

Fire Rescue Department

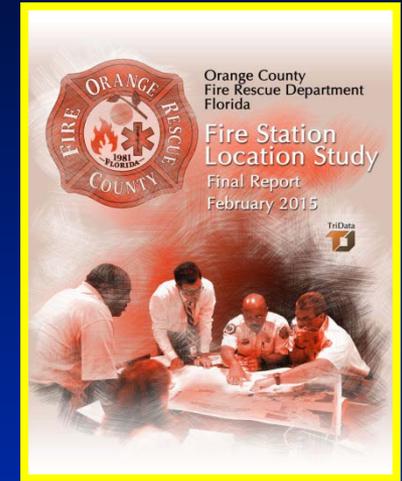
Fire Station Location Study

March 24, 2015



PRESENTATION OUTLINE

- **BACKGROUND**
- **SCOPE OF THE STUDY**
- **STUDY METHODOLOGY**
- **STUDY COMPONENTS**
- **SUMMARY**
- **QUESTIONS**





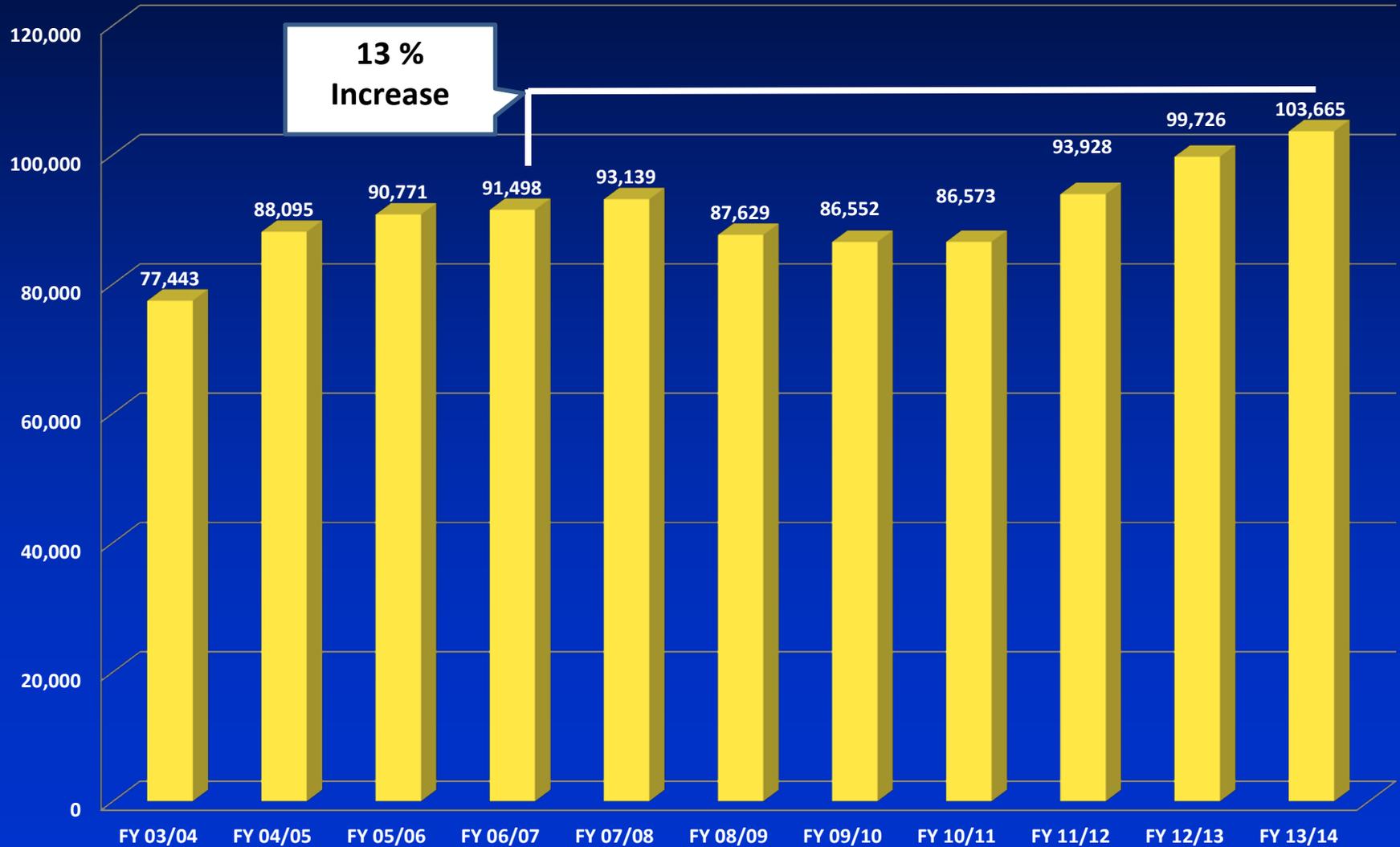
CURRENT SERVICE LEVEL

- NUMBER OF INCIDENTS
- NUMBER OF EMS TRANSPORT
- NUMBER OF EMS TRANSPORT PER UNIT
- RESPONSE TIME



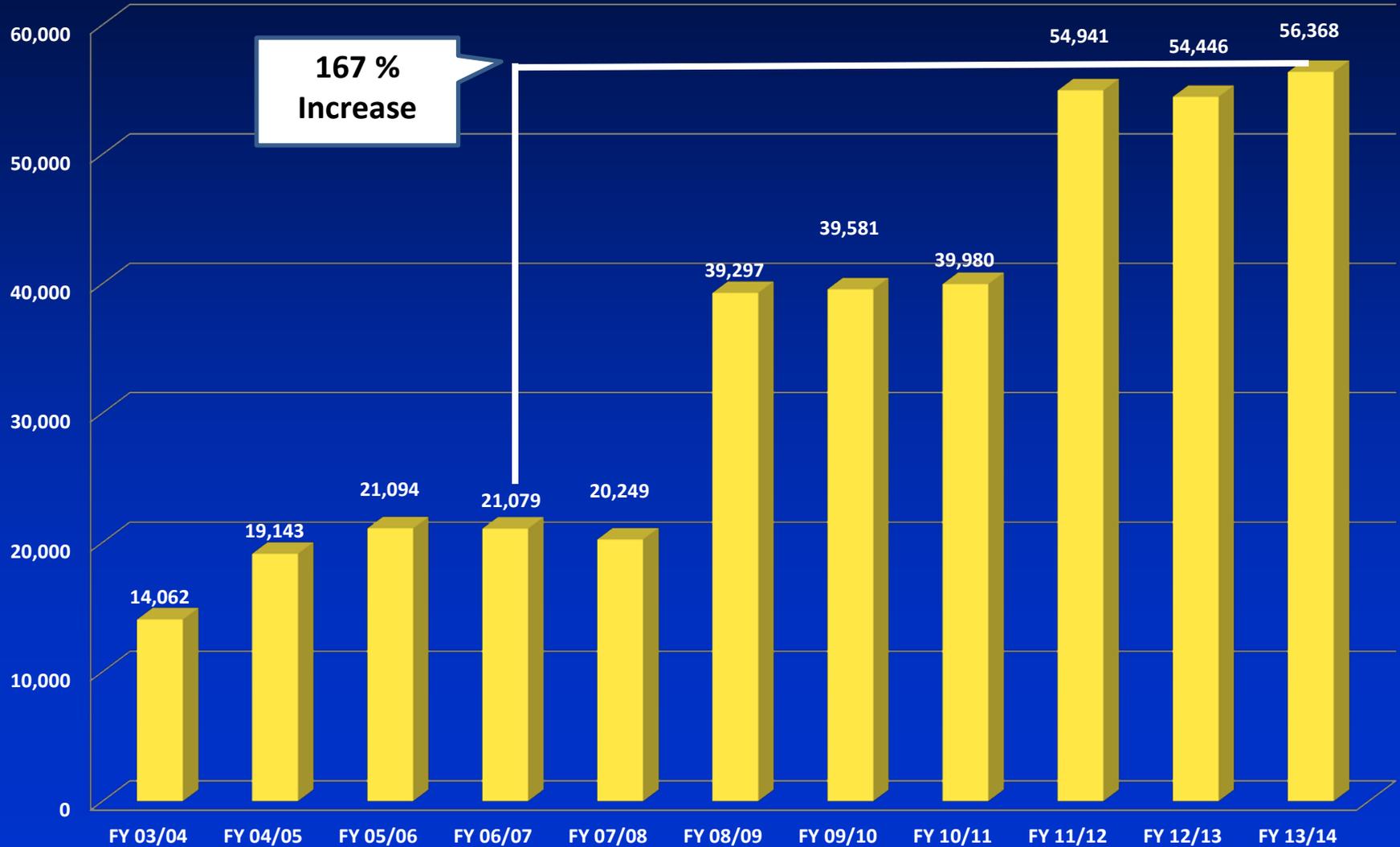


NUMBER OF INCIDENTS



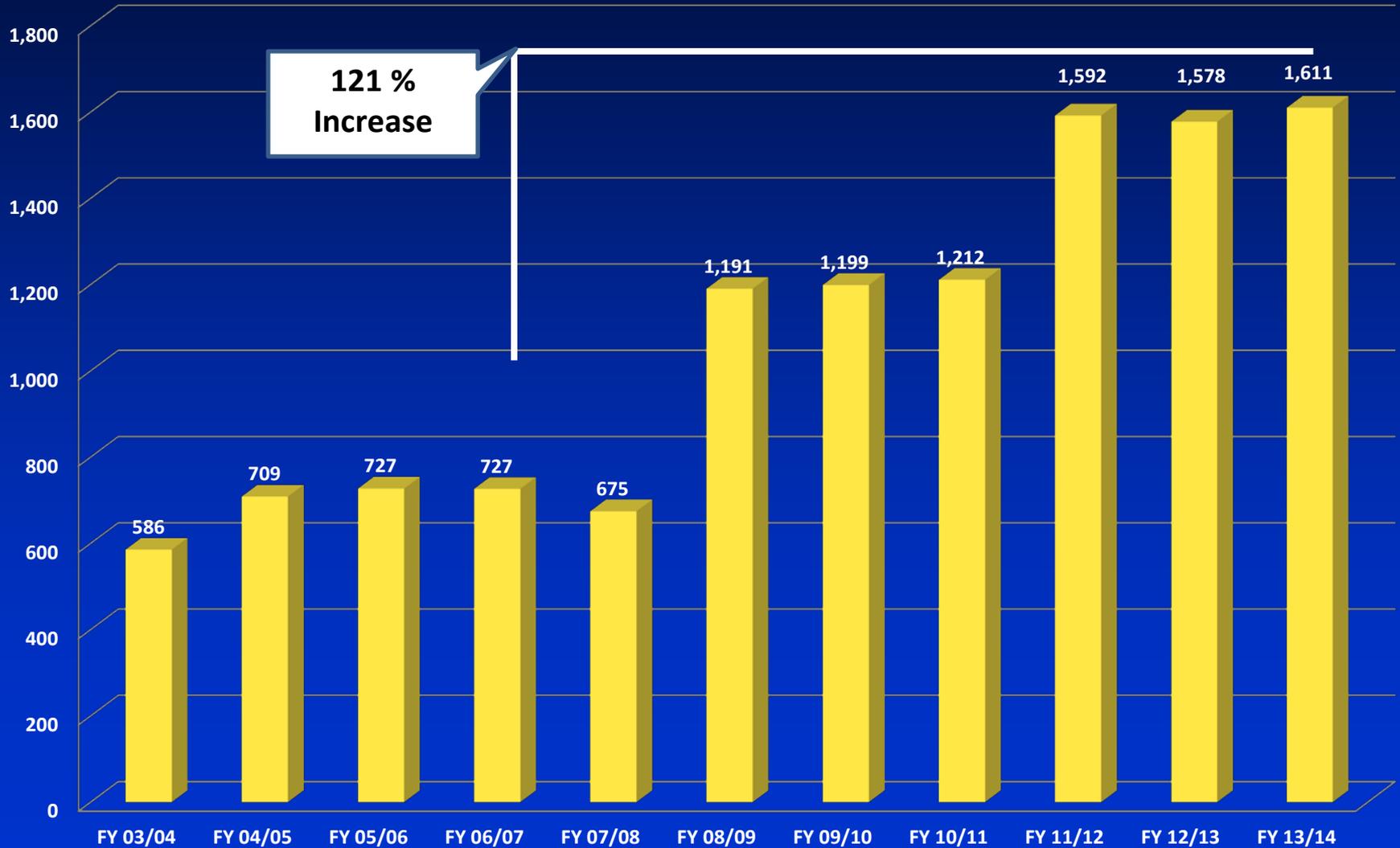


NUMBER OF EMS TRANSPORTS





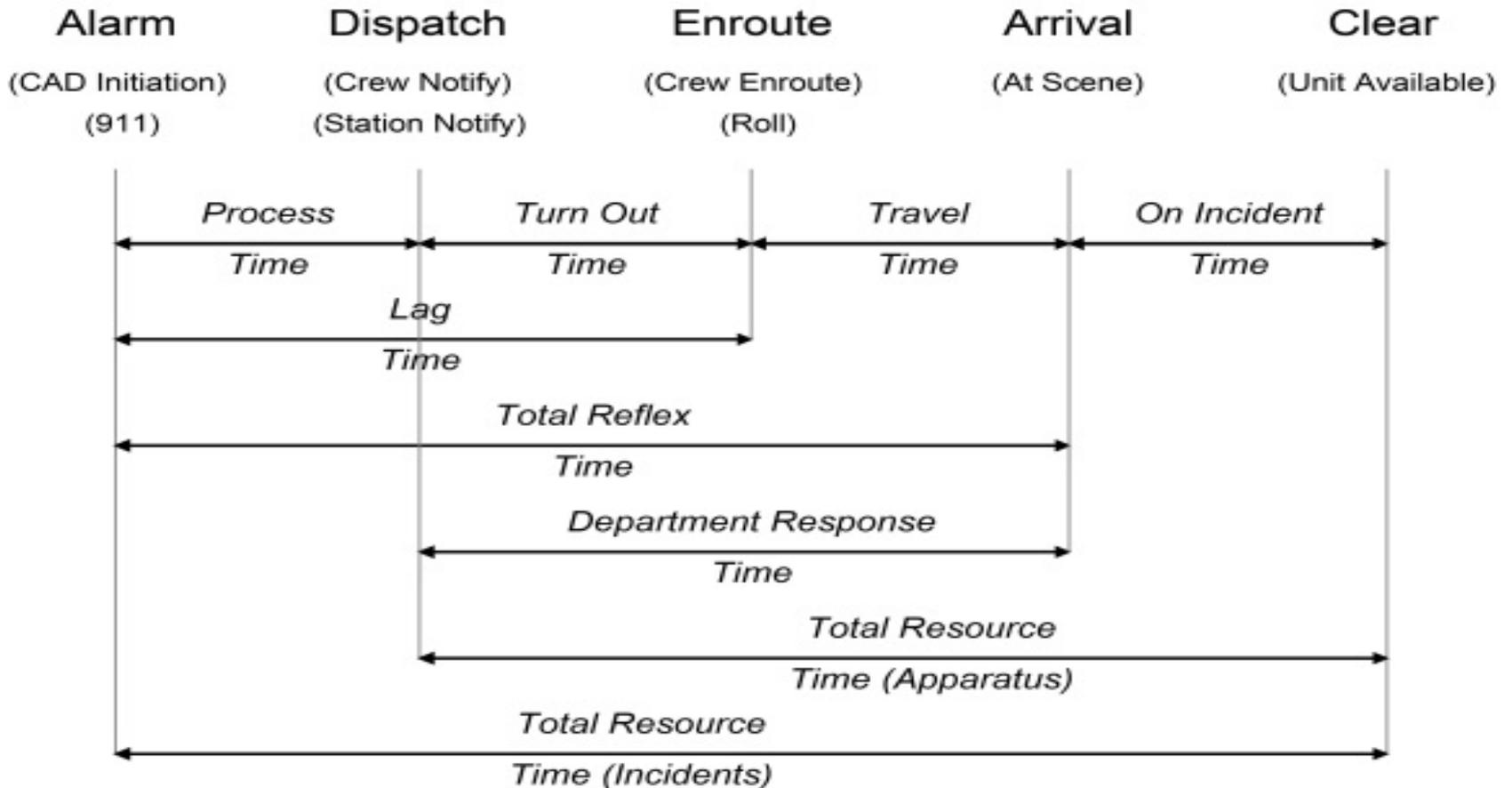
NUMBER OF EMS TRANSPORTS PER UNIT





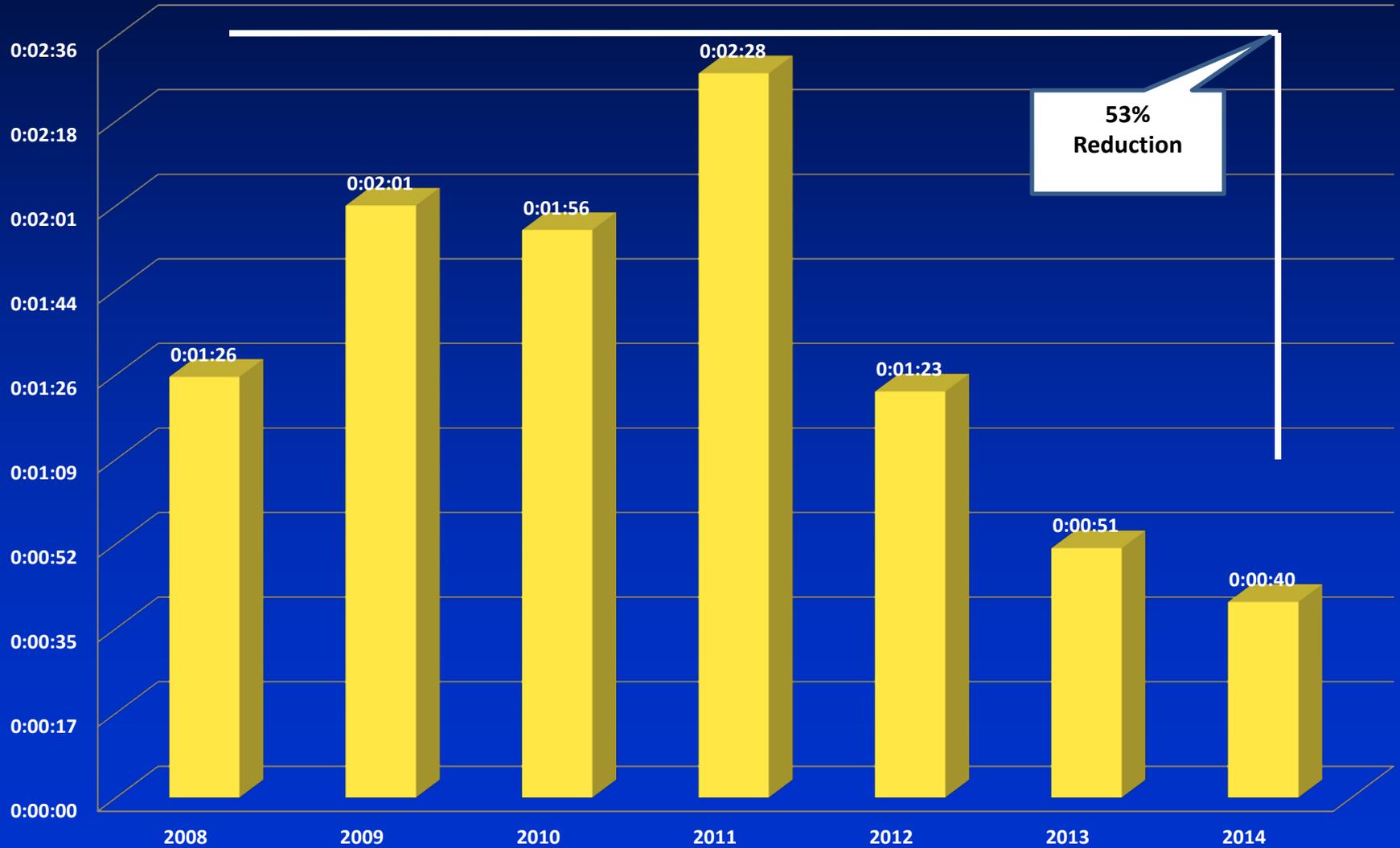
RESPONSE TIMES

Response Times Diagram



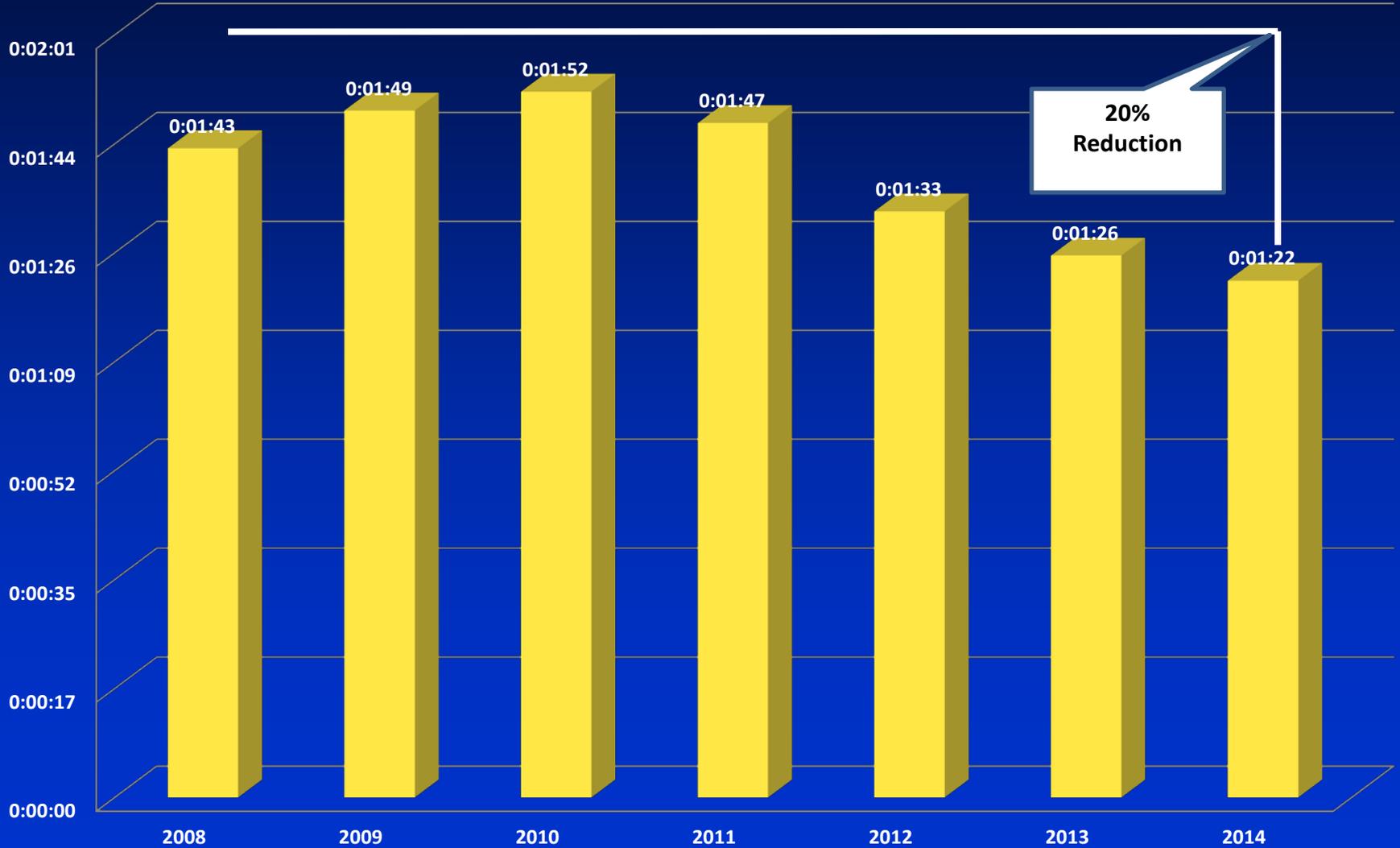


CALL PROCESSING TIMES



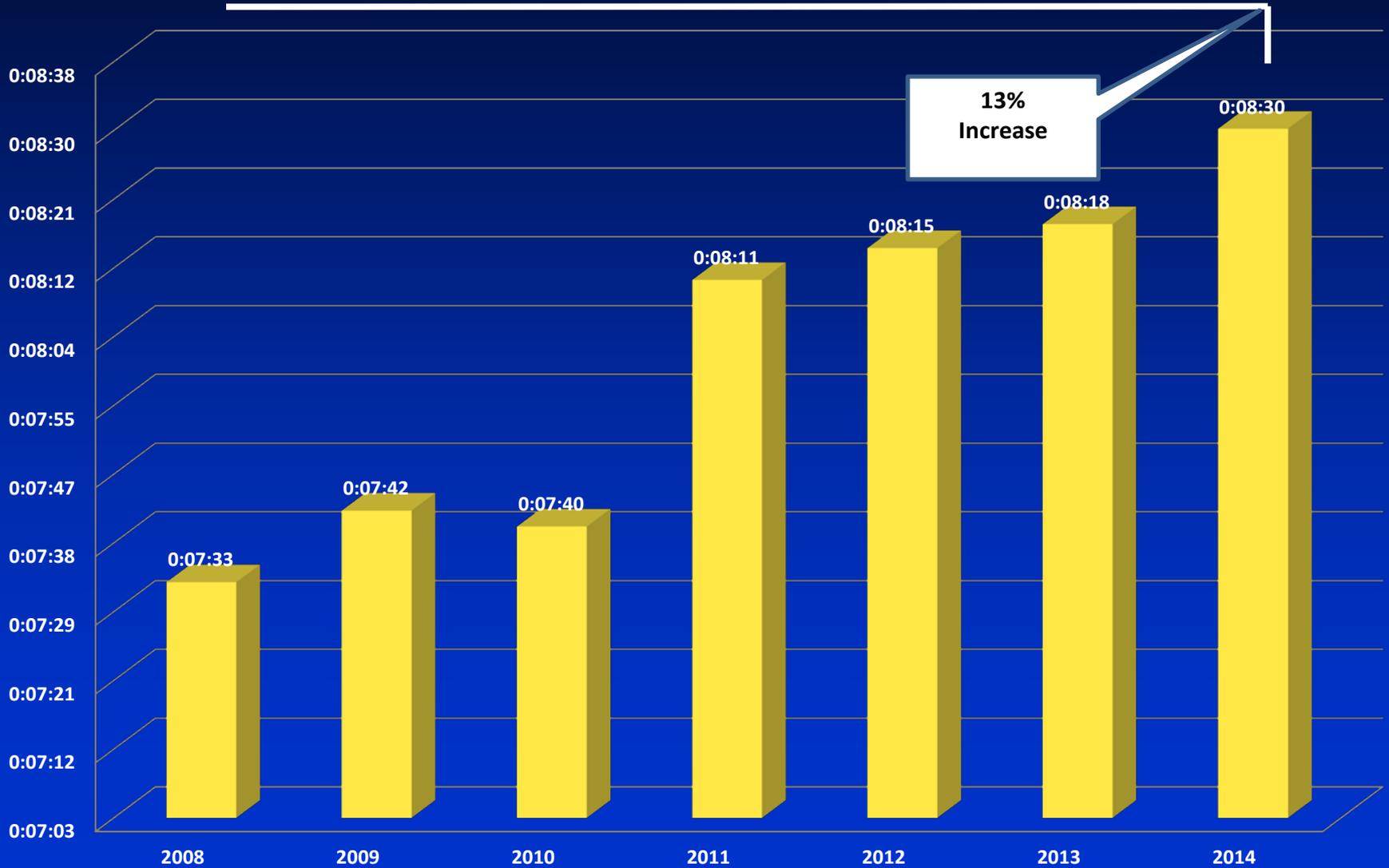


TURNOUT TIMES





TRAVEL TIMES





Total Response Times





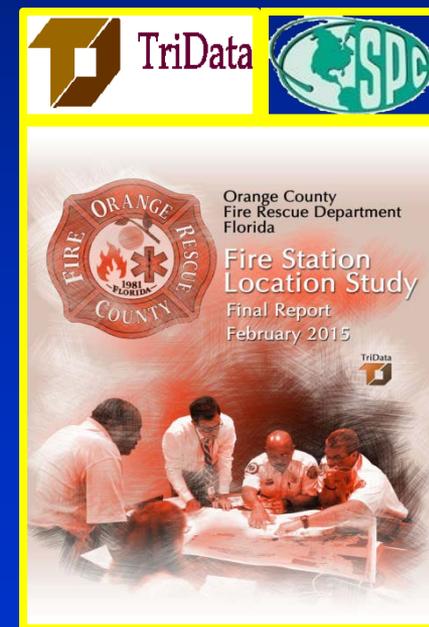
TOTAL RESPONSE TIMES





BACKGROUND

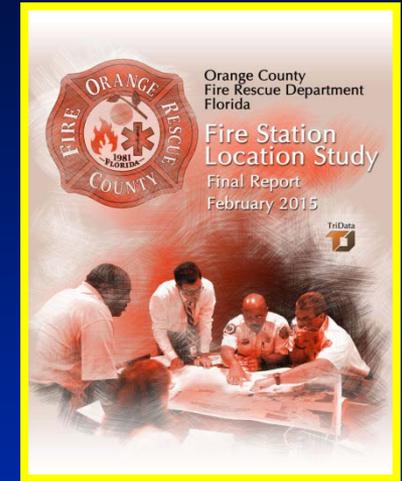
- **TRIDATA – SELECTED BY COMPETITIVE BID MARCH 2014**
- **TRIDATA IS A DIVISION OF SYSTEM PLANNING CORPORATION**
 - **33 YEARS OF EXPERIENCE**
 - **OVER 130 FIRE AND EMS STUDIES**
 - **35 LARGE METROPOLITAN FIRE DEPARTMENTS**





PRESENTATION OVERVIEW

- BACKGROUND
- SCOPE OF THE STUDY
- STUDY METHODOLOGY
- STUDY COMPONENTS
- SUMMARY
- QUESTIONS





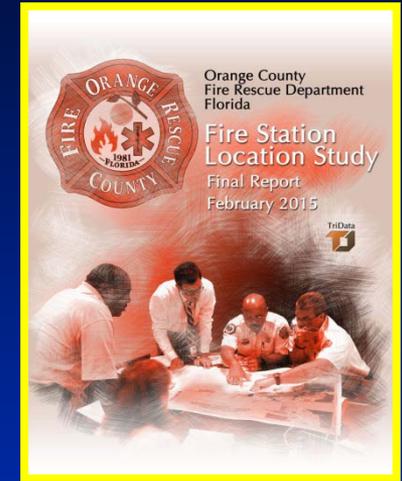
SCOPE OF THE STUDY

- **EVALUATION OF CURRENT FIRE STATION LOCATIONS AND OUTLINING THE POTENTIAL NEED FOR ADDITIONAL STATIONS**
 - **TASK I – REVIEW CURRENT ALLOCATION/LOCATIONS OF RESOURCES**
 - **TASK II – FORECAST FUTURE DEMANDS FOR SERVICE**
 - **TASK III – RECOMMEND CHANGES TO THE CURRENT SYSTEM**



PRESENTATION OVERVIEW

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- **STUDY METHODOLOGY**
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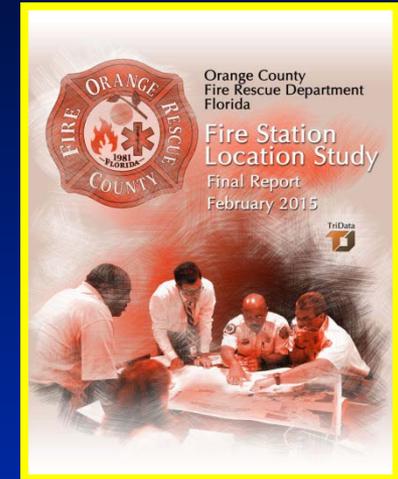
STUDY METHODOLOGY

- **ANALYSIS - DEMAND, RESPONSE TIMES, AND FIRE STATION LOCATIONS**
- **ANALYSIS - COUNTY'S DESTINATION 2030 COMPREHENSIVE PLAN (FIRE RESCUE ELEMENT)**
- **INTERVIEWS - FIRE RESCUE AND COUNTY PLANNING STAFF**
- **REVIEW - BACKGROUND INFORMATION, COMPUTER AIDED DISPATCH (CAD) DATA, AND FIRE AND EMS INCIDENT DATA**



PRESENTATION OVERVIEW

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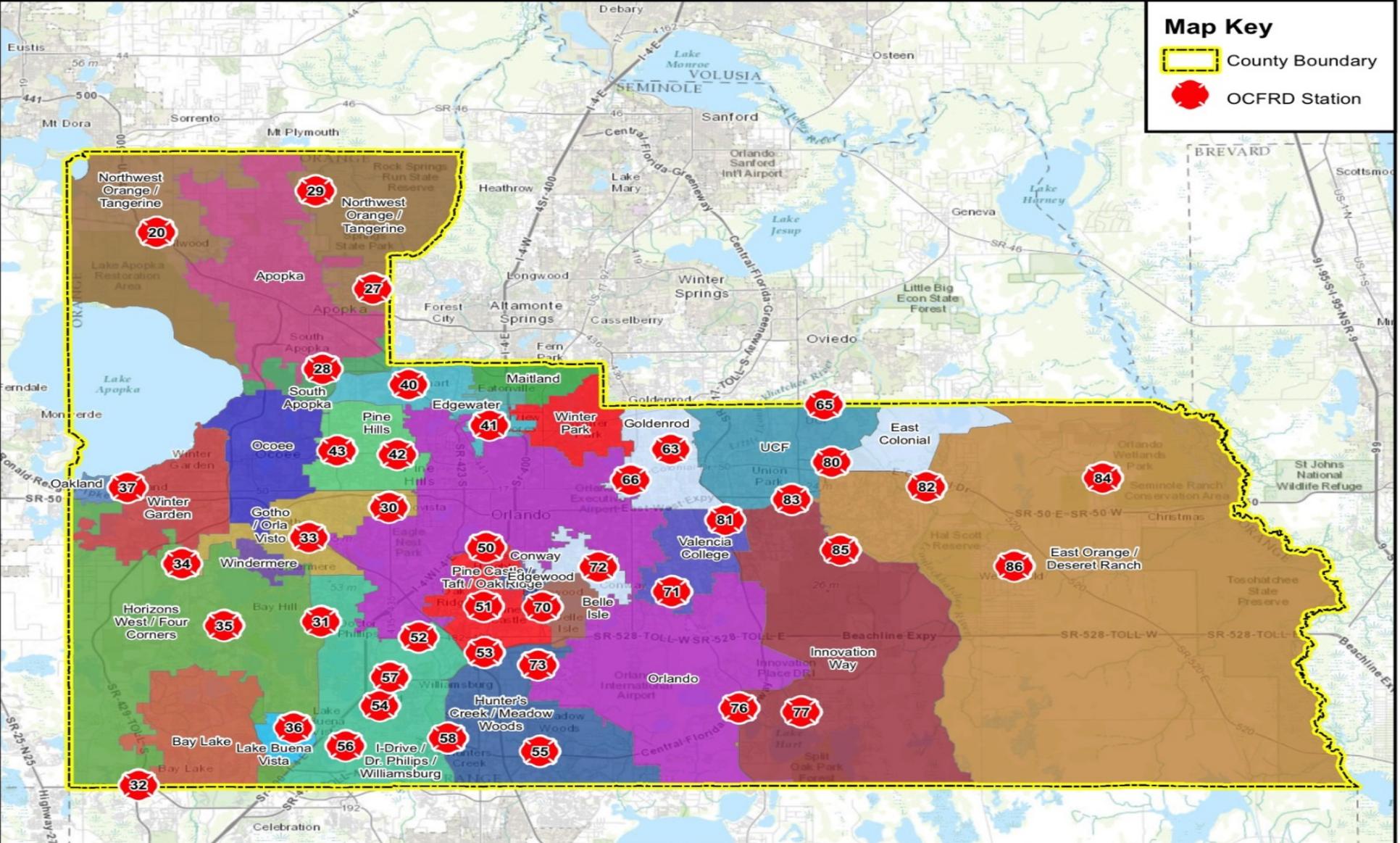


PLANNING AND FUTURE DEVELOPMENT AREAS

- EAST ORANGE/DESERET RANCH
- EAST COLONIAL
- UNIVERSITY OF CENTRAL FLORIDA/CENTRAL FLORIDA PARK
- INNOVATION WAY
- VALENCIA COLLEGE
- GOLDENROD
- CONWAY
- HUNTER'S CREEK/MEADOW WOODS
- I-DRIVE SOUTH/DR. PHILLIPS/WILLIAMSBURG
- HORIZON WEST/FOUR CORNERS
- GOTHA/ORLA VISTA
- PINE HILLS
- PINECASTLE/TAFT/OAK RIDGE/HOLDEN HEIGHTS
- EDGEWATER
- SOUTH APOPKA
- NORTHWEST ORANGE COUNTY/TANGERINE



PLANNING AND FUTURE DEVELOPMENT AREAS



Map Key

-  County Boundary
-  OCFRD Station



DEVELOPMENT, POPULATION, AND DEMAND

- REVIEWED THE EXPECTED DEVELOPMENT AND INFRASTRUCTURE CHANGES EXPECTED OVER THE NEXT 25 YEARS

- TWO KEY SIGNIFICANT GROWTH CENTERS:
 - SOUTH INTERNATIONAL DRIVE
 - UNIVERSITY OF CENTRAL FLORIDA (UCF) AND ASSOCIATED CENTRAL FLORIDA RESEARCH PARK.

- ALREADY APPROVED DEVELOPMENT WILL INCREASE POPULATION AND EMERGENCY SERVICE DEMAND:
 - HORIZON WEST (20,704 ACRES - TOWN CENTER AND FIVE VILLAGES)
 - INNOVATION WAY (APPROVALS FOR 10,811 RESIDENTIAL UNITS, 28.2 MILLION SQUARE FEET OF INDUSTRIAL, COMMERCIAL, OFFICE, AND HIGH-TECH USES)



POPULATION GROWTH

- **POPULATION INCREASES WILL SIGNIFICANTLY INCREASE DEMAND FOR OCFRD SERVICES**
- **NEXT 25 YEARS, INCREASE IN COUNTY BY 500,000 RESIDENTS; 400,000 ARE EXPECTED TO RESIDE IN UNINCORPORATED AREAS SERVICED BY OCFRD**
- **AREAS WITH THE HIGHEST POPULATION DENSITY AND DEMAND: PINE HILLS, GOLDENROD, UCF, CONWAY, AND VALENCIA COLLEGE**
- **PINE CASTLE/ TAFT/ OAK RIDGE, HUNTER'S CREEK, MEADOW WOODS, EDGEWATER, AND NORTHWEST ORANGE/ TANGERINE ALSO WITH ALREADY METROPOLITAN DENSITIES**

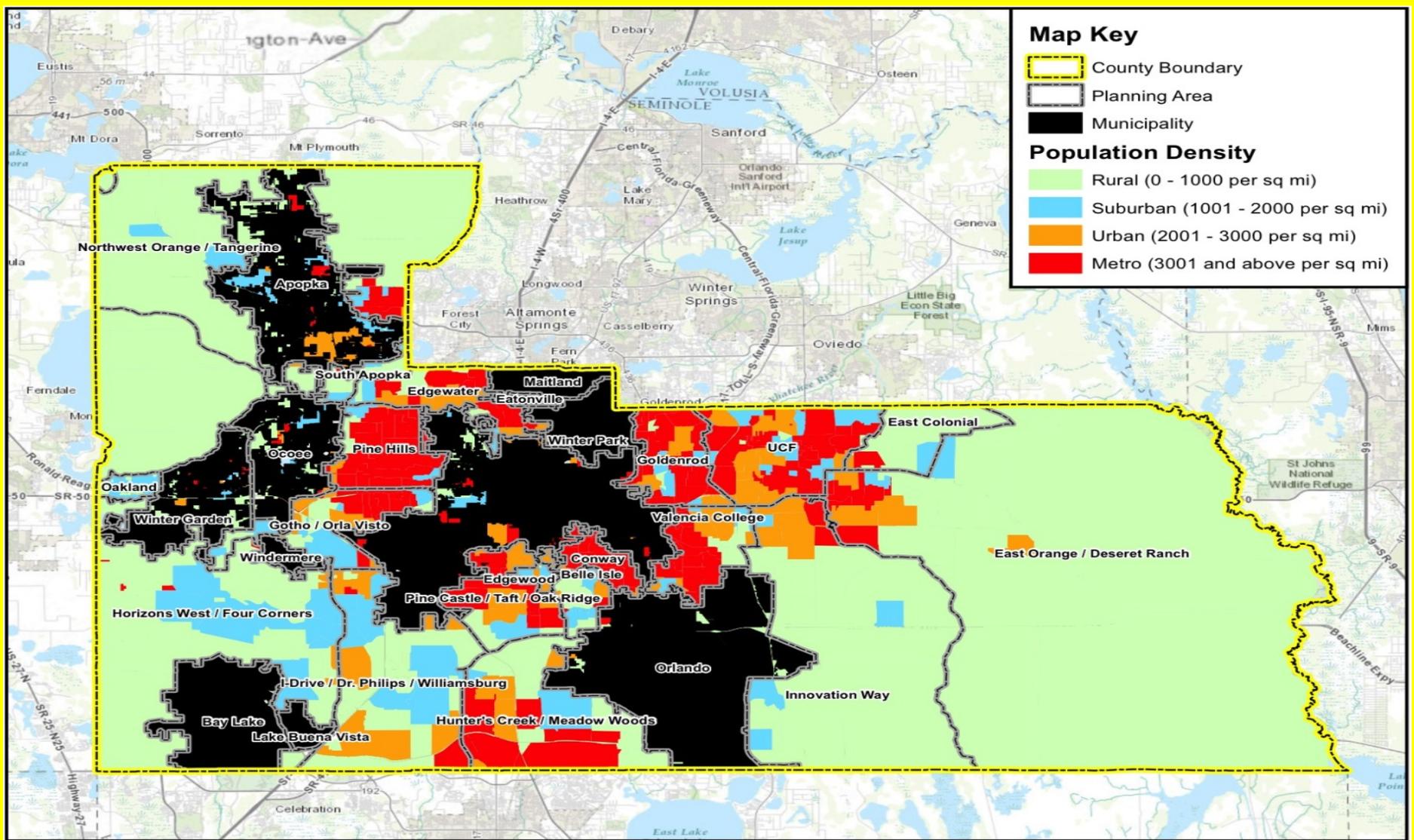


POPULATION GROWTH





POPULATION GROWTH



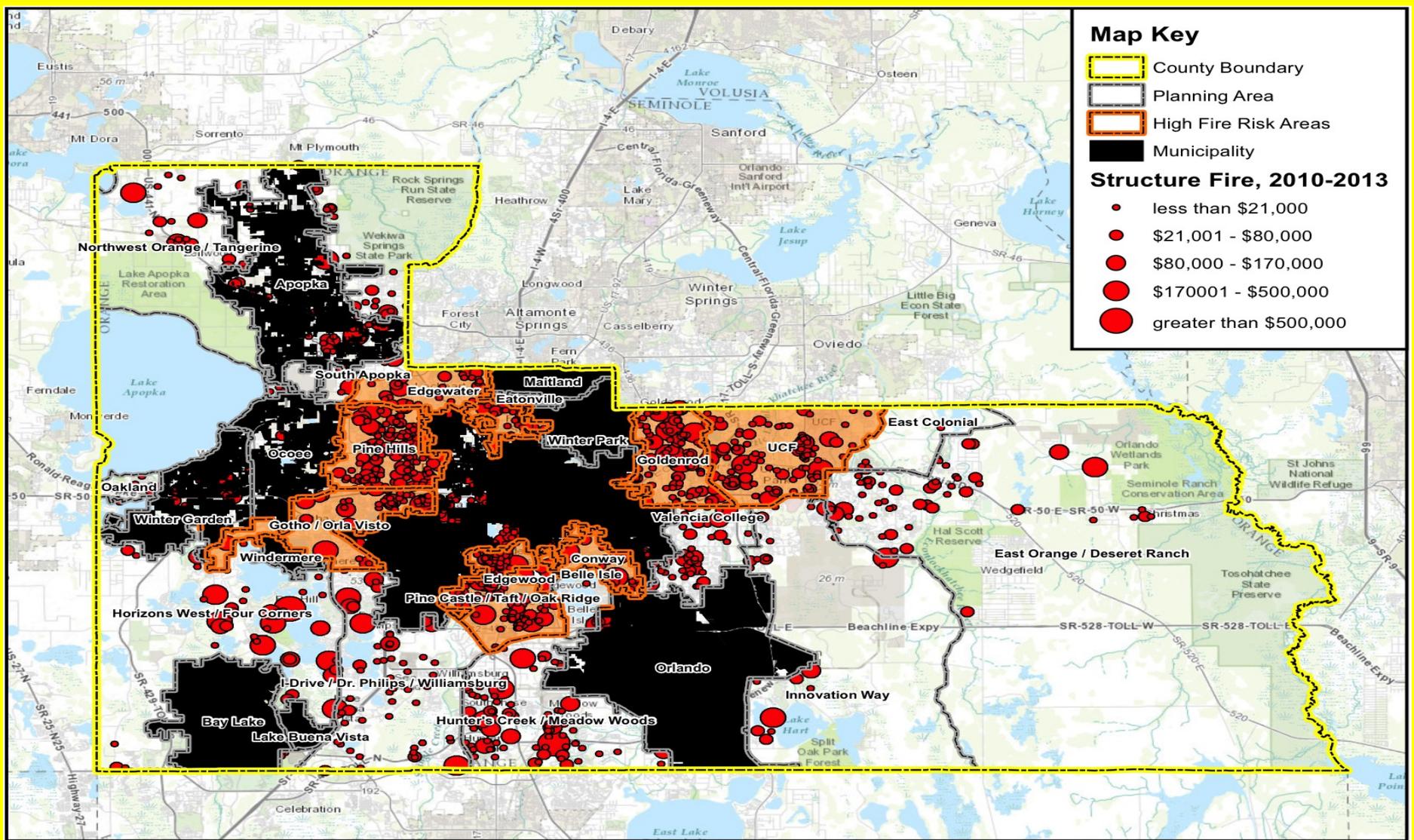


DEMAND

- **OCFRD RESPONDS TO OVER 100,000 CALLS FOR SERVICE PER YEAR; SEVEN OUT OF EVERY TEN CALLS IS A MEDICAL CALL**
- **OVER THE PAST FOUR YEARS (2010-2013), MEDICAL CALLS ALONE INCREASED BY 40 PERCENT, FROM 45,014 TO 66,055 CALLS**
- **ANNUAL DEMAND IS EXPECTED TO INCREASE SIGNIFICANTLY BY 2025 WITH A MIDRANGE ESTIMATE OF 177,000 CALLS PER YEAR (INCREASE OF 76,000 CALLS)**
- **IF POPULATION GROWTH ESTIMATES HOLD TRUE, CALLS PER YEAR COULD APPROACH 194,000**
- **THE INCREASE IN DEMAND WILL NEGATIVELY IMPACT RESPONSE TIMES, WHICH ARE ALREADY LONG, ESPECIALLY IN METROPOLITAN AREAS, IF NO NEW STATIONS ARE ADDED**



DEMAND RISK



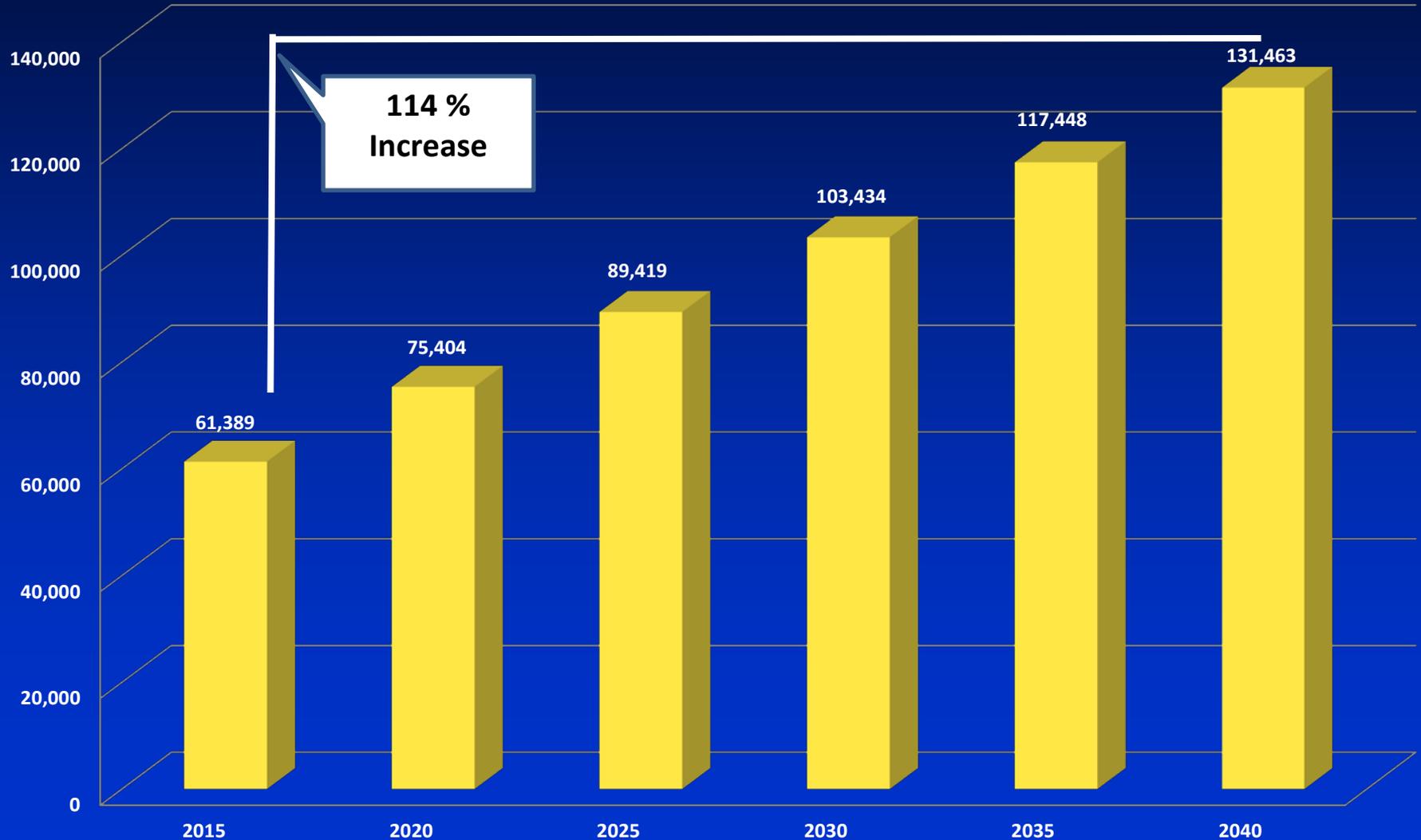


INCIDENT DEMAND PROJECTIONS





EMS TRANSPORT DEMAND PROJECTIONS





RESPONSE TIME ANALYSIS

Population Density	3001+	2001-3000	1001-2000	0-1000
Density Classification	Metropolitan	Urban	Suburban	Rural
Best Industry Standard – NFPA 1710	6:20	6:20	6:20	6:20
Best Industry Practice – Center for Public Safety Exc.	6:20	6:20	7:20	12:20
Tri-Data Recommendation	7:40	8:20	9:20	11:20
OCFRD 2013 Performance	9:19	9:35	9:59	10:49

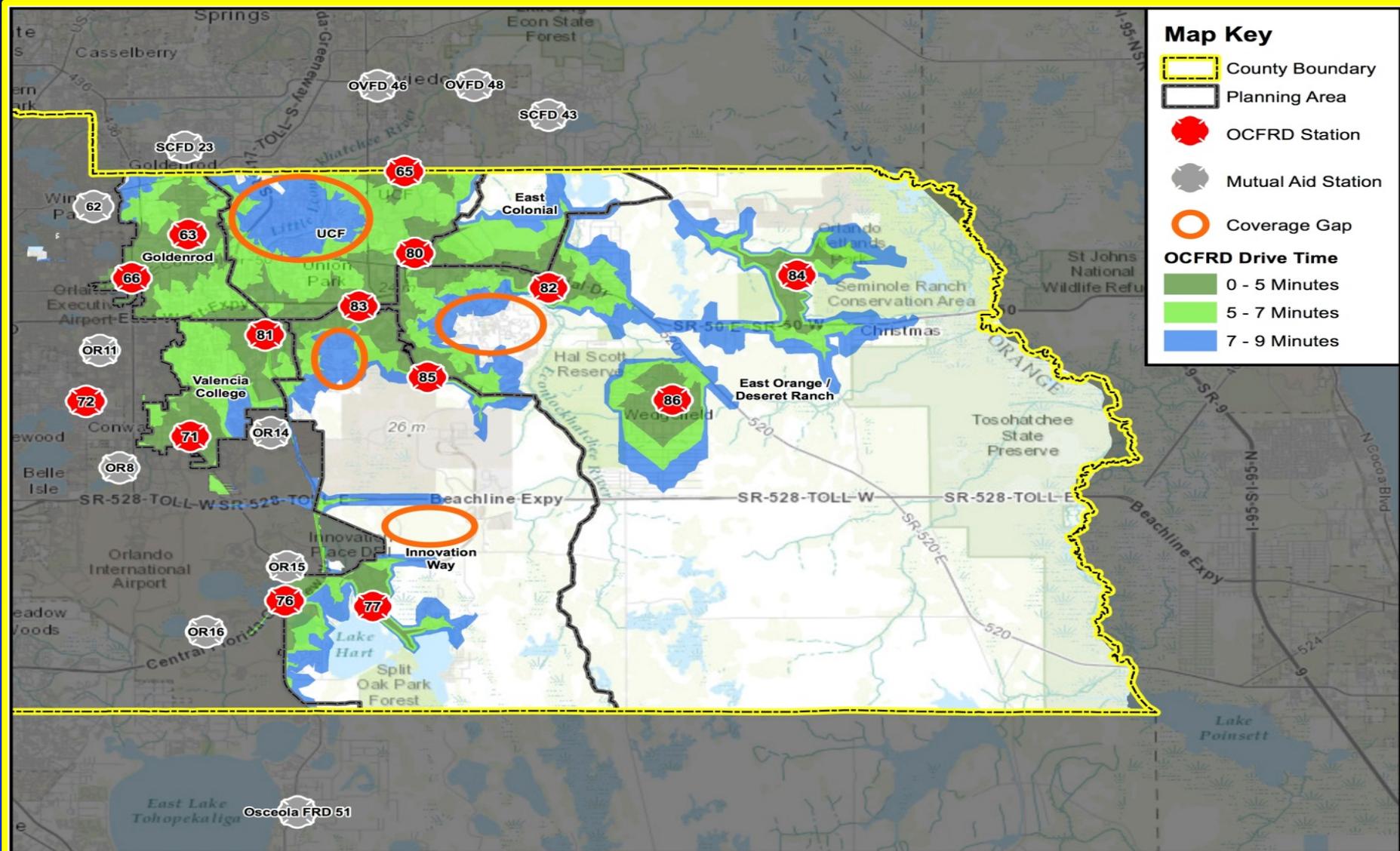


EAST ORANGE COUNTY

- **THE NORTHEASTERN PORTION HAS THE MOST URBAN POPULATION DENSITIES.**
- **POOR FIRE STATION COVERAGE WITHOUT NEW DEVELOPMENT**
- **AREAS OF CONCERN:**
 - **UNIVERSITY BOULEVARD AND NORTH DEAN ROAD SOUTH AVALON PARK BOULEVARD**
 - **CYPRESS SPRINGS AND ANDOVER LAKES**
 - **STARWOOD DRI (DEVELOPMENT OF REGIONAL IMPACT)**

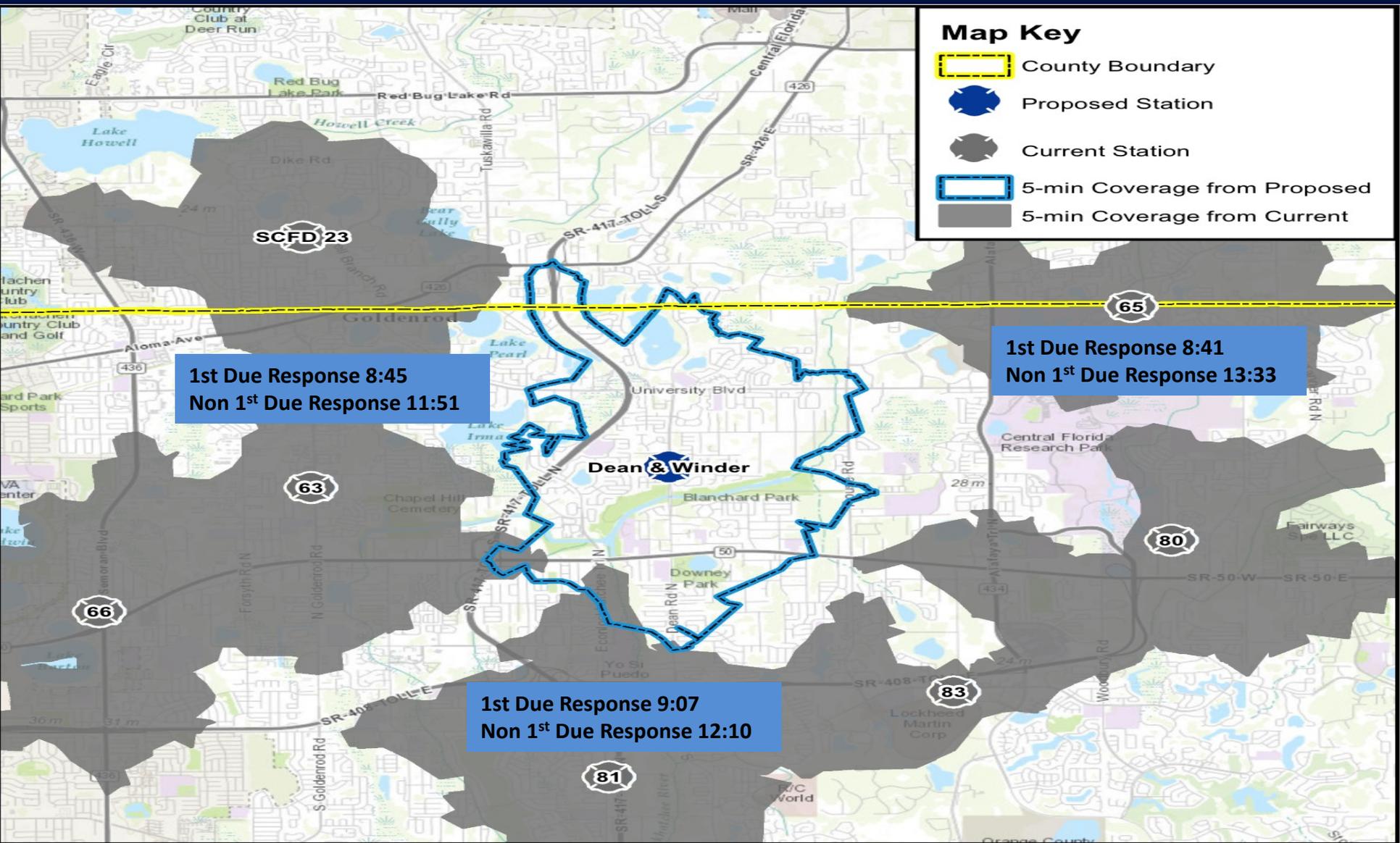


EAST ORANGE COUNTY

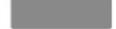




PROPOSED STATION 67



Map Key

-  County Boundary
-  Proposed Station
-  Current Station
-  5-min Coverage from Proposed
-  5-min Coverage from Current

1st Due Response 8:45
Non 1st Due Response 11:51

1st Due Response 8:41
Non 1st Due Response 13:33

1st Due Response 9:07
Non 1st Due Response 12:10



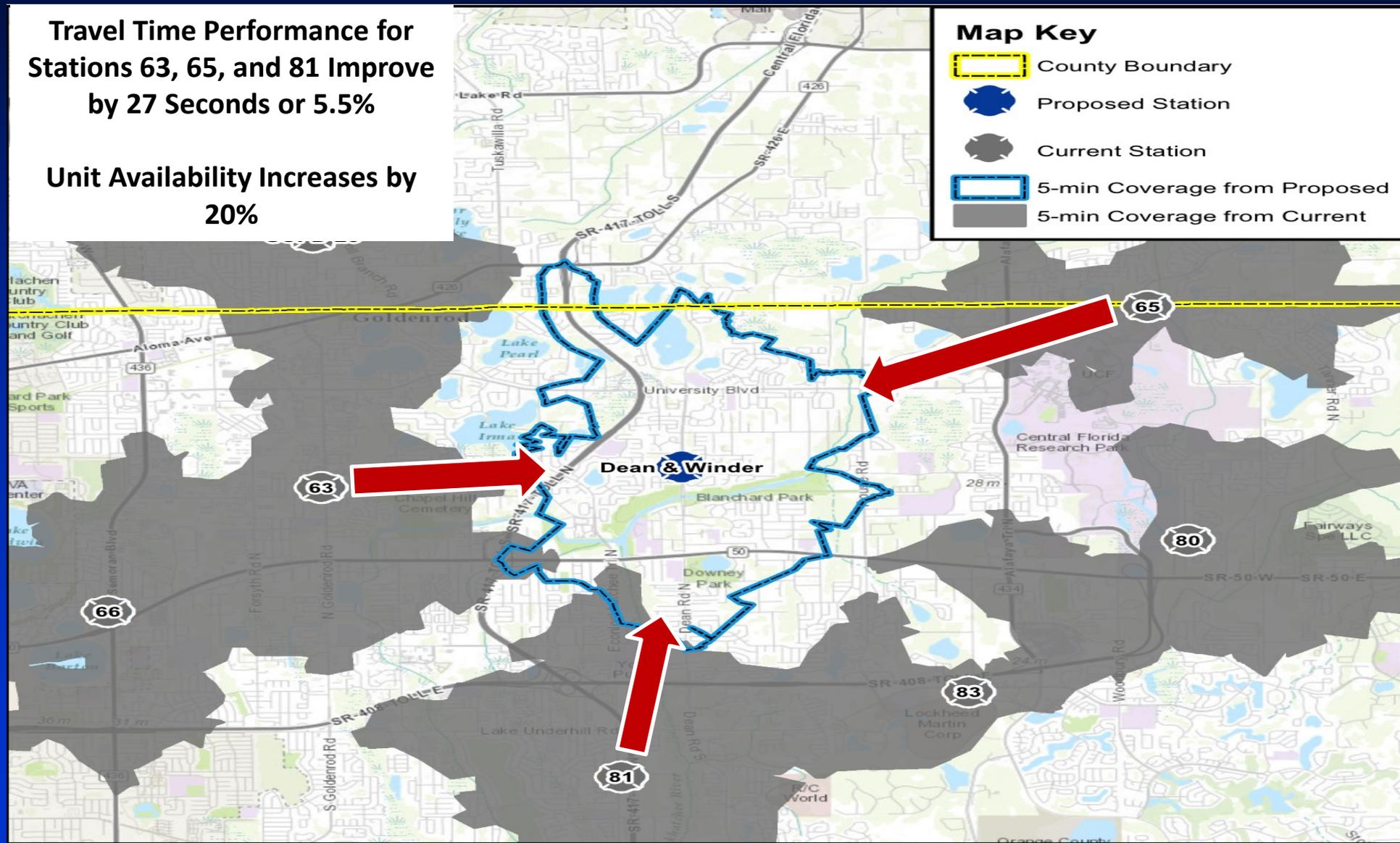
PROPOSED STATION 67

Travel Time Performance for Stations 63, 65, and 81 Improve by 27 Seconds or 5.5%

Unit Availability Increases by 20%

Map Key

- County Boundary
- Proposed Station
- Current Station
- 5-min Coverage from Proposed
- 5-min Coverage from Current

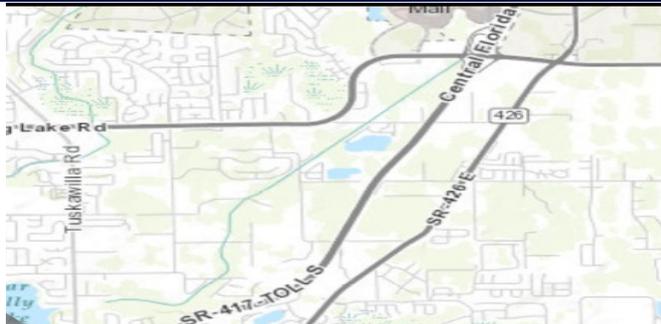




PROPOSED STATION 67

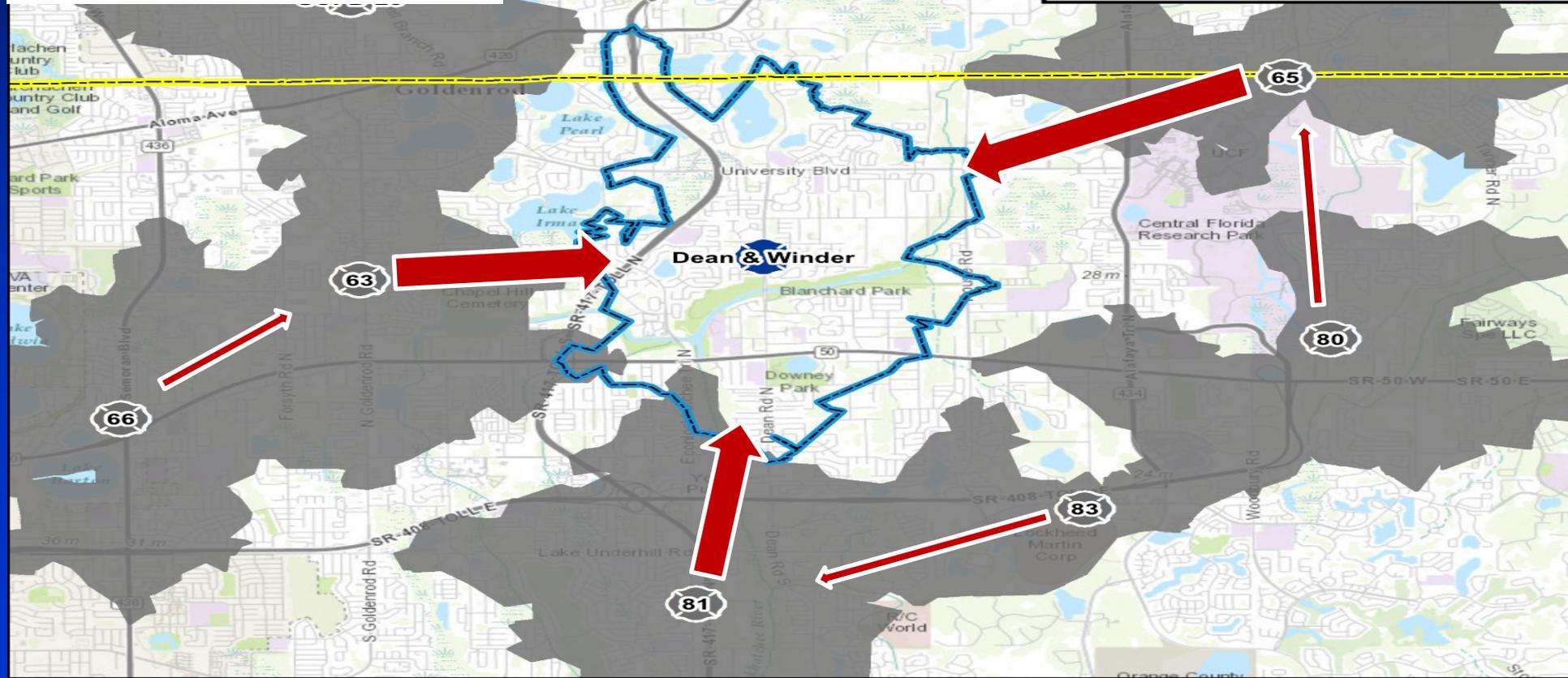
Travel Time Performance for Stations 66, 80, and 83 Improve by 29 Seconds or 5%

Unit Availability Increases by 11%



Map Key

- County Boundary
- Proposed Station
- Current Station
- 5-min Coverage from Proposed
- 5-min Coverage from Current



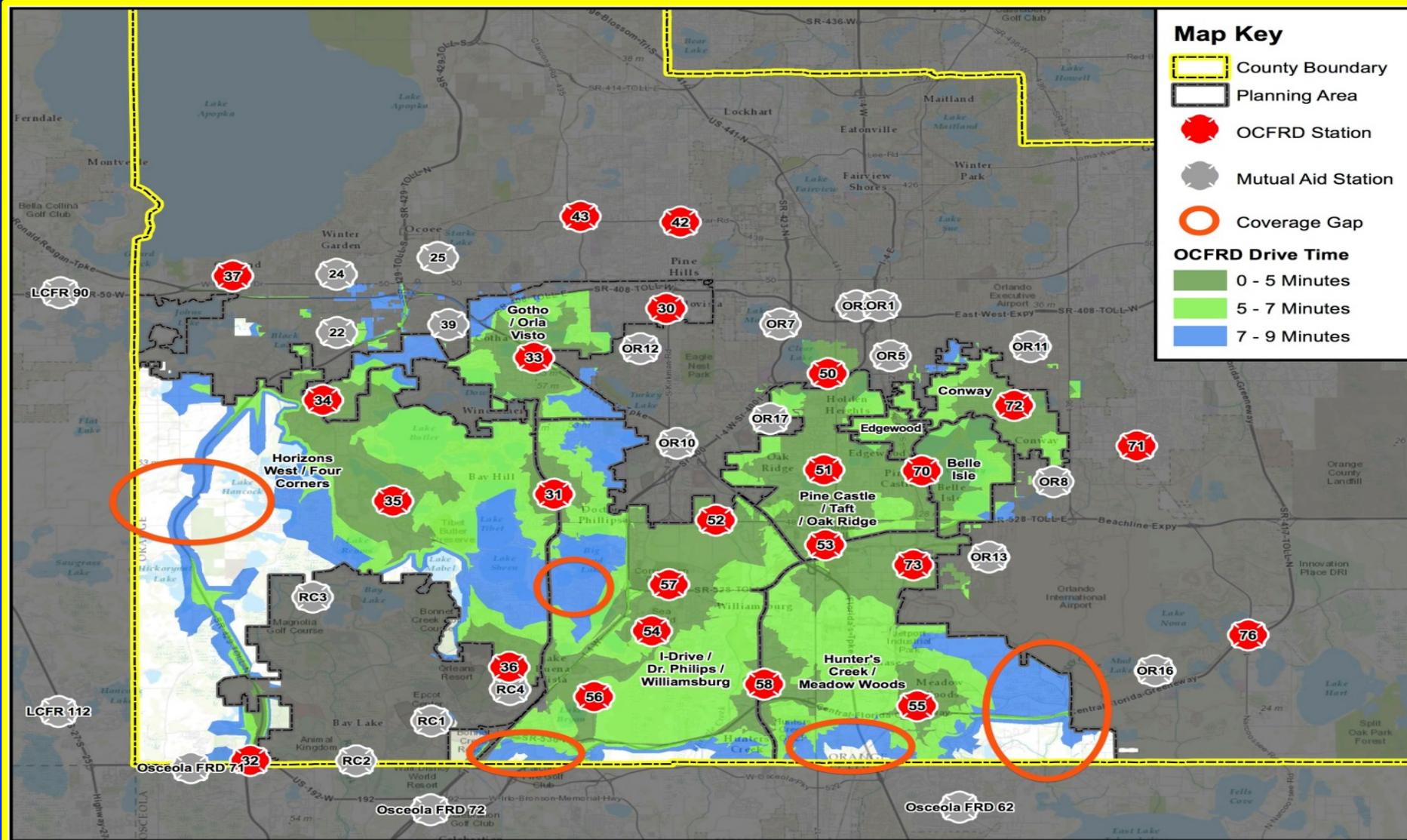


SOUTHWEST ORANGE COUNTY

- **EXPERIENCING PARTICULARLY HIGH DEVELOPMENT**
 - **HORIZON WEST AREA AND ALONG THE SOUTHERN EDGE OF THE COUNTY BORDERING OSCEOLA COUNTY.**
- **COVERAGE CONCERNS MORE LONG TERM AS DEVELOPMENT AND POPULATION INCREASE**
 - **TRANSITION FROM RURAL TO SUBURBAN AND URBAN TO METROPOLITAN.**
- **AREAS OF PARTICULAR CONCERN:**
 - **HORIZON WEST**
 - **ESTATES AT PHILLIPS LANDING AND SAND LAKE COVE**
 - **INTERNATIONAL DRIVE SOUTH**
 - **SOUTH OF WEST TOWN CENTER BOULEVARD AND WEST OF TURNPIKE**
 - **WYNDHAM LAKES/ BEACON PARK**



SOUTHWEST ORANGE COUNTY



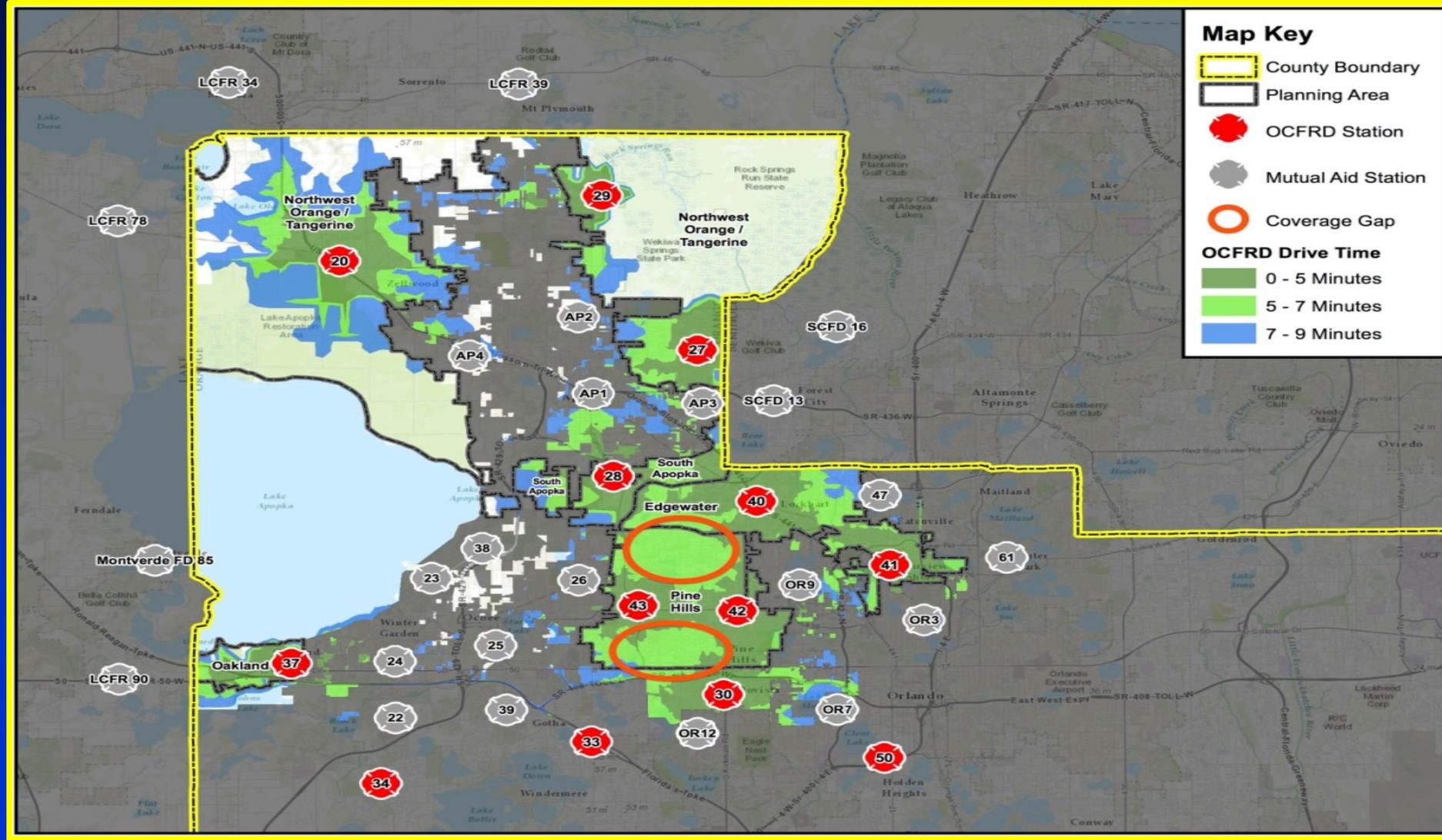


NORTHWEST ORANGE COUNTY

- **Coverage Is Generally Good**
- **Two Areas With Metropolitan Designated Population Should Be Addressed:**
 - **Northern Portion Of Pine Hills, Particularly Areas Along Clarcona Ocoee Road Between Apopka-vineland Road And North Pine Hills Road**
 - **Areas Around The Intersection Of Hiawassee Road And Balboa Drive**
- **Coverage (And Efficiency) For The Northwestern Region Can Also Be Improved By Expanding Automatic Mutual Aid, Especially With Apopka, Maitland, And Orlando**



Northwest Orange County





RECOMMENDATIONS (2015 TO 2020)

- **THREE NEW FIRE STATIONS ARE RECOMMENDED FOR THE NEXT FIVE YEARS.**
- **APPROXIMATE LOCATIONS ARE:**
 - **NORTH DEAN ROAD & WINDER TRAIL (UCF)**
 - **AVALON PARK SOUTH BOULEVARD (EAST ORANGE/ DESERET RANCH)**
 - **SOUTH GOLDENROD ROAD & LAKE UNDERHILL ROAD (BORDER BETWEEN VALENCIA COLLEGE AND GOLDENROD)**



RECOMMENDATIONS (2020 TO 2025)

- **BETWEEN 2020 AND 2025, THE FOLLOWING STATIONS SHOULD BE ADDED OR RELOCATED:**
 - **NORTH ALAFAYA TRAIL & RESEARCH PARKWAY (UCF)**
 - **SUMMERLAKE BOULEVARD & FICQUETTE ROAD (HORIZON WEST)**
 - **DARYL CARTER PARKWAY NEAR PALM PARKWAY (I-DRIVE/ DR. PHILIPS/ WILLIAMSBURG)**
 - **RELOCATE STATION 30 TO WEST COLONIAL DRIVE & NORTH HIAWASSEE ROAD**



RECOMMENDATIONS (2025 AND BEYOND)

- **THE FOLLOWING STATIONS SHOULD BE ADDED, RELOCATED OR CONSOLIDATED, IN THE LONG TERM.**
 - **RELOCATE STATION 71 TO SOUTH GOLDENROD ROAD & PERSHING AVENUE (VALENCIA COLLEGE)**
 - **NEW STATION NEAR AVALON ROAD & HORIZON BOULEVARD (HORIZON WEST)**
 - **NEW STATION NEAR AVALON ROAD & SEIDEL ROAD (HORIZON WEST)**
 - **RELOCATE STATION 32 TO AVALON ROAD AND HARTZOG ROAD (HORIZON WEST)**



RECOMMENDATIONS (2025 AND BEYOND)

- Relocate Station 52 to Mandarin Drive Extension & Kirkman Road Extension (I-Drive/ Dr. Philips/ Williamsburg)
- New station near Boggy Creek (Hunter's Creek/ Meadow Woods)
- Relocate Station 36 to Winter Garden-Vineland Road & Equestrian Drive (Horizon West)
- Consolidate Stations 42 and 43 to a site near North Hiawassee Road & Silver Star Road (Pine Hills)



FIRE STATION RECOMMENDATIONS

- **49 FIRE STATIONS AFTER 2025, AN INCREASE OF 8 OVER THE CURRENT 41, IF ALL RECOMMENDATIONS ARE IMPLEMENTED.**
- **THE TIMING TO ADD STATIONS WILL DEPEND ON DEVELOPMENT AND POPULATION CHANGES. AS CHANGES OCCUR (FASTER OR SLOWER)**
- **CIRCUMSTANCES WILL LIKELY NECESSITATE CHANGES TO THE DEPLOYMENT PLAN, ESPECIALLY THOSE FOR 2025 AND BEYOND.**



TRANSPORT UNIT RECOMMENDATIONS

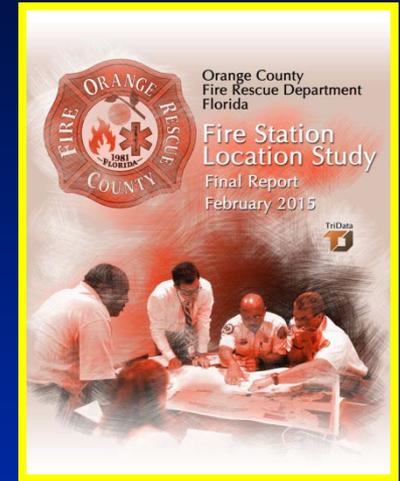
- **OVER 70% OF INCIDENTS ARE MEDICAL CALLS**
- **NINE ORANGE COUNTY FIRE STATIONS (22%) DO NOT HAVE ANY 24 HOUR RESCUE UNITS.**
- **ADD TWO MEDIC UNITS TO IMPROVE RELIABILITY AND RESPONSE TIMES**
- **BASED ON DEMAND ADD RESCUES TO EXISTING AND ALL FUTURE FIRE STATIONS.**





Presentation Overview

- Background
- Scope of the Study
- Study Methodology
- Study Components
- **Summary**
- Questions





Summary

- **THE EXPECTED INCREASE IN CALL VOLUME OVER THE NEXT 5 TO 10 YEARS IS IMPORTANT TO THE CONSIDERATION OF NEW FIRE STATIONS.**
- **RESPONSE TRAVEL TIMES ARE ALREADY LONG AND OCFRD IS UNABLE TO MEET ACCEPTED STANDARDS OF RESPONSE.**
- **WITH EACH ANNUAL INCREASE IN DEMAND, STATION WORKLOADS WILL INCREASE AND UNITS WILL BE AVAILABLE LESS OF THE TIME.**
- **RESPONSE TIMES WILL INCREASE EVEN MORE BECAUSE A UNIT FARTHER AWAY MUST HANDLE THE CALL.**



Recommendation Summary

STATIONS

■ IMMEDIATE

- 1 STATION (DEAN AND WINDER)
- INCREASE REGIONAL COOPERATION

■ 2015-2020

- 3 STATIONS (DEAN & WINDER, AVALON PARK SOUTH BLVD, AND GOLDENROD & LAKE UNDERHILL)
- RELOCATE STATION 30 (WEST COLONIAL & HIAWASSEE)



Summary

■ 2020-2025

- 3 STATIONS (SUMMER LAKE & FICQUETTE, PALM PARKWAY & DARYL CARTER, AND ALAFAYA TRAIL & RESEARCH PARKWAY)

■ 2025 AND BEYOND

- 3 STATIONS (AVALON & HORIZON, AVALON & SEIDEL, AND BOGGY CREEK)
- CONSOLIDATE STATIONS 42 AND 43
- RELOCATE STATIONS 32, 36, 52, AND 71



Summary

TRANSPORT UNIT RECOMMENDATION

- ADD TRANSPORT UNITS TO STATIONS 32, 33, 35, 37, 56, 57, 73, 77, AND 86
- ADD TWO MEDIC UNITS IMMEDIATELY



Questions





Fire Station & Equipment Costs

▪ 2 Unit Station

–\$5.7 Million (estimated)

–Land, Construction, Apparatus, Equipment, and Supplies



▪ 3 Unit Station (estimated)

–7.2 Million

–Land, Construction, Apparatus, Equipment, and Supplies

