



# MoDOT Data Behind the Scenes

**Joe Horan, Senior Field Acquisition Technician**

**Troy Flickinger, Senior Planning Technician**

**Myrna Tucker, MoDOT TMS Administrator**

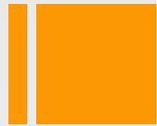
**Statewide Planning Partner Meeting**

**Missouri Department of Transportation**

**January 23, 2020**

# MoDOT's #1 Data Resource

## TMS: Transportation Management System



- Applications
- Reports
- Mapping Tools
- Metadata

MoDOT (275-6636)



# MoDOT Data Behind the Scenes

Permanent and  
Portable Traffic  
Counts

# Permanent Traffic Counts





- Continuous traffic data collection
- 24/7 365
- 170 Sites statewide
- Rural and urban



- Series of pavement sensors
- Measure axle spacing
- Classifies vehicles into 1 of 13 classes
- Data is uploaded for in-house processing



# Portable Traffic Counts





- 3 Year traffic count cycle
- 48 hours
- Rubber tubes and traffic module





- Data is uploaded weekly for processing
- 4500 – 5500 counts annually



# MoDOT Data Behind the Scenes

ARAN  
Collection





- Collects pavement data and video
- \$850,000 x 2
- Collect over 36,000 miles annually
- 4 technicians, 2 per vehicle





## Utilize multiple on-board devices

- Forward facing HD camera
- Laser smart bar





- DMI
- 3-D pavement cameras
- 360 camera



# Forward Facing HD Camera



- HD camera collects images on demand

# Laser Rut Bar



- Measures IRI ( International Roughness Index)



# DMI



- Accurately measures distance

## 3-D Pavement Camera



- Captures 3-D image of the pavement



# 360 Degree Camera



- Collects a 360 view

# A look inside the van...



Data collected from

- Front facing HD camera
- Smart bar
- DMI
- 3-D Pavement camera
- 360 camera

is processed through onboard computers.

# Operator's View During Collection



Operator's View During Collection

Distance: 1.127 Next Event: [ ]

Vehicle Speed: 49.9 mph

POSLV Overall System Status: [Green] Navigation Status: [ ]

Grade: 0.38 %

Faulting

Left Fault Count: 20 Right Fault Count: 26

Pavement

Left IRI: 69.77

Right IRI: 51.41

Messages

Module Name	Status Message

Active Span Events

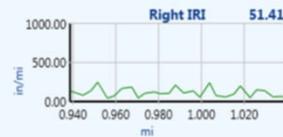
Description	Chainage

Last Point Event

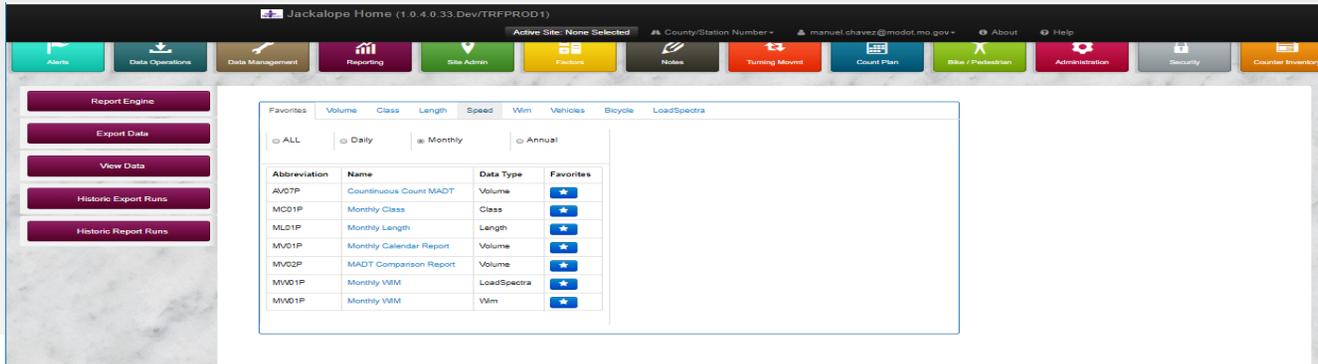
Pavement Type

Storage [Progress Bar] [Start] [Stop]

10:36 AM



# Collection is complete – now what?



- Traffic data is processed and prepared for FHWA
- Yearly process to convert raw counts into AADT

## Missouri Department of Transportation 2019 Continuous Count MADT

		Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
004-000312-2	US 54-MO 19 0.8 MILES S/O RT K-KK	1,870	1,930	2,296	2,430	2,597	2,586	2,819	2,570	2,170	2,193	2,001	1,715
004-000312-4	US 54-MO 19 0.8 MILES S/O RT K-KK	1,875	1,912	2,263	2,389	2,502	2,626	2,749	2,381	2,102	2,146	2,095	1,993

## Missouri Department of Transportation Monthly Volume Calendar

	Road	E
MADT	1,715	1,715
MAWDT	1,630	1,630
MAWET	1,634	1,634
N DAYS	28	

Site names: 004-000312-2,  
 County: Audrain  
 Funct Class: Rural Principal Arterial - Other  
 Location: US 54-MO 19 0.8 MILES S/O RT K-KK

Seasonal Factor Grp: SFGID 002  
 Daily Factor Grp: SFGID 002  
 Axle Factor Grp: AFGID 002  
 Growth Factor Grp: AFGID 002

December 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Date
01 1,859 1,859	02 1,475 1,475	03 1,530 1,530	04 1,723 1,723	05 1,925 1,925	06 1,791 1,791	07 1,367 1,367	Road E W
08 1,370 1,370	09 1,676 1,676	10 1,299 1,299	11 1,522 1,522	12 1,843 1,843	13 2,514 2,514	14 1,621 1,621	

# Collection is complete – now what?



- Road construction
- Emergency planning for detours

# TMS Traffic/Pavement Data



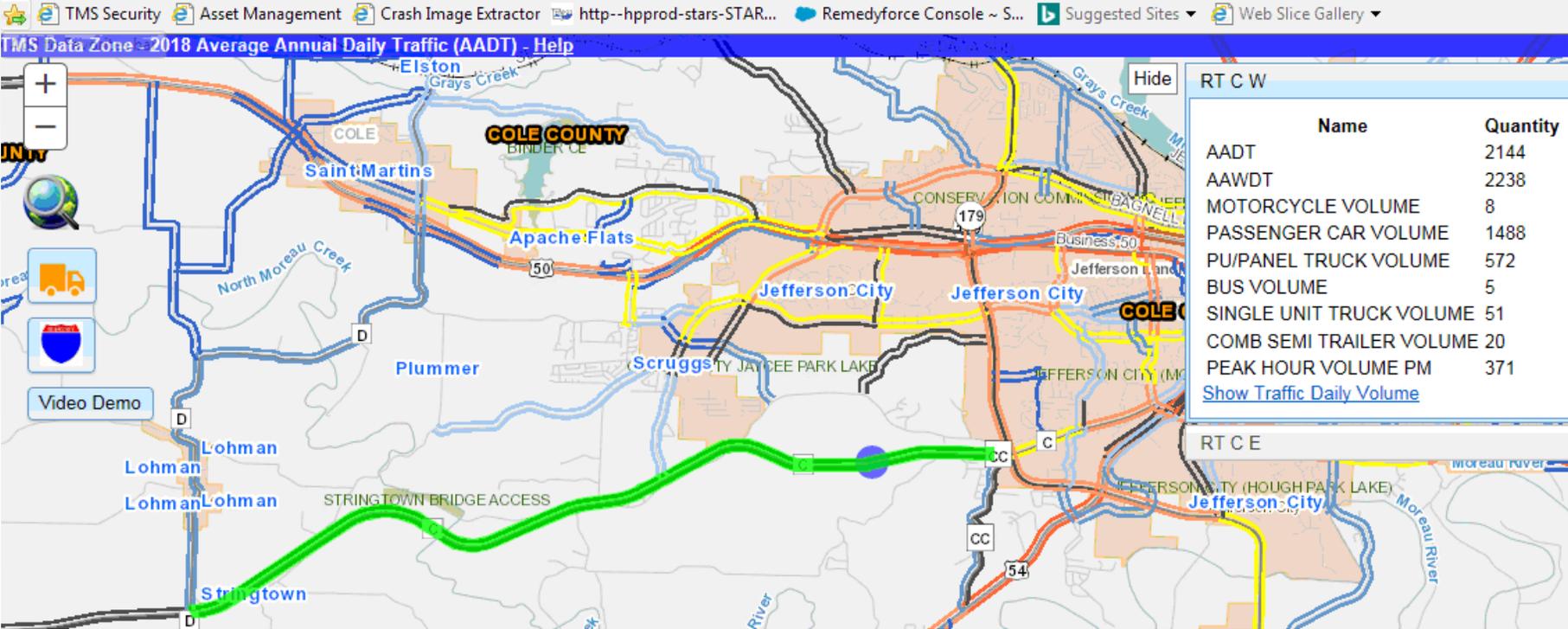
## End of Calendar Year

- Data validation/cleanup
- Batch jobs annualize raw data
- Snapshot of current year data available February 1 of next calendar year

# TMS Traffic Data



## TMS Data Zone AADT Map



# Collection is complete – now what?



11/07/2018 08:41:25 AM 8B700253



Video used internally to look at features such as guard cable, guardrail, signs, rumbles, etc.

# Collection is complete – now what?



11/29/2018 10:49:33 AM 8BT0U22L



The pavement data is used for reporting purposes.

# Collection is complete – now what?



Capture post  
flooding video  
needed for  
matching funds  
from FEMA

# Collection is complete – now what?



Travelway ID

19

Begin Log

23

End Log

33

2008

2009

2010

2011

2012

2013

2014

2015

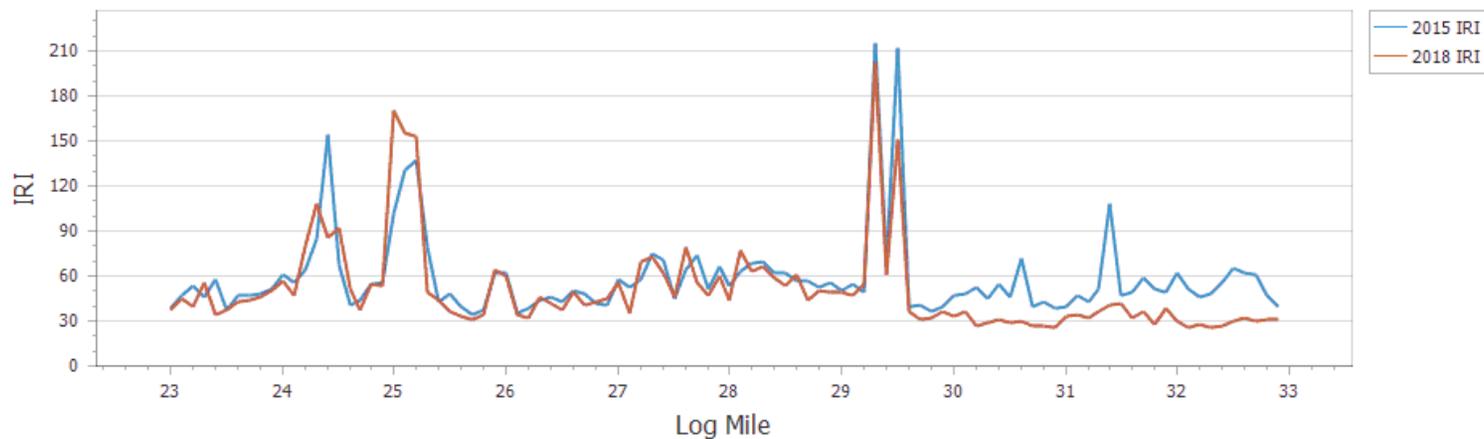
2016

2017

2018

Refresh

### ARAN 1/10th Mile Averages



# Yearly Data Package



## Roadway, Bridge, Traffic, Crash

A screenshot of a web browser displaying a Box.com file sharing interface. The browser's address bar shows the URL "https://app.box.com/folder/58344989871". The interface includes a navigation menu on the left with options like "All Files", "Recents", "Synced", "Trash", "Notes", and "Favorites". The main content area shows a folder named "Transportation\_Data\_2017" containing five files. A sharing panel on the right is partially visible, showing "Share Public anyone" and a "Share" button.

Name ^	Updated	Size	Sharing
2017_Transportation_Data.zip	Jan 18, 2019 by Darrell...	349.7 MB	Share Public anyone Share
BRIDGE CONDITION RATING...	Feb 15, 2019 by Darrell...	32.5 KB	
Roads.lpk	Feb 15, 2019 by Darrell...	117.8 MB	
SS_SEGMENT.doc	Feb 15, 2019 by Darrell...	63.5 KB	
SS_Segment_2017.mdb	Feb 15, 2019 by Darrell...	47.2 MB	

# Safety First Questions?

