



# Model City for Advancing Spectrum Sharing Innovation

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Workshop: "Connecting Research with Spectrum Policy"

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# Agenda

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- Transforming Wireless World
  - Next Generation Wireless Requirements
- Model City Program
  - Goals
  - Model City Under Consideration
  - Key Areas of Implementation
  - Current Status

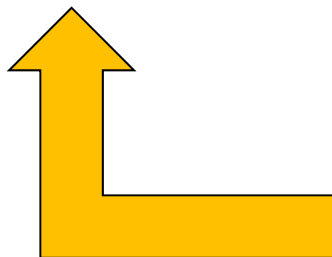
# Transforming Wireless World...

## IMPERATIVES

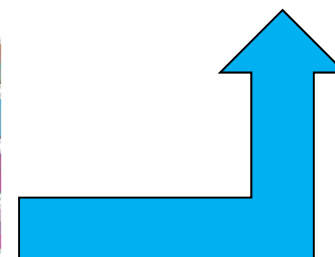
- Lack of spectrum for new siloed allocations
- Ever increasing applications and spectrum demand
- Need to optimize usage efficiencies, new spectrum R&D

## IMPLICATIONS

- Spectrum sharing is a must
- New paradigm, policies and spectrum rules
- Need new technologies, usage measurements/inferences/models, enforcement policies and implementation
- New dimensions to security threats



UNITED STATES  
FREQUENCY  
ALLOCATIONS  
THE RADIO SPECTRUM





## Model City Goals

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Empower Public Private Partnerships (PPP), bringing forward-thinking Cities, industry, government agencies and spectrum technology innovators together to demonstrate, evaluate and advance spectrum sharing technologies, strategies, and applications required to grow wireless services.

Serve as a catalyst and accelerator for advanced spectrum sharing technology, by providing greater scalability of deployment trials than is possible in indoor labs, anechoic chambers or limited testing environments.

Deliver Data that can enable examination of the technical, policy, and institutional mechanisms needed for realizing the potential of these spectrum sharing technologies.

# Model City Under Consideration

## Spectrum Bands In Sharing Discussions

1675-1710 MHz

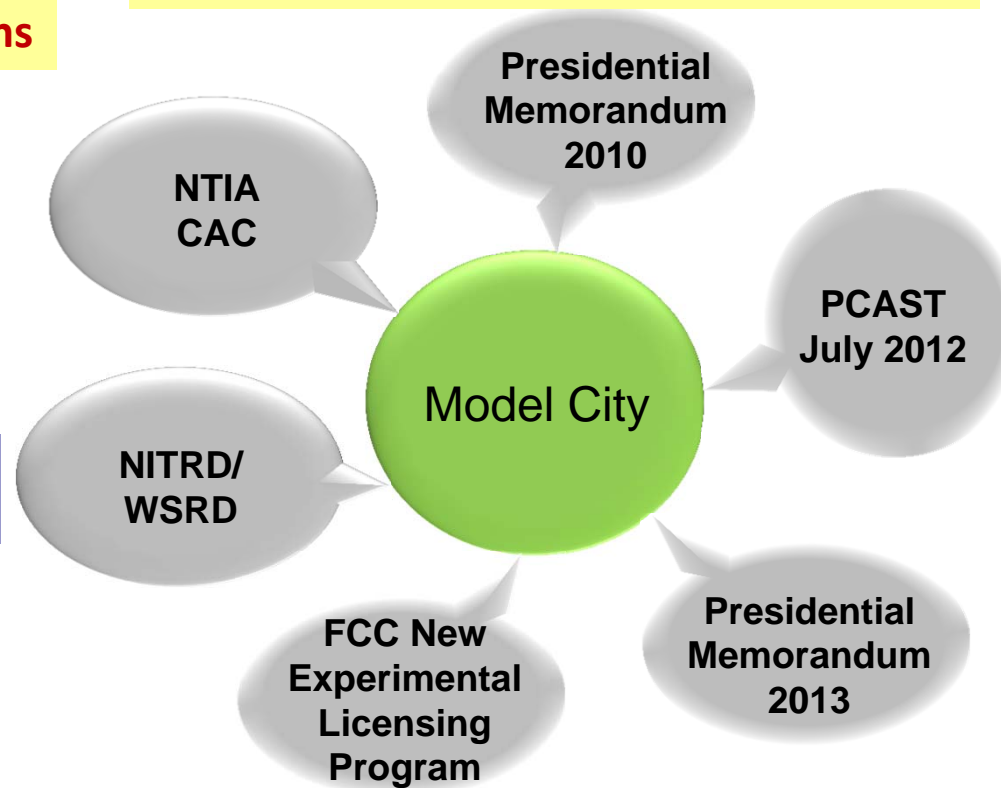
1755-1850 MHz

3550-3650 MHz

5350-5470 MHz  
5850-5925 MHz

Others...

## Key Events and possible contributors



## Gaps to Address

Technology

Interference

Receiver  
Characteristics

Security

Spectrum  
Access Service

Monitoring &  
Enforcement

Modelling

**Model City Test and Measurements can contribute Significantly to advancing spectrum Innovation & National Rule Making**



# Model City: Key Areas for Implementation

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## Governance

- Multi-stakeholder coordination
- Establishment of criteria to identify cities for testing
- Test licensing coordination
- Gate process for periodic evaluation
- Enforcement
- Testing information availability and access

## Testing

- Cities for testing
- Leadership and city collaboration
- Technology and testing
- Spectral bands for testing
- Technologies, tools, applications, specific use cases
- Test plan execution
- Interference coordination
- Data collection, reports and reviews.

## Collaboration

- Led by city/ industry/ government/ individual stakeholders
- Possible FCC-NTIA match matching
- Funding plan by collaborating entities
- Coordination with primary incumbents
- Enforcement point of contact.
- Outreach

**There are several steps to the formation of the Model Cities; Multiple cities and collaborators are already showing interest .....**

# Model City: Next Steps

