Wake County Fire Services Long Range Planning Data Analysis

September 2026 Meeting

WAKE COUNTY
NORTH CAROLINA

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Topics for Discussion

- Overview of Standard of Fire Service Response for the Unincorporated areas of Wake County
- Review the data process
- Discuss travel time for first arriving units
- Effective Response Force (ERF) for working structure fires



Fire Tax District Long Range Plan Guiding Principles and Standards

- The Effective Response Force (ERF) for any reported structure fire responding emergency traffic with a minimum of 16 Firefighters should be 12 minutes 0 seconds, 90 percent of the time in unincorporated districts of Wake County.



Response Data Assessment

Remove incidents with:

- Zero response times
- Missing enroute times
- Out of order timestamps (indicating MDT problems)
- Travel times over 15 min (25 min for NWFD "Northwest District")

Remove incidents with >7-minute due to:

- Non-emergency responses (including downgraded incidents)
- Units staged for PD to secure scene
- Inaccurate dispatch location
- Units were canceled enroute

Travel Time - Rural Wake County

4/1/25 – 9/30/25

Department	Total Rural Responses	Rural Emergency Responses	Travel Time 90%	Emergency Responses Over 7 Min Travel
NWFD - NW District	43	34	**13:52**	32
Fuquay-Varina Fire	880	646	**8:22**	134
Holly Springs Fire	134	110	**8:22**	21
Garner Fire	1172	901	**8:05**	189
Wendell Fire	568	445	**7:35**	70
Rolesville Fire	304	247	**7:27**	42
Northern Wake Fire	977	755	**7:08**	84
Wake Forest Fire	393	292	**7:05**	31
Knightdale Fire	920	716	**7:04**	75
Zebulon Fire	276	213	**7:01**	22
Morrisville	162	125	6:53	11
Durham Highway Fire	278	199	6:38	17
Fairview Fire	501	388	6:33	27
Apex Fire	307	257	6:30	18
Hopkins Fire	246	179	6:22	15
Swift Creek Fire	185	151	5:52	6
Western Wake Fire	89	47	5:43	2
Wake-New Hope Fire	297	248	5:32	6
Cary Suburban	16	12	4:21	0

10/1/25 – 3/31/26

Department	Total Rurual Responses	Rural Emergency Responses	Travel Time 90th%	Emergency Responses Over 7 Min Travel
NWFD - NW District	34	27	**12:48**	26
Garner Fire	1112	869	**8:28**	192
Fuquay-Varina Fire	874	682	**8:13**	142
Holly Springs Fire	126	98	**8:00**	18
Wendell Fire	577	458	**7:44**	91
Morrisville Fire	158	132	**7:29**	17
Northern wake Fire	920	707	**7:12**	78
Wake Forest Fire	381	292	**7:06**	35
Hopkins Fire	208	154	**7:02**	17
Rolesville Fire	286	213	6:59	21
Zebulon Fire	299	238	6:54	21
Knightdale Fire	875	697	6:52	68
Durham Highway Fire	247	158	6:34	12
Apex Fire	238	195	6:21	12
Swift Creek Fire	187	160	6:27	8
Western Wake Fire	115	69	6:14	2
Wake New HopeFire	285	216	6:09	17
Fairview Fire	471	368	6:01	12
Cary Suburban	25	21	05:39	2

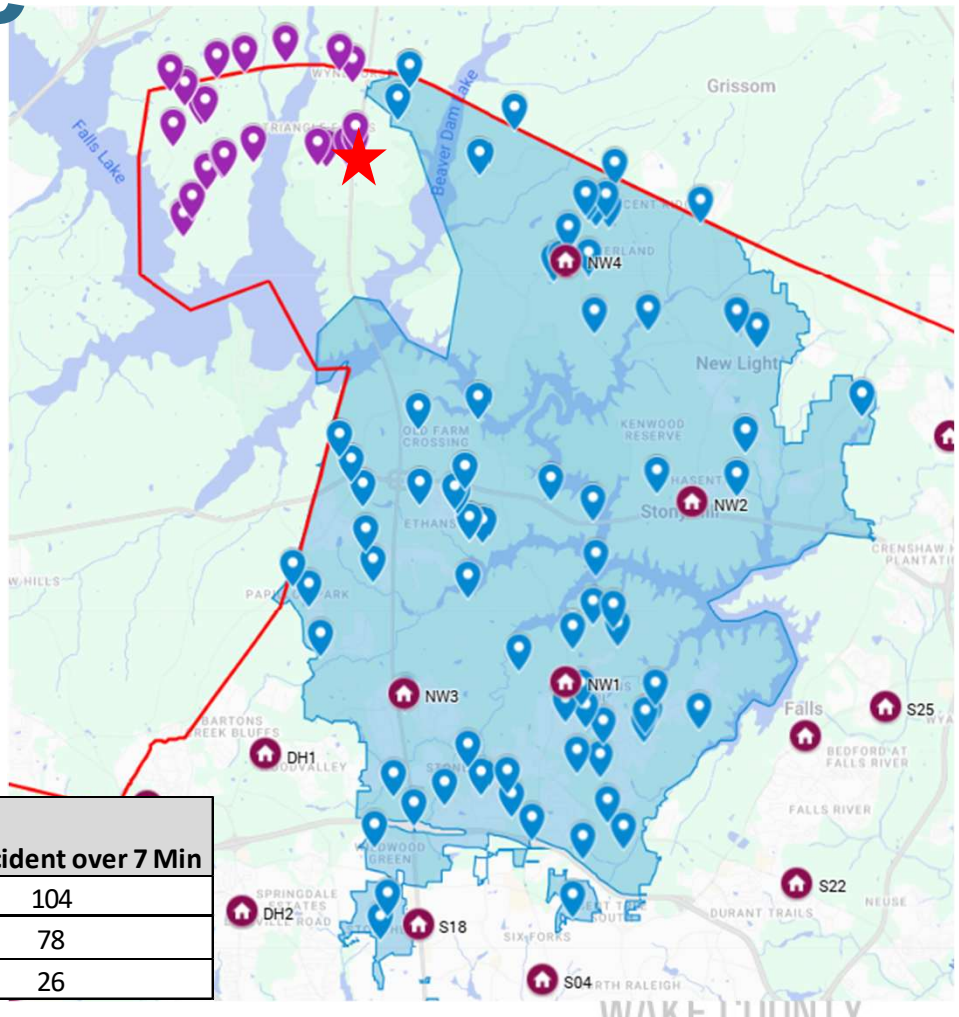
Northern Wake Fire

Construction on the "Hook" station has started.

With such a large district, we'll be monitoring this – especially after the new station opens.

- 7:12 for the remainder of the district is very close

Northwest District

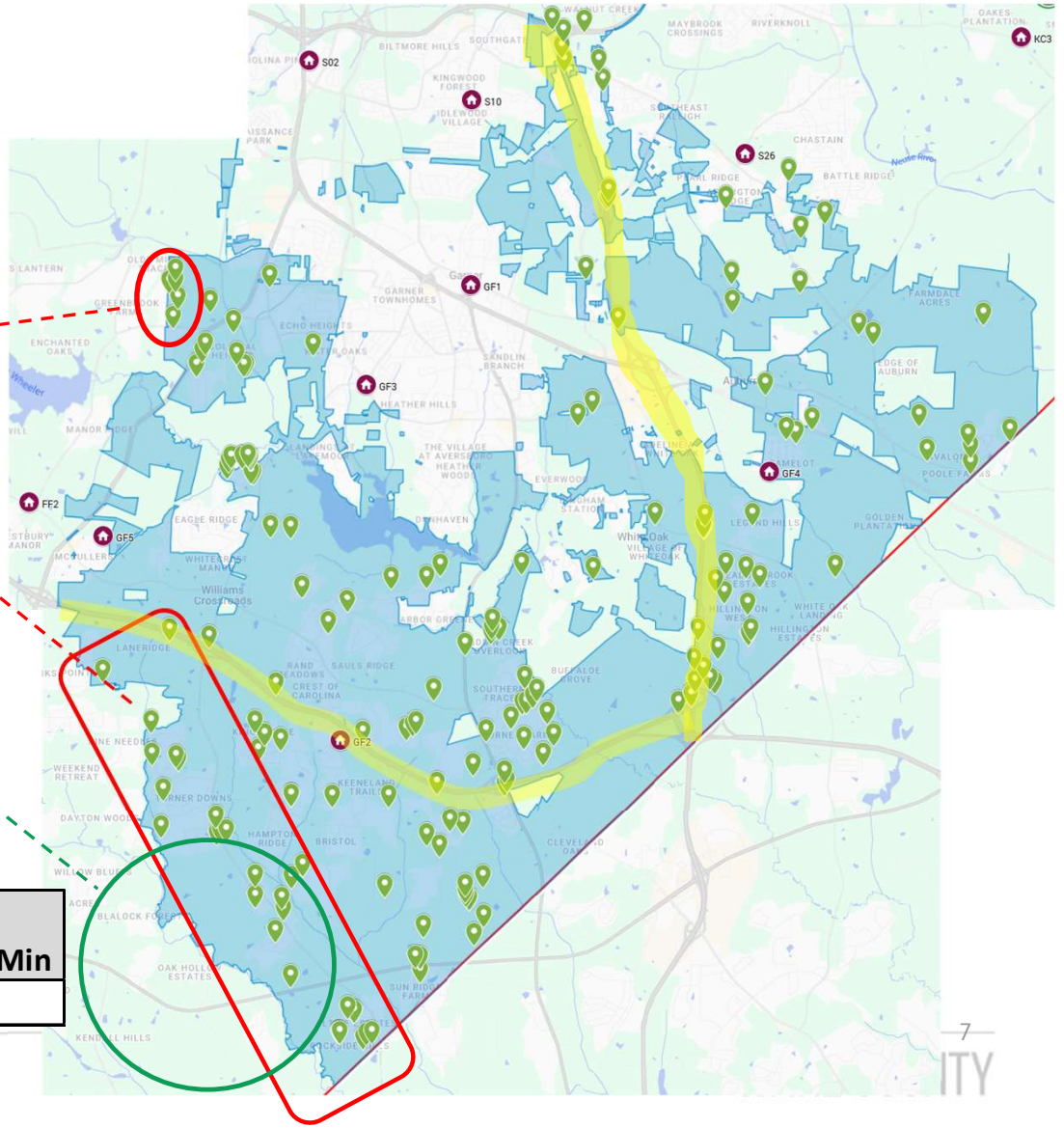


Area	Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
Entire District	734	7:36	104
Without Northwest District	707	7:12	78
Northwest District Only	27	12:48	26

Garner Fire

Of the 192 calls over 7:00

- 32 on the interstate
- 5 in the All Star Mobile Home community
  - A mile deep with speed bumps
- 25+ along the GF2/FV2/FV3 interface
- Future Station in the CIP



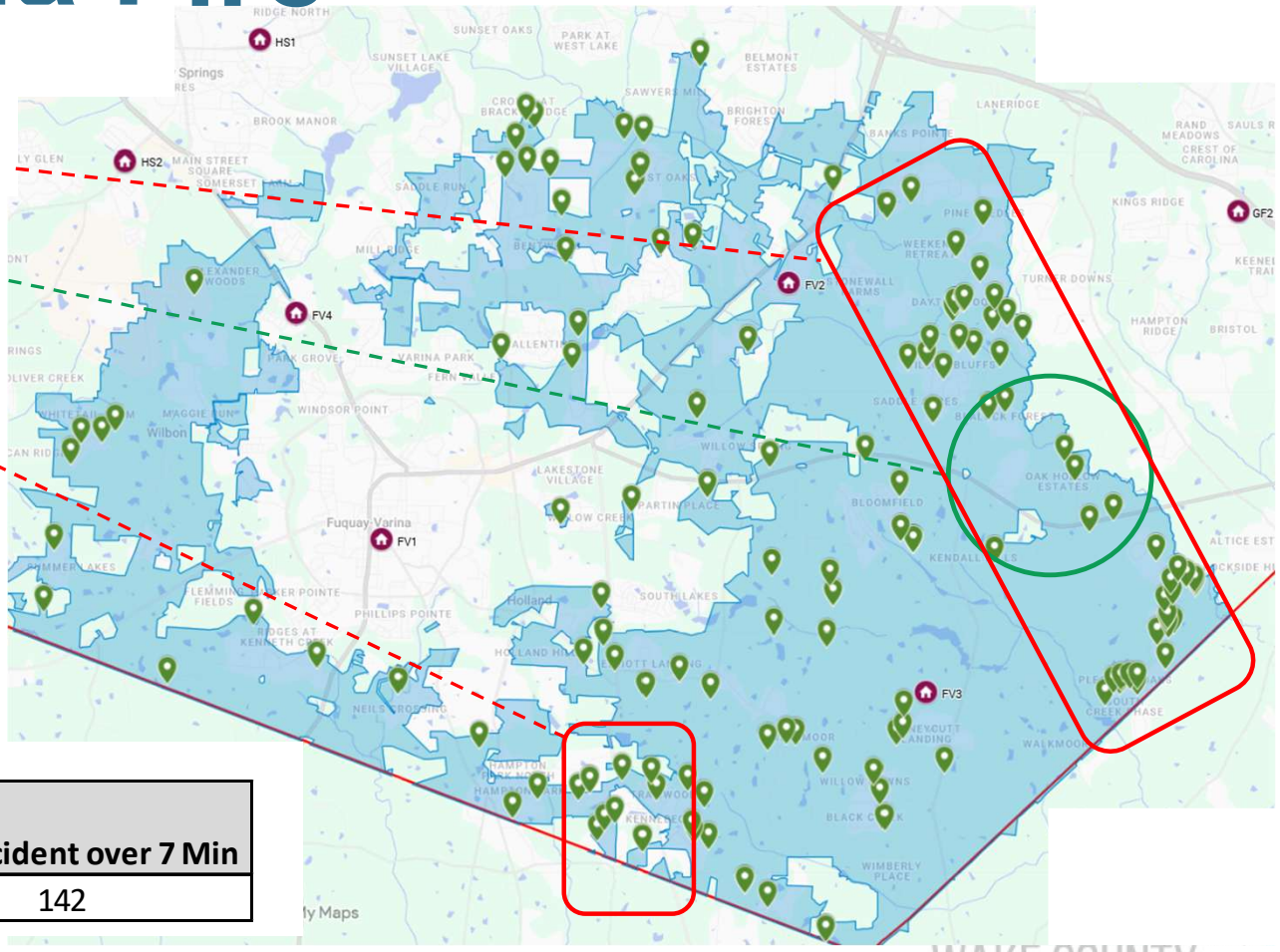
Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
869	8:28	192

7

Fuquay-Varina Fire

Of the 142 calls over 7:00

- 45+ along the GF2/FV2 interface
- Future Station in the CIP
- FVFD has plans for station 5 in this area

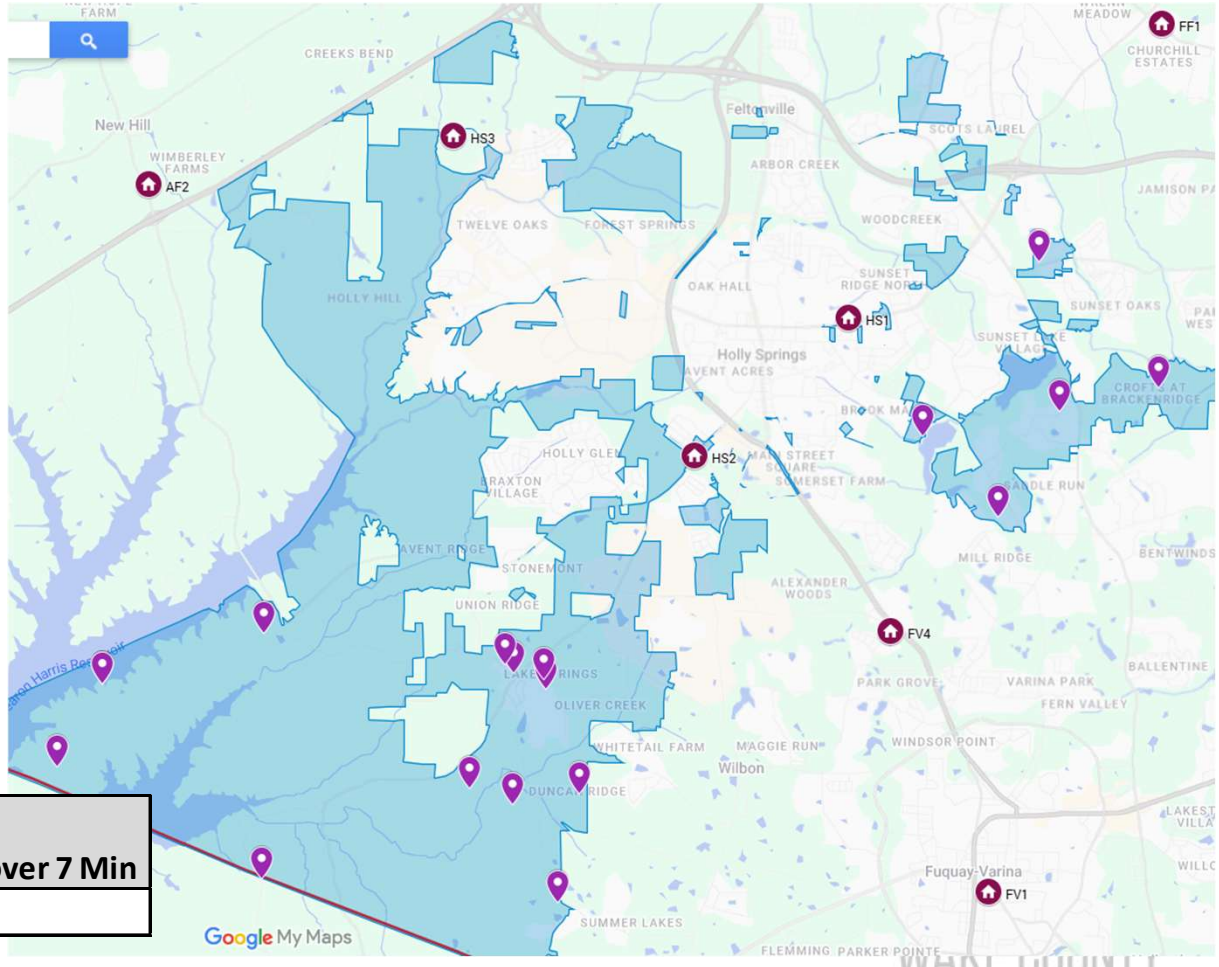


Total Rural Emergency Respones	Travel Time 90%	Total Incident over 7 Min
682	8:13	142

Holly Springs Fire

Of the 18 calls over 7:00

- 13 were deep in the Harris Watershed
- A case of:
  "low numbers skew the statistics"

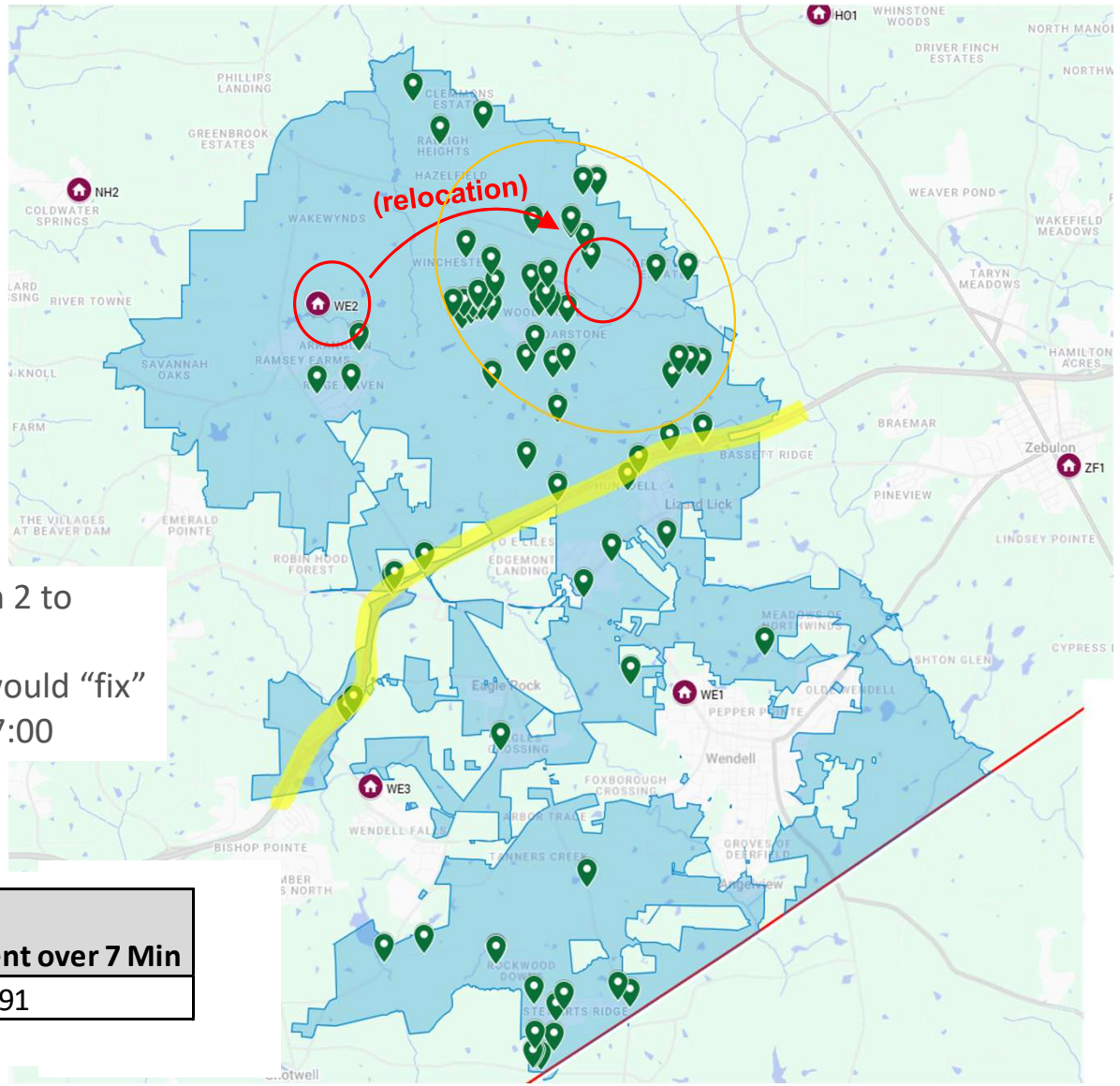


Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
98	8:00	18

Wendell Fire

Of the 91 calls over 7:00

- 14 calls were on the interstate
- 13 calls were on Stag Trl
  - 28 speed bumps
- Upcoming relocation of Wendell Station 2 to Riley Hill Rd near Eunice Ln
  - Reasonable assumption that this would “fix” a large portion of these calls over 7:00

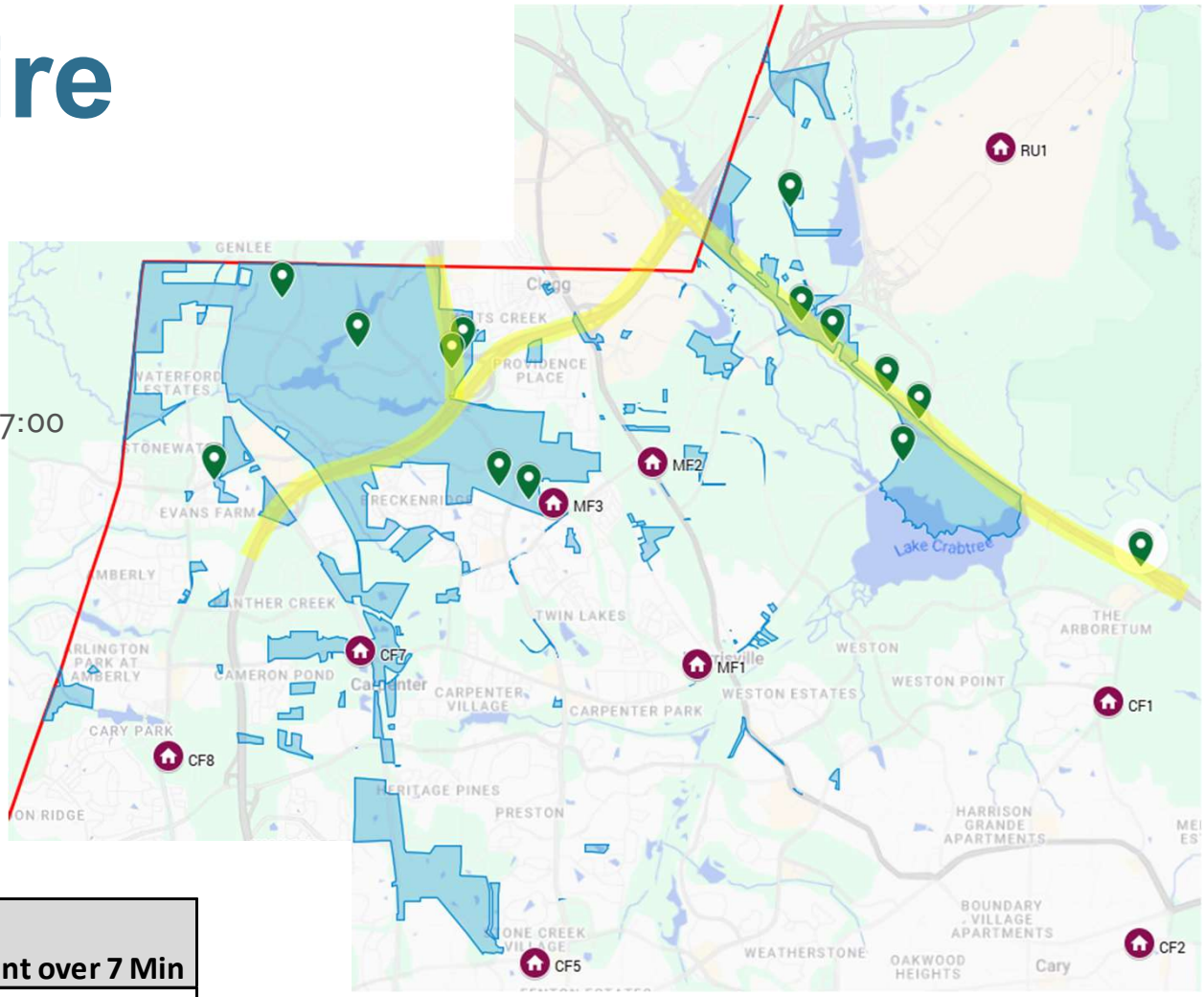


Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
458	7:44	91

Morrisville Fire

Of the 17 calls over 7:00

- 10 were on the interstate
- 87.1% of responses were less than 7:00
  - Goal = 90%
- A case of:
  "low numbers skew the statistics"

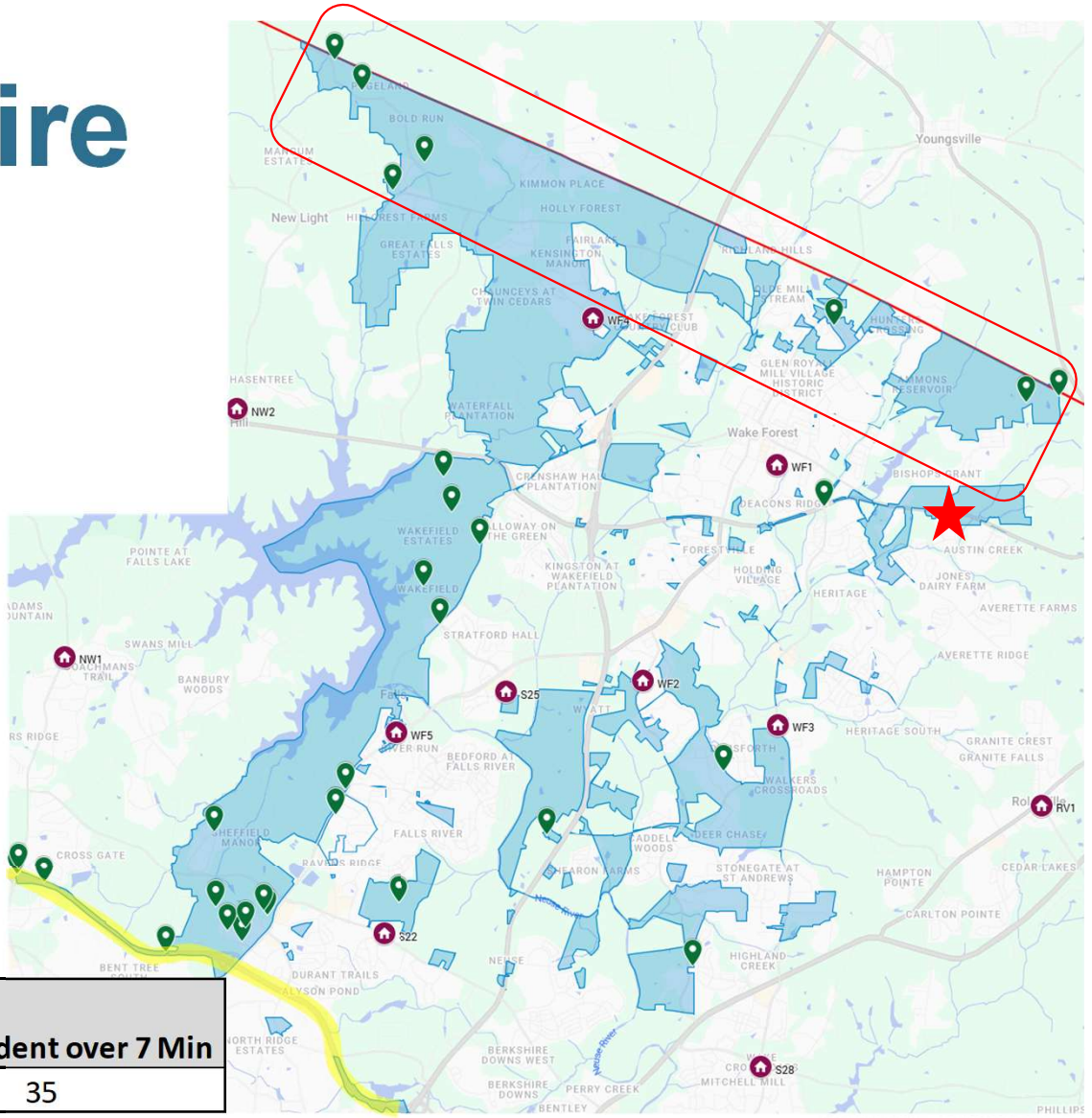


Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
132	7:29	17

Wake Forest Fire

Of the 35 calls over 7:00

- 7 were along the county line
- 6 were on the interstate
- WF6 is under construction
- A case of:
  "low numbers skew the statistics"
- 88.0% of responses were less than 7:00
  - The goal is 90%

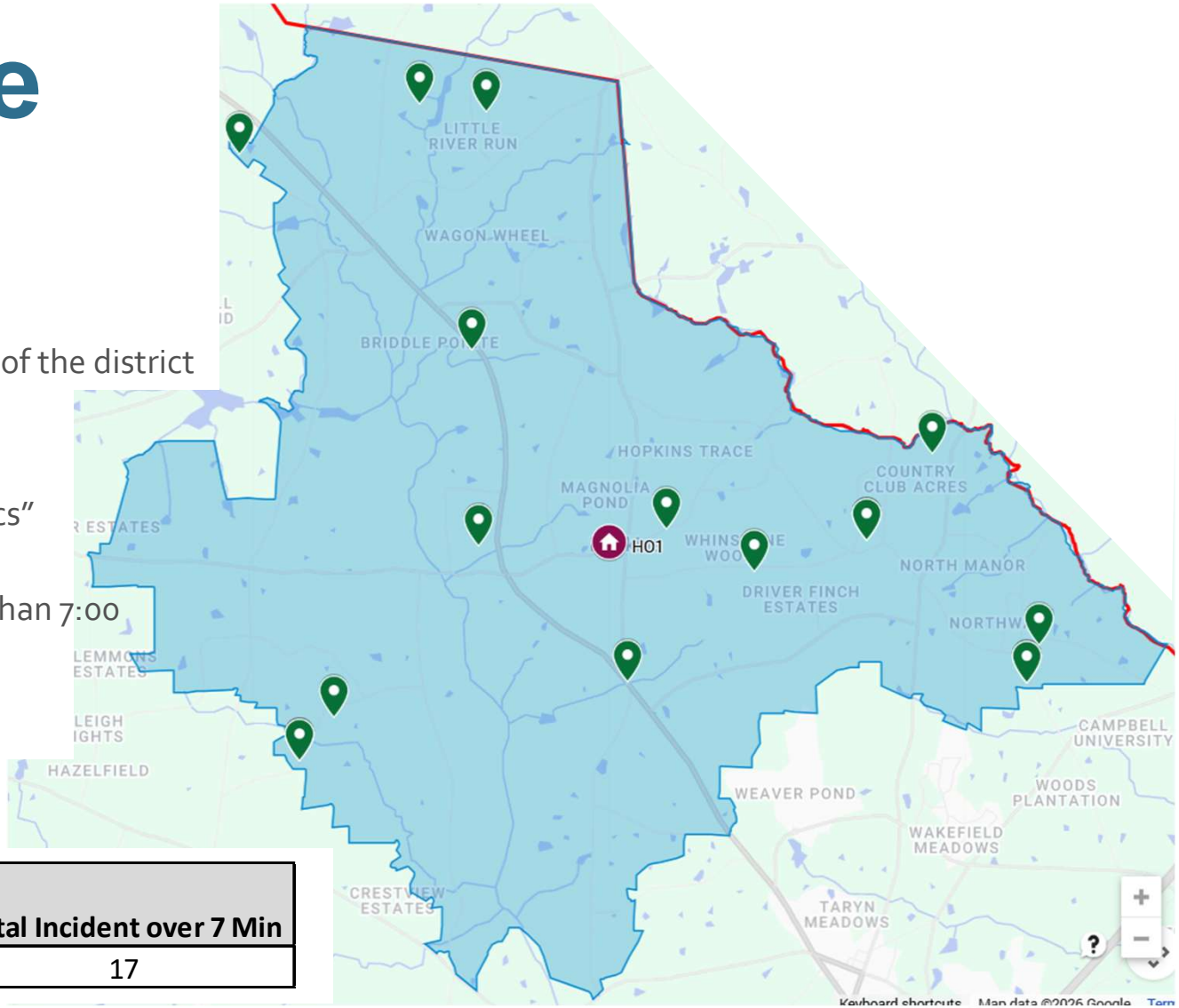


Total Rural Emergency Respones	Travel Time 90%	Total Incident over 7 Min
292	7:06	35

Hopkins Fire

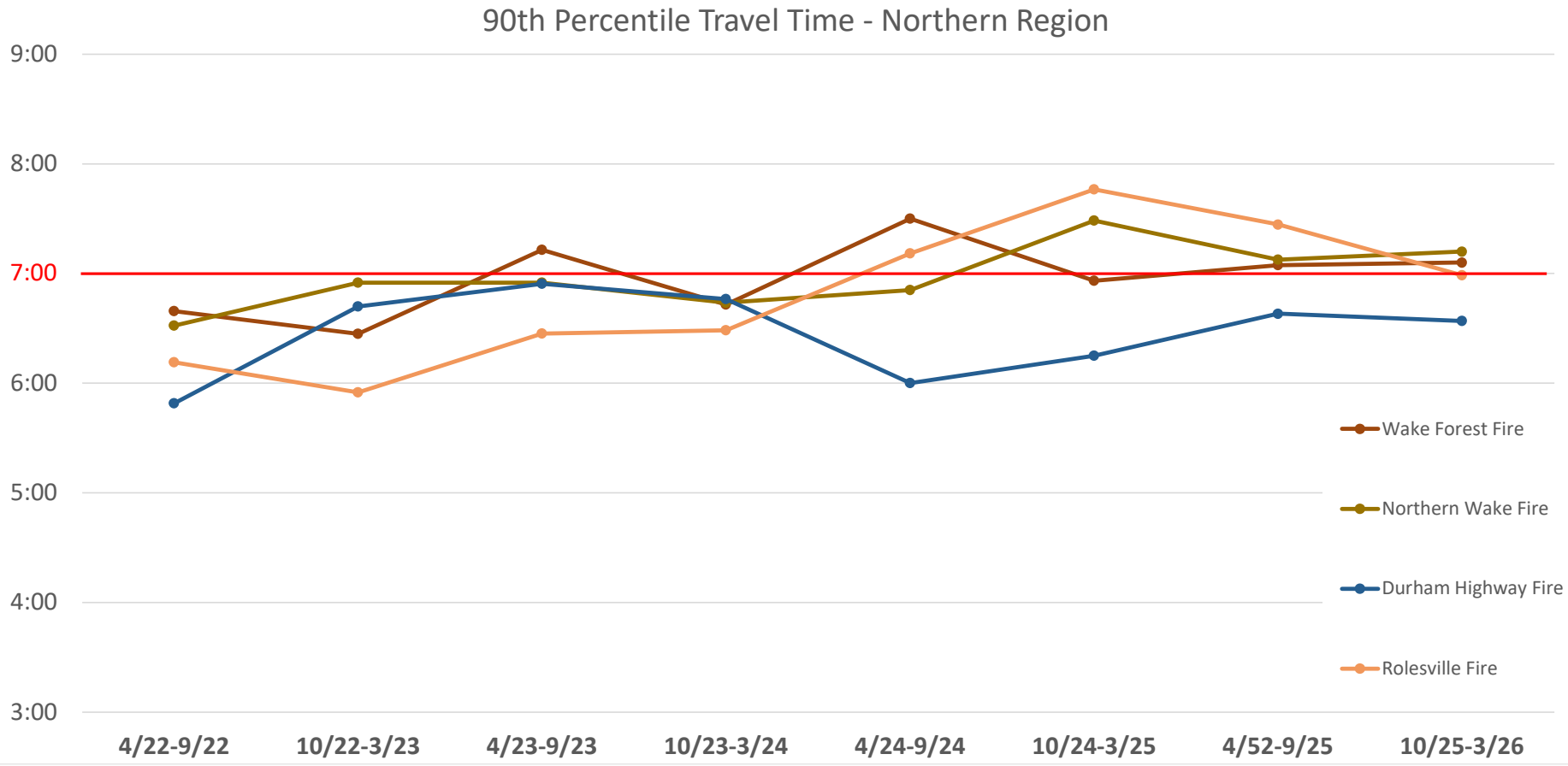
Of the 17 calls over 7:00

- 11 calls were on the perimeter of the district
- A case of:
  "low numbers skew the statistics"
- 89.0% of responses were less than 7:00
  - The goal is 90%

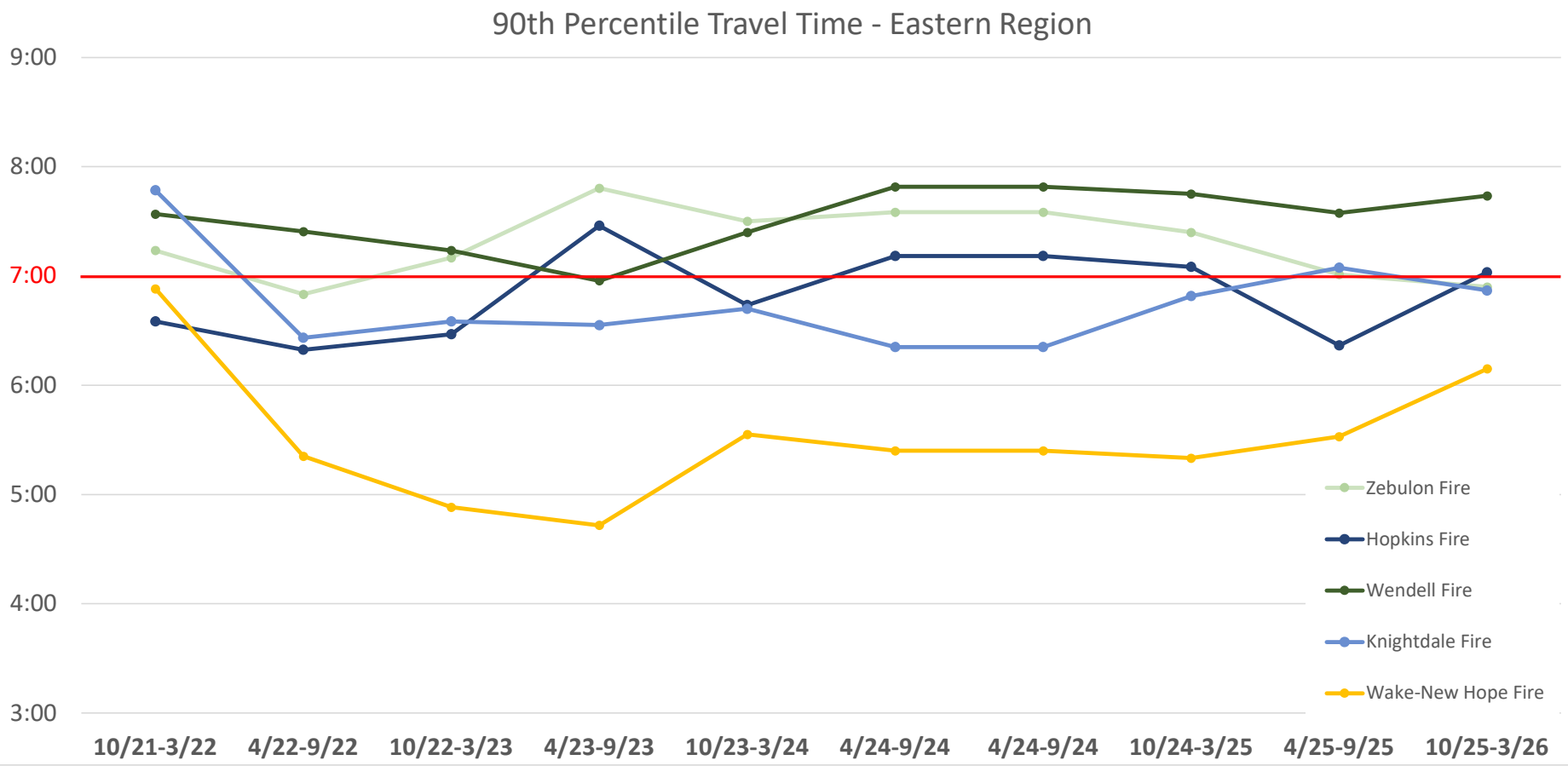


Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
154	7:02	17

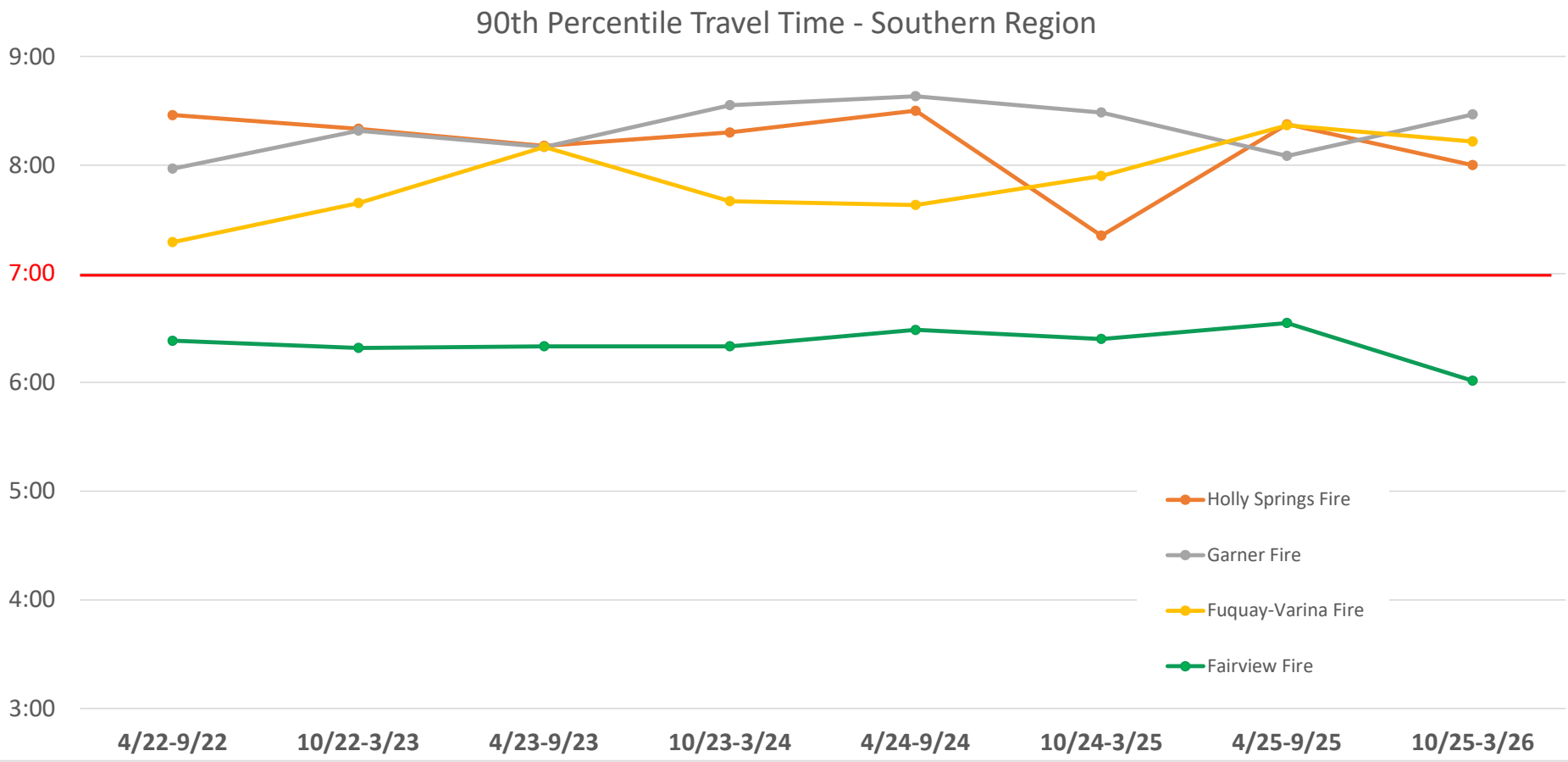
Travel Time - Rural Wake County



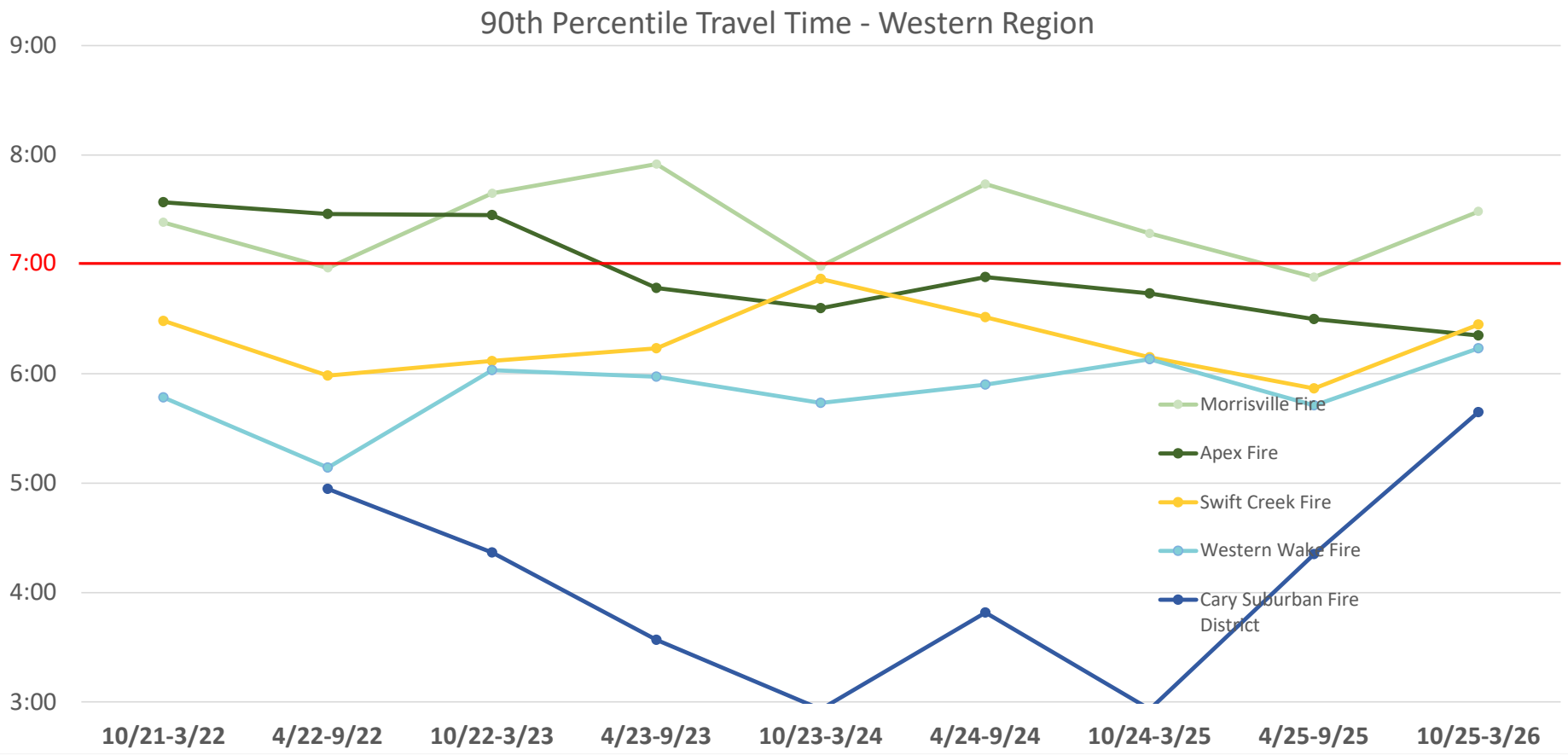
Travel Time - Rural Wake County



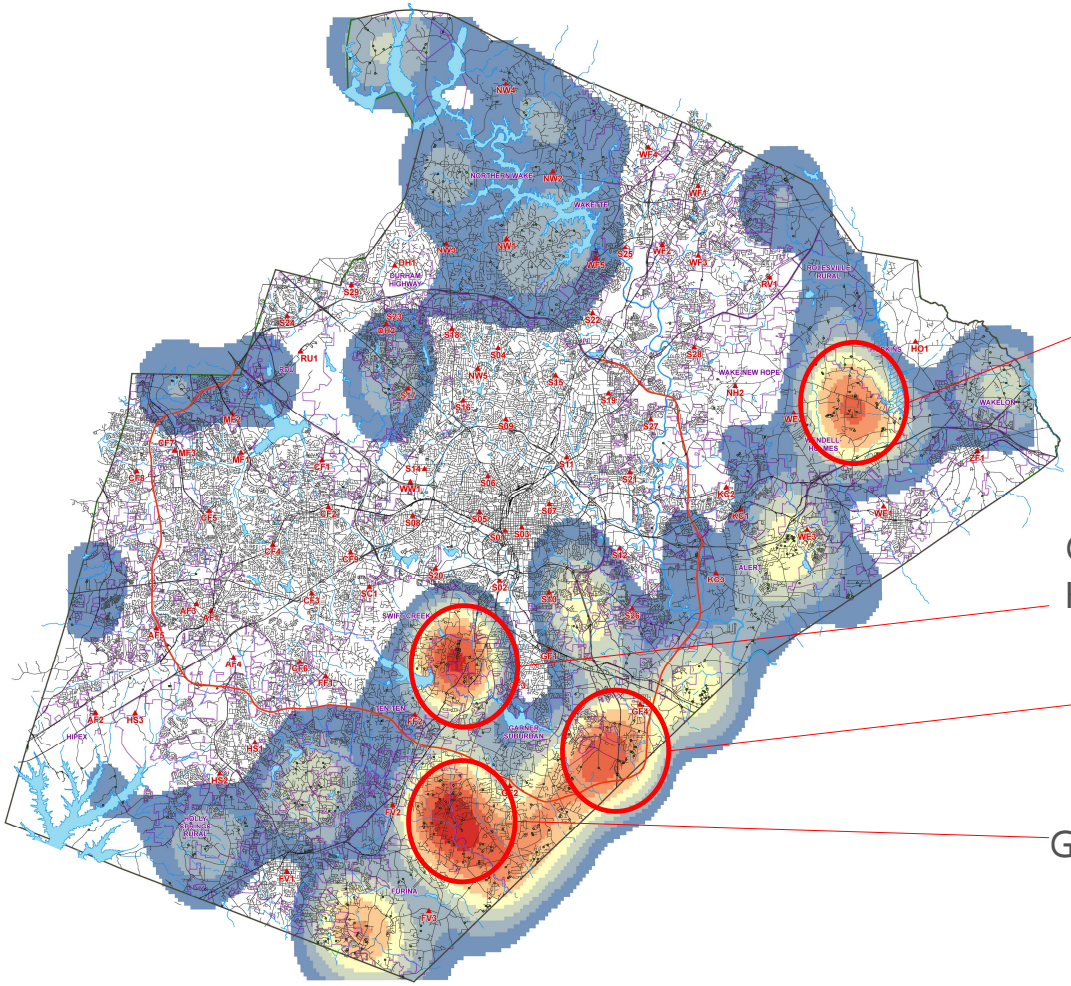
Travel Time - Rural Wake County



Travel Time - Rural Wake County



Calls over 7 min – heat map



Wendell: Stag Trl area

Garner: All Star Mobile Home Community

Garner: I-40 Responses

Garner Sta 2/Fuquay Sta 2 Interface

Structure Fires – Unincorporated Wake County



There were 189 reported structure fires in unincorporated Wake County from 10/01/25 – 3/31/26



After evaluating each of these incidents 56 were:

Working Structure Fires
(Hose lines were deployed)
or
Dispatched as a structure fire and assembled 16 on scene, regardless of conditions found



Out of the 56 there were 2 that did not meet the Effective Response Force (ERF) of 16 Firefighters on-scene within 12 Minutes.

Structure Fires - Rural Wake County 10/01/25 – 3/31/26

Department	Total Dispatched Structure Fires	Structure Fires Meeting Criteria	Structure Fires NOT Meeting ERF
Apex Fire	8	1	0
Cary Suburban	0	0	0
Durham Highway Fire	1	0	0
Fairview Fire	13	8	0
Fuquay-Varina Fire	24	7	0
Garner Fire	26	6	0
Holly Springs Fire	2	0	0
Hopkins Fire	3	1	0
Knightdale Fire	27	7	0
Morrisville Fire	1	1	0
Northern Wake Fire	21	6	0
Rolesville Fire	10	2	1
Swift Creek Fire	7	0	0
Wake Forest Fire	7	2	0
Wake-New Hope Fire	10	4	0
Wendell Fire	17	10	1
Western Wake	3	0	0
Zebulon Fire	9	1	0

Structure fires over 12:00 ERF

Effective Response Force for Structure Fires
- Timestamped as the arrival of the 16th firefighter arriving
- Target = 12:00

Wendell



6452 Stag Trl: 18:14
January 25th

First arriving unit had a travel time of 9:25

23°F at time of dispatch.
All responding agencies noted travel delays due to icy roads in their call reports.

Rolesville



6936 Fowler Rd: 19:01
January 28th

First arriving unit had a travel time of 4:37

28°F at time of dispatch.
Travel delays noted due to icy roads in the call report.

Recent and Upcoming Stations

- New Stations
  - Already broken ground:
    - Zebulon Station (relocation)
      - Anticipated opening March, 2027
    - NWFD "Hook" station
      - Anticipated opening November, 2027
    - Wake Forest station 6 on Hwy98
      - Anticipated opening May/June 2027

- Breaking Ground Soon
  - Wendell Station 2 (relocation)
  - Hopkins Station (replacement – same location)



Future Stations

Based on Response Data the following stations have been added to the long-range CIP

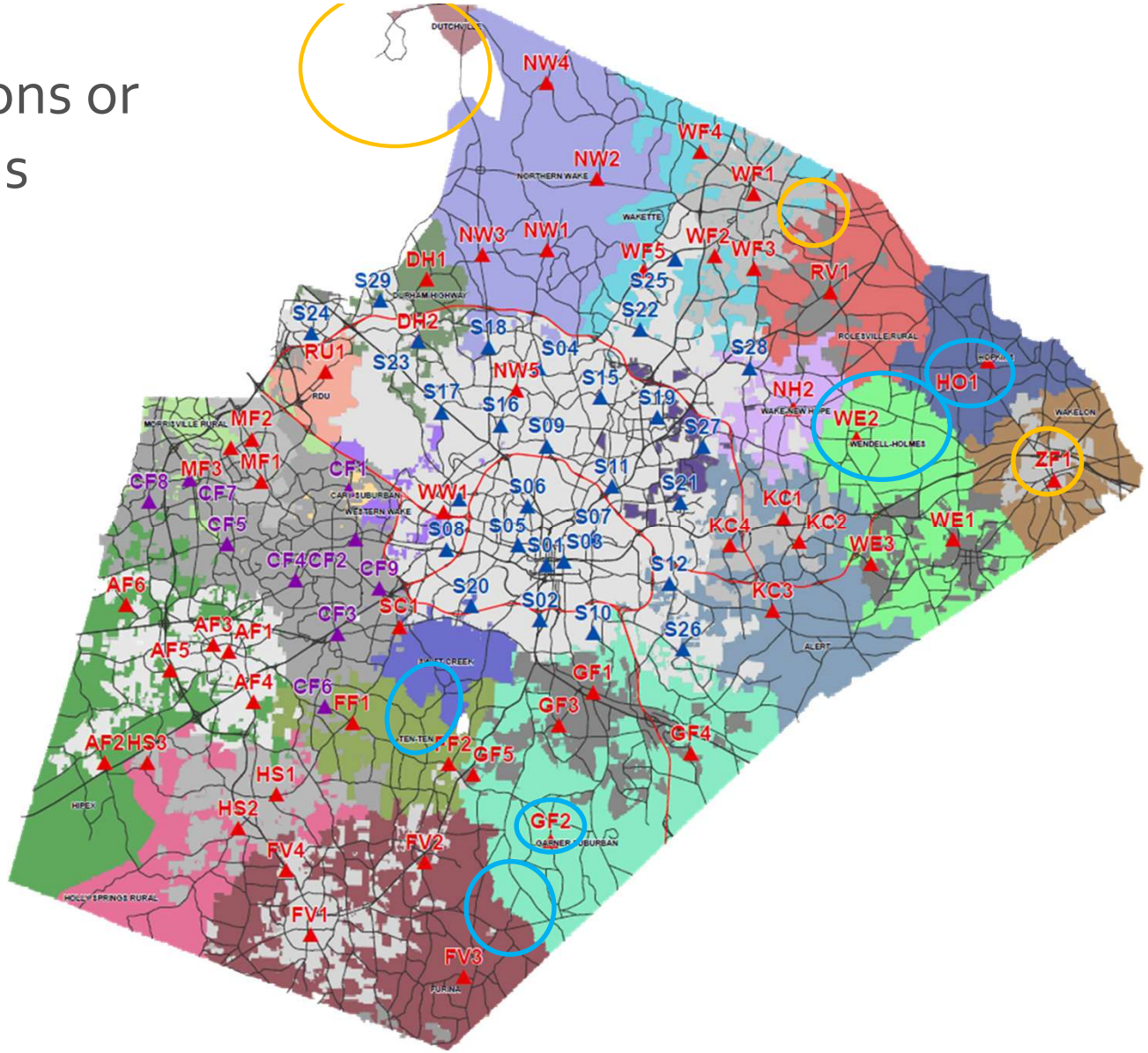
- **Wendell North Public Safety Center**
    - Wendell Station 2 relocation FY26/27
- **Hopkins Public Safety Center**
    - Hopkins Station replacement FY27/28/29
- **Highway 42 Public Safety Center**
    - GF2/FV2/FV3 infill station FY29/30/31
- **Lake Wheeler Station**
    - Lake Wheeler area FY27/28/29
- **Garner Station 2**
    - Relocation FY29/30
- **Fairview Main Station**
    - FY30/31/32



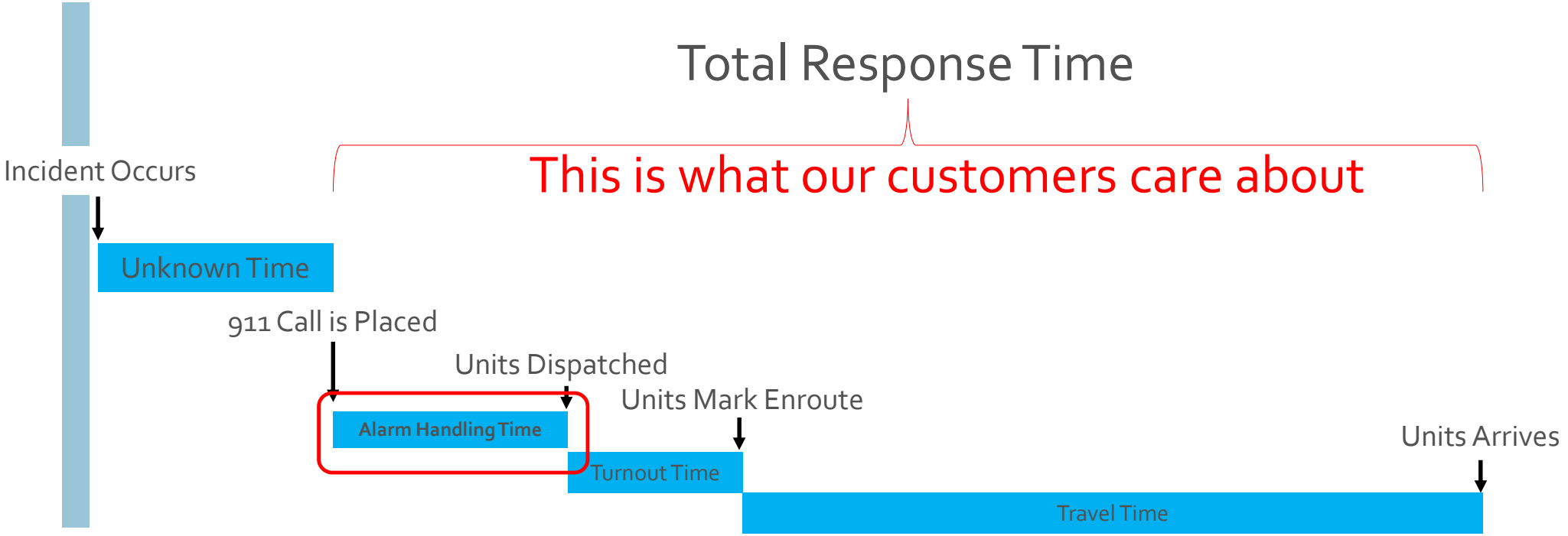
New Stations or Relocations

In process

In the CIP



Next Challenge: Alarm Handling Times



Alarm Handling Times

- What are the standards?
  - NFPA 1710,
  - 4.1.2.3.3
    - The fire department shall establish a performance objective of having an alarm processing time of not more than 64 seconds for at least 90 percent of the alarms and not more than 106 seconds for at least 95 percent of the alarms.

- 4.1.2.3.3.1
  - Emergency alarm processing for the following call types shall be completed within 90 seconds 90 percent of the time [for special cases such as giving medical instructions, foreign languages being spoken, etc.]

- 2018 WECO agreement (still current) performance measures statements mirror these standards

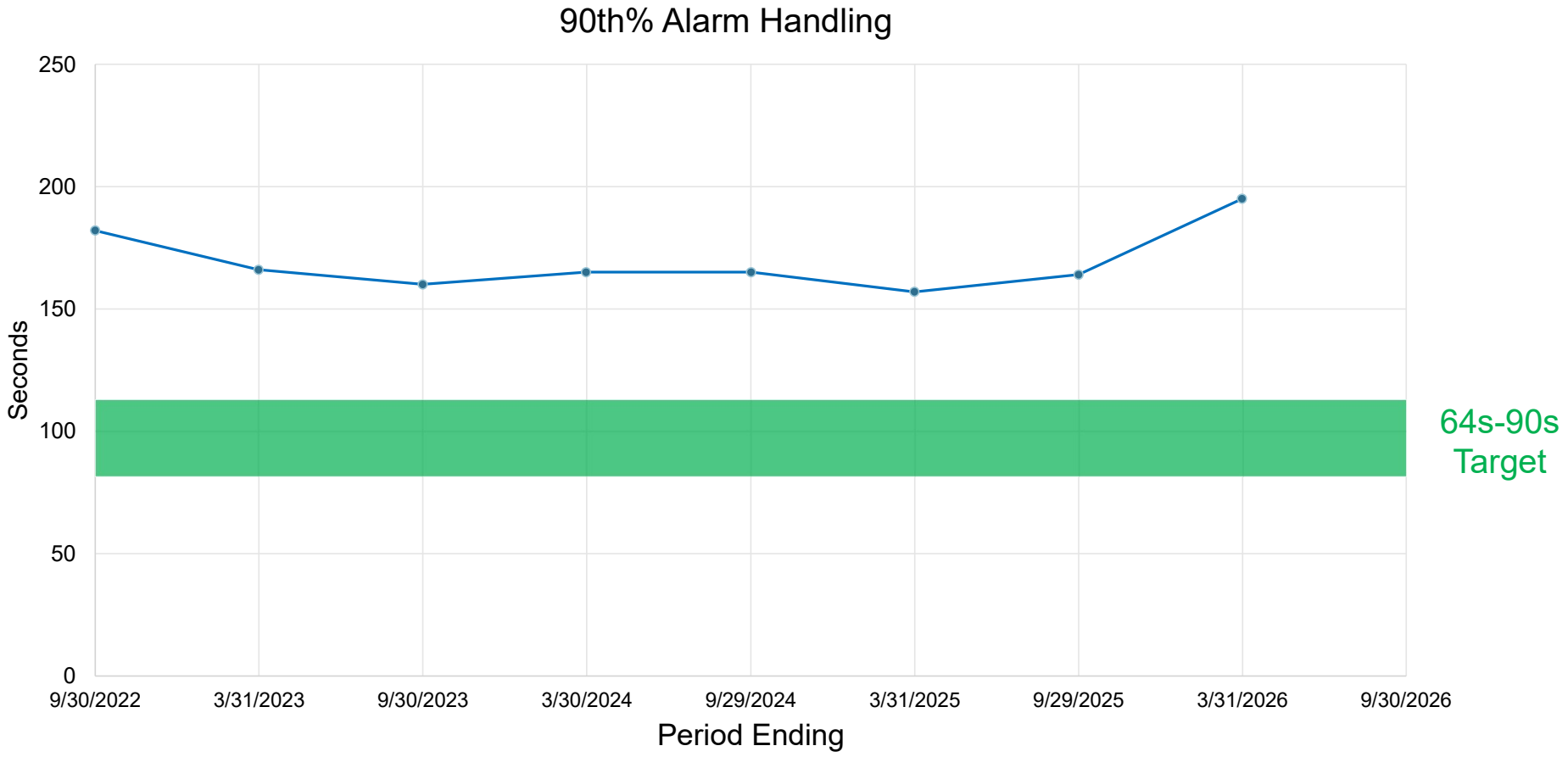
Alarm Handling Times

- Where are we currently?
  - Overall for this 6-month period: 195s

- We have engaged our partners
  - Raleigh-Wake Communications Center
  - Wake County EMS
  - Raleigh Fire

- We've started examining these numbers and have some ideas for reducing the alarm handling time.

Alarm Handling Times Over Time



Long Range Plan Response Standards – General Observations

- Recommendations for improving data quality. Please encourage your fire report authors to:
  - Include mutual aid received units with staffing levels
    - Especially out-of-county units
  - Use the response mode (emergent/non-emergent)
  - Document (in the narrative) reasons for delayed travel times
    - Staged for PD
    - Traffic
    - Weather



Questions…