P25 Overlay System Project Update

AGENDA

- Review of Tasks and Status
- Conceptual System Design – Core P25 System
  - System Architecture
  - Conceptual System Radio Coverage
  - Potential Radio Sites
- Information Gathering and Site Visits
  - Existing P25 Master Sites
  - Information Update – Non Core Counties
- Communications Authority
  - Basic Model
  - Examples
- Group Discussion
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Tasks - Phase 1

- Regional Plan & System Solution Development Phase
  - Task 1 – Kick-Off Meeting - **Completed**
  - Task 2 – Research & Collect FCC Data - **Underway**
  - Task 3 – Meet With User Agencies & Collect Data – **Pending & Underway**
  - Task 4 – Determine Current Interoperable Capabilities – **Underway**
  - Task 5 – Develop Migration Plan – P25 Phase1 to Phase 2 – **Pending**
  - Task 6 – Evaluate Options for the Regional Overlay System – **Underway** but **Generally Completed**
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Tasks - Phase 1

- Regional Plan & System Solution Development Phase
  - Task 7 – Conduct Radio Coverage Analysis – Generally Completed for Conceptual P25 Overlay System
  - Task 8 – Develop Regional Interoperable Communications System Guide - Pending
  - Task 9 – Develop Draft Long Range Plan – Pending
  - Task 10 – Develop Final Long Range Plan – Pending
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Tasks - Phase 3

- **Sustainability Phase** - Development of a Regional Communications Authority Model
  - Task 1 - Determine Cost Basis for Funding Requirements - *Underway*
  - Task 2 - Identify Cost Areas for the Life of the Project - *Underway*
  - Task 3 - Evaluate Various Financial Models Related to On-Going System Funding - *Underway*
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Conceptual System Design – Three Sites

Radio Coverage
Area 1

Site 1

Trunked Radio Site

RF Control Station

Master Site Network Equipment

Dispatch Center

Radio Coverage
Area 2

Site 2

Trunked Radio Site

RF Control Station

Dispatch Center

Radio Coverage
Area 3

Site 3

Trunked Radio Site

RF Control Station

Dispatch Center
P25 Overlay System Project Update

Conceptual System Design

700 MHz P25 Overlay System
PRELIMINARY
One Site
Mobile
Talkback 30 W
with Gain
Antenna
SITE
Dallas – Bank
of America @ 900’
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
One Site
Mobile Talkback 30 W with Gain Antenna
SITE
City of Dallas Tower @ 400’
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
One Site
Mobile Talkback 30 W
with Gain Antenna
SITE
Fort Worth Building @ 570’
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
One Site Mobile Talkback 30 W with Gain Antenna
SITE
Collin County Tower @ 300’
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
One Site Mobile Talkback 30 W with Gain Antenna
SITE
Denton County Tower@ 350’
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
One Site
Mobile Talkback 30 W with Gain Antenna
SITE
Little Elm Tower @ 430’
P25 Overlay System Project Update

Conceptual System Design

700 MHz P25 Overlay System
PRELIMINARY
One Site Mobile Talkback 30 W with Gain Antenna
SITE
Dallas
P25 Overlay System Project Update

Conceptual System Design

700 MHz

P25 Overlay System
PRELIMINARY

Two Sites
Mobile Talkback 30 W with Gain Antenna

SITES
Dallas
Fort Worth
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
Three Sites
Mobile Talkback 30 W with Gain Antenna
SITES
Dallas
Fort Worth
Collin County
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
Four Sites
Mobile
Talkback 30 W
with Gain Antenna
SITES
Dallas
Fort Worth
Collin County
Denton County
P25 Overlay System Project Update

Conceptual System Design

700 MHz
P25 Overlay System
PRELIMINARY
Three Sites
Mobile
Talkback 30 W with Gain Antenna
SITES
Dallas
Fort Worth
Little Elm
P25 Overlay System Project Update

Bank of America Tower 901 Main

Renaissance Tower 1201 Elm

Antennas
P25 Overlay System Project Update

1700 Pacific

Thanksgiving Tower 1601 Elm
P25 Overlay System Project Update

Energy Plaza
1601 Bryan

Elm Place
1401 Elm
P25 Overlay System Project Update

Republic Center
Tower 325
N. St. Paul

Lincoln Plaza
500 N. Akard
P25 Overlay System Project Update

Continental Plaza
Fort Worth

Burnett Plaza
Forth Worth
P25 Overlay System Project Update
P25 Overlay System Project Update

Dallas – Bank of America
901 Main

• Centrally Located
• Security Must be Verified
• Commercial Facility
• Access Questionable
• Emergency Standby Power?
• Availability Unknown
• Lease Costs May be Substantial
P25 Overlay System Project Update

Forth Worth
Continental Plaza

- Centrally Located
- Security Must be Verified
- Commercial Facility
- Access Questionable
- Emergency Standby Power?
- Availability Unknown
- Lease Costs May be Substantial
P25 Overlay System Project Update

Collin County Radio Tower

- Centrally Located
- Secure Location
- Existing Public Safety Facility
- New Equipment Shelter & Standby Power Required
- Tower is Heavily Loaded
- Leasing Costs Unknown
- Availability Unknown
P25 Overlay System Project Update

Denton County Radio Tower

- Centrally Located
- Secure Location
- Existing Public Safety Facility
- Equipment Shelter & Standby Power TBD
- Tower is Heavily Loaded
- Leasing Costs Unknown
- Availability Unknown
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City of Dallas Radio Tower

- Centrally Located
- Secure Location
- Existing Public Safety Facility
- Housing of Equipment & Standby Power TBD
- Tower is Heavily Loaded
- Leasing Costs Unknown
- Availability Unknown
P25 Overlay System Project Update

Little Elm Tower

- Commercial (Rental) Tower
- Equipment Shelter & Standby Power Required
- Security Questionable
- Tower is Heavily Loaded
- Leasing Costs Unknown
- Availability Unknown
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Other Potential Radio Sites - State of Texas

700 MHz
P25 Overlay System
State of Texas Radio Sites
Region 1 DPS
Garland
TPWLE
Kaufman County
TXDOT-Tarrant County
DPS-Parker County
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Conceptual System Design – Connectivity via Leased Service

Radio Coverage Area 1

Radio Coverage Area 2

Radio Coverage Area 3

4 Trunked Channels

RF Control Station

Dispatch Center

Master Site Network Equipment

Trunked Radio Site

Trunked Radio Site

Trunked Radio Site

Budgetary Estimate $2.8 Million

Does Not Include Control Stations or Any Programming of Radio Field Units

Includes ISSI

Budgetary Estimate $2.8 Million

Does Not Include Control Stations or Any Programming of Radio Field Units

Includes ISSI
P25 Overlay System Project Update

Information Gathering & Site Visits

- **Visits to P25 Master Sites**
  - Purpose – examine feasibility of using an existing Master Site
  - Collect general information about the facility and the current equipment configuration
  - Collect information about the general condition of the site, site security, and other amenities such as back-up power and site grounding systems
  - Verify the site’s ability to accommodate any additional equipment if required

- **Sites Visited**
  - Parker County Texas
  - DFW Airport
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Information Gathering & Site Visits

- **Parker County**
  - Motorola P25 VHF Radio System
  - Switch is housed in the Parker County EOC - Was the Parker County Jail
  - Switch supported by UPS and a back-up generator, will support site for 5 days
  - System implemented in accordance with Motorola R56 Standards
  - Additional space in the equipment room may be an issue
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Information Gathering & Site Visits

- DFW Airport
  - M/A Com Switch to be implemented in February 2009 in a main/standby configuration
    - Main and Standby Switch Sites geographically separated
    - Each site operates on a different power grid, back-up power available at each site
    - Interconnected over three geographically separated conduits routed between facilities
    - High level of security surrounding each of the sites
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Information Gathering & Site Visits

- **Update of Information Collected from Previous Projects**
  - Met with NCTCOG Representatives to review modifications to systems in the outer core of the COG since RCC’s previous information gathering in the initial interoperability program.
  - Verified that agencies had completed the implementation of systems specified as part of the COG’s interoperability program.
  - Discussed future plans of these agencies that have been shared with the NCTCOG.

- **Next Steps**
  - In the process of reviewing revisions to the TIC Plan.
  - Correlation of information collected about the non-core Counties and what resources are available for integration into the current interoperability initiative.
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Researching Best Examples & Successful Authority Models

- **UCAN** — Utah Communications Agency Network (Independent Agency)
- **EBRCA** - East Bay Regional Communications Authority
- **ORION** - Overlay Regional Interoperability Network
- **OARC** — Oklahoma Association Regional Council (11COGS)
# P25 Overlay System Project Update

## Funding Sources for Public Safety Communications

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<th>Administrator</th>
<th>Recipient</th>
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<tr>
<td>Tax Revenues (e.g., income taxes, social insurance, including old-age, survivors, disability, health insurance, unemployment, and corporate income taxes)</td>
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### Legend:
- Federal
- State
- Local
- Local Public Safety

### Funding Revenues and Mechanisms Summary
P25 Overlay System Project Update

UCAN AUTHORITY

UCAN BOARD
135 Agencies

Executive Director
4 State and 10 Member Reps
1 Chair

Operations Manager

CPA

Admin Assistant

Technician

Technician

Technician

Technician

Sustained Funding

User Fee: $22.25 / mo / radio
$28.00 / mo / state users
15,000 + units

General Obligation Bond
$1/2 rate volunteer services
To provide a sustainable program by which regional interoperable communications assets can be repaired, enhanced, maintained, transitioned to new technology and funded.
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Local Funding Sources

- Intergovernmental Revenue
- General Funds
- County Investment Funds & Improvement Plans
- Subscriber Fees
- Lease Revenue Bonds
- Tax Revenue
- Surcharges and User Fees
- County Investment Funds

Local Government
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QUESTIONS – COMMENTS

DISCUSSION