



# State Report—MDT

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# Maintenance Operations

Doug McBroom



**MONTANA**

Department of Transportation

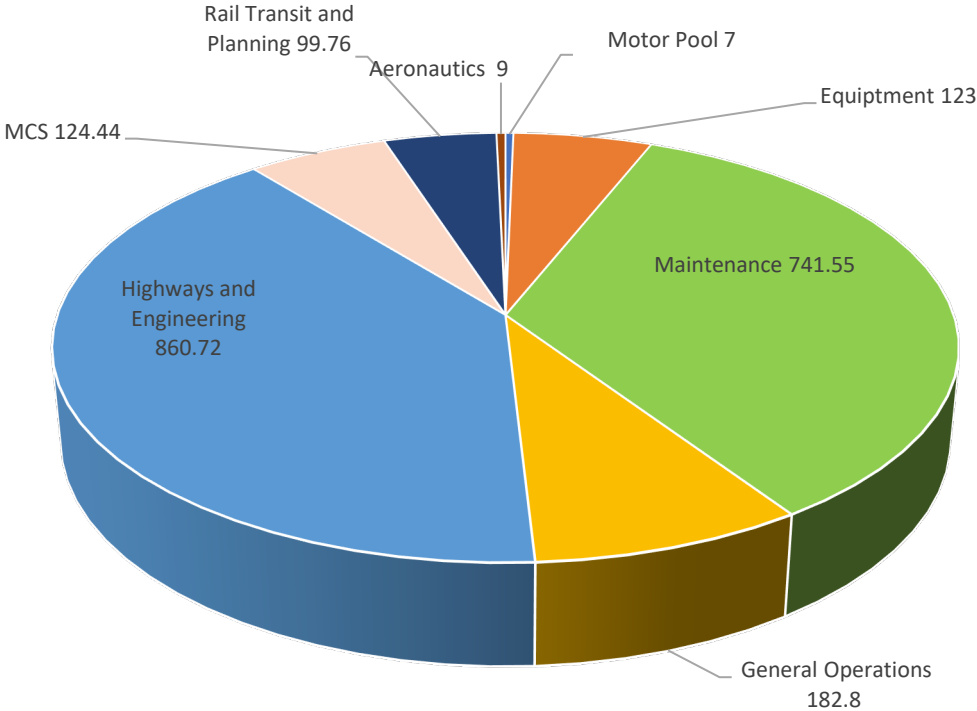
# Outline

- Maintenance General Overview
- Functional Areas/Winter Maintenance
- TMC/Operations
- Maintenance Employee Retention

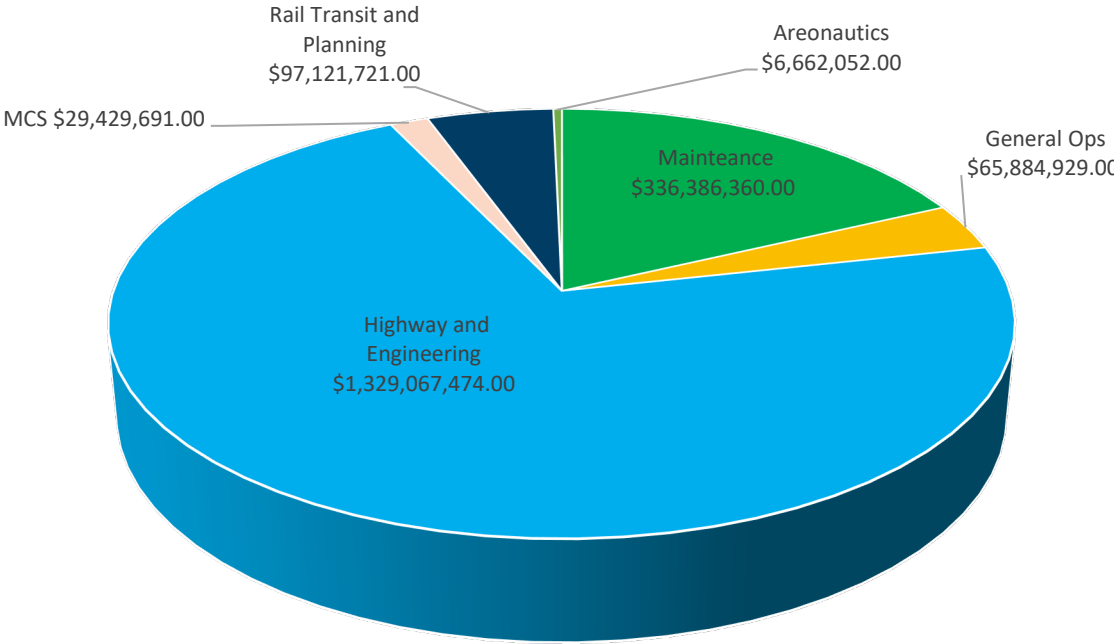


# Department Overview

### MDT FTE Allocation by Division



### MDT Budget Allocation by Division



# Maintenance Overview

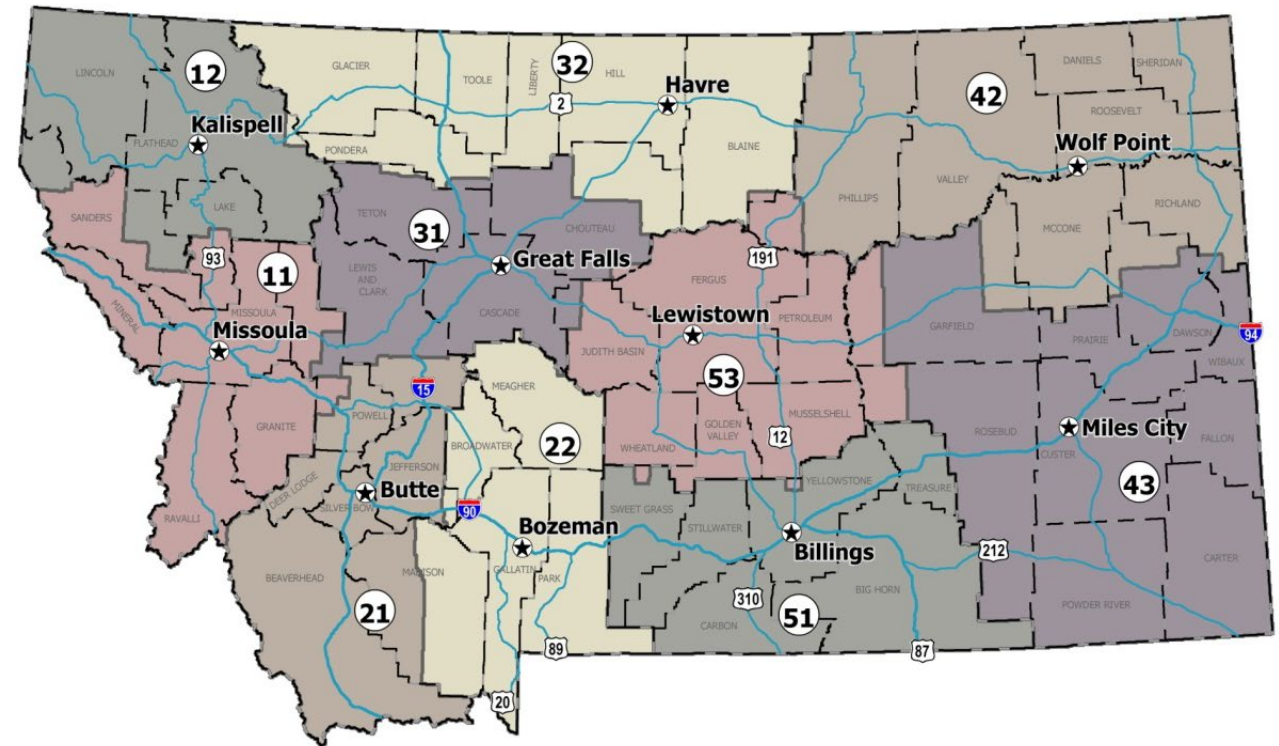
- Maintenance has about 740 employees
- Maintain about 25,000 lane miles of roadway
- Have about 4,700 pieces of equipment
- Maintain facilities at over 220 occupied locations statewide



# MDT Statewide Maintenance Overview

- 5 Districts/10 Divisions
  - 116 Maintenance Sections
  - 717.05 Maintenance Employees within the 10 maintenance areas

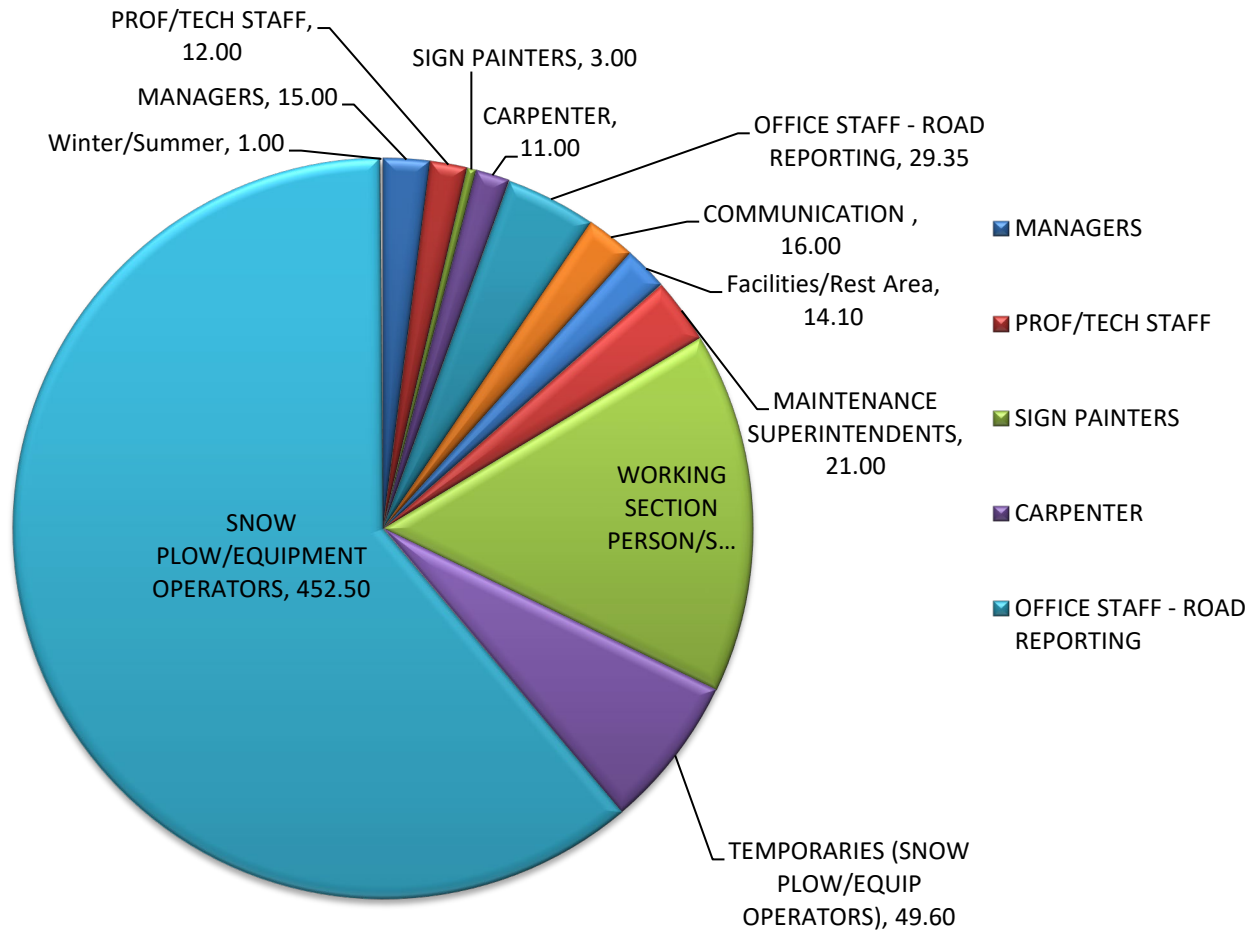
Montana Maintenance Divisions



# FTE structure of the Maintenance Division

Maintenance Organization FTE Structure April 2023

741.55 total FTE





# Budget

- The SFY 2024 Maintenance budget is about \$169.7 million
  - 9% Federal Funds
  - 91% Highway State Special Revenue Account (State gas tax)
- The \$169.7 million is broken down into the following categories;
  - \$62.5 million in Personal Services
  - \$106.5 million in Operations and Equipment

## Maintenance is broken down into Six Functional Areas



- Communications Bureau
- Equipment Bureau
- Facilities Bureau
- Systems and Operations Bureau
- Statewide Maintenance Operations
- Disaster and Emergency Services





# Communications Bureau

# Land Radio Network



- 10 Communication Technicians responsible for:
  - Over 100 radio towers
  - More than 4000 radios statewide
  - 350 cell phones
  - 900 cellular-enabled devices



**Equipment Bureau**

- Fabrication at Helena HQ
  - Five fabricators build snowplow trucks year around
  - Complete 3-4 trucks every 5-6 weeks.
  - The bureau purchases the cab and chassis, dump box, sander, front plow, wing plow(s), light package, and hydraulic controls.
  - The fabricators assemble the components and produce a snowplow to our specifications.
  - Estimated cost saving are approximately \$100,000 per truck



- MDT averaged 30-40 snowplow hits each winter since 2016
- Concern for driver and traveling public safety



# Green Lights



# Facilities Bureau

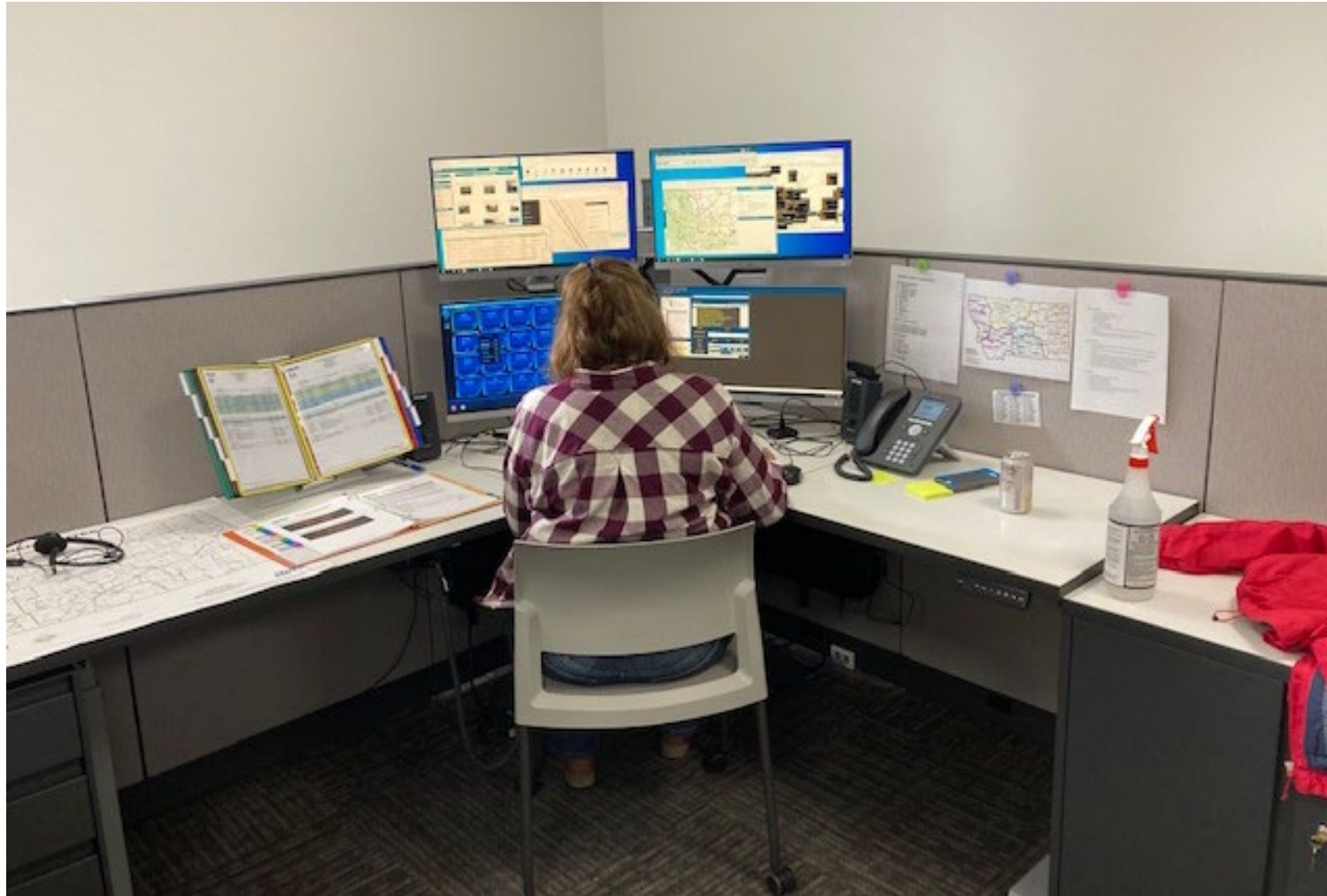


# Facilities



- MDT owns and maintains a total of 1,170 Facilities throughout the state
  - 11 area offices
  - 116 maintenance sections
  - 52 rest areas
  - 22 truck parking areas
  - 15 airfields
  - One full-service airport
  - 31 motor carrier weigh stations

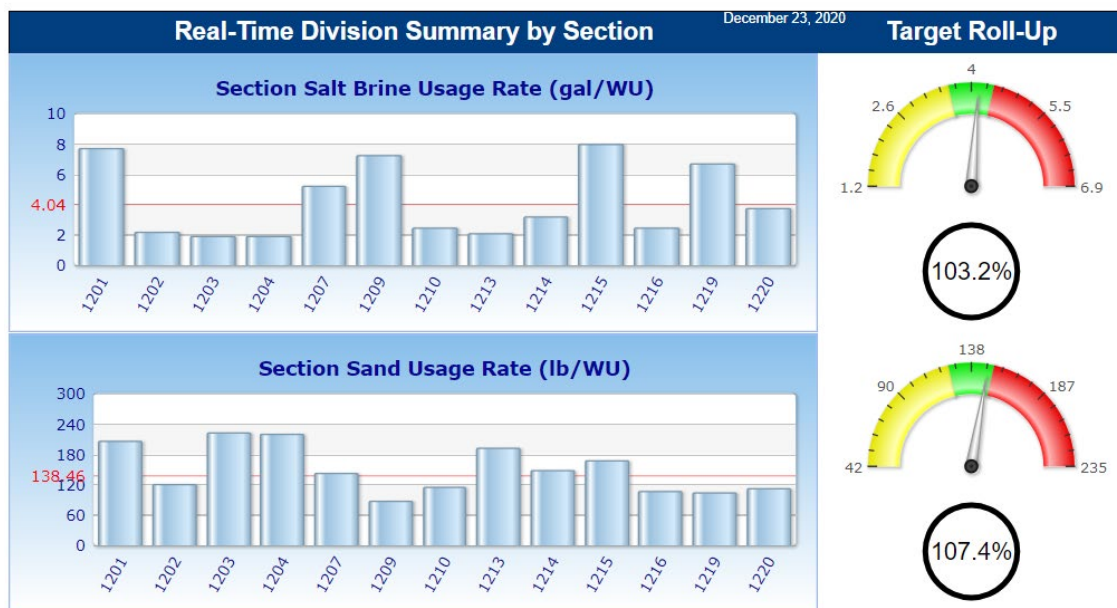




# **Systems and Operations Bureau**

# Systems

- Montana's Rural TMC
- Maintenance Management System (MMS)
- Encroachment System
- Maintenance Ordering Systems
- Maintenance Operations Reporting Tool
- Variable Message Sign Software



# Statewide Maintenance Operations

- 10 Maintenance Areas
- 116 Maintenance Sections
- On average the areas complete about 160,000 work orders/year statewide
- Each section on average completes 5 activities every workday

- Over 80 Activities including
  - Roadway Activities
  - Roadside Activities
  - Drainage Activities
  - Bridge Activities
  - Facilities Activities
  - Traffic Safety Activities
  - Winter Maintenance Activities
  - Material Production/Hauling/Stockpiling Activities
  - Equipment/Supervision/Overhead Activities

## 1. Roadway Maintenance

- Thin Lift Overlay
- Crack Sealing
- Chip Sealing
- Sweeping
- Bridge Maintenance & Repair

## 2. Winter Maintenance

- Plow, Sand, De-icing
- Snow Removal
- Winter Roadway Inspections

## 3. Traffic Safety

- Roadway/Sign Lighting
- Pavement Striping
- Contracted Pavement Striping

## 4. Training/Leave

- Equipment Maintenance
- Training
- Planning & Scheduling
- Approved Absence

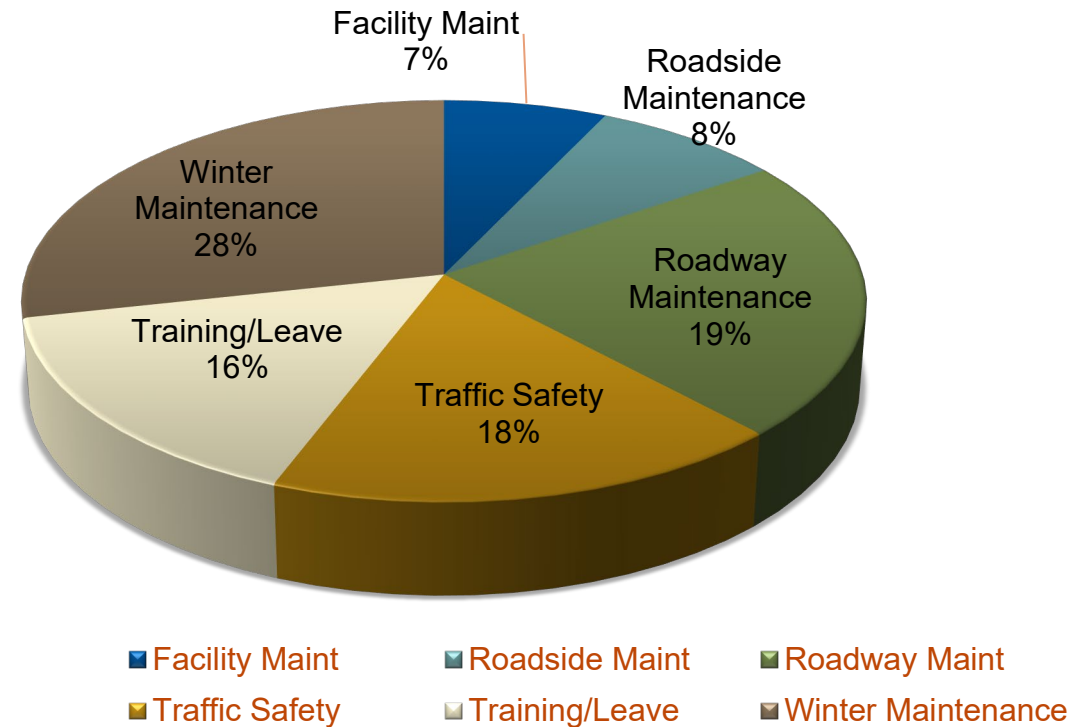
## 5. Roadside Maintenance

- Vegetation Control
- Cleaning Drainages
- Litter Pickup

## 6. Facility Maintenance

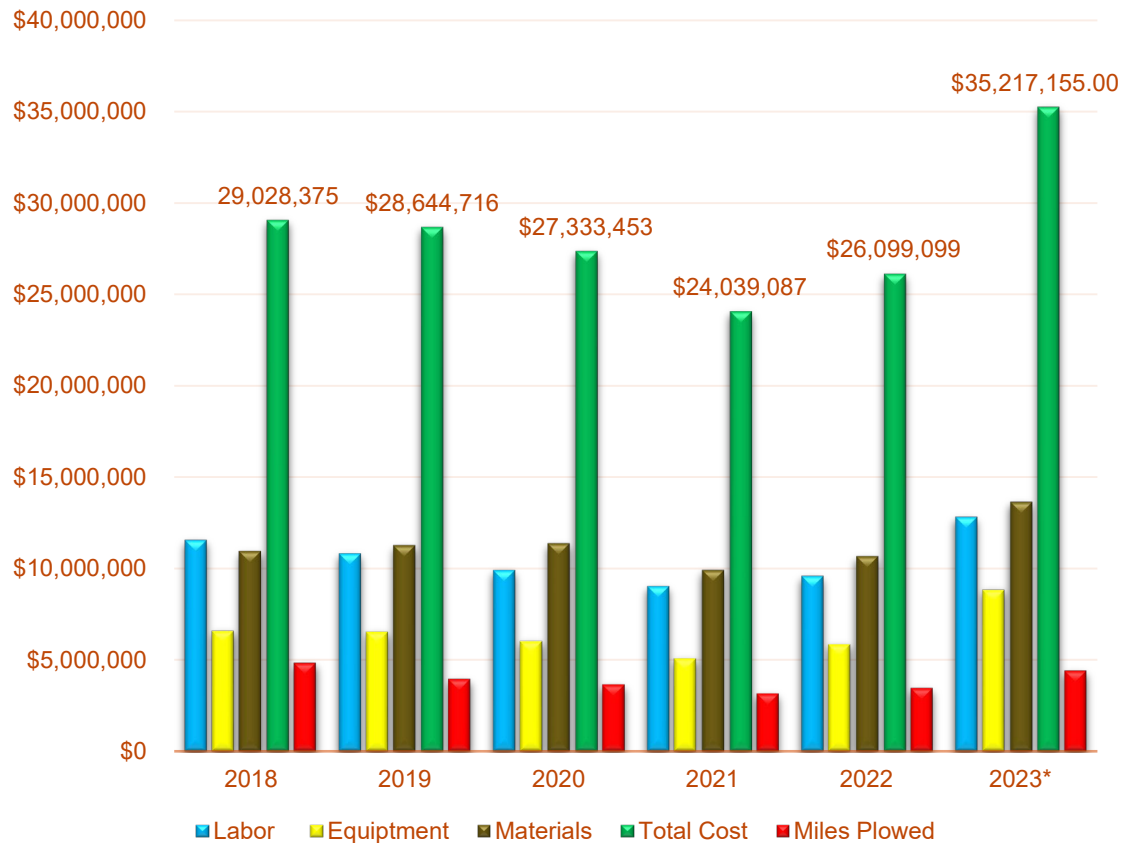
- Rest Area Maintenance
- Building Repair and Maintenance

# Percentage Of Expenses Performing Maintenance Activities



# 5-Year Average of Snow Removal Activity

## Winter by the Numbers 2018-2023



Year	Labor	Equipment	Materials	Total Cost	Miles Plowed
2018	\$11,539,852	\$6,587,884	\$10,900,639	29,028,375	4,798,547
2019	\$10,794,275	\$6,522,262	\$11,214,793	\$28,644,716	3,909,992
2020	\$9,888,318	\$6,026,495	\$11,325,860	\$27,333,453	3,620,653
2021	\$9,021,639	\$5,069,596	\$9,878,073	\$24,039,087	3,136,450
2022	\$9,573,852	\$5,842,395	\$10,621,026	\$26,099,099	3,435,451
2023*	\$12,800,188	\$8,825,87	\$13,588,621	\$35,217,155	4,380,859

# Disaster and Emergency Services

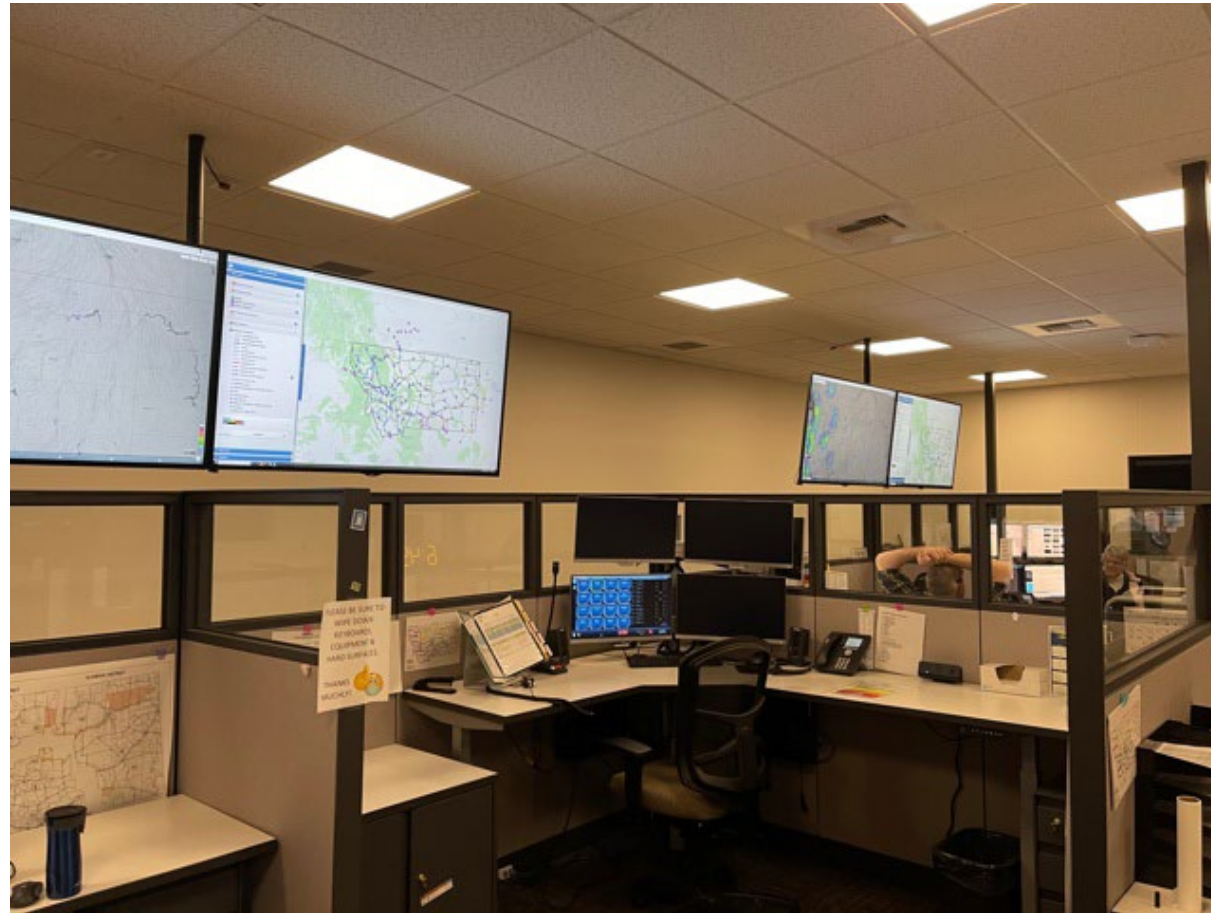








# TMC Buildout



# Staffing



Centralization decision



Approached 2019  
Legislature for 7  
new full-time  
positions

Effective  
07/01/2020



Transitioned existing positions  
from division offices to HQ

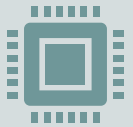
# Communication



Good radio coverage at the district level but not statewide



Considered using a Microwave Backbone or Radio over IP (RoIP)



RoIP was most logical option

# TMC Buildout



Completed comprehensive Standard Operating Procedures (SOP)—August 2020



Job Profiles and Career Ladder completed—July 2020



Completed the hiring process for the 6 Dispatcher positions and completed training—September/October 2020



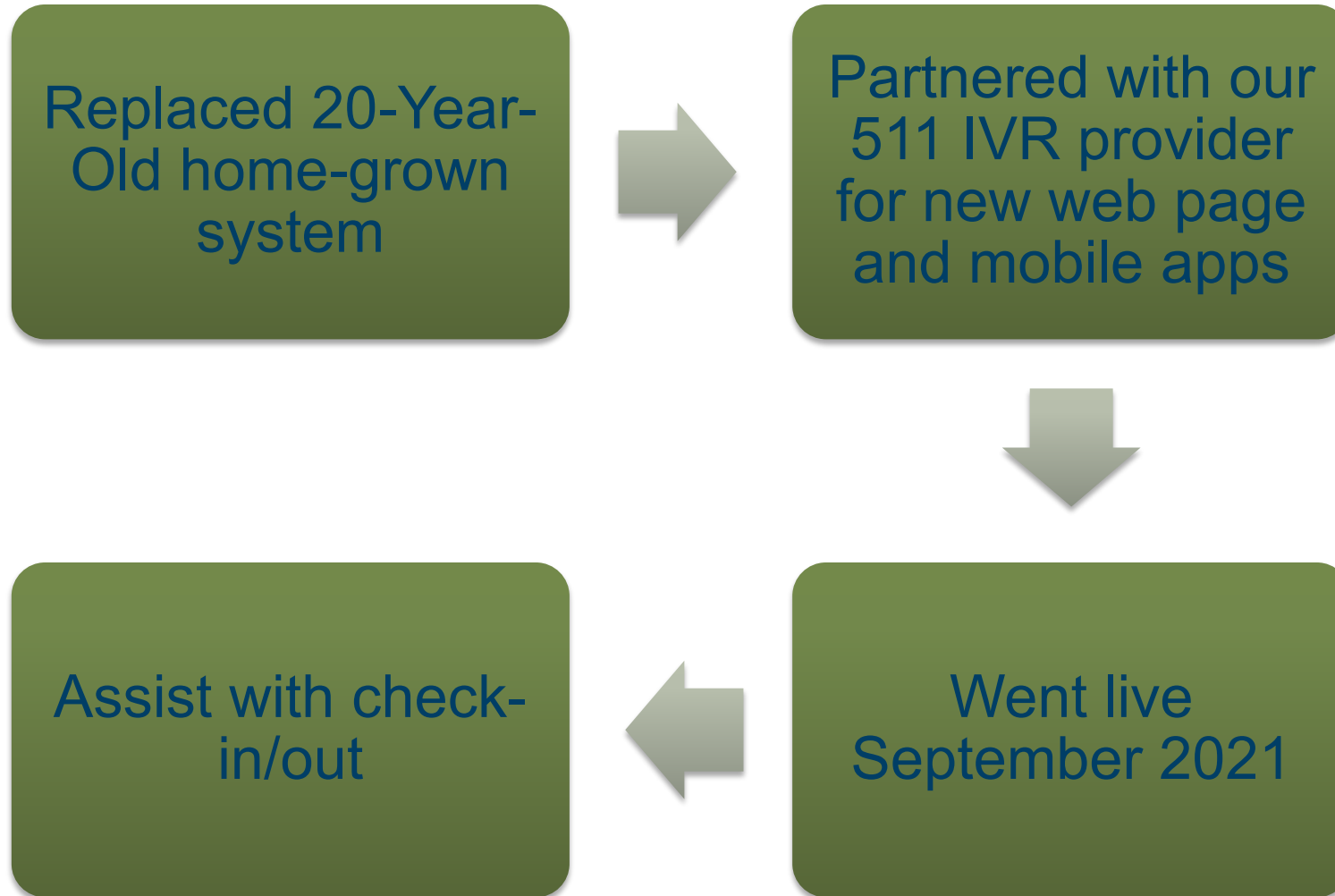
Hired a Communication Technician for the TMC—September 2020

# TMC Buildout

- Went live 10/24/2020
- Had a record state-wide storm for October the first two days of operation



# Traveler Information / 511



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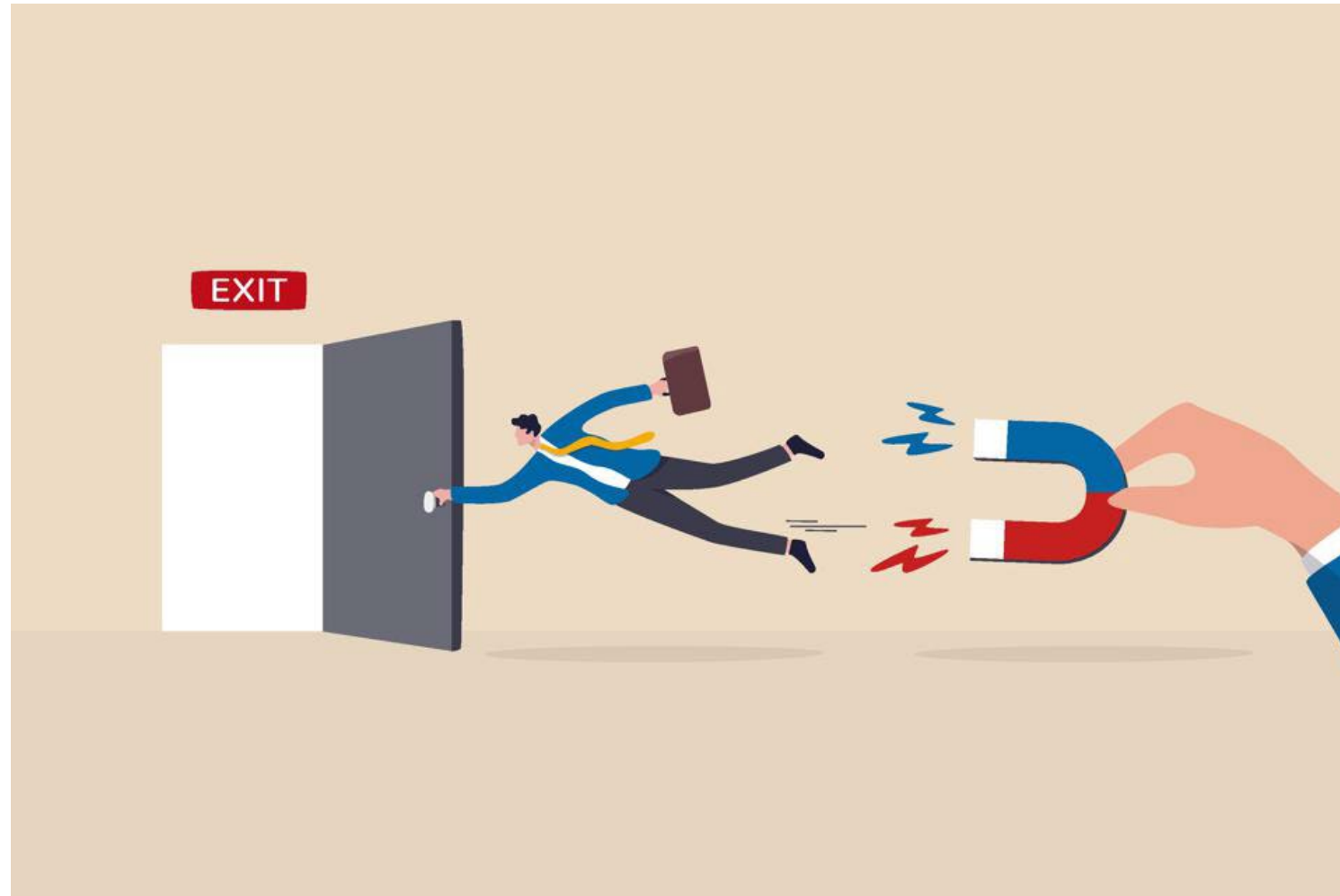
- Second season with Iteris software
  - Working through enhancements to better meet business needs
  - Around 11 M contacts since go-live
    - 265 K IVR
    - 5.8 M Web
    - 4.8 M Mobile
  - Preparing for construction season

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# Maintenance Employee Retention



# Maintenance Tech Career Ladder

# Questions?

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