Public Safety Radio System Overview

January 2023

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Public Safety Radio System: Workshop and Discussion

Agenda

- Status of Public Safety Radio System
- Considerations and Alternatives
- Question and Answer

What's Driving this Review

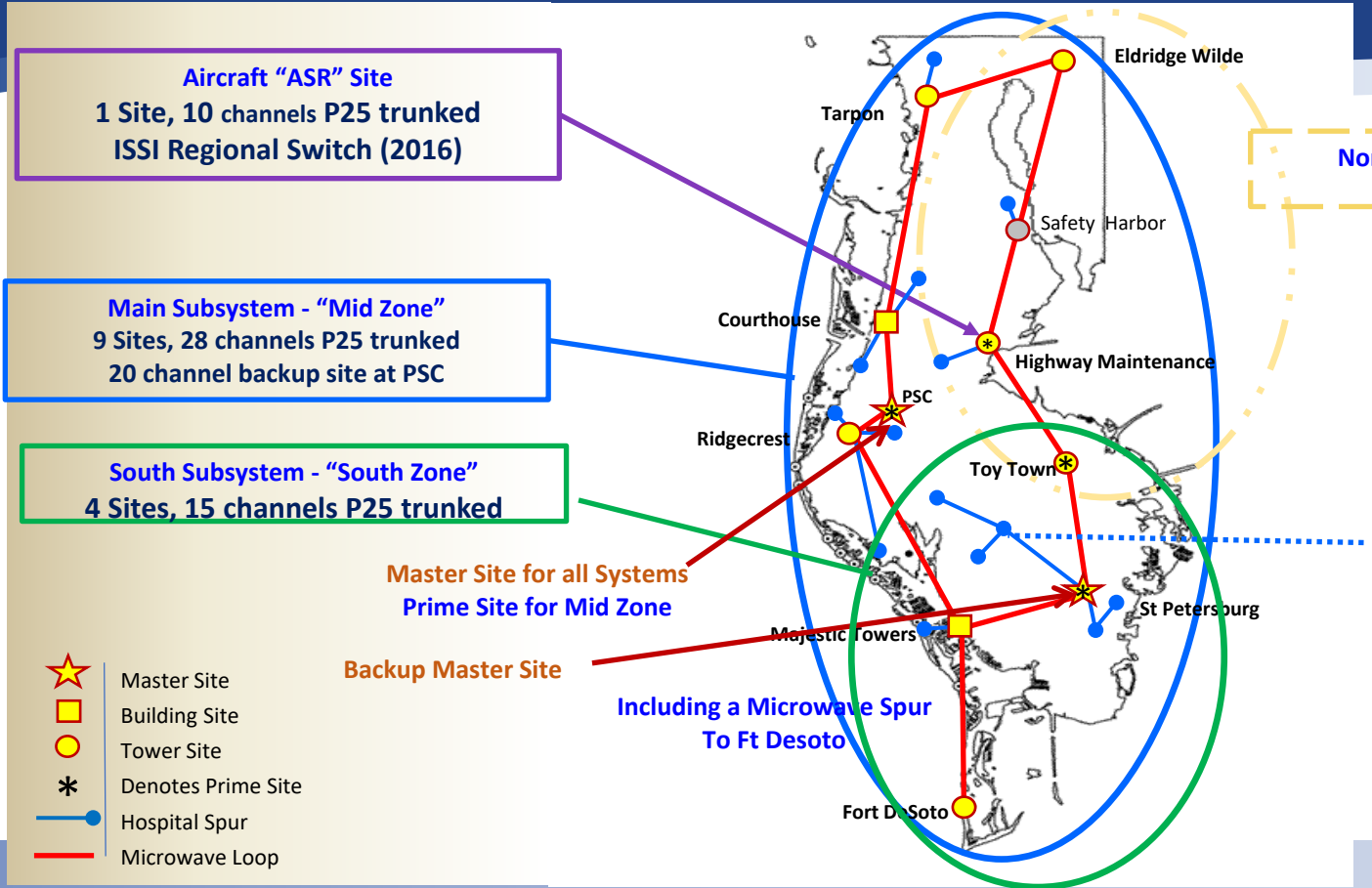
- **Radio System Improvements**
  - Significant Investments have been made
  - Local Standard could differ from State Standard
- **Community Associations Concerns**
  - Costs and responsibility for signals inside buildings
  - Affecting the PC Radio System with widespread BDAs
- **Developmental Concerns**
  - Building construction design changes
  - Location/Height
- **Public Safety Concerns**
  - Enforcing Building Codes Consistently
  - Widespread use of BDAs
  - Meeting future needs of responders

Public Safety Radio System: Overview

Aircraft "ASR" Site
1 Site, 10 channels P25 trunked
ISSI Regional Switch (2016)

Main Subsystem - "Mid Zone"
9 Sites, 28 channels P25 trunked
20 channel backup site at PSC

South Subsystem - "South Zone"
4 Sites, 15 channels P25 trunked



North Subsystem - "North Zone"
Under Construction 2023

10 Total Sites for In-Building Coverage

Microwave Loops
Bidirectional for Redundancy

Microwave Spur Network to Connect Hospitals

Master Site for all Systems
Prime Site for Mid Zone

Backup Master Site

Including a Microwave Spur To Ft Desoto

Public Safety Radio System: Independent Study

Independent Study Reported:

- System is functioning at a high level
- An upgraded local standard could be adopted safely
- Many buildings will require in-building technical solutions regardless of improvements
- Pinellas System could benefit with:
  - Added RF site (Antenna) Mid-County
  - Existing Antenna, settings and tuning modifications

Public Safety Radio System: Independent Study

Omnicom Consulting Group-2022

- The radio system is operating as designed providing a radio signal to all portable radios on the street county wide.
- The radio system is also providing a radio signal inside a building that experiences minimal (10dB) signal loss.
- Buildings that are more heavily constructed to withstand high winds experience more (20dB to 40dB) signal loss and the signal degrades accordingly.
- Due to updated building codes and improved construction material for many of the buildings in Pinellas County it is not possible to rely upon the radio system alone. Many of the buildings will require a bi-directional amplifier.

Public Safety Radio System: Radio Manager Study

Radio Program Analysis

- BDAs can overmodulate existing signals when not properly designed and regulated
- Proposed building heights, locations and density will interfere with radio signals at both ground level and 100-300 elevations
- Capacity exists upon our Radio System for adding public safety providers as well as adding non-public safety users
- Updated coverage Maps for Pinellas System provide decision points for consideration with benefit throughout Pinellas County and for every type of building construction and user

"Donna Beim -Radio System Manager"

Public Safety Radio System: For Consideration/Alternatives

Phase 1- Short Term

- Adopt resolution establishing consistent guidance of enforced radio standards by Fire Marshals
- Strengthen business requirements regarding installation of retransmission devices (BDAs)
- Partner with Economic Development in St. Pete/Clearwater to determine if developments will obstruct radio signals and how to handle future development projects.
- Develop design alternatives and/or fiber connections as needed.

Phase 2- Longer Term

- Construct additional Radio Tower/Shelter in the Mid County (Lealman) area
- Work with Clearwater to better utilize existing towers within that city
- Reconfigure existing antenna to maximize signal strength and penetration throughout County
- Plan for managing/monitoring the BDAs expected to be added to system (Possible new FTEs)

Questions ?