

# Wake County Fire Services Long Range Planning Data Analysis

July 2023 Meeting



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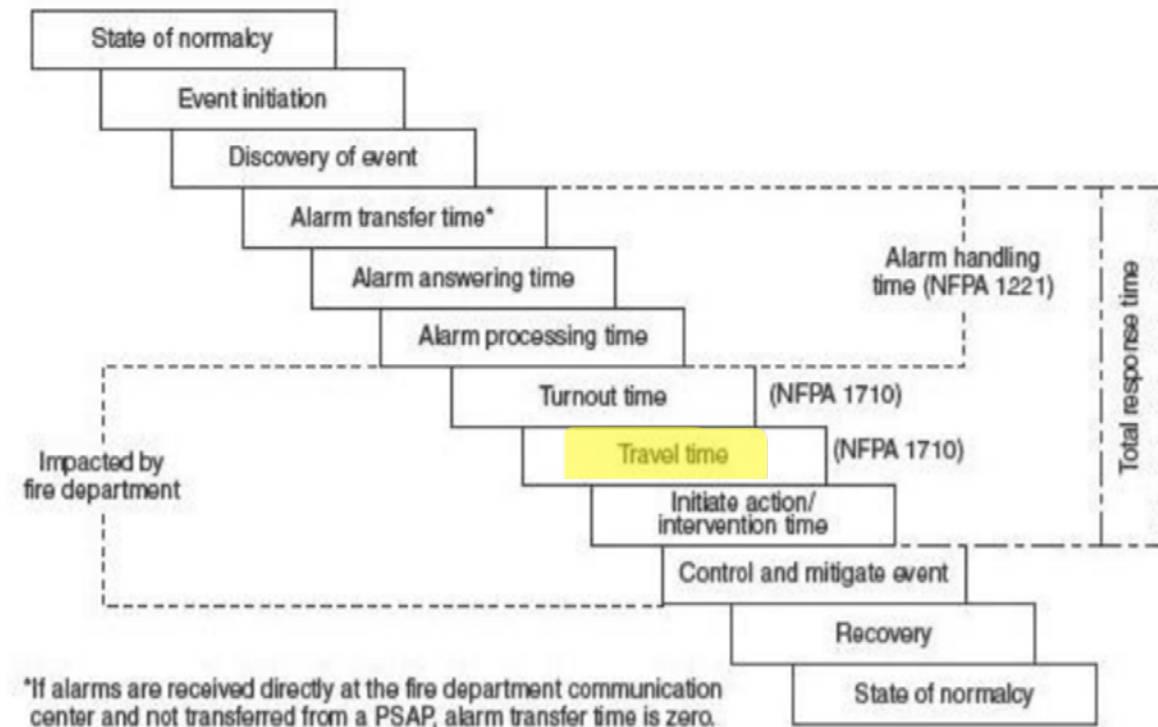
# Topics for Discussion

- 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
- Next steps



# Standard of Fire Service response for the unincorporated areas of Wake County

- Travel Time for the first arriving unit, running emergency traffic, on all incidents should be 7 minutes, 0 seconds 90 percent of the time in unincorporated districts of Wake County.





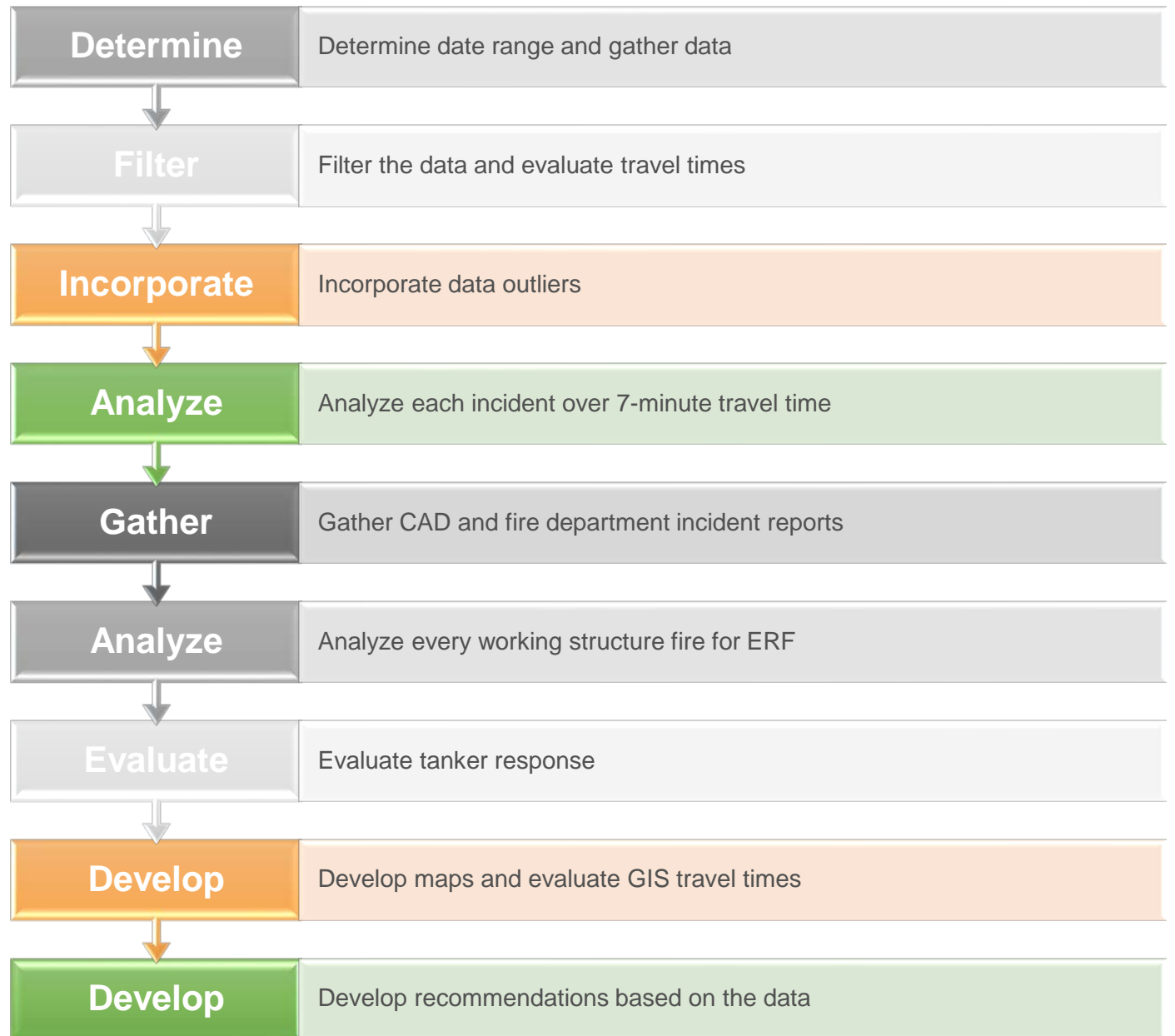
# Fire Tax District Long Range Plan Guiding Principles and Standards

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- 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.



# Data Process



# 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

4/01/22 – 09/30/22

Department	Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
NWFD - NW District	45	13:37	39
Holly Springs Fire	173	8:28	50
Garner Fire	893	7:58	152
Apex Fire	213	7:28	29
Wendell Fire	507	7:24	62
Fuquay-Varina Fire	700	7:17	85
Morrisville Fire	153	6:58	15
Zebulon Fire	192	6:50	16
Wake Forest Fire	307	6:39	21
Northern Wake Fire	736	6:31	48
Knightdale Fire	785	6:26	35
Fairview Fire	496	6:23	29
Hopkins Fire	166	6:19	9
Rolesville Fire	202	6:11	7
Swift Creek Fire	171	5:59	5
Durham Highway Fire	211	5:49	5
Wake-New Hope Fire	331	5:21	2
Western Wake Fire	65	5:09	1
Cary Suburban Fire District	10	4:57	0

10/1/22 – 3/31/23

Department	Rural Emergency Responses	Travel Time 90%	Emergency Responses Over 7 Min Travel
NWFD - NW District	19	14:24	18
Holly Springs Fire	179	8:20	35
Garner Fire	869	8:19	190
Fuquay-Varina Fire	599	7:39	104
Morrisville Fire	114	7:39	20
Apex Fire	186	7:27	23
Wendell Fire	473	7:14	55
Zebulon Fire	190	7:10	23
Northern Wake Fire	602	6:55	58
Rolesville Fire	239	6:55	22
Durham Highway Fire	194	6:42	16
Knightdale Fire	636	6:35	44
Hopkins Fire	182	6:28	9
Wake Forest Fire	292	6:27	19
Fairview Fire	450	6:19	21
Swift Creek Fire	156	6:07	5
Western Wake Fire	69	6:02	3
Wake-New Hope Fire	208	4:53	4
Cary Suburban Fire District	12	4:22	0

# Travel Time - Rural Wake County Final Assessment

10/1/22 – 3/31/23

Department	Total Rural Responses	Rural Emergency Responses	Travel Time 90%	Emergency Responses Over 7 Min Travel
NWFD - NW District	23	19	14:24	18
Holly Springs Fire	200	179	8:20	35
Garner Fire	995	869	8:19	190
Fuquay-Varina Fire	727	599	7:39	104
Morrisville Fire	121	114	7:39	20
Apex Fire	204	186	7:27	23
Wendell Fire	539	473	7:14	55
Zebulon Fire	218	190	7:10	23

Ongoing effort to add another station

New station under construction

New station under construction

New station under construction

8 of 20 calls over 7:00 on interstate

New station under construction

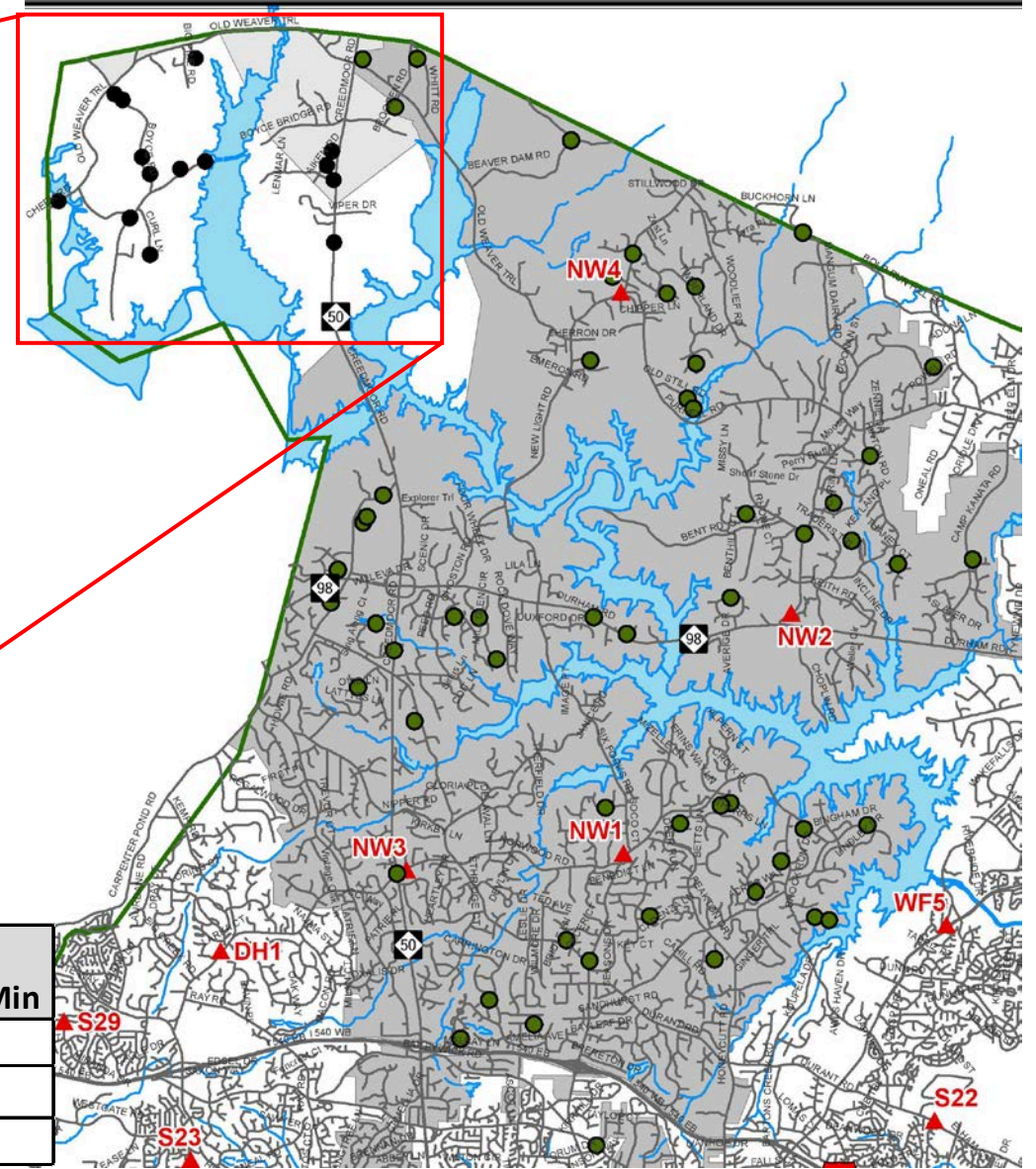
6 interstate calls, 6:59 without Stag Trl calls (8)

88% of responses were below 7:00  
(station relocation also in progress)



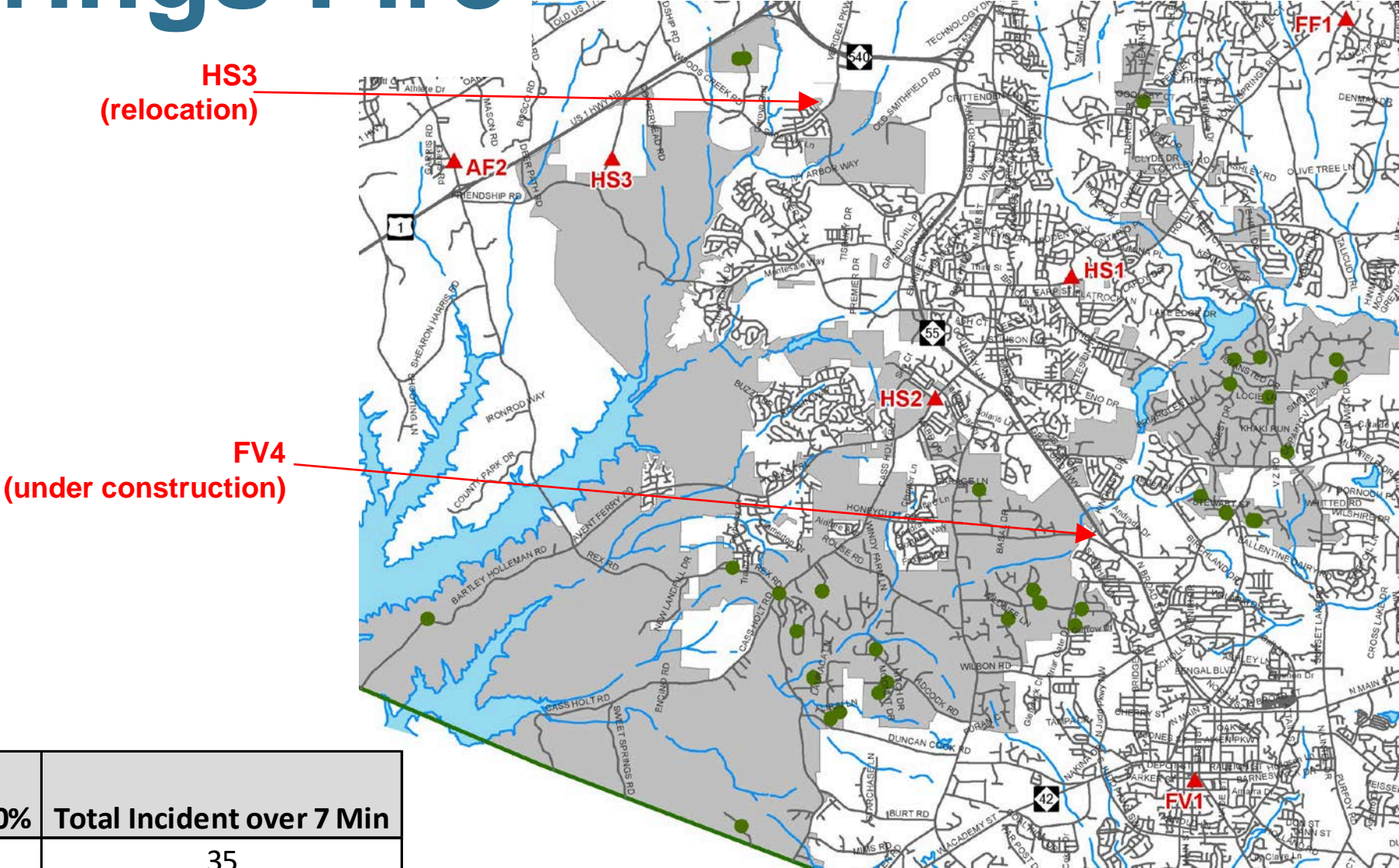
# Northern Wake Fire

Northwest District



Area	Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
Entire District	621	7:20	76
Without Northwest District	602	6:55	58
Northwest District Only	19	14:24	18

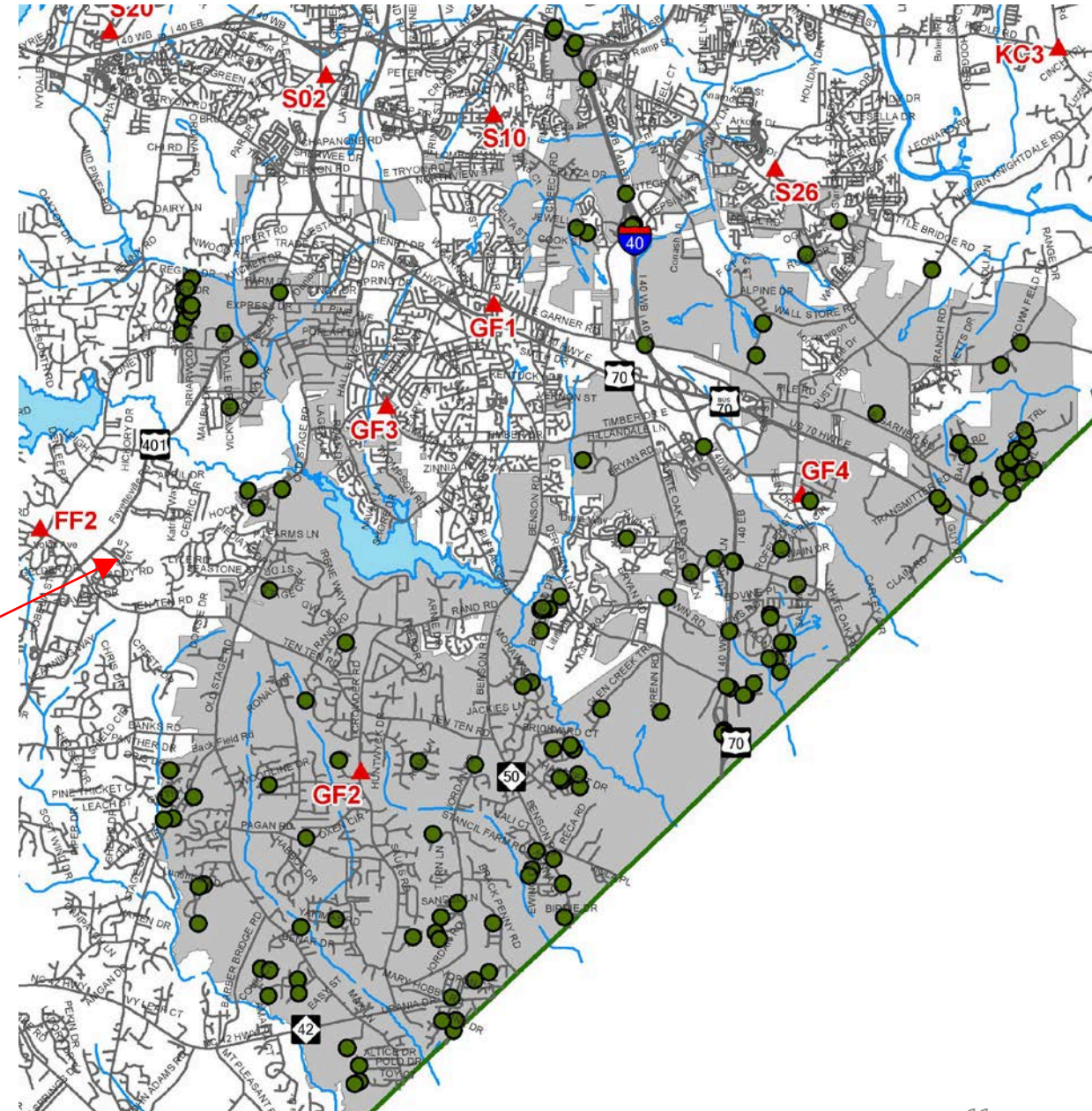
# Holly Springs Fire



Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
179	8:20	35



# Garner Fire

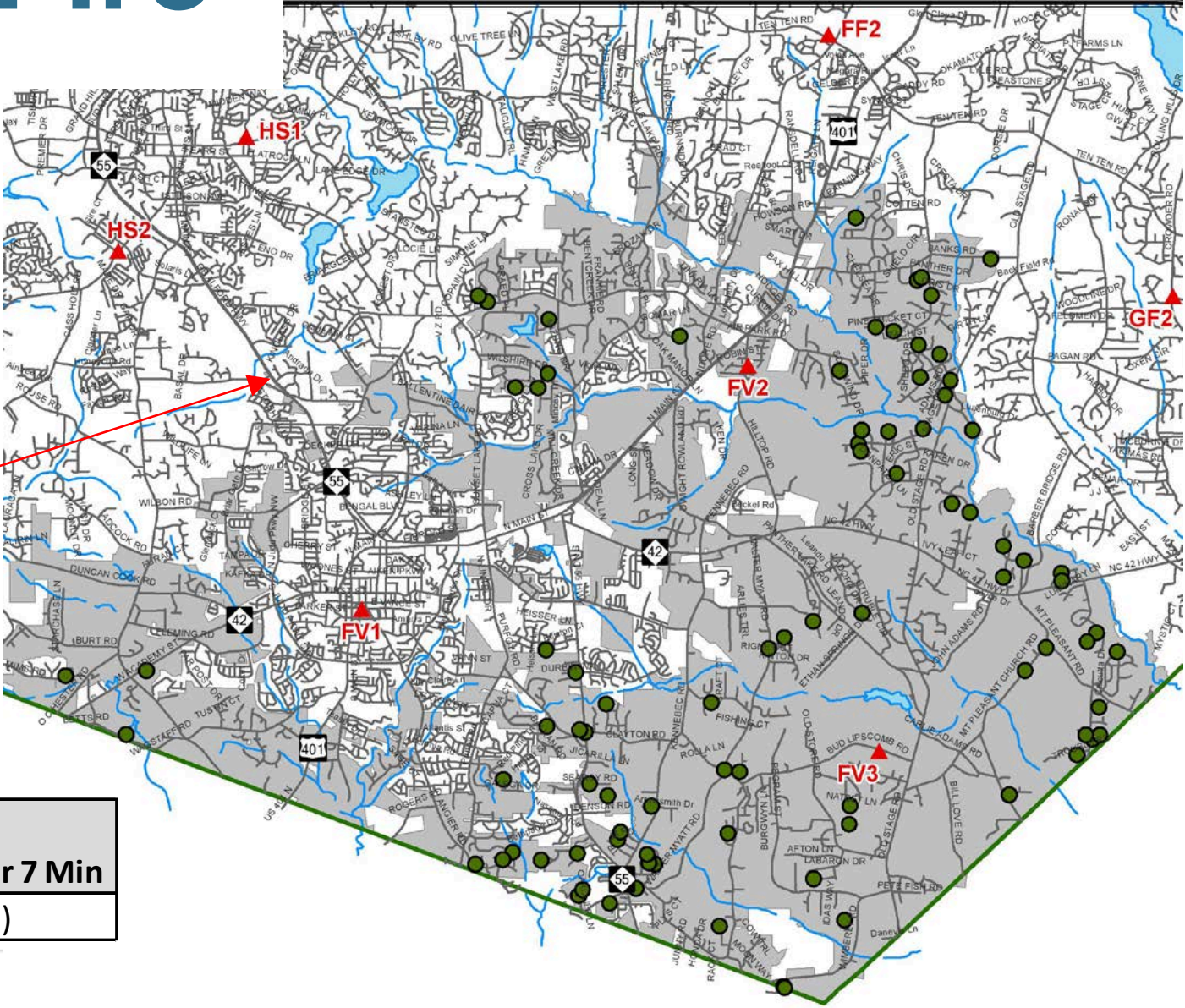


**GF5**  
(under construction)

Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
869	<b>8:19</b>	190 (up 25%)



# Fuquay-Varina Fire



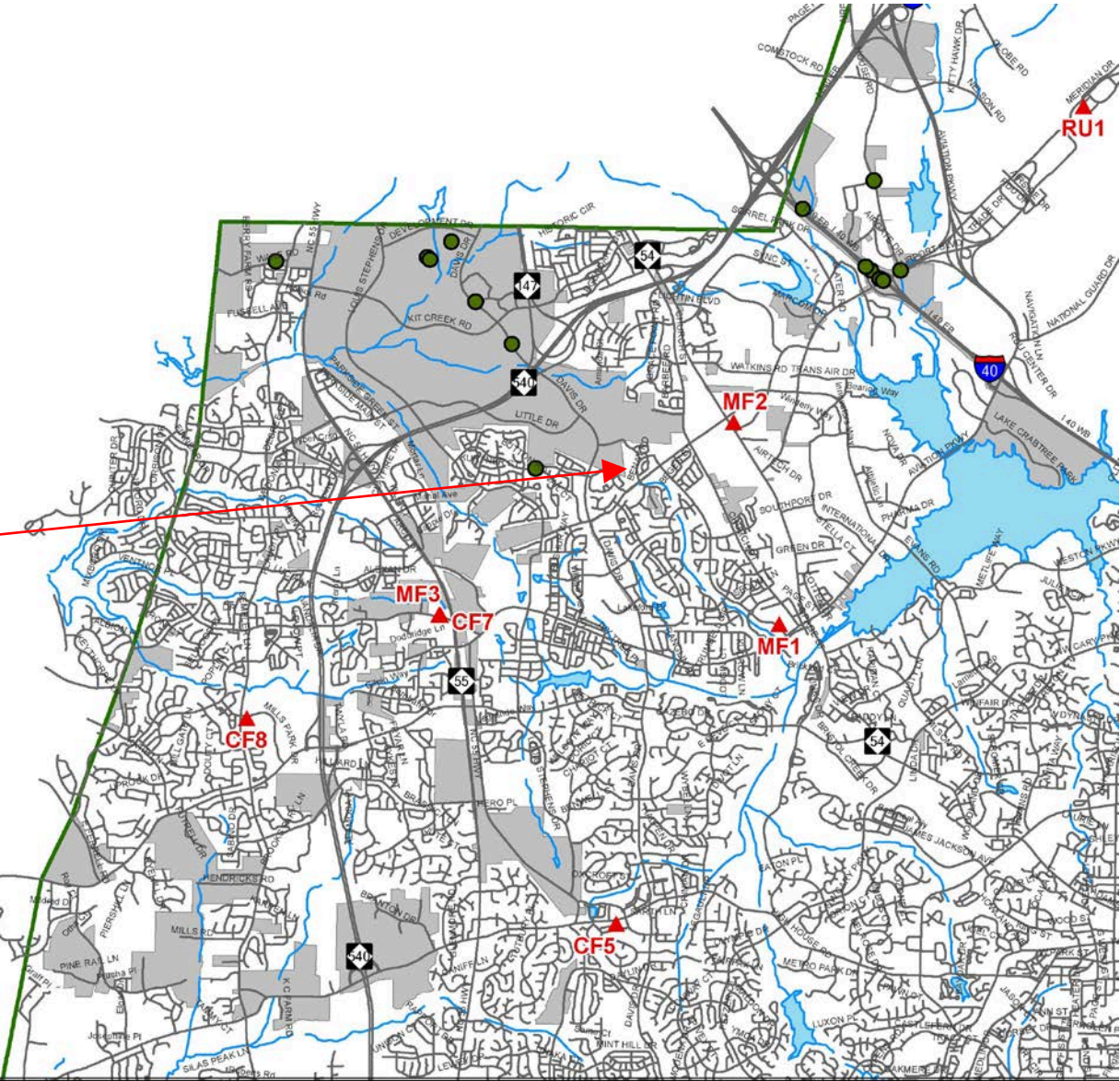
**FV4**  
(under construction)

Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
599	<b>7:37</b>	104 (up 13%)



# Morrisville Fire

MF3 relocation  
(under construction)



Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
114	7:39	20

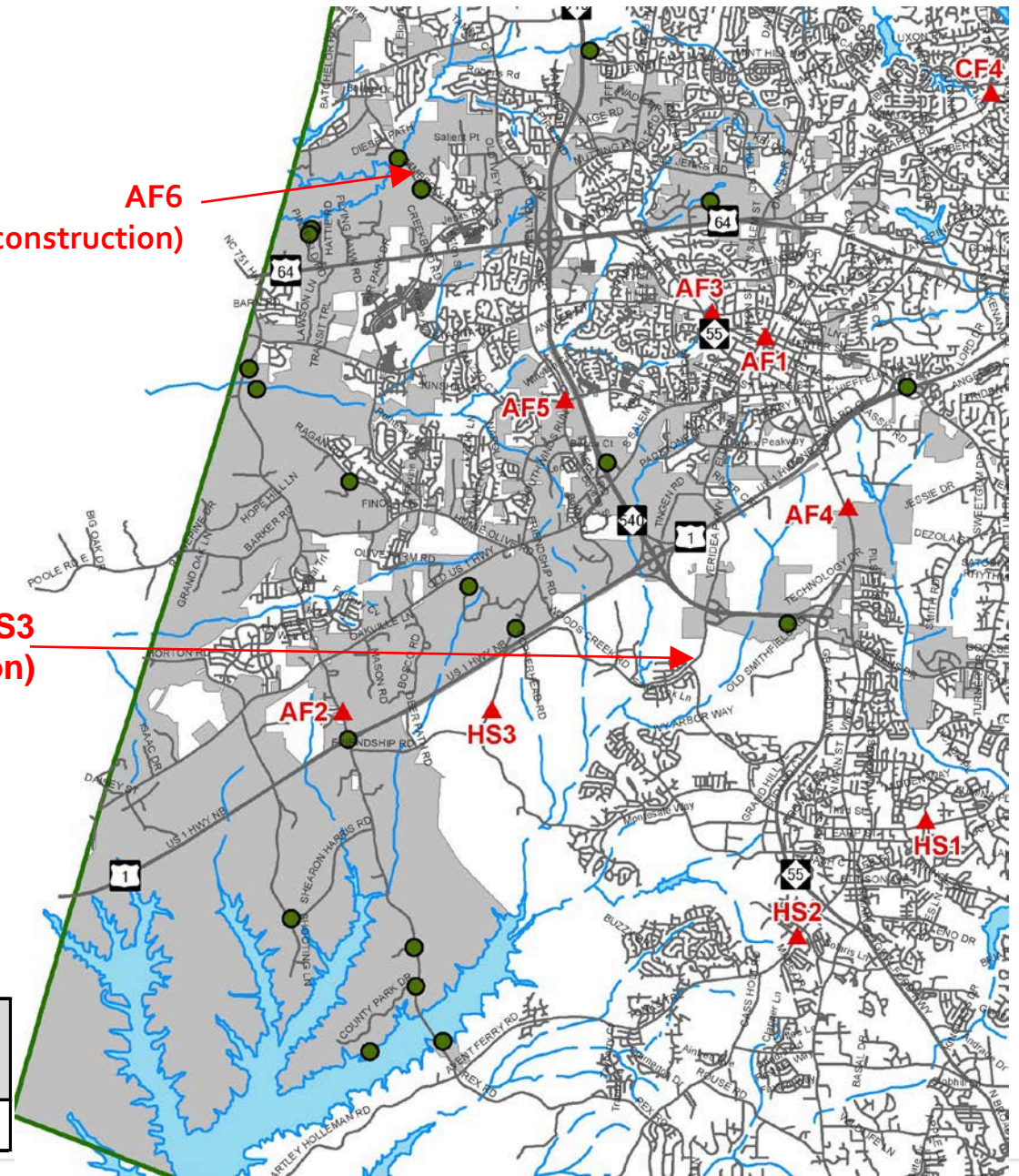


# Apex Fire

AF6  
(under construction)

HS3  
(relocation)

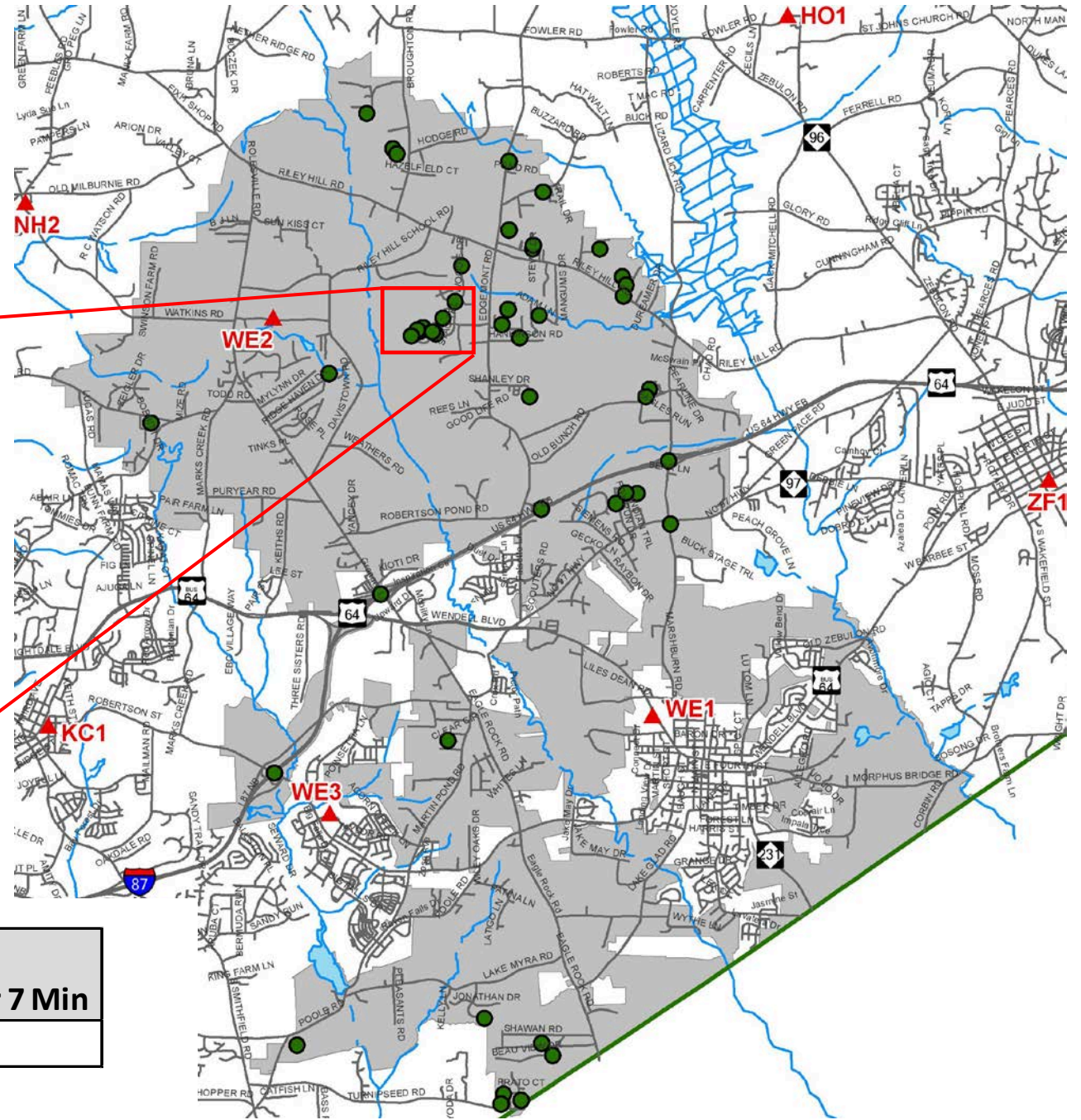
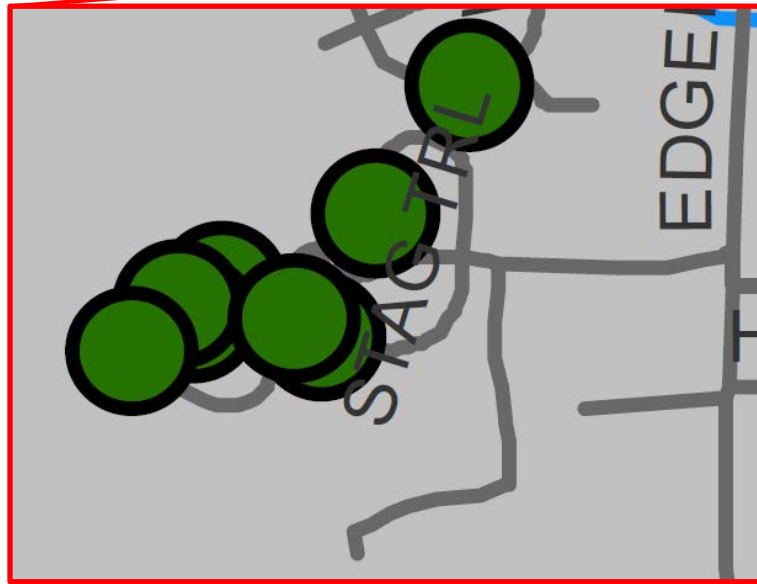
Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
186	7:27	23





# Wendell Fire

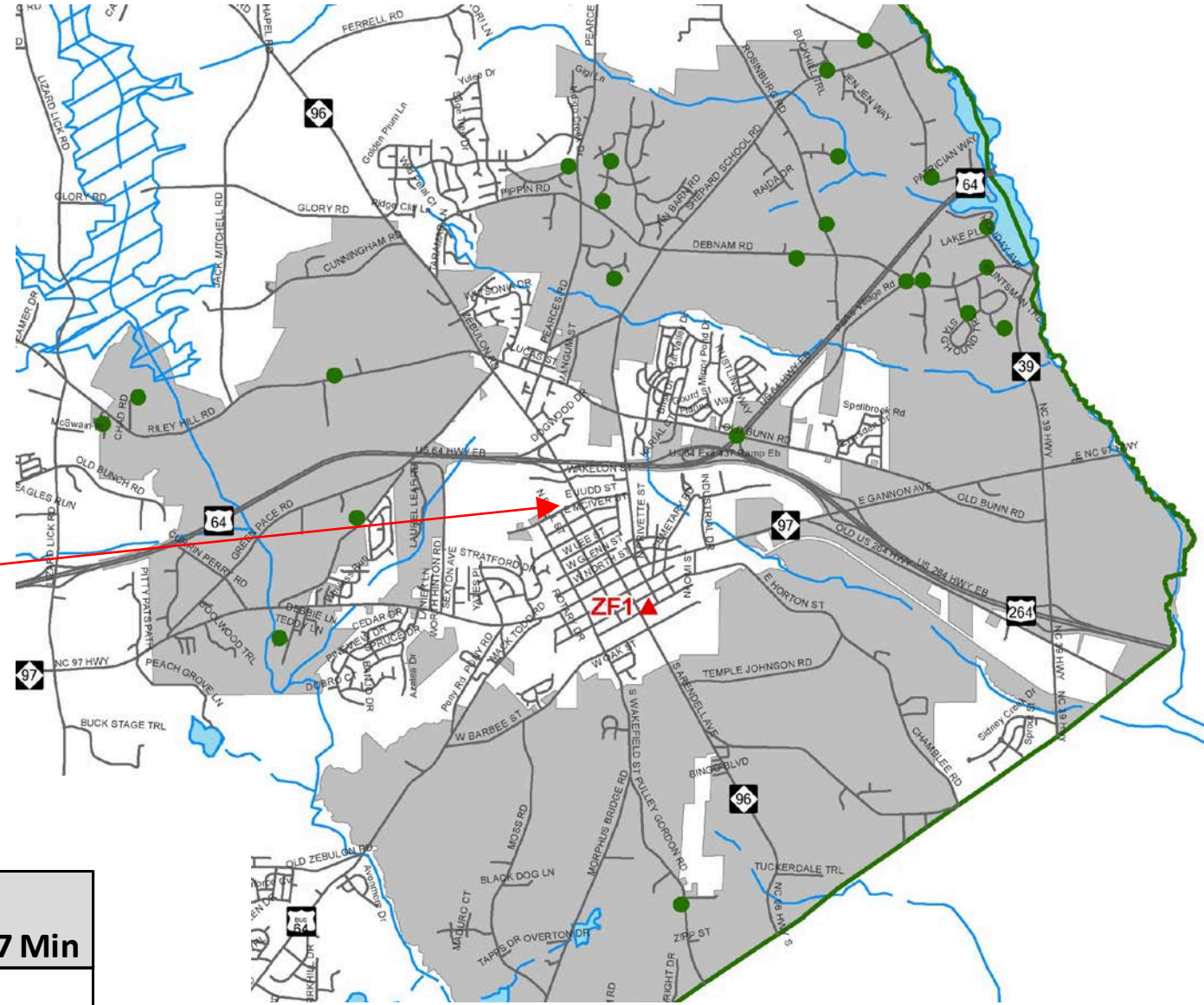
Stag Trail (30 speed bumps)  
 8 incidents – 9:32 90<sup>th</sup>% Travel  
 6:59 without these 8 incidents



Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
473	7:14	55

# Zebulon Fire

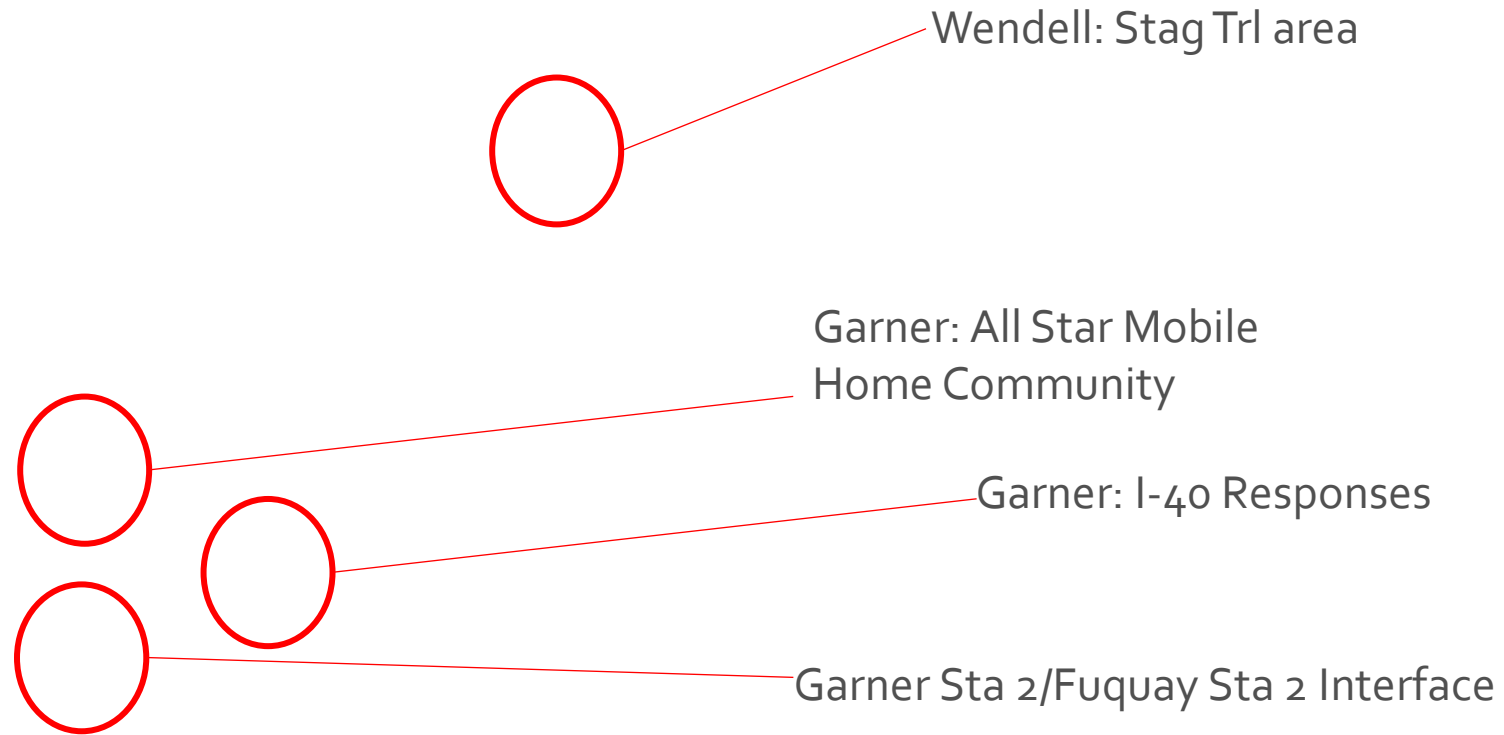
ZF1 relocation  
(planned)



Total Rural Emergency Responses	Travel Time 90%	Total Incident over 7 Min
190	7:10	23

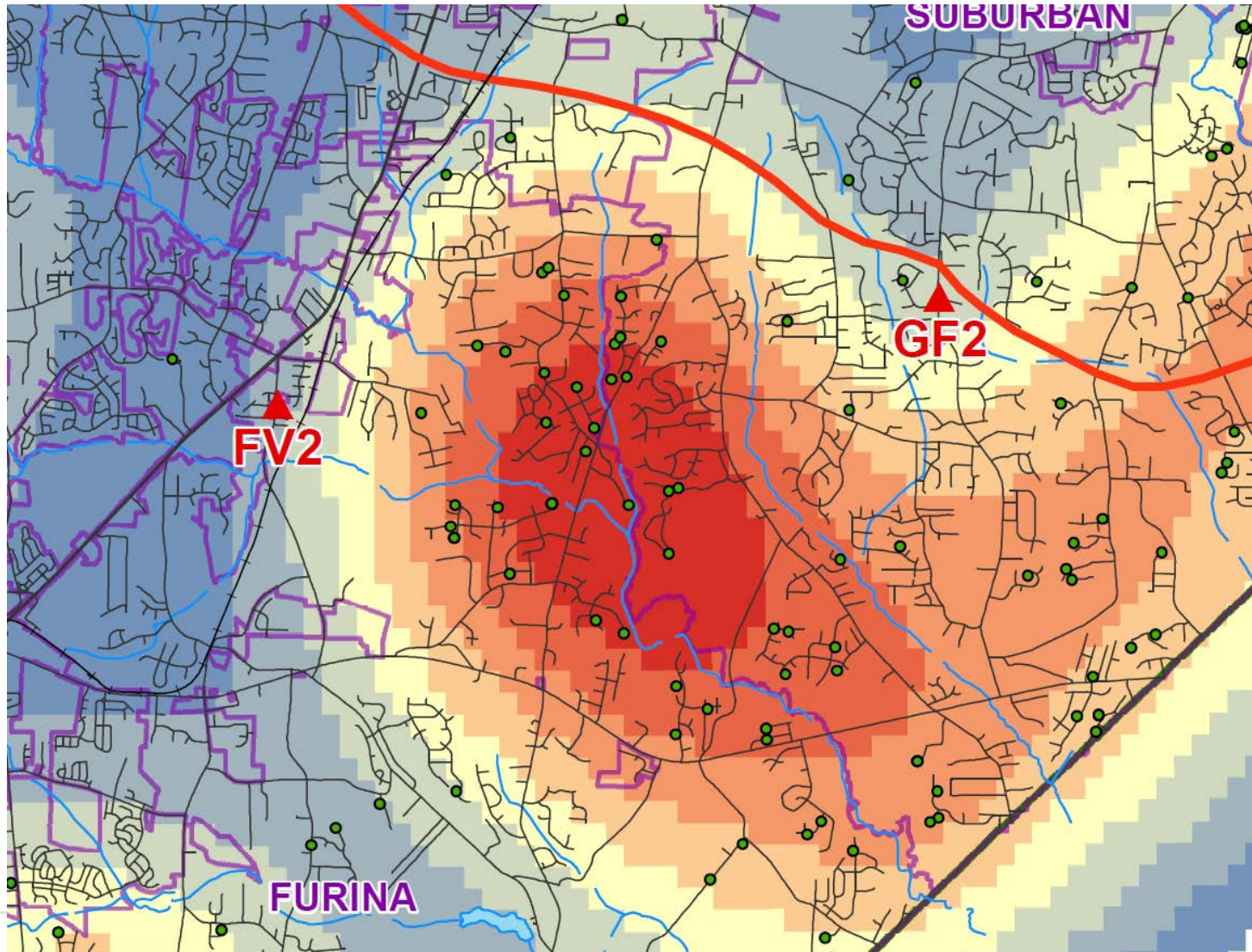


# Calls over 7 min – heat map



# Calls over 7 min – heat map

Garner Sta 2/Fuquay Sta 2 Interface



This is an area of concern that will continue to be monitored through:

- New stations opening
  - Garner Station 5
- Completion of NC540
- Growth

# Structure Fires – Unincorporated Wake County



There was 144 reported structure fires in unincorporated Wake County from 10/01/23 – 3/31/23



After evaluating each of these incidents 34 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 34 there was 1 that did not meet the Effective Response Force (ERF) of 16 Firefighters on-scene within 12 Minutes.

# Structure Fires - Rural Wake County 10/01/22 – 3/31/23

Department	Total Dispatched Structure Fires	Structure Fires Meeting Criteria	Structure Fires NOT Meeting ERF
Apex Fire	3	2	0
Durham Highway Fire	3	0	0
Fairview Fire	16	4	0
Fuquay-Varina Fire	22	4	0
Garner Fire	20	4	0
Holly Springs Fire	2	1	0
Hopkins Fire	3	0	0
Knightdale Fire	17	4	0
Morrisville Fire	2	1	0
Northern Wake Fire	10	2	0
Rolesville Fire	4	1	0
Swift Creek Fire	6	3	0
Wake Forest Fire	6	0	0
Wake-New Hope Fire	5	1	0
Wendell Fire	17	5	0
Western Wake	1	1	0
Zebulon Fire	7	1	1
	144	34	1



# Zebulon Structure Fire

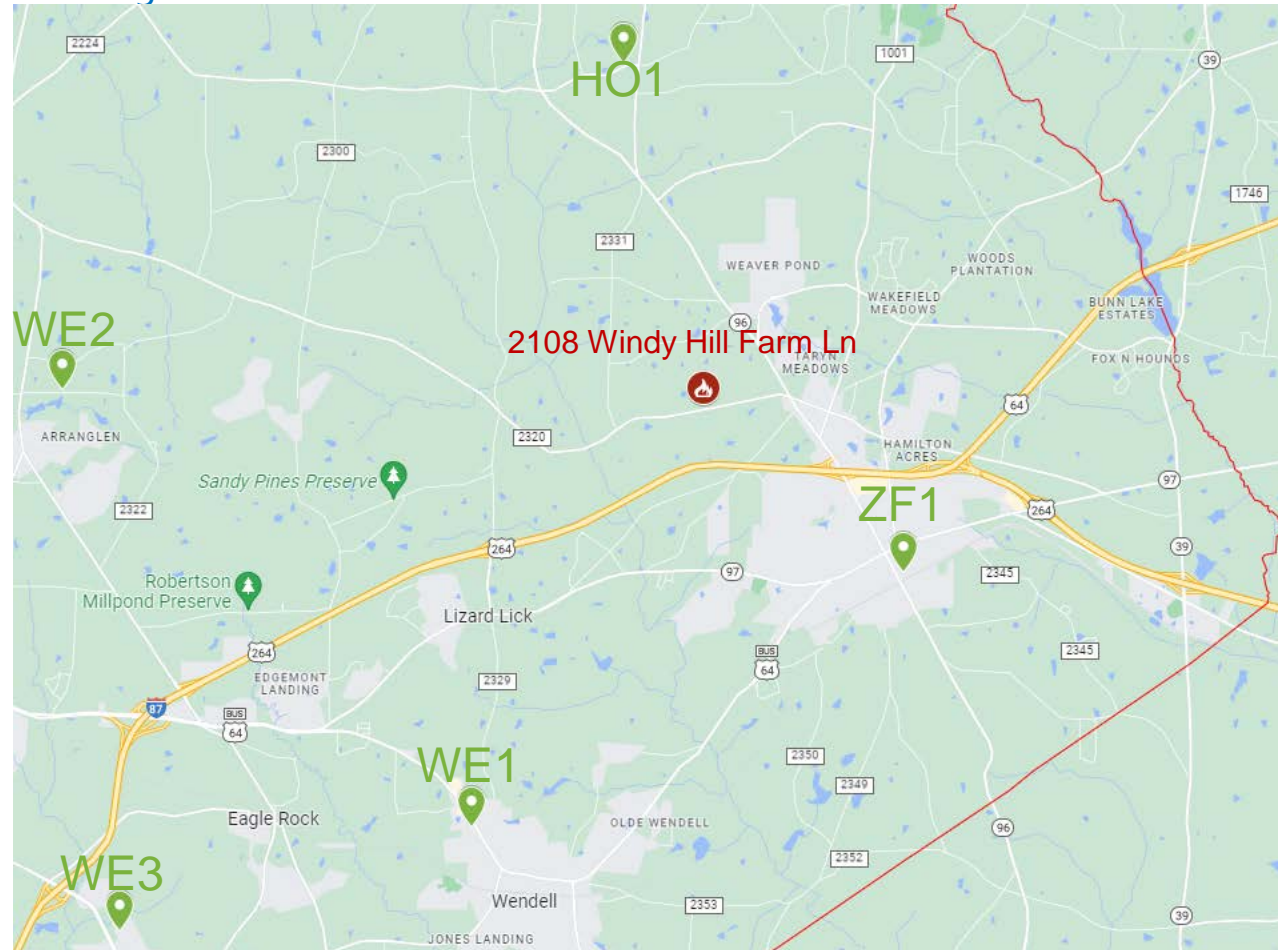


2108 Windy Hill Farm Ln 17:04

- 2<sup>nd</sup> duty call
- Long driveway – units staged

## Effective Response Force for Structure Fires

- Timestamped as the arrival of the 16<sup>th</sup> firefighter arriving
- Target = 12:00



# Long Range Plan Response Standards – Future Stations

- New Stations
  - Already broken ground:
    - Apex Station 6 – opening soon
    - Morrisville Station 3 (relocation) – opening soon
    - Fuquay-Varina Station 4 – Fall '23
    - Knightdale Station 4 – Fall '23
    - Knightdale Station 1 – Spring '24
    - Garner Station 5
  - Breaking Ground Soon
    - Holly Springs Station 3 (relocation)
    - Zebulon Station (relocation)
  - Northern Wake – NW Station – securing land



# Long Range Plan Response Standards – General Observations

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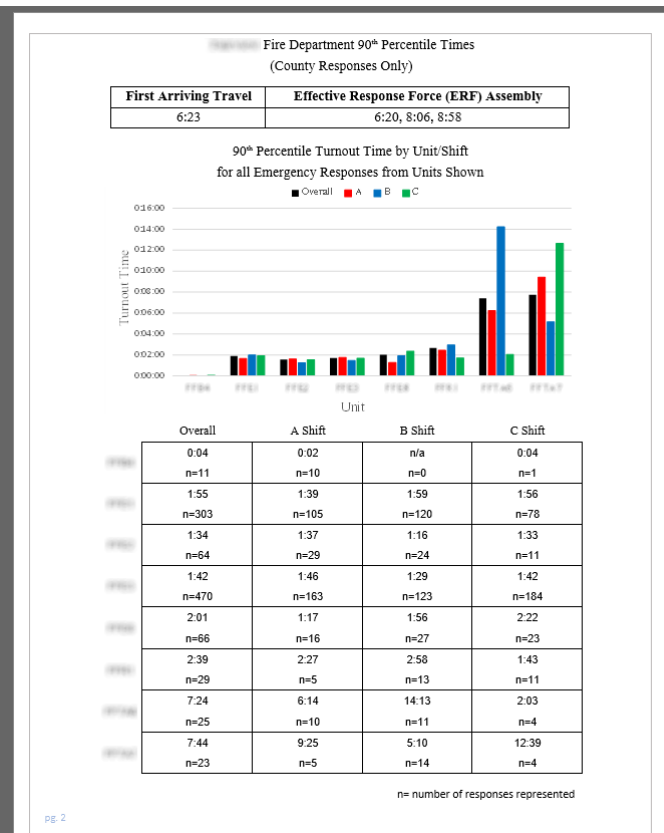
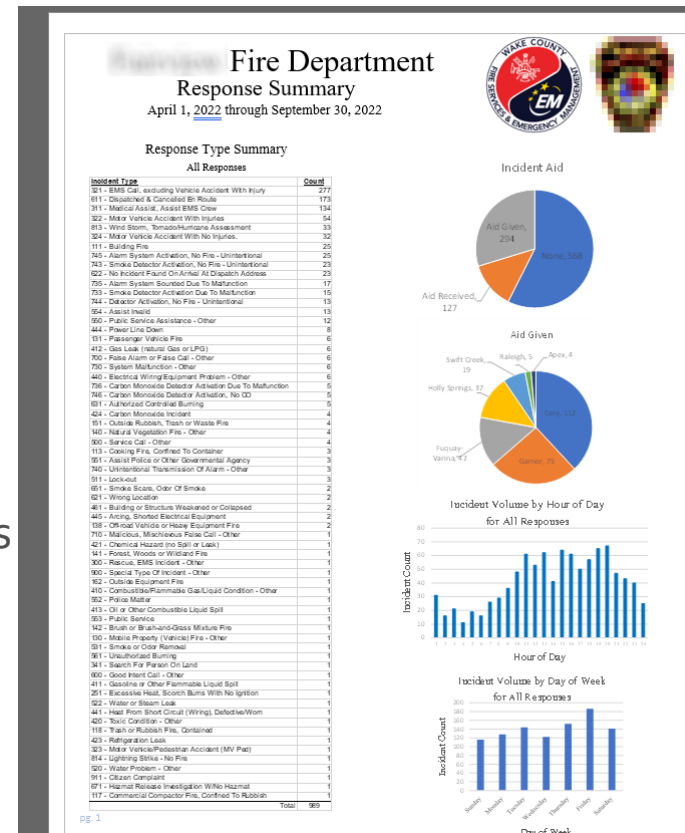
- Recommendations for improving data quality. Please encourage your fire report authors to:
  - Include mutual aid received units with staffing levels
    - Especially out-of-county units
  - Use the response mode (emergent/non-emergent)
  - Document (in the narrative) reasons for delayed travel times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



# Long Range Plan Response Standards – General Observations & Updates

## Agency specific reports

- A report has been compiled for each agency (Emergency Reporting users) based on NFIRS data
- Run specifics, types of calls, turnout times, etc.
- We will be meeting with each agency individually to discuss this data
- Planning to generate these reports every 6 months
- If you're not currently using ER and would like one of these, we can work with you to develop one







# Questions...