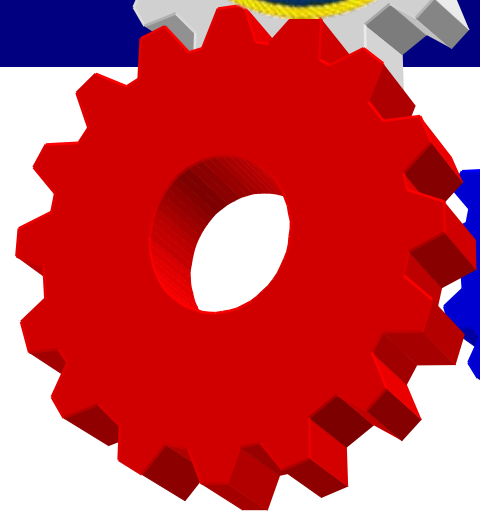
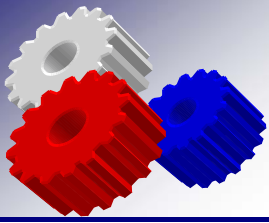


Federal Communications Commission  
Public Safety and Homeland Security Bureau

**2010 UASI National Conference**  
**New Orleans, LA**  
**June 22, 2010**



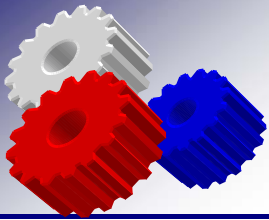
James Arden Barnett, Jr., Chief  
Jennifer A. Manner, Deputy Chief



# PSHSB Background

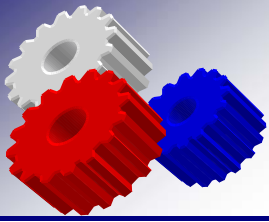
- Bureau Established in 2006
- Advance Statutory Mandate  
“...for the purpose of promoting safety of life and property”... Through the Use of Communications Services
- Promote Public Safety and National Security
- Support Emergency Response Activities





# PSHSB Key Priorities



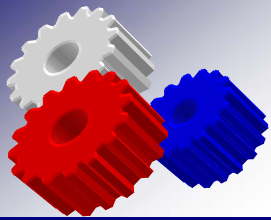


# Promote Public Safety

PSHSB Focuses on:

- Warning and Alerts
- Access to Emergency Services (911/E911)
- Interoperability and Spectrum for Public Safety
- 800 MHz Rebanding
- Cyber Security
- Network Reliability





# Framework for NBP Recommendations

1

**Promoting Public Safety Wireless Broadband Communications**

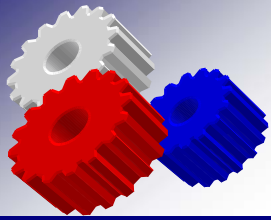
2

**Protecting Critical Communications Infrastructure**

3

**Leveraging Broadband Technologies to Enhance Emergency Communications to & from the Public**

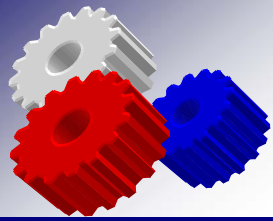




# Framework for NBP Recommendations

## Promoting Public Safety Wireless Broadband Communications





# Broadband Network Strategy

Vision: For significantly less than what has been spent on narrowband interoperability, a new interoperable broadband network will be deployed using commercial technologies, bringing public safety communications into the 21<sup>st</sup> Century

## Administrative and Technical Regime

- Authorized network operators may deploy and operate the PS BB network in partnership with commercial entities (incentive-based partnerships)
- PS access to roaming and priority access on commercial networks
- Improves redundancy and resiliency
- D block licensed for commercial user
- User device requirements

## ERIC

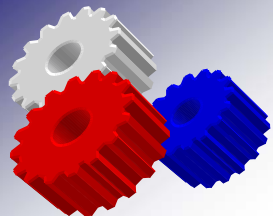
(Created April 23, 2010)

- Establish framework for interoperability and operability requirements
- Avoids fragmented networks of the past

## Funding

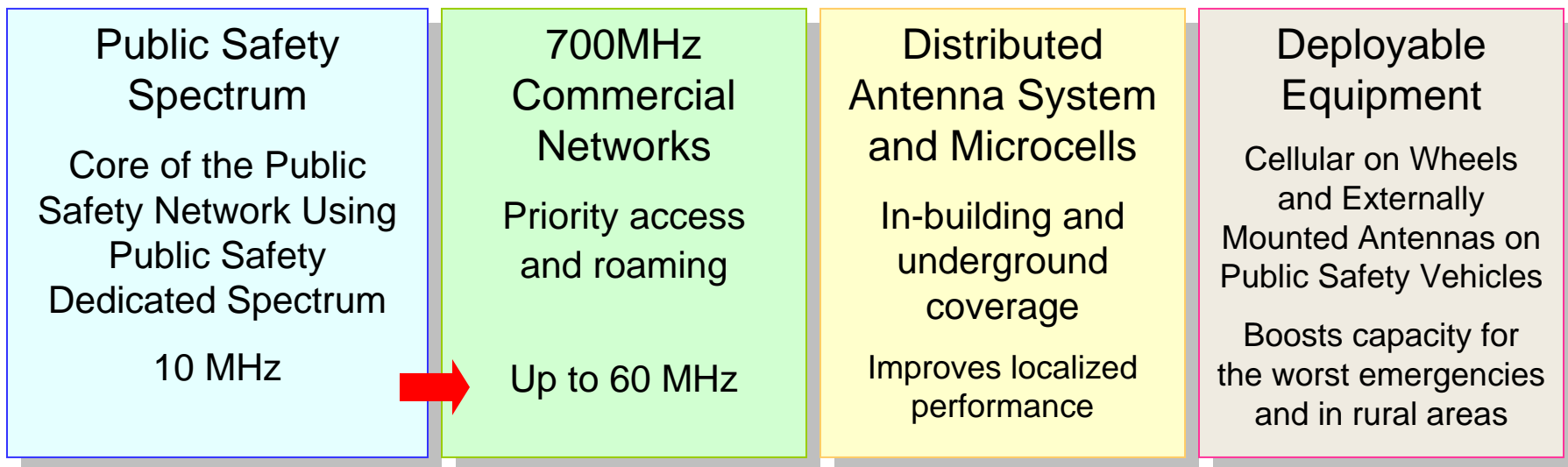
- Fund network construction, operation, and evolution
- Nationwide availability
- Hardened network





# Public Safety Network & Solutions

Nationwide, 99% population coverage from dense cities to rural counties



Provides nationwide interoperable coverage for day to day operations and most emergencies, guaranteed access, and hardened against disasters and power outages

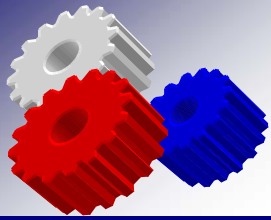
Provides access to additional capacity during major emergencies, and increased network resiliency and redundancy if the public safety system goes down or is not available

Coverage inside buildings and capacity for high pedestrian density can be provided by in-building solutions

For exceptional times and places when Public Safety and commercial infrastructure is insufficient





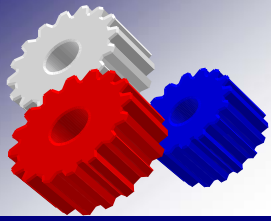


# Public Safety Network & Solutions

## Accomplishments:

- June 2010 – Released Comprehensive Analysis on Network Capacity for Nationwide Mobile Public Safety Broadband Network
- May 2010 – Approved 21 Petitions by Cities, Counties, & States to Build 700 MHz Interoperable Broadband Networks
- April 2010 – Released White Paper to Outline Economically Viable Way to Build Public Safety Broadband Network Across America
- April 2010 – Creation of Emergency Response Interoperability Center (ERIC)
- April 2010 – Public Notice Seeking Nominations for ERIC Technical Advisory Committee

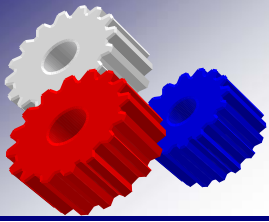




# Framework for NBP Recommendations

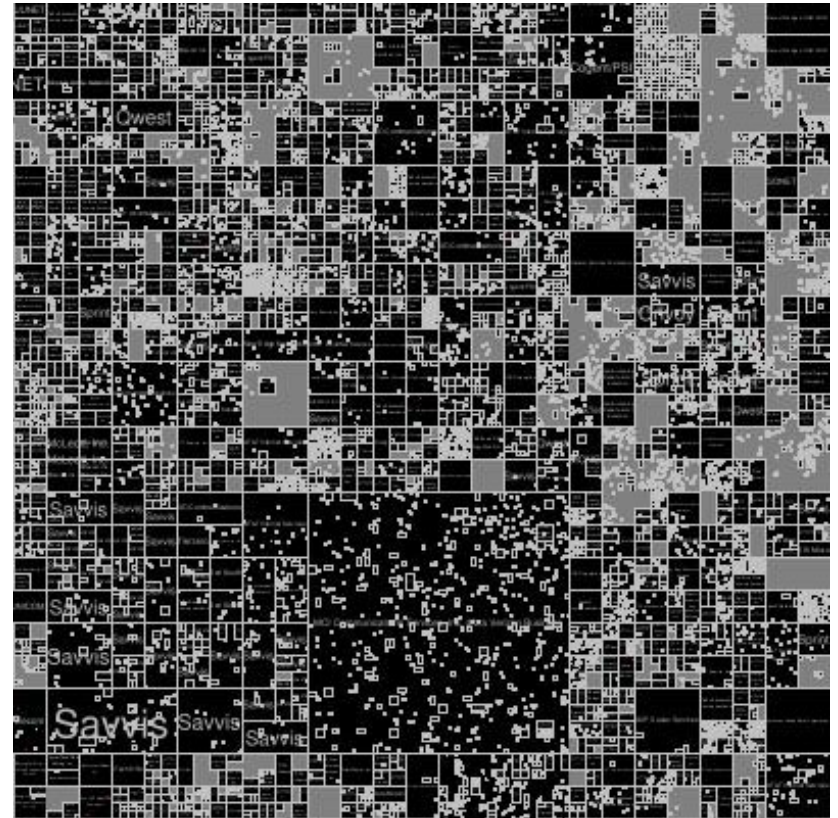
## Protecting Critical Communications Infrastructure

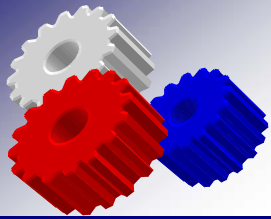




# Cyber Security Roadmap

- Develop and issue a roadmap to address cyber security in coordination with the Executive Office of the President
- Identify the most critical cyber security threats
- Establish a two-year plan, including milestones, for the FCC to address these threats





# Cyber Security Recommendations

- **Expand FCC Outage Reporting Requirements to Broadband ISPs**
  - Plan to initiate a proceeding to extend FCC Part 4 outage reporting rules to broadband on Internet Service Providers (ISPs) and interconnected VoIP providers (late 2010)
- **Voluntary Cyber Security Certification**
  - A Notice of inquiry establishing a voluntary cyber security certification system that creates market incentives for communications service providers to upgrade their cyber security measures and examine additional voluntary incentives to improve cyber security (released April 21, 2010)
- **Cyber Security Information Reporting System**
  - The FCC and DHS' Office of Cyber Security and Communications should develop an IP network Cyber security Information Reporting System (CIRS) to gather and disseminate information rapidly to participating providers during major cyber events (on-going)

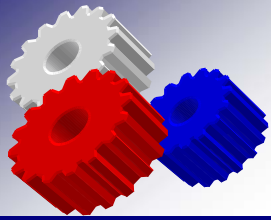




# Cyber Security Recommendations & Accomplishments

- **Network Resilience and Preparedness**
  - Notice of Inquiry released focusing on the resilience of broadband networks under a set of physical failures —either malicious or non-malicious (April 2010)
  - Also examines commercial networks’ preparedness to withstand severe overloads that may occur during extraordinary events, such as pandemics
  - Held “Critical Infrastructure & Information Collection” Workshop (April 2010)
- **Priority Network Access and Routing**
  - The FCC and the National Communications System (NCS) will develop a system of priority network access and traffic routing for NS/EP broadband communications networks users
  - The Executive Branch should consider clarifying a structure for agency implementation and delineate responsibilities and key milestones (on-going)
- **Broadband Communications Reliability and Resiliency**
  - The Commission will initiate an inquiry proceeding to gain a better understanding of the explicit and implicit standards of reliability and resiliency being applied to broadband networks (2011)





# Framework for NBP Recommendations

## Leveraging Broadband Technologies to Enhance Emergency Communications to & from the Public



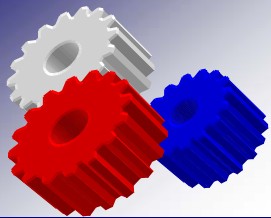


# Next Generation 9-1-1 Recommendations in NBP

- **National Highway Traffic Safety Administration (NHTSA) – Direct a report to analyze the costs of deploying a nationwide NG9-1-1 system**
- **Congress – Utilize NHTSA report as a resource for establishing a NG9-1-1 funding mechanism**
- **Congress – Consider restoring the E911 Implementation Coordination Office to help deploy NG9-1-1**
- **Congress – Enact legislation to establish a federal regulatory framework for development of NG9-1-1 and the transition from legacy 9-1-1 to NG9-1-1 networks**
- **FCC – Issue a Further Notice of Proposed Rulemaking to explore NG9-1-1's impact on location accuracy requirements**
- **FCC – Initiate a Notice of Inquiry that would address the future roles of 9-1-1 and NG9-1-1 as communications technologies, networks and architectures expand beyond traditional voice-centric devices**



# Next Generation Alerting Recommendations in NBP



- FCC – Conduct a comprehensive inquiry into all issues associated with developing a multi-platform, redundant, broadband-based next generation alert system (1<sup>st</sup> Quarter 2011)
- FCC – 21<sup>st</sup> Century Emergency Alerting: Leveraging Multiple Technologies to Bring Alerts & Warning to the Public in conjunction with FEMA (June 2010)
- Executive Branch should take action to:
  - Clarify responsibilities of each federal agency with respect to next generation alerting
  - Set milestones, benchmarks and actions for system implementation
  - Establish system of accountability among federal agencies responsible for emergency alerting





# Thank You! Questions?

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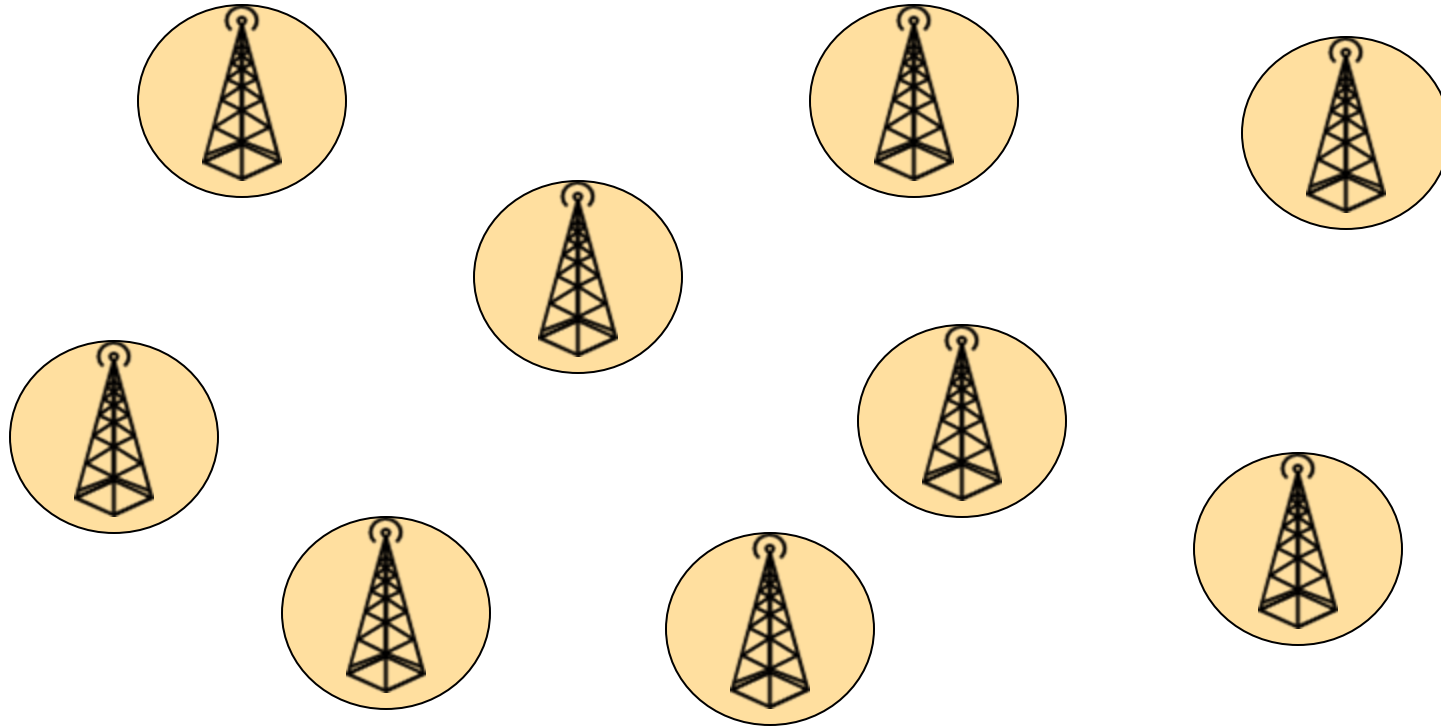




# The Old Current Technology and Architecture: Narrowband Land Mobile Radio (LMR)



**LMR is “noise limited”, tall towers, high power, large spaces in between**



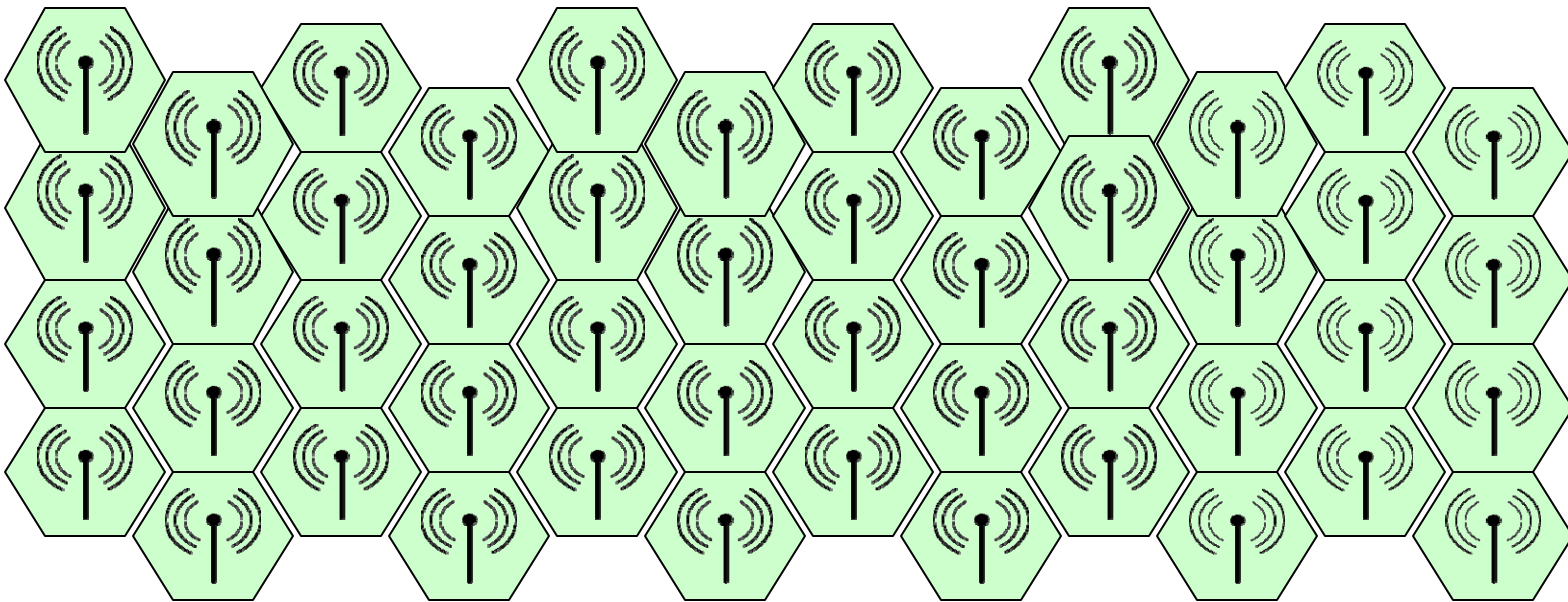
**Inefficient use of spectrum, limits capacity, but saves money on fewer towers**



## The New Technology and Architecture: Broadband and Cellular



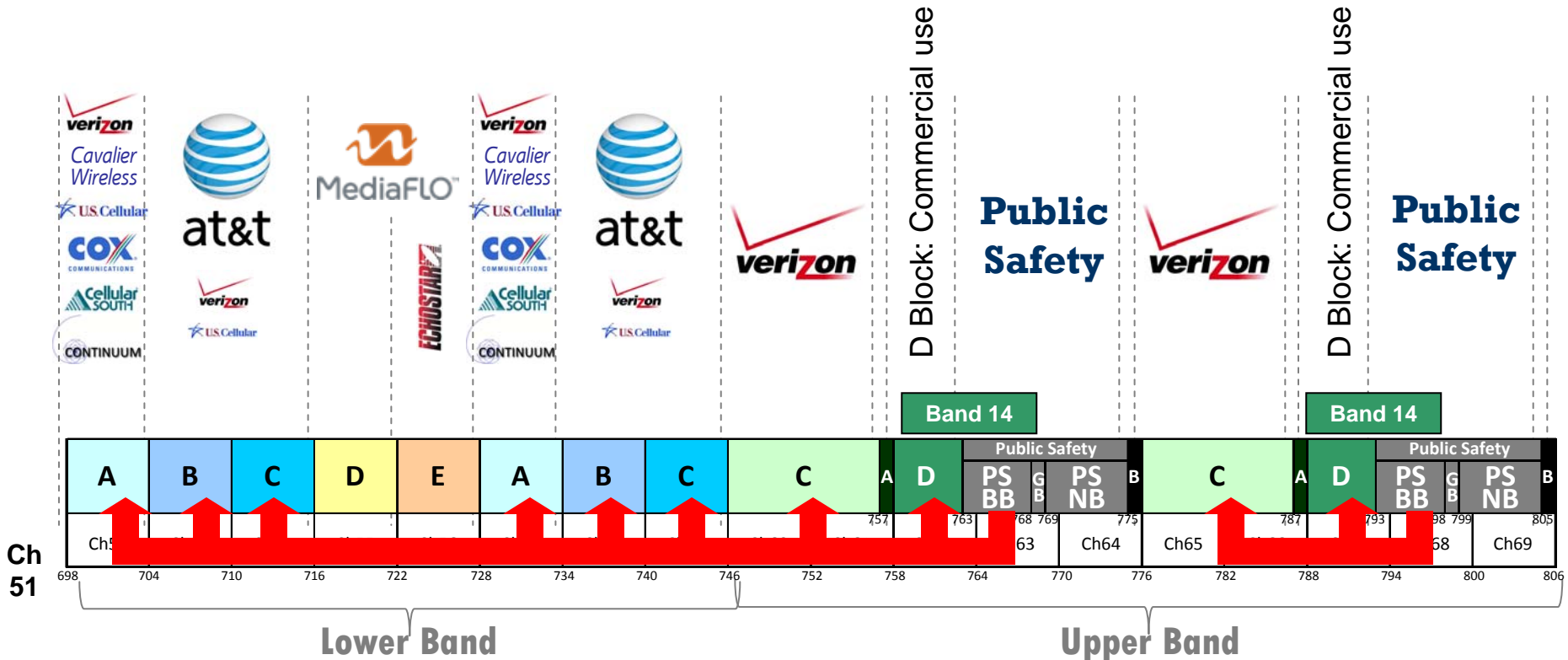
**Cellular architecture is only “interference limited”, many towers, lower to the ground, each covering a small space, no spaces in between**



**Efficiently reuses same spectrum in each cell, vastly boosting capacity,  
but requires more towers**



# 700 MHz Band Plan with Priority Access and Roaming



- **Priority Access and Roaming** provides far more capacity for major emergencies than reallocating the D Block alone, plus the resiliency of back up networks
- Reallocating D Block isolates Public Safety from reasonably priced devices and equipment, and from commercial technology advances

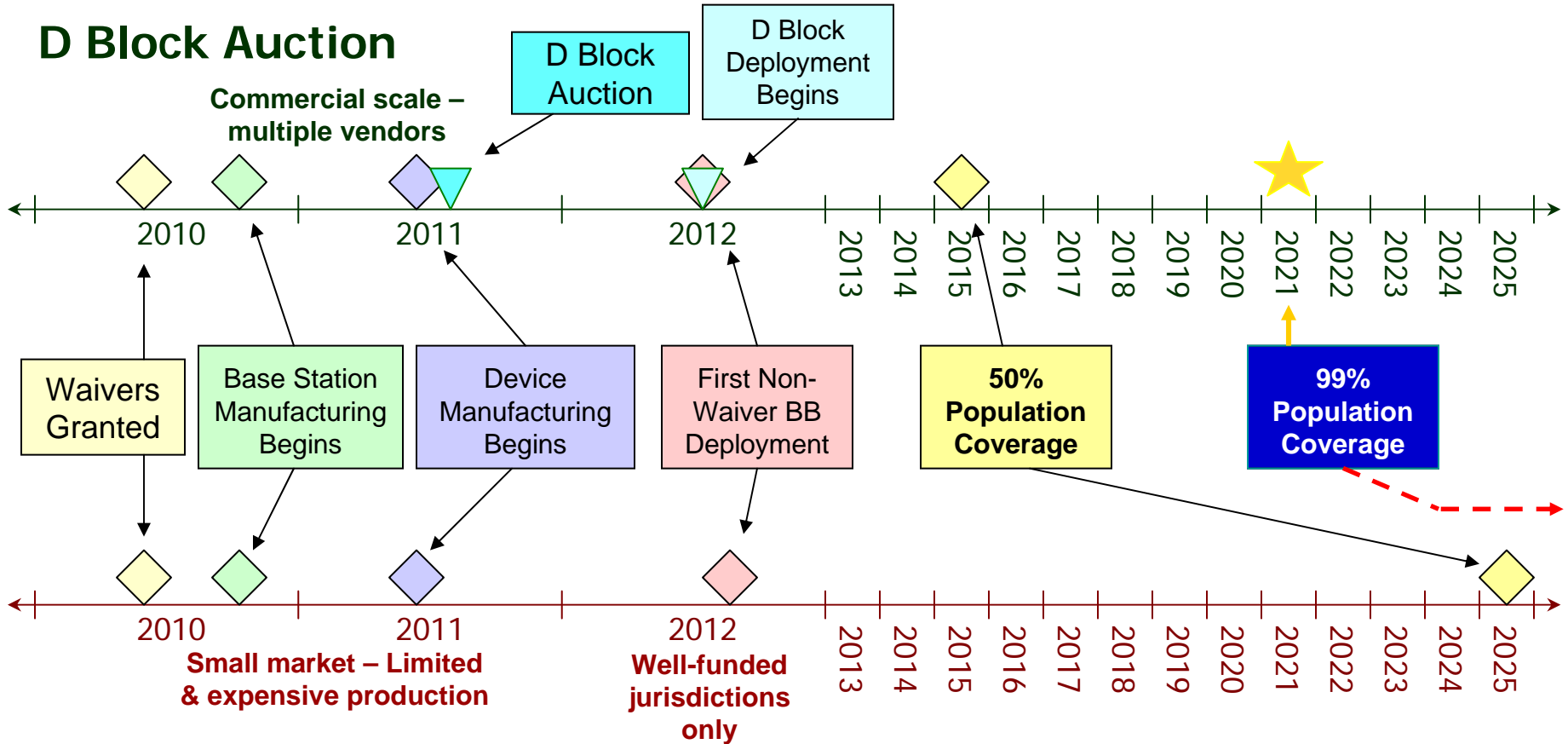


# Appendix F



## Timeline Comparison: D Block Auction vs Reallocation

Delay Equals Added Cost, Less Coverage and Threatens to Nationwide Interoperability



## D Block Reallocation

D Block reallocation undermines the market for reasonably priced devices and equipment, vastly increases the expense, and defeats nationwide coverage.