

Pothole Policy Overview

October 28, 2025



How Do Potholes Form?

HOW DO POTHOLES FORM?



Traffic flow causes wear to the roadway over time, creating cracks through the surface layer of the road.



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Wear & Tear Creates Cracks in the Surface Layer of Road

ROADWAY WEAKENS OVER TIME



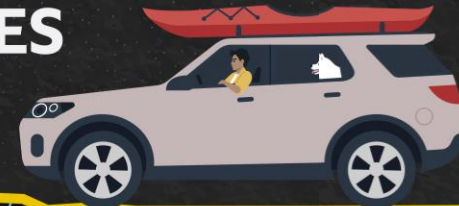
Water seeps through the cracks and collects under the surface layer.



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Water Seeps through Cracks & Collects Under Surface Layer of Road

WATER BELOW THE SURFACE FREEZES



During low temperatures, collected water freezes and expands, lifting the roadway.



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Water Freezes During Cold Temperatures and Expands, Lifting Road

ROADWAY COLLAPSES



As temperatures rise, the melted water creates gaps under the roadway surface. Constant traffic breaks down the weakened surface and potholes form.



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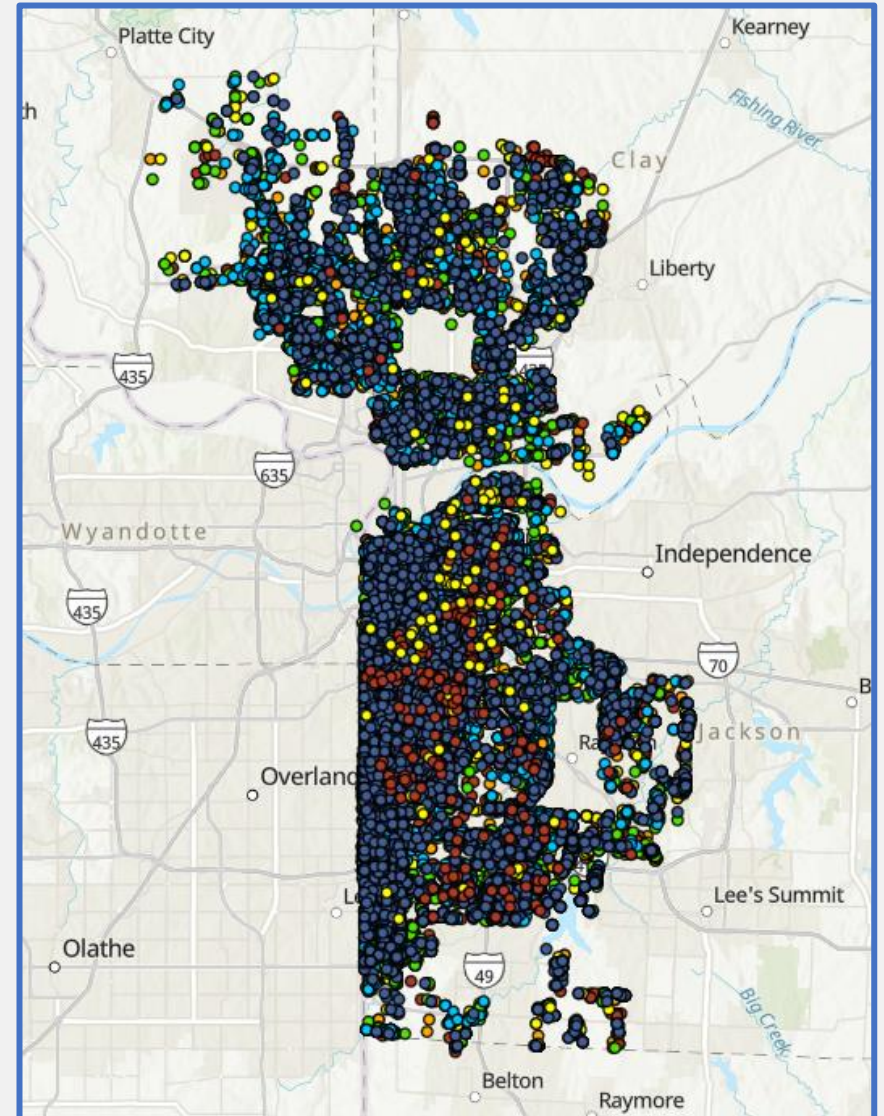
Warm Temperatures Melt Water, Creating Gaps under Road, Weight of Vehicles Breaks Asphalt

311 Pothole Requests

Total # of Reported Pothole Cases

- 2020: **9,895**
- 2021: **8,340**
- 2022: **9,206**
- 2023: **7,566**
- 2024: **9,947**
- 2025: **9,409 YTD**
(9,362 resolved, 47 still open)

** More potholes filled than reported*



Main Reasons for Potholes

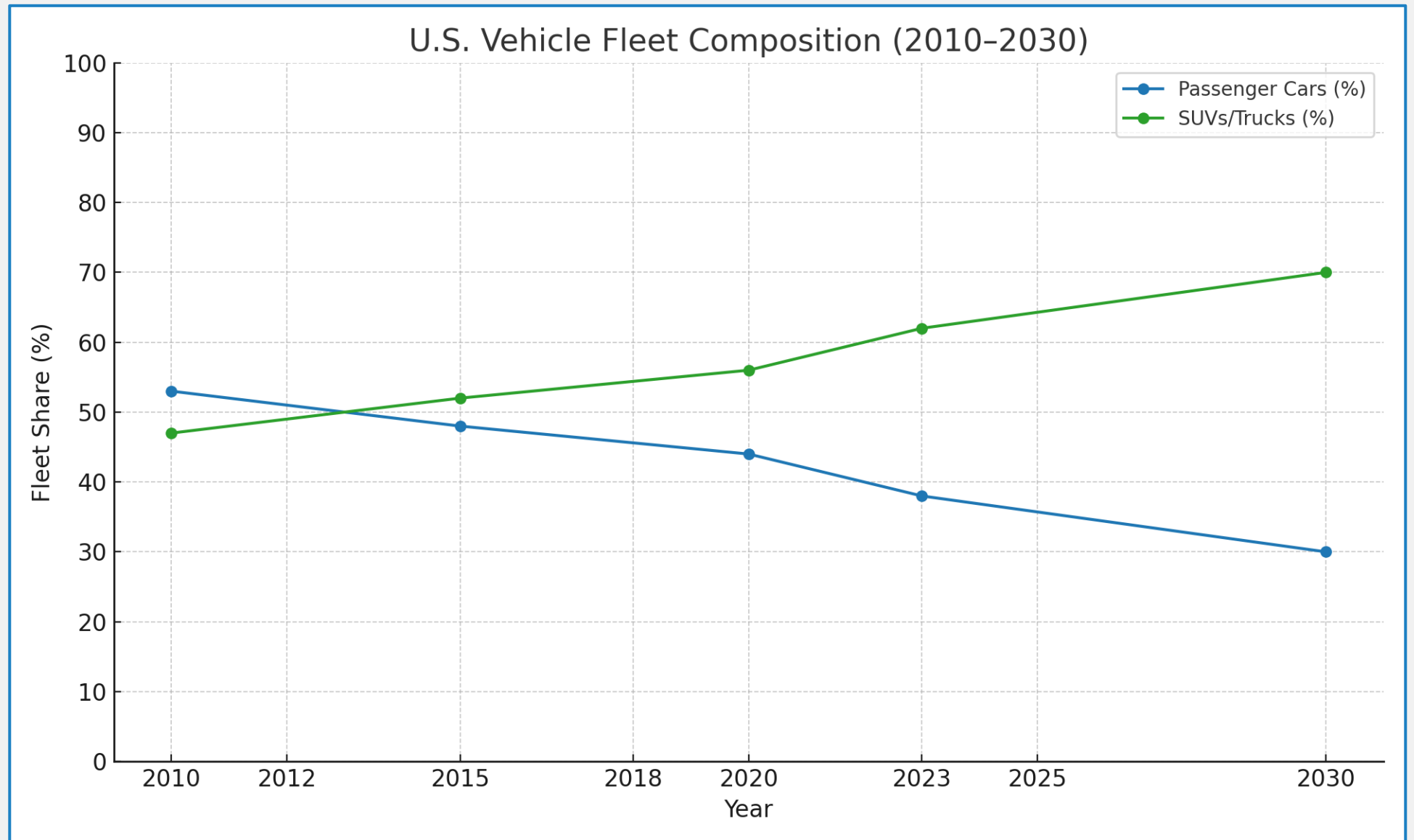
- Utility Cuts
- Heavy Vehicles
- 4 Season Climate
- Poor Drainage, Oxidation, and Poor Subgrade

Vehicle Type	Relative Pavement Damage (ESAL x)
Sedan	1
SUV	3
EV (Compact)	4
Pickup	6
EV (SUV/Truck)	8
Heavy Trucks/Buses	10-15

Traffic Loading Impact

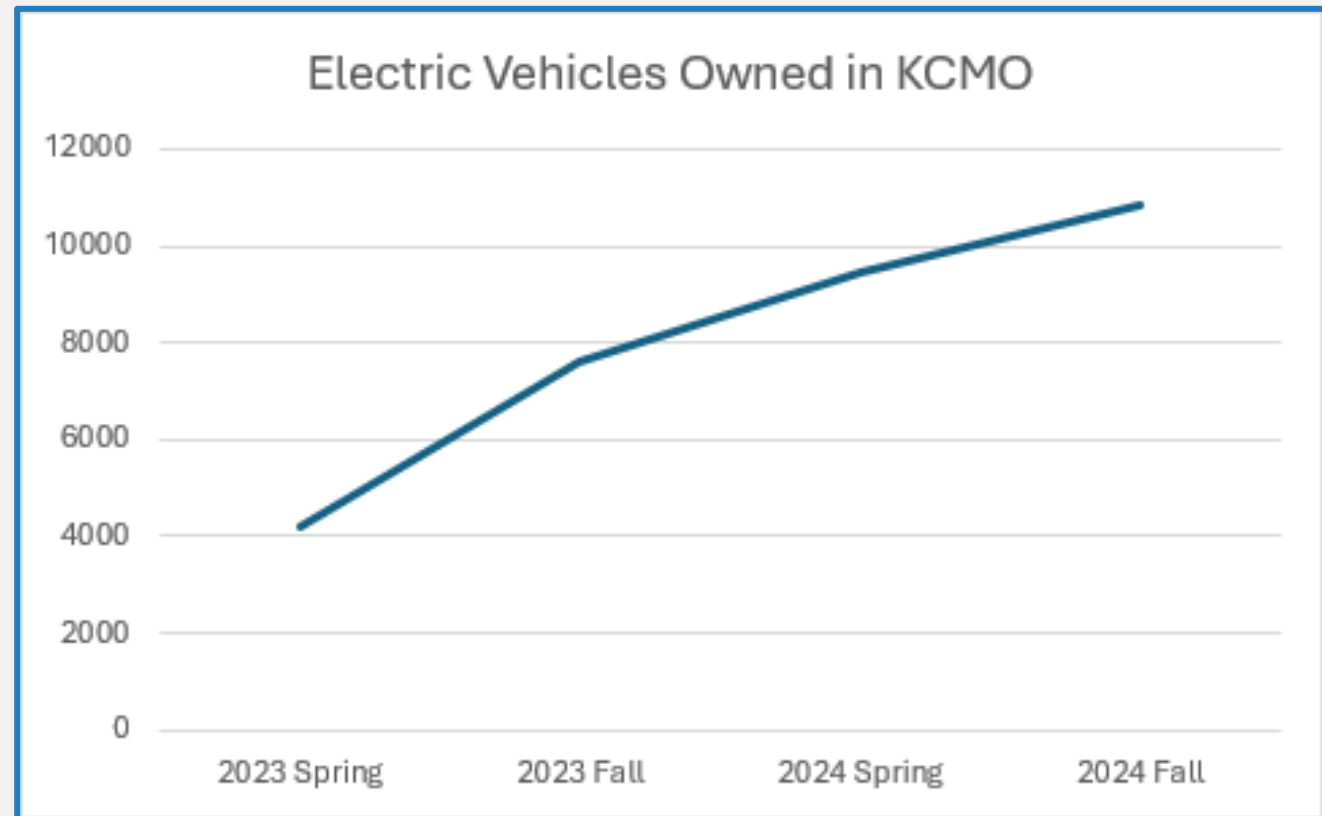
Source: Hedges
Company

* AI generated graph



Kansas City Vehicle Data

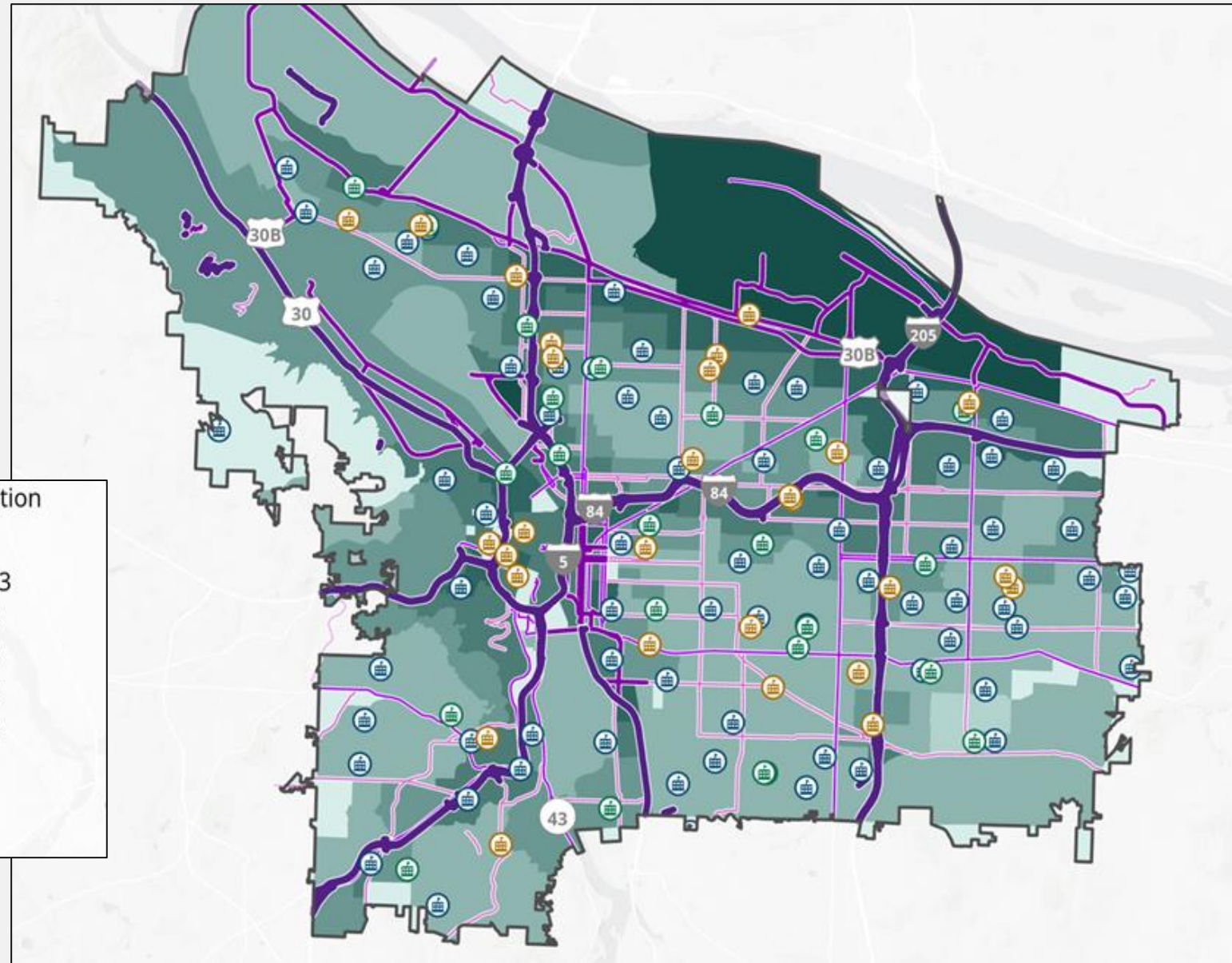
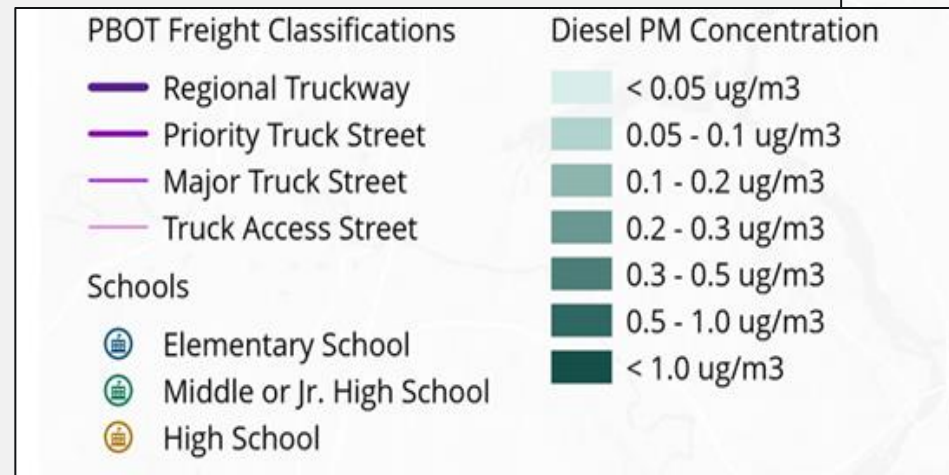
Season	Electric Vehicles	EV Households
2023 Spring	4,194	1,537
2023 Fall	7,589	2,805
2024 Spring	9,478	3,381
2024 Fall	10,841	3,945



Source: Replica Data



Freight Plan



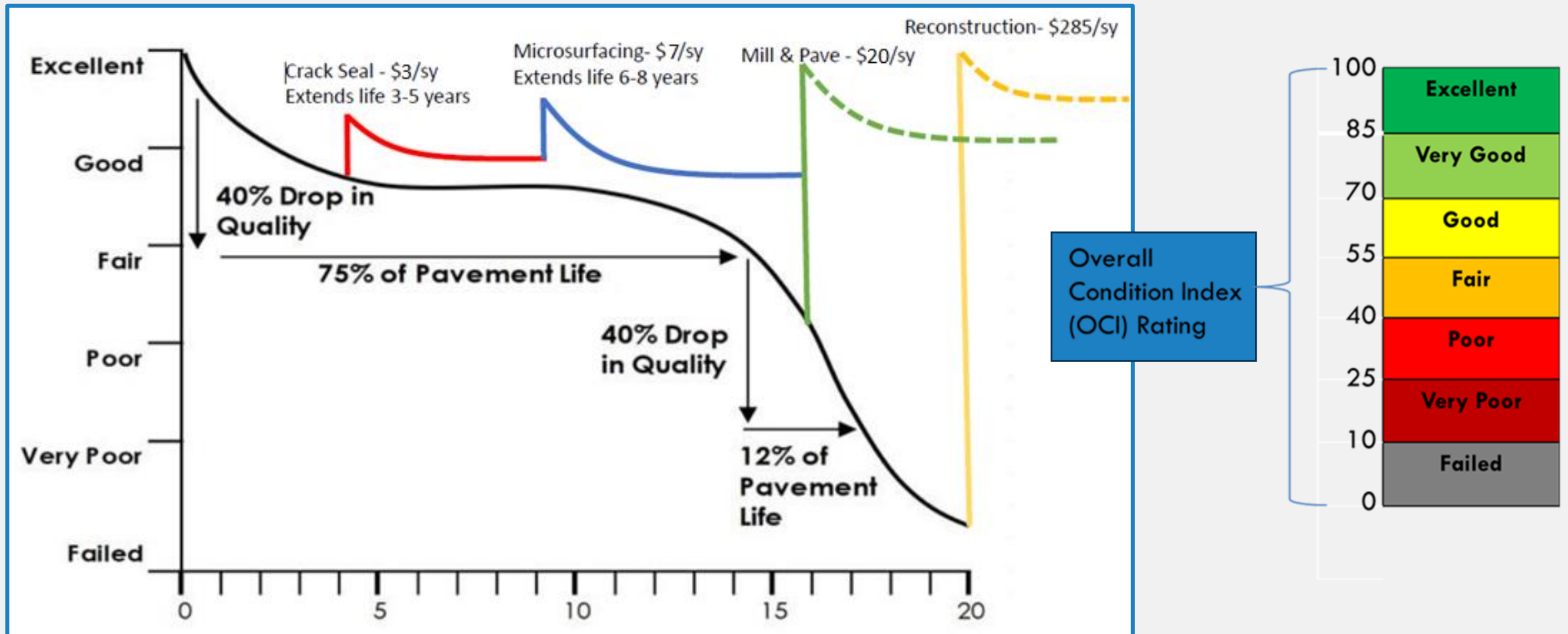
Pothole Repair Methods

- **Cold Patch** – Temporary repair used during cold temperatures when hot mix is not available - typically lasts months. Material is poured then compacted in the pothole.
- **Semi Patch** – Temporary repair with longer life cycle, used when hot mix is available. Crews square edges with a saw or jackhammer, clean debris and water from hole, apply tack coat (bonding agent), pour hot mix into hole, and then compact in layers with a roller/plate compactor until level with pavement.
- **Permanent Patch** – Crews remove failed pavement and several inches of sub-base, rebuild layers (base, binder, surface) with new hot mix.

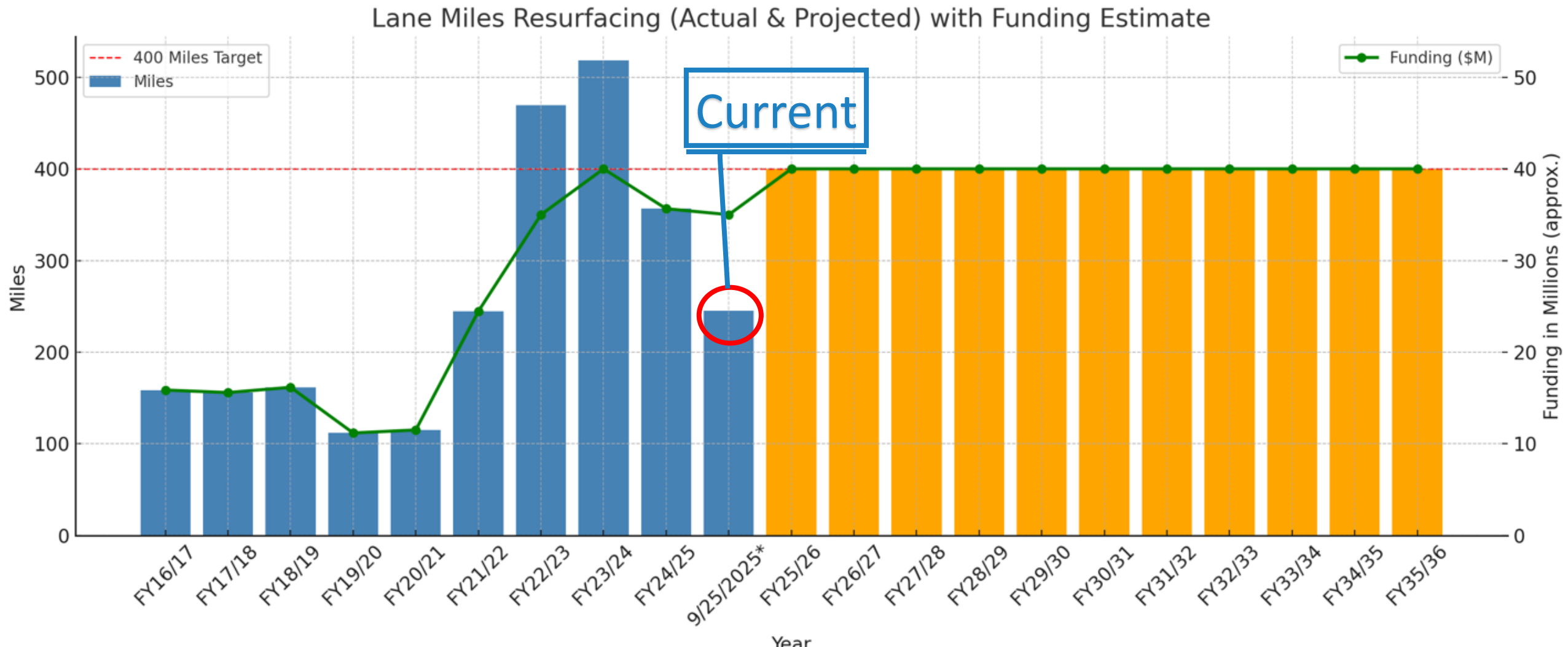
Preventative Measures for Potholes

- **Street Preservation Activities:**
 - Crack Seal (3 yrs): Sealant for cracks
 - Microsurface (6 yrs): Curb to curb sealant, reduces oxidation
 - Resurface (12-15 yrs): Subgrade mitigation while resurfacing
- **Utility Coordination:** SR-1 compliance
- **Use AI to Detect Potholes and Create Work Orders:** In-progress (initial stages)
- **Update Asset Management Plan** to incorporate certain % of funds for high frequency pothole routes
- **Maintain Consistent Funding** for Street Preservation Program
- **Freight Streets Plan** - Build pavements based on use
- **Combat Oxidation** – Exploring increase in oil content b/w 4.8% to 5.2% previously from 4.5% to 5.2%; reduce RAP from 40% to 30%

Pavement Management Strategy



Projected Resurfacing



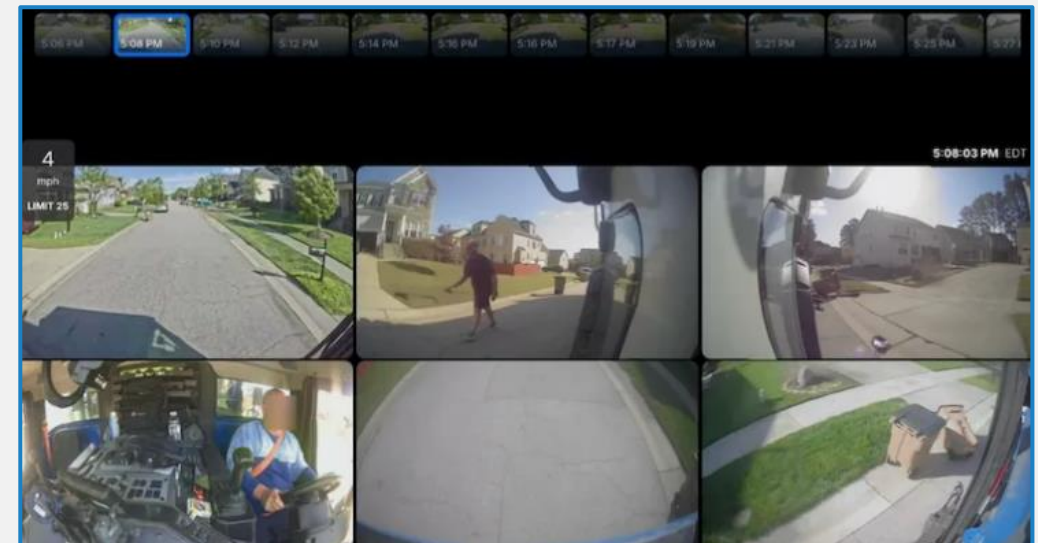
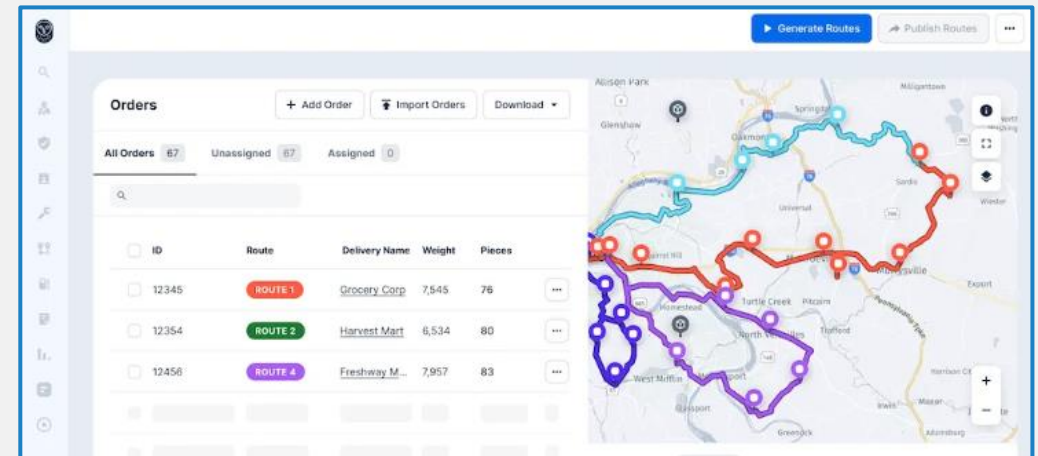
Asset Management

- OpenGov (Cartegraph) Asset Management
 - Helps department track and manage Public Works Assets
 - Cartegraph integrated with 3-1-1 to create work orders from reported issues
 - Field crews use tablets to provide updates on reported issues



Recommended Improvements

- Launched Rubicon Z pilot using cameras to capture images while driving around city – exploring expansion with Samsara using AI to detect potholes, create work orders, and create maintenance routes
- Additional configuration and training needed to better track completed potholes
- Additional investment needed to manage increased data and AI management
- Additional cameras for vehicles
- Continue to work with vendors to improve products and create integrations between systems



Questions