

Meeting the Interoperability Challenge

CMU-SV DMI Workshop


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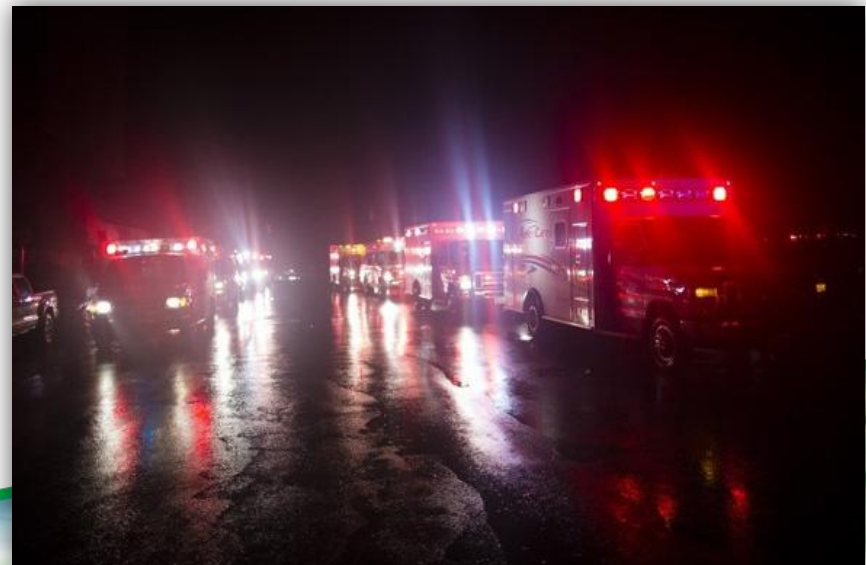


Brief Bio

- *President, Wireless Communications Alliance
(www.wca.org)*
 - *Committee Member, Wireless Communications Initiative, Joint Venture SV*
 - *Senior Product Manager, Land Mobile Radio, Anritsu Company*
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Disasters

- *Hurricane Katrina*
- *Loma Prieta*
- *Oakland Hills*
- *Sept 11th Attacks*
 - *Common thread: Interoperability failures*
- *Hurricane Sandy*

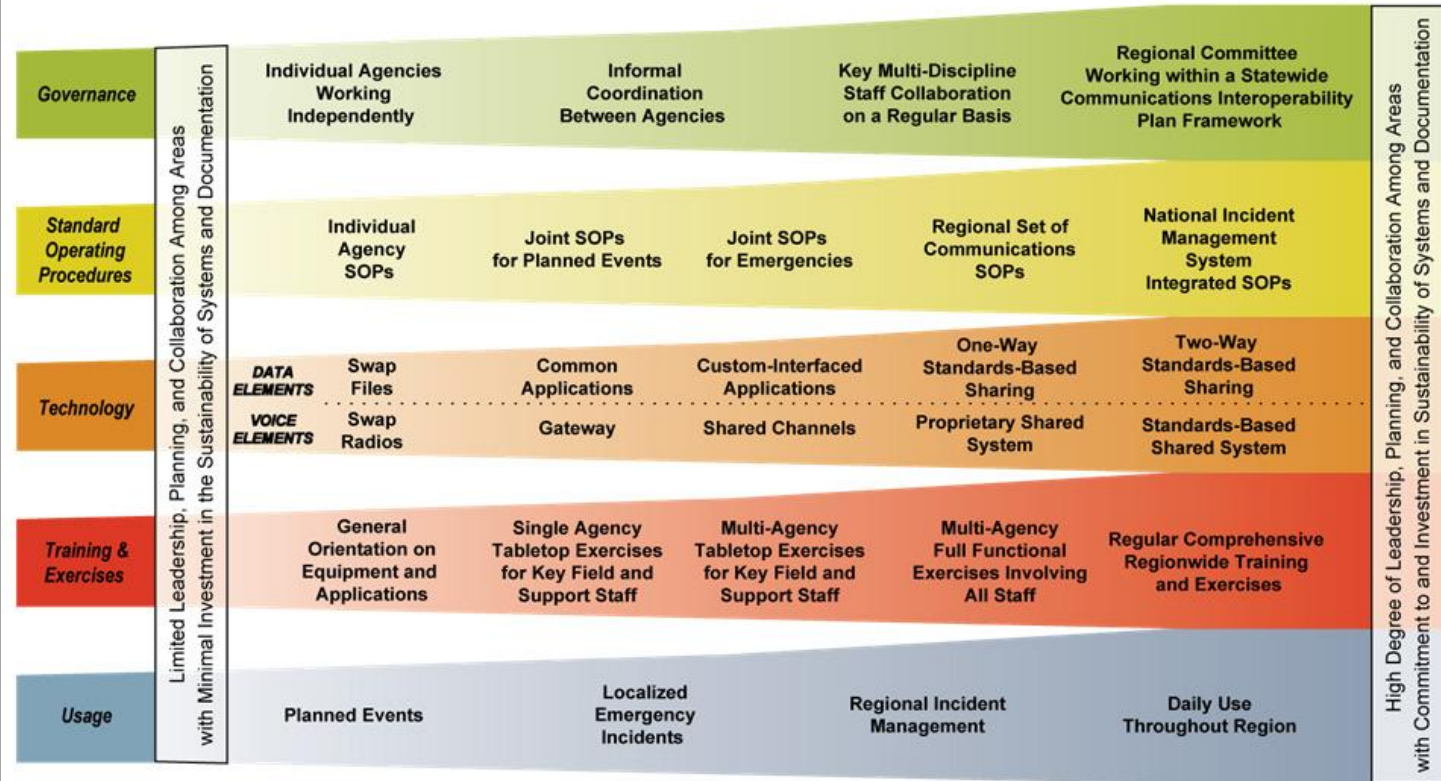


Not a new problem



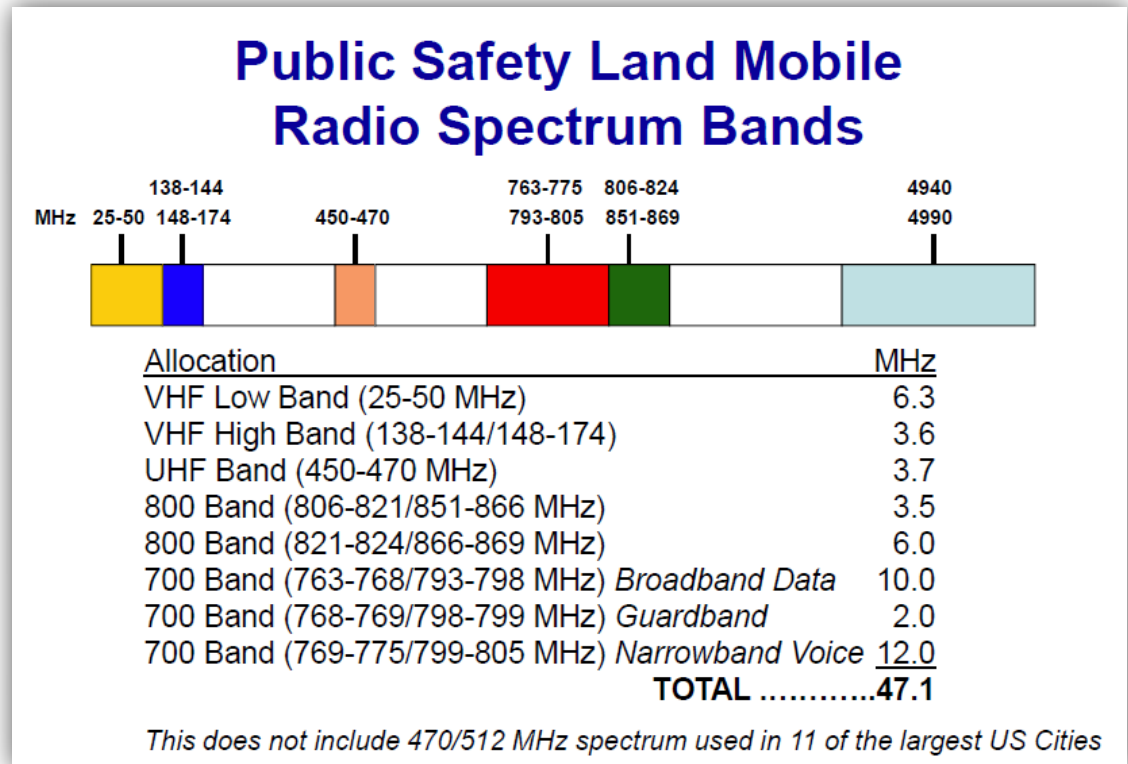
Homeland Security

Interoperability Continuum



Interop issues circa 1992

- *Frequency band divergence*
- *Conventional vs Trunking*
- *But primarily all analog*
- *Analog interop can be easily accomplished via audio bridging*



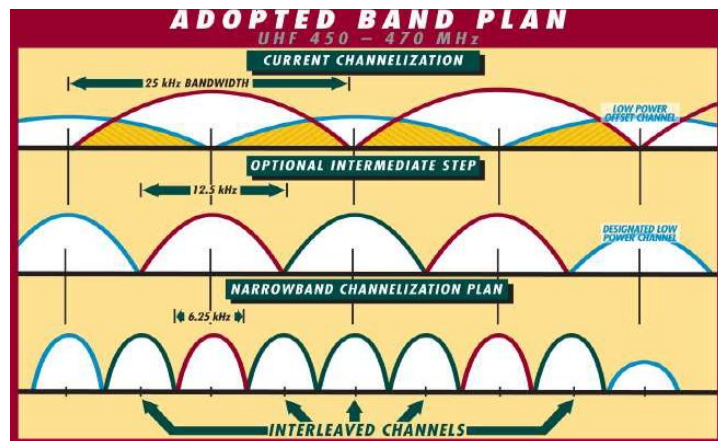
Interop issues circa 2012

- *Frequency band divergence*
- *Conventional vs Trunking*
- *Now + Standards divergence*
 - Narrowband analog
 - APCO P25
 - NXDN
 - EDACS/OpenSky
 - ETSI DMR
 - TETRA...?




Federal Mitigation Strategy

- **Narrowbanding: Free up spectrum to allow innovation**
- **Grant funding, requires deployment of P25 *capable***
 - **Reality: Systems built, P25 never deployed**
- **Not all P25 is interoperable!!**
 - **Some counties (e.g. Sonoma) will remain analog**



Regional Interop efforts

- *San Mateo Radio Interoperability Steering Com.*
 - *Silicon Valley Regional Interoperability Authority*
 - *East Bay Regional Communications System (Alameda & Contra Costa)*

 - *Joint Power Authorities*
 - *Somewhat like a carrier/subscriber model*
 - *Fees to member agencies*
 - *Super JPA effort is beginning to form*
 - *Question: Why is this taking so long?*
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Two Market Models

- *Consumer*
- *Public Safety*
- *Both are enabled by standards, but...*



Consumer Comms/Tech

- *Larger user base, lower cost per user*
- *Standards evolve quickly due to rapid iteration*
- *Evolution is driven by adoption and iteration across a large user space*
- *Consequences of non-interoperability are mostly inconvenience*




Public Safety Comms

- *Smaller user base, higher cost per user*
- *Standards evolve very slowly*
- *Consequences of non-interoperability can be life threatening*
- *Ideally, everyone should lockstep together*
- *But this gets complicated when local control and politics drives standards adoption*



How to reconcile?

- *LTE for Public Safety is a good idea, but...*
 - *PTT for VoLTE is likely many years away*
 - *Public Safety leaders are somewhat resistant to moving off analog, so...*

 - *It's possible that, in this case, free market approach may not be best*
 - *Reducing requirements on PTT by leveraging other technologies may help prevent over-design and increase adoption rate*
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Thank You and Have a Great Day!

