Wake County
Fire Tax District
Public Safety Committee Update

Today's Topic: Long Range Plan Standards & Guiding Principles

Long Range Plan Standards & Guiding Principles Overview

Board Goal from FY20 – PS1.1 – Establish a county-wide standard for fire service in the unincorporated areas and develop a plan to achieve and sustain agreed upon service levels

The plan development was tasked to the Fire Commission Administrative Committee with Fire Services oversight and guidance

Fire Services also contracted with ITRE/ORED-NCSU (consultant utilized by WCPSS for new school locations) to develop a new fire station optimization model that utilizes the most up to date governmental planning data sets, traffic model flow analysis and incorporates population/census data to predict new fire station locations. This optimization model would be utilized as a supplemental document for future decision making

Community Outreach & Engagement

Long Range Plan Standards & Guiding Principles

Committee Framework for the Standards & Guiding Principles

- **Decision Point – NFPA 1710 or 1720**
- **Center for Public Safety Excellence**
- **Enlisted key members of the committee who had experience with the Accreditation Process for guidance**

Focus Areas & Complete a 5 Step Process

- **Conduct a risk assessment on each fire station district**
- **Perform a critical task analysis**
- **Evaluate baseline performance**
- **Community Engagement**
- **Determine Wake County Standards & Guiding Principles**

Step 1:

Conducting Risk Assessment for Each Fire Station District (43)

Established risk classifications (Fire, EMS, Haz-Mat and Technical Rescue)

For each classification, the risk were identified (grass fire, vehicle fire, medical call, vehicle accident)

A (3) Axis approach was utilized for measuring; probability of risk occurring, consequence of the risk occurring and the impact on the fire department resources

Impacts were categorized based on the effect it would have on the department, region and county
(low, moderate, high and maximum)

Utilization of a scorecard that is recommended from the Center for Public Safety Excellence to determine a score for each category

Wake County Fire Risk Assessment

Fire	Probability	Consequence	Impact	Risk Score	Risk Assessment
Electrical Problem	2	2	2	4.90	Low
Grass/Woods/Trash Fire	4	2	2	8.49	Low
Vehicle Fire	4	2	2	8.49	Low
Automatic Alarms	4	2	2	8.49	Low
Chimney Fire	2	4	6	19.80	Moderate
Cooking Fire, contained	2	4	6	19.80	Moderate
Structure Fire (Less than 5,000 sqft)	2	4	8	25.92	High
Structure Fire (5,001-10,000 sqft)	2	5	8	31.27	Maximum
Structure Fire (greater than 10,000 sqft)/Target Hazards	2	8	8	48.00	Maximum

Fire Department:	Garner Fire - Rescue
Station District:	Station 1
Years Evaluated:	2018

Sample Score Card

Utilized to determine risk for each station based on historical calls for service. The risk assessment values of high and maximum drive the number of personnel needed on a scene to combat the risk

Step 2:

Critical Task Analysis (Number of Personnel needed based on the Risk)

ERF - Effective Response Force

High/Maximum Fire Risk Critical Tasks	
Critical Task	Number of Personnel
Command/Safety/Accountability	1
Fire Attack	4
RIT	2
Search/Rescue	2
Vent/Utilities/Ladder ops	3
Pump Operator	1
Fire Suppression ERF	13
3 Engines, 1 Rescue/Ladder, 1 Chief	
Non-Hydrant Response	
Tanker Response (3 Tankers) *removed from ERF	3
Water Supply Engine	3
Total ERF	16/19

Step 3:

Evaluation of Baseline Performance (Where are now)

First arriving unit travel times were evaluated for each station district

Wake County GIS modeling for travel times was utilized for comparison and to ensure all parts of the county were being considered

First Unit Response Travel Time

Department	Number of Calls	90th Travel Time
Apex	110	8:30
Cary	22	4:48
Durham Highway	184	5:57
Eastern Wake (Knightdale)	554	6:48
Fairview	499	5:31
Fuquay	727	7:37
Garner	1,178	7:41
Holly Springs	94	8:04
Hopkins	75	6:26
Morrisville	130	7:52
Northern Wake	589	6:50
North West Wake Hook	60	13:12
Rolesville	130	6:17
Swift Creek	148	6:16
Wake Forest	282	5:59
Wake New Hope	246	6:43
Wendell	143	7:18
Western Wake	51	6:35
Zebulon	99	6:21

System wide – 7 minutes and 8 seconds (5,242 calls evaluated)

Baseline data and GIS Modeling for Effective Response Force on High-Risk Fires

Location	District	Call Type	ERF Travel (16)	ERF Travel (19)
324 Hunters Farm Dr	GFD RURAL GAR17	Structure Fire Residential	10:12	11:47
6208 Hirondelle Ct	HSFD RURAL HSR17	Structure Fire Residential	9:33	11:10
8617 Bostian Dr	FFD RURAL FFR08	Structure Fire Residential	8:01	12:02
1219 S Spring Garden Cir	GFD RURAL GAR17	Structure Fire Mobile Home	8:03	8:06
107 QUAIL CROSSING DR	WFFD RURAL WFR20	Structure Fire Mobile Home	4:53	N/A
117 Belve Dr	GFD RURAL GAR17	Structure Fire Residential	10:42	12:40
1520 Consett Ct	NWFD RURAL NWR33	Structure Fire Residential	10:56	10:56
2729 BROOKWOOD DR	FFD RURAL FFR08	Structure Fire Residential	8:08	8:53
215 GIPSON DR	GFD RURAL GAR42	Structure Fire Residential	10:49	12:15
4926 Fayetteville Rd	GFD RURAL GAR17	Structure Fire High Life Hazar	13:37	N/A
7904 Mitchell Mill Rd	ROFD RURAL RVR06	Structure Fire Residential	10:47	N/A
8433 Greythorne Pl	EWFD RURAL EWR24	Structure Fire Residential	13:38	N/A
9924 Scottie Dr	DUTFD RURAL DVR01	Structure Fire Large Non Dwell	14:31	N/A
5949 Sunset Lake Rd	HSFD RURAL HSR05	Structure Fire Residential	7:40	N/A
3509 Misty River Dr	EWFD RURAL EWR24	Structure Fire Residential	12:17	N/A
3608 Lodge Dr	EWFD RURAL EWR24	Structure Fire Residential	14:29	16:35
6400 Johnson Pond Rd	FVFD RURAL FVR18	Structure Fire Commercial	8:50	N/A
1712 Old Crews Rd	NHFD RURAL NHR40	Structure Fire Mobile Home	7:50	N/A
3816 Benson Rd	GFD RURAL GAR17	Structure Fire Residential	13:08	N/A

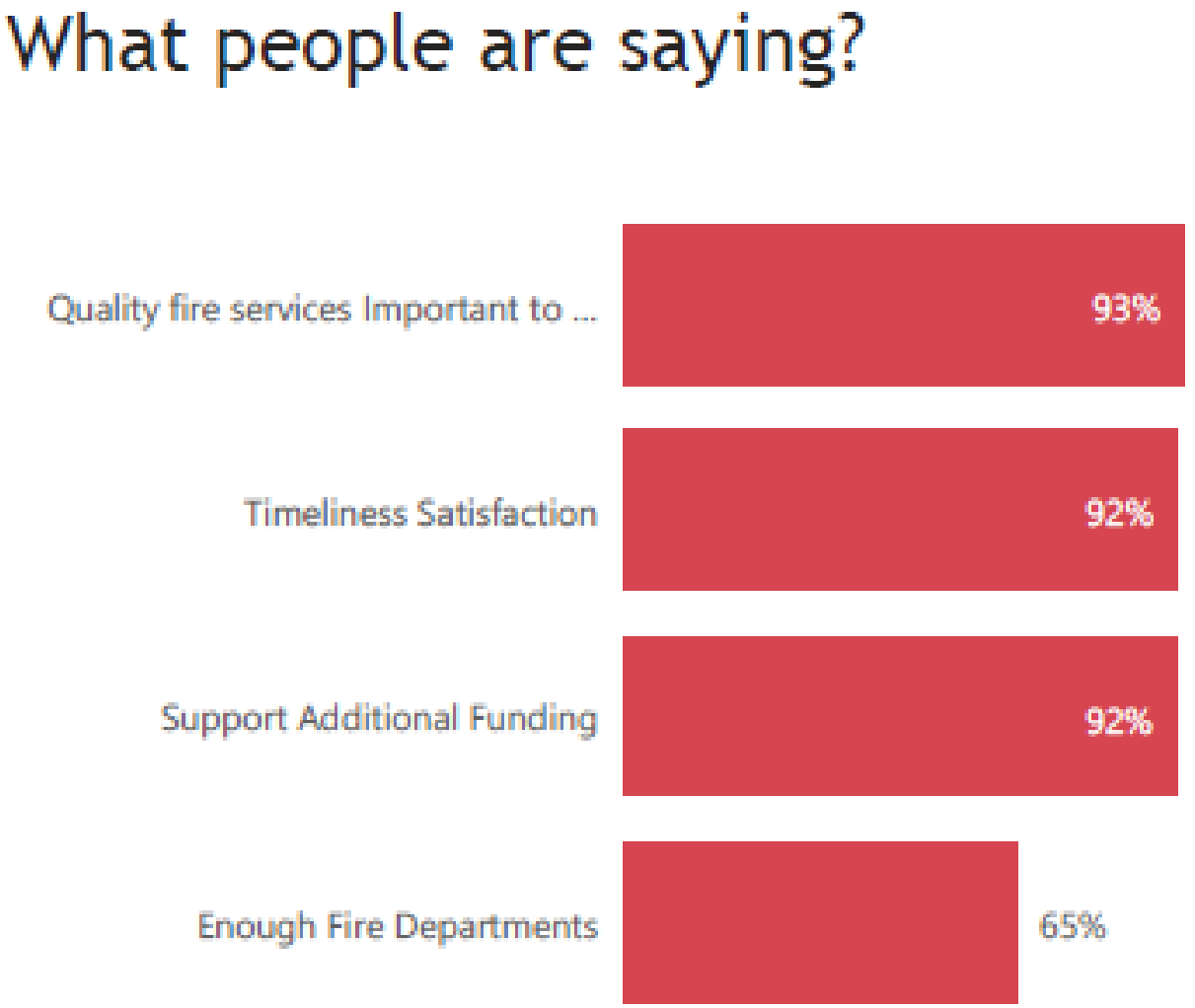
GIS Modeling

Station	# of Staffed	Loc.	Street number	Street name	City	Zip	1st unit station	1st unit travel	2nd unit station	2nd unit travel	3rd unit station	3rd unit travel	4th unit station	4th unit travel	5th unit station	5th unit travel	6th unit station	6th unit travel
Swiftcreek Sta. 1	1	1	4608	Fielding Dr	Raleigh	27606	SC1	4.85	FF1	6.84	FF2	11.91	AF4	12.39	AF4	12.39	HS1	12.89
		2	2500	Mid Pines Rd	Raleigh	27606	S20	1.53	SC1	3.96	GF3	9.17	GF1	9.41	GF1	9.41	WW1	9.52
		3	4909	Yates Mill Pond Rd	Raleigh	27606	SC1	3.89	FF2	7.63	FF1	9.37	GF3	10.25	WW1	12.27	GF1	12.63

Step 4: Community Engagement

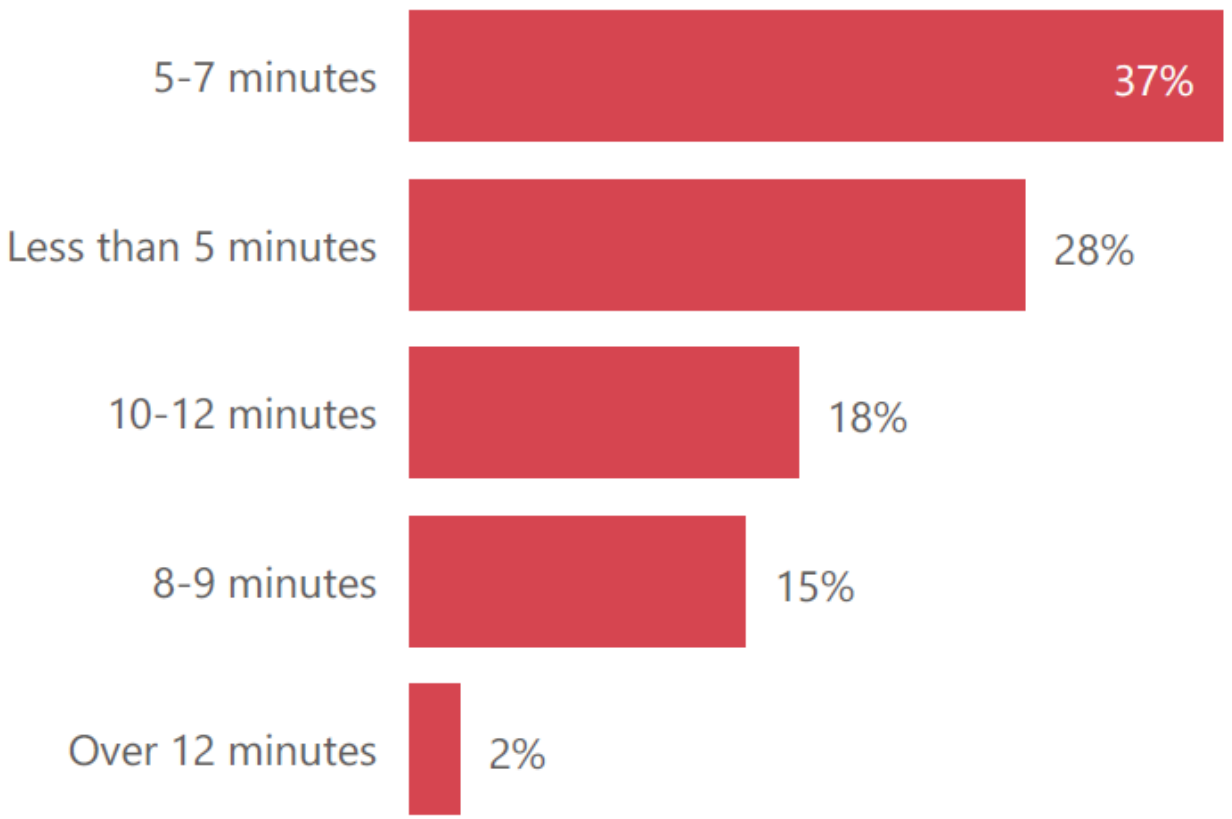
1,384 Survey Responses

92% would support additional funding for fire department services if it directly resulted in improved service delivery levels



Arrival Time Expectations & Top 10 Descriptors

911 Arrival Time



Top 10 Words to Describe Fire Services

- Professional
- Dedicated
- Responsive
- Efficient
- Caring
- Friendly
- Helpful
- Reliable
- Dependable
- Prompt

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

First arriving apparatus on fire risk classifications will:

- Have a **minimum** of **3 qualified firefighters**,
- Be capable of providing **500 gallons of water**; with a pumping capacity of **1250 gallons per minute;**
- Will establish incident command procedures, provide initial size up and request additional resources; initiate fire attack and perform any needed immediate rescues

The **Effective Response Force (ERF)** for any reported **structure fire** is a minimum of **16 qualified firefighters** should be **12 minutes 0 Seconds, 90 percent** of the time in unincorporated districts

The ERF for any structure fire will be capable of establishing a command post; establish personnel accountability; establish a safety officer; secure an initial water supply; operate multiple hose lines; establish a rapid intervention crew; perform search and rescue operations; complete forcible entry; provide ventilation and utility control; perform any needed salvage and overhaul operations.

Step 5:

Recommend Travel Time Standards & Performance Objectives based on defined data driven process that are defensible (A standard of service & a measuring stick)

Standards for Different Emergency Types

EMS Call: The first arriving apparatus will have with a minimum of **2 firefighters**; should arrive within **7 minutes 0 seconds 90 percent of time.** The first arriving crew will be capable of providing Basic Life Support care to include use of an Automatic External Defibrillator, establish incident command and document all needed information.

Technical Rescue: The first arriving apparatus will have a minimum of **3 firefighters;** should arrive within **7 minutes 0 seconds 90 percent.** The first arriving apparatus will be capable of establishing command, providing initial size up; requesting additional resources as needed; creating a safe space and providing basic stabilization and extrication

Haz-Mat: The first arriving apparatus will have a minimum of **3 firefighters;** should arrive within **7 minutes 0 seconds 90 percent.** The first arriving apparatus shall be capable of providing 500 gallons of water; with a pumping capability of 1250 gallons per minute; establish incident command procedures, provide initial size up; request additional resources if needed; mitigate situation if possible or start initial evacuations.

Supplemental Documentation

Consider supplemental documents in future decision-making opportunities regarding Stations and Staffing:

Community Engagement Survey

Applicable prior studies in future decision-making opportunities regarding Stations and Staffing.

ITRE/ORED Documents

Potential New Stations – 7-minute travel time

NCSU- ITRE/ORED Future Station Optimization Model Utilizing a 7-minute modeled travel time

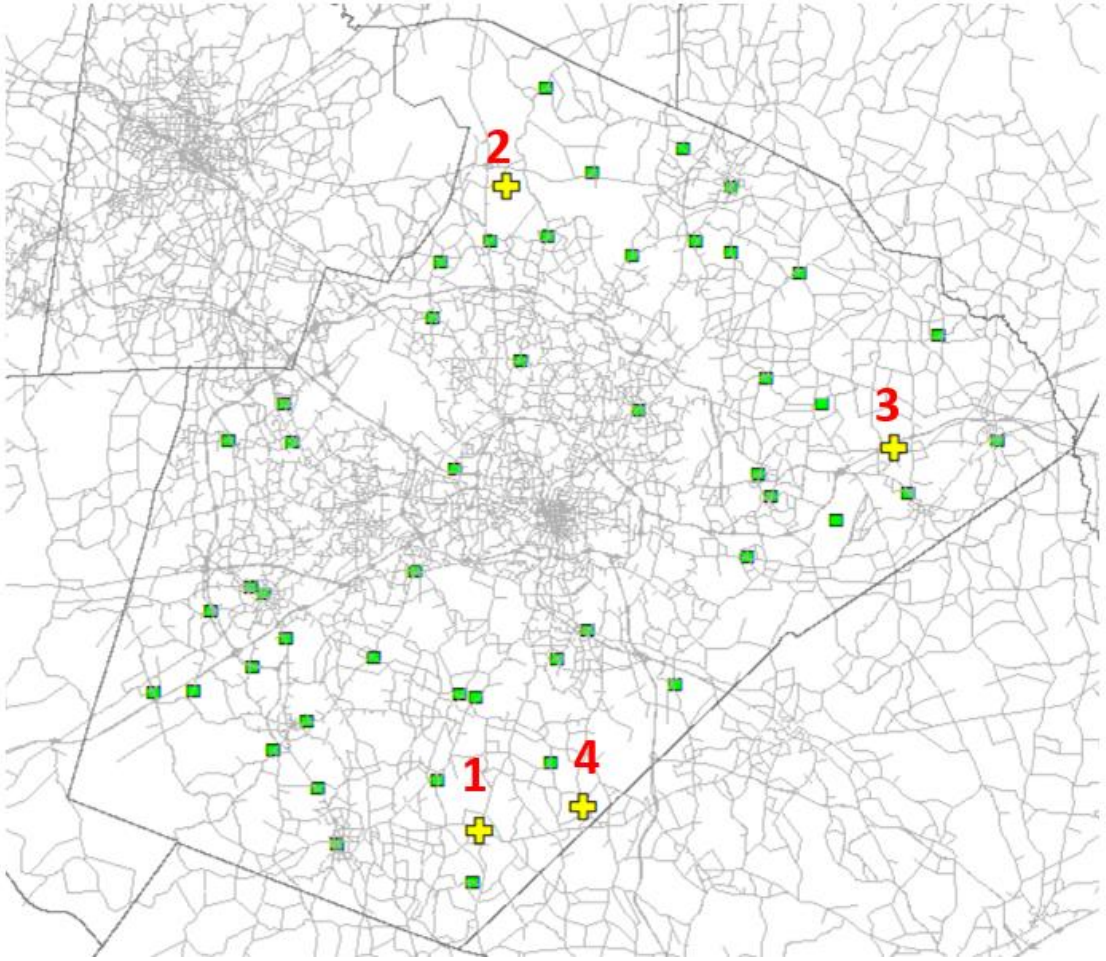
New Stations Results

New Station 1
Between F.V. #2, F.V. #3, and Garner #2
Old Stage Rd and NC 42

New Station 2
Creedmoor Rd. and Highway 98

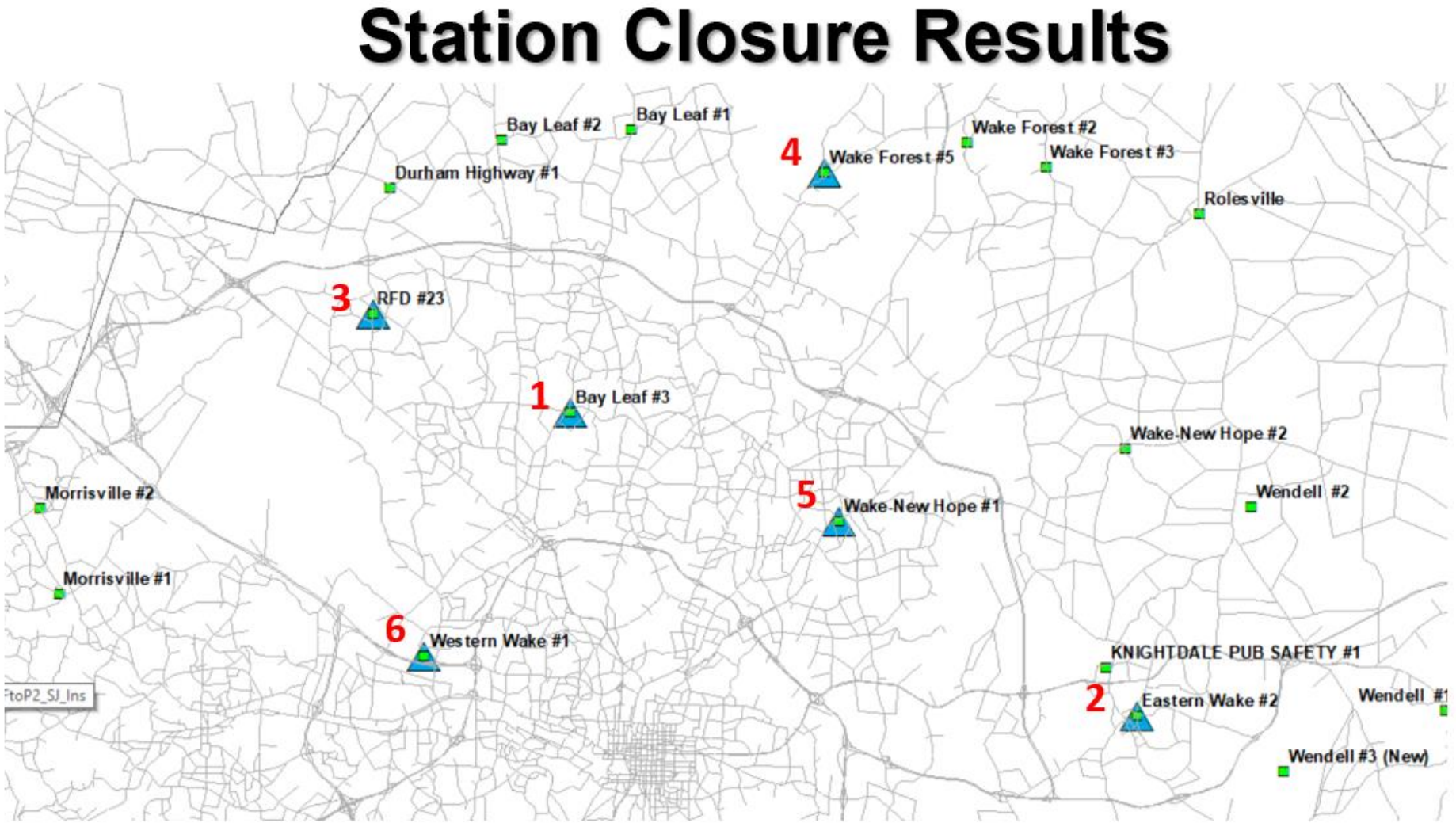
New Station 3
North of 64/264
Splits distance between Wendell #1,#2
Hopkins and Zebulon

New Station 4
Southeast of Garner #2



Potential Station Closures – 7-minute travel time

NCSU- ITRE/ORED Future Station Optimization Model Utilizing a 7-minute modeled travel time



Next Steps

April - Fire Commission to adopt Long Range Plan Guiding Principles & Standards

December – Collect, Compile & Analyze data based on standards and identify gaps

January-March 2022 – Develop long-range, evidence-based plan that addresses staffing and station needs

June 2022 – BOC endorse long-range plan as part of the FY23 budget process.