

Needs Assessment & Business Plan

Project Update for
Statewide Public Safety
Radio Summit
March 12, 2015



Agenda



- **Contract Scope of Work**
- **Outline of Deliverables**
- **Work Completed**
- **Work Remaining**
- **Survey – Preliminary Results**
- **Questions and Comments**



Contract Scope of Work – Needs Assessment (Part 1)



1. The purpose of the System-Wide Needs Assessment is to determine current and future public safety communication needs in Colorado and how they may impact the DTRS network, the future LTE network, interoperability, and other non-DTRS systems operating in Colorado. Components of the System-Wide Needs Assessment include:
2. **DTRS coverage across Colorado, including those areas of Colorado in which significant gaps in DTRS system coverage exist, and recommendations for alleviating coverage gaps, including:**
 1. Long-term coverage needs based upon state agency needs
 2. Long-term coverage needs based upon local government input
 3. Need for in-building communication
 4. Detail areas of non-coverage where coverage is not possible due to tower restrictions or inability to locate towers (e.g. US Forest properties, lack of power, lack of access, etc.)
3. **Recommendations for upgrade/replacement of existing DTRS network infrastructure, based upon needs analysis, including:**
 1. Technology solutions for DTRS and future LTE
 2. Options for DTRS system design to support a continuous life cycle based on best practices (to include cited sources)
 3. Phased implementation approach, including implementation schedules
 4. Risks and impacts to the existing DTRS network
 5. Estimated costs for equipment, installation and optimization
 6. Timeline and cost schedule of proposed upgrades
 7. Analysis must be shown as state infrastructure and partner infrastructure needs and costs, as separate appendices or shown as separate items in the Deliverables.
4. **Recommendations to expand, enhance and maintain interoperability in Colorado using a system-of-systems approach (e.g. VHF, UHF, DTRS, Federal, etc.). A cost analysis of each option (e.g. ISSI, patching, gateway, cross-band repeaters, etc.).**



Contract Scope of Work – Needs Assessment (Part 2)



5. **Approaches to ensure interoperability among, and sustainment of, public safety communication systems other than the statewide DTRS.**
6. **Analysis of current market average and projected land lease costs for DTRS transmitter / repeater sites, especially those maintained on private property:**
 1. Recommendations for reducing current and future land lease costs, for state-owned/managed DTRS sites located on private property.
7. **Evaluation of system capacity to support routine, peak, and emergency traffic using the DTRS network, and attendant recommendations for any necessary DTRS system improvements, including:**
 1. Identification of DTRS system vulnerabilities and potential single point-of-failures, along with recommended safeguards.
 2. Analysis of DTRS system, site loading, talk group usage and effect on DTRS system assets during peak use, or during catastrophic situation such as wild land fires, regional flooding, vehicle pursuits, etc.
8. **Reliability analysis of existing DTRS system infrastructure, hardware, software, and other component parts, including:**
 1. Determination of end-of-life of existing technologies along with associated timelines.
 2. Analysis of DTRS system programming key use, assignment, security, and vulnerability.
9. **Analysis of infrastructure on the DTRS network owned by local government(s).**
10. **Develop and administer a satisfaction survey for all DTRS user agencies / non-DTRS agencies via governance groups (e.g. CCNC, FRCC, PPRCN, RM Harris User's Group, All Hazards Region Communications Committees, etc.) to identify successes and challenge points involving the DTRS network, along with user agency input and recommendations on how to expand, improve, modernize, and sustain statewide radio communications.**
11. **Analysis of local governments' ability to maintain, expand and support locally owned DTRS assets, as well as commitment to connection to the DTRS.**
12. **Any other recommendations to expand, improve, modernize, and sustain statewide radio communications.**



Contract Scope of Work – Business Plan



1. The purpose of the System-Wide Business Plan is to clearly communicate the business goals and objectives, short and long-term cost projections, financial activities, and administrative items to the State, Joint Budget Committee, and other key stakeholders. Components of the System-Wide Business Plan include:
2. Identify long-term funding strategies to expand, improve, modernize and sustain statewide radio communications, along with different cost-containment strategies.
3. Examination of alternative governance models and whether existing organizations with a stake in the DTRS network governance can be streamlined and/or consolidated to improve efficiency, effectiveness or contain costs, including:
 1. Role definitions for policy-level and technical-level oversight
 2. Legal, statutory ramifications surrounding alternative governance models oversight over State or local government owned assets.
 3. Analysis must be shown as state infrastructure and partner infrastructure needs and costs, as separate appendices or shown as separate items in the reports.
4. **Risk analysis on the “shared ownership” of current and future infrastructure for the DTRS network, including:**
 1. Potential cost escalation if additional counties migrate away from/to the DTRS network.
 2. Analysis of local government owned infrastructure, analysis of coverage loss and infrastructure cost replacement if entity were to leave the DTRS.
5. **Make recommendation on where both the technical and programmatic elements of the DTRS network should reside within the State’s executive branch in order to best meet the needs of DTRS user agencies and to ensure long-term support and viability of the DTRS network, including:**
 1. Recommend executive branch organization for DTRS to reside.
 2. Recommended transition plan / strategy.
 3. Make policy recommendations on DTRS coverage gaps and ideal usage of the system.



Outline of Deliverable – Needs Assessment (Part 1)



I. Exec Sum

II. Methodology

III. DTR Assessment

- I. System Overview Description
- II. System Backhaul
- III. Coverage
- IV. Capacity
- V. Reliability
- VI. Interoperability

Data from OIT,
Interviews, Surveys,
Site Walks, Coverage
Workshop

IV. Other Systems Assessment

I. Summary of As-Is and Planned Changes for “Main Systems of Interest”*

- I. Arvada (x)
- II. Boulder City
- III. Boulder County (x)
- IV. Chaffee County (x)
- V. Clear Creek, Gilpin, and Evergreen
- VI. Denver (x)
- VII. FRCC
- VIII. Lakewood (x)
- IX. Pitkin County
- X. Prowers County
- XI. State of Colorado VHF/UHF (x)
- XII. Teller County (x)
- XIII. Westminster

Data from RFI's (x),
Interviews, Surveys,
Site Walks, FCC,
RadioReference

II. Other Systems

* PPRCN may be considered as “special
chapter” in DTR Assessment



Outline of Deliverable – Needs Assessment (Part 2)



V. Existing Interoperability Initiatives

- I. MAC Channels
- II. NetworkFirst
- III. ISSI

VI. Needs Assessment – Gaps, Recommendations, and Costs

- I. Technical
 - I. System Backhaul (DTR)
 - II. Coverage (DTR)
 - III. Capacity (DTR)
 - IV. Reliability (DTR)
 - V. Lifecycle (DTR)
 - VI. Interoperability (All)
- II. Non-Technical
 - I. Maintenance
 - II. Training and Exercises

VII. Summary of Recommendations and Costs

- I. Implementation Strategies
- II. Risks and Impacts
- III. Sustainability Plan

VIII. Site Lease Costs Analysis

- I. DTR Lease Costs
- II. Market Averages

IX. LTE/FirstNet (to be provided by FirstNet Colorado)



Outline of Deliverable – Business Plan (Part 1)



- I. Exec Sum**
- II. Methodology**
- III. Funding Strategies**
 - I. Funding Needs (How much? For what?)
 - II. Examples of Funding Strategies
 - III. Examples of Cost Containment Strategies
 - IV. Key Takeaways
- IV. Governance Analysis (DTR and Statewide)**
 - I. Governance Criteria (What functions? What roles?)
 - II. Governance Alternatives
 - III. DTR Governance Structures (What missions? What makeup? What achieved?)
 - IV. Other/Statewide Governance Structures (What missions? What makeup? What achieved?)
 - V. Key Takeaways
- V. DTR Shared Ownership**
 - I. Summary of Ownership
 - II. Cost Risks of Departures (leaving DTR) and Arrivals (new additions)
 - III. Coverage Impacts of Departures (leaving DTR) and Arrivals (new additions)
 - IV. Key Takeaways

Data from
Interviews with OIT
& DPS Finance and
Legislative
Liaisons, Surveys,
Interviews, Other
Large Systems



Outline of Deliverable – Business Plan (Part 2)



VI. DTR Programmatic Elements

- I. Current Org Structure re: DTR (Who does what? What overlaps? What gaps?)
- II. Suggestions for Streamlining or Consolidation
- III. Key Takeaways

VII. DTR Coverage & Usage Policies

- I. Current Policy Review
- II. Best Practices (What are others doing)
- III. Suggestions for Policies
- IV. Key Takeaways



Work Completed



- **Outreach / Data-Gathering**
 - Survey
 - Site Visits
 - DTR Data Gathering from OIT
 - Non-DTR RFI's
 - DTR Ownership Review
 - Needs Analysis Interviews (First Round)
 - Market Data re: Leased Site Costs
- **Analysis**
 - Survey Results
 - DTR Data from OIT (partial)
 - Coverage Workshop (First Round)
 - Non-DTR RFI's



Work In Progress



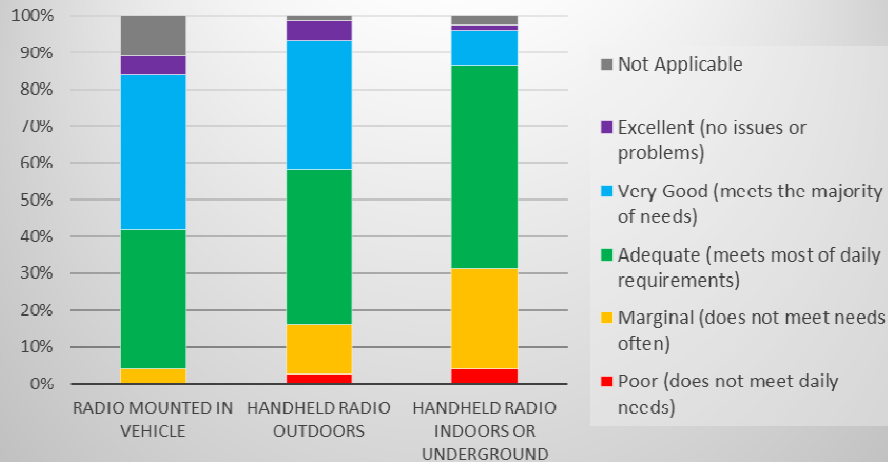
- **Outreach / Data-Gathering**
 - Coverage Workshop (Second Round)
 - Needs Analysis Interviews (Second Round)
 - All Hazards Regions Comms Subcommittees
 - PSCS and CCNC
 - Business Case Interviews
 - OIT Legislative Liaison
 - DPS Legislative Liaison
 - OIT Management
 - DPS Management
 - PSCS and CCNC
- **Analysis**
 - Coverage Workshop (Second Round)
 - All other data
- **Report Writing**



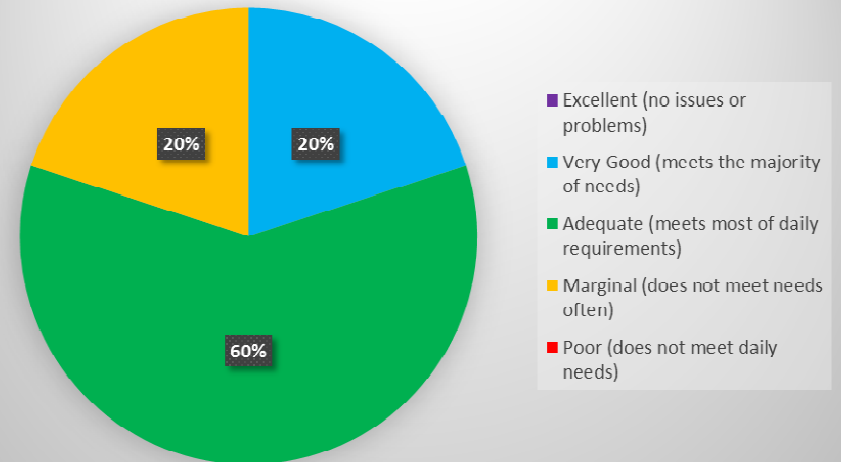
Survey Results Preview: Coverage



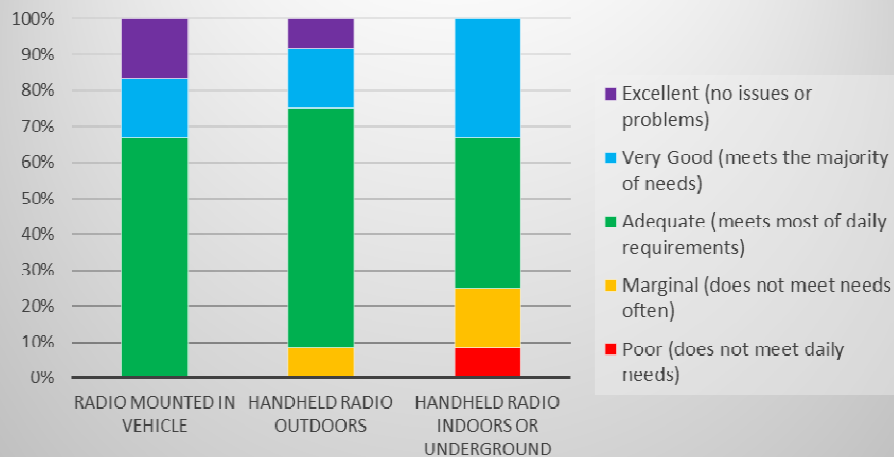
Field User Ratings on DTR System Coverage



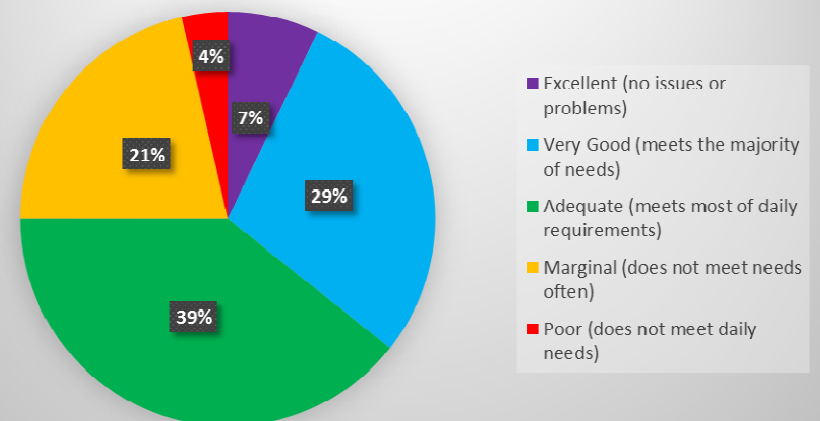
Dispatcher Ratings on DTR System Coverage



Technical Support Ratings on DTR System Coverage



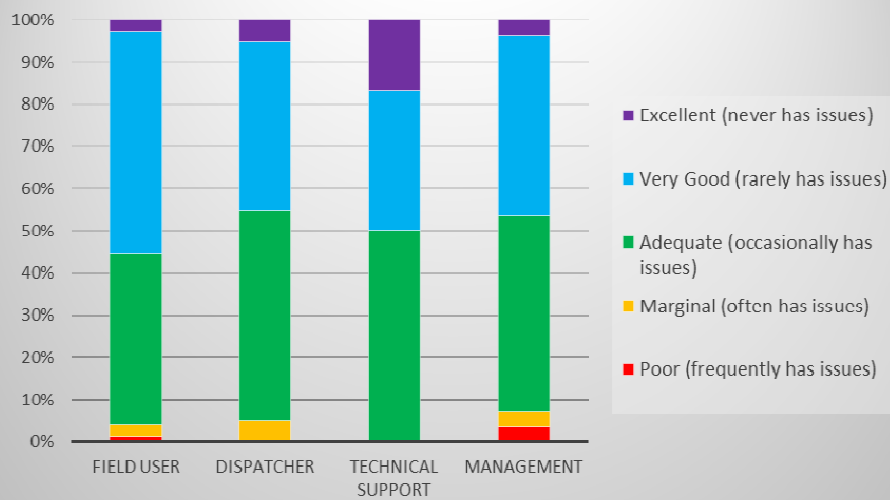
Management Ratings on DTR System Coverage



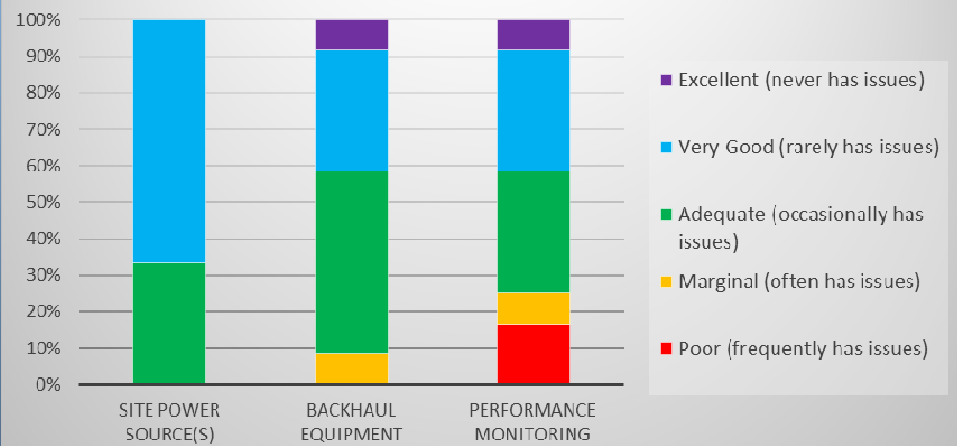
Survey Results Preview: Reliability



Overall Ratings on DTR System Reliability



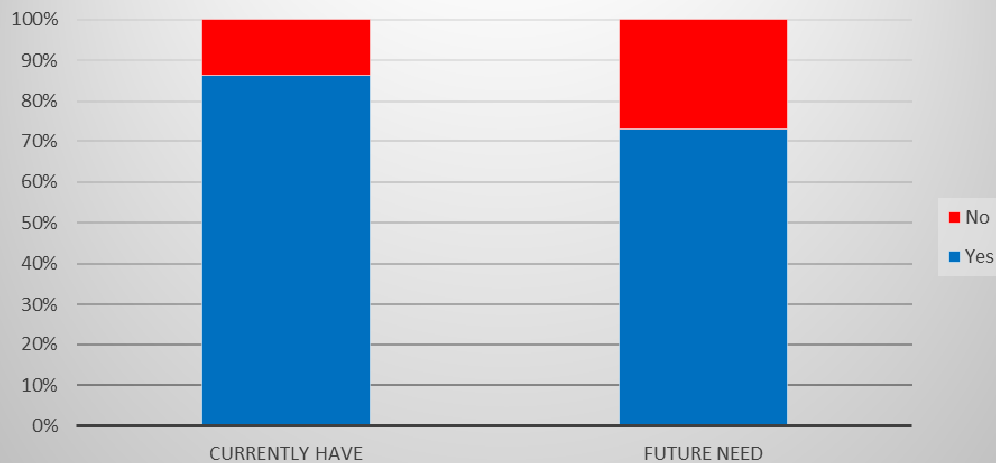
Technical Support Ratings on DTR System Reliability



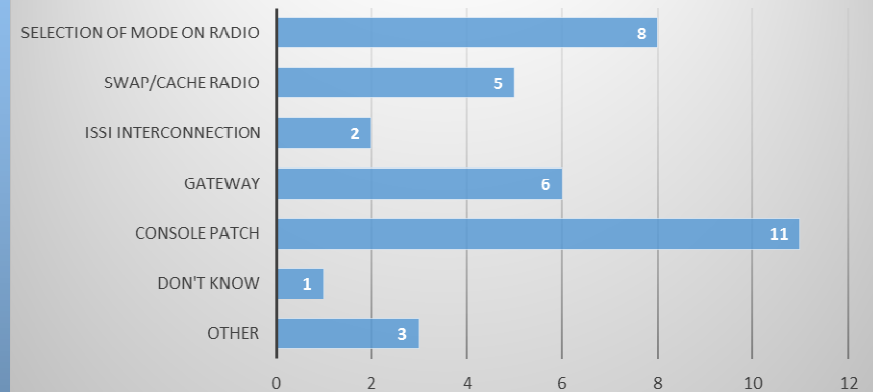
Survey Results Preview: Interop



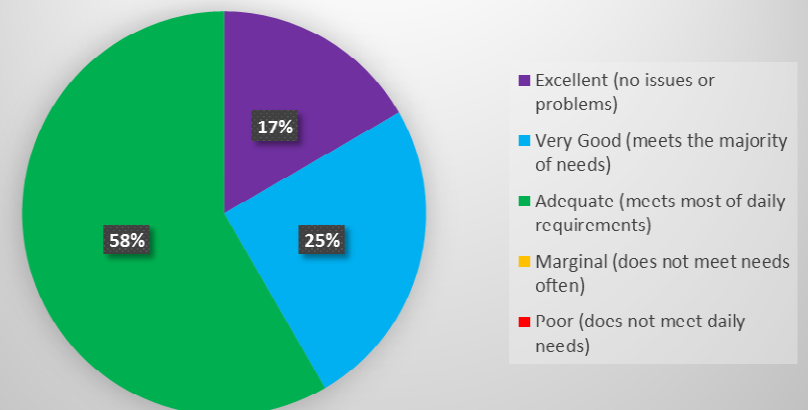
Ability to Talk Back to Home Users When Traveling



Methods of Interoperability Used by DTR System Users



How Well Current Fleetmap Suits DTR System User Needs



Questions and Comments

