Town of Normal

Fire Station #2

New location Impact Analysis

Feb. 2, 2026

Analysis Tools

Industry leader in location analytics

Service Area Analysis Modelling:

- ArcGIS Online Model (AGO)
- Network Analyst

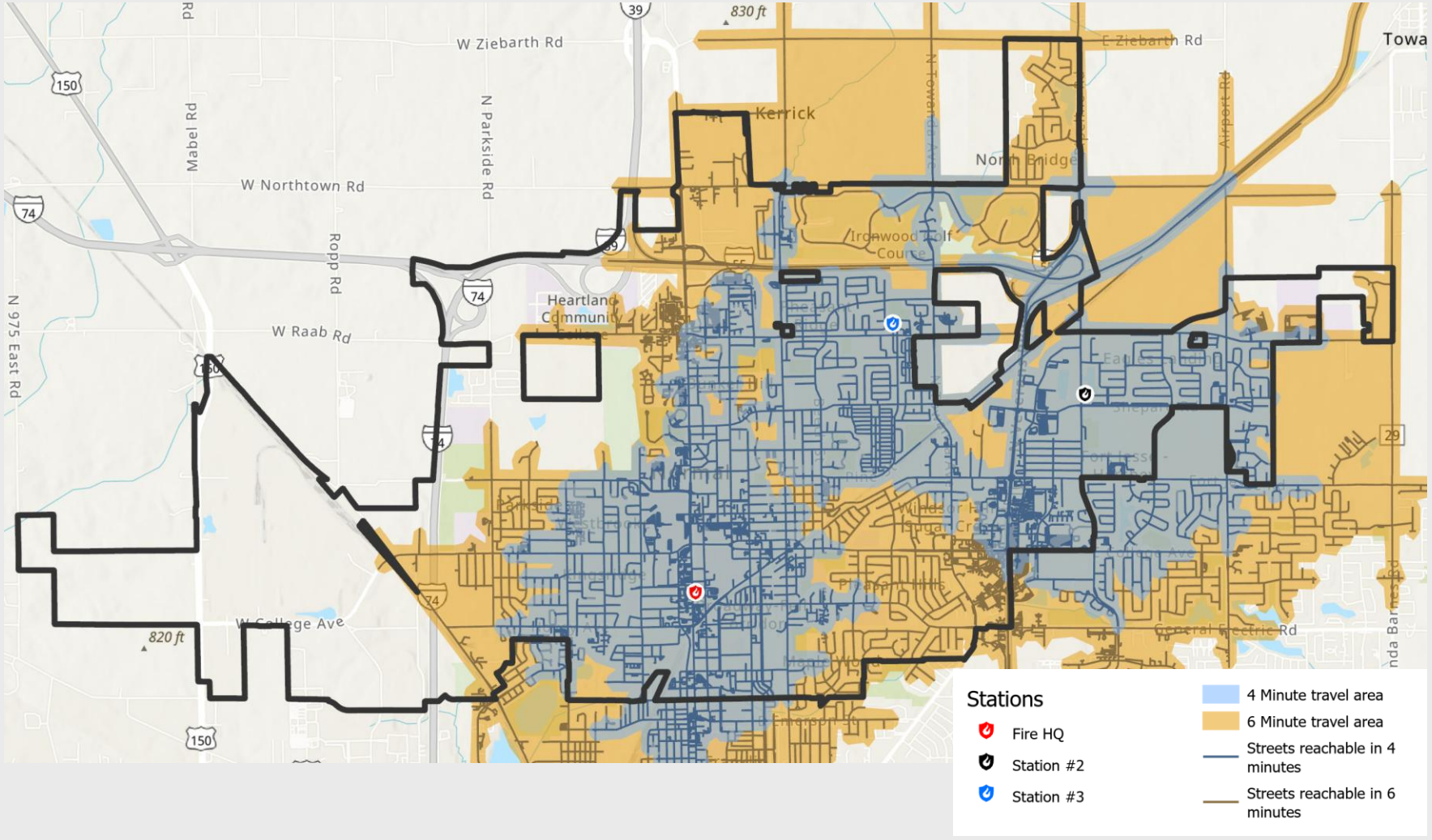
Validation

- Using CAD and ImageTrend Data

Frequently Used Acronyms

- AVL – Automatic Vehicle Locators
- CAD – Computer Aided Dispatch

ArcGIS Online Model - Coverage



Inputs

- No specific time-of day view
- Responding from the 3 stations
- Cut offs at 4 mins and 6 mins traveled

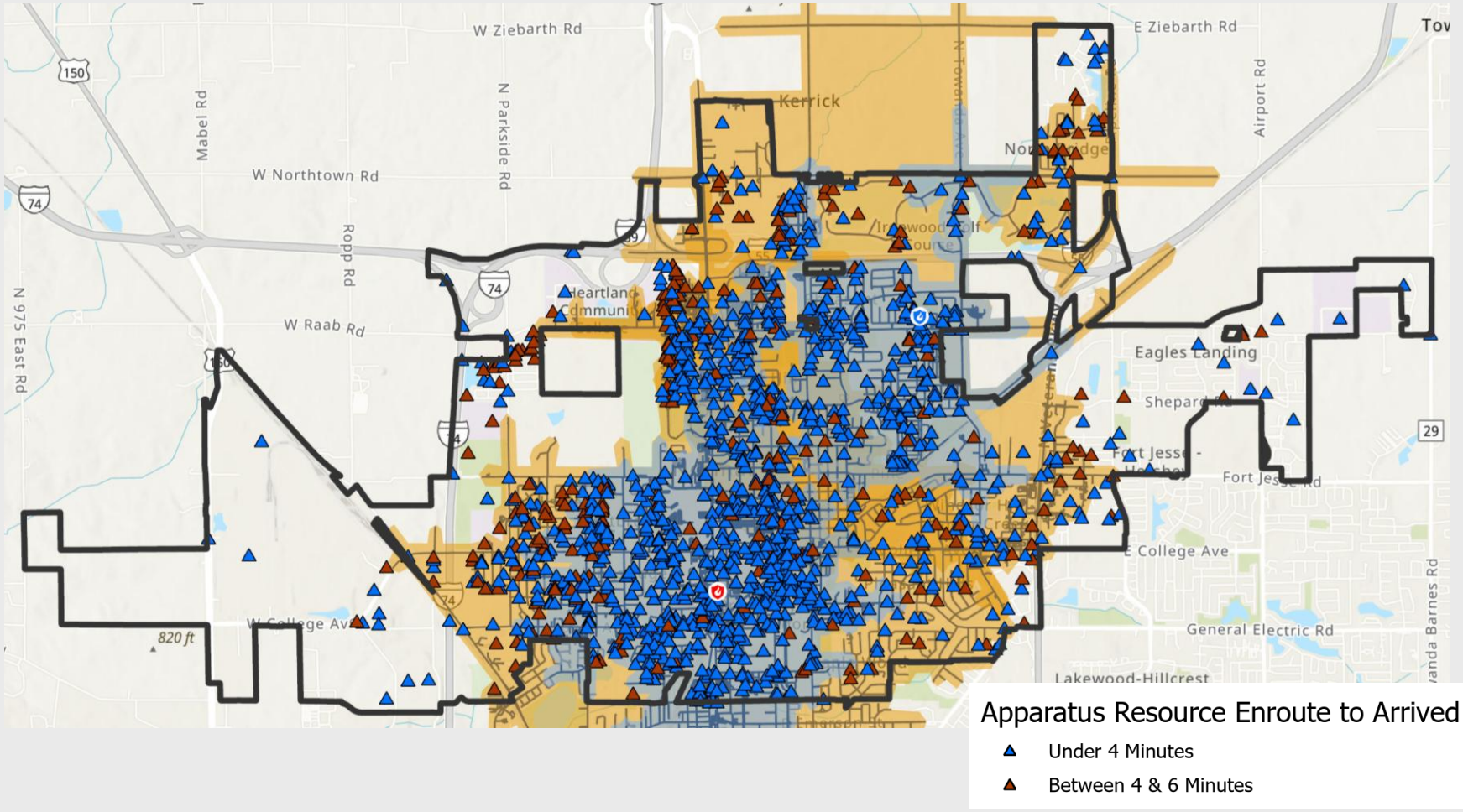
Pros

- Utilizes Historic & Real-time traffic data

Cons

- Little control over data
- No accounting for EMS vehicle speeds

ArcGIS Online Model Validation With AVL



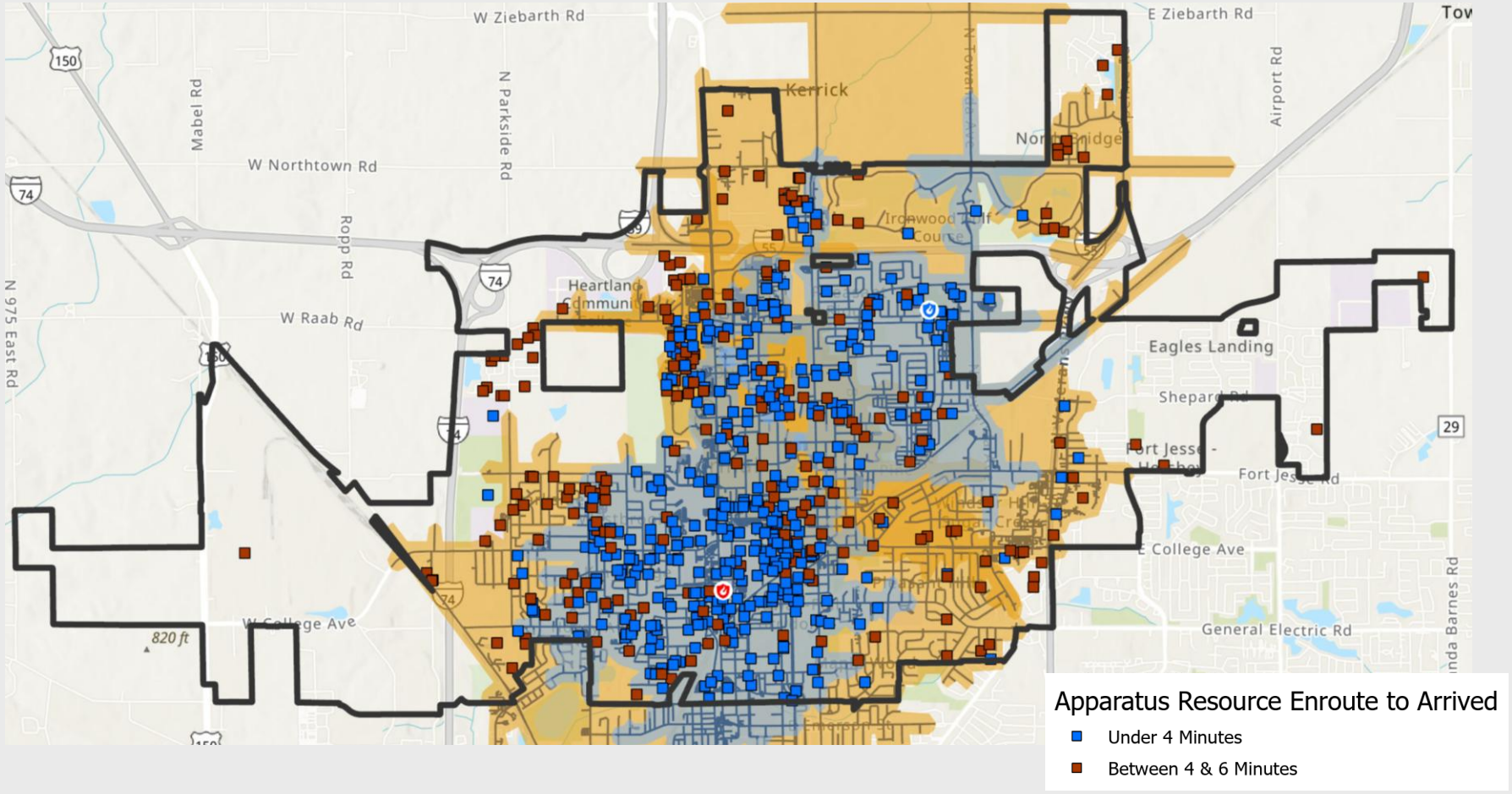
Incidents dispatched with AVL

January through December 2024

Outliers

Runs that took longer despite their proximity to the responding station

ArcGIS Online Model Validation Without AVL



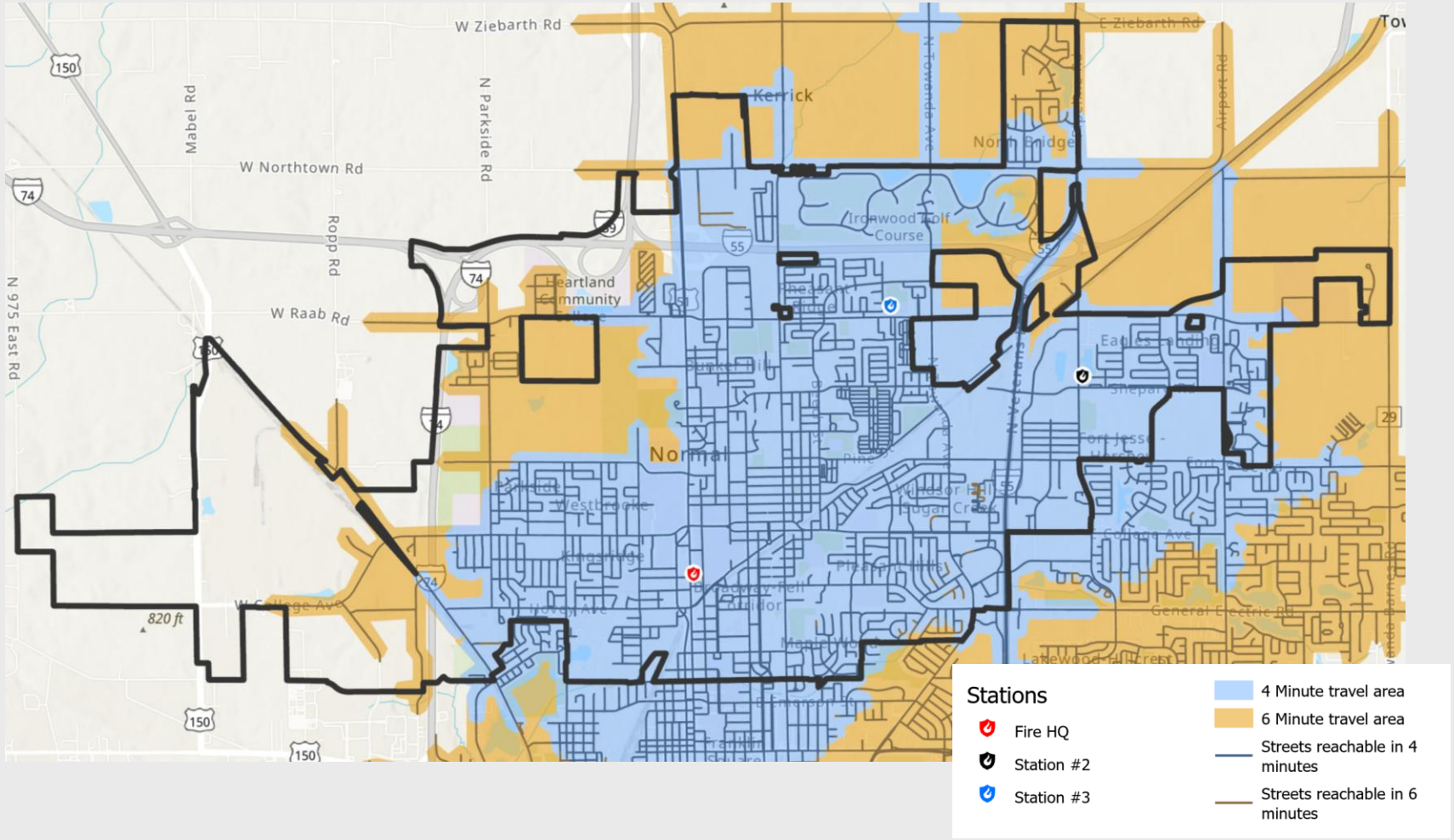
Incidents dispatched without AVL

July through early December 2025

Outliers

Runs that took longer despite their proximity to the responding station

Network Analyst Model - Coverage



Inputs

- No specific time-of day view
- Responding from the 3 stations
- Cut offs at 4 mins and 6 mins traveled

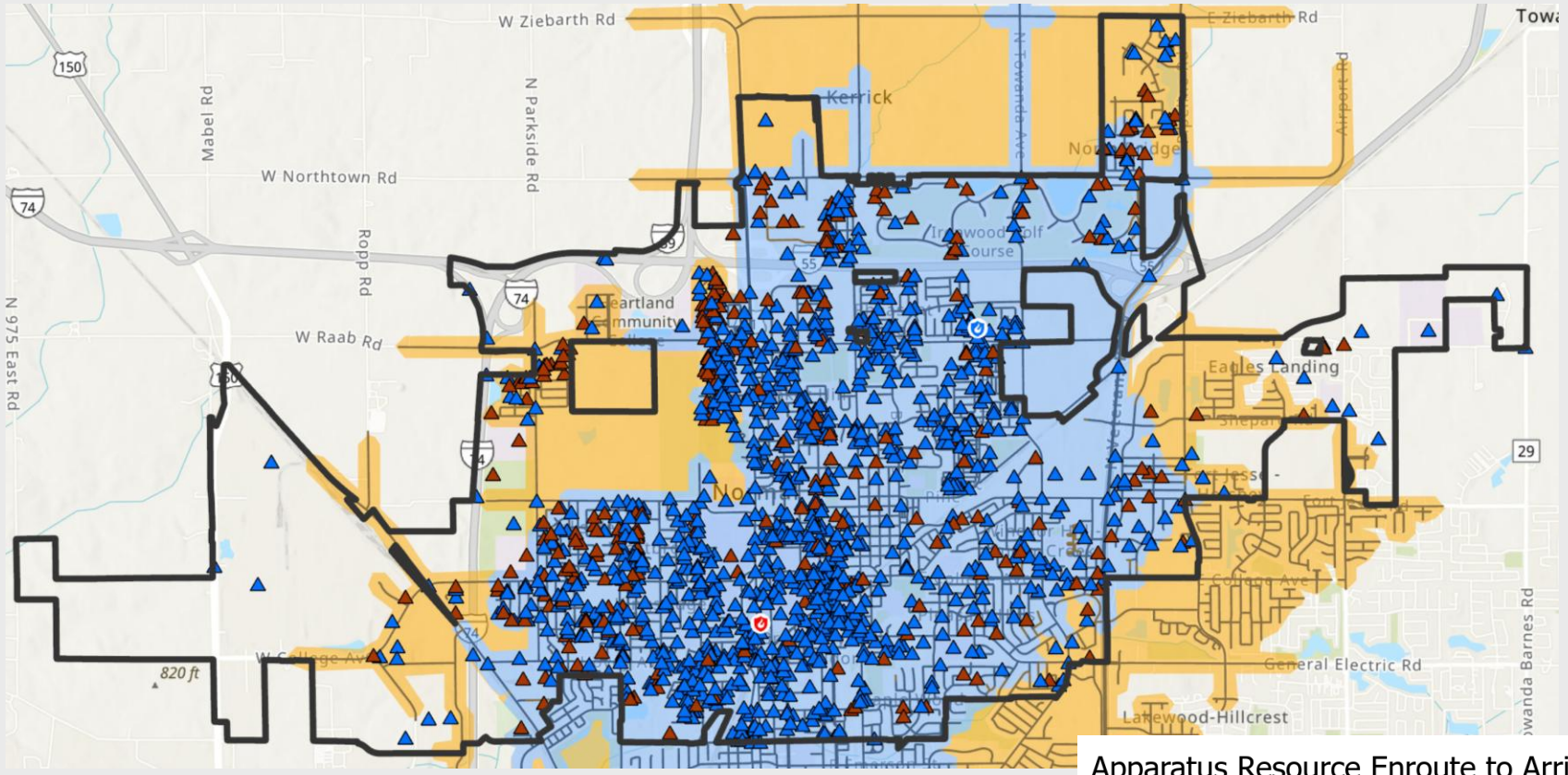
Pros

- Local data and control

Cons

- Utilizes road network, exclusively with no traffic patterns or EMS vehicle Speeds

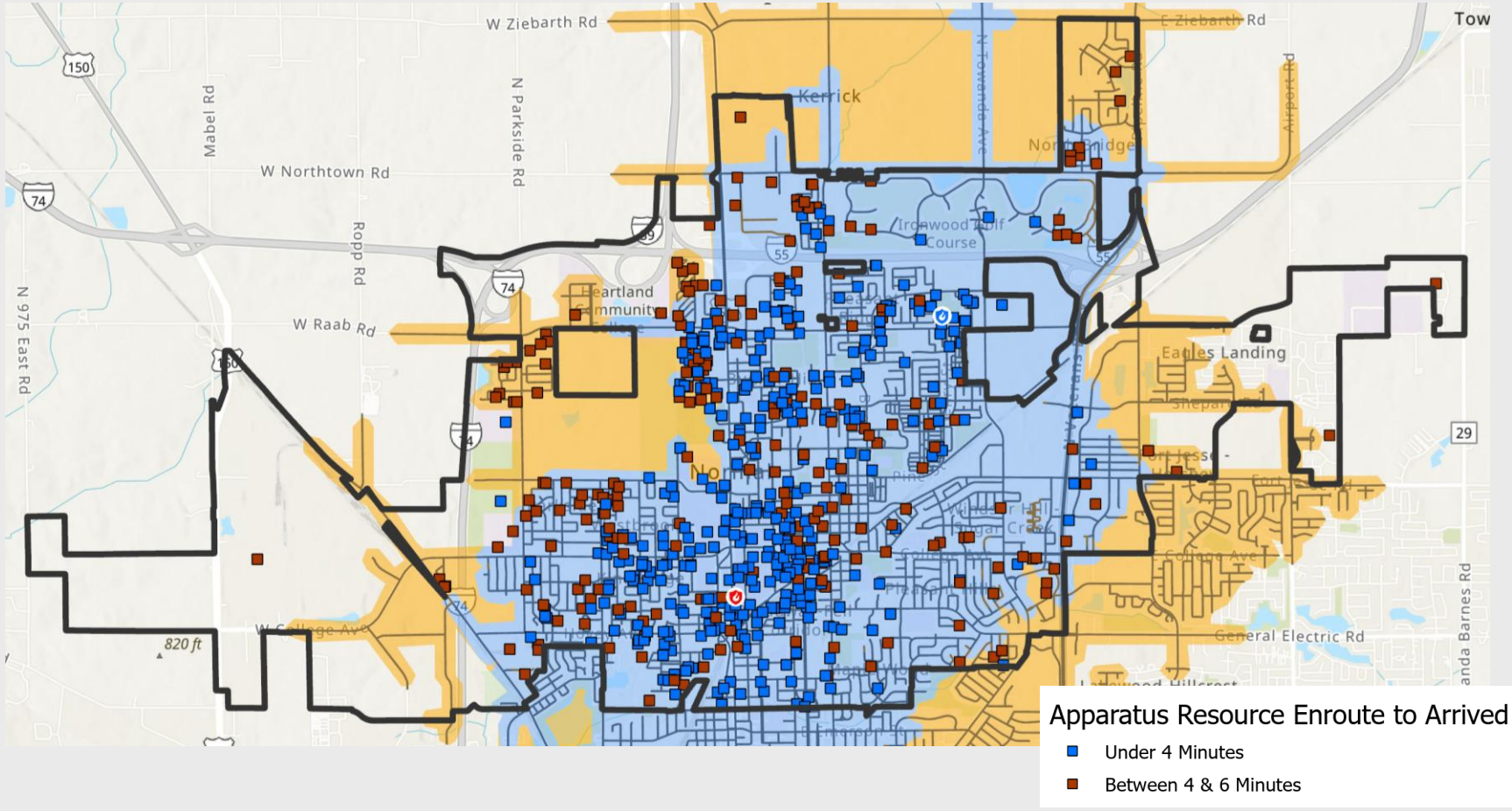
Network Analyst Model Validation With AVL



Incidents dispatched with AVL

January through December 2024

Network Analyst Model Validation Without AVL



Incidents dispatched without AVL

July through early December 2025

Service Area Analysis Takeaways

- **Network Analyst Model aligns more closely with actual response times**
  - Both models simulate potential roadway coverage but do not fully reflect real-world conditions (street traffic, EMS speeds, AVL dispatch etc.) which may impact emergency response times.
  - Our actual runs outperformed both models; The Network Analyst model shows a smaller gap from the actual response times than the ArcGIS Online model.
- Based on the Network Analyst model, response times to neighborhoods serviced by the old Fire Station #2 location remain within 4- to 6- minutes range.
- Next Steps: Now that the new Fire Station #2 is open, we will continue validating the model using actual incident response data.

2024 Dataset & Preparing 2025 Data

Datasets used for following metrics made up of comparative analysis from the CAD and ImageTrend Datasets

- **CAD –** Data received directly from connection to **C**omputer **A**ided **D**ispatch from MetCom McLean County 911 Communications
- **ImageTrend –** Emergency Management Software for Fire & EMS used by the Town

Datasets can be imperfect, so we check multiple sources, compared with physical datasets kept with Normal Fire to ensure greatest possible accuracy

To ensure accuracy, we are still working on this comparative analysis for 2025 and look forward to reviewing that dataset soon

2024 Call Volume Summary

- **Call Volume -** # of calls for Fire or EMS in a time (in this case, 2024)
- Call volume up 0.43% from 2023 to 2024
- Despite slight raise in volume (35 incidents), fleet availability remains strong
- **Fleet Availability -** time when fire fleet is not fully occupied with incident response

Number of Calls 2024	8061
Mutual Aid Calls 2024	639
Average Response Time	4 minutes 28 seconds
% of responses under four minutes	61%
% of responses under six minutes	82%

Fleet Availability – 2024 Dataset

- Number of calls is up
- Despite that, fleet availability is strong
- On average of all stations, 5 hours 6 minutes active daily
  - **Active –** includes dress time, response time, and time at an incident
  - 18 hours 54 minutes available for calls on average daily

Station	Average # of Calls/Day	Average Run Time
Headquarters	9	4 minutes 18 seconds
Old Station #2	7	4 minutes 14 seconds
Station #3	6	4 minutes 55 seconds

Station	Average time spent in response
Headquarters	6 hours 27 minutes
Old Station #2	4 hours 22 minutes
Station #3	4 hours 28 minutes

Gap and Risk Assessment 2024 Dataset

- **ALS -** Advanced Life Support
- To understand risk, we look at each individual moment we did not have an ALS vehicle available
- Both ambulances and fire engines are ALS equipped

Total time without ALS Vehicle 2024	14.48 hours
Total hours in 2024 (Leap Year)	8784 hours
% of Year with no ALS Vehicle	0.165%
Average time per day* with no ALS	2 minutes 22 seconds

- We look at gaps and consider risk to ensure we are a good partner in mutual aid
- We recognize that there is a concern that service may not be available, and statistically that is not the case

Town of Normal

Conclusion & Questions