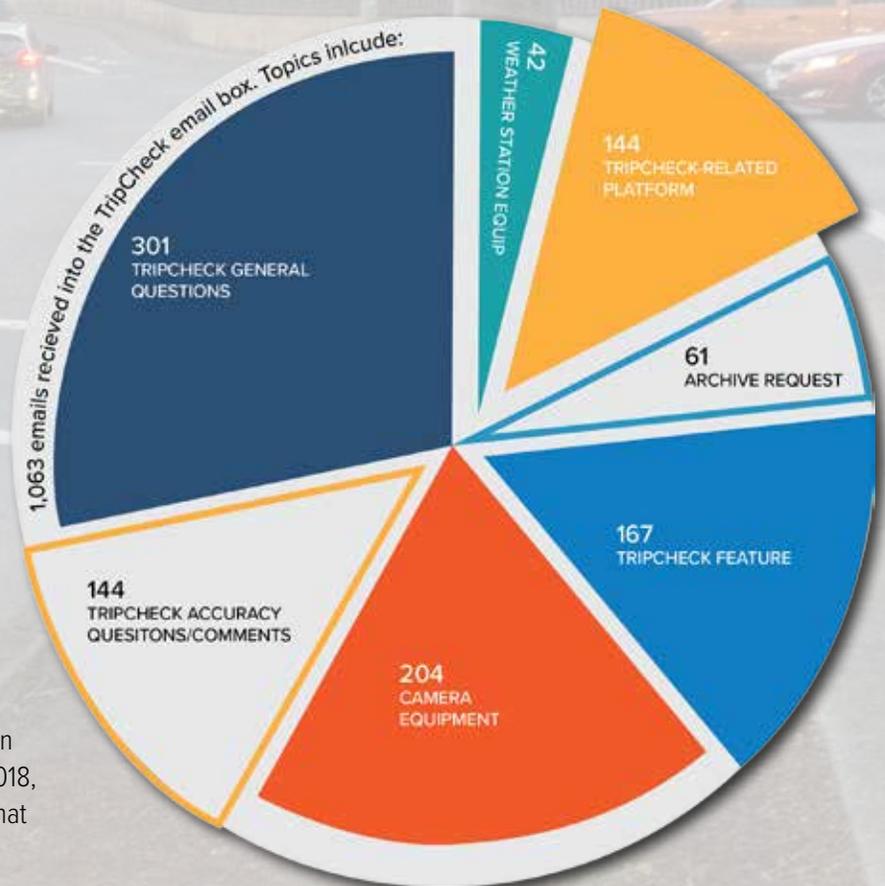


### USAGE

Usage: Direct contact

We invite the public to email us with comments or concerns.

In 2018, we received:



### TWITTER

TripCheck uses Twitter to provide up to the minute information to followers on specified sections of highway in Oregon. In 2018, TripCheck originated 60,044 Tweets to the 40,135 followers that subscribe to one or more of the 58 TripCheck feeds.

TWITTER, TWEET, RETWEET and the Twitter logo are trademarks of Twitter, Inc. or its affiliates.

511 Service Implemented

2003

# TRAFFIC INCIDENT MANAGEMENT

2018 was another year for the record books. We trained over 1,200 responders and continued to advance our programs statewide. Several of our 2018 program highlights are presented below.

## Oregon Alumni TIM Trainers

2018 was successful on many different levels for the TIM Program. One milestone that we accomplished was getting our trainers from across the state, all 140 of them, into the same room for a chance to review updates to the new Oregon specific curriculum. This was a great opportunity to see familiar faces, hear effective training methods, and allow the program to get some feedback on how the training is going.

The updates included adapting the 2017 FHWA TIM Training Program and included updates made to the photos, data, and laws that were specific to Oregon.



## COMMUNICATIONS

Facebook has been a key strategy of the TIM program since 2016. The Oregon TIM Responders page on Facebook continues to grow and create more and more effective outreach through social media. Establishing page has created an identity for the program and the ability to maintain regular contact with the TIM community across Oregon and beyond.

Other pieces of our communication strategy have been imperative to the success of our program; strategies such as the TIM Trend monthly newsletter and face-to-face meetings including our annual TIM workshop and Regional TIM Team Meetings.

Our TIM communication strategy was recognized nationally when we received an award from the National Operations Center of Excellence. Oregon was picked as the national winner in the category of Public Communications. This award drives home the commitment and passion that the TIM Team has for building a community of First Responders that work together to safely and quickly clear incidents.

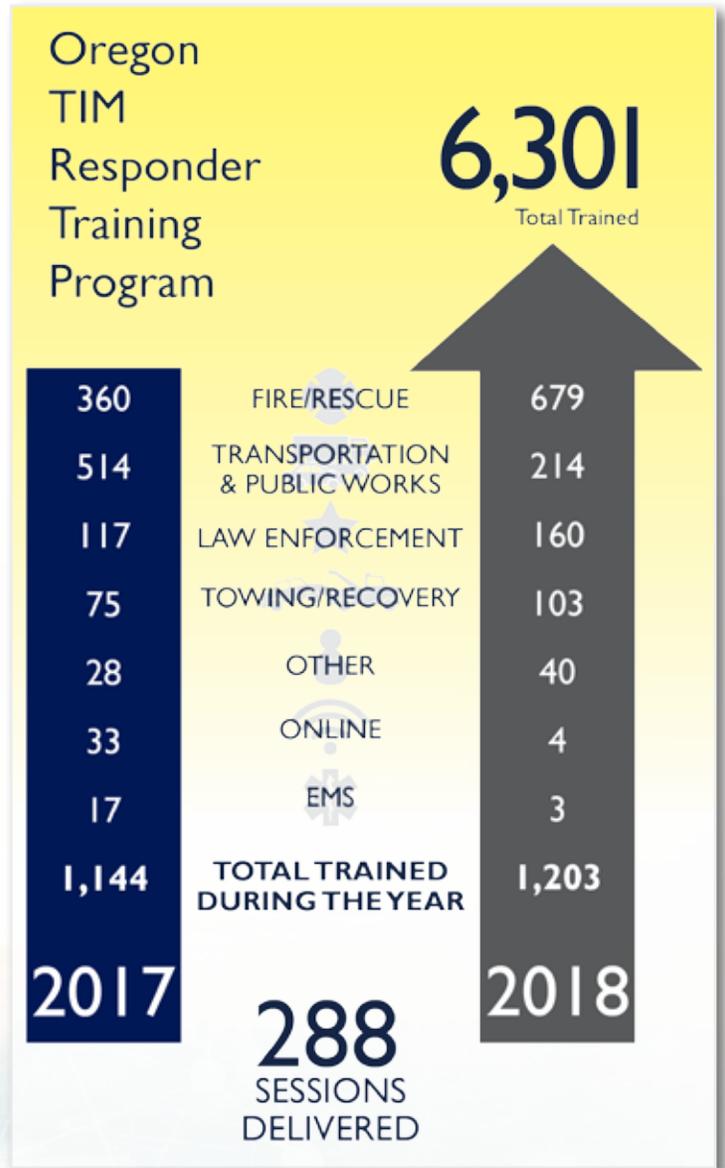


## TRAINING

### TIM Training

We have trained 6,300 people through 280 sessions since we started training. We achieved our goal of 20% trained in the state of Oregon in January 2018.

In 2018, we hosted our 7th Train the Trainer event raising the number of trainers to 140 statewide. It is important to recognize that these dedicated individuals are the backbone of the program and are responsible for its success.



TripCheck 2.0

2005

### Push, Pull Drag Training/ EVOC Training

The Push, Pull, Drag (PPD) and the Emergency Vehicle Operations training programs are vital for ensuring ODOT has the tools needed to perform Safe, Quick, Clearance.

Following an updated PPD training program in 2018, ODOT has made more use of PPD technologies. The graphic to the right shows the increased usage of PPD strategies by ODOT staff. Push, Pull and Drag techniques greatly reduce the time required to clear lanes.



### First Responder Training

In 2018 we launched an updated version of the First Responder Operations Training curriculum in a workshop to deliver the updated materials to ODOT trainers.

In addition, we have updated the Operations Refresher training allowing for efficient review of information from year to year for our maintenance staff and incident responders. We also updated the First Responder Awareness course to be an online course available through iLearn in early 2019.

## Statewide Pushed, Pulled & Dragged Vehicles



TripCheck  
Traveler  
Information Portal

2006

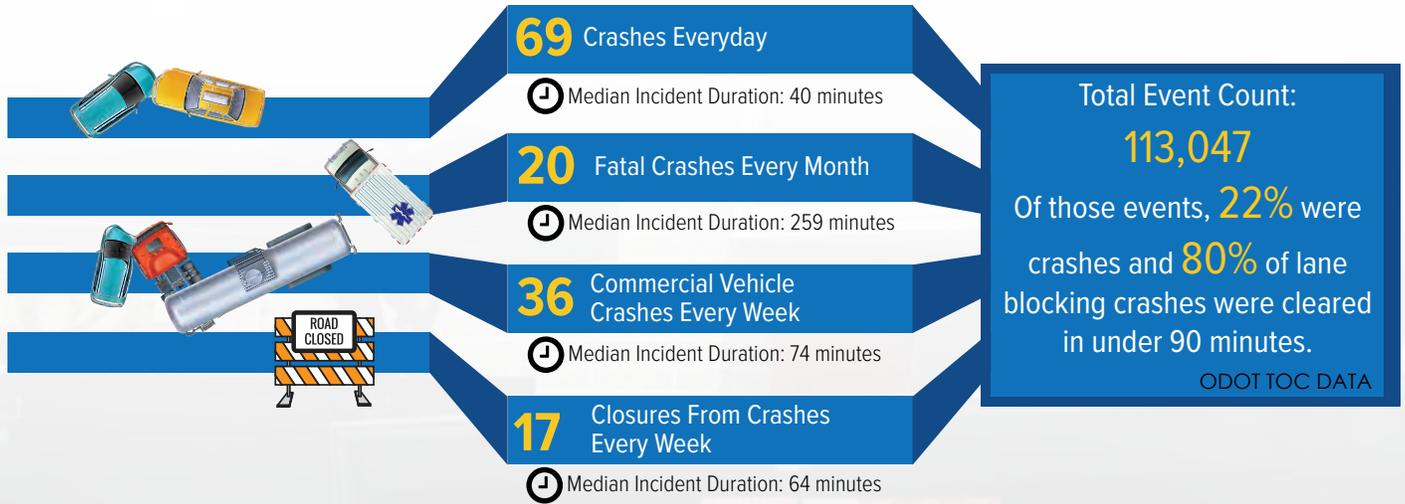
**Performance Measures**

TIM performance measures enable us to identify trends, prioritize program activities, track performance and set realistic goals.

A snapshot of 2018 Oregon State Highway incidents performance measures is shown in the graphic below.

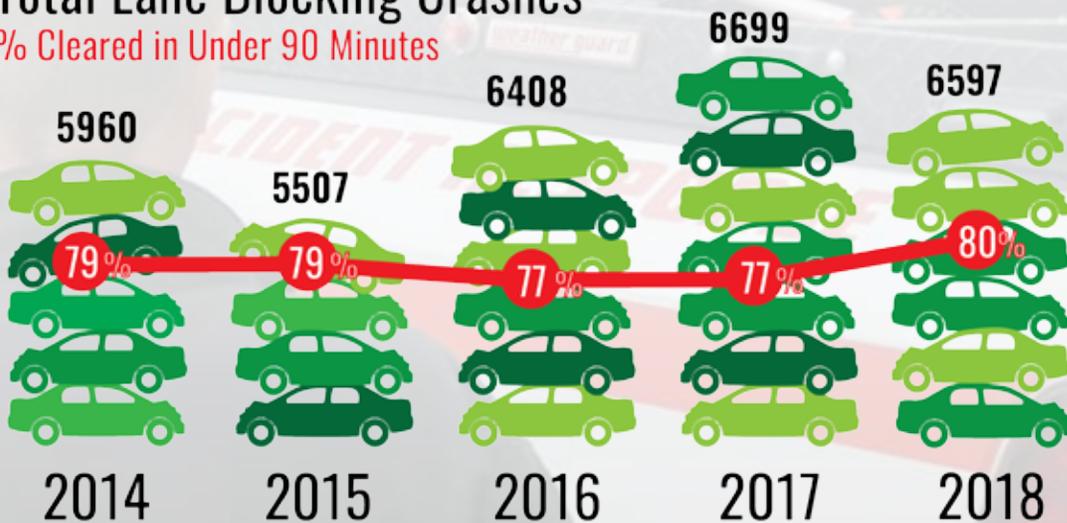


**2018 State Highway TIM Performance Measures**



One of ODOT's key performance measures is the percentage of lane blocking crashes that are cleared in 90 minutes or less. The goal is 85% and as you can see from the graphic, we made a slight improvement, clearing 80% of crashes within the 90 minute goal.

**Total Lane Blocking Crashes**  
 % Cleared in Under 90 Minutes



NESTUCCA

2007

Transportation Options system added to TripCheck

TripCheck Mobile website launched

# SYSTEM OPERATIONS PERFORMANCE MEASURES

The Performance Management Plan is nearly two years old and we are making great strides in providing meaningful measures in many program areas. We have better access to data, are adding new data and are making the reports more accessible to audiences who use the reports.

## Improved Access

Operations Performance Measures have a broad base of customers who use various reports. In an effort to provide easier accessibility, all reports have been consolidated in 2 main locations. For customers outside of the ODOT domain, reports can be found on the Traffic Incident Management internet page: <https://www.oregon.gov/ODOT/Maintenance/Pages/Traffic-Incident-Management.aspx> Reports designed for Oregon State Police and local TIM teams are available on this site.

For internal ODOT customers, reports can be found on the [Inview General Reports](#) page.

## The Enterprise Data Warehouse

Project completed in August, 2018. This project:

- Consolidated and eliminated unused reports
- Improved access to data
- Updated business rules for data processing
- Improved documentation of report parameters

## New reports

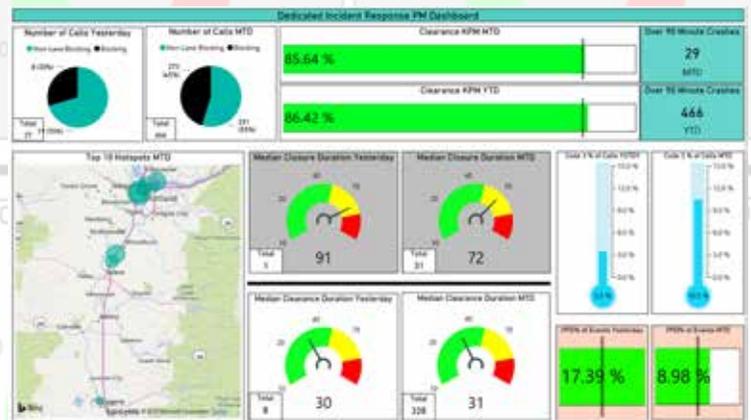
Several reports have been developed or refined in the past year. Some examples include Push/Pull and Drag, Code 3, Asset rating and TOC workload reports.



## Dashboards

Dashboards are an aggregation of information related to a specific program area. For example, the Incident Response dashboard gives users at-a-glance information for yesterday along with month-to-date operation numbers in a graphical form. They are designed to give operations program leaders and participants a “heads up” glance into a number of performance areas.

A dashboard for TOC operations has also been developed and additional dashboards are planned for the future.



## Future enhancements

We have more improvements planned. Plans for the future include:

- Updating the Dashboards to link to full reports on a specific topic.
- Adding Intertalk (formerly Pantel) dispatch communications console data to the Data Warehouse.
- Continuing to focus on the TSMO Performance Management Plan as a touchstone for future development.

# TRAFFIC SYSTEMS SERVICES UNIT

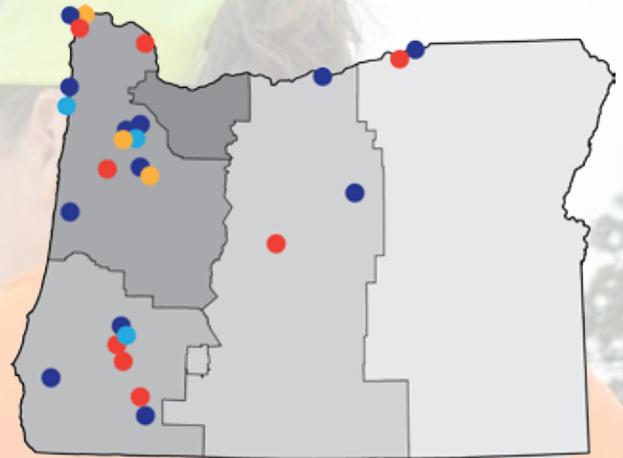
The Traffic Systems Services Unit works with the electrical, traffic and signal timing staff to ensure new signals and cabinets are tested properly, installed to code and existing systems are inspected annually. In every corner of the state, they have completed a significant amount of work in 2018.



## Chamber Testing

Environmental chamber testing takes several days to hook up a cabinet, test it environmentally in hot and cold conditions and ensure that it's ready to operate in the field.

In 2018, 110 cabinets and hundreds of additional pieces of signal equipment were tested in the chamber, ranging from controllers to monitors and video equipment.



## ATC Installs

- Astoria ATC & radar detection installation
- ATC installation - McMinnville (7 signals) & Mission St (7 signals)
- Hwy 214 @ Woodland

## Signal Modifications

- Garden Valley
- Saint Helens RxR upgrade (7 signals)
- Stewart Parkway @ Harvey and Edenbower – Roseburg
- Butler Market @ Purcell
- Table Rock @ Biddle
- Hwy 101 @ Ensign Ave and @ Portway
- Division @ Revere (RxR modification)
- Hwy 42 @ Grant Smith Rd and @ Roberts Creek
- Garfield @ Center –TO/CO -- Medford
- US 730 @ Brownelle –
- Hwy 20 @ 35th

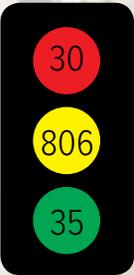
## Projects

- Completed: Tillamook, Newberg/Dundee Bypass and Garden Valley (loop project)

## Signal turn-ons

- 2nd @ Adams, 2nd @ Baker – McMinnville
- (2) Temp Bridge signal turn-ons – District 7
- Ensign Ave @ Walmart/Costco, Warrenton
- (2) Temp Bridge signals – Trout Creek and Spanish Hollow
- Elm @ 11th, Orchard @ 11th – Hermiston
- Main @ First – Tillamook
- Pine @ 4th & 2nd
- Central @ Calapooya – Sutherlin
- Temp Bridge signal – McKinney Slough
- Dundee Bypass
- Table Rock @ Airport – Medford

## TSSU Completed



30 Traffic Signal Turn Ons & Modifications

806 Annual Traffic Signal Inspections

35 External Traffic Signal Inspections

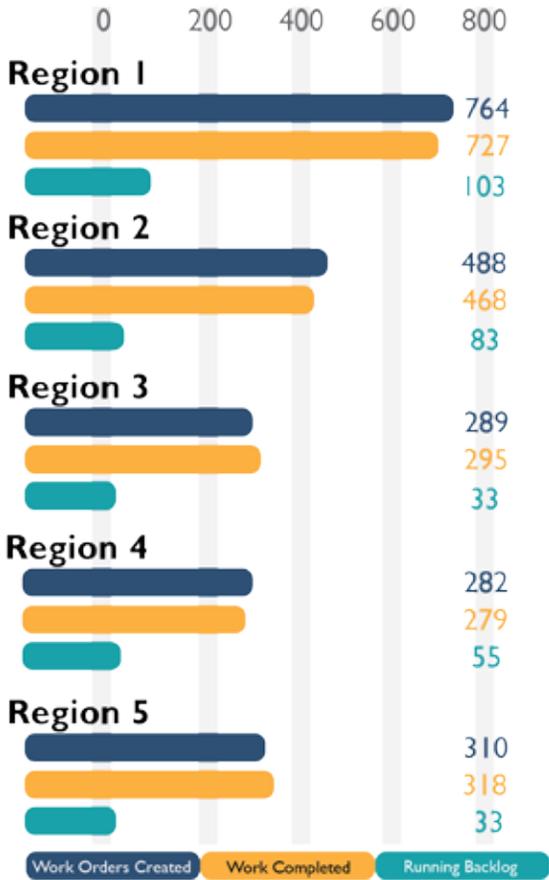


# ITS FIELD MAINTENANCE

2018 was another busy year for the ITS Field Maintenance team. From installing new equipment to repairing and maintaining the existing equipment, this team is always on the move across our great state.

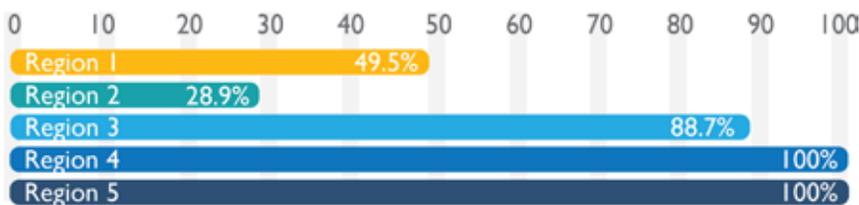
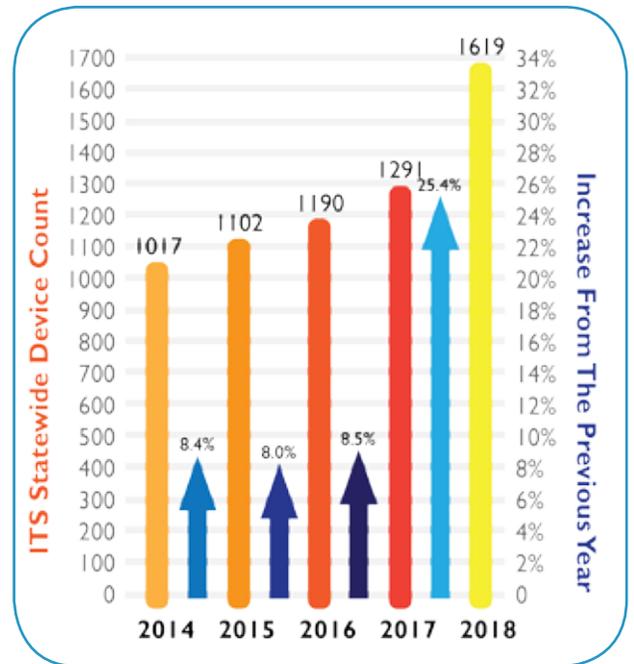
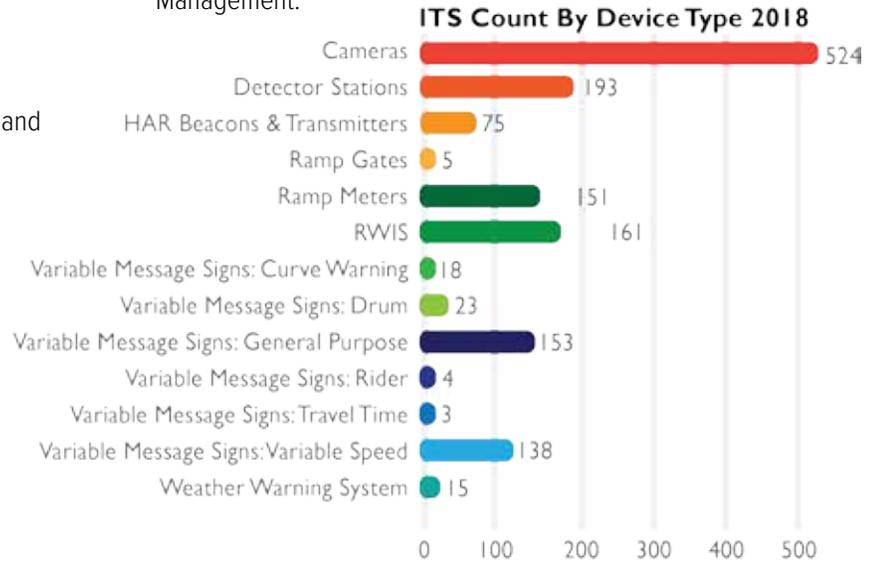
## Work Orders and Preventative Maintenance

Separated by Region, each section shows work orders created and completed along with the running back log for 2018.



## ITS Devices

The ITS device growth trend continued in 2018. ITS devices are the backbone of many System Operations strategies such as TripCheck, Traffic Incident Management and Active Traffic Management.



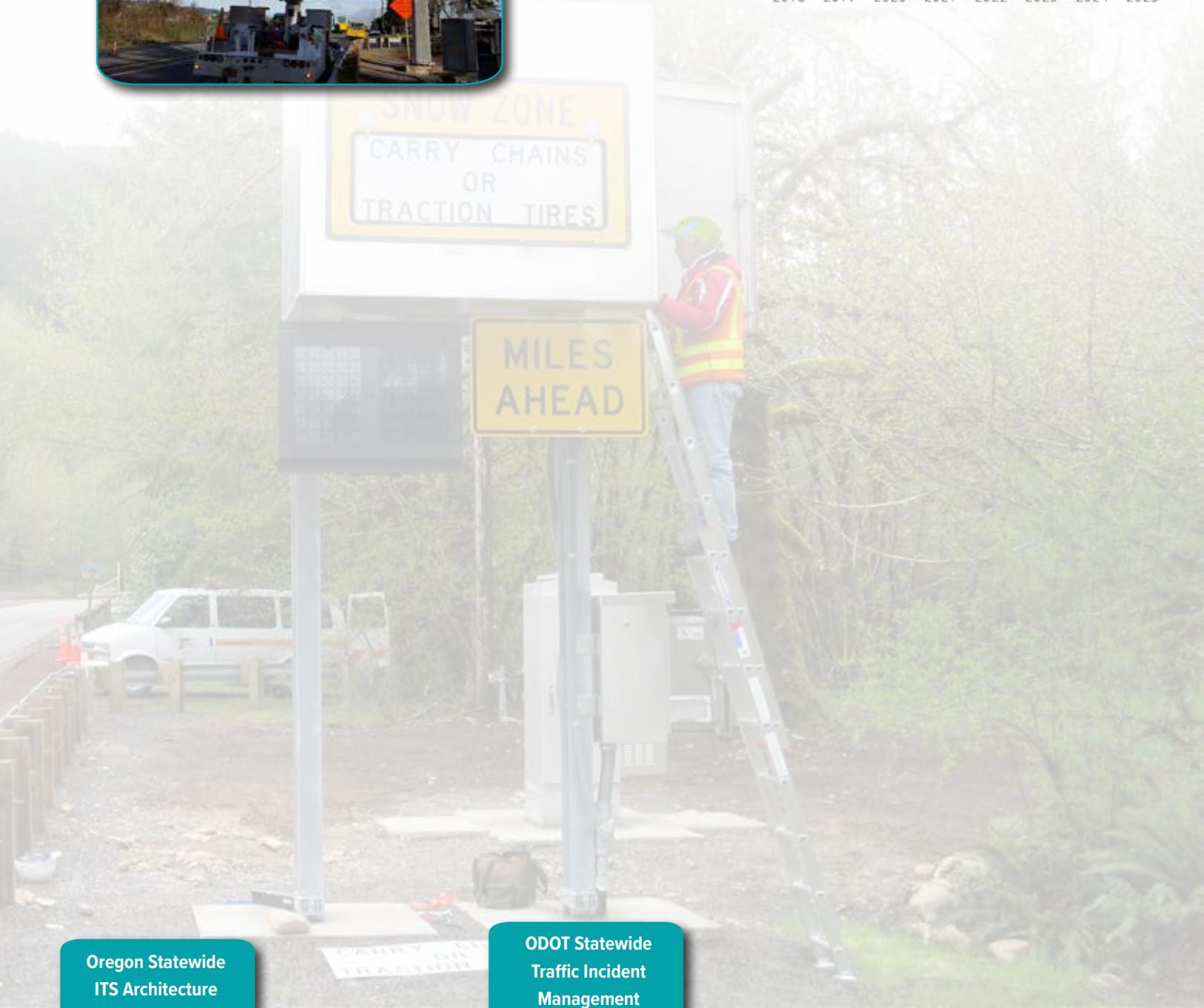
## Preventative Maintenance Completed by Region 2018



While much of our ITS inventory is fairly new, some of the early ITS equipment is reaching the end of its design life. The Asset Beyond Design Life Percentage graph shows that would happen to the percentage of equipment beyond design life if no investment is made to replace.

### Asset Beyond Design Life Percentage

Cameras: Fixed	0%	0%	0%	0%	0%	0%	0%	0%
Cameras: PTZ	26%	29%	32%	33%	42%	44%	54%	61%
HAR Transmitters	14%	14%	14%	77%	95%	100%	100%	100%
RWIS	0%	3%	12%	16%	17%	17%	20%	25%
VMS: Curve Warning	0%	0%	0%	0%	0%	0%	11%	11%
VMS: Drum	0%	0%	35%	35%	35%	35%	39%	39%
VMS: General Purpose	5%	5%	7%	7%	8%	12%	18%	20%
VMS: Rider	0%	0%	0%	0%	0%	0%	0%	0%
VMS: Travel Time	0%	0%	0%	0%	0%	0%	0%	0%
VMS: Variable Speed	0%	0%	0%	0%	0%	0%	0%	0%
	2018	2019	2020	2021	2022	2023	2024	2025

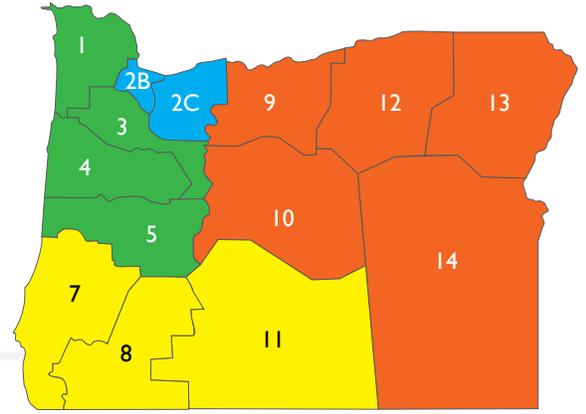


# TOC OPERATIONS

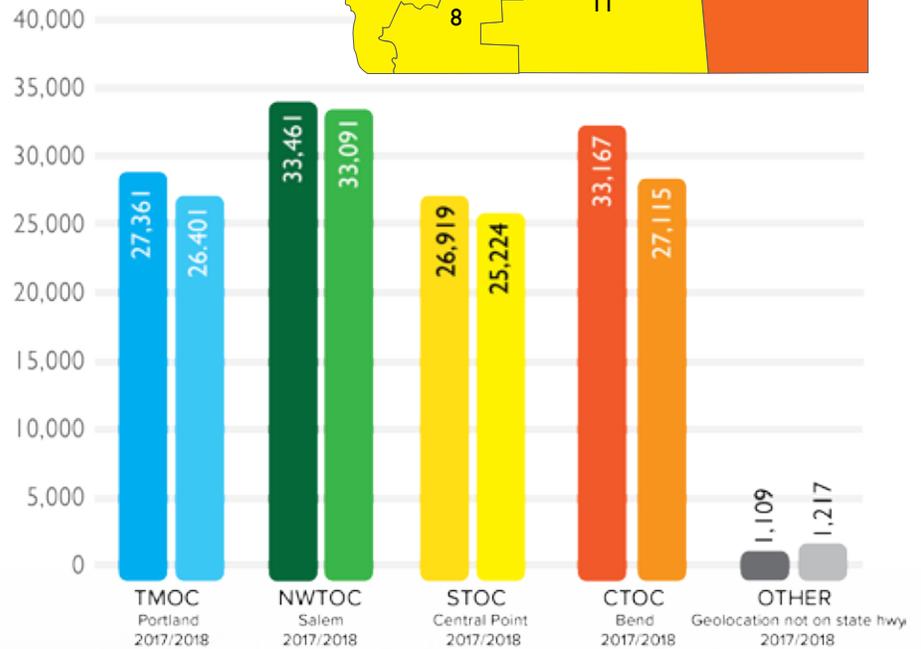
ODOT's four Transportation Operations Centers play a vital role in keeping both ODOT staff and travelers safe. The TOCs help our responders be more effective and safe in the field, and each center offers communication and resources that play a major role in keeping roadways safe and clear and informing Oregonians about incidents and road conditions.

**Events**  
Each TOC location in 2018 responded to over 20,000 events as shown in the graphic to the right.

The graphic below illustrates the total events we had in 2018 (includes number and percentage of the total).

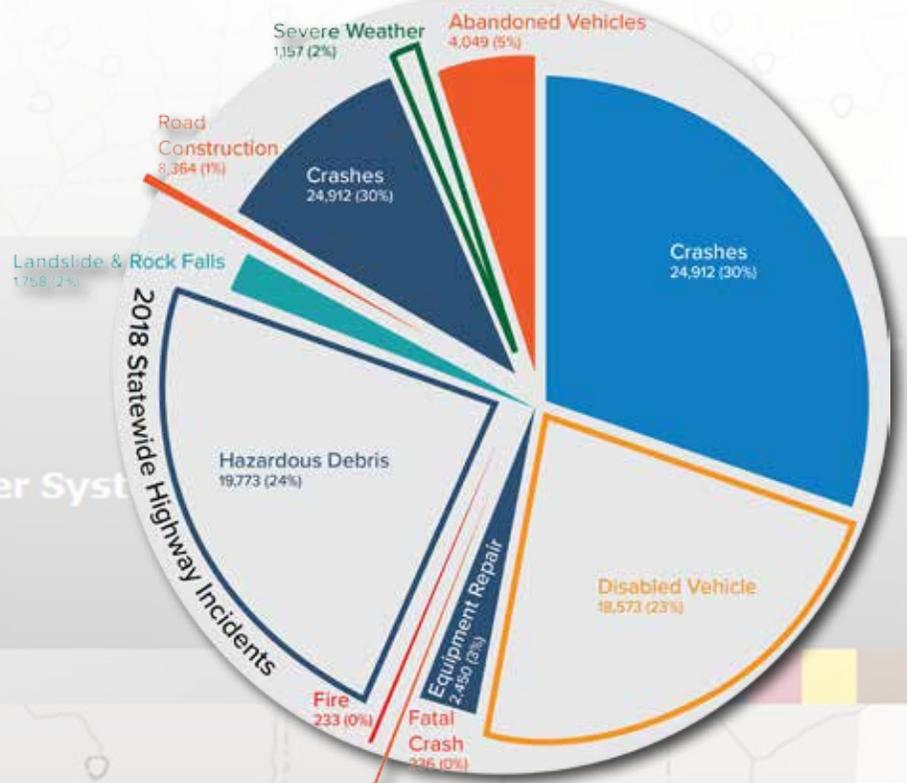


Event Count by TOC



# TOCS

Transportation Operations Center System



Inview Map

2012

TOCS  
Notifications  
release

## Public Notification of Events

A key function of the TOC is to ensure that the traveling public is notified of events and hazardous weather to avoid travel delays and dangerous conditions. Federal regulations in 23 CFR 511 require states to make information about lane blocking crashes available within 20 minutes in rural areas and within 10 minutes in metropolitan areas. ODOT and OSP have a joint policy statement in the ODOT - OSP Mutual Assistance Agreement that states:

It is the policy of ODOT and OSP to provide information using Variable Message Signs, the internet, 511, the media and HAR where applicable. The target is to update information within 10 minutes of a condition change.



## Public Notification of Events

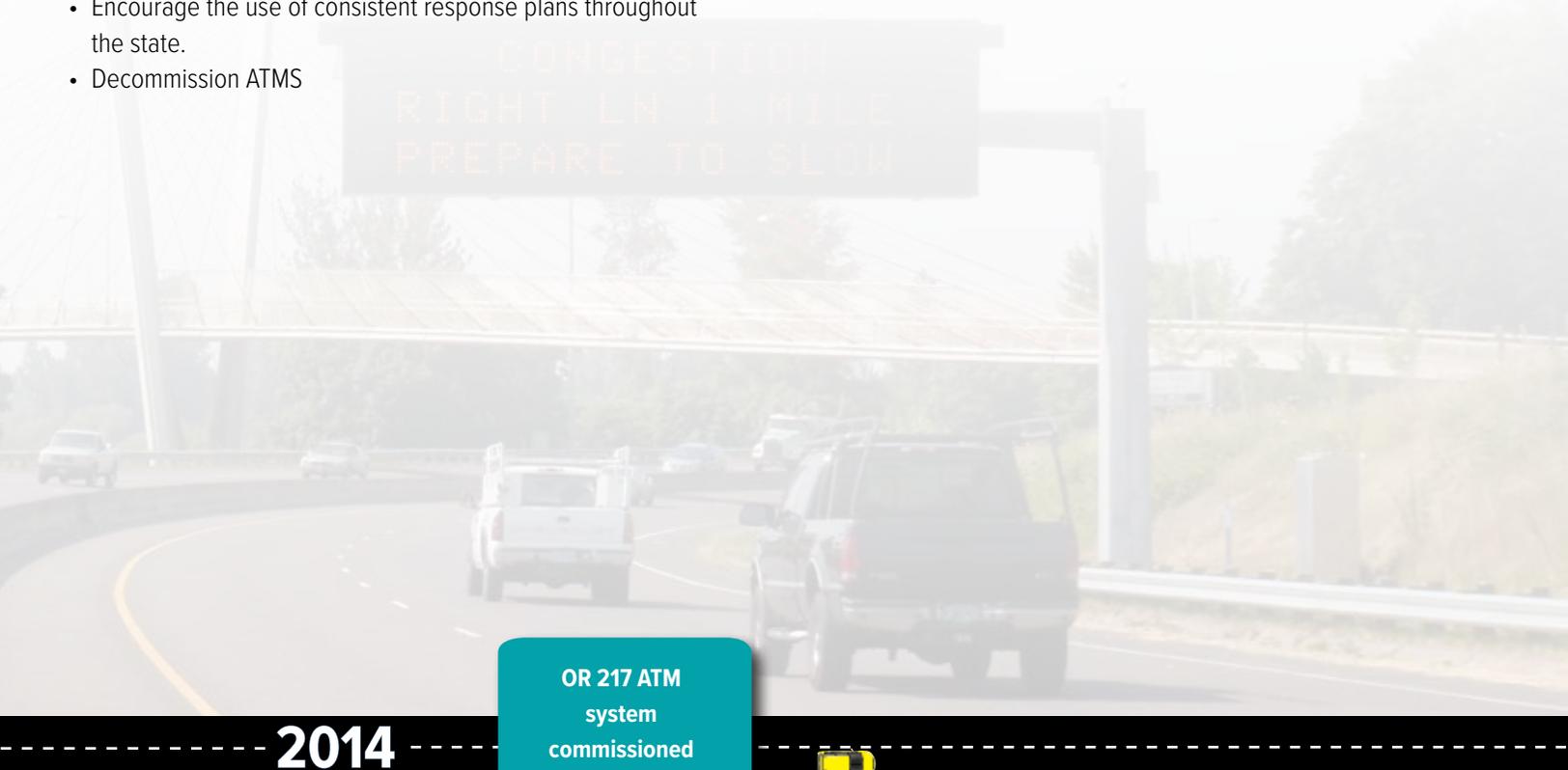
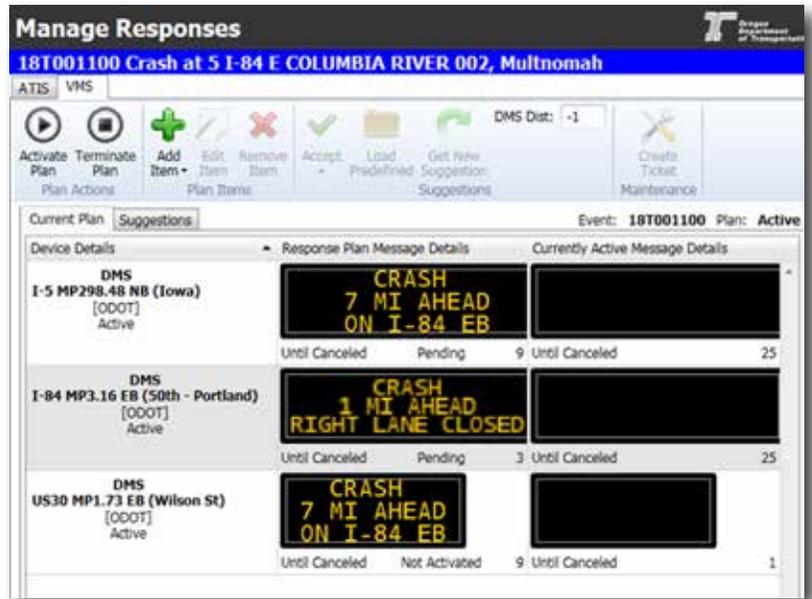


## Response Plan System (RPS)

ODOT uses a system called Advanced Traffic Management System (ATMS) located in the Region 1 dispatch center (Portland Metro area). This system interfaces with the Transportation Operation Center Software (TOCS) and presents a Variable Message Sign (VMS) response planning to the TOCS operator. ODOT initially deployed ATMS in January 2000 to support the traffic management activities of Traffic Management Operations Center (TMOC) operators through Congestion Management, Traffic Data Management, Response Planning, and System Administration functions. Most of the functions originally performed by ATMS have been migrated to TOCS and other systems. The only remaining function performed by ATMS is the VMS incident response plan which recommends a predefined sign message to the operator and which signs the messages should be displayed on.

The Response Plan System will implement a commercial off the shelf response planning solution and integrate it with the TOCS system. The Response Plan System integration is nearing the end of development and is planned to be released in spring 2019. At a high level the Response Plans System will accomplish the following ITS program goals:

- Reduce the time operators spend performing response planning activities through functional integration and consolidation.
- Speed the posting of incident information to VMS.
- Encourage the use of consistent response plans throughout the state.
- Decommission ATMS



2014

OR 217 ATM  
system  
commissioned

# ITS CENTRAL SYSTEMS

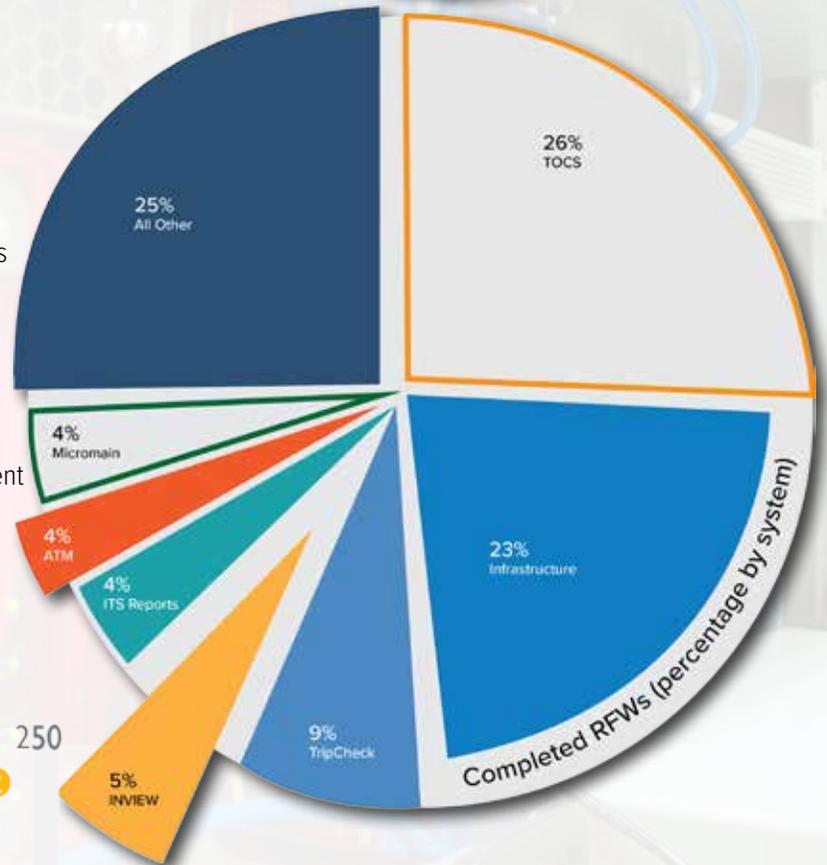
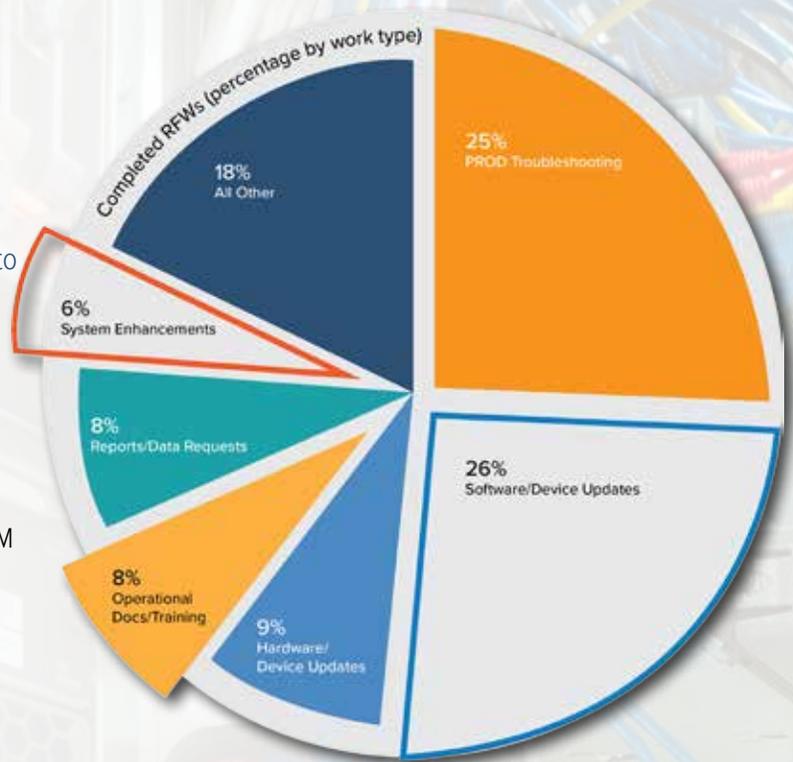
Behind all of our roadside equipment are approximately 44 software systems that monitor road conditions, process data and take action 24/7, 365 days per year. The Central Systems Team monitors and maintains these systems and associated hardware to keep them in peak operating condition.

This year, the Central Services team completed 45 software deployments, deployed seven new servers and migrated 23 of the 27 websites to new web servers.

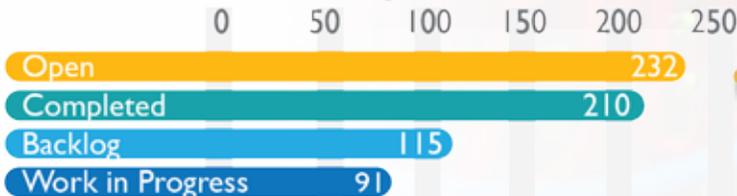
Additionally, they worked on and completed a new TOCS/Micromain release, a TOCS maintenance Spring/Summer releases, and various ATM maintenance releases.

## Notable 2018 ITS Maintenance Accomplishments

- Reduced Request for Work (RfW) Backlog by over 30%
- Developed DCU Configuration Tool
- Built Mobile Framework for INVIEW
- Repaired Travel Time Collector (to get WSDOT data)
- Added New Layers on INVIEW Map
- Performed Annual Location Data Update (TOCS)
- Designed and Developed TSSU Chamber Testing Report
- Added Directionality to Tweets & TPC Dynamic Reports
- Documented Requirements for Auto Call-Out
- Implemented Capability to Retire or Combine Reporting Stations
- Replaced TripCheck Mobile XML Feeds
- Designed and Developed TSSU Chamber Testing Report
- Developed Framework to Support Windows-As-A-Service
- Developed Live Traffic Monitor
- Migrated All Argent Rules & Monitors to Solar Winds
- Collaborated with Enterprise Technology to Define and Document Process for IIS Configuration
- Stood Up Pilot Project for Maxview Connected Vehicle in Salem
- Brought Mt. Hood Corridor Online in ATM



## Work Queue Summary 2018



First 911 Center connected to OIS

ILT Connected and Automated Vehicle Strategic Initiative - CAV Steering Team established

TripCheck 3.0

Oregon Traffic Incident Management Strategic Plan

First ATC Controller Deployed

2015

# TRAFFIC SIGNALS & SIGNS

Modernized and well-managed traffic signals are essential to a high-functioning transportation system. The outdated technologies currently in place are costly to maintain and contribute to poor signal timing, accounting for a significant amount of delay and user frustration. ODOT has made a commitment to the Every Day Counts 4 initiative (EDC4) and with that, has begun to implement a modern traffic signal controller technology (ATC), transitioning us toward performance-based traffic signal management. Proactive traffic signal management is one of the most cost-effective strategies to improve operational efficiency, increase safety, and reduce costs.

## Mission Street Pilot

A new signal pilot project on Mission Street in Salem is sharing signal phase and timing data in a new way – via the internet – and laying the groundwork for that information to eventually be broadcast directly to your vehicle.

For testing purposes, ODOT is using a smartphone application that can tell a passenger in the car how much time is left on the green light, how long it is until the light turns green or even the most efficient speed to hit all seven lights in the corridor on green.

Beyond convenience, the project also offers safety benefits. Studies have shown that the countdown pedestrian lights, ostensibly for walkers, also show a decrease in vehicle crashes because drivers use the information to make more informed decisions in the dilemma zone.

While there is growing support in the auto industry for vehicle-to-vehicle and vehicle-to-infrastructure communication using a specific radio frequency known as DSRC, or Dedicated Short Range Communications, there are many more cars on the road today with internet connectivity. ODOT plans to support both methods for communicating with connected vehicles.

## Current ODOT Signal Rating

2018 marks the second year of tracking condition rating methods for traffic signals. This chart shows the current status of our traffic signal inventory.



**TSMO**  
Performance  
Measures Plan

**TripCheck**  
statewide speed  
map launched

2016

2017



### Note worthy information

In 2017, ODOT began transitioning to the Advanced Transportation Controller (ATC). We now have 48 ATCs deployed with MaxView which is up 22 in 2018.

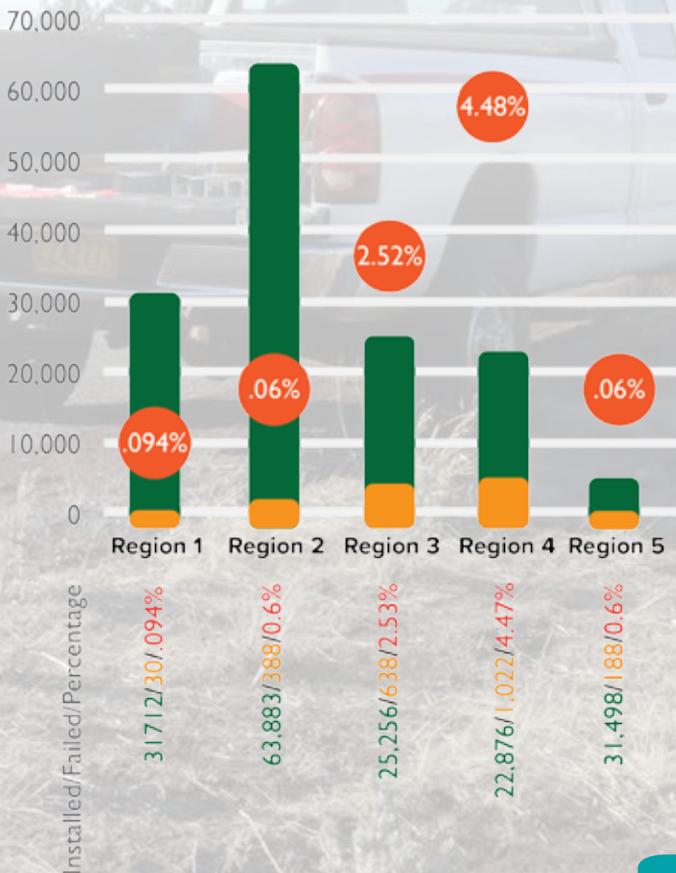
In 2018, FHWA administered a workshop to kick-off the development of ODOT's Traffic Signal Management Plan. To be released in 2019, the Plan will provide a framework for a performance-based approach to traffic signal management.

7 Completely new signals were brought online 2018 and numerous others were maintained and upgraded.

Pilot work continues on serial cabinets. Current, there is one deployment in Region 1 at OR212/ OR224 @ SE 122nd in Clackamas. It has been running since September 2018 without any issues. This serial cabinet more than doubles the operations allowed by the 33X series of cabinets.

### Sign RetroReflectivity

ODOT's inventory of signs, like any asset, has a life-cycle. As signs are the largest communication device to the traveling public, keeping them in tip-top shape is vital. Below is the installed signs as well as the percentage failed for each Region.



Mission St  
Connected  
Vehicle Pilot

Operations  
Program Plan

2018

FUTURE



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