



**CHITTENDEN COUNTY RPC**  
*Communities Planning Together*

## **Dispatch Consolidation Roadmap**

February 3, 2017



**DELTAWRX**  
management consultants



# Contents

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- ❑ Consolidation: A New Dispatch Paradigm
- ❑ Recommended Future State
- ❑ Implementation Plan
- ❑ Appendices



# Background

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- ❑ This implementation roadmap is the result of a participatory and interactive process
  - Interviews with 60+ individuals from project sponsor agencies, the Vermont State Police, Vermont Enhanced 9-1-1 Board and CrossWind Technologies
  - Builds on the preferences, assumptions and requirements agreed upon during the interim workshop in November, including the desire to pursue full consolidation among the project sponsors
  - Continuously refined to take into account the ongoing efforts of the Governance Work Group
- ❑ The objective of this presentation is to
  - Summarize the case for consolidating emergency communications services
  - Document the state of the future Chittenden County consolidated communications center
  - Provide an implementation strategy



Consolidation Overview

# **A NEW DISPATCH PARADIGM**

# Understanding Dispatch Consolidation



- ❑ In this presentation, the term “consolidated dispatch” means more than transferring individual communities’ dispatchers to a single facility; it reflects modernizing the method for processing emergency calls
- ❑ The recommended service delivery model improves the efficiency with which resources are dispatched to life threatening emergencies
  - Dispatchers use Computer Aided Dispatch (CAD) as a decision support tool, as opposed to as a log, in order to enter calls, dispatch units and manage incidents more efficiently and effectively
    - Call processing business practices are streamlined
  - Emergency communications operates as a service driven entity, with paying law enforcement, fire and EMS customers
    - “Non-communications” tasks are handled by Police Department personnel

# Common Benefits of Centralized Dispatch Models



## ❑ Common platform

- Facilitates inter-agency communication
- Enables a coordinated response, including sending the closest, most appropriate resource, particularly for Fire/Emergency Medical Service incidents

## ❑ Staffing advantages

- Pooled, cross-trained resources ease the burden of providing 24/7 coverage
- Teams can share the load and prioritize incidents while maintaining high availability
- Supports a dedicated Fire/Medical position for long, complex incidents

## ❑ Structured, standards-based environment

- More resources to contribute to supervision, quality assurance and training which supports improved accuracy
- Management structure offers a career trajectory for dispatchers

### **Possible Financial Advantages**

- Shared capital costs
- Improved likelihood for grants and federal funding in support of interoperable communications

# Consolidation Addresses Issues Specific to Chittenden County



## Staffing



- Issue: 6 Locations have single person minimum staffing which limits the dispatcher's ability to prioritize incidents and offers no redundancy in the event of a major emergency
- Solution: Consolidation eliminates this risk through increased staffing; model also positively impacts staffing by creating time for supervision, quality assurance, ongoing training and after action reporting and by offering career advancement opportunities

## Mutual Aid



- Issue: Mutual aid is requested through a manual, sequential process which lengthens call processing times
- Solution: Consolidation minimizes this issue by providing a collective view of participating agencies' resource availability and allowing CAD to systematically select the most appropriate resource based on pre-defined parameters; on occasion external resources will still be required

# Consolidation Addresses Issues Specific to Chittenden County

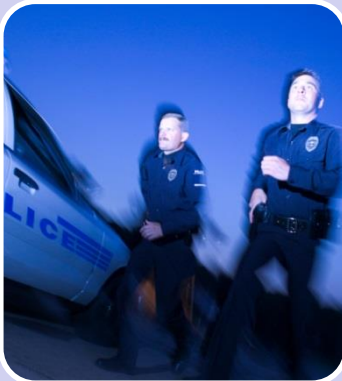


## Fire/EMS Calls



- Issue: There is no dedicated oversight during Fire/EMS calls for service, posing a risk to first responder safety
- Solution: Consolidation eliminates this issue by creating a fire operations position(s) consistent with NFPA guidelines; further, associated improvements in technology will help bring Fire/EMS dispatching in line with industry standards

## Call Taking Process



- Issue: PSAPs transfer calls to Dispatch Centers, lengthening the call taking process\*
- Solution: Consolidation minimizes this issue by transitioning dispatch centers into a PSAP and thus assuming call answering duties (a small percentage of calls will still be transferred)

\* Shelburne is already a PSAP and therefore an exception

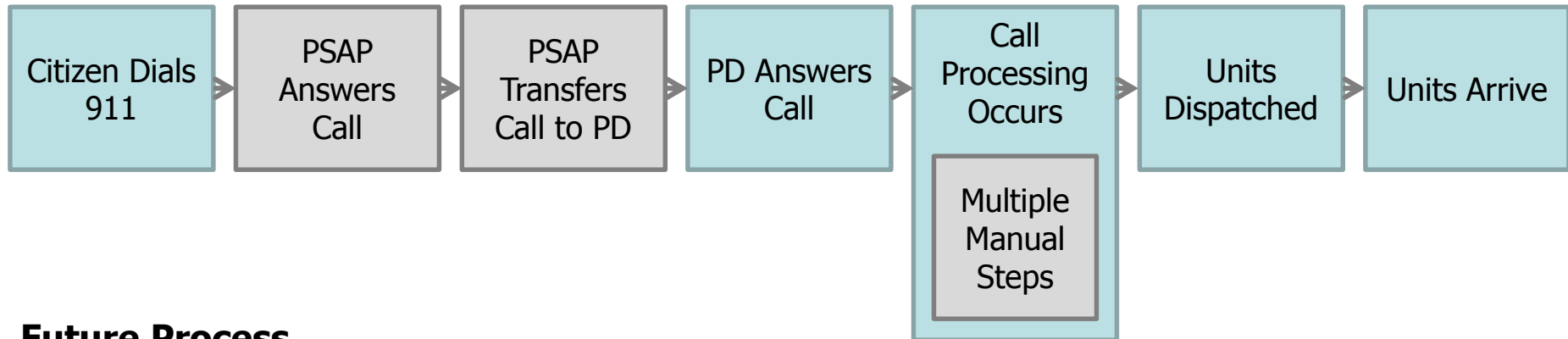


# Becoming a PSAP Shortens the Call Taking Process

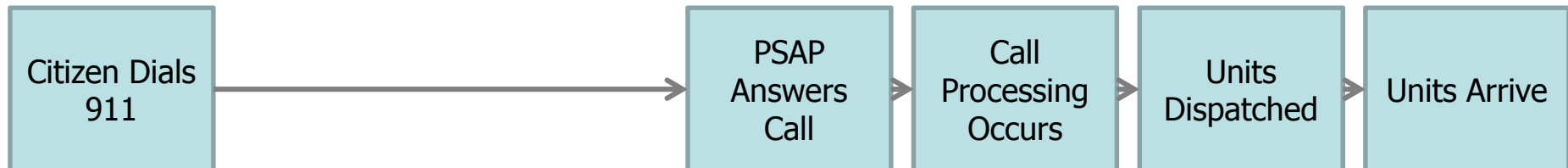


- ❑ CCRPC estimates that the PSAP transfer adds an average of 90 extra seconds per 911 call
- ❑ The NFPA recommends that 80% of calls are processed within 60 seconds and that 95% of calls are processed within 106 seconds

## Current Process



## Future Process



# Countywide Consolidation Decreases Staffing Requirements



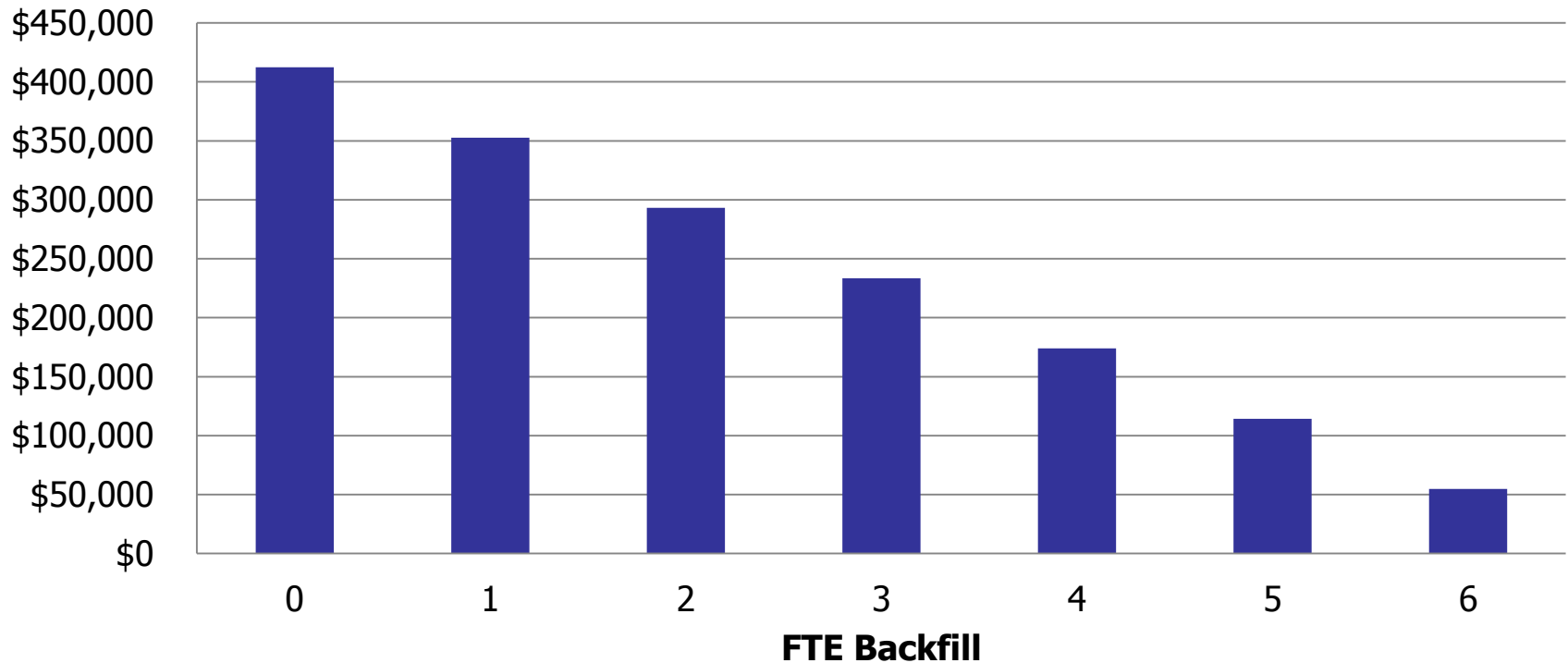
- ❑ Personnel costs account for about 93% of dispatch expenses in the current environment and are thus a key metric in financial analysis
- ❑ Dispatch centers are currently authorized to employ 45 FTE
  - Consolidation model requires up to 38 FTE (conservative staffing)
  - $45 - 38 = 7$  FTE
- ❑ The reduction of 7 FTE can occur through natural attrition
  - Dispatcher turnover is about 8%/year, low by national standards
  - $38 \text{ FTE} * 8\% = \text{Loss of 3 FTE per year through natural attrition}$
  - Some dispatchers may opt out of moving to the consolidated entity
- ❑ 6 Police Departments will need to reassign non-communications duties currently performed by dispatchers
  - This will require between 0-6 FTE, depending on existing capacity, for a net “savings” of 1-7 FTE
    - These duties may be able to be covered by existing Police Department employees

Staffing temporarily increases during first phase of the transition period

# Full Consolidation Saves Countywide Personnel Costs



## Estimated Personnel Savings (Annual)



☐ Excludes transitional staffing period



# Potential One-Time Expenses

- ☐ CAD Servers
- ☐ CAD/Mobile Software (Licenses, Implementation and Vendor-Supplied Training)
- ☐ NetClock
- ☐ Logging Recorder
- ☐ Interface Development
- ☐ Facility Upgrade (renovations, utilities, HVAC, security systems)
- ☐ Workstation Furniture\*\*
- ☐ Workstation Computers\*\*
- ☐ Moving Expenses
- ☐ Severance Packages
- ☐ Telecomm and Networking
- ☐ Call Handling Equipment\*
- ☐ Radio Infrastructure (upgrades, reconfiguration, reprogramming)\*\*
- ☐ Mobile and Portable Radio (upgrades and reprogramming)\*\*
- ☐ Training
- ☐ Pre-hire Employment Costs (testing and background check services)
- ☐ Legal Support
- ☐ GIS Data Development
- ☐ Data Conversion
- ☐ Hiring Bonuses
- ☐ Radio Consoles\* \*\*
- ☐ Radio Control Stations\*\*

\* May be provided by State E-911 Board

\*\* Could possibly repurpose existing capacity

# Potential Recurring Expenses (Non Personnel)

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- ☐ Rent
- ☐ Software Maintenance (e.g. CAD, AntiVirus)
- ☐ Contracted Services (e.g., payroll, legal, GIS)
- ☐ Insurance
- ☐ Utilities (e.g., Heat, Water, Electricity, Gas)
- ☐ Telecommunications (e.g., Internet, Telephone, Microwave)
- ☐ Travel
- ☐ Subscriptions (e.g., Standards, Accreditation Bodies)
- ☐ Pre-hiring Screening
- ☐ Training
- ☐ Conferences



# Consolidation Challenges

Challenge	Mitigation Strategy
Organizational Change Posed to Dispatchers	Dispatchers are integral to the process, must be respected as professionals and thoughtfully involved: communicate transparently, address rumors of job loss, invest in transition training and create a forum for pre- and post-cutover feedback
Pay and Benefit Considerations	Consider current bargaining agreements, workload, experience, technology and complexity in developing a competitive compensation package
Standardization	Agency chiefs must be prepared to compromise: with few exceptions, SOPs that cannot be uniquely configured in CAD should be standardized
Operational Changes	In addition to changes in the Communications Center, field personnel will need to change how they conduct daily operations (e.g., radio usage)
Differing Perspectives on Technology	Prioritize “must have” functionality over a given vendor and leave the door open for future changes



# Consolidation Challenges

Challenge	Mitigation Strategy
Leadership	Adequately fund the Executive Director position and begin recruiting early: this leader must be perceived as competent, fair and strong and available to support the transition
Emergency Service and Community Equity	Governance structure must be perceived as fair by all parties and provide a voice for smaller communities
Loss of 24x7 Administrative Desk at the Police Departments	Communication: Assure community members that public safety emergency services will remain available around the clock and that they will benefit from improved service delivery; educate citizens on administrative services that will be reduced to business hours; seek after-hours self-service solutions (e.g., exterior form box)



Description of the Future State

# **CHITTENDEN COUNTY PUBLIC SAFETY COMMUNICATIONS AUTHORITY**





# Organizational Overview

- ❑ Chittenden County Public Safety Communications is dubbed “CC-COMM” in this presentation for convenience
- ❑ CC-COMM requires the participation of the City of Burlington and at least one other community with a 7x24 dispatch center to achieve the scale necessary to launch
- ❑ CC-COMM will ultimately function as a PSAP and thus benefits significantly from the resources that Shelburne brings to the table
  - Improves service delivery while supporting the entity’s financial viability
- ❑ The greater the participation, the greater the overall benefit
- ❑ Communities are phased in to support transitional staffing, introduce organizational change gradually and address issues that arise in a lower-risk environment
  - Communities maintain the status quo while they await CC-COMM service delivery



Approach  
Analysis



# Timeline

- ❑ The proposed timeline is best case scenario, but doable through teamwork, a commitment to compromise and clear roles and responsibilities



## Phase 1: Jul 2018

- Serves Burlington and one or two other communities
- Functions as a dispatch center
- Could likely operate from the Burlington Police Department dispatch center



## Phase 2: Jan 2019

- Adds Shelburne and one or two other communities
- Transitions to a PSAP
- Operates from the ultimate facility



## Phase 3: Dec 2019

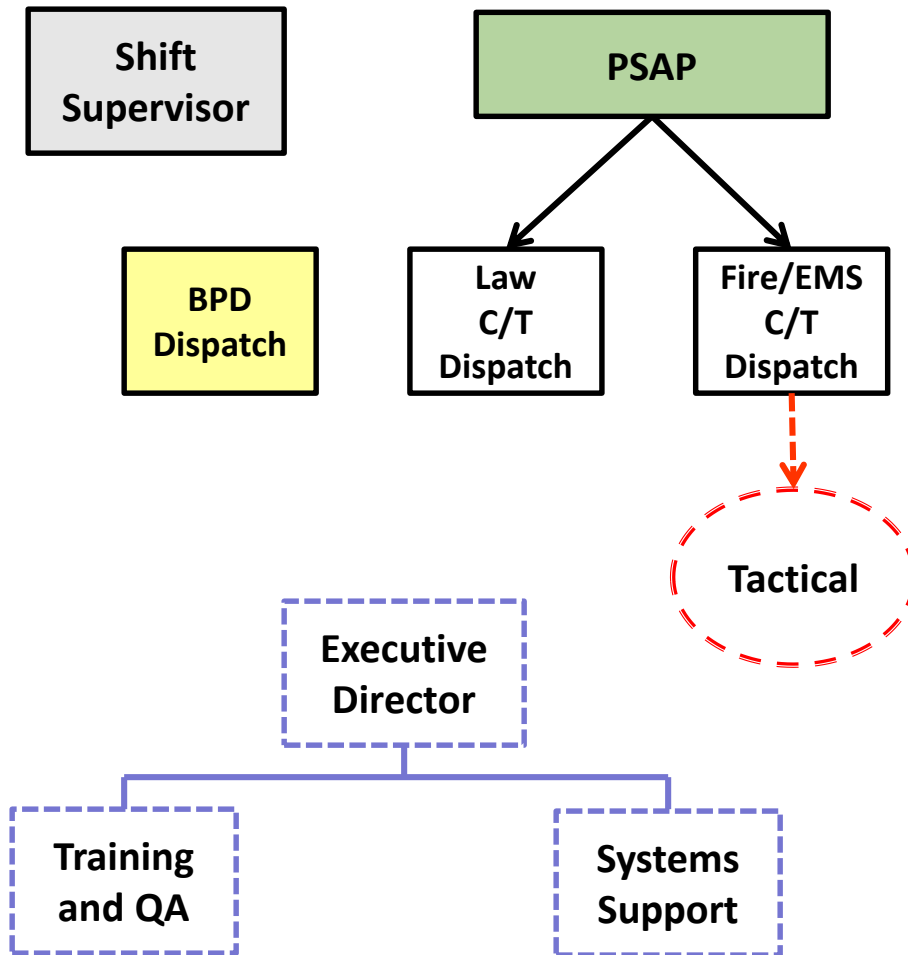
- Adds final project sponsor communities
- Poised to add other communities on a contract-for-service basis once operations have stabilized

The decision to procure a new CAD through a competitive RFP process, build a new facility, or make major renovations to an existing facility rely on factors outside the control of the Project Team and have the potential to delay this timeline.

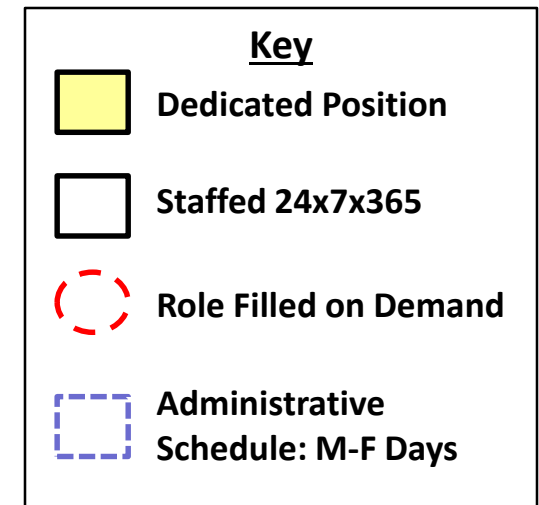




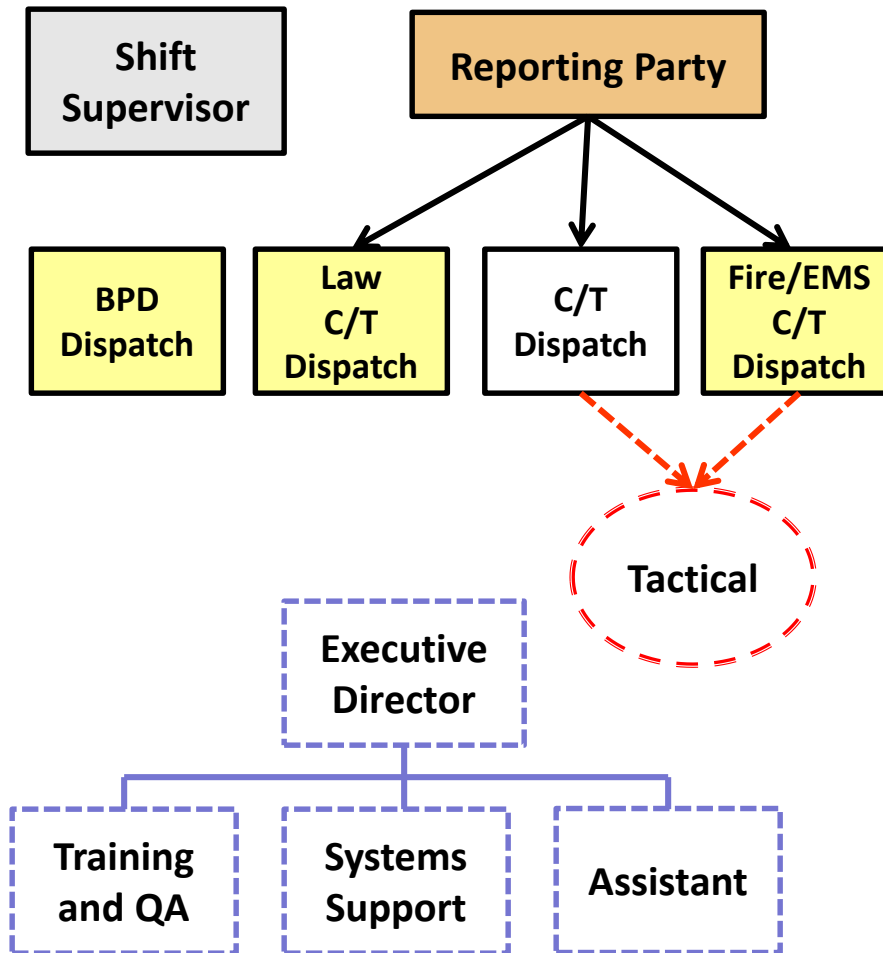
# Phase 1. Burlington + 2 Communities



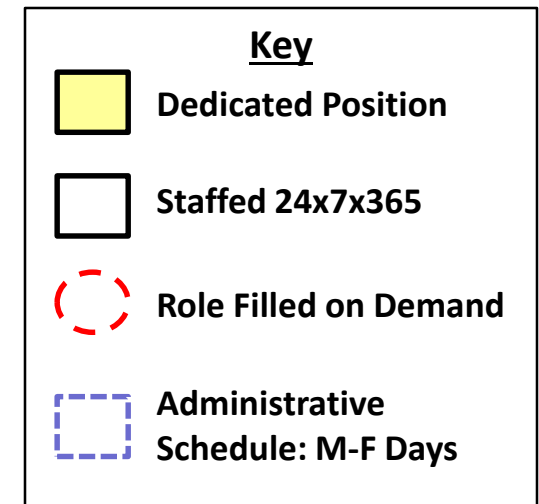
CC-COMM CFS	75,000
CC-COMM FTE	26
Legacy Dispatch Center FTE*	23
Total FTE*	49
* Illustrative Only; Based on S. Burlington and Winooski	



# Phase 2. Add Shelburne + 1 Other Community

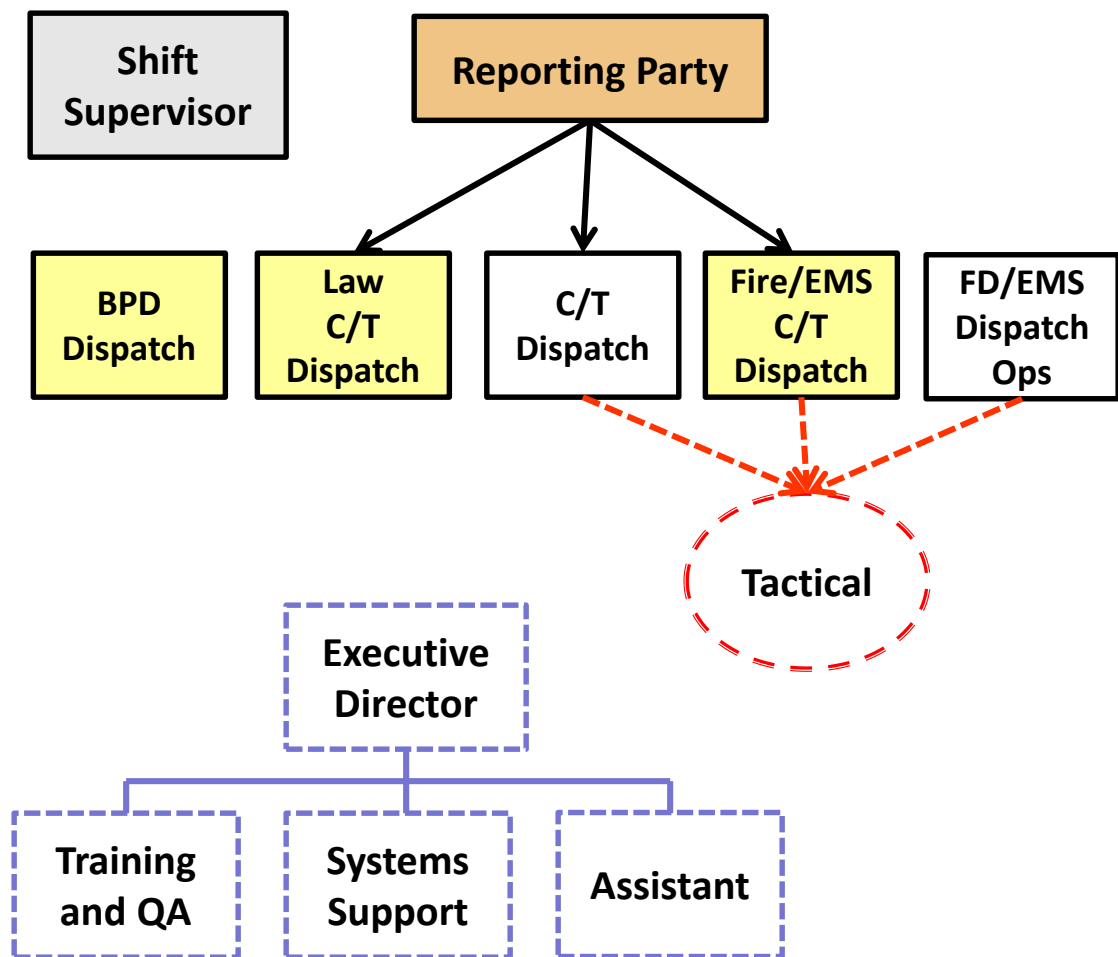


CC-COMM CFS	90,000
CC-COMM FTE	32
Legacy Dispatch Center FTE*	12
Total FTE*	44
* Illustrative Only; Based on Shelburne and Williston	

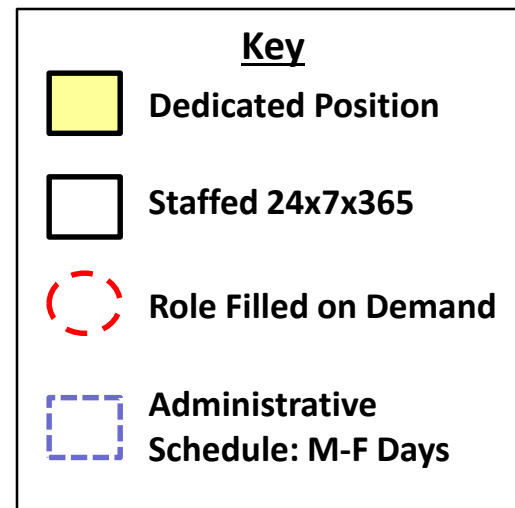




## Phase 3. Add Final 3 Communities



CC-COMM CFS	135,000
CC-COMM FTE	38
Legacy Dispatch Center FTE	0
Total FTE	38





# Chronological Recommendations for an **IMPLEMENTATION PLAN**



# Potential Roles and Responsibilities

## Executive Board

City and Town Managers

Establish CC-COMM governance structure, bylaws and cost allocation method, approve annual budget, handle labor issues, hire and oversee ED, oversee Technical Advisory Committee

## Technical Advisory Committee

Subset of Agency Chiefs

Create and staff subcommittees, make technical and operational decisions that impact service delivery

CC-COMM  
Executive  
Director (ED)

## Administrative Work Group

Subset of City and Town Leadership

Develop HR plan, draft ED job description and administrative SOPs

\*Duties will ultimately shift to ED

## Police Ops Subcommittee

Subset of Senior Law Personnel

Make operational policy recommendations

## Fire/EMS Ops Subcommittee

Subset of Senior Fire/EMS Personnel

Make operational policy recommendations

## Radio Subcommittee

Subset of Senior Agency Personnel

Make technical and usage recommendations

## Others As Needed

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# Implementation Overview

## Q1/Q2 2017: Formulation and Research

- Begin developing the organizational entity
- Research CAD and identify the optimal path forward
- Initiate standardization discussions
- Begin preparing initial documentation (preliminary agreement, salary survey, human resources plan)

## Q3/Q4 2017: Refinement and Detailed Planning

- Pursue CAD path
- Prepare detailed documentation (service level agreement, radio communications plan)
- Inventory existing equipment
- Recruit Executive Director

## Q1/Q2 2018: Execution

- Hire permanent Executive Director
- Configure and test CAD, interfaces and other systems
- Prepare to reroute emergency calls
- Outfit the facility and backup facility as necessary
- Hire and train initial employees

## Q3/Q4 2018 - 2019: Transition

- Train communications staff and first responders
- Cutover through phased approach
- Transition to a PSAP
- Initiate ongoing organizational improvement tasks



# Foreword on Compliance with Vermont State Law

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- ❑ This plan was prepared from a technical, financial and service delivery perspective based on information gained during informational interviews and desktop research
- ❑ Critical local issues, such as financial and legal compliance with Vermont state law, were not within DELTAWRX's scope
- ❑ All recommendations should be considered in more detail within the local context



# Q1-2017

1. Continue efforts to complete the legal and administrative steps required to establish CC-COMM as an organizational entity (Governance Working Group)
2. Develop draft mission statement for the consolidated entity (Governance Working Group)
3. Develop and implement a communications strategy for sharing consolidation-related information with public safety agency employees, project stakeholders and the media (Project Sponsors)
  - Communication should be proactive, transparent and provided through a credible channel to prevent rumors from spreading
4. Prepare to hire a full-time, civilian Executive Director (Subset of City/Town Managers and CCRPC)
  - A. Conduct a salary survey for the Executive Director, Supervisor, Training and Quality Assurance, Systems Support, Dispatcher and Assistant positions



ED Job  
Description



- B. Establish a strategy to fund the ED position prior to CC-COMM providing services and generating revenue
5. Conduct a detailed gap analysis of the CrossWind and Spillman CAD applications using *APCO ANS 1.110.1-2015* and *LEITSC Standard Functional Specifications for Law Enforcement CAD Systems* to determine if either solution meets CC-COMM's requirements (Technology Advisory Committee or Subcommittee)
  - In addition to functionality, consider CC-COMM's support and other contractual requirements
  - Participate in the City of Burlington's CAD RFI development process
6. Continue to pursue the PSAP formation process with the E-911 Board to stay abreast of changes to technical and/or operational requirements (CCRPC)
  - Investigate Union Municipal District PSAP insurance requirements



CAD Gap  
Analysis



PSAP  
Formation



## Q2-2017




7. Draft and sign a preliminary agreement (typically either an MOU or an MOA) that details the key terms of the consolidation and formalizes communities' intent to join CC-COMM (Project Sponsors)
8. Reach agreement on how to address gaps in CAD technology (Technical Advisory Committee)
9. Form discipline-based operations subcommittees and begin standardization discussions (Technical Advisory Subcommittees)
  - Subcommittees will develop the first draft of the Operational SOP manual used at cutover and recommend updates to SOPs over time
  - CC-COMM Executive Director will sit on the Technical Advisory Committee
  - Many standardization decisions will depend on CAD's ability to support individual agency configurations
  - Explore the use of a standard FRMS

	Key Elements of Agreement
	Potential CAD Paths
	Standardization Expectations
	SOP Resources
	FRMS and NFIRS



## Q2-2017

10. Form a temporary Administrative Work Group to develop first draft of administrative SOPs (Governance Working Group)
  - CC-COMM Executive Director will take over these duties once hired
11. Refine CC-COMM facility requirements (location, space, security, etc. and identify an appropriate site (Project Sponsors)
12. Establish a human resources plan for transitioning dispatch center staff to CC-COMM, for inclusion in the preliminary agreement (Administrative Working Group)
  - Process (guaranteed placement versus competitive interview process)
  - Employment agreement (e.g., direct CC-COMM hire, police employee assigned to CC-COMM, grandfathered approach)
  - Salary and benefits
  - Option for communities to cover compensation delta
13. Consider potential municipal dispatch responsibilities (Administrative Working Group)

	Facility Requirements
	Facility Path
	Municipal Dispatch



## Q3-2017

14. Develop Service Level Agreement (SLA) to document public safety agencies' requirements and control expectations about CC-COMM service delivery (Technical Advisory Committee)
15. Evaluate all existing public safety radio frequencies and draft a preliminary radio communications plan that takes into account anticipated CC-COMM business practices for both law enforcement and fire/EMS (Technical Advisory Subcommittee(s))
  - Capabilities (analog, digital, multi-mode)
  - Coverage (inbound, outbound)
  - Usage
  - Licensing

 Key Elements of an SLA

 Radio Planning



## Q3-2017

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16. Inventory existing equipment and develop preliminary redeployment plan (Technical Advisory Subcommittee)
17. Finalize plan for obtaining contracted services such as payroll, legal and GIS (Administrative Working Group)
18. Begin recruiting Executive Director (Administrative Working Group)
  - Role could be temporarily filled with an interim Executive Director



## Q4-2017

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19. Hire interim Executive Director to assist with pre-cutover tasks; transitions to permanent position in Q1/Q2-2018 (Executive Board)
  - Developing operational SOPs
  - Developing administrative SOPs
  - Preparing the facility
  - Developing plans for and overseeing
    - Application software and interface functionality testing
    - Radio performance testing
  - Developing job descriptions
  - Overseeing training
20. Develop job descriptions (Executive Director)
21. Begin hiring 6 Supervisors, Training/QA Specialist and Systems Specialist (Executive Director)
  - Positions will be filled through a competitive process which could create temporary staffing challenges late joining communities





## Q1-2018

22. Develop or modify test plan that includes end-to-end operational workflow scenarios (Technical Advisory Subcommittee)
  - Timing and content will depend on CAD path
  - Begin testing as early as possible before cutover to each phase
23. Configure CAD according to new business practices, including individual agency requirements and the outcome of standardization discussions (Technical Advisory Subcommittee)
24. Modify CC-COMM facility as necessary (Executive Director)
  - Timing and tasks will depend on Facility Path
  - CC-COMM should move into the ultimate facility by Phase 2 at the latest
25. Build or buy interfaces to external systems (Executive Director)
26. Establish Emergency Call Routing Plan (Technical Advisory Subcommittee and Systems Specialist)

-  Facility Path
-  CAD Interfaces
-  Fire Alerting
-  Emergency Call Routing



## Q2-2018

27. Identify and outfit Continuity of Operations backup facility (Executive Director/Systems Support Specialist)
  - Dependent on CAD path
  - Dispatch center from Phase 3 community could temporarily serve as the backup during Phases 1 and 2
28. Procure a voice logging system (Systems Support Specialist)
29. Develop training program for employees from legacy dispatch centers and for new hires (Training/QA Specialist with support from Supervisors and Executive Director oversight)
  - Including E-911 sponsored training, classroom training, on-the-job training and probationary observation
  - Should address APCO and NENA training standards and CC-COMM SOPs
30. Develop protocols for hiring new (non-legacy) employees, including recruitment, screening, testing and interviewing (Executive Director and Training/QA Specialist)



**Voice Logging Requirements**



## Q2-2018

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31. Hire/transfer dispatchers from Phase 1 communities to CC-COMM as dispatchers in accordance with HR plan developed by Administrative Working Group (Executive Director)
32. Train Phase 1 dispatchers (Training/QA Specialist with support from Supervisors and Executive Director)
33. Train Phase 1 Police and Fire/EMS personnel on new mobile functionality, policies, operations and system usage (Phase 1 Public Safety Agencies in coordination with Training/QA Specialist)
34. Address backfill issue by reassigning non-communications duties performed by dispatchers in Phase 1 communities (Phase 1 Police Departments)
35. Communicate changes in services to citizens (Phase 1 Police Departments and City/Town Managers)

First Cutover



## Q3-2018

- 36. Hire Assistant  
(Executive Director)
- 37. Initiate continuous  
organizational  
improvement tasks,  
to be performed  
after each cutover,  
and on a regular  
basis once  
operations have  
stabilized  
(Executive Director  
and management  
staff)





## Q4-2018

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38. Hire/transfer dispatchers from Phase 2 communities to CC-COMM as dispatchers in accordance with HR plan developed by Administrative Working Group (Executive Director)
39. Train Phase 1 and Phase 2 dispatchers (Training/QA Specialist with support from Supervisors and Executive Director)
40. Train Phase 2 Police and Fire/EMS personnel on new mobile functionality, policies, operations and systems usage (Phase 2 Public Safety Agencies in coordination with Training/QA Specialist)
41. Address backfill issue by reassigning non-communications duties performed by dispatchers in Phase 2 communities (Phase 2 Police Departments)
42. Communicate changes in services to citizens (Phase 2 Police Departments and City/Town Managers)

Second Cutover



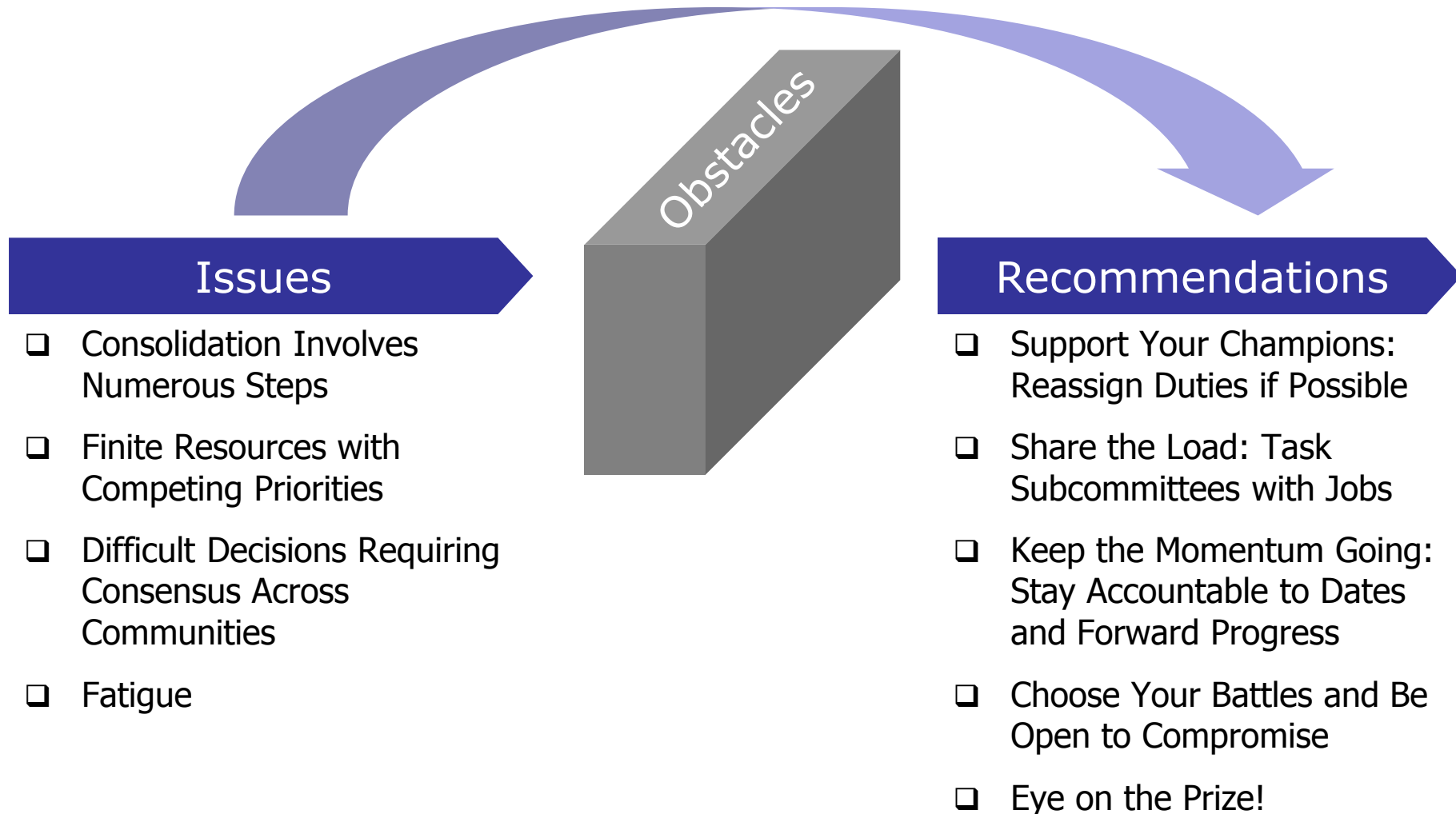
## Q3-2019

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- 43. Hire/transfer dispatchers from Phase 3 communities to CC-COMM as dispatchers in accordance with HR plan developed by Administrative Working Group (Executive Director)
- 44. Train Phase 1, 2 and 3 dispatchers (Training/QA Specialist with support from Supervisors and Executive Director)
- 45. Train Phase 3 Police and Fire/EMS personnel on new mobile functionality, policies, operations and systems usage (Phase 3 Public Safety Agencies in coordination with Training/QA Specialist)
- 46. Address backfill issue by reassigning non-communications duties performed by dispatchers in Phase 3 communities (Phase 3 Police Departments)
- 47. Communicate changes in services to citizens (Phase 3 Police Departments and City/Town Managers)

### Third Cutover

# Significant Short Term Effort Will Dramatically Improve Communications



# Questions?

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**Liz Coyle**

[lcoyle@deltawrx.com](mailto:lcoyle@deltawrx.com)

**Donald Denning**

[ddenning@deltawrx.com](mailto:ddenning@deltawrx.com)





DELTAWRX Analysis and Implementation Resources

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Appendix

# ORGANIZATION

# Analysis of Implementation Approaches



## Advantages

### Phased

- Supports transitional staffing and training among dispatchers
- Introduces organizational change gradually
- Relatively low risk environment to resolve issues that arise during cutover

### Phased With Clusters

- Supports transitional staffing and training among dispatchers
- Relatively low risk environment to resolve issues that arise during cutover
- Simplifies first round of standardization discussions

### Big Bang

- Ensures full participation
- Puts all issues immediately on the table
- Simplifies process of filling roles
- Fast: "Rip the band aid off" and reap benefits as soon as possible

## Disadvantages

- Negative view of early issues may stall full consolidation
- Late joining centers will face temporary staffing challenges if employees are hired for supervisory roles
- Slow: Ongoing pain as changes occur; delay to reap full benefits

- Requires two rounds of change without reaping material benefits
- Non-BPD clusters will face temporary staffing challenges if employees are hired for supervisory roles
- Negative view of early issues at BPD cluster may stall consolidation

- Will be logistically difficult to train dispatchers prior to the transition
- Major organizational change for all staff
- High risk environment with all communities in a single center, should problems arise at cutover

# Sample Executive Director Job Description

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- ❑ Oversees the efficiency and stability of CC-COMM operations
- ❑ Ensures compliance with applicable state and federal laws
- ❑ Communicates with dispatched agencies, including responding to inquiries and concerns, resolving problems and communicating changes to SOPs
- ❑ Analyzes and evaluates protocols and makes recommendations to public safety officials for standardization and the effective delivery of communications services
- ❑ Liaises with the Vermont E-911 Board; provides call-taking reports as necessary
- ❑ Manages CC-COMM personnel (establishing goals/standards, maintains staffing, interviews and selects candidates, coordinates assignments, authorizes leave, conducts evaluations, etc.)
- ❑ Administers CC-COMM policies and procedures
- ❑ Manages annual budget for approval by the Executive Board
- ❑ Regularly updates the Executive Board on all aspects of the organization
- ❑ Oversees equipment and technology (CAD, radio systems, logging recorders, etc.)

# Sample Executive Director Job Description

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- ❑ Provides recordings to Prosecutor's Office, attorneys and appropriate law enforcement agencies and testifies in court as necessary
- ❑ Compiles statistical and administrative data, analyzes trends, maintains records
- ❑ Baccalaureate Degree in Public Safety Administration, Business Administration, Communications, or a related area, with a minimum of seven years of relevant experience, including at least five years of supervisory experience within a multi-agency public safety communications center equal to or greater in projected call volume and employee numbers to CC-COMM (under full consolidation); or equivalent combination of education and experience
- ❑ NCIC/VCIC certification, EMD Certification, and CPR certification
- ❑ Understanding of public safety agency accreditation standards and processes
- ❑ Ability to supervise and direct assigned personnel, including hiring, planning/making work assignments, providing corrective instruction, recommending personnel actions as appropriate, and maintaining discipline
- ❑ Ability to develop, disseminate and implement standard policies and procedures
- ❑ Ability to comply with all employer personnel policies and work rules, including, but not limited to, attendance, safety, drug-free workplace, and personal conduct

# Sample Executive Director Job Description

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- ❑ Familiarity with Chittenden County area geography and law enforcement, EMS and fire demands, and ability to use and understand maps
- ❑ Working knowledge of radio talk group, procedures, limitations, acronyms and codes as well as how to use a two-way radio
- ❑ Knowledge of the principles and practices of public safety communications, public administration including public works, emergency planning, mitigation and coordinated response to emergencies, which require timely effective response actions
- ❑ Knowledge of Microsoft Office and familiarity with CAD applications
- ❑ Ability to effectively communicate orally and in writing
- ❑ Knowledge of all federal, state and local regulatory requirements applicable to public safety communications and major issues which require effective coordinated actions.
- ❑ Knowledge of the funding process in a local government environment as related to budgeting, cost accounting, financial planning and management
- ❑ Ability to establish and maintain effective working relationships with the general public, co-workers, elected officials and people from diverse backgrounds

# Sample Executive Director Job Description

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- ❑ Ability to work on several tasks at the same time, often under time pressure, and complete tasks effectively amidst frequent distractions and interruptions
- ❑ Ability to provide public access to or maintain confidentiality of department information/records according to state requirements
- ❑ Ability to serve on 24-hour call and respond swiftly, rationally and decisively to emergencies
- ❑ Ability to occasionally work weekend, and/or extended hours, and travel out of town





# PSAP Formation Process

- ❑ E-911 Board is open to CC-COMM becoming a PSAP
  - The Board believes the current statewide equipment allocation model has sufficient capacity and would be reluctant to add additional capacity
  - The Board's preference is to relocate existing capacity equipment from Shelburne and Williston VSP
- ❑ The Board prefers to transfer PSAP responsibilities to an entity that is already in operation
- ❑ The Board has not added a PSAP in years and has not shared a clear application process, however CC-COMM will need to
  - Demonstrate an adequate staffing plan to handle call taking and EMD
  - Develop a technical plan with FairPoint
- ❑ The Board is in the process of updating its operational and technical PSAP requirements as of the end of 2016

## State Sponsored PSAP Benefits

- Radio console equipment
- Call taking, EMD and related training
- Compensation

# Key Elements of a Preliminary Agreement: Intent to Join CC-COMM

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- ☐ Agreement should focus on human resources and center management, addressing, at a minimum
  - How CC-COMM will resolve human resource differences, including dispatcher benefits, pay and seniority
  - How and when communities will join CC-COMM (if known)
  - How the integration of communities and personnel will affect existing union contracts
  - How call handling be determined and integrated for different communities and across different disciplines
  - How and by whom CC-COMM will be managed
  - Who will determine dispatch and personnel policies and procedures, and how and by whom will those policies be approved
- ☐ Could also document requirements for technology and facilities
- ☐ Could also include cost allocation formula
- ☐ Should be agreed upon before execution-related tasks begin



Appendix

# **TECHNOLOGY AND INFRASTRUCTURE**

# CAD Gap Analysis (Valcour Functionality)



- ❑ DELTAWRX sent CrossWind Technologies approximately 100 functional specifications in late 2016; the following is a subset of shortcomings identified in CrossWind's response:

Lacking Functionality	Comments
ANI/ALI import	Anticipated release in Q4-17
Establishing and changing call priorities	Anticipated release in Q3-17
Identification of duplicate calls	Not currently on roadmap
Determining response area and service agency	Anticipated release in Q2-17
Run cards and response plans	Anticipated release in Q3-17
Mutual aid management functionality	Not currently on roadmap
Move ups and cross staffing	Not currently on roadmap
Dynamic resource recommendations, including unit proximity	Not currently on roadmap
Multi-jurisdictional response capabilities	Not currently on roadmap

# CAD Gap Analysis (CrossWind Contract)



- ❑ If CC-COMM uses the Valcour CAD, the existing contract could be tightened to minimize exposure to risk, for example:

#	Term	Language	Comments
2.2	Acceptance of Software	Agency has 15 days from delivery to accept; lack of action results in acceptance	Is there a functional test plan? Can acceptance be tied to satisfying the functional test, rather than X days elapsing?
3.4	Indemnification	No protection afforded	Is this intentional?
6.2	Termination With Cause	Only CrossWind can terminate for cause	Can this be made mutual?
8.4	Controlling Law	Venue is California	Can this be Vermont?
Ex. A	Limited Warranty	Warrants performance for 90 days following delivery	Can this be 90 days following acceptance?
Ex. B	Price Schedule	N/A	Can CC-COMM limit future price increases?
Ex. C; B	Error Correction	CrossWind determines the severity of error levels	Can this be made mutual?
Ex. C; B	Error Correction	Acknowledgement and resolution efforts based on business hours and days	Can this be 24x7x365 since the environment has evolved from Police Records to a mission-critical multi-jurisdictional PSAP?
N/A	CAD/RMS System Policies	Language is law enforcement-centric	Can this be updated to reflect Fire/EMS needs?



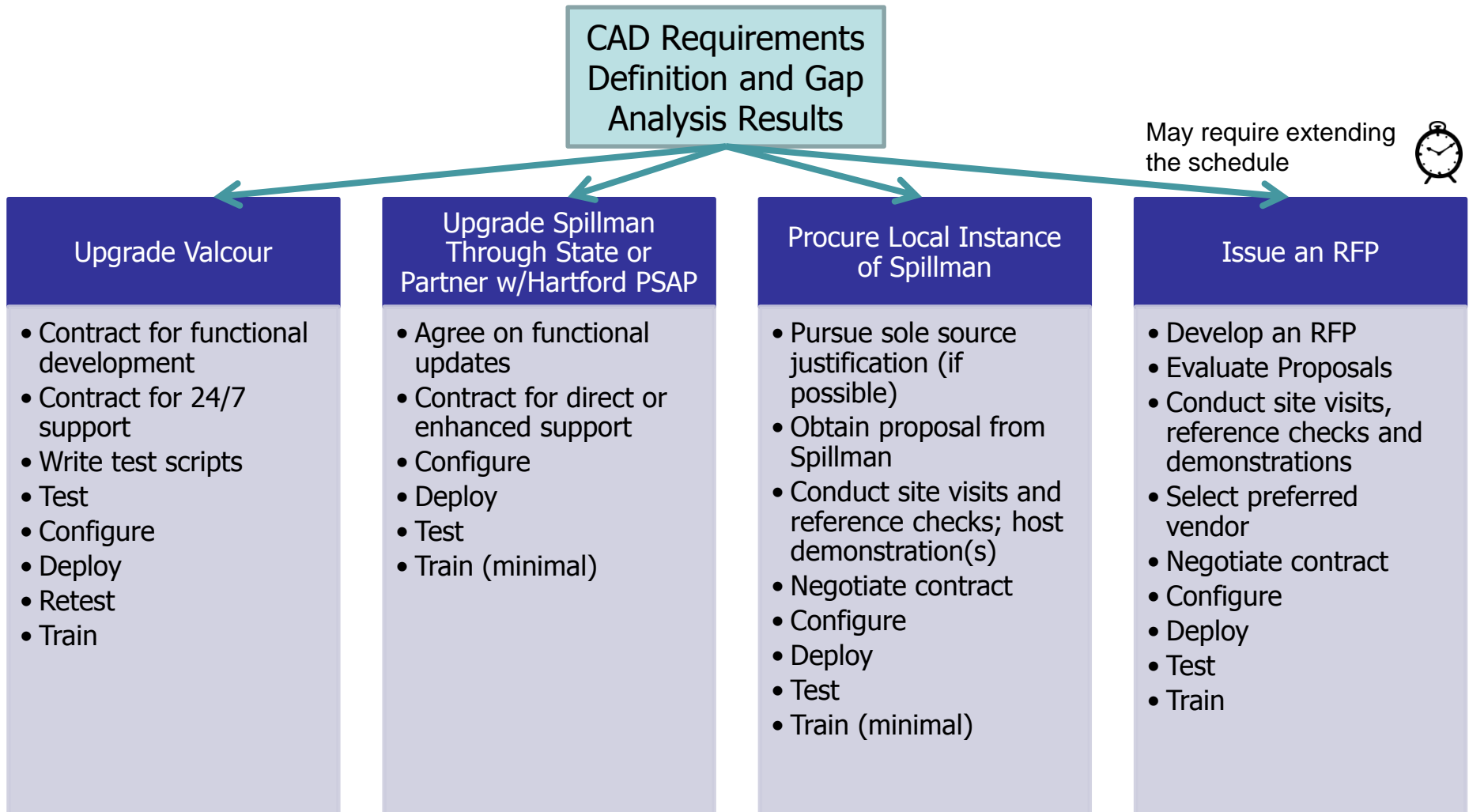
# CAD Gap Analysis (Spillman General)

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- ❑ DELTAWRX did not conduct a thorough review of the Spillman system functionality and contract, given Valcour's predominance in Chittenden County, however interviews yielded the following findings:
  - Spillman is managed by the State of Vermont, limiting the level of control individual communities have over its maintenance
    - Perceived as expensive and slow to make changes
  - The State of Vermont has been slow to invest in upgrading Spillman, as it considers its future technology plans
  - The State run version of Spillman lacks unit recommendations



# Potential CAD Paths

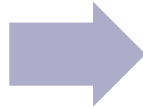


# Radio Communications Planning (Law Enforcement)



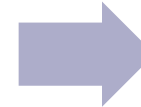
Identify requirements for daily, countywide communications

- Burlington Police Department
- Local Police Departments



Establish a law enforcement communications plan

- Day-to-day operations
- Talk-around capabilities
- Special events
- Tactical frequencies
- Secure capabilities



Determine short and long term approaches to provide coverage

- Repurpose existing voted simulcast channel
- Patches between existing local channels
- Build out a voted simulcast channel for Local PDs

- ❑ Consider revising the encryption key sharing policy to include fire department command staff to increase inter-discipline interoperability



# Radio Communications Planning (Fire/EMS)



Establish a countywide fire/EMS communications plan in accordance with NFPA 1561

- Dispatch/Operations channel(s)
- Command channels
- Tactical channels

- ☐ All Fire and EMS dispatch/paging be conducted on a single Countywide dispatch channel
- ☐ Current repeated local fire channels become Command radio channels
- ☐ Establish UHF/VHF links as required for interoperability
- ☐ Consider the benefits and challenges of migrating to digital modulation for fire communications\*
- ☐ Consider deployment of digital capable radios for interoperability with police agencies which utilize digital modulation

\* NFPA 1221 Section 9.3.1.4 recommends that tactical communications channels shall be capable of operating in analog mode



# CAD Interface Requirements

❑ CAD should be interfaced to at least the following systems:

- 911 Call Handling System (ANI, ALI, TTY)
- Agency Supplied GIS System
- Records Management Systems (RMS)
  - Law
  - Fire
  - ePCR (ImageTrend)
- Network Based Time System “NetClock”
- Fire Station Alerting System (Burlington and South Burlington)
- Fire Personnel Alerting system (e.g. IamResponding)
- NCIC/VCIC

## **Time Standardization**

- Enables synchronized time stamps between CAD servers and workstations and other systems (e.g. 911, radio consoles, voice recorders) at CC-COMM and the agency level
- Recommendations:
  - Determine if an existing NetClock exists that CC-COMM can use;
  - If not, procure a NetClock for use by all appropriate agencies and systems
  - Integrate all applicable systems and devices to the NetClock



# Fire Station/Personnel Alerting

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- ❑ Burlington and South Burlington both utilize dedicated fire station alerting circuits supplemented by over-the-air dispatch in accordance with NFPA 1221
- ❑ Remaining departments utilize over-the-air two-tone paging for notification of stations and responders
- ❑ Burlington and South Burlington directed circuits would have to be re-directed to the CC-COMM facility
- ❑ Recommendations
  - CC-COMM establishes fire station/personnel alerting procedures that are in accordance with NFPA 1221
  - Evaluate countywide use of automated personnel alerting technologies (e.g. IamResponding) interfaced to CAD in addition to two-tone over the air paging/dispatch



# Emergency Call Routing

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- ❑ Calling 911 is the preferred method for initiating an emergency call
  - Provides ANI/ALI information
  - Line lock is established during the call (cannot be disconnected)
- ❑ Some citizens still initiate emergency calls using legacy 7-digit numbers
- ❑ CC-COMM in partnership with each agency will need to determine best approach for existing 7-digit lines
  - Fully re-direct existing 7-digit lines to CC-COMM
  - Partially re-direct existing 7-digit lines to CC-COMM off-hours
  - Establish new 7-digit lines for emergency transfers from PSAPs



# Voice Logging Requirements

- ❑ At a minimum, CC-COMM will require voice logging for

All Radio Channels	Radio Consoles	Telephone Lines
<ul style="list-style-type: none"><li>• Over-the-air (analog and digital)</li><li>• Wire-line</li></ul>	<ul style="list-style-type: none"><li>• Radio to audio headset</li><li>• Telephone to audio headset</li><li>• Headset to audio output/input</li></ul>	<ul style="list-style-type: none"><li>• Administrative lines</li><li>• 911 call handling system</li><li>• Inbound emergency lines</li></ul>

- ❑ CC-COMM should establish a retention schedule for recorded audio in accordance with state records retention guidelines

# Fire Records Management Systems and NFIRS Reporting

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- ❑ Use of Fire Records Management Systems (FRMS) varies across Chittenden County
  - Many departments maintain individual FRMS applications
  - Most (if any) are not integrated into CAD for the transfer of CFS data
  - Some smaller departments do not utilize a FRMS and conduct manual NFIRS reporting
- ❑ Establishment of a countywide FRMS may be financially and operationally beneficial for Fire Departments in Chittenden County
  - Reduced number of interfaces to individual FRMS applications
  - Shared maintenance costs
  - Improved ease of NFIRS reporting for departments that report manually
  - Potential to share pre-plan data across departments when providing mutual aid
- ❑ CC-COMM could provide FRMS as a “value-add” service

# Facility Requirements: Minimum Square Footage



Usage	Estimated Sq Foot
Dispatch floor (6-8 full positions)	1000
Conference/training room (includes 2 training positions)	420
Executive Director's office (private)	150
Office/cubicle space for 4 management/supervisory employees	350
Controlled server and equipment room	250
Kitchen/shared break room	200
2 Bathrooms and group locker space	160
Closet, supply storage, miscellaneous other	250
<b>Total</b>	<b>2780</b>

2780 x \$25 =  
\$69,500 + Parking



# Facility Requirements: Site Selection

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- ☐ Parking for at least 20 vehicles
  - 16 (max staffing at shift change) + 4 potential trainees/visitors
- ☐ Room for growth, both organic and through the addition of contracted agencies
- ☐ Consider
  - Proximity of hazards (e.g., a leak from an adjacent crime lab, flood zone)
  - Evacuation route
- ☐ See NENA Standard 04-502 - E-9-1-1 PSAP CPE Site Characteristics





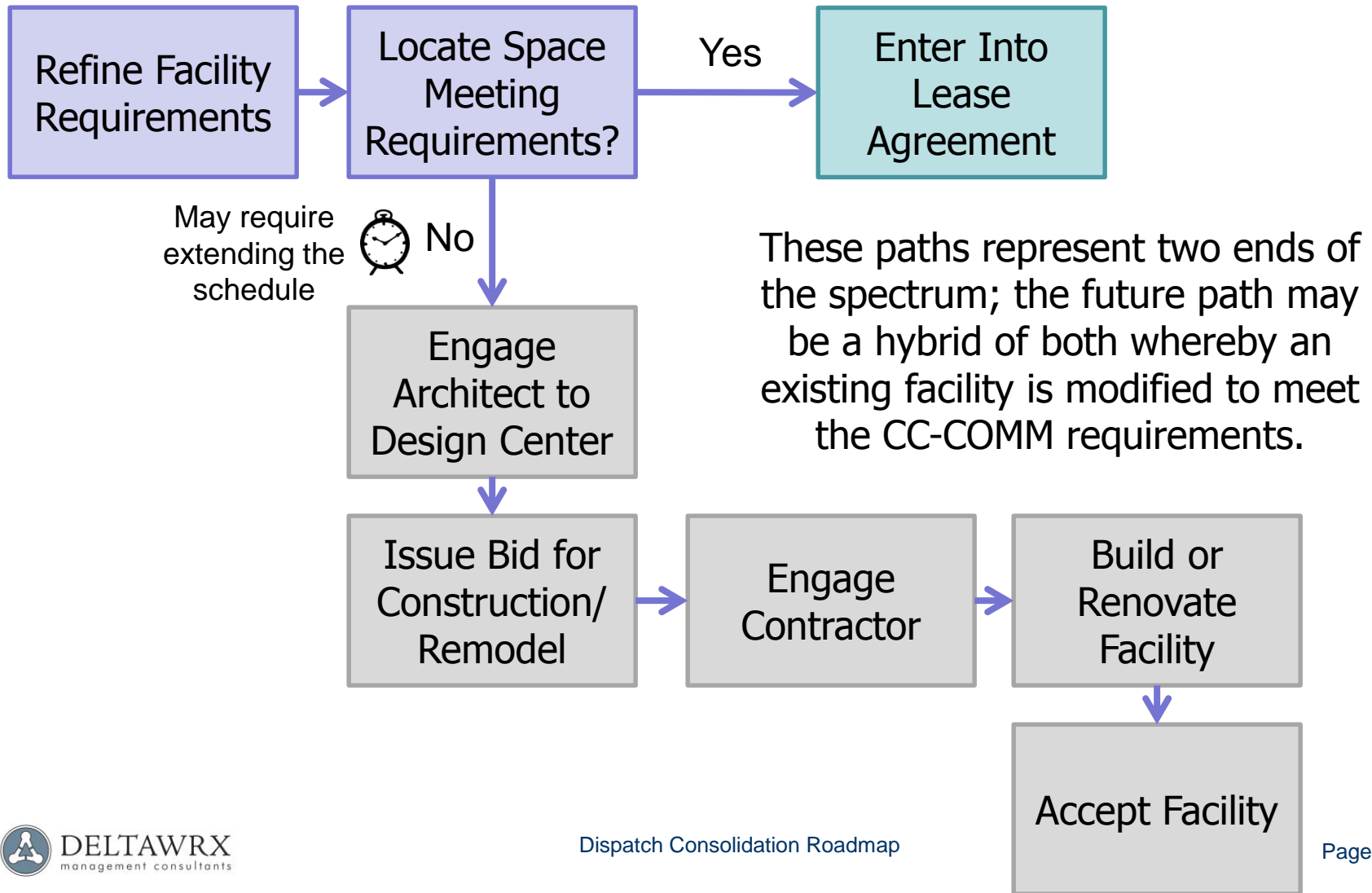
# Facility Requirements: Technical

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- ☐ Controlled access and security provisions
- ☐ Redundant fiber connections to multiple carriers
- ☐ Redundant internet connectivity
- ☐ Alternate and uninterruptable sources of electrical power
- ☐ Ability to connect to VSP microwave network
- ☐ Sufficient HVAC systems to support dispatch floor, equipment room and office(s)
- ☐ Lighting (minimize glare) and acoustics (minimize noise)
- ☐ See NFPA 1221, Chapter 4 for additional requirements and NENA Standard 04-502 - E-9-1-1 PSAP CPE Site Characteristics



# Facility Path





# OPERATIONS



# Standardization Expectations

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- ❑ In general, dispatchers will follow a common set of CC-COMM policies and procedures
- ❑ Each functional position (FD Dispatch, FD Operations, PBD Dispatch, Local PD, etc.) will have a position-specific workflow
- ❑ Any agency-specific required functions or workflow should be configured in CAD
- ❑ Agency-specific workflows that cannot be configured in CAD may be accepted at the discretion of the Technical Advisory Committee (e.g., Community A responds to motor vehicle lockouts, but Community B does not)
- ❑ Deviances from established procedures and workflows are addressed by supervisory and Training/QA personnel

# Standardization Expectations (Continued)



- ❑ Examples of policies requiring standardization and documentation

## Administrative

- Hiring process
- Evaluation process
- Disciplinary process
- Ethics
- Work rules
- Shift schedules
- Chain of command

## Operational

- Language (10-codes versus plain English)
- Unit nomenclature
- Incident numbering
- Definition of what constitutes an incident
- Call taking procedures and the level of information provided at initial dispatch
- Dispatching procedures including expectations for dispatcher queries and follow up research
- Status updates (who, how)
- Timers
- Self initiated calls
- General radio traffic policies

- When faced with difficulty identifying common ground among existing practices or otherwise reaching consensus, look to national standards (e.g., APCO, CALEA, NFPA, NENA) for guidance

# Municipal and Third Party Notifications

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- ❑ Many dispatch centers support notifications for services to include tow services, public works, water and sewer departments, municipal and commercial electric, telephone and cable companies, veterans and elder services, building maintenance, medical examiner, etc.
- ❑ During the Formulation and Research phase
  - Survey dispatch centers to identify municipal and third party services potentially requiring notifications
  - Determine if these notifications fit into CC-COMM's mission
- ❑ During the Refinement and Detailed Planning phase
  - Work with municipalities and service providers to develop procedures for after-hours notifications for any municipal service which may be required
  - Develop a process for maintaining (updating and validating) notification data

# SOP Resources: Industry Standards and Best Practices

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- ❑ APCO International: [www.apcointl.org/standards.html](http://www.apcointl.org/standards.html)
- ❑ CALEA: [www.calea.org/content/public-safety-communications-accreditation-standards](http://www.calea.org/content/public-safety-communications-accreditation-standards)
- ❑ NFPA: [www.nfpa.org/codes-and-standards/](http://www.nfpa.org/codes-and-standards/)
- ❑ National Interoperability Information Exchange: [www.niix.org/niix/index.jsp](http://www.niix.org/niix/index.jsp)
- ❑ NENA: [www.nena.org/?page=Standards](http://www.nena.org/?page=Standards)

# Key Elements of a Service Level Agreement



- ❑ Defining service requirements to be included
  - Call answering standards
  - Call processing standards
  - Staff assignment?
  - Others?
- ❑ Defining services to be excluded
  - CAD system performance and availability
  - Agency response times
  - Mobile support
  - Others?
- ❑ Defining consequences for failure to deliver service
  - Impact to billing?

## Measurement and Reporting Considerations

- How often will service be measured?
- Who will be responsible for measurement and reporting?
- What are the exact calculations that will be used?

## Organizational Considerations

- How will the SLA be modified?
- How will disputes be resolved?
- Will all public safety agencies agree to a standard SLA?
- Will the SLA be contingent CC-COMM's contract with the CAD vendor (e.g., if the system fails to meet contractual requirements is the SLA still in effect?)





# REFERENCES



# PSAP and Operations Standards

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- APCO ANS 2.103.1-2012 - Public Safety Communications Common Incident Type Codes for Data Exchange
- APCO ANS 1.111.1-2013 - Common Incident Disposition Codes for Data Exchange
- NENA Standard 04-001 - E-9-1-1 PSAP Equipment
- NENA Standard 04-002 - PSAP Master Clock Standard
- NENA Standard 04-004 - Generic Standards for E9-1-1 PSAP Intelligent Workstation
- NENA Standard 04-501 - Integrating Applications on Intelligent Workstations; Technical Information Document
- NENA Standard 04-502 - E-9-1-1 PSAP CPE Site Characteristics
- NENA-INF-017.2-2015 - NENA Communications Center/PSAP Disaster and Contingency Plans Model Recommendation
- NFPA 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems
- NFPA 1561 - Standard on Emergency Services Incident Management System and Command Safety



# Training Standards

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- APCO ANS 3.101.2-2013 - Core Competencies and Minimum Training Standards for Public Safety Communications Training Officer (CTO)
- APCO ANSI 3.103.2.2015 - Minimum Training Standards for Public Safety Telecommunicators
- APCO ANS 3.102.1-2012 - Core Competencies and Minimum Training Standards for Public Safety Communications Supervisors
- APCO ANS 3.109.2-2014 - Core Competencies and Minimum Training Standards for Public Safety Communications Manager/Director
- APCO ANS 3.104.1-2012 - Core Competencies and Minimum Training Standards for Public Safety Training Coordinator
- APCO ANS 3.108.1-2014 - Core Competencies and Minimum Training Standards for Public Safety Communications Instructor
- APCO ANS 3.106.10-2013 - Core Competencies and Minimum Training Standards for Public Safety Communications Quality Assurance Evaluator
- NFPA 1961 - Standard for Professional Qualifications for Public Safety Telecommunications Personnel