



Santa Cruz Consolidated Emergency Communications Center (SCCECC)
Hybrid System Alternatives, January 24, 2008



Santa Cruz Consolidated Emergency Communications Center

Narrow-banding Task Team Project Report

March, 2008



SCCECC (Netcom) 9-1-1

- JPA = subordinate to our Member Agencies
- Board of Directors – City Managers and CAO
- 9-1-1 and Public Safety Dispatching services for 19 User Agencies (Police, SO, Fire, EMS)
- IT services – RMS, MDC, GIS, WAN, AVL
- Operating since 1996
- 600,000 phone calls, 275,000 CFS per year
- 60 employees, annual budget = \$6 million



What is Narrow-banding & Why do we care?

- Background
- Current Radio Systems
- Technical and Management Recommendations
- Cost Estimates
- Funding Alternatives
- Grant Funding
- Next Steps



Background

- In 2004, FCC mandated that ALL radio equipment operating in the 150MHz to 512MHz (VHF High-Band) operate in narrow-band mode no later than January 1, 2013.
- This will require ALL users in this frequency range to either replace old equipment that is not narrow-band capable or to modify capable equipment by the deadline.
- JPA Board directed SCCECC to form a Narrow-banding Task Team in early 2005.



Background

- Represented agencies:

- County of Santa Cruz
- City of Santa Cruz
- City of Watsonville
- City of Capitola

- Central Fire District
- Aptos/La Selva Fire District
- Zayante Fire District
- Felton Fire District
- Branciforte Fire District
- Scotts Valley Fire District
- Boulder Creek Fire District
- Ben Lomond Fire District



Background

- Task Team Members:
 - Michael J. McDougall, SCCECC General Manager,
Chair of Task Team and representing SCCECC
 - Steve Robbins, Santa Cruz County Sheriff,
representing County of Santa Cruz
 - Terry Medina, Watsonville Police Chief,
representing cities of Capitola, Santa Cruz, and Watsonville
 - Mike McMurry, Scotts Valley Fire District Chief,
representing all fire districts
 - Kevin Bowling, County of Santa Cruz Director of Information Services,
providing technical oversight
 - Scotty Douglass, SCCECC Assistant General Manager,
Project Management



Background

- Narrow-banding Task Team Mission Statement
 - Meet mandated narrow-banding deadline in 2013
 - Provide a cost-effective solution
 - Cooperatively pursue and allocate grant funding
 - Define long-term maintenance and cost sharing
 - Support local, regional and state/federal interoperability
 - Maintain and/or improve operational efficiencies



Background

- Task Team Performed Narrow-banding Study 2006-2007
 - Contracted with CTA Communications to perform inventory and analysis of current radio systems and conduct study to recommend:
 - Best Technical Solution and Alternatives
 - Preliminary System Design
 - Coverage Analysis
 - Capacity Analysis
 - Ensure Interoperability in the Design
 - Facility Development Analysis
 - Cost Estimates
 - Grant Funding Analysis



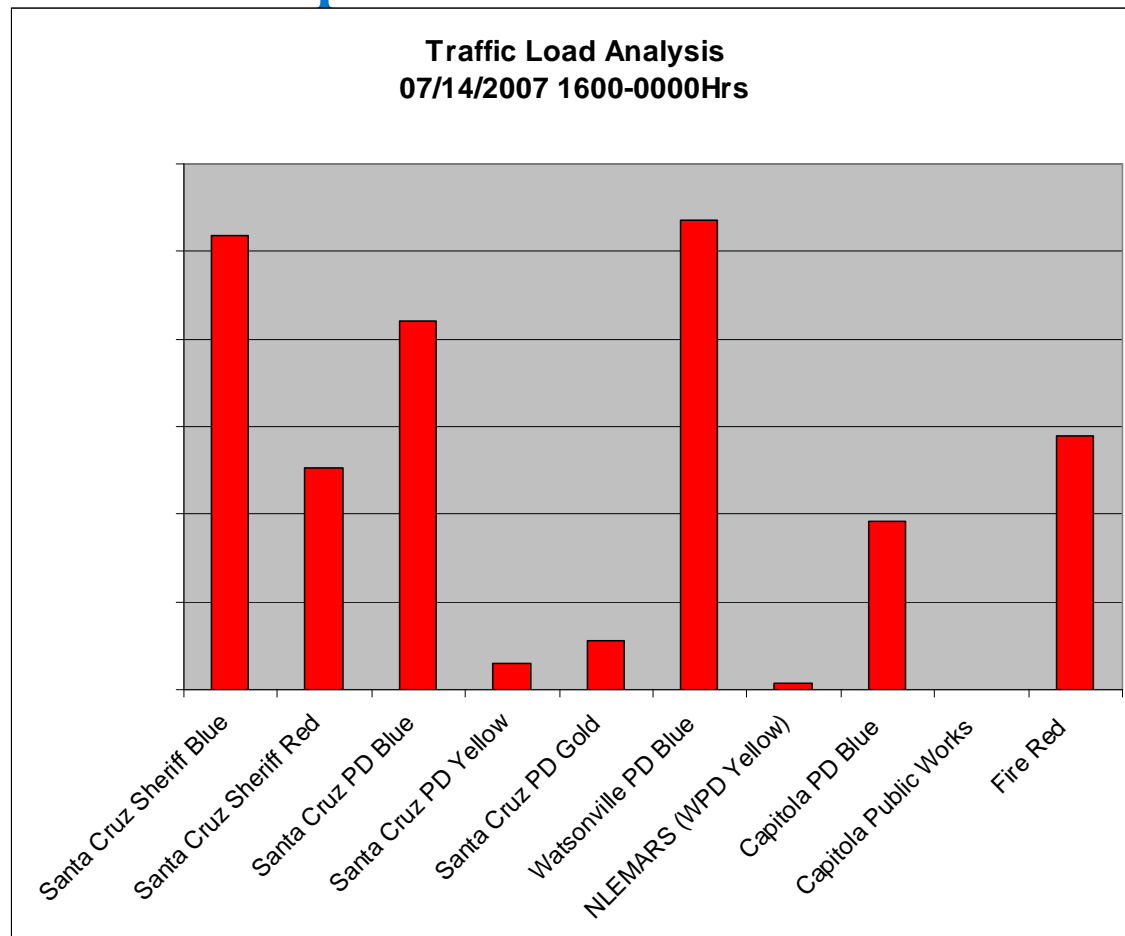
Current State of Radio Systems

- All participating agencies operate solely in VHF High-Band
- NOT able to operate in narrow-band mode due to the age of the radio equipment
- Small amount of equipment is narrow-band capable
- Unable to use narrow-bandable equipment in narrow-band mode due to incompatibility with older non-narrow-band capable equipment
- Operating in Analog Mode
- Not P25 Compliant (i.e., not digital)
- Conventional Radio Systems (i.e., not trunked)



Current State of Radio Operations

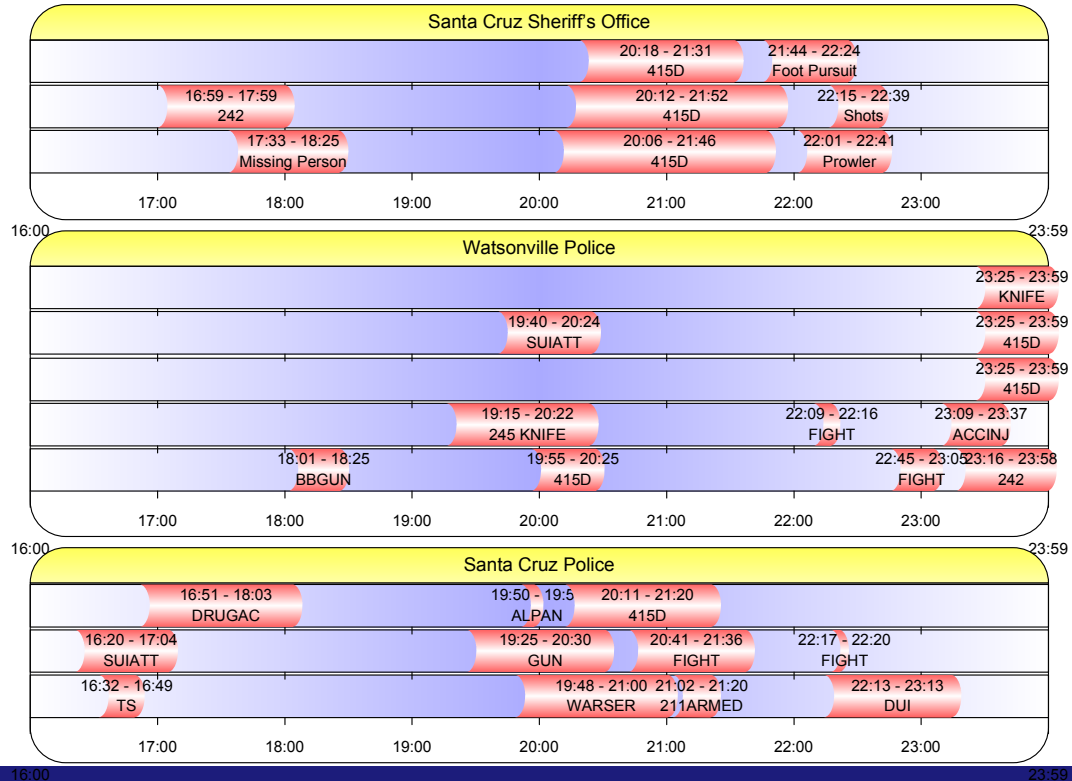
- Radio channels are congested
- Small number of channels with county-wide coverage
- Extremely limited interoperability with outside agencies





Current State of Radio Operations

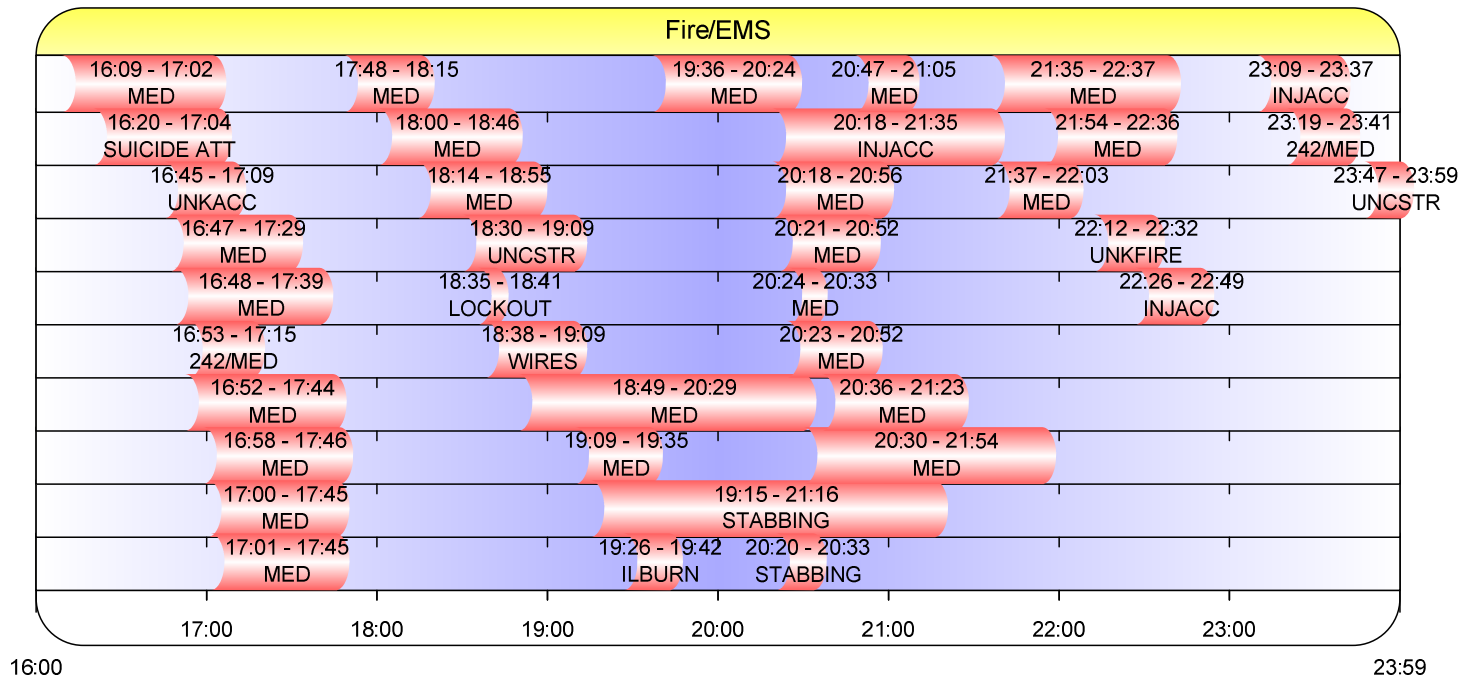
- Not enough tactical channels – Law Enforcement





Current State of Radio Operations

- Not enough tactical channels – Fire/EMS





Technical Recommendation

- Upgrade the current VHF conventional analog radio system to a narrow-banded hybrid P25 digital system that is trunked for the County and city law agencies, and conventional for fire/EMS
 - Benefits:
 - Increased capacity
 - Interoperability, P25 Standard
 - Cost effective
 - Feasible frequency coordination



Project Management Recommendation

- SCCECC assume project leadership for the region
- SCCECC employs a project manager to oversee the narrow-banding project during the implementation phase while working with the County and consultants. Acts as liaison for the remaining stakeholders.
- SCCECC would take the lead role in facilitating equitable cost sharing.

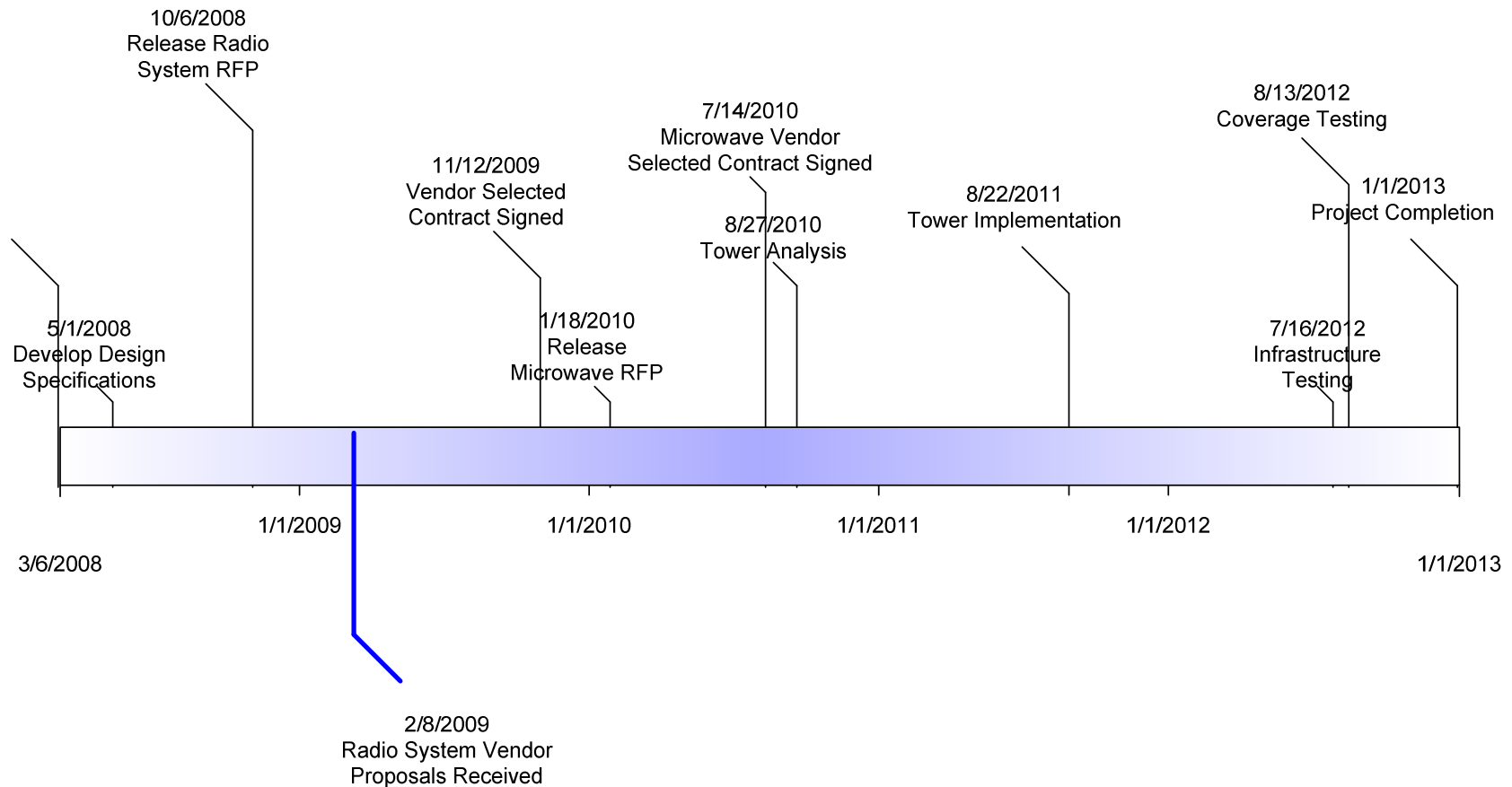


Project Management Recommendation

- The County funds and develop the agreed upon technical solution.
- Appropriate User subscriptions/agreements and structure would be established among the parties, with SCCECC acting as the business entity.
- SCCECC will assist the parties in developing user specific agreements to protect all parties and provide agreeable exit strategies.



Narrow-Banding Implementation Timeline





Regional Cost Estimates – Fixed Equipment

Cost Category FIXED EQUIPMENT	List Estimate	Competitive Estimate
Radio Infrastructure	\$9,929,000	\$7,446,800
Microwave	\$2,889,500	\$2,600,600
Physical Facilities	\$3,779,100	\$3,401,200
VHF Paging Systems	\$156,100	\$117,000
Vendor Services	\$3,015,600	\$2,261,700
Project Management	\$750,000	\$750,000
Spares - Fixed	\$167,500	\$167,500
Contingency	\$1,675,400	\$1,340,300
Total	\$22,362,200	\$18,085,100



County of Santa Cruz Cost Estimates

Non-Fixed Equipment

Cost Category NON-FIXED	List Estimate
AMR	\$150,000
District Attorney	\$26,800
Health Services	\$92,000
Sheriff's Office	\$1,939,500
Public Works	\$681,200
Other Departments	\$161,300
Total One-Time	\$3,050,800



Funding Recommendation

- Incremental Increase in 9-1-1 Fee to Support Narrow-banding
 - Estimated fee per month per access line = \$0.66
 - Fund approximately 70-80% of total project costs
 - Leaves only 20-30% to be shared through cost sharing



Funding Alternatives

Composite Rate 9-1-1 Fee

- Estimated fee per month per access line = \$2.02
- Fund approximately 70-80% of **entire 9-1-1 Center Operation including Narrow-banding project**

– County wide Special Tax

- Estimated tax per month per access line = \$2.42
- **Completely fund** 9-1-1 Center Operation including Narrow-banding



Grant Funding Alternatives

- Historically, 25-30% of funding can be obtained via a combination of various grant programs.

- Placer County Project
 - County led, city and district participation.
 - 30% grant funds secured.

- **ONLY REGIONAL SOLUTIONS WILL LIKELY RECEIVE GRANT FUNDING.**



Example Grant Funding Alternatives

- Community Foundation of Santa Cruz County
- Federal Grants-In-Aid
- U.S. Department of Justice Grant Programs
- Direct Appropriations Programs
- COPS Technology and Interoperability Communications Technology Program
- Department of Homeland Security Grant Programs
- Digital Television Transition Grants
- State of California Domestic Security Strategy Programs



Next Steps (current Fiscal Year)

- Frequency Coordination
- Determine Funding Approach and Cost Sharing
- Modify JPA Agreement (if needed)
- Develop model Use Agreements
- Develop Financing Plan



Next Steps (July 2008 – June 2009)

- Approve and implement Financing Plan
 - Approve Use Agreements
- Design detailed system specifications
- Conduct procurements
- Budget \$350,000 - \$400,000 in FY 2008/09
 - Technical consultant
 - Project manager
 - Grant assistance consultant



Discussion